

Cascadia Rising 2022 Regional Impacts Overview

Information retrieved from Cascadia Rising 2022 Exercise Scenario Document, page numbers given for your reference



- OR: During certain periods of year and time-of-day, ~50,000 tourists, ~15,000 workers, residents and thousands of commuters may be in inundation zone – Page 27
- WA: 14,000 to 50,000 may not reach land before tsunami makes landfall – Page 23
- WA: During certain periods of year and time-of-day, ~50,000 tourists, ~25,000 workers, 6,000 residents and thousands of commuters may be in inundation zone – Page 23
- OR & WA: Tsunami Can take as long as 30 to 60 minutes to reach land after initial earthquake – Page 23



- OR: Injuries: ~15,500 – Page 36
- OR: Fatalities: ~5,200 – Page 36
- OR: Impacts can extend inland 10 to 60 miles – Page 30
- OR: Injury increases 20-fold during commuting hours – Page 34
- WA: Injuries: ~12,000 – Page 35
- WA: Fatalities: ~9,400 – Page 35
- WA: Impacts can extend inland 10 to 60 miles – Page 30
- WA: Severe injury increases 20-fold during commuting hours – Page 34



- OR: ~46 % of I-5 will suffer high damage from initial earthquake – Page 44
- OR: ~91% of coastal roads will suffer high damage in coastal regions – Page 44
- Roads can be displaced over 12 inches – Page 38
- WA: ~80% of roads in coastal areas may suffer medium to high damage – Page 42
- WA: ~165 Miles of I-5 will be damaged making long distance travel difficult – Page 42
- WA: Roads can be displaced over 12 inches – Page 38



- OR: As many as 700 bridges (~20%) may collapse or be in danger to collapse – Page 56
- OR: ~55% of bridges in coastal corridor may suffer high damage with potential for collapse – Page 57
- WA: ~50% of bridges in coastal region risk collapse – Page 50
- WA: ~13% of I-5 Corridor bridges risk collapse or requirement replacement – Page 50
- OR & WA: On and Off-ramps of bridges, even if seismically retrofitted, pose risk to collapse – Page 49



- OR: ~100% of airport facilities may suffer high damage in coastal areas – Page 67
- OR: ~70% of airport facilities in I-5 corridor may suffer high damage – Page 67
- WA: ~55% of airport facilities may suffer high damage in coastal areas – Page 65
- WA: ~32% of airport facilities in I-5 corridor may suffer medium damage – Page 65
- OR & WA: Fuel delivery may be difficult for aircraft operations – Page 65



- OR: ~55% of rail will suffer damage in the I-5 corridor area – Page 75
- OR: ~75% of rail will suffer high levels of damage in coastal regions – Page 75
- WA: ~50% of rail may suffer damage in the I-5 corridor – Page 71
- WA: ~71% of rail will suffer high levels of damage in coastal regions – Page 72
- WA: Some rail repairs can take between 6 months to 1 year in duration – Page 71



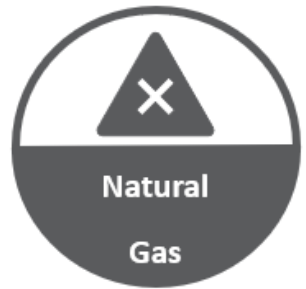
- OR: ~100% of seaports may have medium to high damage in coastal regions – Page 85
- OR: ~100% of seaports will have damage in the I-5 corridor – Page 85
- WA: ~82% of seaports will have damage in the I-5 corridor – Page 83
- WA: ~78% of seaports will suffer damage in the coastal regions - Page 83
- OR & WA: Port structures are prone to damage due to slope failure or lateral spreading from liquefaction – Page 77



- **OR & WA: A Cascadia Subduction Zone Earthquake and tsunami will have direct and indirect impact on: Dams, Reservoirs, Canals, Levees, Channels, Water Distribution Systems, Storm & Sewage Drainage Systems, Wastewater treatment Facilities and can include power generation loss and other local damages until repairs can be made – Page 87**



- **OR: ~100% of electric power systems may have disruption of power services in coastal regions – Page 94**
- **OR: ~100% of medium-to-high damage may occur in the I-5 corridor – Page 94**
- **WA: ~100% of electric power systems may have disruption of power services in coastal regions – Page 91**
- **WA: ~79% of medium-to-high damage may occur in the I-5 corridor – Page 91**



- **OR: ~100% likelihood of high damage to coastal gas systems – Page 100**
- **OR: ~95% of medium to high damage in the I-5 corridor area – Page 100**
- **OR: ~300+ miles of gas lines may be inoperable – Page 100**
- **WA: ~100% likelihood of high damage to coastal gas systems – Page 98**
- **WA: ~95% of medium to high damage in the I-5 corridor area – Page 98**
- **WA: ~150+ miles of gas lines may be inoperable – Page 98**



