

## PROJECT OVERVIEW REPORT

1. UTC Identifying Number  
69A3551847102
2. Center Identifying Number  
CAIT-UTC-REG51
3. Project Title  
Real-Time Decision Support System for Transportation Infrastructure  
Management under a Hurricane Event
4. Principal Investigator & Contact Information  
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7. Project Description  
This project will lay the groundwork for the development of a real-time decision support system for transportation infrastructure management under a hurricane event. Beginning with a systematic review of current decision-making practices, this project will investigate hurricane impacts on the critical infrastructures and effects of various traffic control policies on traffic network performance. The project will then identify the optimal traffic control policy to minimize hurricane-induced losses.
8. Implementation of Research Outcomes (or why not implemented)  
The intended outcome of the project is to deliver a tool to rapidly identify optimal traffic control policies under hurricane events. This platform will be implemented using three integrated modules, namely, 1) traffic network simulation, 2) traffic control policy evaluation, and 3) identification of the optimal control policy. The direct benefit of the developed platform to the transportation community (and planners/emergency responders) would be immense. It could be used in real

time by first responders in hurricane events, by DOTs and state and local Offices of Emergency Services for scenario planning, and by engineers and planners for risk assessment.

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

10. Dates and Budget

Start date: 2/1/2021

End date: 1/31/2022

UTC (CAIT) Dollars: \$73,674

Cost Sharing: \$69,830

Total Dollars: \$143,504

11. Keywords

Real-time decision-making; transportation infrastructures; hurricanes

12. Web Links (Reports and Project Website)

<https://cait.rutgers.edu/research/real-time-decision-support-system-for-transportation-infrastructure-management-under-a-hurricane-event/>