

PUBLIC COMMENTS FOR IBR PROGRAM EXECUTIVE STEERING GROUP

Received between April 6, 2022 – April 19, 2022

Bob Ortblad

4/14/2022

Comments on Columbia River Bridge - Tunnel

Please review the attached comments.

Other comments can be reviewed at <https://twitter.com/BOrtblad>

Respectfully

Bob Ortblad MSCE, MBA

** ADA compliant versions of the attachments can be made available upon request*

Bob Ortblad

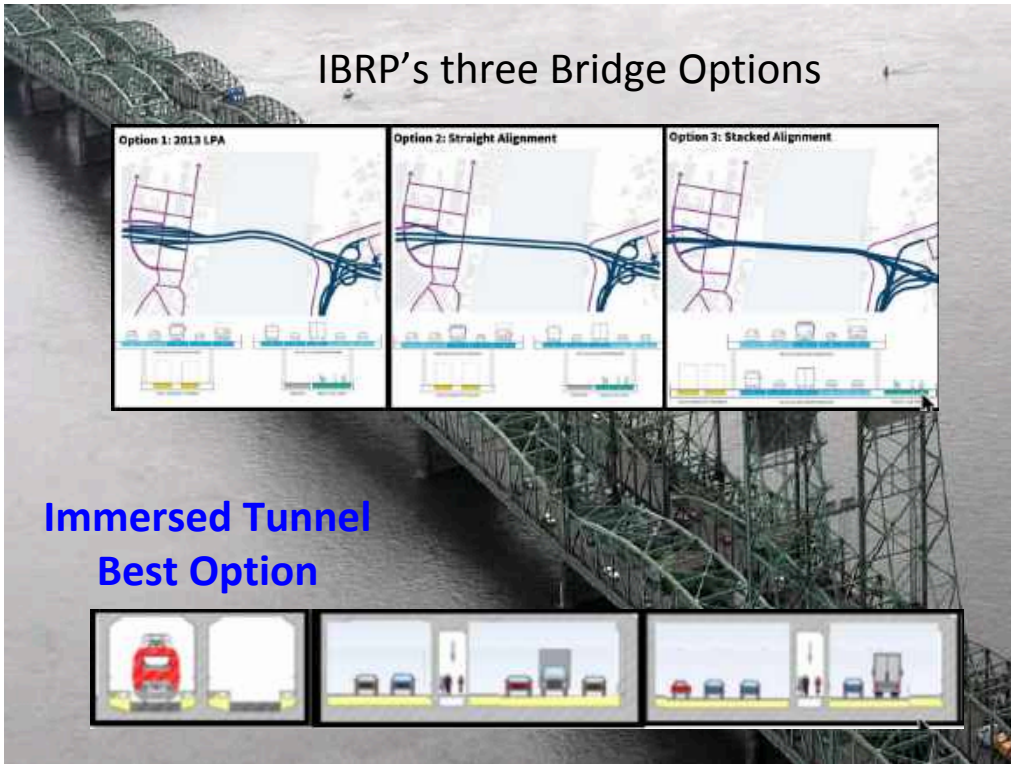
4/14/2022

ESG Public Comment - April 21,2022

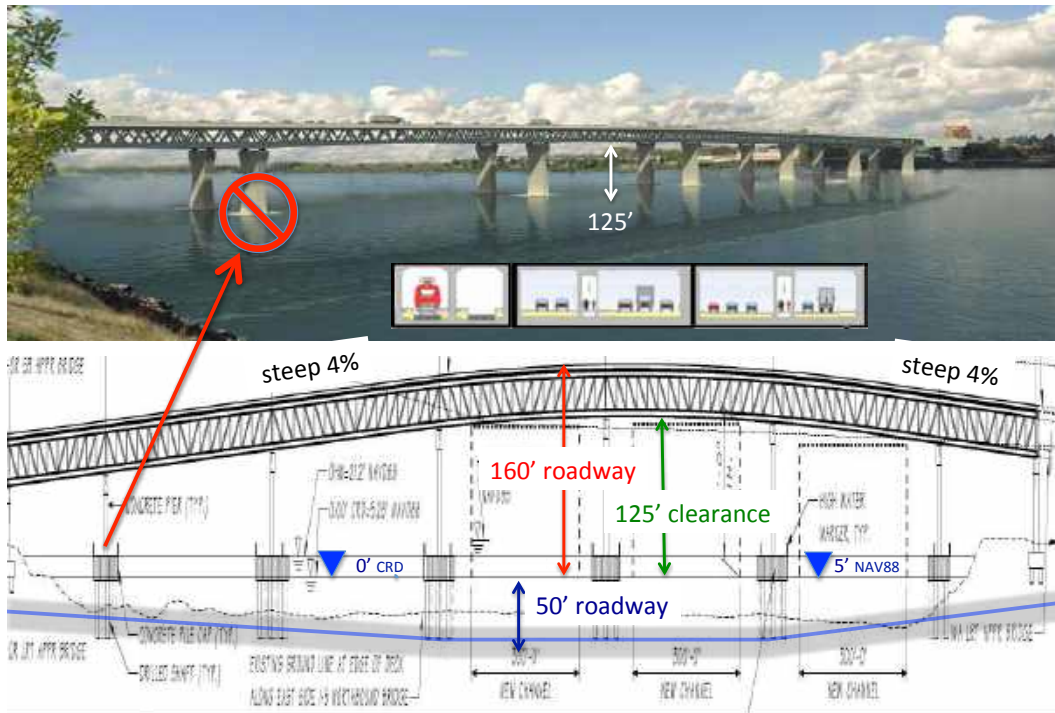
See attachment

Bob Ortblad MSCE, MBA

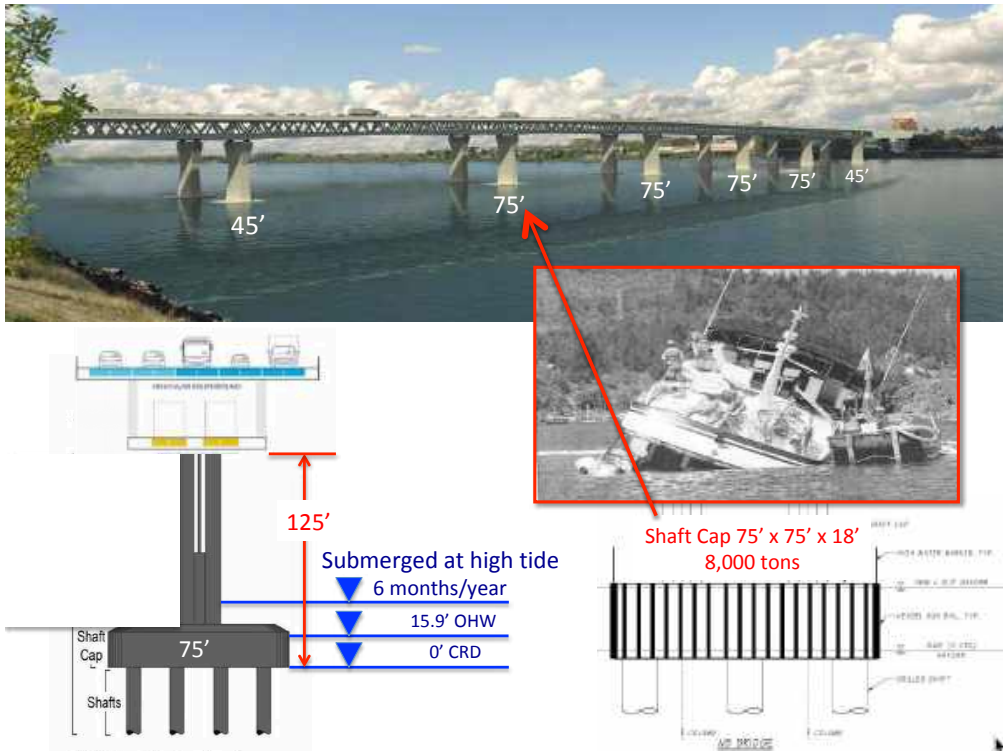
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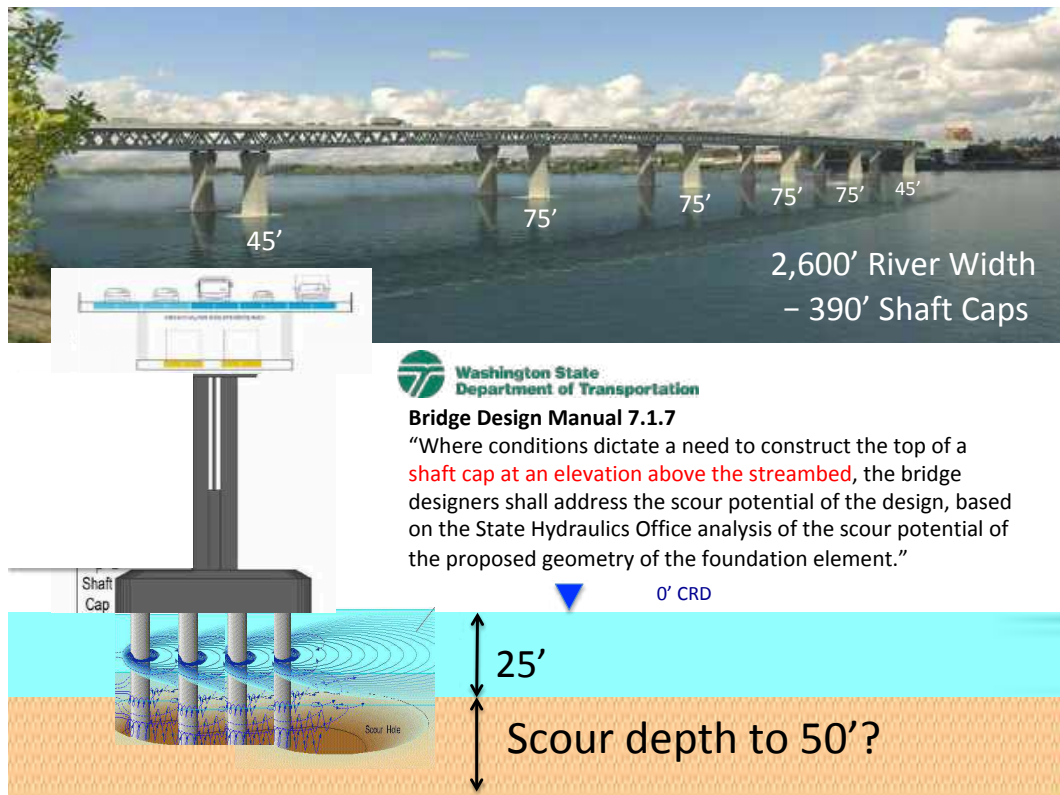
A new bridge will have two navigation hazards, the vertical clearance and the sometimes-submerged shaft caps. An immersed tunnel will have no navigation hazards.

