

PUBLIC COMMENTS FOR IBR PROGRAM EXECUTIVE STEERING GROUP

Received between October 19 – November 16, 2021

Bob Ortblad

11/15/21

Interstate Bridge Replacement Program

Please accept the attached “ESG Public Comment”

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

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11/16/21

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November Newsletter

Structures Lead, Rob Turton

Structural engineering is not a job, it's a calling, says Rob Turton.

*"That fascination led him to working on iconic structures like the **Golden Gate Bridge**, the **Oakland Bay Bridge**, the **Gerald Desmond Bridges** in California, and the massive **Corpus Christi Harbor Bridge** in Texas. He also aided in the engineering work on the original **Columbia River Crossing** project."*

Comments on IBRP's November Newsletter:

Rob Turton has experienced the **high risk** of cost overruns and years of delay, in the design of seismic resistance bridges.

Golden Gate Bridge

27 years of seismic retrofits costing over \$1 billion

Oakland Bay Bridge

10 years late and \$5 billion over budget

Gerald Desmond Bridges

7 years of construction \$500 million over budget

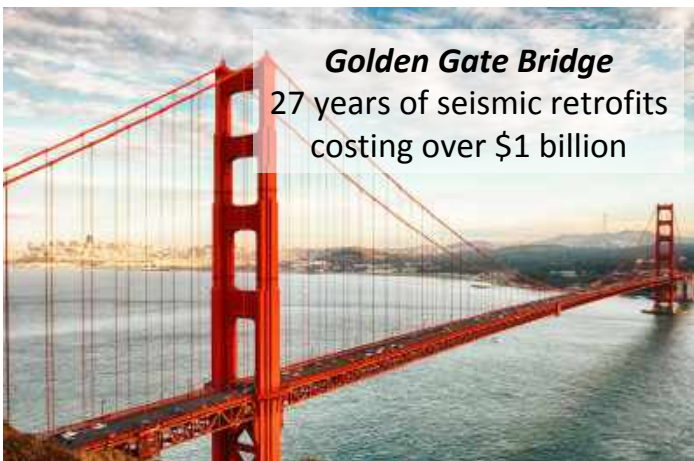
Corpus Christi Harbor Bridge

work suspended for design errors, Nov. 2019

Columbia River Crossing

canceled 2013 after \$200 million spent

Bob Ortblad MSCE, MBA



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**Corpus Christi
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Columbia River Crossing
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Bridges were originally designed for both the Fraser River and the Fehmarn Baltic Sea crossing. However, after a second analysis by international immersed tunnel engineers, tunnels are now being built.





The IBRP's "Tunnel Concept Assessment" is worthless. It evaluated an immersed tunnel under the wrong barge channel location. An immersed tunnel near the center to the river would be shorter, with less grade, have 60% less cut and cover, and cost much less.

Defined the problem Wrong

*** Tunnel under Exiting Primary Channel**

"If I were given one hour to save the planet, I would spend 59 minutes defining the problem and one minute resolving it."

