

REPORT OF THE CHIEF LEGISLATIVE ANALYST

DATE: April 23, 2014

TO: Honorable Members of the Rules, Elections and
Intergovernmental Relations Committee

FROM: Gerry F. Miller *Gerry F. Miller for* Council File No.: 14-0002-S40
Chief Legislative Analyst Assignment No.: 14-04-0280

SUBJECT: Resolution (LaBonge - Martinez) in support or sponsorship of any State legislation seeking funding for earthquake safety improvements, such as the earthquake early-warning system along the West Coast, and including all other efforts to improve earthquake preparedness in Southern California.

CLA RECOMMENDATIONS: Adopt the Resolution (LaBonge - Martinez) to include in the City's 2013-2014 State Legislative Program support or sponsorship of any legislation seeking funding for earthquake safety improvements, such as the earthquake early-warning system along the West Coast, and including all other efforts to improve earthquake preparedness in Southern California.

SUMMARY

The Resolution (LaBonge - Martinez) states the following:

- A recent 4.4 magnitude earthquake on March 17, 2014, and a 5.1 magnitude earthquake on March 28, 2014, rattled Southern California, giving residents a reality check on being earthquake prepared;
- The earthquake early warning system along the West Coast has been in the pilot phase for several years and is now seeking ways to advance;
- Other countries have implemented such technology, whereas an earthquake-prone region such as Southern California has fully yet to implement the available technology;
- Several of our California State legislators, led by Representative Adam Schiff, have joined together to urge the federal appropriations sub-committee to fully fund a \$16.1 million widespread earthquake early-warning system along the West Coast;
- The early-warning system, developed by Caltech, UC Berkeley, University of Washington and the U.S. Geological Survey, uses sensors to detect an earthquake and can notify area residents; and,
- The U.S. Geological Survey has stated that the early warning system, in its pilot phase, is being updated only as current funding allows and a stable source of funding is needed to move to full implementation.

BACKGROUND

The United States Geological Survey (USGS), in collaboration with Caltech, UC Berkeley and the University of Washington, has developed an earthquake early warning system (EEW) that detects certain types of energy waves radiating from the epicenter of a quake. The system would provide people several to tens of seconds of warning in California and up to a few minutes in

Washington/Oregon through their phones, computers and other media. With advanced notice, people can take cover, surgeons could protect their patients, and automated systems can manage power grids, slow down trains, and control elevators. This technology has been tested and proven to work effectively.

A demonstration project, initiated in 2011, began sending live notifications to a small number of selected test users including the business, utility and transportation sectors in California. Public warnings are not part of the demonstration project. Additional investment in sensors, communication infrastructure, software development and operations personnel will be required to create a fully operable public system. In 2012, a private foundation provided three years of funding for EEW research and development for the west coast of the United States.

The California Integrated Seismic Network (CISN) operates the statewide infrastructure for earthquake monitoring and also serves as the backbone of the EEW system. CISN currently has an annual budget of approximately \$15 million. The cost of a fully operational EEW-capable CISN system for California is estimated at \$80 million over five years. The cost of a similar system in the Pacific Northwest is estimated at \$65 million over five years. The current EEW effort is funded through small incremental funding from the USGS and foundations. There is currently no commitment to fund a fully operational and completed EEW system.

In September 2013, the Governor signed into law SB 135, Padilla (Chapter 342), which requires the Office of Emergency Services (OES), in collaboration with the USGS, to implement a statewide earthquake early warning system in California through a public-private partnership and would require the system to include the installation of field sensors. SB 135 also requires OES to review compliance with earthquake early warning standards as they are developed. The City of Los Angeles supported the adoption of SB 135.