- **OR: ~100% of refined fuel facilities may suffer high damage in the coastal regions – Page 106**
- **OR: ~100% of facilities in the I-5 corridor will suffer medium to high damage – Page 106**
- **WA: ~56% of refined fuel facilities may suffer high damage – Page 104**
- **WA: ~200 miles of pipeline segments may be damaged – Page 104**



- **WA: ~88% of fire facilities may suffer moderate or greater damage in the coastal areas – Page 112**
- **WA: ~95% of police facilities may suffer moderate or greater damage in the coastal areas – Page 121**
- **WA: Emergency Operations Centers (EOCs): Some EOCs may need to run on backup generators – Page 108**
- **WA: Fading battery life of devices and fuel shortages, key EOCs may experience failure of backup support and communication systems – Page 110**



- **OR: ~100% of hospitals will be affected at the medium to high scale in coastal areas – Page 134**
- **OR: ~9,000 patients may require evacuation – Page 134**
- **OR: ~13% of hospitals may not suffer damage in the I-5 corridor – Page 134**
- **WA: ~83% of hospitals will be affected at the medium to high scale in coastal areas – Page 130**
- **WA: ~15,000 patients may require evacuation – Page 130**
- **WA: ~40% of hospitals may suffer minor damage and remain operational in the I-5 corridor – Page 130**



- **OR: ~99% of schools may suffer high damage in coastal areas – Page 144**
- **OR: ~98% may suffer medium to high damage in the I-5 corridor areas – Page 144**
- **WA: ~97% of schools may suffer medium to high damage in coastal areas – Page 140**
- **WA: ~50% of schools will suffer medium to high damage in the I-5 corridor areas – Page 140**



- **OR: ~100% of potable water facilities may suffer medium to high impacts in coastal regions – Page 156**
- **OR: ~90% risks of potable water facilities medium to high impacts in the I-5 corridor area – Page 156**
- **OR: ~100% of wastewater facilities may suffer medium to high impacts along the coastal region – Page 156**
- **OR: ~87% of wastewater facilities with expected medium to high impact along the I-5 corridor – Page 156**
- **WA: ~100% of potable water facilities may suffer medium to high impacts in coastal regions – Page 152**
- **WA: ~88% risks of potable water facilities medium to high impacts in the I-5 corridor area – Page 152**
- **WA: ~88% of wastewater facilities may suffer medium to high impacts along the coastal region – Page 152**
- **WA: ~89% of wastewater facilities with expected medium to high impact along the I-5 corridor – Page 152**





- OR: ~1,000 facilities have been identified with Extremely Hazardous Substances (EHS) – Page 163
- OR: An estimated 18,000 facilities have a reportable quantity of less dangerous materials. The severity of hazardous releases may be unknown due to disruptions in HAZMAT reporting systems – Page 163
- WA: Over 1,000 facilities have been identified with Extremely Hazardous Substances (EHS) – Page 160
- WA: ~3,000 facilities have a reportable quantity of less dangerous materials. The severity of hazardous releases may be unknown due to disruptions in HAZMAT reporting systems – Page 160
- OR & WA: Adding more complexity to the problem, tsunami and flood waters may inundate chemical facilities along the shoreline and carry harmful chemicals with incoming waters; receding water also may carry contaminated water posing further risk to survivors and first responders – Page 159



- OR: ~100% of communications systems may suffer medium to high impact in coastal regions – Page 172
- OR ~77% may suffer medium or greater risk in the I-5 corridor – Page 172
- WA: ~100% of communications systems may suffer medium to high impact in coastal regions – Page 169
- WA: ~76% may suffer medium or greater risk in the I-5 corridor – Page 169
- OR & WA: Personnel shortages working for energy organizations may not be available to work on restoration of power prolonging recovery – Page 167



- OR: Unreinforced Masonry Buildings (URMs) in Oregon range from ~5,000 to ~10,000; ~1,800 in the City of Portland alone – Page 175
- OR: ~440,000 residential buildings along the I-5 corridor may suffer highest damage – Page 178
- OR: Short-term Sheltering is estimated to be 520,000 – Page 179
- WA: Unreinforced Masonry Buildings (URMs) are prone to collapse during strong earthquakes with shaking that lasts several minutes and are often the cause of earthquake -caused fatalities; ~1,000 URMs in the City of Seattle alone – Page 175
- WA: Over 400,000 residential buildings along the I-5 corridor may suffer highest damage – Page 178
- WA: Short-term Sheltering estimated to be 415,000 – Page 179

Quick Reference Note



The list of information is to depict the brief explanation of potential impacts of a catastrophic earthquake with a magnitude of 9.0 or higher as referenced from the FEMA Region 10 Cascadia Rising 2022 Scenario Document Published in December 2020.

If you are apart of the Cascadia Rising Planning Team and would like a copy of the Scenario Document published in December 2020, please contact your state exercise officer.

