

The *Columbia* Tunnel

**A proposal for tunneling
rather than a new bridge**



The *Columbia* Tunnel

Tunneling *is* an option

Real Congestion Relief

Lower Cost

Used in Seattle, SF & LA

Chicago Contracted with

Musk to build tunnel to O'Hare



The *Columbia* Tunnel

Tunneling is Cheaper

Orange Line - \$200M per mile

O'Hare Tunnel - \$55M per mile

Land costs lower

Add more express lanes

12 ft tunnels lower costs 75%

N.Portland Tunnel 100 yrs old



The Columbia Tunnel

The N. Portland RR Tunnel

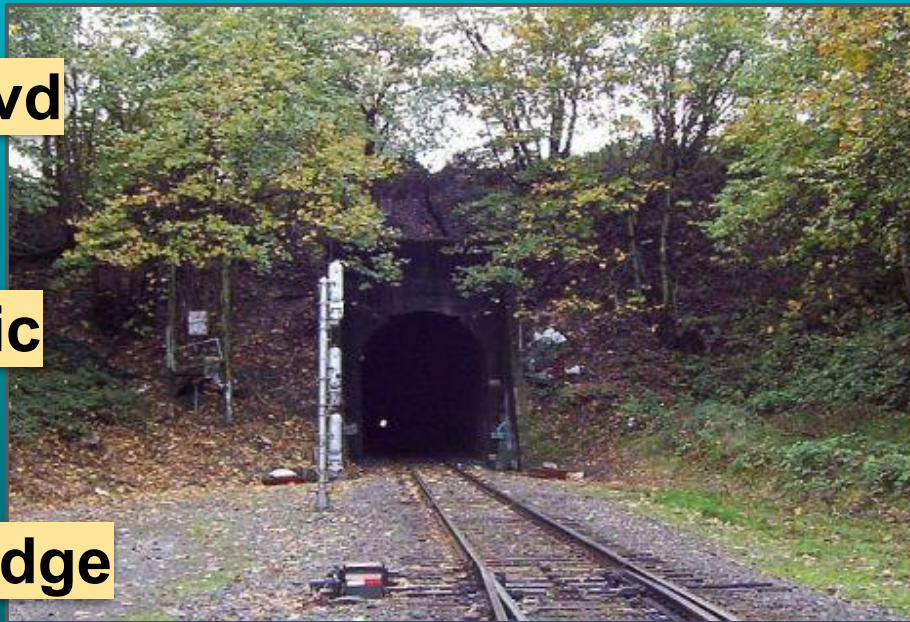
North Portal: Columbia Blvd

South Portal: Swan Island

Used daily by Union Pacific

More than 100 years old

Could connect to I-405 Bridge



The *Columbia* Tunnel

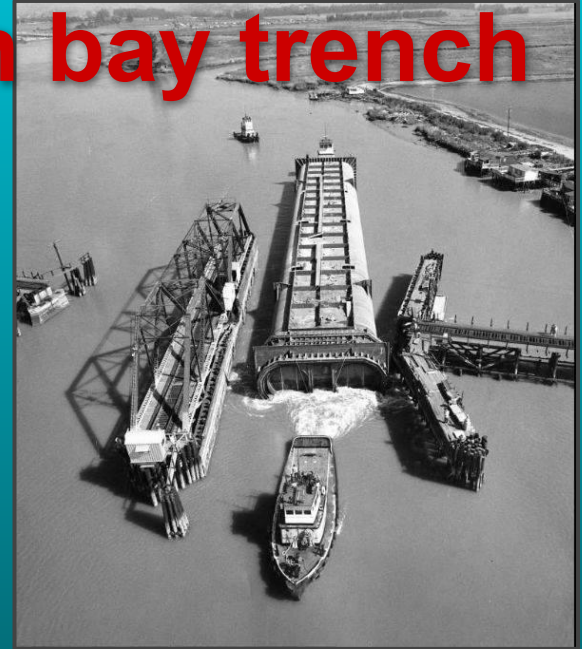
SF BART lowered tube in bay trench

No tunneling under Oakland Bay

BART Tube pre-assembled

Lowered into trench

Model for Columbia Tunnel?



