



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

Project Title: Combining Truck and Vessel Tracking Data to Estimate Performance and Impacts of Inland Ports
Project Abstract (Brief Description): The purpose of this project is to develop a method to fuse truck and marine vessel tracking data to better estimate performance of multi-modal supply chains that use inland waterway ports. The study builds on a growing body of research related to multi-modal freight performance measurement, specifically freight fluidity measures. Freight fluidity measurement attempts to capture freight system performance from a multi-modal supply chain perspective. To date, most freight fluidity measures are not truly multi-modal, and rather capture only one end of the supply chain, i.e. the long haul portion of the trip that uses either truck, rail, or barge. In this study, we will determine how to effectively combine marine Automatic Identification System (AIS) data with truck Global Positioning System (GPS) data. Both data sources track vessel and vehicle movements and can be used to determine measures such as travel times, dwell times, and other freight activity characteristics. By spatially, temporally, and contextually conflating the data sources, it will be possible to measure port throughput, vessel to truck ratios, geographic extents (or “trucksheds”) of ports and other multi-modal transfer points, and potentially to monitor each performance measure in a commodity-specific format. Each of these derived performance measures can assist freight planners in identifying critical freight corridors and bottlenecks both on the marine and land side which can ultimately help guide and prioritize investment decisions and develop effective transportation policy.
Describe Implementation of Research Outcomes (or why not implemented) - Place any photos here <i>To be determined upon conclusion of the project:</i>
Impacts/Benefits of Implementation (actual, not anticipated) <i>To be determined upon conclusion of the project:</i>
Web Links: martrec.uark.edu
Budget (Funding) Amounts & Source(s) (US DOT +Match(s) =Total Costs): \$110,000 martrec funds plus \$55,000 matching funds. Total \$165,000.
Project Start and End Dates: January 1, 2019-December 31, 2020
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Principal Investigator Institution (University): University of Arkansas