



ACCELERATED BRIDGE CONSTRUCTION
UNIVERSITY TRANSPORTATION CENTER

UTC Project Information	
Project Title	Life-Cycle Cost Analysis Of Ultra High-Performance Concrete (UHPC) In Retrofitting Techniques For ABC Projects
University	FLORIDA INTERNATIONAL UNIVERSITY
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Funding Source(s) and Amounts Provided (by each agency or organization)	ABC-UTC Center = \$50,000 Start-Up Funds = \$50,000
Total Project Cost	\$100,000
Agency ID or Contract Number	69A3551747121
Start and End Dates	02/01/2021 – Active
Brief Description of Research Project	The life-cycle of Accelerated Bridge Construction (ABC) projects includes several phases: planning, design, construction, maintenance, rehabilitation, reconstruction or recycling. Most of the research studies for ABC projects have been focused on the design and construction phases, although maintenance and rehabilitation play an important role to preserve a bridge network in good condition. Bridge components are affected by loads and environmental stressors deteriorating faster or even collapse without effective maintenance and rehabilitation strategies. Furthermore, wet-dry cycling and higher concentrations of chlorides in coastal areas accelerates the deterioration process reducing the life expectancy of bridges while increasing the frequency and cost of the repairs. To address this problem, innovative materials should be considered in the formulation of maintenance and rehabilitation strategies for ABC projects. Although, UHPC has higher initial costs, it is intended to lower the total life-cycle costs when compared to conventional concrete. The main objective is to quantify the potential benefits of UHPC applications in long-term maintenance strategies for ABC projects. Products from this research will support management decisions at the network and project level. It is expected that the use of new materials and timely maintenance strategies will increase the life expectancy of bridges using ABC systems.
Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	The outcomes will be tracked and reported once they are identified.

Impacts/Benefits of Implementation (actual, not anticipated)	The impacts will be tracked and reported once they are identified.
Web Links <ul style="list-style-type: none">• Reports• Project website	https://abc-utc.fiu.edu/research-projects/life-cycle-cost-analysis-of-ultra-high-performance-concrete-uhpc-in-retrofitting-techniques-for-abc-project/