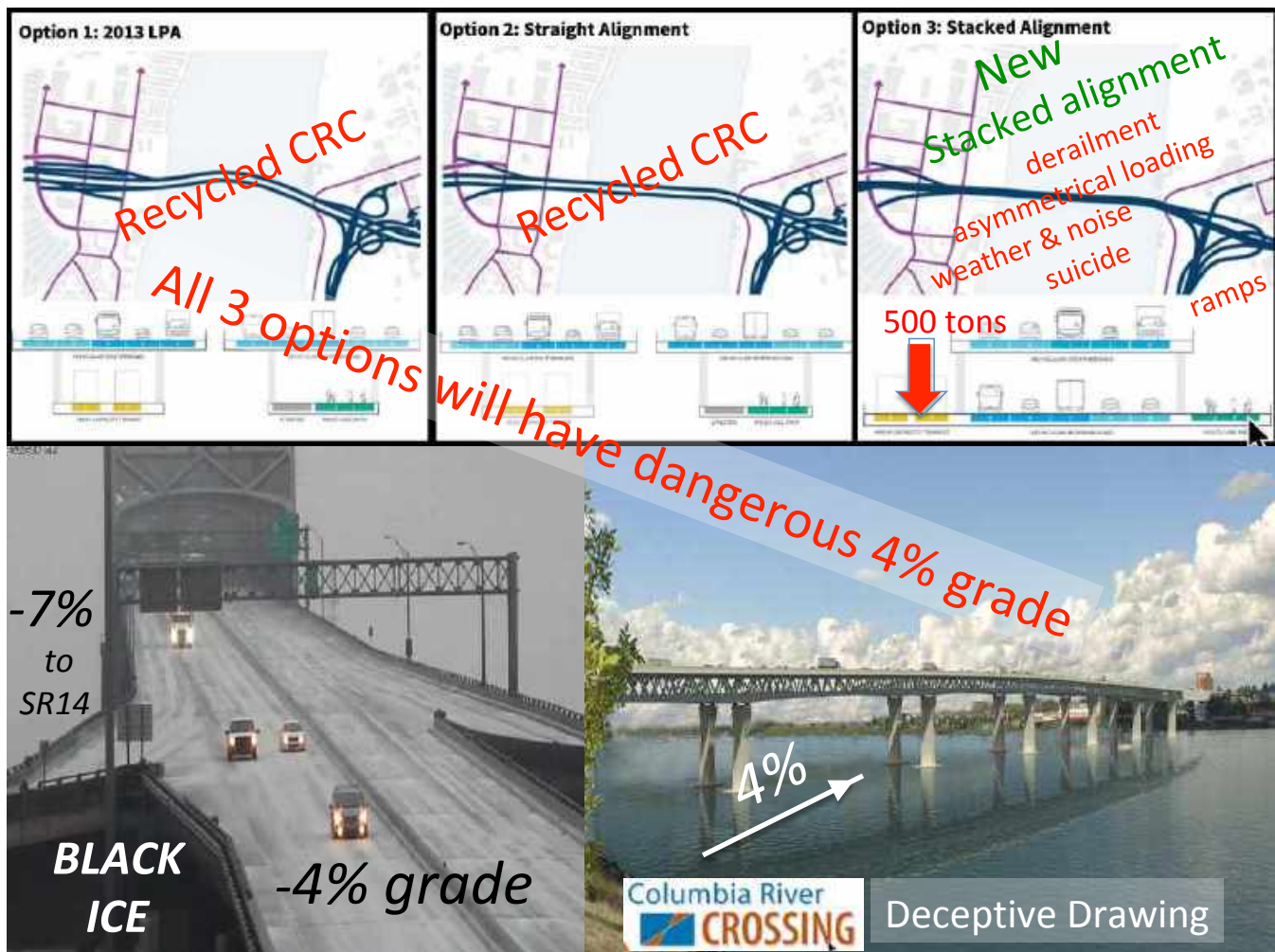
I skate to where the puck is going to be, not where it has been.
- Wayne Gretzky

Executive Steering Group

The IBR Program has spent \$26 million and delivered no new feasible options. The IBR is recycling two options from the “Columbia River Crossing”, and has developed one new bizarre option, a “Stacked alignment”.

