

PROJECT OVERVIEW REPORT

1. UTC Identifying Number
69A3551847102
2. Center Identifying Number
CAIT-UTC-REG60
3. Project Title
Low-Carbon Concrete Pilot Program
4. Principal Investigator & Contact Information
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7. Project Description
Concrete is responsible for about 8.6% of the world's CO₂ emissions, despite the production of concrete having a relatively low carbon intensity compared to other building materials. The excessive release of CO₂ from concrete is due to the vast quantities of the material produced each year. The goal of the proposed work is to provide the Port Authority with the ability to significantly reduce the embodied carbon of the concrete mixtures used in their construction activities. This will support agency wide GHG reduction target of 80% by 2050.
8. Implementation of Research Outcomes (or why not implemented)
The intended outcome of the project is to provide concrete mixtures that can significantly decrease embodied carbon in Port Authority concrete placements. Additionally, the work will improve other areas of sustainability by working to close materials loops in the local region for waste glass and demolition waste. This study will also result in significant research progress in the comparison and

development of LECC systems that will benefit the construction community at large.

9. Impacts/Benefits of Implementation (actual, not anticipated)
To Be Determined

10. Dates and Budget

Start date: 5/1/2021

End date: 4/30/2022

UTC (CAIT) Dollars: \$50,000

Cost Sharing: \$50,000

Total Dollars: \$100,000

11. Keywords

Concrete, low-carbon concrete, aggregate optimization, performance

12. Web Links (Reports and Project Website)

<https://cait.rutgers.edu/research/low-carbon-concrete-pilot-program/>