UTC Project Information

Project Title	MPC-383 – Seismic Performance of Highway Embankments
University	Colorado State University
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Funding Agencies	USDOT, Research and Innovative Technology Administration
Agency ID or Contract Number	DTRT12-G-UTC08
Project Cost	$92,000
Start and End Dates	January 1, 2012 – December 31, 2013
Project Duration	2 Years
Brief Description of Research Project	The objective of this study is to develop an approach for assessing the performance of embankments under seismic loads. The project seeks to highlight the various observed failures in highway embankments and the importance of including their behavior in post-earthquake recovery and relief missions. Finite element models of highway embankments will be developed and used to conduct nonlinear dynamic time-history analysis. The result of the analysis will be compared against specific performance levels. A methodology will be proposed for estimating the potential and degree of damage to highway embankments, which can be used by decision makers in determining if a particular route can be utilized for post-earthquake relief and recovery missions.
Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	We plan to present the findings in various conferences and meetings and propose implementation of the findings in the form of analysis and design guidelines.
Impacts/Benefits of Implementation (actual, not anticipated)	This is the first time P695 records, which are typically used to analyze buildings and bridges, are used to evaluate the seismic performance of highway embankments. We believe that this analysis, being nonlinear, will add significant insight to already existing work on the embankments performance under earthquakes excitation.
Web Links • Reports • Project Website	https://www.ugpti.org/resources/reports/details.php?id=945