

Shaking from Napa earthquake was highest ever recorded in area

Rosanna Xia and Rong-Gong Lin II, Los Angeles Times, 9-4-14

The ground-shaking during the magnitude 6.0 Napa earthquake was the highest level recorded in modern times for downtown Napa, according to the U.S. Geological Survey.

The ground motion recorded in downtown Napa came very close to the maximum level of ground shaking engineers use in their calculations when designing new buildings in that area, said Erol Kalkan, a USGS research structural engineer.

Newer buildings withstood the shaking and performed as expected, surviving with cosmetic damage, Kalkan said.

Longtime Napa residents described the earthquake as something particularly more violent than what they felt during the 1989 Loma Prieta earthquake and the 2000 Napa Valley earthquake.

“This one was very, very different,” said retiree Sherry Vattuone, 70. “My bed went up and down ... like the ‘Exorcist’-type thing, and then it slid, and then all of a sudden there, it was like something took the house and went like this” – shaking her hand – “just as hard as they could.”

It wasn't only her pasta bowls and half of her San Francisco Giants bobbleheads that were smashed in the quake: her home now leans askew, with her basement leaning at a sickly angle from the upper floor.

City officials said her home could not be occupied because the house had shifted from the underpinning foundation, and she was forced to move into a trailer a neighbor loaned her, parked outside her home, where she lives with her three dogs: Daisy, Dusty and Duncan.

About 150 buildings have been red-tagged, meaning they are too dangerous to be entered, and about 1,000 more that are yellow-tagged, meaning there may be limited access to the structure due to damage, Rick Tooker, director of Napa's Community Development Department, said Tuesday.

While strong for Napa, the Aug. 24 earthquake did not produce ground shaking as intense as was felt during the 1994 Northridge earthquake. That temblor produced ground motions about 50% more intense than what was recorded in Napa, said USGS research geologist Dan Ponti.

High-quality recordings like the one in downtown Napa provide valuable data and have only been available in the last two decades as more and more recording instruments have been placed throughout California, said David Oppenheimer, a USGS seismologist and project chief of the earthquake monitoring project.

During the 1989 Loma Prieta earthquake, for example, USGS had about 70 recordings that weren't of that high a quality. If a similar earthquake occurred in the Bay Area today, the USGS would have about 400 instruments recording ground motions at a much higher quality, Oppenheimer said. “That would give us a much greater and varied picture of the earthquake,” he said.