EERI’s School Earthquake Safety Initiative
Session Overview

- Introduction and Overview
- Why SESI started / History
- Organization and Strategic Action Plan
- Subcommittees:
  - Safety Screening, Inventory and Evaluation – Barry Welliver, on behalf of Ken Goettel & Cale Ash
  - Code Updating and Improvements – Rob Jackson
  - Earthquake Education – Thalia Anagnos & Lelli Van Den Einde
  - Safety Advocacy and Messaging – Lucy Arendt
  - Tsunami Mitigation for Schools – Tom Tobin
What is SESI?

a global and collaborative network of diverse, expert, and passionate professionals who are committed to creating and sharing knowledge and tools that enable progressive, informed decision making around school earthquake safety

GOAL:
Conduct regionally appropriate actions that make a tangible and positive difference in communities around the world, by protecting the lives of all who inhabit school buildings.
Our Goal

leverage our extensive expertise and reputation to conduct regionally appropriate actions that make a tangible and positive difference in communities around the world, by protecting the lives of all who inhabit school buildings.
Why Schools?

- Occupants compelled by law to be in school bldgs.
- Vulnerable population – relying on “adults” to make safety decisions
- Schools may be considered community shelters
- Large assembly rooms more vulnerable to damage
- Disruption of education can cripple recovery
  - Housing/Jobs/Schools
Target Audiences

- children and their parents
- teachers and administrators
- local politicians and state and federal legislators
- government agencies and emergency managers
- financial institutions and building officials
- engineers and builders
- developers and architects
- civil servants and commissioners
Why was SESI started?

- Mobilize the current EERI Membership & serve their interests
- Provide members the opportunity to make a difference in “something that matters” and has long-term relevance
- Provide opportunities for collaboration between young professionals & senior professionals
- Leverage EERI assets, including:
  - Multidisciplinary membership
  - Non-competitive atmosphere
  - Credibility
  - Student and Regional Chapters
  - Geographic diversity

SESI was developed to meet these EERI goals and expand the work of the long standing School’s Committee.
How SESI began:

Proposal to EERI for School Safety Program
- Based upon extensive member interest in schools and Schools Committee, a proposal was developed to host a brainstorm retreat at 10NCEE in Alaska

Brainstorm & Launch: Summer 2014 Retreat
- 4 Pre-retreat Webinars: “Best Practices for School Seismic Safety” to solicit interest and ideas
- 10 NCEE Alaska Retreat yielded Mission, Vision, Prelim Goals
- Launched exploratory Working Groups

Establishment of Executive Committee & Strategic Action Plan: Fall 2014 and Winter 2015
- Creation of 5 subcommittees

Launch of 2015 Activities: TODAY!
Organization & Strategic Action Plan

• SESI committee (replaces EERI Schools committee)
  o Chair: Barry H. Welliver (appointed by EERI board)
  o Executive Committee: Direction and focus -12+ members (invitational)
  o Program Committee: Learn about initiative and participate - open to all EERI members
  o Subcommittees: Tasked with various actions and activities – chaired and open to all EERI members
Organization & Strategic Action Plan

- Strategic Action Plan:
  - Vision and Mission
  - Initiative Activities and Timelines
  - Working Groups Goals/Background/Action Plan Details

EARTHQUAKE ENGINEERING RESEARCH INSTITUTE

SCHOOL EARTHQUAKE SAFETY INITIATIVE
- promoting safe buildings for school children -

STRATEGIC ACTION PLAN
DRAFT 4
January 13, 2015

VISION:
Serving the world as a leader in the science, public policy, and advocacy of school earthquake safety.

MISSION:
We are a global and collaborative network of diverse, expert, and passionate professionals committed to creating and sharing knowledge and tools that enable progressive, informed decision making around school earthquake safety.

We serve everyone with a stake in school earthquake safety, from children and their parents, to teachers and administrators, from developers and architects, to engineers and builders, from finance institutions and building officials, to government agencies and emergency managers; from civil servants and commissioners, to local politicians and state and federal legislators.

We leverage our extensive expertise and reputation to conduct regionally appropriate actions that make a tangible and positive difference in communities around the world, by protecting the lives of all who inhabit school buildings.

