Economic Impact of Magnitude 7.0 Earthquake on Salt Lake Segment of Wasatch Fault

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Increasing Likelihood of “Big One”

- In past 6,000 years at least 22 magnitude 7 have occurred on the Wasatch Fault.

- Once every 300 years on average, one of five central segments of Wasatch Fault has “Big One”.

- For the Salt Lake Segment average repeat time is about 1,300 to 1,500 years. Last one occurred 1,400 years ago.

- Scenario earthquake, strong shaking from Payson to Ogden and rupture of ground (up to 8 feet vertically) along fault from Draper to North Salt Lake.
Economic Impact Depends on Preparedness

• Withstand – building designs, strengthening weak buildings, vulnerability of public buildings.

• Respond – understanding scope, inspection requirements post quake, prioritize inspection.

• Recover – rules, ordinances that address foreseeable circumstances, development of contingency plans for businesses, schools, hospitals, etc.
Economic Impact of 7 M Scenario
Loss of $33.2 Billion

• Building-Related $24.9 billion, Income Related $6.9 billion, Lifeline-Related $1.4 billion.

• Complete destruction of 55,400 buildings.

• Households without potable water 483,600; after 90 days 332,800.

• Households without electricity 444,600; after 90 days 800.

• Fatalities – 2,000 to 2,500; life threatening injuries 7,400 to 9,300.
Costliest U.S. Natural Disasters

• Hurricanes – Miami 1926 ($164.8B), Katrina 2005 ($113.5B), Galveston 1900 ($104.3B), Galveston 1915 ($71B), Andrew 1992 ($58.5B).

• Earthquakes – Northridge, CA 1994, 6.7 ($44B), San Francisco Bay 1989, 6.9 ($10B), Seattle area 2001, 6.8 ($2B), Alaska 1964, 9.2 ($570M), San Fernando 1971, 6.6 ($553M). Scenario Ranks 2nd.
Greatest Fatalities from U.S. Natural Disasters — Scenario ranks 4th

- Galveston 12,000 (1900), San Francisco Earthquake 6,000 (1906), Florida Cyclone 3,000 (1928), Johnstown Flood 2,200 (1889), Louisiana Cyclone 2,000 (1893), Katrina 1,836 (2005).