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| **UTC Project Information** | |
| Project Title | MPC-461 – Analytical Modeling for Progressive Failure Assessment of Curved and Skewed Highway Bridges Subjected to Seismic Hazards |
| University | Colorado State University |
| Principal Investigator | Suren Chen |
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| Funding Agencies | USDOT, Research and Innovative Technology Administration |
| Agency ID or Contract Number | DTRT12-G-UTC08, Modification No. 1 |
| Project Cost | $116,850 |
| Start and End Dates | April 1, 2014 - July 31, 2017 |
| Project Duration | 3 Year |
| Brief Description of Research Project | Curved and/or skewed bridges are very common on highways across the country. These bridges are more vulnerable to seismic than typical straight ones. The current specifications do not provide enough coverage for the curved and skewed bridges on progressive failure risk. Under the joint impact from post-seismic traffic and partial damage of some members from seismic, the progressive failure risk will increase depending on the intensity of seismic and traffic at the time. It is thus important to evaluate the progressive failure risk of vulnerable curved and skewed bridges immediately after the seismic occurrence. However, such a simulation tool which can enable progressive analysis of curved and skewed bridges subjected to traffic and seismic is not available. This study will develop an analytical framework of modeling progressive failure risk of typical curved and skewed bridges subjected to seismic and traffic. |
| Describe Implementation of Research Outcomes (or why not implemented)  Place Any Photos Here | This study has potential to be applied by practitioners in future bridge seismic analysis, especially on skewed and curved bridges. |
| Impacts/Benefits of Implementation  (actual, not anticipated) | This study will help providing more accurate and efficient approach to study complex bridge seismic performance analytically, with appropriate consideration of the combined effect from seismic and traffic impacts. |
| Web Links   * Reports * Project Website | https://www.ugpti.org/resources/reports/details.php?id=959 |