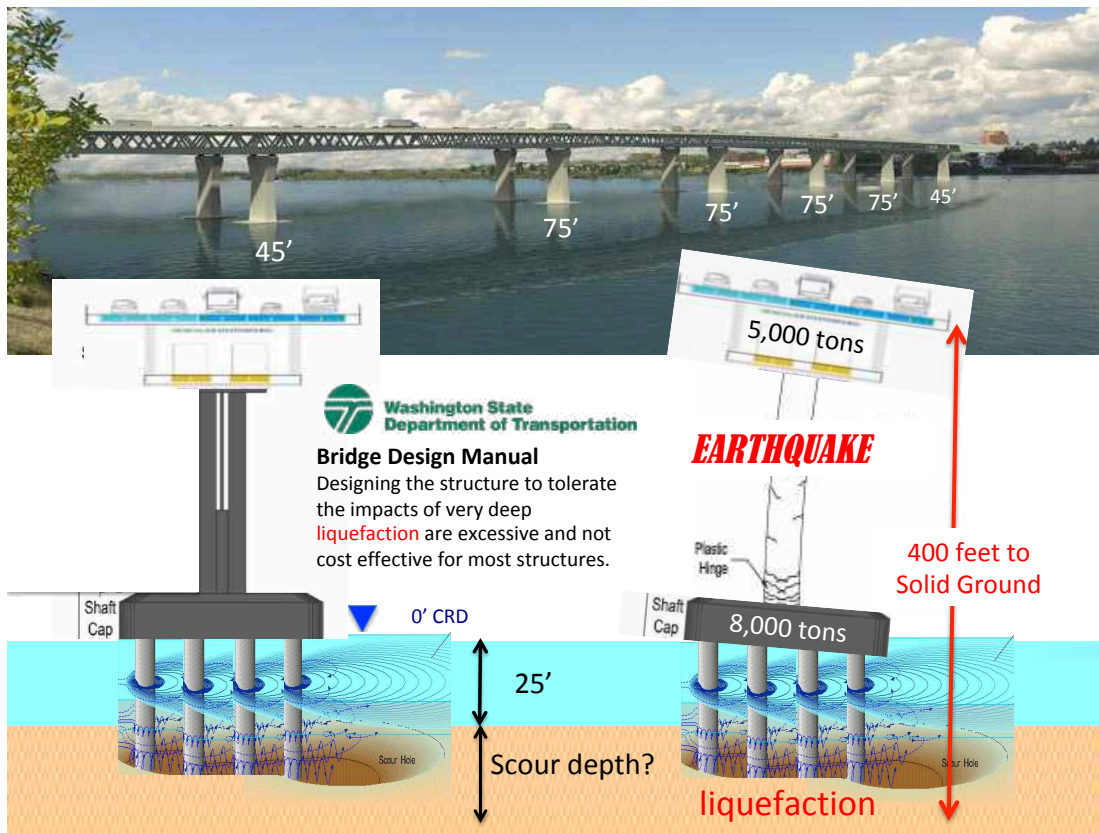


Immersed Tube Tunnel

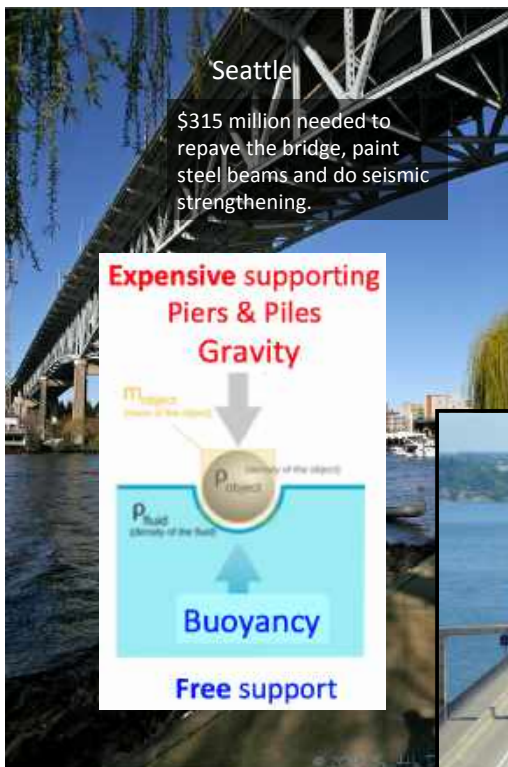


Shaft caps will be submerged at high tide 6 months of the years and a danger to navigation. These caps and drilled shafts (piles) will also narrow the river width by 390 feet (15%) and potentially create deep scour holes under flood condition.





A 9.2 earthquake will sway massive bridge trusses 400 feet from solid ground. Combined with scour a worst case could be bridge failure.



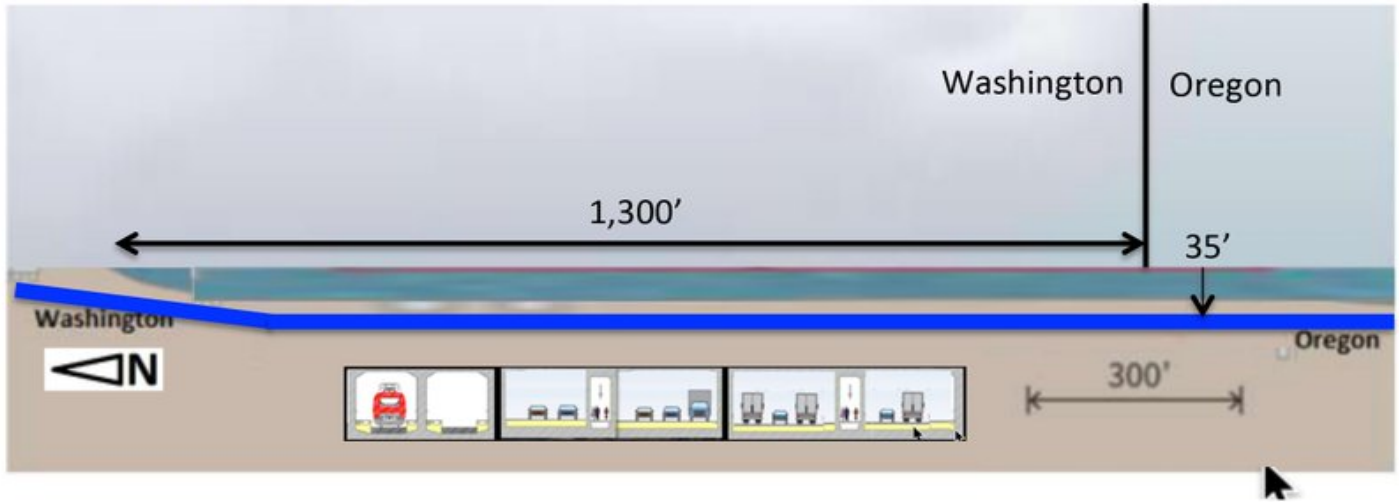
A steel truss bridges are expensive to build or upgrade for earthquake resistance and are costly to maintain.

Buoyancy makes floating bridges & immersed tunnels almost earthquake proof.

