UTC Project Information	
Project Title	MPC-692 – A Risk-Based Framework for Optimizing Inspection Planning of Utah Culverts
University	University of Utah
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Total Project Cost	$72,000
Agency ID or Contract Number	69A3551747108
Start and End Dates	June 29, 2022 to July 31, 2024
Brief Description of Research Project	Management of culvert assets is an issue important to all state departments of transportation. Given the number of culverts and the potential risk of roadway disruption and property damage due to poorly maintained culverts, a systematic method to assess the condition and perform needed maintenance should be the goal of a culvert management system. In this project, we will develop a robust system to monitor culverts' condition, and we will provide a risk-based framework for life cycle analysis. Culverts can be tracked based on the current condition and risk of failure. Most of the important life cycle risk factors are linked to the culvert and can be monitored to predict potential failures in the future. UDOT staff can repair/replace the culvert in advance and prevent high costs.
Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	Using the risk-based framework, UDOT can improve culvert inspection planning in Utah. By prioritizing culverts according to their criticality, UDOT can prevent their failure. To help UDOT better maintain culverts across the state, the developed models and deterioration curves can be added to ATOM software.
Impacts/Benefits of Implementation (actual, not anticipated)	The expectation is that using this manual will enable UDOT to enhance its culvert network's functioning while reducing maintenance costs. Moreover, it could aid in preventing significant harm to the transportation system's infrastructure and safeguarding its users' lives.
Web Links • Reports • Project Website	• MPC Research Report – A Risk-Based Framework for Optimizing Inspection Planning of Utah Culverts