



Project title: Integrated Intermodal Transportation Corridors for Economically Viable and Safe Global Supply Chain

Investigators:

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Start date: July 1, 2012 **Completion date:** December 31, 2013

Project description and objective:

According to a report of the National Academies, the U.S. companies collectively spend a trillion dollars a year on freight logistics. This is nearly 10% of the nation’s gross domestic product (GDP). The four transportation modes (shipping port, aviation, rail, and highway) are owned and operated by different entities in the U.S. Financing for preserving and upgrading intermodal infrastructure for both freight and rail is being handled very differently. Transport infrastructure funding crisis is evident on all levels.

The overall objective of this tri-university applied research project is to identify major transportation corridors involving shipping ports (marine and inland river system) highway network and rail infrastructure and to evaluate the economic viability, safety, disaster resiliency, and revenue/funding aspects of integrating selected segments of the candidate corridors. The intermodal freight corridor case studies will be used to develop a “best practice guide” and intermodal infrastructure bank proposal for consideration by government transportation agencies, private transport operators, and all other stakeholders.

Project progress to date:

Researchers have been searching and reviewing the literature on research project related papers and web documents. The USDOT’s approval has been secured to acquire computer equipment for Transportation Modeling & Visualization Lab, which are now being procured. A consultant agreement was executed for Dr. Rob Smith (field evaluation of a new approach to understand road pavement-tire friction related to road safety). The USDOT’s approval was obtained for a consultant agreement with Dr. Victor Torres-Verdin (passenger traffic and freight data from Mexico for NAFTA corridors). Dr. Jody Holland reviewed infrastructure banks and other innovative funding mechanism. A survey form has been drafted for getting feedback from supply chain stakeholders. Geospatial maps of top 50 ports were generated, plots were made (Figure 1), and historical data of top 50 cargo airports were collected for producing spatial maps.

Results dissemination and products:

1 Journal paper; 1 Book available in 2013 (with global supply chain infrastructure topics); 3 conference papers/presentations; Deep South ITE’s Excellence in Teaching award (Uddin)

Students supported: 1PhD, 1 MS

Collaboration: 4 (ERDC Hydraulics Lab, Kentucky Transportation Center, Maritime Information Systems, Inc. of Rhode Island, Intergraph’s geospatial software donation)

Work plan for the next reporting period: Further data analysis and spatial maps of cargo airport freight data and road/rail/inland waterway shipping data for selected freight corridors; additional journal papers and presentations.

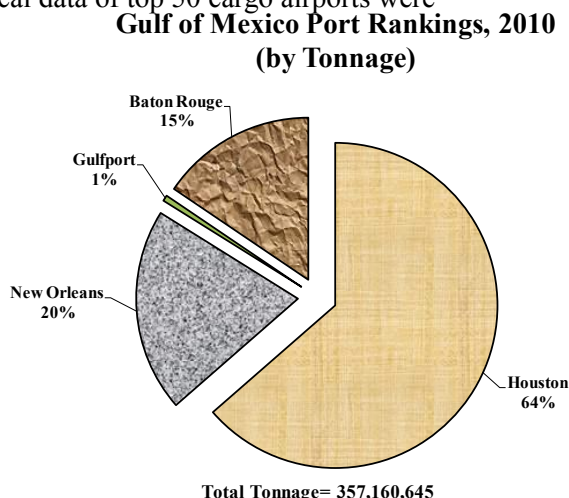


Figure 1. Gulf of Mexico Ports, 2010