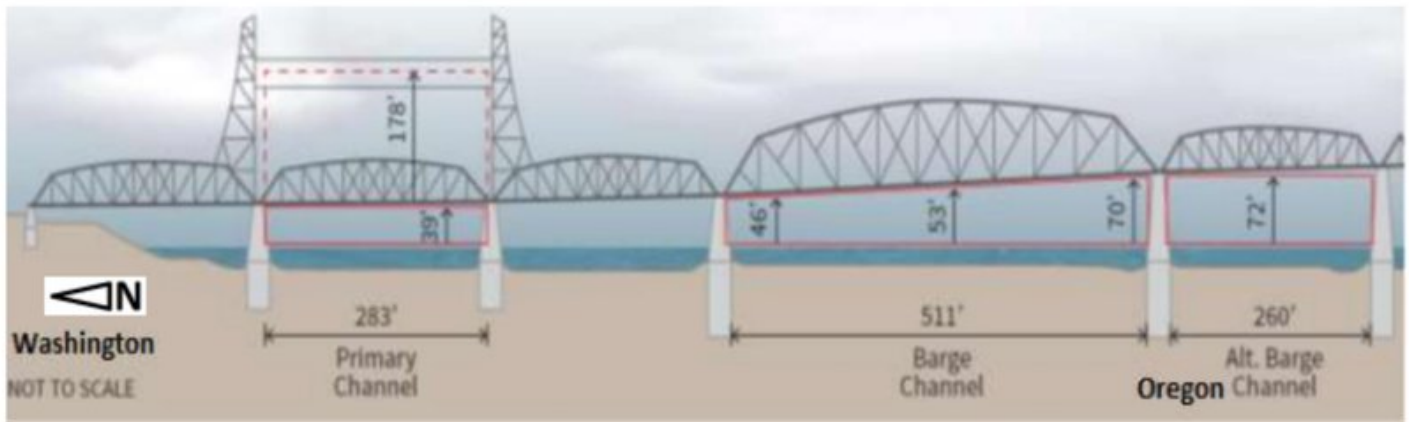


An immersed tunnel gives unlimited vertical clearance and a single channel in the center of the river.

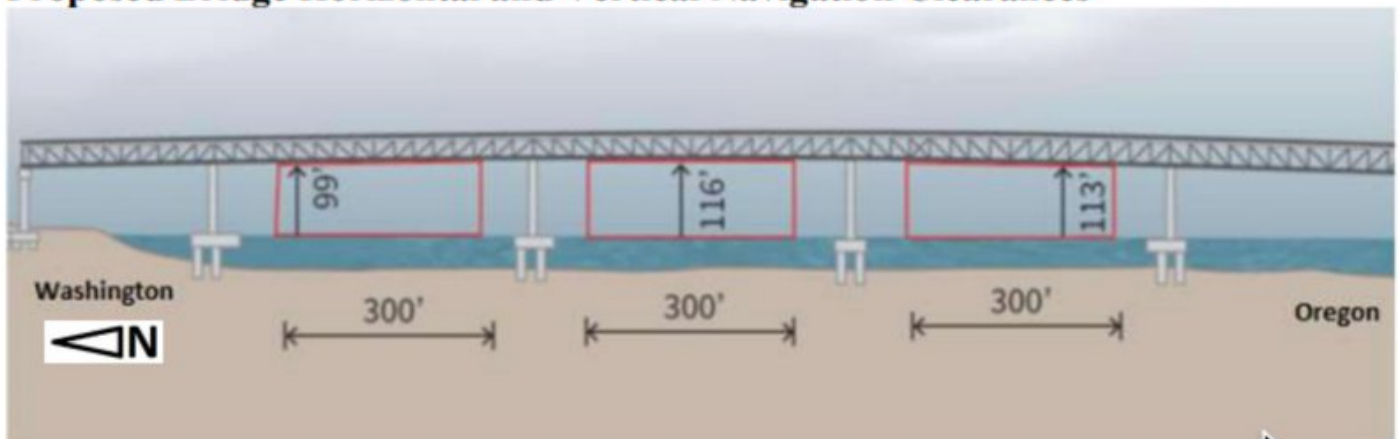
Immersed Tunnel - Center of River Channel - No Vertical Limit



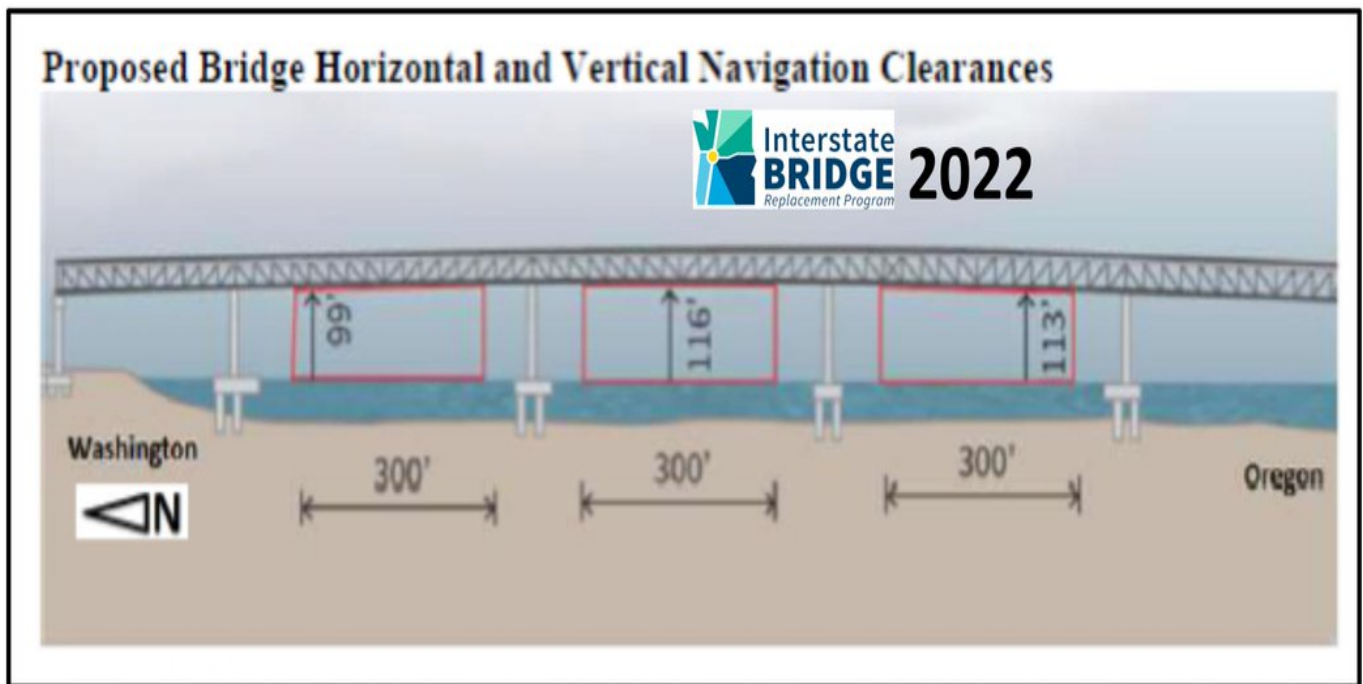
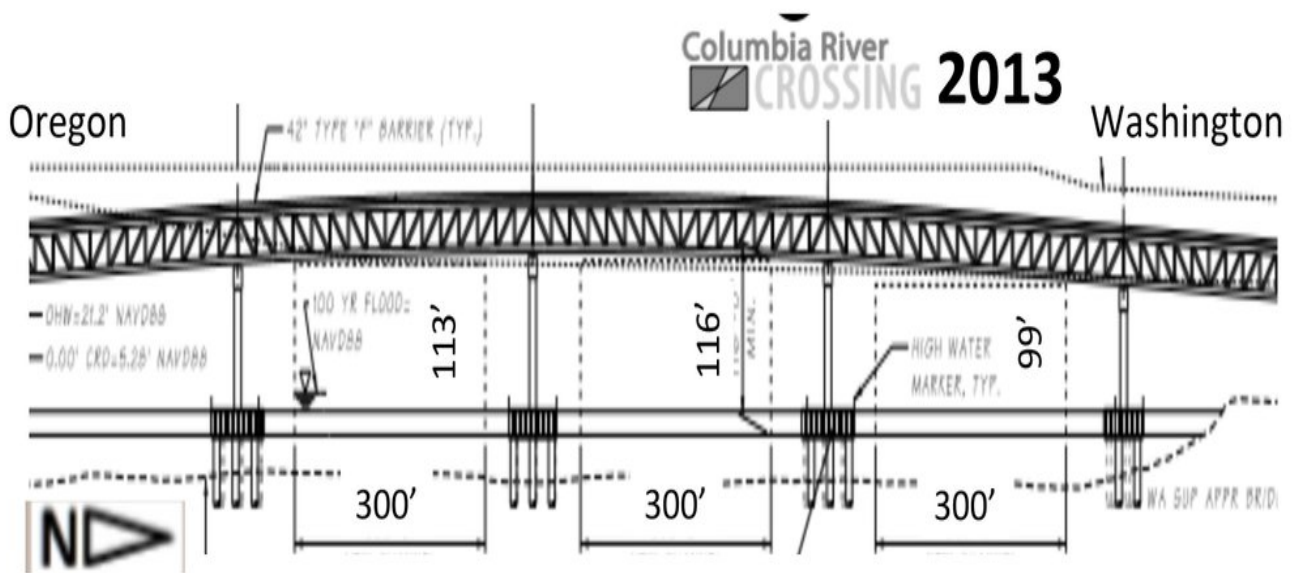
Existing Bridge Horizontal and Vertical Navigation Clearances



