

Terrorist-resistant bridge is developed

January 26 2006

A University at Buffalo engineer has developed a "multi-hazard" design that he said makes bridges more resistant to terrorist attacks and earthquakes.

The new structural design for bridge piers -- developed by Michel Bruneau, director of the university's Multidisciplinary Center for Earthquake Engineering Research -- will reportedly protect bridges from both seismic and blast forces, helping to keep them from collapsing.

"Since many bridges are, or will be, located in areas of moderate or high seismic activity, and because many bridges are potential terrorist targets, there is a need to develop structural systems capable of performing equally well under both events," said Bruneau.

"Terrorists may not achieve the same symbolic satisfaction taking down ... smaller bridges as they would a monumental bridge, but if their objective is to disturb the economy, they have more access to these bridges than the monumental bridges."

Bruneau's design includes corrosion-resistant steel tubes filled with concrete, but without reinforcing bars. The steel and concrete bind together, forming a composite structure that gives the piers superior strength and ductility.

Bruneau will present his research during a May meeting of the American Society of Civil Engineers' "Structures Congress" in St. Louis.

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Citation: Terrorist-resistant bridge is developed (2006, January 26) retrieved 23 April 2024 from <https://phys.org/news/2006-01-terrorist-resistant-bridge.html>

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