BACKGROUND AND JUSTIFICATION:
“Schoolchildren have a right to learn in buildings that are safe from earthquakes”
(UNISDR/Accord, 2015)

It is well known by EERI members and other professionals that, in seismically active regions throughout the United States, thousands of students are unknowingly studying and working in structurally vulnerable school and university buildings. Nonreinforced concrete buildings prone to catastrophic collapse are unfortunately common in many areas that are capable of generating damaging earthquakes. Unreinforced masonry (URM) and under-reinforced concrete were...
SESJ Subcommittees

- Safety Screening, Inventory, and Evaluation
  - Barry Welliver, on behalf of Ken Goettel & Cale Ash
- Code Updating and Improvements
  - Rob Jackson
- Earthquake Education
  - Thalia Anagnos & Lelli Van Den Einde
- Safety Advocacy and Messaging
  - Lucy Arendt
- Tsunami Mitigation for Schools
  - Tom Tobin

Contact: Barry H. Welliver – bhwelliver@mac.com
Safety, Screening, Inventory and Evaluation
Overview and Goals

• Facilitate and encourage implementation of risk reduction measures by developing and helping to carry out stepwise screening methodologies to identify school buildings with the highest seismic risk efficiently while minimizing the effort and expense for school districts.

• Mitigation Non-Doers
  o Unaware of risk or aware of risk but not committed to implement risk reduction measures for schools.

• Mitigation Doers:
  o Aware of risk and committed to implement risk reduction measures for schools as funding becomes available.

• Goal: Convert non-doers into doers for school safety.
Safety, Screening, Inventory and Evaluation
Plans in the Next 6 Months


3. Initiate “pilot projects” to demonstrate risk screening methods such as RVS for schools in high to moderate seismic areas.

4. Continue and expand outreach to school districts and other stakeholders.
Safety, Screening, Inventory and Evaluation
How to Get Involved?

- Join the EERI School Earthquake Safety Initiative committee and one or more subcommittees.
- Organize and/or join existing screening programs using RVS and/or other screening methods.
- Initiate outreach efforts in your community or state to raise awareness of earthquake risk to schools. Targets may include parents, teachers, administrators, school boards, state education and seismic safety agencies, local structural and civil engineering associations and legislators (local, state, federal).
Code Updates and Improvements Subcommittee

ROB JACKSON
Higher expectations for schools:

1. IBC 2012 requires schools used as post-event shelters to be designated
   a. New schools must meet or exceed Risk Category IV
   b. Existing schools must be screened for seismic hazards before designation

2. A State or local building code must be mandated and enforced including comprehensive plans review, inspection and quality control.

3. Code provisions: Proactive or reactive? Based on “acceptable risk” or desired levels of safety?

4. Improvements for Risk Categories and Seismic Design Categories for schools?
Code Updates and Improvements: Plans in the next 6 months

- Develop an *awareness pamphlet* on planning for post-earthquake uses of schools
- Establish dialogue with code development organizations and the USGS
- Support research and information gathering consistent with the goals
- Promote the reduction of the risk of non-structural hazards for children sheltering in place even where schools are not post-event shelters
Code Updates and Improvements: How to get involved

- Looking for examples of state and local earthquake emergency response and recovery plans, policies and procedures where specific criteria have been established for the use of schools as post-earthquake shelters
- Issues, concerns and best practices from communities where school construction and permitting processes are in development or otherwise in transition
- Other code and hazard mapping issues?
- Contacts: Rob Jackson 303-870-9334 rob.jackson@aecom.com

“Earthquake mitigation must be perceived as a ‘fundamental good.’”
- Frank McClure
Classroom Education & Outreach at Schools Subcommittee

THALIA ANAGNOS & LELLI VAN DEN EINDE
Classroom Education & Outreach at Schools: Overview and Goals

Use education in the classroom to:

- Create on ongoing dialog with parents, teachers and administrators about school earthquake safety
- Grow advocates for school earthquake safety
Classroom Education & Outreach at Schools: Plans in the next 6 months

Develop pilot program in which regional & student chapters collaborate on

- delivering age-appropriate seismic design challenges
- serving as informed enthusiastic resources for stakeholders

1. Identify and package design challenges
2. Develop informational materials for parents and teachers about safety in the classroom
3. Develop training program for EERI student and professional volunteers on delivery of activities, speaking with young people, and proper messaging
Classroom Education & Outreach at Schools: Looking for EERI Students and Professionals to...

