



ACCELERATED BRIDGE CONSTRUCTION
UNIVERSITY TRANSPORTATION CENTER

UTC Project Information	
Project Title	A Comprehensive Decision Support Tool for Accelerated Bridge Construction Considering Social Equity
University	Florida International University
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Funding Source(s) and Amounts Provided (by each agency or organization)	ABC-UTC Funding: \$50,000 Rowan University: \$30,000
Total Project Cost	\$80,000
Agency ID or Contract Number	69A3551747121
Start and End Dates	June 1, 2022 to May 31, 2023
Brief Description of Research Project	<p>A decision support tool for determining the suitability of adopting ABC techniques will be developed by improving the Connecticut DOT's ABC Decision Matrix to consider (1) the benefits of ABC on roadway safety, (2) the contributions of ABC to social equity, (3) quantitative measures for the evaluation of decision criteria where possible, and (4) a systematic method for the determination of relative weights of criteria.</p> <p>The main objective of this research is to improve the CTDOT ABC decision making tool to obtain an improved tool that is more comprehensive, less subjective, and more flexible to be used by other state DOTs. The improvements will be made by (1) Considering the benefits of ABC on roadway safety, (2) Considering the contributions of ABC to social equity and environmental justice, (3) Developing quantitative measures for the evaluation of decision criteria where possible, and (4) Using a systematic method for the determination of relative importance (weights) of criteria. A case study will be used to demonstrate the applicability of the improved tool.</p>

<p>Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here</p>	<p>The main output of this research will be an improved spreadsheet-based multi-criteria decision support tool to determine the suitability of bridge projects for adopting ABC techniques. Another output will be a case study that demonstrates the application of the developed tool to a bridge construction project.</p>
<p>Impacts/Benefits of Implementation (actual, not anticipated)</p>	<p>The developed decision support tool can be used by state DOTs in determining the suitability of adopting ABC techniques in bridge construction projects. The tool will be more comprehensive and less subjective than the existing tools. Also, the tool will be flexible with determining the weights of different criteria, allowing the widespread use of the tool by different state DOTs.</p>
<p>Web Links</p> <ul style="list-style-type: none"> • Reports • Project website 	<p>https://abc-utc.fiu.edu/research-projects/fiu-research-projects/a-comprehensive-decision-support-tool-for-accelerated-bridge-construction-considering-social-equity/</p>