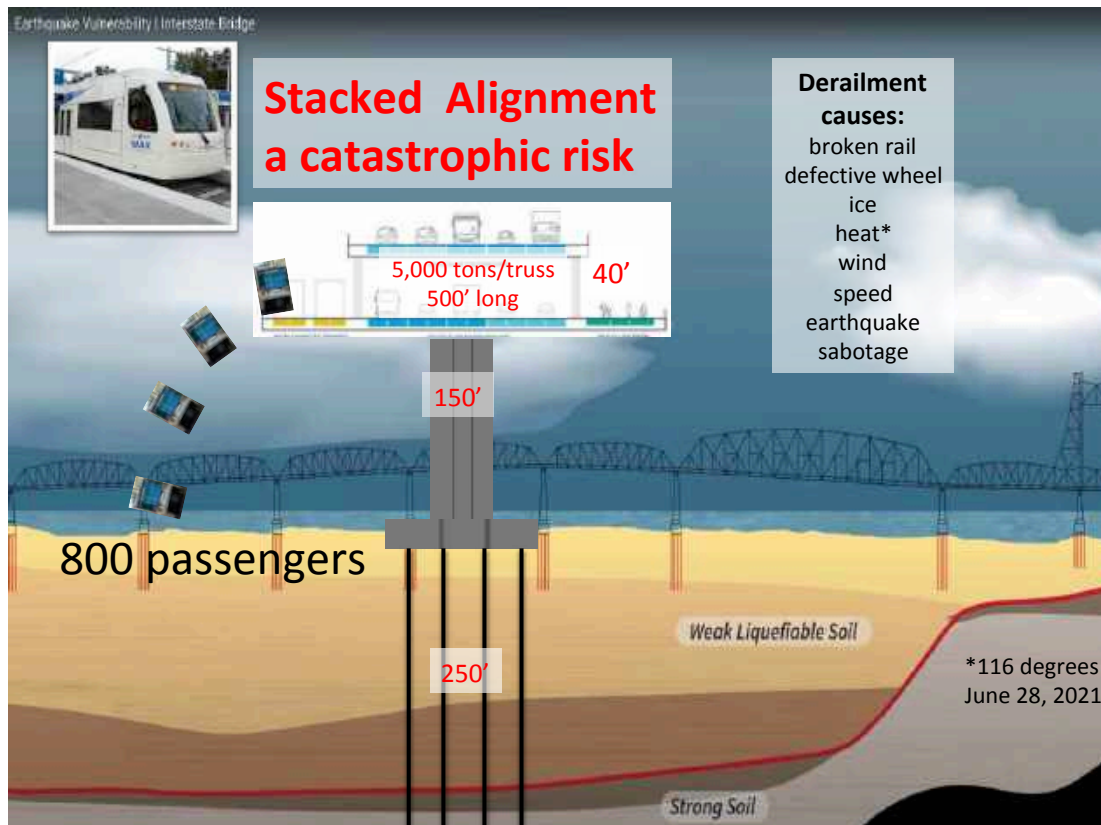
All three options will have a dangerous 4% grade, the steepest interstate bridge grade in the country.

Bob Ortblad MSCE, MBA



The IBR’s “Stacked alignment option” has at least five major problems.

1. Derailment



Uses same trains as **DC metro**

Metro 7000-Series Safety Problems Could Have Led To 'Catastrophic Event,' Service Limited This Week

<https://dcist.com/story/21/10/18/wmata-metro-7000-series-safety-derailment-catastrophic-delays/>

Over half of Washington, D.C., Metro rail cars pulled after derailment

<https://www.nbcnews.com/news/us-news/over-half-washington-d-c-metro-rail-cars-pulled-after-n1281814>

One DC Metro Train Derailed Three Times In A Day

<https://jalopnik.com/one-dc-metro-train-derailed-three-times-in-a-day-1847922741>



