The Columbia Tunnel

A proposal for tunneling rather than a new bridge
Tunneling *is an option*

- **Real Congestion Relief**
- **Lower Cost**
- **Used in Seattle, SF & LA**
- **Chicago Contracted with Musk to build tunnel to O’Hare**
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
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
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 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

BART’s Transbay Tube Riders vs. Bay Bridge Drivers

AM PEAK HOUR TRAFFIC (WESTBOUND)

- Bay Bridge: 14,200 people in cars per hour move over the Bay at rush hour
- Transbay Tube: 27,000 people per hour move under the Bay at rush hour

*Assumes average of 1.7 persons per vehicle (Caltrans)
Thank you!  Questions?

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