The *Columbia* Tunnel

Vancouver to Oregon Tunnel

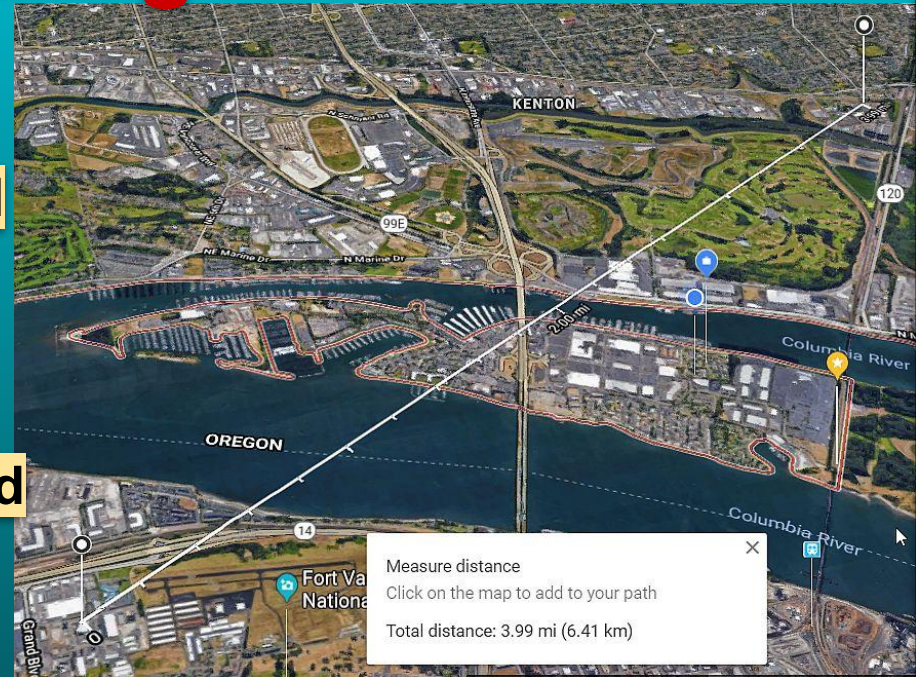
Vancouver Entrance near Air Park

Oregon Entrance by Columbia Blvd

4 miles long

Offloads SR14 & I-5

Offloads Marine Dr & Columbia Blvd



The *Columbia* Tunnel

Proposed North Portland to I-405 Tunnel

Parallel to North Portland RR Tunnel

Two, 12 ft tunnels

Personal vehicles and electric shuttles

Tunnel opens near Swan Island

Follows RR to Fremont Bridge ramp



The *Columbia* Tunnel

