

PROJECT OVERVIEW REPORT

1. UTC Identifying Number
69A3551847102
2. Center Identifying Number
CAIT-UTC-REG36
3. Project Title
Improving the Long-Term Performance of Bridge Decks through Full-Scale Accelerated Testing
4. Principal Investigator & Contact Information
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7. Project Description
The primary goal of this proposal is to leverage the testing being conducted by FHWA within the BEAST lab to develop a better understanding of the demands for which bridge decks are exposed to in service. The hope is that this work will ultimately contribute to improved design/material/construction approaches to produce more durable bridge decks.
8. Implementation of Research Outcomes (or why not implemented)
The intended outcome of the project is to determine the role of temperature gradients on structural response and deck stress. This knowledge will provide more accurate estimation of deck demands and ensure that new designs properly account for temperature effects thereby resulting in more durable bridge decks that are less prone to cracking. Results of this research will be presented

to AASHTO for possible revision of bridge design specification. Results will also be made available to DOTs for incorporation into their design methodologies.

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

10. Dates and Budget

Start date: 4/1/2020

End date: 2/28/2021

UTC (CAIT) Dollars: \$84,000

Cost Sharing: \$0.00

Total Dollars: \$84,000

11. Keywords

Bridge deck, deck, cracking, cracks, temperature, thermal, gradient, accelerated testing, SHM, FEM, calibration

12. Web Links (Reports and Project Website)

<https://cait.rutgers.edu/research/improving-the-long-term-performance-of-bridge-decks-through-full-scale-accelerated-testing/>