



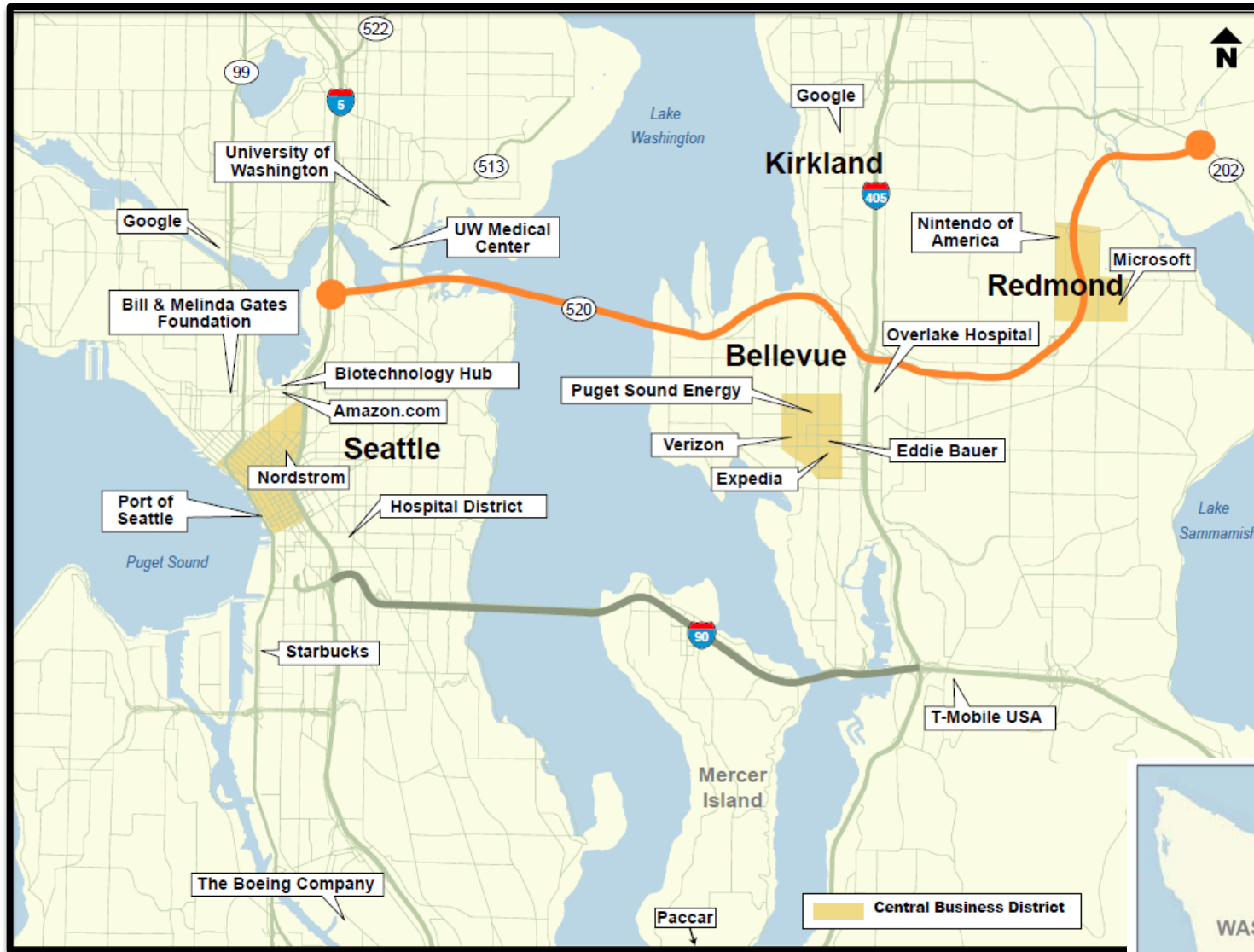
SR 520 Program

The road to the world's longest floating bridge

August 2015

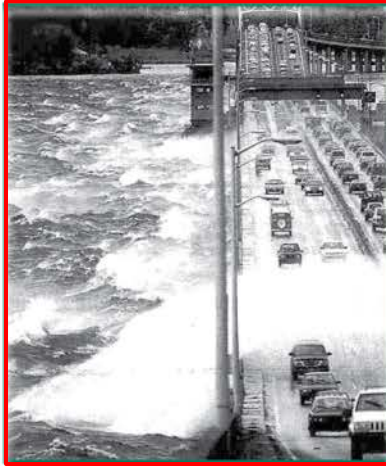


SR 520 corridor connects major regional employment centers



Improving safety by replacing vulnerable bridges

SR 520 bridge is vulnerable to windstorms and earthquakes

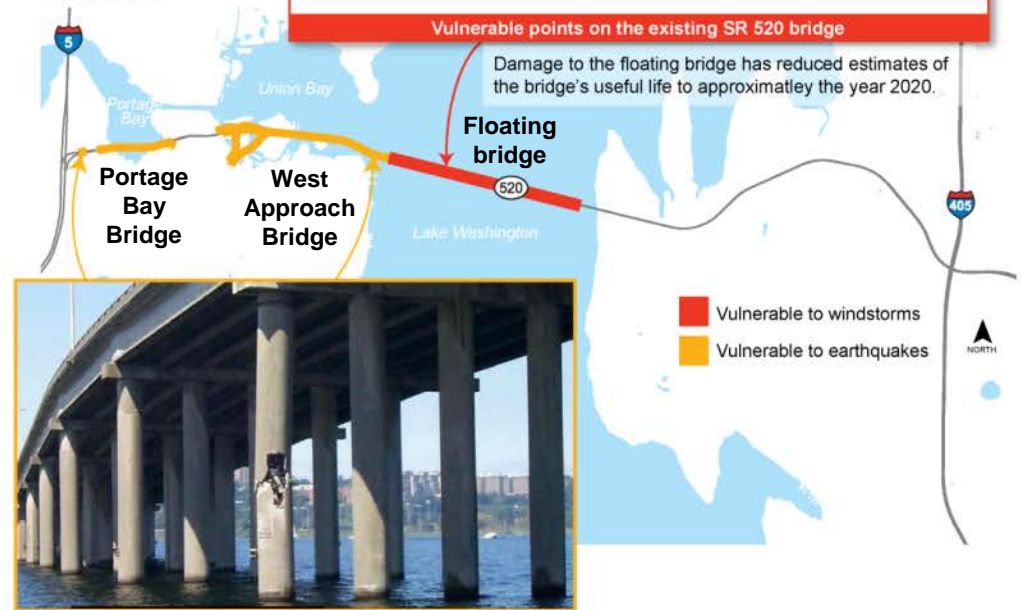
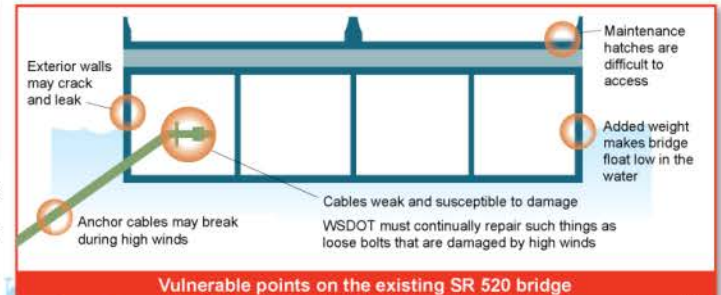