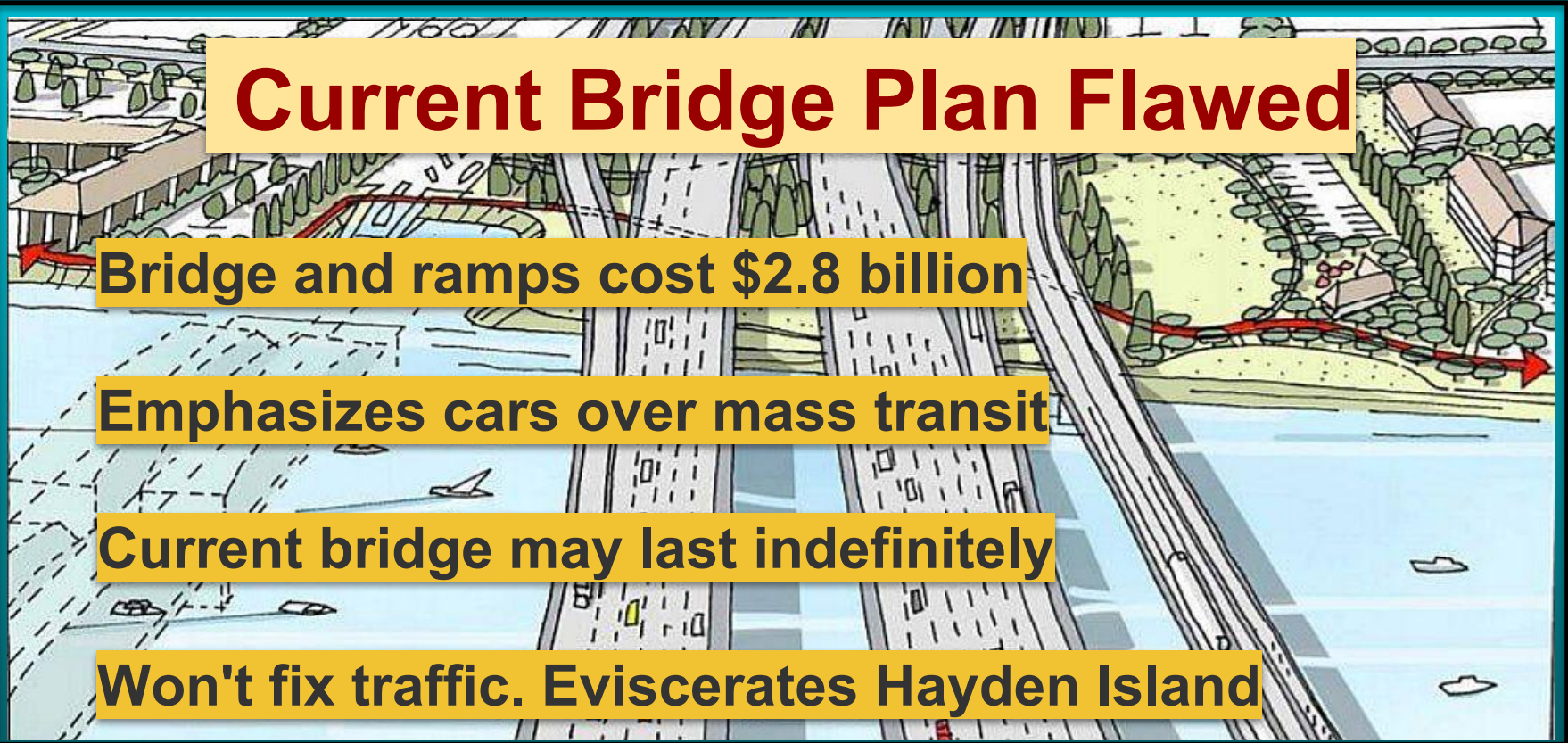
Current Bridge Plan Flawed

Bridge and ramps cost \$2.8 billion

Emphasizes cars over mass transit

Current bridge may last indefinitely

Won't fix traffic. Eviscerates Hayden Island



The *Columbia* Tunnel

Tunneling Works

Seattle's 2 mile Alaskan Way Viaduct bypass opens in 2018

The 2.9 mile Max Light Rail tunnel, cost \$184 million

The 3.6 mile Transbay Tube carries BART trains

Tunneling can be cheaper in urban areas (like Portland)