7000-Series

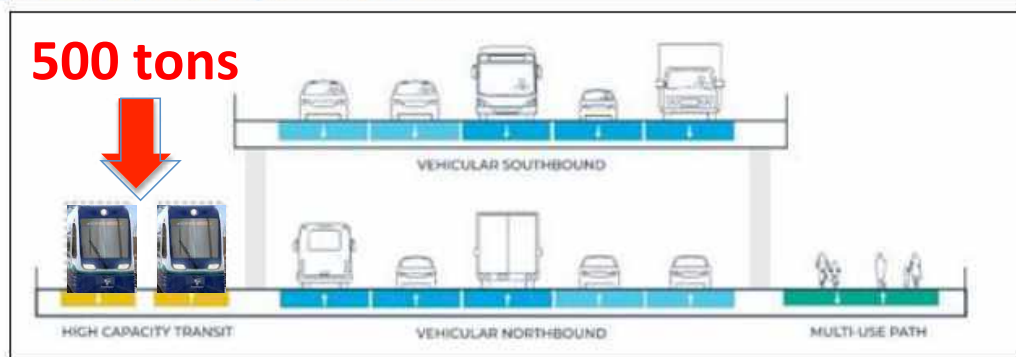


2. Asymmetrical loading



250 tons- asymmetrical loading

Figure 4. Stacked alignment option



asymmetric load

500-foot truss span



An asymmetric 250-ton load contributed to the Minneapolis I-35 Bridge collapse.

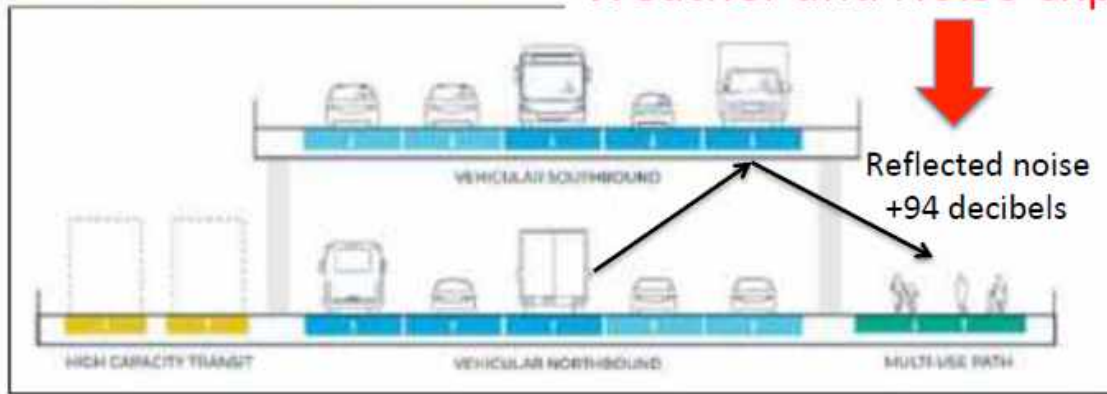
A 500-ton asymmetric load on a cantilever will twist the 500-foot trusses needed for the “Stacked alignment option”.

3. Weather and Noise exposure

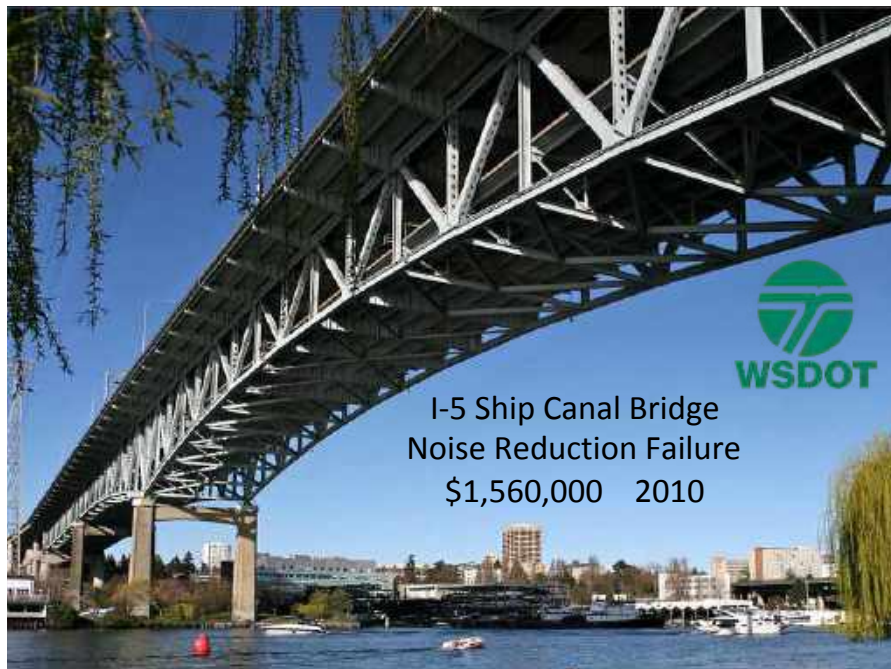


Figure 4. Stacked alignment option

Weather and Noise exposure



If the rain and wind don't blow pedestrians and cyclists off the bridge, then direct and reflected noise will drive them off.



