



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

Project Title: Development and Implementation of Sustainable Transportation Resilience Indicators
Project Abstract (Brief Description): Much has been discussed about resilient transportation infrastructure as well as sustainable practices, but only recently have their interdependencies been brought to light in terms of a community’s ability to develop sustainable (economic, social and environmental) resource capacity necessary to be resilient in the face of natural hazard events that could lead to catastrophic consequences. In order to evaluate whether a community has achieved an acceptable level of sustainable transportation resilience, it requires performance indicators that are both relevant and measurable. The intent of this project is to establish a protocol and method for evaluating a community’s level of sustainable transportation resilience, such that if deficiencies exist, attention can be focused on mitigating those concerns. The protocol and method is subsequently applied to a river valley community to demonstrate proof-of-concept.
Describe Implementation of Research Outcomes: The developed process/methodology will be implemented as a case study in a river valley community that is at risk to a major flooding event. The case study will serve as a “proof-of-concept” demonstrating implementation feasibility.
Impacts/Benefits of Implementation: The project will produce a list of sustainable transportation resilience indicators that communities can utilize to assess their capabilities to withstand and recover from natural disaster events. The case study will demonstrate how these indicators can be applied by coastal and river valley communities to evaluate their sustainable transportation resilience capacity to effectively manage potential flood events. The availability and application of the developed process/methodology is ultimately scalable to a variety of at-risk transportation scenarios.
Web Links: martrec.uark.edu
Budget (Funding) Amounts & Source(s) (US DOT +Match(s) =Total Costs): (MarTREC) funds \$92,500 and Vanderbilt Trans-Institutional Program Award (matching) funds \$46,250 Total Cost: \$138,750
Project Start and End Dates: June 1, 2017 – June 31, 2019 Complete
Principal Investigator(s) and Contact Information: Mark Abkowitz (ORCID No. 0000-0002-7278-1008), Professor of Civil & Environmental Engineering, PMB, 351831, 2301 Vanderbilt Place, Nashville, TN 37235-1831; phone: 615-343-3436; email: mark.abkowitz@vanderbilt.edu
Principal Investigator Institution (University): Vanderbilt University