

March 11, 2023

Testimony in Support of HB 3486, Schools as Earthquake Relief Shelters

To: House Committee on Emergency Management, General Government, and Veterans
Chair Grayber, Vice Chairs Lewis and Tran, and members of the Committee

HB 3486 and the proposed amendment would codify seismic and resilience design standards for public schools and community colleges in Oregon that mirror those applied by Beaverton School District (BSD) in its 2014 construction bond program. Normally the future impact and cost/benefit of proposed legislation can only be considered in theory. In this case, there is a fully implemented application of the proposed standards that can be studied.

One year after the Oregon Resilience Plan (ORP) was reported to the Legislature in 2013, BSD began design work on the first of seven new school buildings. Having become aware of the ORP, BSD engaged in a effort to select enhanced design criteria that responded to ORP recommendations. Two reports have been submitted to the Committee documenting this work:

- (a) Beaverton School District Resilience Planning for High School at South Cooper Mountain and Middle School at Timberland, July 10, 2015, by SEFT Consulting Group
- (b) Enhanced Seismic and Resilience Design for Beaverton School District's Mountainside High School

In summary, the School District's resilience design choices were driven by these key conclusions:

- (a) Existing seismic codes are intended to protect life, minimize injuries, but not necessarily avoid structural damage, which could render buildings too costly to repair, thus a total economic loss.
- (b) New school buildings will be owned and operated by the District for many decades. The statistical probability of the next big Cascadia earthquake occurring during their service life is high.
- (c) Schools serve as gathering places for people after natural disasters. They are distributed throughout neighborhoods and generally could be reached by community members even if transportation systems have failed after the Cascadia earthquake, as the ORP predicts. However, for schools to provide effective shelter spaces, basic resilience features must be designed into certain large rooms, which could then also be available for all hazards, not just earthquakes.

Beaverton School District decided to apply rigorous seismic design criteria to the structural components of its new schools matching those required for emergency response facilities that must remain operational immediately after a large earthquake. It viewed this step as responsible stewardship protecting the public's investment, a one-time expense, covering the entire life of each building. BSD also recognized this measure would provide enhanced safety for students and staff. In addition, to ensure shelter spaces could be actually functional, resilience elements addressing emergency power, potable water, and other important features were included to support those rooms.

Costs are always a factor to be carefully considered. BSD found that the added costs for all of the measures selected were about 1% to 2% for schools ranging from a high school, a middle school, and K-5 buildings.

The initiative by Beaverton School District has been recognized by the American Society of Civil Engineers, the Federal Emergency Management Agency, and others. It is time for these targeted standards to be applied in all new public school and community college construction projects located in Oregon's high seismic risk regions.

Sincerely,



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Beaverton School District