MarTREC
Maritime Transportation Research & Education Center

MarTREC UTC Project Information Form
USDOT Tier 1 University Transportation Center
Agency ID or Contract Number DTRT13-G-UTC50

Project Title: QUANTIFICATION OF MULTIMODAL TRANSPORTATION NETWORK VULNERABILITY: A PILOT STUDY IN MISSISSIPPI
Project Abstract (Brief Description): There are pressing needs to develop a network based quantification framework to assess vulnerability of multimodal transportation and infrastructure network exposed to both natural and man-made hazards. Thus the objective of this exploratory study is to identify critical transportation network and its vulnerability to a wide variety of hazard conditions based on real-world data. In this study, three research questions will be addressed: 1) possible scenarios of future climate changes with respect to projected sea level rise and changes in storm surge intensity specific to the Mississippi coast; 2) inventory of critical transportation infrastructures; and 3) sustainability and effectiveness of the transportation network under possible hazard conditions. Proposed research activities are aligned with the Maritime Transportation Research and Education Center (MarTREC) research interest in the area of "Multimodal Supply Chain Efficacy" by proposing a quantitative framework of multimodal transportation network to address vulnerability from natural and man-made hazards. The study objectives will be accomplished through systematic inventory of transportation facilities in Mississippi and prognostic modeling of infrastructure vulnerability using network model. We strongly believe that the outcome of this study will be cursory towards developing a comprehensive design, adaptation and mitigation framework for the State DOT and MPOs in order to address risk and vulnerability of Mississippi's transportation infrastructure due to hazards.
Describe Implementation of Research Outcomes (or why not implemented) - Place any photos here *To be determined upon conclusion of the project*:
Impacts/Benefits of Implementation (actual, not anticipated) *To be determined upon conclusion of the project:*
Web Links: n/a
Budget (Funding) Amounts & Source(s) (US DOT +Match(s) =Total Costs): 28.75 USDOT + 14.375k matching = 43.125k total
Project Start and End Dates: 5/01/2016 – 4/30/2017
Principal Investigator(s) and Contact Information: Himangshu Das
Principal Investigator Institution (University): Jackson State University