Waves batter the SR 520 floating bridge (top).
Example of earthquake-vulnerable hollow columns (bottom).

Current vulnerabilities

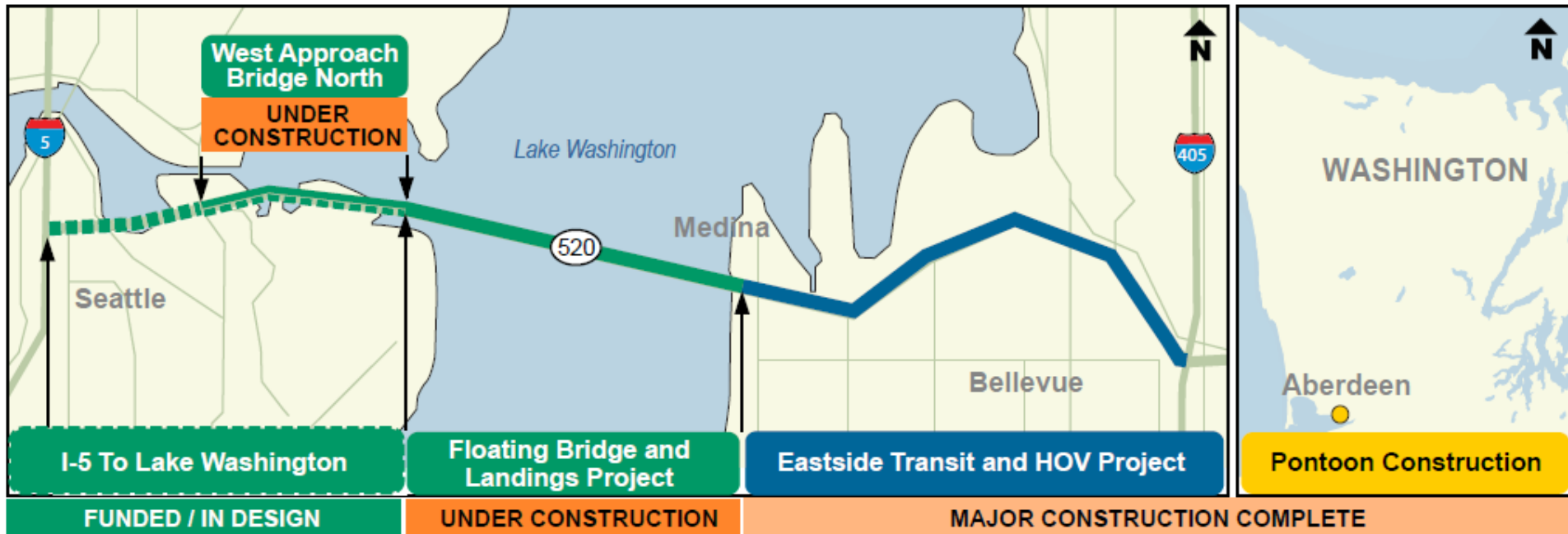


A torn cable joint found during a routine inspection in February 2006. The cables connect the floating bridge pontoons to their underwater lakebed anchors.



SR 520 Program overview and timeline

Program map



Program schedule

- Eastside Transit and HOV Project: Opened 2014
- Pontoon Construction Project (Aberdeen): Completed 2015
- New floating bridge: Opening spring 2016
- West Approach Bridge North: Construction began fall 2014; opening summer 2017
- Remaining west side corridor: Funded / In design



SR 520 major construction contracts

Project and contract type	Contract amount (as awarded)	Timeline (major construction)
SR 520 Pontoon Construction Design-Build Project	\$367 million (awarded to Kiewit-General Joint Venture Feb. 2010)	2011 – 2015
Eastside Transit and HOV Design-Build Project	\$306 million (awarded to Eastside Corridor Constructors Nov. 2010)	2011 – 2014
SR 520 Floating Bridge and Landings Design-Build Project	\$586.6 million (awarded to Kiewit/General/Manson, A Joint Venture August 2011)	2011 – 2016
Montlake to Evergreen Pt. Bridge West Approach Bridge North Design-Bid-Build Project	\$199.5 million (awarded to Flatiron West Inc. July 2014)	2014 – 2017



SR 520 costs and funding (design & construction)

SR 520 program cost estimate <i>2009 legislative budget cap: \$4.65 billion</i>	\$4.56 B
Funding received <i>Based on 2015 Legislative authorization</i>	\$4.56 B[*]
State funding (primarily Motor Vehicle Fuel Tax)	\$2.15 B
SR 520 Account (tolling and future federal funds)	\$1.65 B
Federal TIFIA loan	\$0.30 B
Other federal funding	\$0.20 B
Deferred sales tax	\$0.26 B

** Includes \$1.64 billion in new revenue authorized in 2015 via ESSB 5988,
Includes \$15 million authorized in 2015 via 2ESHB 1299,
Includes \$10 million in existing agency resources authorized in 2014 via ESSB 6001.*

