

APPENDIX B—ShakeAlert: Implementing Public Earthquake Early Warning for the U.S.

The ShakeAlert Earthquake Early Warning (EEW) system will reduce injuries, deaths, and property damage by giving people and systems from seconds to minutes to take protective actions before the heaviest shaking arrives.

Since 2006, the U.S. Geological Survey (USGS) along with university partners has been developing ShakeAlert in three West Coast states: California, Washington, and Oregon. ShakeAlert is built on the sensor networks of the USGS Advanced National Seismic System.

[CLICK HERE](#) to download the original graphic.

ShakeAlert® Earthquake Early Warning Basics

1 During an earthquake, a rupturing fault sends out different types of waves. The fast-moving P-wave is first to arrive, followed by the slower S-wave and later-arriving surface waves.

2 Sensors detect the P-wave and immediately transmit data to a ShakeAlert® processing center where the location, size, and estimated shaking of the quake are determined. If the earthquake fits the right profile a ShakeAlert® message is issued by the USGS.

3 A ShakeAlert® message is then picked up by delivery partners (such as a transportation agency) that could be used to produce an alert to notify people to take a protective action such as Drop, Cover, and Hold On and/or trigger an automated action such as slowing a train.

