



ACCELERATED BRIDGE CONSTRUCTION
UNIVERSITY TRANSPORTATION CENTER

UTC Project Information	
Project Title	Development of Guide for Selection of Substructure for ABC Projects
University	FIU
Principal Investigator	Armin Mehrabi
PI Contact Information	amehrabi@fiu.edu
Funding Source(s) and Amounts Provided (by each agency or organization)	ABC-UTC Funds: \$80,000 Match funds: \$34,745
Total Project Cost	\$114,745
Agency ID or Contract Number	69A3551747121
Start and End Dates	March 2018- Current
Brief Description of Research Project	<p>The aim of accelerated bridge construction (ABC) is to reduce the impact of bridge construction on the public and bridge usage by reducing the construction time, especially when replacement of an existing bridge is involved, as well as to enhance safety and reduce congestion. Although much work has been done in the past to investigate the design, configuration, and erection methods for bridge superstructure, limited studies have addressed substructures and foundations. Often, it is assumed that the bridge substructure and foundation are ready to receive the superstructure. Based on field experience, site-specific testing, design and construction of foundations and substructures can be the most time-consuming part of bridge construction. An informed and educated decision on the type of foundation and substructure may define the viability and economic feasibility of the entire ABC project. In the proposed study, the research team seeks to develop a Guide that can be readily used by practitioners for the selection of substructures and foundations for different ABC projects. Potential issues related to construction of new bridges and replacement of existing bridges will be discussed. The study will also include discussions on evaluation and strengthening of existing substructure and foundation for potential reuse. It will be attempted to identify gaps in existing knowledge and practice and make recommendations for future studies to address these gaps. This research project is a collaborative project between Florida International University (FIU) and the Oklahoma University (OU). FIU will focus its work on substructure (excluding foundation) and lead the</p>

	<p>development of the guideline, and OU will focus its activities on foundation related subjects and provide support to FIU on other tasks. The primary objective of this project is to provide guidelines for decision making by the designers and bridge owners for the selection of substructure and foundation for new bridges and replacement of existing bridges using the ABC methods, including evaluation, retrofitting, design, and construction.</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/fiu-research-projects/development-of-guide-for-selection-of-substructure-for-abc-projects/</p>