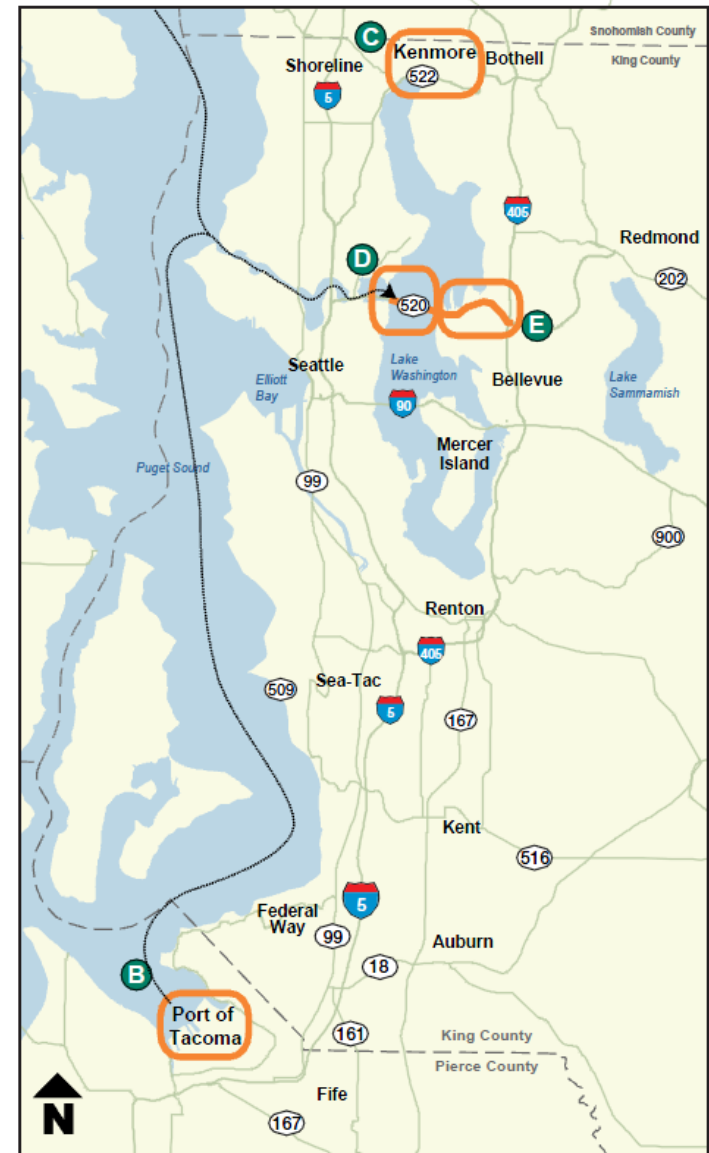
Updated: July 2015

SR 520 construction around Washington State



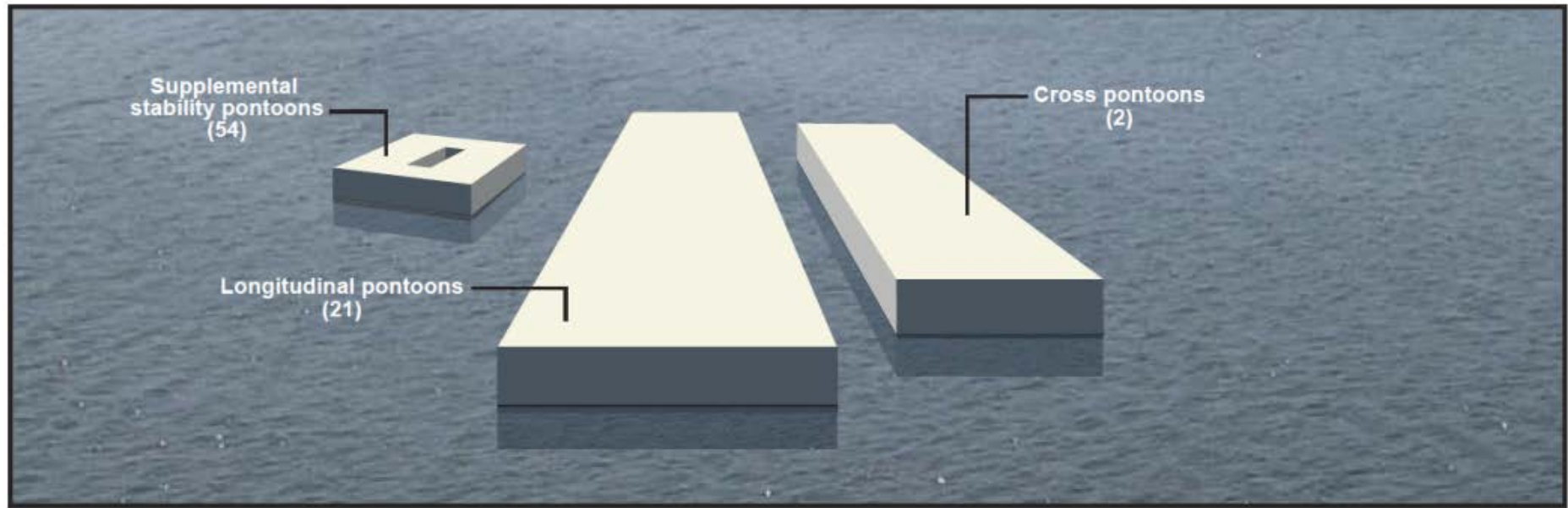
- A:** Grays Harbor pontoon construction
- B:** Tacoma pontoon construction
- C:** Kenmore precast element construction
- D:** Floating bridge assembly on Lake Washington and West Approach Bridge North construction in Seattle
- E:** Eastside corridor construction

Note: Pontoons built in Tacoma and Aberdeen must be towed up to 200+ nautical miles to the bridge assembly site on Lake Washington.





Types of pontoons for the new SR 520 floating bridge



The three types of pontoons that support the new SR 520 floating bridge.



Example of new longitudinal pontoons being stored in Grays Harbor prior to traveling to Lake Washington.