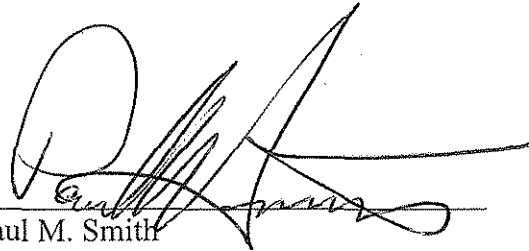
SB 135 also requires OES to identify funding sources for the system, but prohibits OES from identifying the General Fund as a source of funds to establish the system, beyond those components or programs that are currently funded. The bill's provisions are contingent upon the OES identifying a source(s) of funds for system implementation. If no funding is identified by January 1, 2016, the bill is repealed.

On April 3, 2013, Representative Adam Schiff, along with 25 House Members from California, Washington and Oregon, sent a letter to the Chair of the House Appropriations Committee urging the Committee to fully fund an earthquake early warning system. In the letter, it was noted that a limited system developed by the USGS in conjunction with Caltech, UC Berkeley and the University of Washington had already been deployed and has proven that early warning technology is sound.

It is estimated that the deployment of an earthquake early warning system along the West Coast of California would cost approximately \$16.1 million a year to build, operate and maintain. FEMA estimates that earthquake costs in the United States over the long term average more than \$5 billion a year. As the Schiff letter expresses, "This common sense investment will save lives, protect businesses and could make a real difference in more rapid recovery for local communities, the federal government and the economy as a whole."

EEW systems are now either operational or being implemented in several countries. Mexico City has had a system since 1991. Japan has had a national public warning system since 2007. EEW systems are also in place in: Istanbul, Turkey; Bucharest, Romania; China; Italy; and Taiwan.

The Resolution (LaBonge - Martinez) is a recognition that the current earthquake early warning pilot program may never achieve full implementation in the absence of a consistent and adequate source of funding.

A handwritten signature in black ink, appearing to read 'Paul M. Smith', is written over a horizontal line.

Paul M. Smith
Analyst

GFM:MF:PS
Attachment: Resolution
CD4_earlywarningsystem.wpd

14-0002-S40

RESOLUTION

WHEREAS, any official position of the City of Los Angeles with respect to legislation, rules, regulations or policies proposed to or pending before a local, state or federal governmental body or agency must have first been adopted in the form of a Resolution by the City Council with the concurrence of the Mayor; and,

WHEREAS, the recent 4.4 magnitude earthquake on March 17, 2014, and the 5.1 magnitude earthquake and their many respective aftershocks on March 28, 2014 rattled Southern California, giving residents a reality check on being earthquake prepared; and,

WHEREAS, for several years, the earthquake early-warning system along the West Coast has been in the pilot mode, finding ways to advance past this pilot program; and,

WHEREAS, it has been noted that other countries have implemented such technology, and an earthquake-prone region such as Southern California have not; and,

WHEREAS, recently, a dozen of our California state legislators led by Representative Adam Schiff, have joined together to urge the federal appropriations sub-committee to fully fund a \$16.1 million widespread earthquake early-warning system along the West Coast; and,

WHEREAS, the early-warning system, developed by Caltech, UC Berkeley, University of Washington and the U.S. Geological Survey, uses sensors to trigger shaking and can notify residents when they will feel the effects of the earthquake in the region in which they reside; and,

WHEREAS, according to the U.S. Geological Survey, the early-warning system in its pilot phase is only being updated as current funding allows and it is necessary for us to continue to move the system forward technologically, and gain consistently stable funding; and,

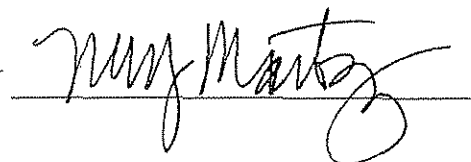
NOW, THEREFORE, BE IT RESOLVED, with the concurrence of the Mayor, that by the adoption of this Resolution, the City of Los Angeles hereby includes in its 2013-2014 State Legislative Program support or sponsorship of any legislation seeking funding for earthquake safety improvements, such as that of the earthquake early-warning system along the West Coast, and including all other efforts to improve earthquake preparedness in the Southern California region.

PRESENTED BY



TOM LABONGE
Councilmember, 4th District

SECONDED BY



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