

## PROJECT OVERVIEW REPORT

1. UTC Identifying Number  
69A3551847102
2. Center Identifying Number  
CAIT-UTC-REG 14
3. Project Title  
Performance-Based Engineering of Transportation Infrastructure Considering Multiple Hazards
4. Principal Investigator & Contact Information  
Kallol Sett, Ph.D.  
Assistant Professor  
University at Buffalo  
221 Ketter Hall  
Buffalo, NY, 14260
5. Rutgers/CAIT Project Manager  
Patrick Szary, Ph.D.
6. Customer Principal  
Matt Carter, Global Lead, Long-Span Bridges  
Arup  
77 Water Street  
New York, NY 10005
7. Project Description  
The primary goals of this proposal are to (1) extend the FEMA P-58 framework for performance-based earthquake engineering of buildings to transportation networks, (2) apply the framework to a simple transportation network involving three or four bridges to demonstrate its use and identify opportunities for improvement, and (3) expand the framework developed to accommodate extreme wind loadings.
8. Implementation of Research Outcomes (or why not implemented)  
The intended outcome of the project will be used to develop a plan to operationalize performance-based engineering of transportation networks. The direct benefit to the transportation community of tools and techniques for performance-based engineering of transportation networks would be immense, in terms of appropriate levels of investment for new build and retrofit/rehabilitation projects, and potentially significant savings for large infrastructure projects.

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

10. Dates and Budget

Start date: 10/1/2018

End date: 01/31/2020

UTC (CAIT) Dollars: \$ 69,846

Cost Sharing: \$65,197

Total Dollars: \$135,043

11. Keywords

Transportation networks, performance-based engineering, multiple hazards, case study, earthquake scenario

12. Web Links (Reports and Project Website)

<https://cait.rutgers.edu/research/performance-based-engineering-of-transportation-infrastructure-considering-multiple-hazards/>