Pontoon journey to Lake Washington



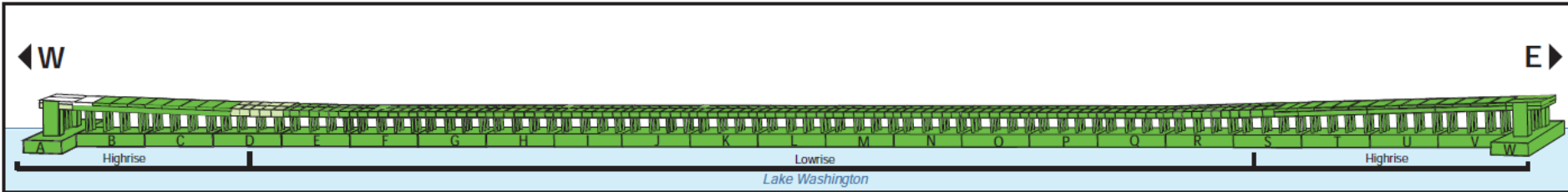
A new pontoon travels through the Hiram M. Chittenden Locks in Seattle. There is very little extra clearance on either side of the pontoon (less than two feet on either side).



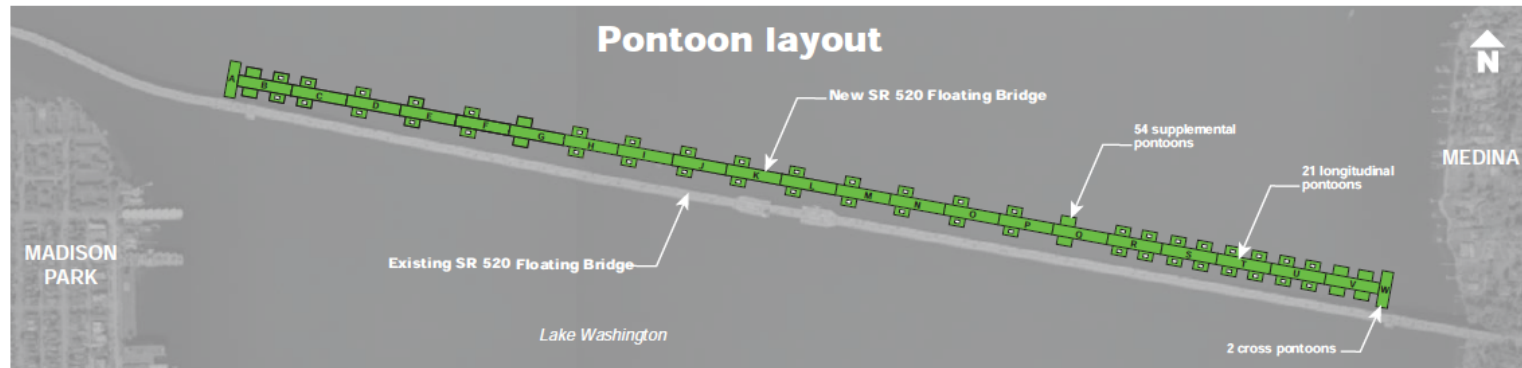
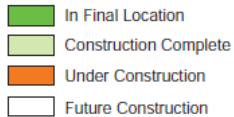
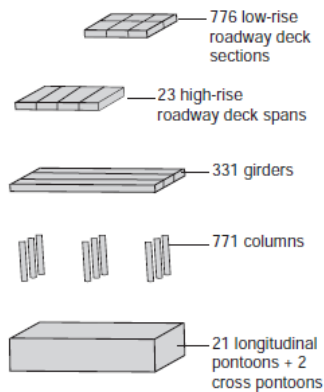
A new pontoon arrives on Lake Washington following its journey from Aberdeen, Wash.

Construction update: Floating bridge assembly

Updated: July 30, 2015



GRAPHIC KEY AND FACTS



Low-rise roadway deck includes pre-cast deck panels being constructed in Kenmore.

- 776 out of 776 pre-cast deck panels have been constructed. 744 of 776 have been placed.

High-rise roadway deck includes girders and cast-in-place deck.

- 23 out of 27 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.

- 771 out of 771 columns have been installed.

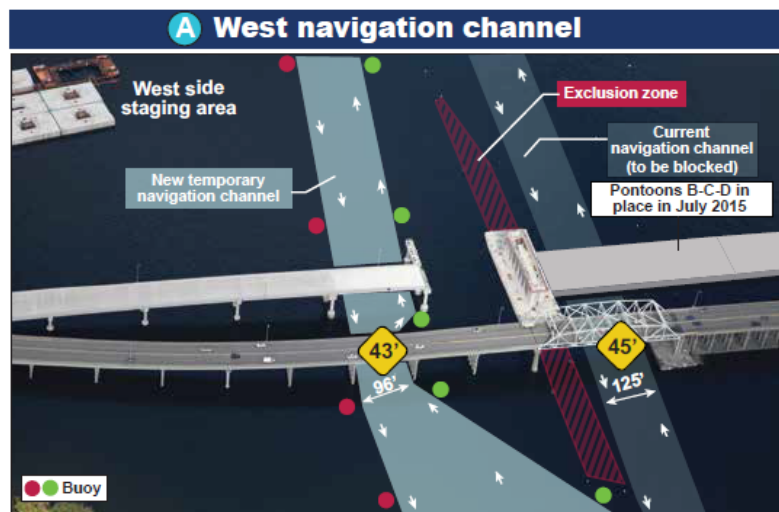
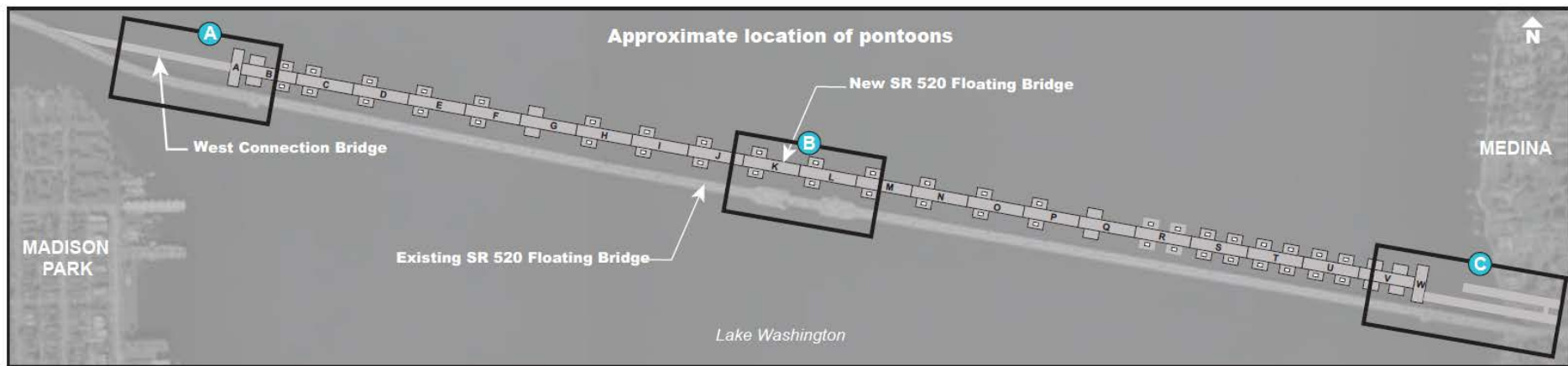
- Current number of pontoons on Lake Washington: 77