4. Suicide

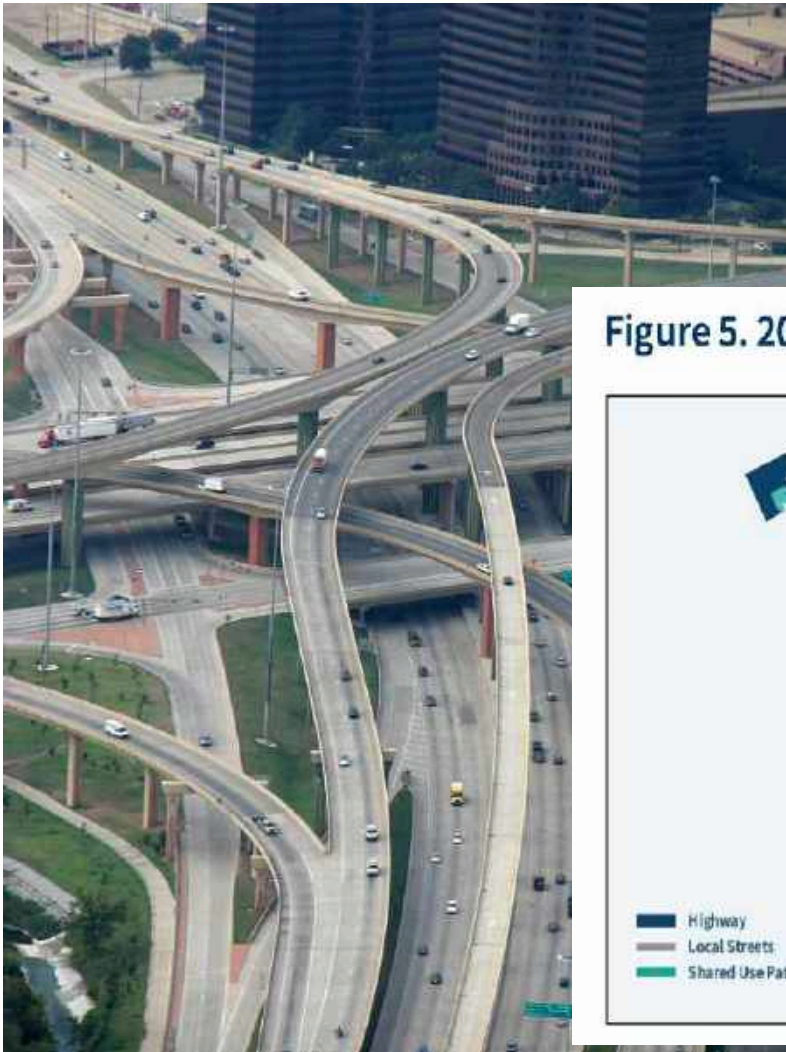
The West Coast has the country's two deadliest bridges for suicide.

Without safety measures a new Columbia River high bridge will be an additional fatal attraction to the sick and desperate.



5. Approaches and Ramps

A snarl of highway approaches and ramps will blanket the Vancouver Riverfront.



