

Powerful Quake to Test New Bridge Construction Method

May 12 2010

(PhysOrg.com) -- A magnitude 7.0 earthquake will strike at the University at Buffalo on May 18 as researchers conduct tests on a 70-ton, 60-foot-long concrete bridge in the university's massive Structural Engineering and Earthquake Simulation Laboratory (SEESL).

Researchers from UB and MCEER (formerly the Multidisciplinary Center for [Earthquake](#) Engineering Research) will provide a brief project overview. They will then conduct two powerful earthquake tests on the half-scale [bridge](#), which has been erected across UB's twin shake tables.

The UB seismic test, funded by the Federal Highway Administration, will be the largest bridge specimen ever tested on a [shake table](#) and will incorporate a rapid and cost-effective construction method called Accelerated Bridge Construction (ABC).

Hundreds of bridges have been built around the U.S. using this speedy, new construction method, but questions remain about how such bridges might perform under earthquake conditions in California or other seismically active regions.

The concern is that these bridges are basically concrete boxes held together by steel tendons (cables) that potentially could snap during an earthquake.

For the past two weeks, the UB/MCEER researchers have been

subjecting the bridge to increasingly powerful simulated earthquakes.

On May 18, it will undergo its most powerful seismic test.

UB's unique [Structural Engineering](#) and Earthquake Simulation Laboratory, with its twin, relocatable shake tables, is likely the only place in the nation that could perform this kind of test. It demonstrates the unique ability of UB and MCEER to develop and evaluate technological innovations that are increasingly critical in addressing the nation's aging infrastructure, especially advances that can save time and money.

Provided by University at Buffalo

Citation: Powerful Quake to Test New Bridge Construction Method (2010, May 12) retrieved 24 April 2024 from <https://phys.org/news/2010-05-powerful-quake-bridge-method.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.