- Total number of pontoons constructed to date: 77

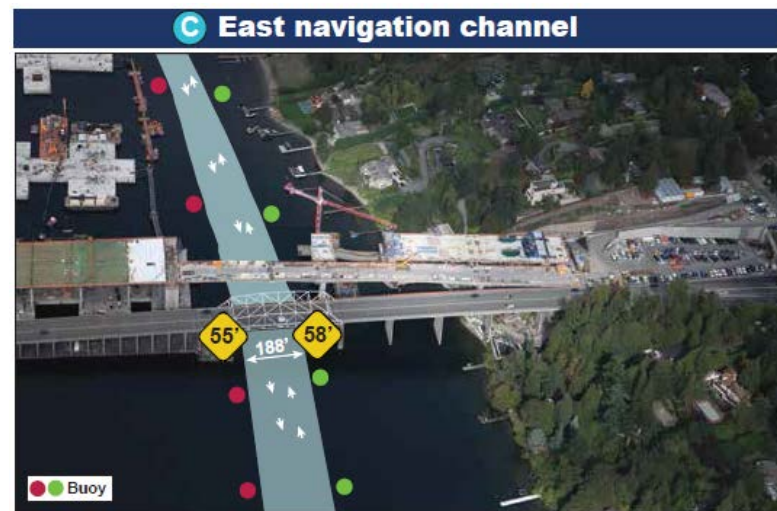
- Pontoons currently under construction: 0

Note: not to scale, for illustrative purposes only

Floating bridge: boater clearance



Temporary west navigation channel opens late June 2015 with reduced height clearance. Current west navigation channel blocked July 2015



East navigation channel open

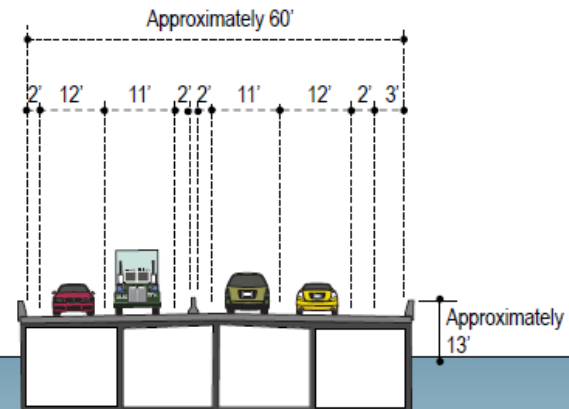


Old and new SR 520 floating bridge by the numbers

Existing SR 520 floating bridge	New SR 520 floating bridge
<ul style="list-style-type: none">• Lanes: 4 general-purpose lanes• Length: 7,578 feet• Width: 60 feet• Pontoons: 33• Anchors: 58• Vehicles that cross the bridge daily: 75,000 vehicles (post tolling)• Daily number of vehicles expected in original design: 65,000• Number of times the bridge has been closed due to high winds since 1996: 7 times• Sustained velocity the bridge is designed to withstand: Up to 70 mph• Expected bridge life: 50+ years	<ul style="list-style-type: none">• Lanes: 4 general-purpose lanes, 2 HOV lanes, a 14-foot-wide bicycle and pedestrian path, and shoulder for disabled vehicles• Length: 7,710 feet• Width: 116 feet• Pontoons: 77 (2 cross pontoons, 21 longitudinal pontoons, and 54 supplemental stability pontoons)• Anchors: 58• Vehicles expected to cross the bridge daily in 2030: 130,000• Sustained wind velocity the bridge is designed to withstand: Up to 89 mph.• Expected bridge life: 75+ years

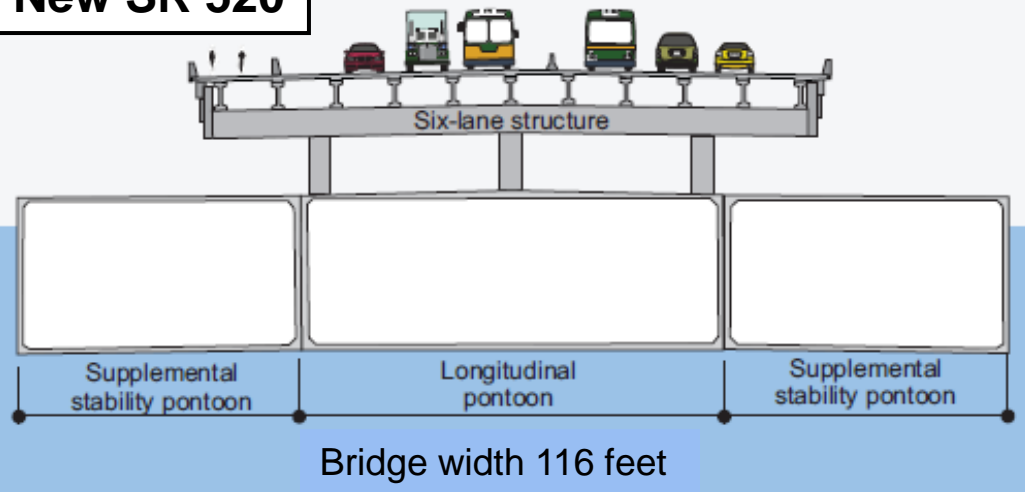
Old and new SR 520 floating bridge cross-sections

Existing SR 520



EXISTING SR 520 FLOATING BRIDGE

New SR 520



Bridge width 116 feet

Conceptual graphic of the new SR 520 floating bridge with two general-purpose lanes and one transit/HOV lane in each direction, and a new bicycle/pedestrian path.

