



<b>UTC Project Information</b>	
Project Title	Constructability And Carbonation Potential Of Low-Carbon Concrete Materials Infused With Silica-Rich Biochar For Bridge Applications.
University	Texas A&M University/Texas Engineering Experiment Station
Principal Investigator	Jeffrey W. Bullard
PI Contact Information	<a href="mailto:jwbullard@tamu.edu">jwbullard@tamu.edu</a>
Funding Source(s) and Amounts Provided (by each agency or organization)	IBT-ABC-UTC funds : \$33,950 Match funds : \$33,950
Total Project Cost	\$ 67,900
Agency ID or Contract Number	69A3552348322
Start and End Dates	January 1,2025 – Active.
Brief Description of Research Project	Concrete’s high carbon footprint is an ongoing concern for infrastructure sustainability and environmental stewardship. A primary strategy in the quest for low-carbon concrete is to replace a portion of the portland cement with pozzolanic wastes generated by other industrial or societal activities. Biochar is a product of biowaste combustion. Our previous research through the IBT/ABC-UTC has shown that silica-rich biochar is pozzolanically active in concrete, that it can accelerate setting time, can improve compressive strength, and can efficiently absorb atmospheric CO <sub>2</sub> . The current proposal will advance the technology readiness level of biochar- infused concrete by determining the dependence of concrete properties as a function of the biochar dosage. In particular, the project will determine the carbon sequestration extent of these new materials, as well as the setting times and compressive strength. New materials enabled by this research will significantly decrease anthropogenic GHGs, increase the resilience and sustainability of civilian infrastructure, and provide a sink for biowaste materials that otherwise would be deposited in landfills.
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"><li>• Reports</li><li>• Project website</li></ul>	<a href="https://abc-utc.fiu.edu/constructability-and-carbonation-potential-of-low-carbon-concrete-materials-infused-with-silica-rich-biochar-for-bridge-applications/">https://abc-utc.fiu.edu/constructability-and-carbonation-potential-of-low-carbon-concrete-materials-infused-with-silica-rich-biochar-for-bridge-applications/</a>