

Time to build a quake early-warning system for California: Dianne Feinstein and Adam Schiff

By Dianne Feinstein and Adam Schiff

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Ten seconds might seem insignificant, but it can mean the difference between life and death when an earthquake hits. Ten seconds is enough time to slow or stop trains and cars; turn off supplies of oil, natural gas and chemicals; stop elevators and open their doors; and secure sensitive computer data. Even less warning would allow hospital staff to protect patients and people to safely take shelter under tables and in door frames.

We already have the technology to send earthquake warnings to phones across an affected region, distribute them through public radio and television and trigger automatic steps to protect critical infrastructure.

An earthquake early-warning system exists in countries like Japan and Mexico and is currently being adapted for the United States by the U.S. Geological Survey (USGS) in conjunction with the seismological laboratories at Caltech, UC Berkley and the University of Washington.

This early-warning system works because earthquakes create two waves: the first, fast-moving “primary wave” does not cause any damage but can be detected by sensors and converted into a public warning before the next, slower “secondary wave” arrives with the earthquake’s destructive force.

When the recent Napa earthquake struck, USGS sensors across the Bay Area detected the earthquake’s primary waves and the system quickly alerted scientists and test users of the incoming temblor. It’s not even the first time this year that the system has proven its value — in March, the system gave test users in Pasadena 30 seconds of warning before an earthquake hit in nearby Riverside County.

There’s no question that the technology works. We know it does, both here and abroad. And depending on your distance from the epicenter of an earthquake, such a system may give you up to a minute of warning. But the effectiveness of early-warning systems largely depends on the number and placement of sensors to ensure that there is adequate coverage wherever an earthquake may hit. And this requires money.

That’s why we have been working in Congress to secure some of the much-needed funds, and we’ve made some recent progress. For the first time, both the House and Senate bills that fund USGS would provide \$5 million toward further development of the system, and the Senate bill that funds the Federal Emergency Management Agency would urge the Agency to prioritize grants that fund further development. In the current political climate, funding is never guaranteed, and we will redouble our efforts to secure funds before the end of this session of Congress.

These bills are a good first step — but they are only a first step — and a concerted effort is needed to ensure the system is fully operational before the next big quake hits.

That is why it is so important that Western states work with the federal government to ensure that the system is fully funded. This year, Gov. Jerry Brown signed SB 135, which called for a statewide early-warning system. Unfortunately, no state funding was provided. It is our hope that the prospect of federal funding will encourage the state legislatures in California, Oregon and Washington to share the cost of deploying this life-saving technology.

The private sector also has a role to play. Earthquakes can do tremendous damage to hospitals, factories and utilities. Early warnings would not only save the lives of their employees but also allow them to take

steps to power down and isolate critical machinery and systems that could save billions of dollars in reconstruction costs. Given the continued fiscal challenges faced by both state and federal governments, it is essential that we explore opportunities to engage the private sector in the development and deployment of an early-warning system.

There's no doubt that the "big one" will hit California in the future — the only questions are when and where. To be as prepared as possible, we must fund and build an interoperable earthquake early-warning system now. While an early-warning system will not mitigate all earthquake hazards, it has the potential to dramatically reduce the number of injuries and deaths caused by these natural disasters.

We're confident that the system will be built. The only question is whether it's done before or after the next big earthquake.

Sen. Dianne Feinstein, D-Calif., is the state's senior senator, and Rep. Adam Schiff, D-Burbank, represents California's 28th Congressional District. Both serve on their respective body's Appropriations Committee.