



## HB 072 – Utah School Seismic Hazard Inventory

Representative Larry Wiley – Bill Sponsor

### QUICK TAKE

- ❑ A preliminary study indicates about 58% of Utah school buildings were constructed before 1975 when seismic regulations were first introduced into building codes.
- ❑ There is a need to understand the vulnerability of older school buildings to help protect occupants.
- ❑ School facilities can be a community resource in a post-earthquake scenario and should be seismically safe.
- ❑ Cost: \$500,000 one-time

### School Building Vulnerability

For the 2009 school year there are 41 school districts (929 schools) plus 73 charter schools housing more than 80% of all Utah students (563,273) daily along a corridor of high potential seismic activity.

Many of these public school structures were built before seismic design requirements were introduced into the building codes. The state of Utah's adoption of the Uniform Building Code in the early 1970's represented the first efforts toward seismic safety.

The school building construction program has tried to address the problem of updating older structures but no uniform system of evaluation and prioritization exists. Some districts have pro-actively addressed the problem and many schools have been successfully retrofitted.

It is important to make progress toward mitigation of this risk since there is little doubt that buildings constructed prior to seismic regulations will most probably

experience significant damage during an earthquake.

RVS or "Rapid Visual Screening" was developed by the Federal Emergency Management Agency and would provide a standardized means to identify the most vulnerable buildings and get them on the radar screen for seismic retrofit.

### Need to Develop a Multi-Year Mitigation Plan for Schools

Once the survey has been completed, a plan for retrofit can be implemented based on the most critical needs.

This important step will assure that the schools most at risk can be identified and steps can be taken to lessen the danger.

A plan for addressing the seismic vulnerability of Utah's schools can be integrated into the facilities maintenance operations through incremental seismic rehabilitation methods. This process interjects seismic rehabilitation components into the regular maintenance and improvement plans for structures and is a proven cost-effective means of addressing seismic safety.

School districts and charter school boards could create seismic safety committees to look at the results of RVS and develop district/charter policy statements and criteria for prioritizing each building into an overall plan and time-line to deal with mitigating the seismic hazard.

### What's Needed?

To start, an inventory of buildings using the RVS method should be implemented to understand the potential impact on Utah's schools.

This program will:

- Inventory in order to identify Utah's most vulnerable schools
- Create a Public School Seismic Safety Committee to determine threshold score for evaluations
- Rank seismic vulnerability to allow proper importance to be placed on the most needful buildings.
- Show a pro-active concern for the safety of Utah's schools in a known seismic environment.

### Estimated Cost

The cost to provide RVS is anticipated to be between \$300 and \$600 per building plus travel. There will be some cost savings due to economies of scale in larger school districts and where school designs are duplicated.

The expected state-wide cost is approximately \$300,000 to \$500,000 (including some travel costs)

It is recommended that funds be made available to school districts and charters for these costs since schools are part of the infrastructure of Utah and can be valuable post earthquake recovery centers.

The **Utah Seismic Safety Commission** and the **Structural Engineers Association of Utah** are jointly committed to improving the seismic safety of all school buildings in Utah.

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