



UTC Project Information	
Project Title	SOCIOTECHNICAL NEEDS ASSESSMENT AND KNOWLEDGE BASE DEVELOPMENT TOWARDS DEVELOPING A COMPREHENSIVE, HUMAN-CENTERED, RISK-BASED DECISION SUPPORT SYSTEM FOR PRIORITIZING BRIDGE PROJECTS
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Funding Source(s) and Amounts Provided (by each agency or organization)	ABC-UTC funds: \$104,750 Match funds : \$52,375
Total Project Cost	\$ 157,125
Agency ID or Contract Number	69A3552348322
Start and End Dates	January 2, 2024 - December 31, 2024
Brief Description of Research Project	<p>More than 25% of the existing bridges in the country need rehabilitation, retrofit, or total replacement. Due to limited available budget and to prioritize investments, state DOTs mostly consider structural and traffic conditions of bridges for prioritizing and project selection. However, bridges can play a significant role in addressing social inequalities and environmental injustice. Planning and development of bridge projects should go beyond the technical merit and merge with practitioners', policymakers', and residents' experiences, needs, and expectations. A spatiotemporal, risk- and vulnerability-based decision-making tool, supported by data-driven insights, will help make informed decisions on allocating funds. As such, this research will provide a detailed sociotechnical needs assessment based on the collection of demographics, socioeconomics, traffic, environment, and infrastructure data as well as prior experiences of practitioners and develop a knowledge base that should be provided to the decision makers in charge of bridges, which has not been done before. This is especially critical for extreme situations such as evacuations since victims need evacuation routes, roadways and bridges to be accessible. Similarly, rural areas also experience accessibility-related problems due to the limited infrastructure compared to their urban counterparts, and may need prioritization of bridge utilization. Relevant agencies will clearly benefit from this research by including the assessment results of this research in their repair, upgrade, and replacement plans specifically on how these needs can be addressed and how related problems can be solved for different situations.</p>

<p>Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here</p>	<p>The outcomes will be tracked and reported once they are identified.</p>
<p>Impacts/Benefits of Implementation (actual, not anticipated)</p>	<p>The impacts will be tracked and reported once they are identified.</p>
<p>Web Links</p> <ul style="list-style-type: none">• Reports• Project website	<p>https://abc-utc.fiu.edu/research-projects/sociotechnical-needs-assessment-and-knowledgebase-development-towards-developing-a-comprehensive-human-centered-risk-based-decision-support-system-for-prioritizing-bridge-projects/</p>