

2008 National Awards in Excellence

Mitigation

Statewide Seismic Needs Assessment of Oregon Schools and Emergency

Oregon Department of Geology and Mineral Industries

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In order to make much needed progress on mitigating schools and emergency facilities, in late 2004, DOGAMI created a temporary general obligation (GO) Bond Task Force. The Task Force members agreed upon three needs for earthquake risk management: (1) a statewide seismic needs assessment that identifies potentially high risk schools and emergency facilities, (2) a grant program to allocate funds to rehabilitate high risk buildings, and (3) issuance of state bond funds through the grant program for the rehabilitation. Four Senate Bills (SB 2, 3, 4 and 5) that addressed these needs were sponsored by Senate President Peter Courtney and signed into law by Governor Ted Kulongoski in late August 2005.

As a result of the 2005 earthquake safety laws, DOGAMI was charged with conducting the statewide seismic needs assessment in order to better determine the state's risk to school occupants and the ability of school and emergency facilities to serve their function. DOGAMI has systematically evaluated over 3,352 school and emergency buildings using highly cost effective methods employing new field-based computer technology. The statewide seismic needs assessment includes preliminary seismic risk scores (rapid visual screening, or RVS results), which are an important first step in identifying Oregon's highest risk schools and emergency facilities that are especially prone to severe damage. This is a new and creative approach to addressing high seismic risk in "civic infrastructure." The RVS scores will be used as a basis to rank buildings into priority classes to help with future state-sponsored mitigation priorities.

Project results are available at: <http://www.oregongeology.com/sub/projects/rsv/default.htm> as well as on CD. Results indicate that 10%, 30%, 21% and 38% are in the very high, high, moderate and low risk categories. Forty-eight (48) buildings are in the moderate-to-high tsunami inundation zone while 81 are in the low zone. DOGAMI created a GIS database including preliminary building risk information, site geologic soil hazard, and low income financial needs data for school districts. The statewide seismic needs assessment is intended to 1) provide a comprehensive overview of the needs for strengthening of important community buildings that may pose a high risk to the public, 2) increase awareness, and 3) be used for the implementation of a state grant program using general obligation bond funds authorized through Oregon Constitution articles XI-M and XI-N.

DOGAMI has been the lead coordinator to execute task directives stipulated in the 2005 Senate Bill 2 (SB@) and Oregon Revised Statutes 455.400. Partners include the U.S. Army Corps of Engineers, Portland State University (PSU) Civil and Environmental Engineering Department, Oregon State University (OSU) Civil, Environmental and Construction Engineering Department, and the University of Oregon (OU) Architecture Department. The project budget and duration were \$598,000 and 22 months, respectively.