

Cascadia earthquake, tsunami could cost Oregon economy \$32 billion

Richard Read, Portland Oregonian, 2-5-13

The next great [Cascadia subduction-zone](#) earthquake will kill thousands in Oregon and cause at least \$32 billion in economic losses unless preparations are radically overhauled, a state panel says.

When, not if, the magnitude-9.0 quake strikes -- let alone an accompanying tsunami -- Oregon will face the greatest challenge in its history, the state earthquake commission said in a 290-page draft report released Monday to The Oregonian.

Buildings will be so severely damaged that restoring full utility service will take three months to a year in western valleys and far longer on the coast, the commission found. Businesses tend to move or fail if utilities aren't up in a month.

"So Oregon faces a very real threat of permanent population loss and long-term economic decline," said the report, which recommends 50 years of seismic upgrades and other investments -- price tag incalculable.

The most comprehensive study to date of a threat that wasn't even known until the 1980s makes chilling reading. It finds that severe shaking, probably for more than three minutes, and inundation would cause "near total damage" in a tsunami zone where 22,000 people live and 15,000 work.

Across western Oregon, many schools are expected to collapse. Hundreds of highway bridges could go down. Aging tanks holding the state's main fuel supply along the lower Willamette River will probably rupture as soil undergoes liquefaction.

Transmission towers may topple into the river, blocking ships. Fires, landslides and explosions will proliferate. Hydrants and sprinkler systems won't work.

There will be no water or sewer service, no electricity and no ATMs, telephones, television, radio or Internet. Willamette River bridges will be impassable. Food will soon run out.

Responding to the disaster will be difficult, experts found, because of a sort of emergency gridlock. To restore phone service, crews will need restored electricity. To bring back power, workers will require repaired roads and bridges. To fix highways, crews will need restored fuel delivery and distribution.

Some of the 150 experts who volunteered to work on sections of the report expressed surprise at what they found.

Commission member Stan Watters, a Port of Portland manager who helped lead a team examining energy issues, is struck by the predicament of emergency workers who won't be able to drive because fuel stations will lack electricity for pumping gas.

"Service stations should have to put in a secondary device" to pump gas, said Watters, citing one of the report's numerous recommendations. "But even that is only a few days' supply."

The draft report is already upending decades of emergency preparedness doctrine, such as the idea that citizens should prepare to be self sufficient for 72 hours during a disaster.

"That makes me crazy, it's not nearly enough," said commission member Susan Steward, executive director of the Building Owners and Managers Association of Oregon. "It's not like the Super Bowl, where everything's going to magically come on in 34 minutes."

Kent Yu, principal at the Portland office of Degenkolb Engineers, an earthquake engineering firm, led the study as chairman of the Oregon Seismic Safety Policy Advisory Commission. The 19-member commission, created by the Legislature, was charged with producing the report in a House resolution sponsored by Rep. Deborah Boone, D-Cannon Beach.

Yu said the draft report was unprecedented, and took volunteer professionals a year to produce. "There's probably millions of dollars worth of work in there."

Yu declined originally last week to release the draft Oregon Resilience Plan, saying it was intended for legislators and wasn't ready. The Oregonian filed a public records request on Wednesday. The newspaper appealed Monday to the state attorney general's office, and the Oregon Office of Emergency Management released it.

Commission members will meet at 9 a.m. Tuesday to discuss the draft report and vote on adopting it. Linked by phone, the public meeting will occur both in Portland, in Room 1C of the Oregon State Office Building, 800 N.E. Oregon St., and in Salem, at the Office of Emergency Management, 3225 State St.

Public officials focus on earthquake impacts with new urgency after the massive 2011 quake and tsunami in Japan, a nation far better prepared than the United States. Commission researchers conducted a simulation showing Oregon would experience shaking similar to the powerful jolts that hit Japan.

A mirror image of Japan's quake is expected to kill anywhere from 650 to 5,000 people in Oregon, with another 600 to 5,000 deaths from a tsunami. About 24,000 buildings could be destroyed and 85,000 extensively damaged. More than 27,000 households are likely to be displaced. The disaster will produce an estimated 1 million dump-truck loads of debris.

"Oregon, or even the entire nation, has never witnessed a disaster of this magnitude in modern history," the report said.

A Cascadia earthquake is just as likely to occur today as 50 years from now, according to geologists. But commission members believe that fixes over half a century could make a difference.

The commission recommended Oregon fully fund seismic upgrades for schools, hospitals and major highways, retrofit ports and airports and create a state Resilience Office.

"We cannot avoid the future earthquake," the report said, "but we can choose either a future in which the earthquake results in grim damage and losses and a society diminished for a generation, or a future in which the earthquake is a manageable disaster without lasting impact."