SR 520 construction photos

Grays Harbor pontoon site



Tacoma pontoon site



SR 520 construction photos

Pontoon post-tensioning





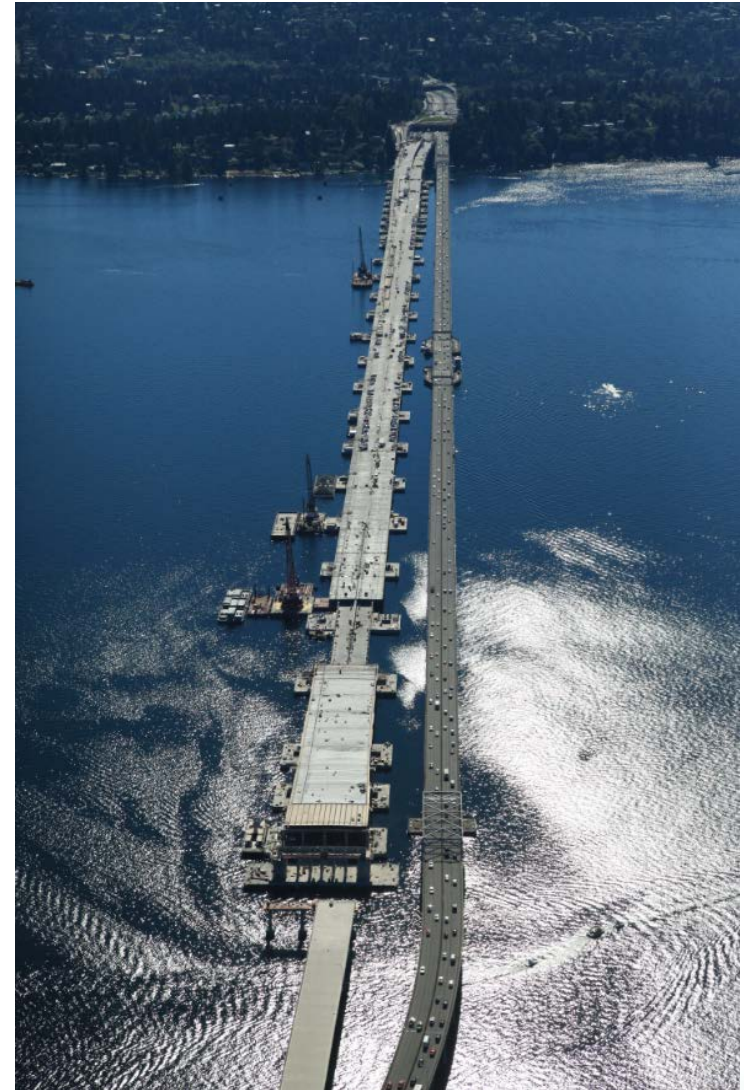
22.08.2013

SR 520 construction photos

Kenmore site



Lake Washington site



SR 520 construction photos

Pontoon joining and bridge assembly



Credit: HDR

SR 520 construction photos

Supplemental pontoon



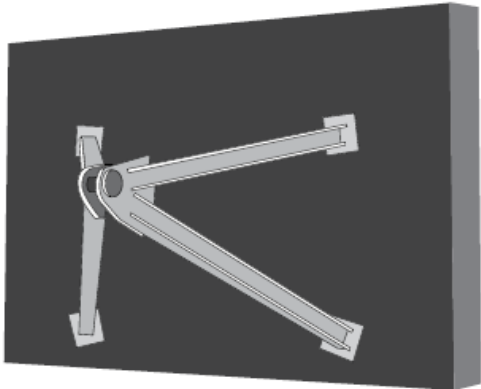
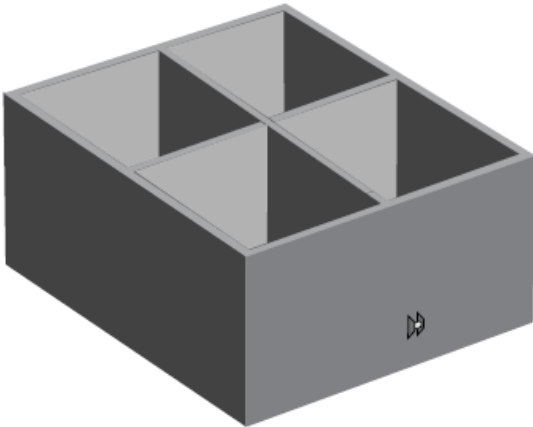