Proposed Bridge Horizontal and Vertical Navigation Clearances



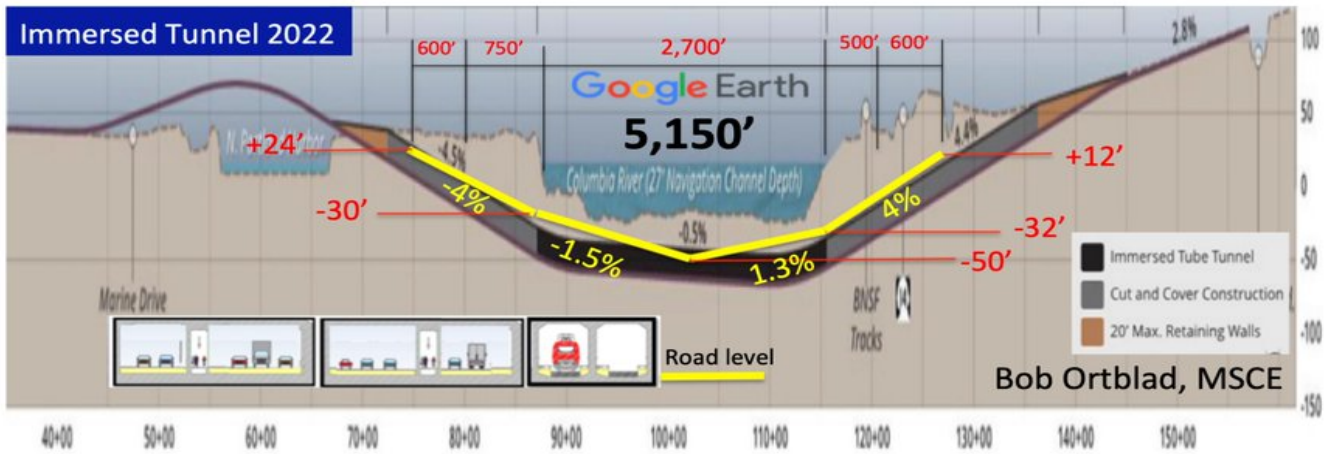
The IBR has spent \$35 million resurrecting the CRC design. Bridge clearance submitted to the US Coast Guard is exactly the same as the 2013 CRC design.



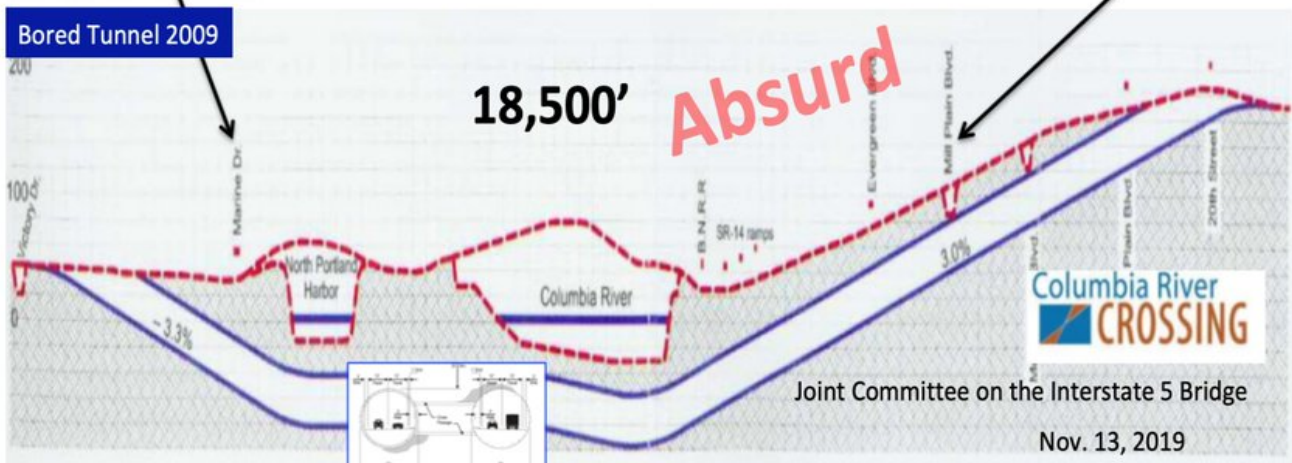
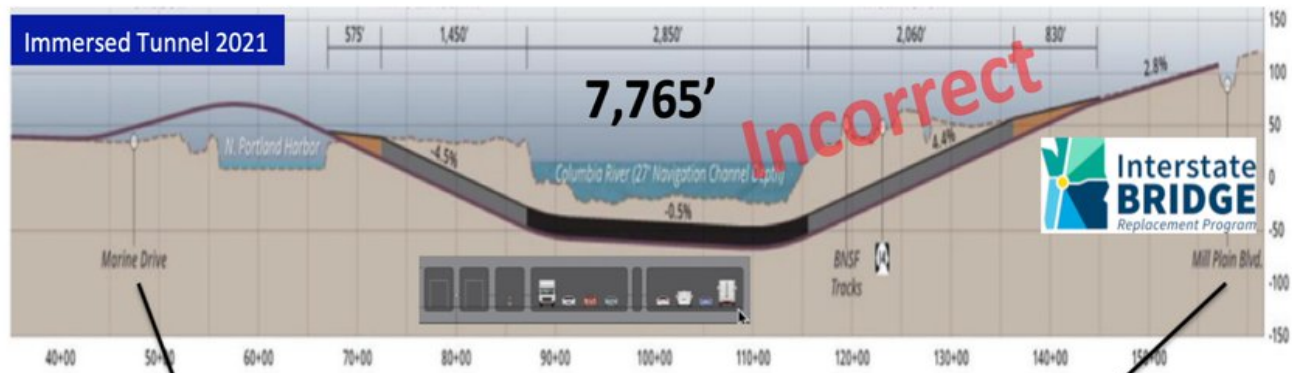
The CRC disqualified a tunnel with an absurd bored tunnel.

The IBR dismissed an immersed tunnel that goes under a channel location that is a 1,000 feet from the correct location at the center of the river.

An immersed tunnel can be 35% shorter, 65% less cut & cover, and connect to current interchanges.

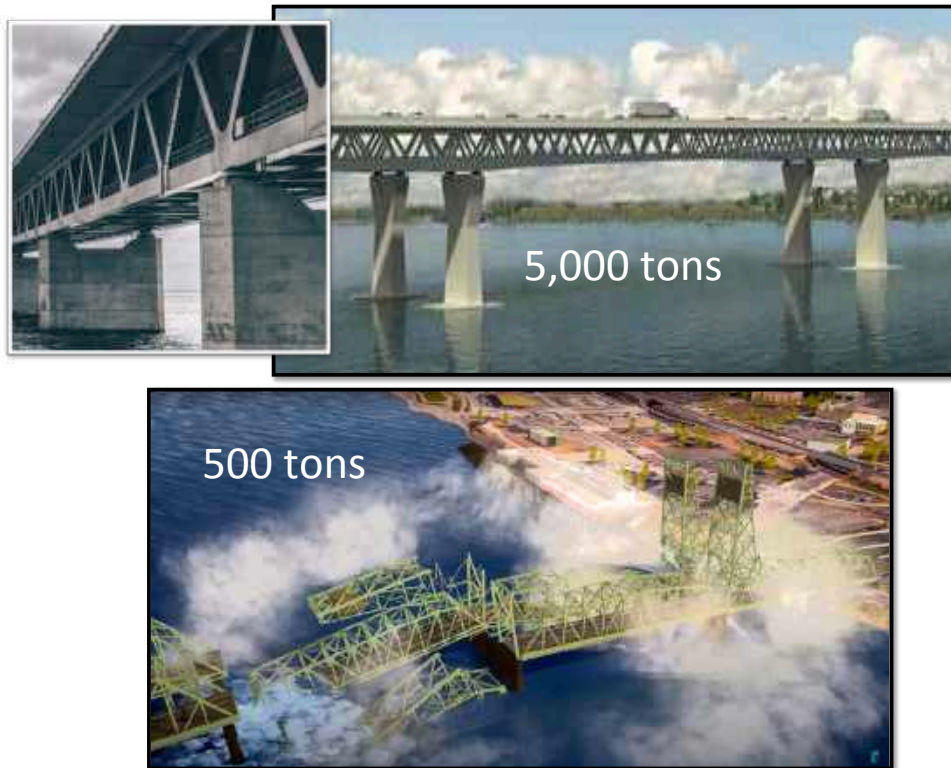


Negligent engineering or intentional deception



Joint Committee on the Interstate 5 Bridge

Nov. 13, 2019



Why build a new bridge with trusses ten-time heavier and more difficult to support in a 9.2 earthquake?

<https://www.columbian.com/news/2021/nov/09/video-shows-what-earthquake-would-do-to-interstate-5-bridge/>

Bouyancy make an immersed tunnel ten-time more earthquake resistant.

<https://www.youtube.com/watch?v=h19TQzw8H1w>

What makes tunnels safer in earthquakes?

