UTC Project Information	
Project Title	MPC-618 – Investigating the Applicability of Multi-Fidelity Modeling to Condition Evaluation of Transportation Infrastructure
University	Colorado State University
Principal Investigator	Rebecca Atadero Yanlin Guo
PI Contact Information	Rebecca Atadero Associate Professor Colorado State University Phone: (970) 491-3584 Email: rebecca.atadero@colostate.edu ORCID: 0000-0002-7477-1620 Yanlin Guo Assistant Professor Colorado State University Phone: (970) 491-3518 Email: yanlin@colostate.edu ORCID: 0000-0002-7162-6508
Funding Source(s) and Amounts Provided (by each agency or organization)	USDOT, Office of the Assistant Secretary for Research and Technology $63,000 Colorado State University $60,000
Total Project Cost	$123,000
Agency ID or Contract Number	69A3551747108
Start and End Dates	February 18, 2020 to July 31, 2022
Brief Description of Research Project	Evaluating the condition of transportation assets such as bridges is a critical and resource intensive part of the asset management process. Furthermore, information about the condition of assets may come from a variety of sources and some of the techniques that provide the greatest level of detail about condition are too time consuming or expensive to be practically applied to all structures. This research study will investigate the application of multi-fidelity modeling to evaluating the condition of transportation assets. Multi-fidelity modeling combines expensive high-fidelity data with low cost low-fidelity data to provide better predictions of condition at a lower cost. The objectives of this project are to, first, study ways of grouping bridges (or other assets) to allow for multi-fidelity modeling of a group; second, apply multi-fidelity modeling techniques using existing data sources; and third, evaluate the efficacy of multi-fidelity modeling in the context of transportation asset management considering the accuracy of predictions and lifecycle cost implications.

Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	
Impacts/Benefits of Implementation (actual, not anticipated)	
Web Links • Reports • Project Website	