

Nevada experiment mimics earthquakes to test bridge designs

20 September 2017, by Scott Sonner

A day after a deadly earthquake struck Mexico City, University of Nevada scientists will mimic quakes to test new bridge designs developed to help the structures better withstand violent temblors.

The engineers on Wednesday will rattle a 100-ton, 70-foot (21-meter) bridge model to see how it holds up on a giant contraption in a Reno seismology lab called a "shake table."

Some design work by the engineers has been incorporated into a highway off-ramp under construction in Seattle. It has flexible columns and reinforcement bars made out of a metal alloy that bends and then springs back into shape when quakes hit.

Bridges are already designed not to collapse in earthquakes but often are unsafe for travel after big quakes.

The research team's leader, Professor Saiid Saiidi, said the the innovations in the model being tested involve connections and material known as ultra-high performance concrete.

The elements have been tested on their own but never before combined in a bridge model subjected to realistic earthquake motions, like the 1994 Northridge, California quake.

The University of Nevada's Earthquake Engineering Lab is the largest of its kind in the United States.

The scientists' project is funded by the California Department of Transportation.

© 2017 The Associated Press. All rights reserved.

APA citation: Nevada experiment mimics earthquakes to test bridge designs (2017, September 20) retrieved 1 October 2022 from <https://phys.org/news/2017-09-nevada-mimics-earthquakes-bridge.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.