Seismic Resilience




<https://www.youtube.com/watch?v=h19TQzw8H1w>



Steve Kramer, PhD
University of Washington



Red Robinson
Shannon & Wilson

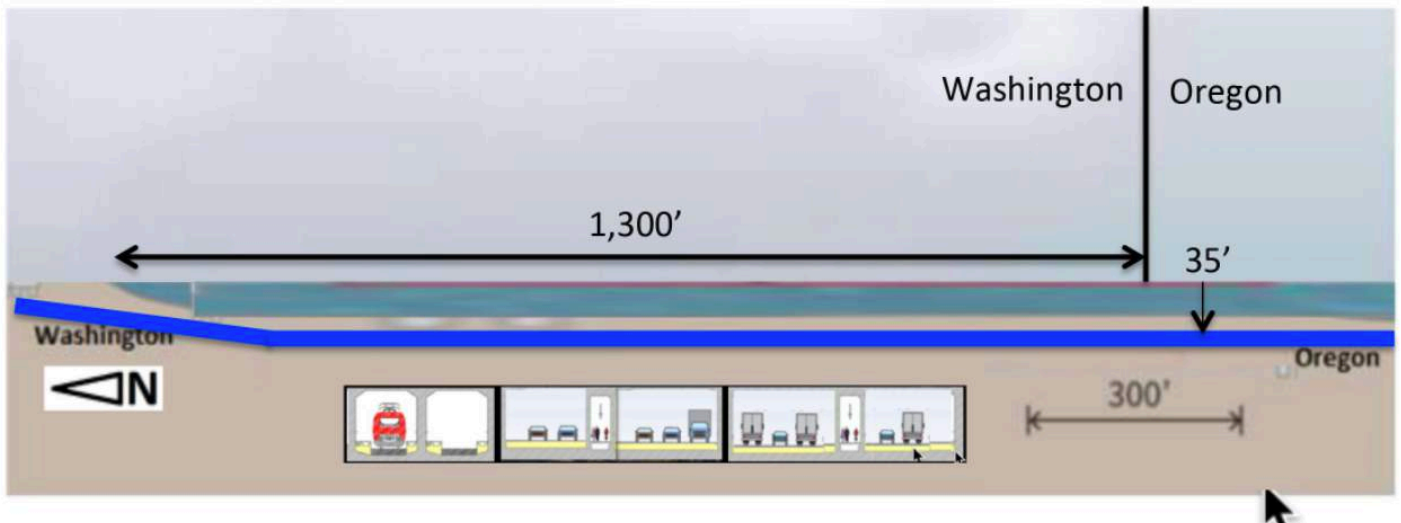


David Sowers
Deputy Administrator WSDOT

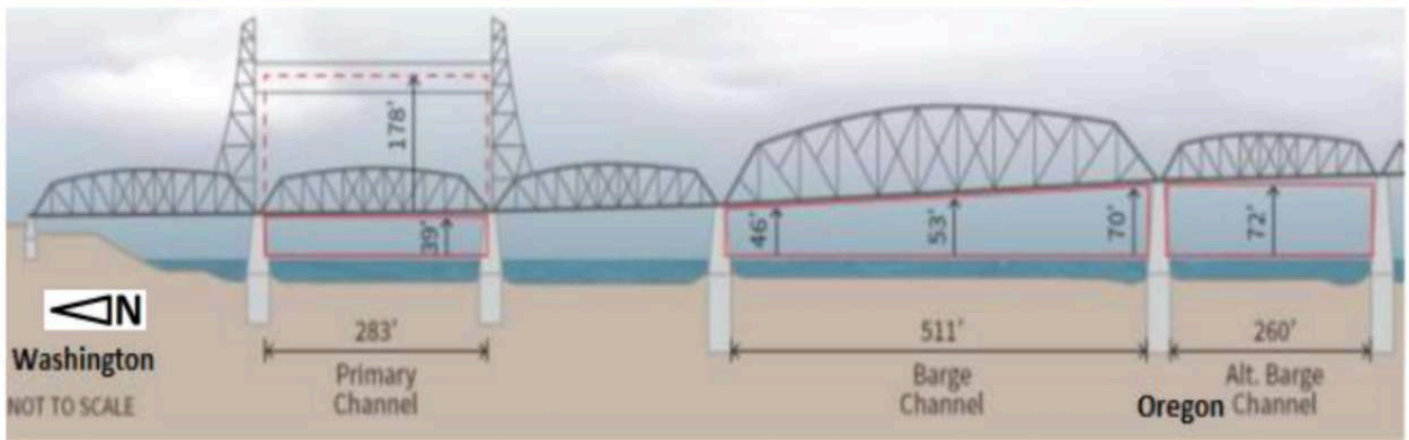
“A tunnel is by far the safest place to be during an earthquake”

An immersed tunnel gives unlimited vertical clearance and a single channel in the center of the river.

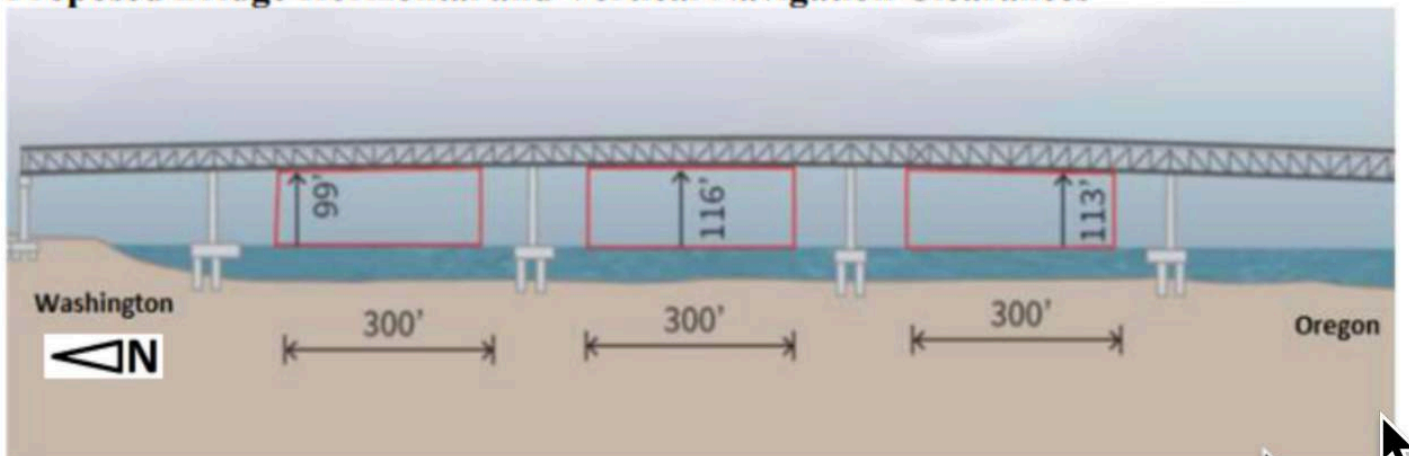
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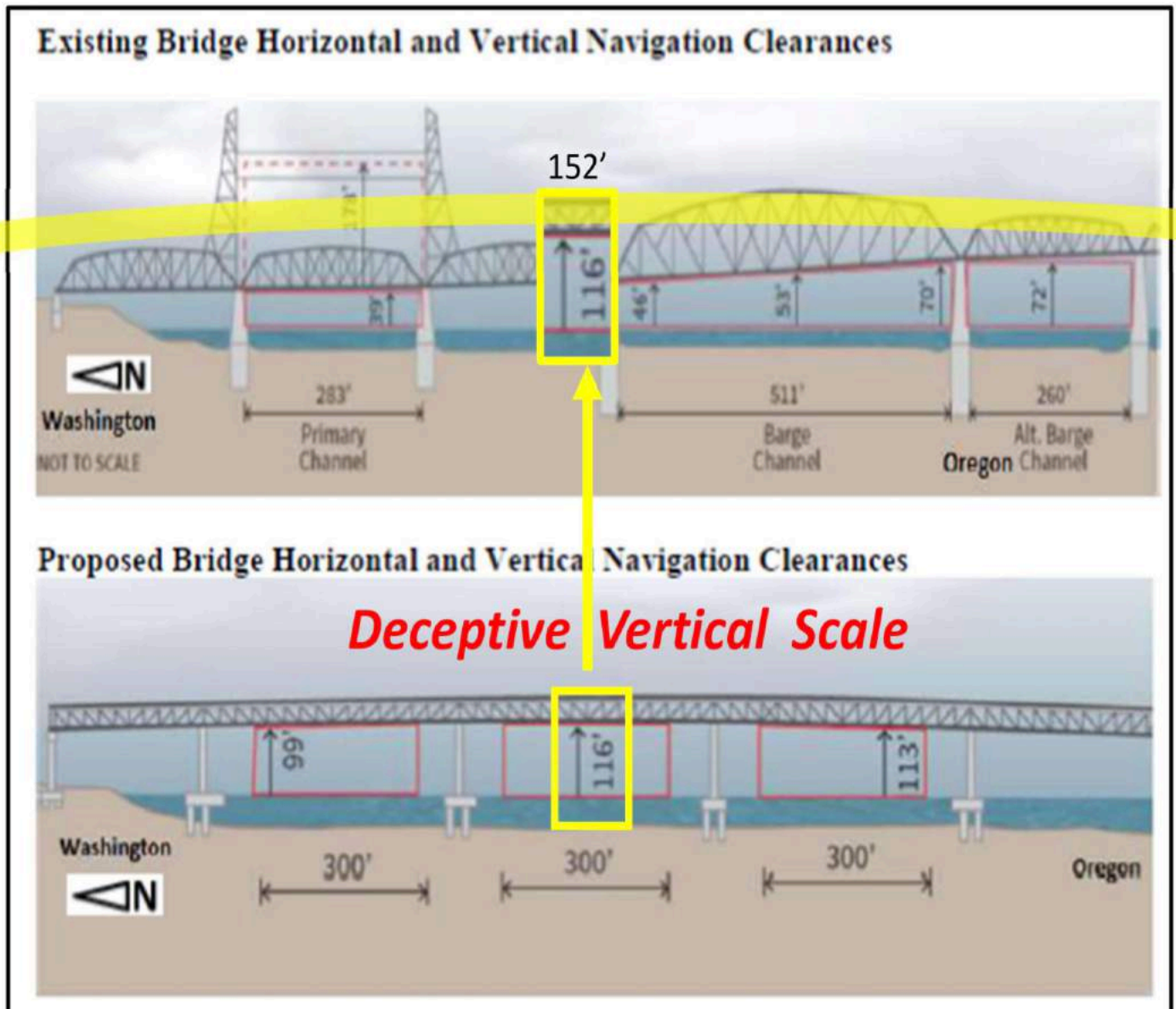
Existing Bridge Horizontal and Vertical Navigation Clearances



