

Columbia River Crossing

Testimony by Tom Bender * 12 Feb. 2014

There are two elements that suggest a reconsideration of approach to the Columbia River Crossing project.

The first is the Oregon Resilience Plan, which gives an overview of impacts of our expected or overdue subduction earthquake. The CRP states that after the quake, ALL of Oregon's liquid fuels will have to arrive from Seattle because of collapse of Columbia River bridges. For this to be successful, we need to have at least ONE bridge that can survive such a quake in workable condition.

The second element is new information on the MAGNITUDE of the projected earthquake. Until recently, the quakes were viewed as 300 year recurrence, with an R-9 magnitude. Our Building Code structural requirements have been designed to meet this need.

However, the 2012 Tsunami Inundation Maps for Tillamook County, etc. now show a runup to +80' rather than +40' as before. This is based on discovery of a pattern of extremely more powerful mega-earthquakes occurring every 3000 years. (See graphic below, from the TIM - purple arrows added by me). It's been, of course, 3000 years since the last one.

Occurrence and Relative Size of Cascadia Subduction Zone Megathrust Earthquakes

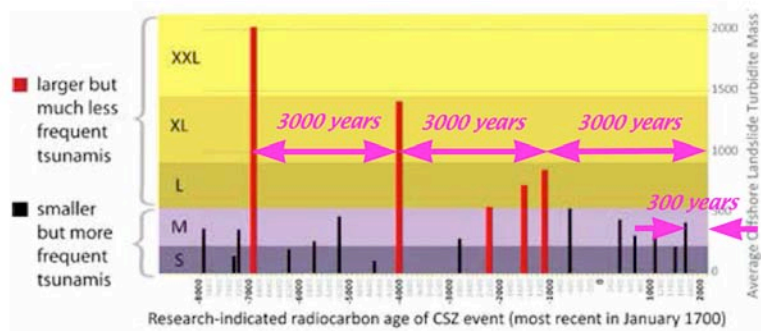


Figure 3: This chart depicts the timing, frequency, and magnitude of the last 19 great Cascadia Subduction Zone events over the past 10,000 years. The most recent event occurred on January 26, 1700. The 1700 event is considered to be a "medium sized" event. The data used to create this chart came from research that examined the many submarine landslides, known as "turbidites," that are triggered only by these great earthquakes (Witter and others, 2011). The loose correlation is "the bigger the turbidite, the bigger the earthquake."

The issue for the CRC is that it is apparently designed from current building code standards, and therefore would unlikely survive one of these mega-quakes. It doesn't appear prudent to me to invest billions in a new bridge for security and not have it designed to survive and provide that security.

I've spoken to the geologists who did the earthquake study, to State Building Codes people, to the engineer on the CRC project, etc. and everybody points their fingers at someone else. I've seen no evidence that this new engineering standard need has been brought into effect.

This suggests to me a different approach to the CRC:

- EVALUATE seismic capabilities of I-5 and I-205 bridges to see their capabilities, upgradeability, and whether a new seismic-safe bridge is needed.
- RE-ENGINEERING - revision of the proposed CAC bridge design to have strength to meet the newly understood seismic needs.
- PHASING - Construction of ONE of the two bridges in the project ASAP, to reach affordable costs and seismic security needs.
- CONTINUED USE OF EXISTING SPANS for one-direction motor vehicle traffic, pedestrians, transit - whatever doesn't fit in one-bridge's capacity.
- REVIEW of traffic needs, financing payoff, actual toll revenues over time to determine when/if to construct second bridge.
- Other than this, I SUPPORT ABANDONMENT of the project, as the information from 1000 Friends of Oregon on reduced traffic flow, etc. show little if any need for the project.

Thank you,
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