## Vancouver City Council

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A three-acre lid south of East Evergreen Boulevard will do little to mitigate the noise and pollution that will rain down on Vancouver from eight acres of an elevated freeway, from the Columbia River's north bank to East 7<sup>th</sup> Street.

An alternative is a seven-acre riverfront park and walk. An immersed tube tunnel (ITT) can provide this park. An ITT will also have less noise, water, and air pollution, both during construction and when completed. An ITT will have better connections to Hayden Island, Vancouver, and SR-14 because it can be shorter with less grade than a bridge. An ITT's smaller footprint will have no impact on historic sites. An ITT will be safer than a bridge, protecting traffic from rain, wind, and ice. An ITT is many times more earthquake resistant. A short shallow dip under the river (-50 feet) vs. a long steep climb over the river (+150 feet) will save billions of energy units over the +120-year life of an ITT. An ITT will have no navigation hazard or hydraulic blockage, but a bridge will need a dozen piers in the river.

Please study the attached file.

Respectfully Bob Ortblad MBA, MSCE 206 992-1111

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A new high bridge will cover Vancouver with 8 acres of elevated highway. A 3 acre lid will do little to dampen noise and pollution.





Hong Kong has protected its environment, saved land, and preserved the beauty of its harbor with six immersed tube tunnels.

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Trelleborg - How to build an immersed tunnel <a href="https://www.youtube.com/watch?v=2Xkyyc9PlQA">https://www.youtube.com/watch?v=2Xkyyc9PlQA</a>

Trip through Tingstad Tunnel, Gothenburg https://www.youtube.com/watch?v=KoEBbmecd88

Trip through Marieholm Tunnel before its Dec. 16 opening, Gothenburg <a href="https://www.youtube.com/watch?v=BT9s2Pf9Wms&feature=youtu.be">https://www.youtube.com/watch?v=BT9s2Pf9Wms&feature=youtu.be</a>

Construction of the Marieholm Tunnel, Gothenburg https://www.youtube.com/watch?v=2kcAIBFCz8w&feature=youtu.be

Launch of the Marieholm Tunnel elements, Gothenburg <a href="https://www.youtube.com/watch?v=JC4mRlgwXU0">https://www.youtube.com/watch?v=JC4mRlgwXU0</a>

Elizabeth River Tunnel, Norfolk, VA. https://www.youtube.com/watch?v=NsNBdPFMuQY

George Massey Crossing Tunnel Concept, Vancouver, Canada https://www.youtube.com/watch?v=8At88ti-yFA

Immersion Tunnel Coatzacoalcos by Volker Construction International, Mexico https://www.youtube.com/watch?v=VFWkoZMja0k

DERSA - Santos Guarujá Immersed Tunnel Project, Brazil https://www.youtube.com/watch?v=du8KZob7Pkw

Busan-Geoje Fixed Link in South Korea https://www.youtube.com/watch?v=-aykpUulHJo Immersed Tube Tunnel better than a New High Bridge

**YouTube**