Proposed Bridge Horizontal and Vertical Navigation Clearances

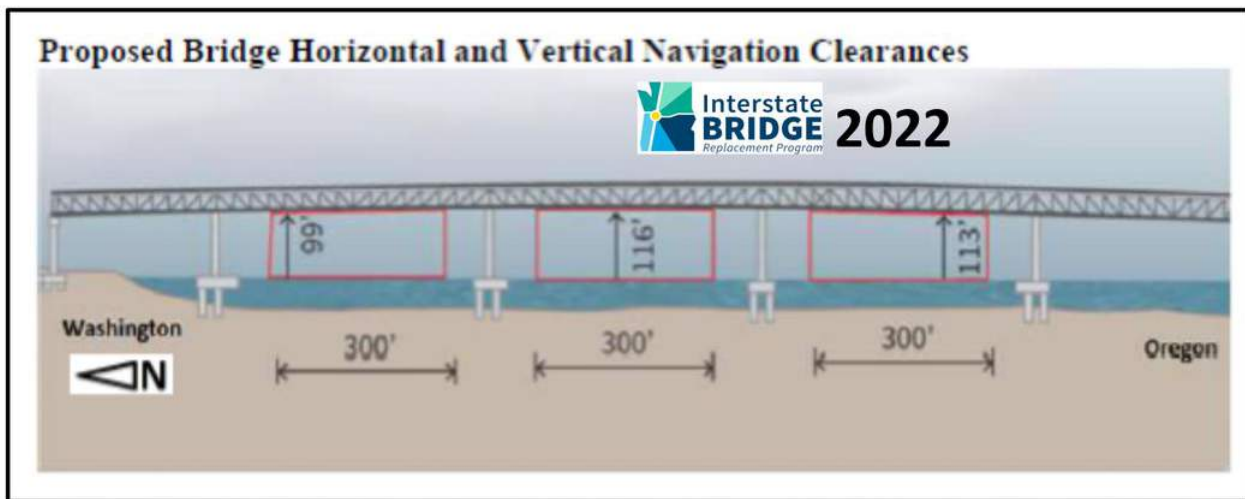
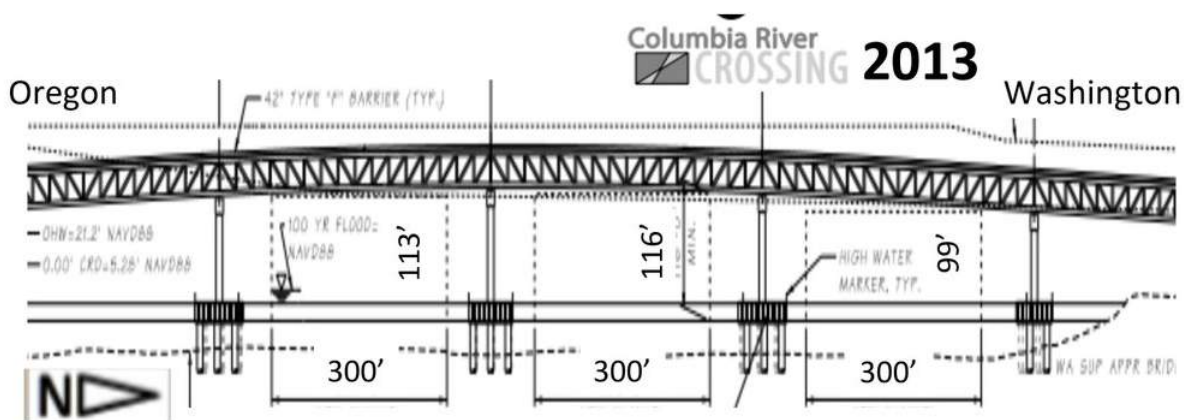


The IBR comparison of “Existing vs. Proposed Horizontal and Vertical Navigation Clearance” distorts the height of a high bridge. Vehicles will need to climb to 150 feet over the Columbia River, the steepest 4% dangerous interstate bridge.



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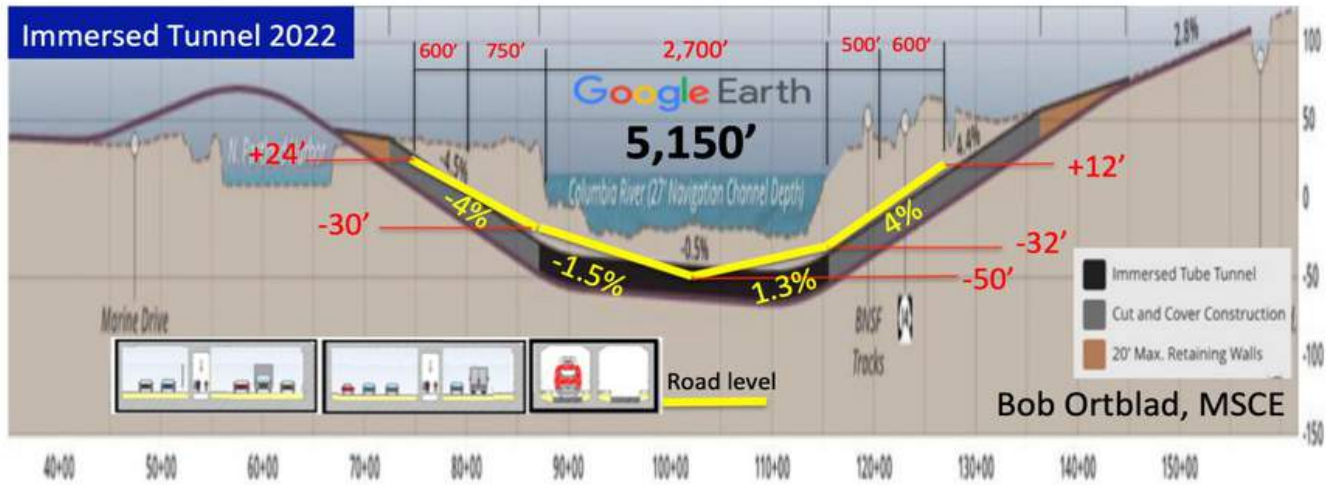
The IBR is cloaking the CRC zombie bridge in equity and climate change. Only facts will kill it.