- JOIN OUR COMMITTEE
- Help design region-specific communications for parents, teachers, and administrators
- Go to schools to discuss school safety
- Run design activities
- Identify contacts at schools to arrange for a local EERI chapter visit

Contact: thalia.anagnos@sjsu.edu  OR  lellivde@ucsd.edu
Safety Advocacy and Messaging Subcommittee

LUCY ARENDT
Safety Advocacy and Messaging Overview and Goals

• Bridge the communication gap between technical professionals and non-technical partners and stakeholders interested in earthquake risk reduction
  o Listen
  o Learn
  o Exchange
  o Engage
  o Explain
  o Advocate
  o Persuade
  o Celebrate
Safety Advocacy and Messaging
Plans in the next 6 months

1. Compile comprehensive directory of possible earthquake risk reduction partners and stakeholders. Identify their communication needs and media preferences.

2. Develop document templates that explain in non-technical terms a variety of earthquake risk reduction issues (e.g., life safety and non-structural risks in schools, importance of higher design criteria).

3. Solicit priority messaging requests from SESI subcommittees. Tailor templates from #2 for specific needs.

4. Facilitate outreach and messaging to partners and stakeholders.
Safety Advocacy and Messaging
How to get involved

• Join the EERI School Earthquake Safety Initiative committee and the Safety Advocacy and Messaging subcommittee

• Contribute knowledge and expertise to help the subcommittee achieve its goals!
  o Identify possible partners and stakeholders
  o Share examples of effective safety advocacy and messaging
  o Volunteer to engage in outreach activities with local partners and stakeholders

• Contact Heidi Tremayne: heidi@eeri.org
• Contact Lucy Arendt: lucy.arendt@gmail.com
Tsunami Mitigation of Schools Subcommittee

Tom Tobin
Tsunami Mitigation of Schools Subcommittee: Overview and Goals

2015 GOAL:
Identify schools with tsunami hazard then, provide them documents describing best practices about how to mitigate their tsunami risks.

- Best Practices may include: how to fund mitigation, how to gather community and parent support for mitigation, various technical solutions, etc.
- Support funding for 2015 goal has been provided from the Coastal Zone Foundation.
Tsunami Mitigation of Schools Subcommittee: Plans in the next 6 months

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<th>Plans</th>
<th>Time</th>
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<tr>
<td>1.</td>
<td>Expand Membership of Subcommittee and identify Chair.</td>
<td>April</td>
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<td>2.</td>
<td>Document school best practices for tsunami mitigation.</td>
<td>April – August</td>
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<td>3.</td>
<td>Conduct a GIS study that overlays schools with Tsunami Hazard Zones along the West Coast of the US and Canada to identify schools with tsunami hazard.</td>
<td>June – August</td>
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<td>4.</td>
<td>Compile and create mitigation documents that summarize best practices to be shared with schools in hazard zones.</td>
<td>Sept – Dec</td>
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<td>5.</td>
<td>Disseminate mitigation documents utilizing emails and visits to impacted school districts by subcommittee tsunami experts, and EERI regional and student chapter members.</td>
<td>Jan – June 2016</td>
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Tsunami Mitigation of Schools Subcommittee: How to get involved

- Contact Heidi Tremayne at heidi@eeri.org if you:
  - Want to join the Subcommittee
  - Have interest in becoming Chair
  - Know someone who would be a perfect fit for this subcommittee
  - Have GIS mapping skills to help with hazard map overlays
  - Are aware of best practices or case study examples of schools or school districts completing tsunami mitigation activities
  - Have ideas for additional tasks or activities for this committee
  - Want to help with dissemination of final products
We need YOU to join us

- Contact Barry Welliver, Subcommittee Chairs, or Heidi Tremayne to get involved.
- All EERI members are encouraged to participate
- www.eeri.org/schools
- FRIDAY Committee Meeting at 7:30 -9:00 am in Clarendon Room

Questions?