



## **Editorial** – December 15, 2007

TEN to 45 seconds is not much time, but when used to forewarn densely populated areas of an earthquake, it can save lives.

Such an early warning system is far better than nothing and better than what we've got in the Bay Area, one of the world's most quake-prone areas.

It's also the rationale behind science's quest to use its technological wizardry to devise early warning systems telling us that a life-threatening temblor is imminent. Sixty seconds may not be enough time to inform or save everyone, but it could save many lives when the "Big One" strikes.

A warning of a minute or less could be enough time for some of us to remove ourselves from danger; alert emergency personnel; warn utilities and transportation operators; halt risky endeavors; alert large gatherings of people; initiate "duck-and-cover" techniques; and otherwise avert tragedy.

That's why some major cities and parts of the world — Japan, Taiwan, Mexico City and seismologically sensitive parts of Europe — have already implemented early warning systems. It's also why Richard Allen, a seismologist at the University of California, Berkeley, is testing three warning systems, two with CalTech fingerprints and a third developed at UC Berkeley.

It goes without saying that California and the Bay Area, which is undermined by a honeycomb of faults, should install such a system. The problem, says Alien, is that we would need a network of at least 650 new remotely operated seismometers, which would cost between \$10 million and \$30 million. We'd also have to upgrade 250 or so existing seismic stations at an as yet undetermined cost.

While \$50 million to \$100 million may not seem like much in this era of multibillion-dollar projects and programs, state government is strapped with heavy debt and faces a \$10 billion deficit next fiscal year.

Adopting a proven, sophisticated seismic early warning system would, however, be well worth the investment. The price pales when compared to the cost of rebuilding and recovering from a quake. The value of lives saved with a minute's warning is incalculable.

Such a system is urgently needed given information released Tuesday about a physical connection between the Hayward and Calaveras faults, magnifying the odds of a temblor in the next 30 years that would be two-to-four times more powerful than 1989's Loma Prieta earthquake.

Many important institutions and businesses were built on or near such faults.

UC Berkeley itself is a prime example.

It's also why such an investment needn't be made exclusively with state funds. We should be able to secure a few federal greenbacks for such a system. Cities, counties, private firms and organizations located in potentially hazardous areas might also be willing to contribute to such a security system. It would undoubtedly be worth their investment.

The price doesn't have to be onerous for any single entity. For just \$2 or \$3 per person, California, with a population of 36 million-plus, could bankroll the entire system Alien talked about.

At that price it should be doable and, hopefully, hard to resist.