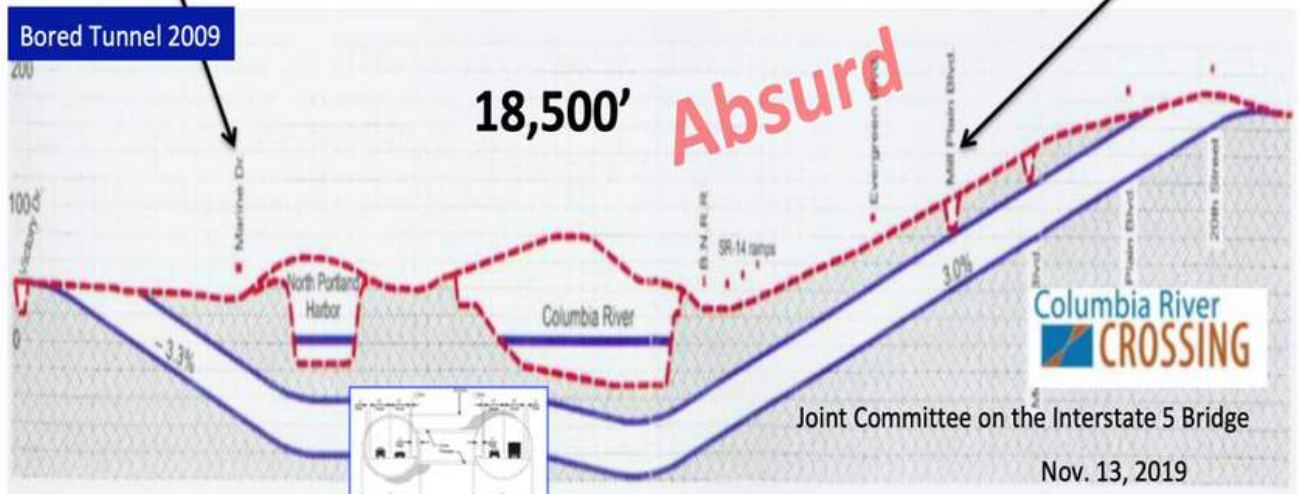
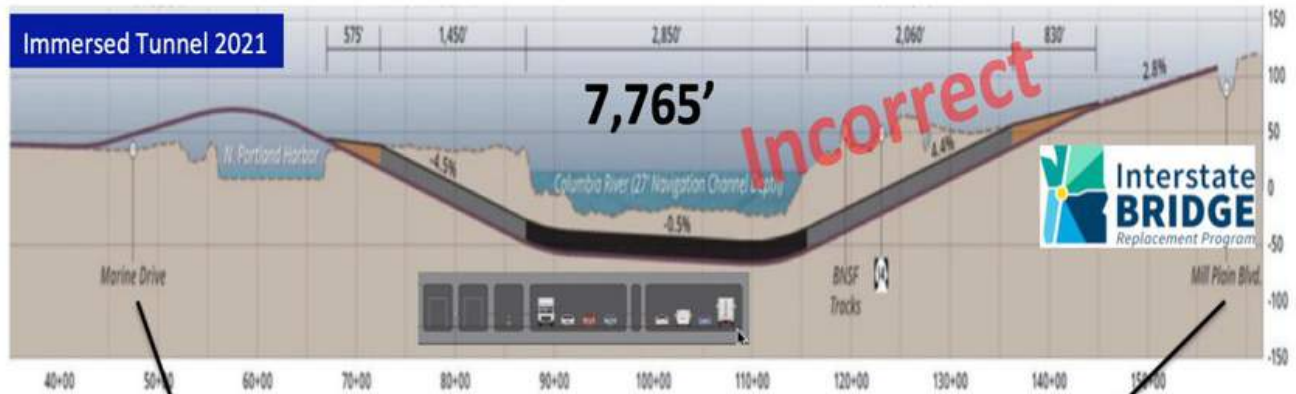
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An immersed tunnel can be 35% shorter, 65% less cut & cover, and connect to current interchanges.



Negligent engineering or intentional deception



IBR's lie will increase costs by \$1 billion for unnecessary half-mile elevated bridge interchanges connecting +100' at the riverbank.

An immersed tunnel emerges near the riverbank & connects to current interchanges for SR-14, Vancouver, & Hayden Island

Costly Lie
\$1,000,000,000

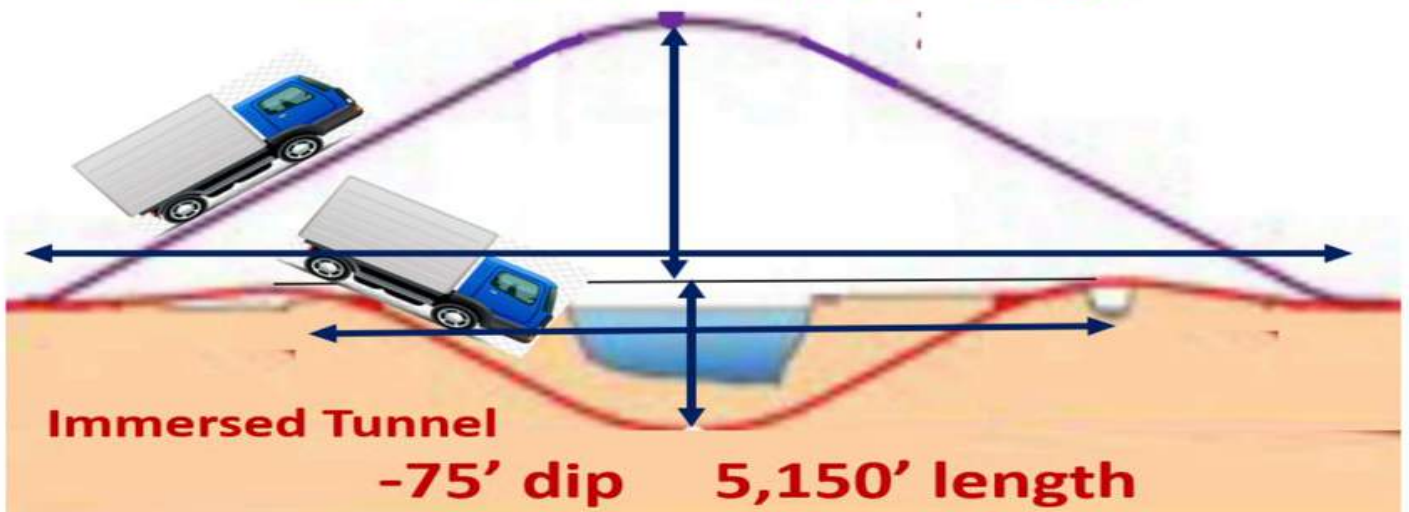


“A tunnel cannot be feasibly built within the footprint of I-5 without eliminating important connections to SR-14, downtown Vancouver, and Hayden Island.”

High bridge

+150' climb

7,500' length



Immersed Tunnel

-75' dip

5,150' length

The IBR released graphics of Hayden Island & Vancouver interchanges. They look just like the 10 yr old CRC designs.

These massive elevated interchanges are unnecessary. An immersed tunnel emerges at ground level and can connect to current interchanges.

Hayden Island/Marine Drive
Design Option 1: Full Interchange \$5 Higher Construction Cost

\$500,000,000 Interchange



Columbia River CROSSING



Interstate BRIDGE
Replacement Program

Columbia River CROSSING

Vancouver



\$500,000,000 Interchange



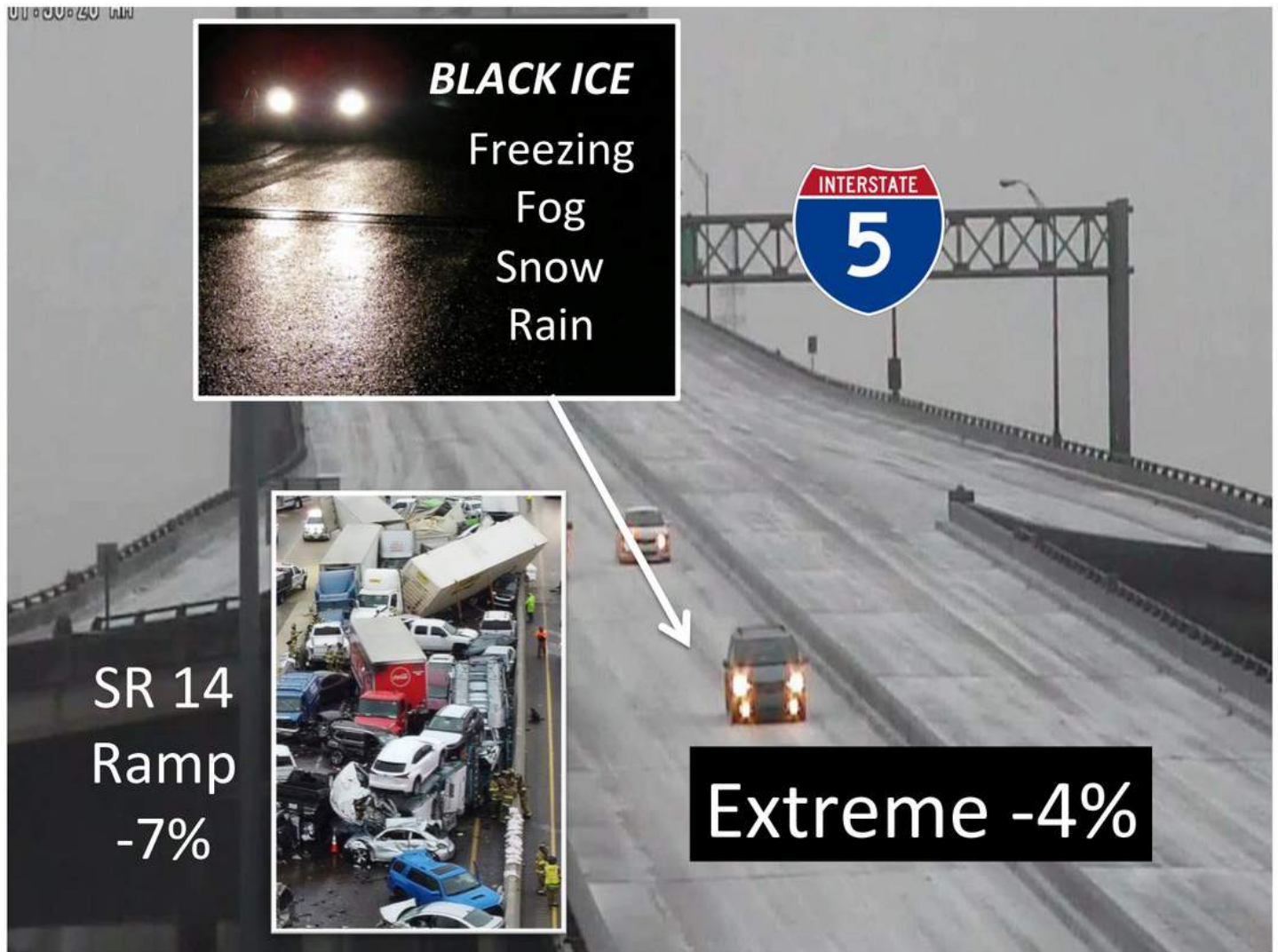
Land Bridge
High Capacity
C Street Ramp
0.4 to 0.8 mi
Level Bridge
Hwy 5
Hwy 5
Hwy 5
Hwy 5

