SESİ: TALKING EARTHQUAKE SAFETY WITH LOCAL INFLUENCERS AND DECISION-MAKERS

I. Wong¹, L. Arendt², V. Cedillos³, W. Holmes⁴, R. Jackson⁵, B. Welliver⁶, Z. Yin⁷, and H. Tremayne⁸

ABSTRACT

The Earthquake Engineering Research Institute’s (EERI) School Earthquake Safety Initiative (SESİ) Working Group has developed a PowerPoint that EERI members and other school safety advocates can present to parent organizations, school boards, community leaders and decision-makers, and local and state agencies to promote school safety in local communities.
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Introduction

The Earthquake Engineering Research Institute (EERI)’s School Earthquake Safety Initiative (SESI) is committed to creating and sharing knowledge and tools that will enable progressive, informed decision-making around school safety. SESI’s goal is to leverage the extensive expertise of its members to conduct regionally-appropriate actions that can make a tangible and positive difference in communities around the world. One approach is to engage school safety advocates in the challenging task of educating risk holders and appealing to whole communities to recognize and prioritize the importance of school safety before, during, and after earthquakes. Hazardous schools exist throughout the U.S. and globally. The majority of the school districts where such hazardous schools exist are already challenged by competing economic needs and limited resources. To initiate action at a local grassroots level, SESI has developed a template PowerPoint that can be presented by EERI members and other school safety advocates to parent organizations, school boards, community leaders and decision-makers, and local and state agencies. The purpose of the PowerPoint is to describe the school safety issues of the local community. The PowerPoint will introduce EERI and SESI, describe what the specific earthquake hazard and school vulnerability issues are in the community, what can happen in an earthquake, which types of buildings are most vulnerable (such as URM), the impact and risk of nonstructural component failures, disruption to the community due to damaged schools, and what steps can be taken to improve school safety. Resources that are available to school safety advocates will also be provided. It is our hope that EERI members and school safety advocates who are aware of school safety issues in their local community will use this PowerPoint to initiate meaningful communication with the appropriate decision-makers. Once that communication link has been established, a core group of advocates can assist in moving the process forward with assistance from SESI.

Powerpoint Slides
Slide 1 is the cover slide and Slide 2 is a quote from the 2012 annual report from the National Earthquake Hazards Reduction Program Advisory Committee on Earthquake Hazards Reduction. This statement reflects the strong belief of many in the earthquake hazards mitigation community concern that school safety is a paramount issue after earthquakes such as the 2008 Wenchuan, China M 7.9 event where thousands of school children have been killed. The report advocates a community resilience emphasis placing schools as an important component.

Slides 3, 4, and 5 introduce EERI and SESI. EERI is a global nonprofit organization that was established in 1948 and consists of more than 3,000 members worldwide. EERI’s mission is to reduce earthquake risk by (1) advancing the science and practice of earthquake engineering; (2) improving understanding of the impact of earthquakes; and (3) advocating comprehensive and realistic measures for reducing earthquake effects.
**Slide 5**

SESIEE’s initiative to promote safe buildings for school children via outreach, screening, education, and policy from dedicated professionals with passionate concern and practical advice.

**Slide 6**

We know our community will be subjected to damaging earthquakes in the future. There are schools in our communities that have the potential to harm students and teachers. We need your passion and assistance in helping safeguarding our schools.

**Slide 7**

Earthquakes can be devastating resulting in deaths, injuries, and damage. Damaged schools can also result in disruption to the community due to children not being able to attend school and making facilities unavailable for community events and emergency shelters.

**Slide 8**

Slide 8 shows the James Russell Lowell School in Long Beach, one of 120 schools damaged by the 1933 M 6.3 Long Beach earthquake. The slide illustrates the kind of potential damage and partial collapse possible for school buildings. Had the earthquake occurred during school hours, hundreds or thousands of casualties could have resulted.
Slide 9 states three key points regarding school safety in the U.S. This helps focus the concern and open areas for discussion and consideration.

Slide 11 lists the damaging earthquakes that have occurred in the U.S. Of these, only three events have occurred during school hours.

Slide 10 looks to personalize the risk by showing areas of known seismic risk.

Slide 12 is an example of a slide that should be inserted into the presentation that describes the local/regional seismic hazard and seismic risk setting. These slides provide a context for the specific audience and highlight why they should be concerned.
Slides 13 and 14 point out why schools may be vulnerable to damage and even collapse in an earthquake. They make clear that not all school buildings have been built to the same standards and that older buildings in particular may be especially risky.

Slides 15 and 16 discuss the lack of awareness regarding school safety and false beliefs that are prevalent in the general public. Acknowledging beliefs followed by sharing of facts can increase the believability and trustworthiness of a presenter attempting to persuade an audience to action.
Slides 17 and 18 describe what the impact of a damaged school and associated facilities can have on a community. Slide 19 provides an example of how a community can be affected by schools that are damaged and closed due to an earthquake. These ideas are offered to help advocates see the many cascading issues and opportunities for schools in our communities.

Slide 19

Damaging earthquakes can still occur in regions where they are considered rare. Even a moderate earthquake that does not collapse a building can have devastating community-wise effects.

Slide 20

Slide 20 describes what can happen to schools in an earthquake including building damage, nonstructural damage, and injuries and deaths. This message quickly summarizes three very likely results following an earthquake.
Slides 21 to 26 describe which building types are most likely vulnerable to earthquake damage. They are intended to help familiarize the intended audience with some basic information about building performance in earthquakes and raise awareness of particularly problematic building types.

The masonry walls of URM buildings contain no structural reinforcing steel. As a result, the brittle walls crack more readily in an earthquake. Bricks may fall to the ground. Part or all of the buildings may collapse.
This slide shows damage to John Muir School due to the 1933 Long Beach earthquake. This event lead to the passage of the Field Act by the California State Legislature only a month later. The Field Act had far-reaching consequences for building codes affecting schools in California.

Slide 27 describes the different types of non-structural damage. Pictures of actual damage are powerful reminders of the effects of earthquakes and the disruptions they bring to the classrooms and schools.

Slides 28 to 30 describe what school safety advocates can do to mitigate school hazards in their community. It is important to provide a “next steps” follow through to show where to start or how to proceed further to ensure safe schools in our communities.
ASCE41-17 has recently been published and should be consulted.

Slides 31 to 34 list four major steps to promoting safer schools targeted especially to members of the legislature, school districts, and school boards. These are the individuals who can facilitate the availability of resources needed to identify buildings and risk and retrofit or replace them. This is the core message of SESI would like to advance for safe schools. It is based on the most recent information developed by FEMA and others and case studies of states and school districts who have advanced the safety of schools.
Slides 35 and 36 summarize five major takeaways to underscore the need for keeping school safety a priority for our communities.

1. Earthquake risk is real, and should not be ignored, even when major earthquakes are rare
2. Earthquakes can damage schools, sometimes to the point of collapse
3. Schools not built well or in line with the most current seismic codes are at great risk of damage or collapse in an earthquake

we can – and must! – act today for the security and future of our kids!
Slide 38 lists some resources available to help school safety advocates make their case.

Conclusions

In conclusion, this paper presents an outline of the many reasons school safety should be a priority in communities and states. It provides a means to help communicate the message to many different stakeholders and develops a message of community resilience.

Acknowledgments

Our thanks to EERI’s Development Committee and EERI’s Board of Directors for support of SESI.