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PROJECT OVERVIEW REPORT

1. UTC Identifying Number
   69A3551847102

2. Center Identifying Number
   CAIT-UTC-REG 17

3. Project Title
   Improving Transportation Infrastructure Resilience against Hurricanes, other Natural Disasters, and Weathering: Part I - Analysis of failure of transportation signs due to Hurricane Maria

4. Principal Investigator & Contact Information
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5. Rutgers/CAIT Project Manager
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6. Customer Principal
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7. Project Description
   The primary goal of this proposal is to analyze the failure of different types of transportation signs due to Hurricane Maria. The specific objectives of the project are: (a) determine the causes of the failure, (b) suggest improvements to the design and construction to avoid or reduce the risk of damages in future hurricane situations, and (c) calculate the wind loads that produced the damage in order to better establish the design wind speed in PR new building codes and DOT specifications.

8. Implementation of Research Outcomes (or why not implemented)
   The intended outcome of the project is to improve the design and construction of highway and roadway signs. Also, the findings could motivate ASCE, the Institute of Civil Engineers of the College of Engineers and Land Surveyors of Puerto Rico, and Puerto Rico Building Code Officials (PRBCO) to change the design wind speed established for Puerto Rico, which in turn will affect the design of

transportation infrastructure. PRDOT may also decide to adopt the assessed wind speeds for their design, aside of any ASCE or PRBCO decision.

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

10. Dates and Budget
    Start date: 10/1/2018
    End date: 5/29/2020
    UTC (CAIT) Dollars: $68,754
    Cost Sharing: $69,124
    Total Dollars: $137,878

11. Keywords
    Highway sings, wind loads, wind speed, hurricane damage, transportation infrastructure damages

12. Web Links (Reports and Project Website)
    https://cait.rutgers.edu/research/improving-transportation-infrastructure-resilience-against-hurricanes-other-natural-disasters-and-weathering-part-i-analysis-of-failure-of-transportation-signs-due-to-hurricane-maria/