The *Columbia* Tunnel

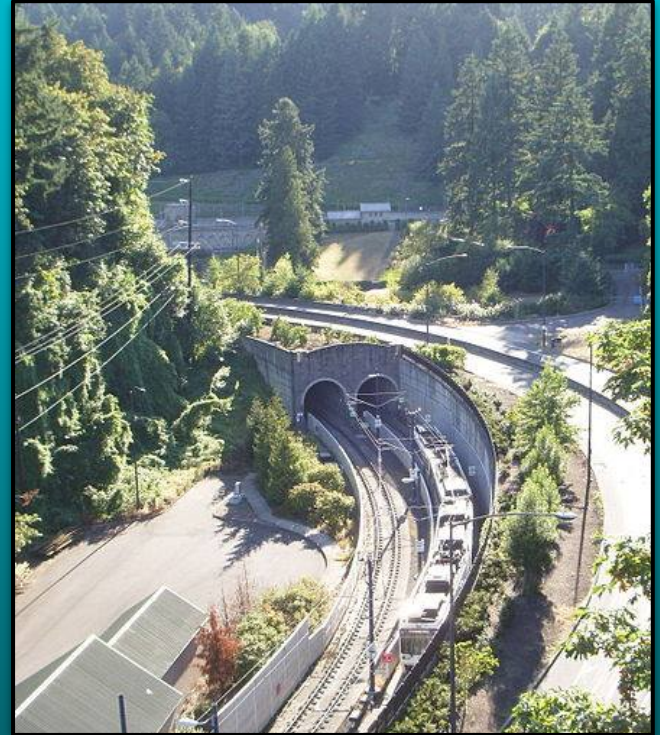
The Robertson Tunnel

2.9 miles with twin 21 ft tunnels

Opened September 12, 1998

Final cost: \$184 million

Bored and blasted



The *Columbia* Tunnel

Lighter/Cheaper Columbia Bridge

Electric pods direct to Expo Light Rail

Far lighter & cheaper. No “Light” Rail overhead

Carries autonomous transit pods, bikes and pedestrians



The Columbia Tunnel

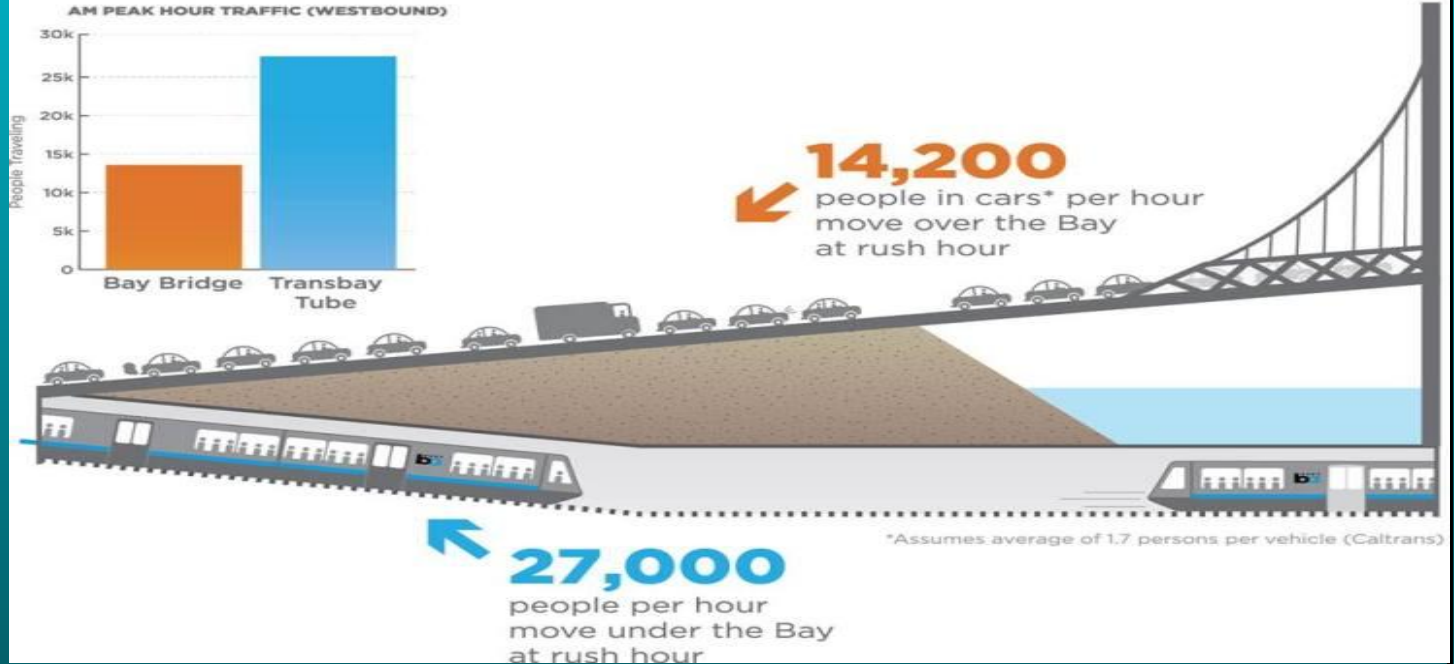
Move

Traffic

Under

Ground

BART's Transbay Tube Riders vs. Bay Bridge Drivers



The *Columbia* Tunnel

Thank you! Questions?

<http://www.hayden-island.com/tunnel-vision-for-i-5>

