The rare NYC earthquake underscores concerns about infrastructure

Infrastructure in the US has always been a sore subject, but when a 4.8 magnitude earthquake struck the New York City region on Friday, many people were rightfully nervous about the structural integrity of the surrounding bridges, tunnels, and buildings.

The earthquake's epicenter was near Whitehouse Station, New Jersey, but people in neighboring states, including New York, Connecticut, and Pennsylvania still felt the short-lasting shake. A 4.8 magnitude earthquake is on the lower end of the Richter scale, and its effects are described as potentially causing windows to break or small objects to fall.

But experts say the relatively minor quake is nothing to worry about. "When you look at that, in terms of this scale, it's a pretty minor event," Magued Iskander, a professor and chair of the civil and urban engineering department at New York University, tells *The Verge*. "I would expect and perhaps would be willing to bet that there would be no big adverse effects on any major infrastructure of New York City."

During a press conference on Friday, New York City Mayor Eric Adams confirmed that there haven't been any "reports of major impacts to our infrastructure or injuries." Connecticut Governor Ned Lamont similarly stated that crews haven't found any damage to roads, bridges, or railways. Despite the milder effects of this quake, it's still routine for cities and states to perform inspections on local bridges and tunnels to measure any potential damage.

“Given the heightened awareness of bridges and bridge fragility since last week, I anticipate a lot of awareness about inspections,” Douglas Schmucker, a professor of civil and environmental engineering at the University of Utah, tells *The Verge*. “People are nervous.” Shortly after the earthquake occurred, New Jersey Transit warned riders of delays of up to 20 minutes due to bridge inspections. Meanwhile, both Amtrak and the Metropolitan Transportation Authority (MTA), which oversees the New York City subway, carried out inspections of their tracks.

“Initial inspections of all facilities have been completed and there are initial further inspections ongoing,” MTA CEO Janno Lieber said during a briefing on Friday. “The seven bridges operated by MTA have been inspected and I want to emphasize those were designed to withstand much stronger seismic impacts than we experienced today.”

On Wednesday, Taiwan was hit by a much more powerful 7.4 magnitude earthquake, causing rockslides that damaged highways and blocked tunnels across the country. That’s a far cry from what New Jersey and its surrounding areas experienced today, but it may still serve as a wake-up call for city officials to ensure their infrastructure can handle earthquakes — especially in the Northeast, where earthquakes occur less often and seismic waves can travel farther.

Since rocks are older in the Northeast, they’re often harder and denser, according to the US Geological Survey. The faults there also have had more time to heal, which makes it easier for seismic waves to travel during an earthquake. “We should not be just talking about earthquakes in the city, but the events from the neighboring states may affect us,” Hoe Ling, a professor of civil engineering and engineering mechanics at Columbia University, tells *The Verge*. “Looking at the risk of a moderate earthquake in NYC, we should always be prepared.”

New York City implemented seismic building codes in the ’90s.

But, as pointed out by Borys Hayda, the managing principal at DeSimone Consulting Engineers, the designs of most buildings in the area “are controlled by hurricane or Northeastern wind loads” rather than earthquakes. However, Hayda notes that “if a building is properly designed for wind, it should be fine during a seismic event.”

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