MarTREC
Maritime Transportation Research & Education Center

MarTREC UTC Project Information Form
USDOT Tier 1 University Transportation Center
Agency ID or Contract Number 69A3551747130

Project Title: Informing Post-Disaster Restoration through Modeling Interdependent Agriculture and Transportation Networks-VU Portion
Project Abstract (Brief Description): Agriculture is a critical part of the U.S. economy both domestically and in terms of exports. While disruptions due to weather, etc. can affect any sector, agriculture is unique in its time sensitivity for planting, harvesting, etc. Additionally, agriculture is interdependent on other sectors, particularly transportation to get seed and fertilizers to fields at appropriate times and in getting products that may spoil to market efficiently. At present, available tools and models do not appropriately address the interdependencies and interactions that occur between agriculture and transportation infrastructure systems during times of disruption and restoration of these systems post-event. This project intends to develop models which determine how to effectively use transportation and coordinate restoration efforts to make ag supply chains more resilient through combined mathematical modeling approaches and visualization and simulation using geographic information systems (GIS). This is a collaborative project between the University of Arkansas and Vanderbilt University with Vanderbilt's contribution being primarily on the GIS data management, analysis, and visualization to support and validate the mathematical models.
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: martrec.uark.edu
Budget (Funding) Amounts & Source(s) (US DOT +Match(s) =Total Costs): $48,805K USDOT + $25K matching (TDOT SBR funding on project "Multimodal Multi-Modal Freight Transportation System Capacity and Diversion Assessment" as "in kind" match) = $73,805 K total
Project Start and End Dates: 10/01/2018-07/31/2020
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Principal Investigator Institution (University): Vanderbilt University