

UTC Project Information	
Project Title	MPC-613 – Behavior of Composite-Strengthened Concrete Bridge Members Under Multi-Hazard Loadings
University	University of Colorado Denver
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Funding Source(s) and Amounts Provided (by each agency or organization)	USDOT, Office of the Assistant Secretary for Research and Technology \$40,000 University of Colorado Denver \$40,000
Total Project Cost	\$80,000
Agency ID or Contract Number	69A3551747108
Start and End Dates	February 18, 2020 to July 31, 2024
Brief Description of Research Project	The proposed research aims to investigate the ramifications of multi-hazard loadings on the performance of fiber reinforced polymer (FRP)-strengthened and -reinforced concrete members. An experimental program will be conducted to study the behavior of carbon FRP (CFRP)-strengthened concrete girders exposed to thermal and mechanical loadings. A numerical study will also be carried out to comprehend the implications of deicing salts in conjunction with traffic loadings on the behavior of a full-scale bridge, including microscopic corrosion propagation and macroscopic responses.
Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	The inelastic perspectives of the report will translate research into practice, especially for the formation mechanism of plastic hinges under multi-hazard loading.
Impacts/Benefits of Implementation (actual, not anticipated)	The report clarifies the implications of multi-hazard loading for the behavior of reinforced concrete members retrofitted with advanced materials. Given that there is insufficient information on the subject matter, findings will advance the state of the art and impact the bridge engineering community.
Web Links <ul style="list-style-type: none"> • Reports • Project Website 	<ul style="list-style-type: none"> • MPC Final Report – Behavior of Composite-Strengthened Concrete Bridge Members Under Multi-Hazard Loadings