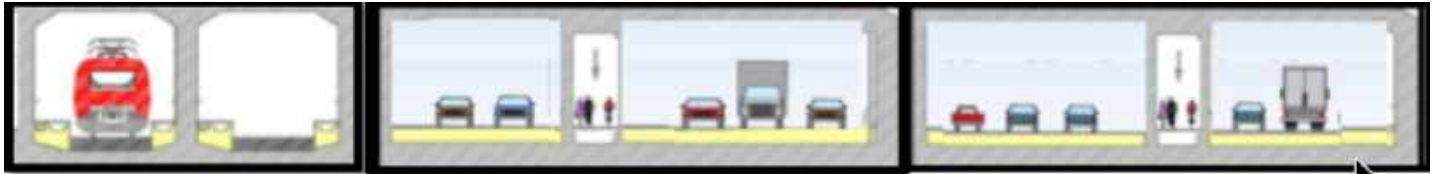
Vancouver
Snarl of
approaches and ramps

Figure 5. 2013 LPA option



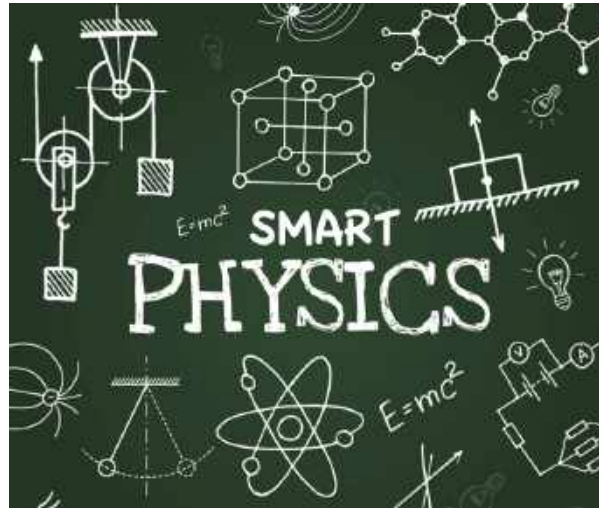
Immersed tube tunnel the best option

An immersed tube tunnel uses buoyance for support, displacing its own weight in a river bottom trench. A bridge needs complex and expensive 250-foot pilings, 100-foot bridge piers, and 500-foot trusses for support. An immersed tube tunnel will half the total grade of a bridge and protect traffic from ice, rain, and wind.



An immersed tube tunnel also protects pedestrians and cyclists from weather, vehicle pollution, and noise.

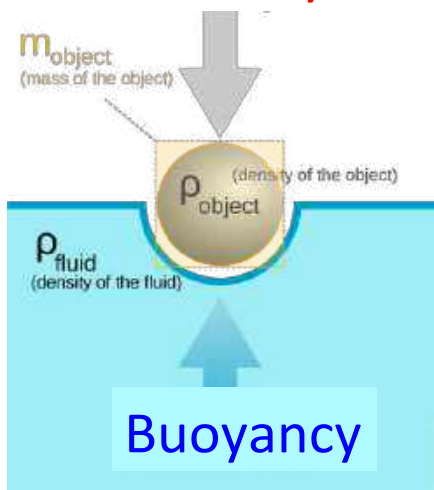




Buoyancy is free, a supporting force for an immersed tunnel that puts almost no weight on the soft river bottom.

Gravity is expensive, massive 5,000-ton bridge trusses will need long, complex, and expensive piles and piers for support. Piles will penetrate 250 feet of soft river bottom and put a 5,000-ton load on small area of solid ground.

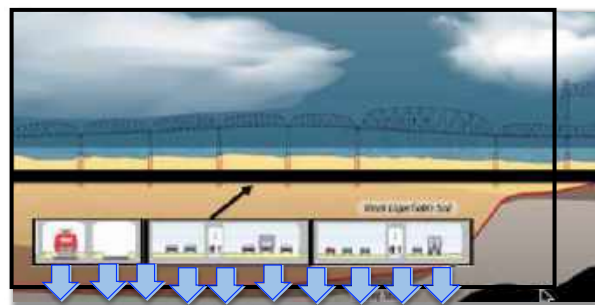
**Expensive supporting
Piers & Piles**
5,000 tons on river bottom/pier
Gravity



Free support



Enormous point pressure on river bottom



Nearly zero pressure on river bottom