

Article Overview

The Columbia Tunnel Bridge refers to proposed or conceptual tunnel and bridge crossings of the Columbia River, emphasizing seismic safety and traffic improvements.

Overview

The Columbia River, forming part of the border between Oregon and Washington, has several major crossings, including bridges and proposed tunnel projects. One concept discussed in planning documents is an immersed tube tunnel (ITT) as an alternative to long elevated bridges, particularly for the I-5 corridor. This approach is considered for its seismic resilience, as tunnels can flex and withstand earthquakes better than elevated concrete viaducts .

Design Considerations

- o Seismic Safety: Immersed tube tunnels are buoyant and flexible, making them more resistant to high-magnitude earthquakes compared to traditional bridges .
- o Traffic Flow: Replacing aging bridges with tunnels or modern bridges can improve traffic capacity and reduce congestion. For example, the Highway 99 corridor in Vancouver, B.C., is planning an eight-lane immersed tube tunnel to replace the George Massey Tunnel, including dedicated lanes for bus rapid transit and separated pathways for pedestrians and cyclists .
- o Land Use: Elevated bridges require extensive on- and off-ramps, consuming significant land along the riverfront. Tunnels reduce surface disruption and can integrate more efficiently with urban areas .

Current and Future Projects

While no completed "Columbia Tunnel Bridge" exists, planning discussions highlight the potential for tunnel crossings to replace or supplement existing bridges. These projects aim to:

- o Enhance earthquake readiness for critical river crossings.
- o Improve multi-modal transportation, including transit, cycling, and pedestrian access.
- o Minimize environmental and land-use impacts along the riverfront .

Summary

The Columbia Tunnel Bridge concept represents a modern approach to river crossings, prioritizing safety, efficiency, and urban integration. By considering immersed tube tunnels or hybrid tunnel-bridge solutions, engineers aim to provide durable, high-capacity crossings that can withstand seismic events while improving traffic flow and accessibility. These projects remain in planning or proposal stages, with detailed designs and



Columbia Tunnel Bridge

construction timelines dependent on regional transportation authorities and funding.

The Manhattan Bridge and Brooklyn Bridge on the East River in 1981 New York City is home to 789

The Portland-Columbia Toll Bridge connects PA. Route 611 at Portland, Pennsylvania with U.S. Route 46

The tunnel was constructed for the British Columbia Toll Highways and Bridge Authority, and is now

Bike the Paulson Summit to Castlegar section of the Columbia and Western Rail Trail offering scenic views, historic

The Triborough Bridge and Tunnel Authority (TBTA), doing business as MTA Bridges and Tunnels, is an affiliate agency of the

Discover how Colombia's Toyo Tunnel--Latin America's first AI enabled mega tunnel with 39 tunnels and 43

Find local businesses, view maps and get driving directions in Google Maps.

Columbia built the first leg of the Vista Greenway in 2012, starting at the Lincoln Street tunnel running under Lady

A team has been selected to design a new eight-lane tunnel to replace the aging George Massey Tunnel under the

B.C.'s Transportation Minister rolled out his plans to build a new 10-lane toll bridge costing \$3.5 billion, to replace the

The Interstate Bridge (also Columbia River Interstate Bridge, I-5 Bridge, Portland-Vancouver Interstate Bridge, Vancouver-Portland

See also Wikipedia's article about "Columbia University tunnels". Columbia has an extensive tunnel system

Columbia Island is in part natural, and in part man-made. Columbia Island did not exist in 1818 and at that

Quantity errors in the Interstate Bridge Replacement (IBR) project, which previously led to cost increases, have resurfaced, raising

Progress continues in Colombia on what will be Latin America's longest tunnel: the Toyo

Columbia Tunnel Bridge

La Línea (English: The Line) is a highway tunnel between the cities of Calarcá, Quindío and Cajamarca, Tolima in Colombia. It

Web: <https://www.kremgroup.co.za>