Credit: HDR

Bird ramp



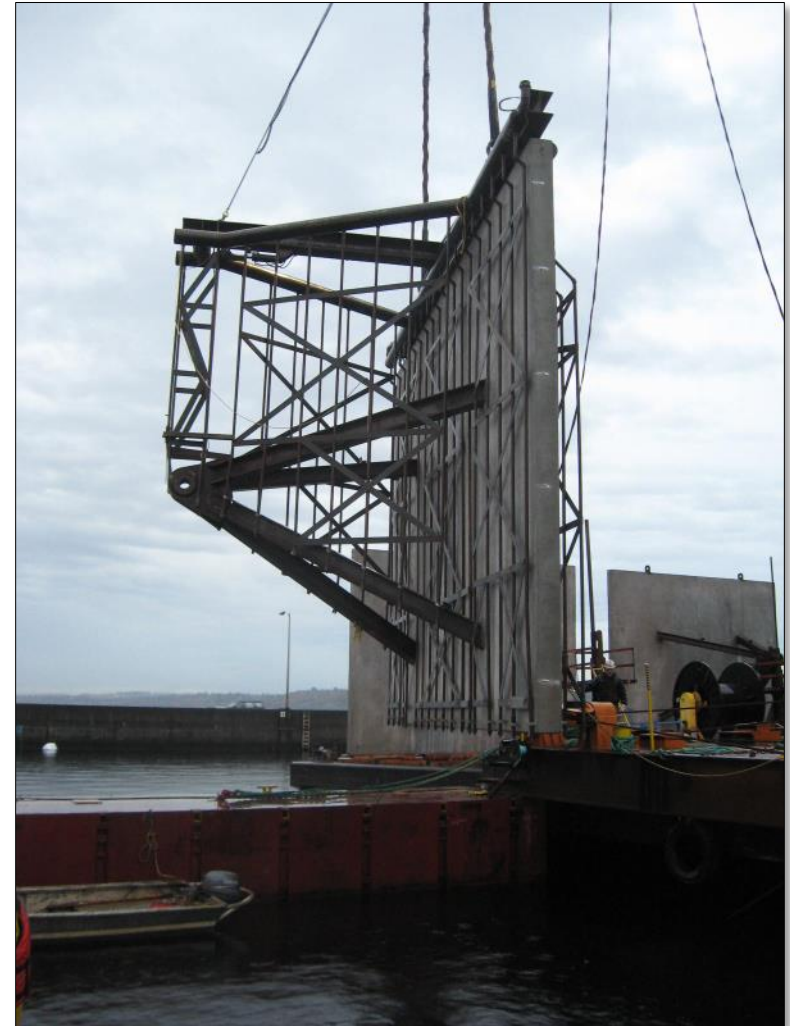
SR 520 construction photos

SR 520 anchor types

FLUKE ANCHORS	GRAVITY ANCHORS	DRILLED SHAFT ANCHORS
		
<p>Dimensions: 35' X 26' X 17.5'</p> <p>Weight: 100 tons</p> <p>Quantity: 45</p> <p>Locations: Deep, soft soils of the lakebed and flat areas.</p> <p>Manufactured: Kenmore</p>	<p>Dimensions: 40' X 40' X 23'</p> <p>Weight: 420 tons as built; 587 tons fully loaded</p> <p>Quantity: 8</p> <p>Locations: Solid soils with sloped topography, typically near shore. Underwater grading and installation of gravel creates a level footing for anchor placement.</p> <p>Manufactured: Kenmore</p>	<p>Dimensions: 10' diameter drilled shaft, 79'-92' long</p> <p>Quantity: 5</p> <p>Locations: Solid soils near shore where gravity anchors may cause navigation hazard.</p> <p>Manufactured: Concrete cast in place from a barge on Lake Washington</p>