on the right. Northbound is on the left in

Interstate BRIDGE
Replacement Program

SR-14 Off Ramp - dangerous

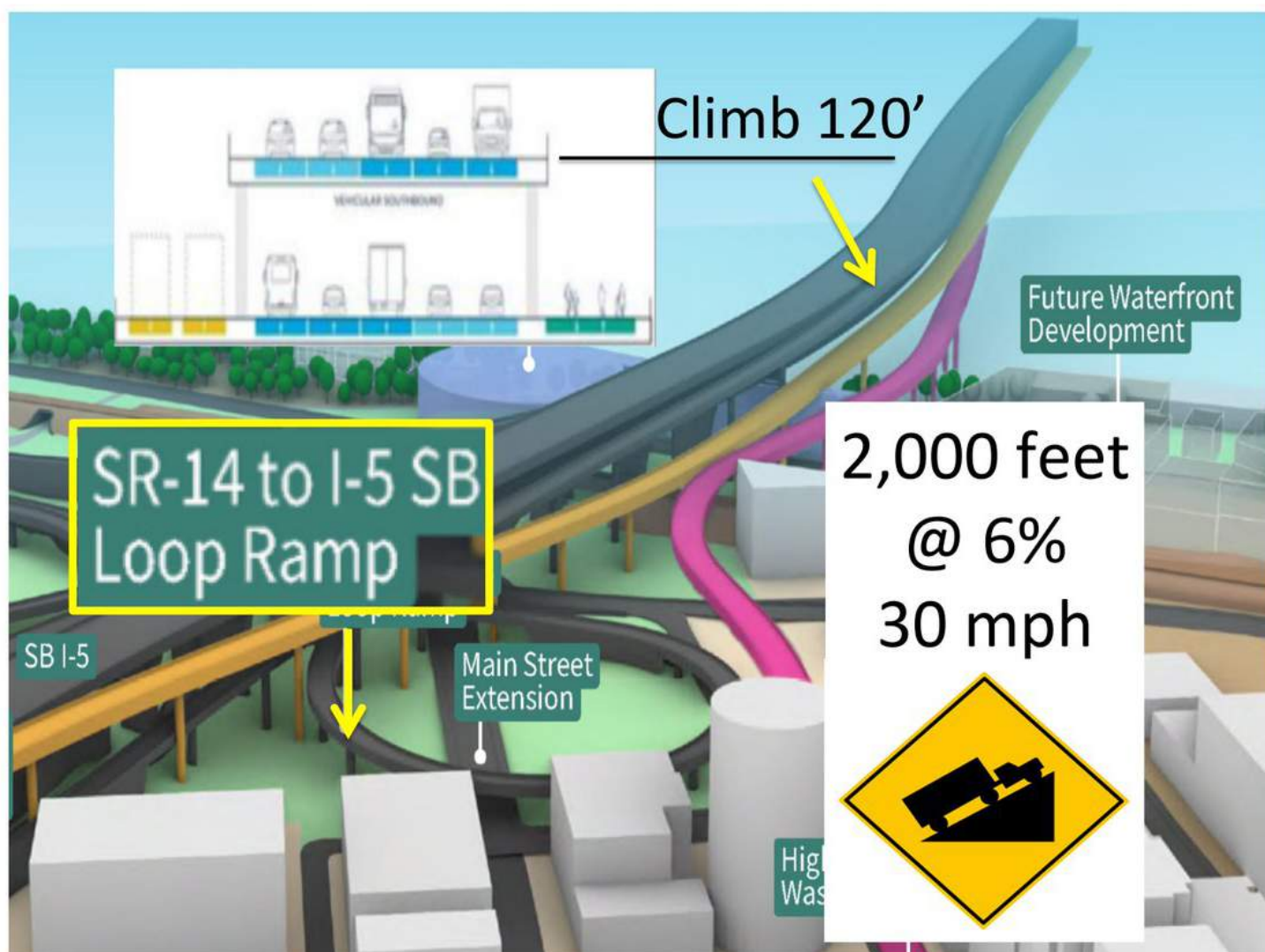
The IBR's bridge will be deadly, the steepest 4% interstate bridge in the country. More deadly will be the 7% downhill off-ramp to SR-14 with possible black ice 6 months a year.



SR-14 On Ramp -dangerous

Today SR-14 traffic to I-5 South Bound has a downhill Loop Ramp helping trucks accelerate

Both IBR bridge designs will rebuild this Loop Ramp, at 2,000-foot, 6% uphill grade, decelerating trucks to 30 mph, dangerous!

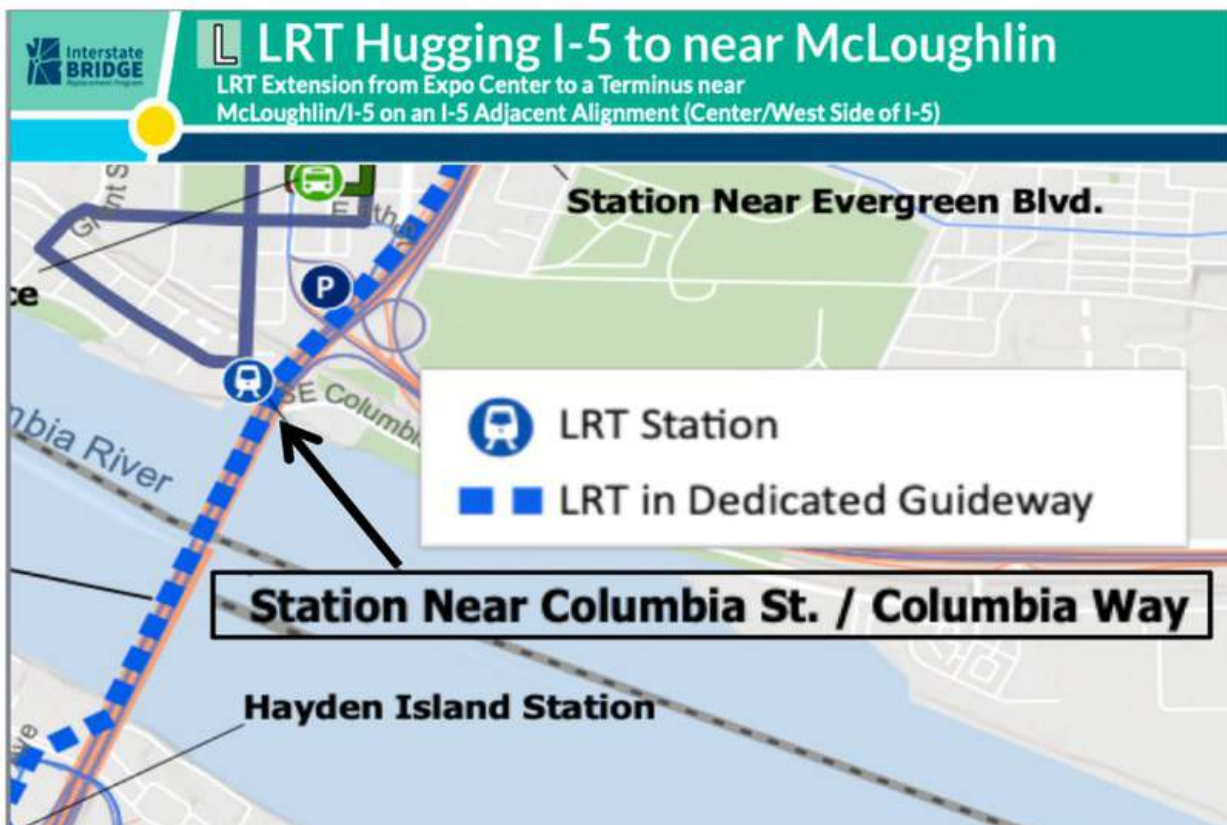


The IBR's Two Bridge or Stacked Option will devastate downtown Vancouver.

The IBR Two Bridge Option will devastate Vancouver



IBR's (LRT) station at Columbia St./ Columbia, at 110 feet will be one of the tallest buildings on the Vancouver waterfront, and require an eight-story elevator. Not practical.



I have submitted comments for a Columbia immersed tunnel to DOT's Non-Traditional and Emerging Transportation Technology (NETT) Council.

<https://www.regulations.gov/document/DOT-OST-2022-0016-0014>



U.S. Department of Transportation

The Office of the Secretary of Transportation (OST) invites public comment on projects, issues, or topics* that DOT should consider through the Non-Traditional and Emerging Transportation Technology (NETT) Council. Public comments will inform the Department's future efforts with the NETT Council.

* **Columbia I-5 Immersed tunnel**

