

PROJECT OVERVIEW REPORT

1. UTC Identifying Number
69A3551847102
2. Center Identifying Number
CAIT-UTC-REG 3
3. Project Title
Large-Amplitude Forced Vibration Testing for St-IId of Bridges and Foundation
Reuse Assessment
4. Principal Investigator & Contact Information
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7. Project Description
The overarching aim of the research is to explore and establish the ability of large-amplitude, forced vibration testing to reveal the current performance and forecast the future system performance of bridges, with the consideration of dynamic soil-foundation-structure effects. With the ability to perform reliable, quantitative assessment of superstructure-substructure-foundation systems of aging bridges, owners will be provided with reuse and adaption options currently unavailable.
8. Implementation of Research Outcomes (or why not implemented)
Successful completion of the project will certainly draw attention of transportation agencies (bridge owners in particular) regarding the potential use of large mobile shakers in the global assessment, bridge adaption and reuse of bridge foundations. Results will be disseminated through presentations and publications at national and international conference proceedings, academic journals and

research reports. Through the maintenance of close relations with professional organizations such as the ASCE and ISHMII, the research team expect further dissemination directly to infrastructure stakeholders through special workshops at various annual meetings and conferences.

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

10. Dates and Budget

Start date: 9/1/2018

End date: 9/30/2019

UTC (CAIT) Dollars: \$80,000

Cost Sharing: \$0

Total Dollars: \$80,000

11. Keywords

bridges, assessment, St-Id, foundation reuse, dynamics, load capacity, durability, mobile shakers, foundation impedances, bearing capacity

12. Web Links (Reports and Project Website)

<https://cait.rutgers.edu/research/large-amplitude-forced-vibration-testing-for-st-id-of-bridges-and-foundation-reuse-assessment/>