Ground-foundation interaction dictates the level and characteristics of earthquake excitation. Lateral ground deformation can unseat the bridge deck, and/or damage the bridge approach ramps. In recent earthquakes, bridge damage resulted in prolonged traffic disruptions and Billion Dollar level replacement expenses.

**PEER is contributing to the solution through high-fidelity computational simulation of actual bridge Testbed scenarios**

**PEER Humboldt Bay Bridge Testbed: Assessment of Ground Deformation Effects on Bridge System Response**

The PEER OpenSees simulation platform enables large-scale earthquake simulations employing state-of-the-art computational models for ground materials, pile foundations, and bridge structural elements.

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