SR 520 construction photos

Anchor transportation and placement





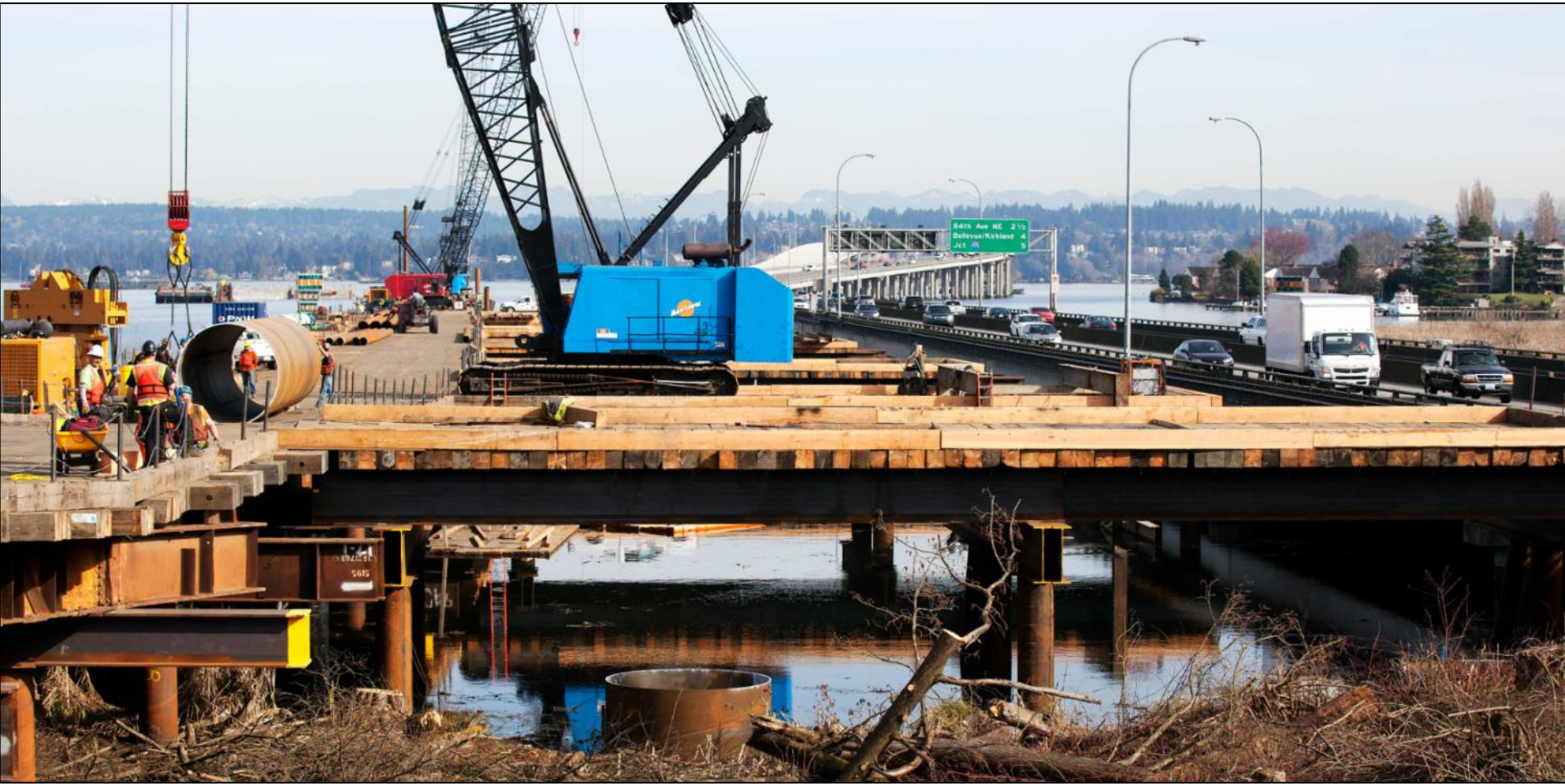
SR 520 construction photos

Coffer cell



SR 520 construction photos

West Approach Bridge North (WABN) temporary work bridge





SR 520 construction photos

Eastside corridor



Seattle (WABN) site



Eastside corridor aerials – new highway lids

Evergreen Point Road lid

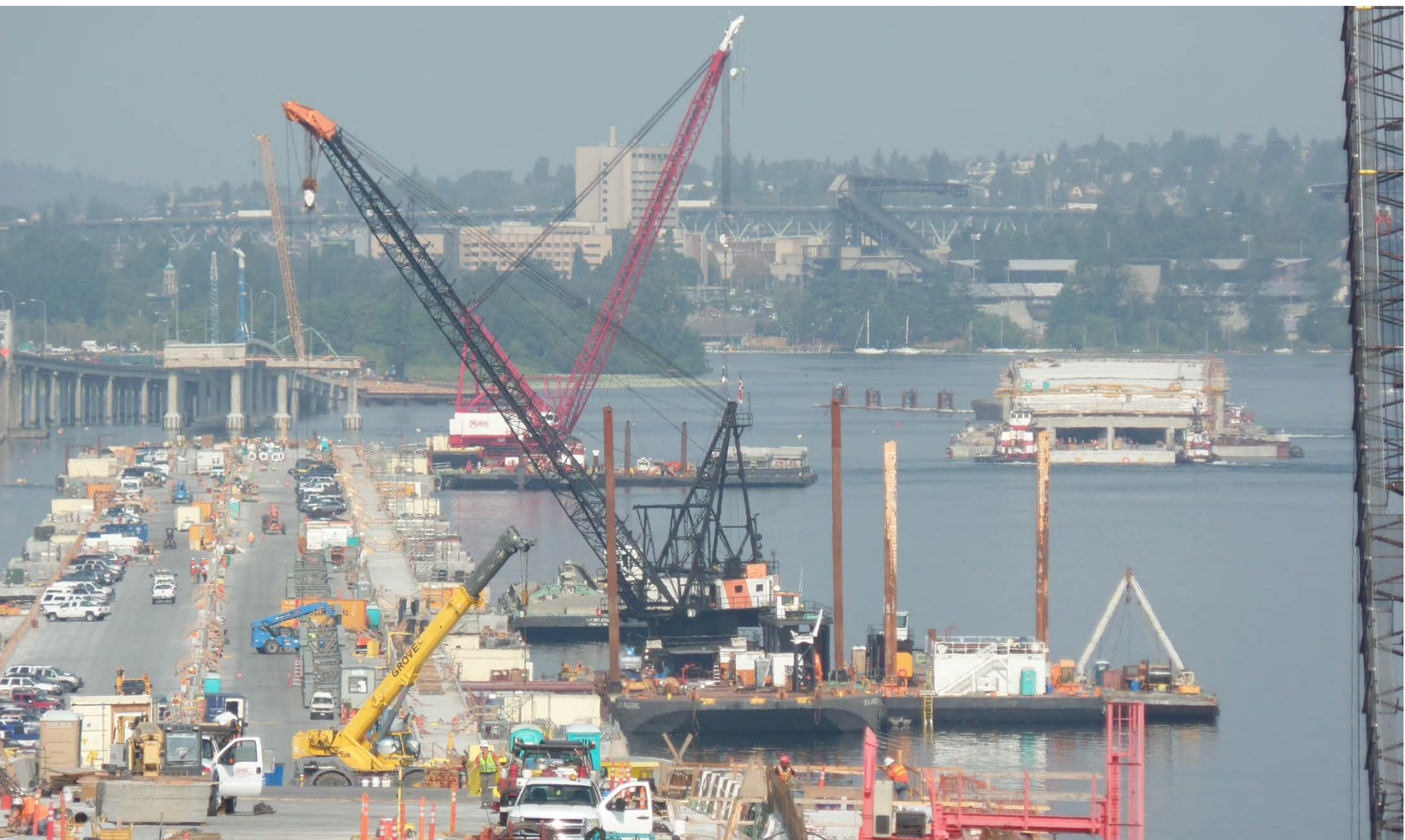


84th Ave NE lid



92nd Ave NE lid





Eastside environmental mitigation



Environmental mitigation on the Eastside improves fish migration and other ecological systems.

Pictured above is the Yarrow Creek mitigation site, near Bellevue Way.

Pictured to the right is the Evans Creek mitigation site, near Redmond.



SR 520 highway tolling

Current
toll rates:



Monday - Friday	<i>Good To Go!</i> Pass	Pay By Mail
Midnight to 5 a.m.	\$0	\$0
5 a.m. to 6 a.m.	\$1.80	\$3.45
6 a.m. to 7 a.m.	\$3.10	\$4.70
7 a.m. to 9 a.m.	\$3.90	\$5.55
9 a.m. to 10 a.m.	\$3.10	\$4.70
10 a.m. to 2 p.m.	\$2.45	\$4.15
2 p.m. to 3 p.m.	\$3.10	\$4.70
3 p.m. to 6 p.m.	\$3.90	\$5.55
6 p.m. to 7 p.m.	\$3.10	\$4.70
7 p.m. to 9 p.m.	\$2.45	\$4.15
9 p.m. to 11 p.m.	\$1.80	\$3.45
11 p.m. to 11:59 p.m.	\$0	\$0

Weekends and Holidays**	<i>Good To Go!</i> Pass	Pay By Mail
Midnight to 5 a.m.	\$0	\$0
5 a.m. to 8 a.m.	\$1.25	\$2.85
8 a.m. to 11 a.m.	\$1.85	\$3.50
11 a.m. to 6 p.m.	\$2.40	\$4.10
6 p.m. to 9 p.m.	\$1.85	\$3.50
9 p.m. to 11 p.m.	\$1.25	\$2.85
11 p.m. to 11:59 p.m.	\$0	\$0

Next steps

- Floating bridge construction continues – new bridge to open in spring 2016.
- Removal of the existing floating bridge – scheduled for late 2016.
- West Approach Bridge North construction continues – new bridge to open in summer 2017.
- “Rest of the West” project elements – continue practical design efforts and prepare for construction.



Questions?

For more information:

Visit: www.wsdot.wa.gov/projects/SR520Bridge

E-mail: SR520Bridge@wsdot.wa.gov

Call: 1-888-520-NEWS (6397)

Mail: SR 520 Bridge Replacement and HOV Program
999 3rd Avenue, Suite 2200
Seattle, WA 98104

