



Project Number

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Project Manager

Rickey Fitzgerald
FDOT Planning Office

Principal Investigator

Xia Jin
Florida International University

Florida Department of Transportation Research

Examining the Value of Travel Time Reliability for Freight Transportation to Support Freight Planning and Decision-Making

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Current Situation

As consumers demand greater choice and availability of products, suppliers have responded with more just-in-time delivery and less centralized inventories. Keeping this supply chain working efficiently requires reliable freight transportation. Delays and uncertainties translate into higher costs throughout the chain, from manufacturer to consumer. Estimates of these costs now exceed \$100 billion dollars on an annual basis. For policy makers and planners to respond effectively as demand in the freight sector continues to grow, a better understanding is needed of freight behavior and the expectations of freight users.

Research Objectives

Florida International University researchers surveyed a variety of Florida freight users concerning their shipping experiences, their valuation of travel time reliability, and how they choose shipping alternatives.

Project Activities

The survey was conducted in two stages: a pilot survey and the main survey. The research team based the pilot survey on an extensive literature review and interviews with prospective participants at various industry events. The pilot survey was offered at one such event, the Florida Trucking Association's annual conference, where 10 surveys were completed. Feedback from completed surveys and from contacts who did not participate in the survey was used to focus and clarify the survey.

The revised, main survey was delivered in the early months of 2016. It was promoted through various trade and planning organizations, and ultimately, 159 firms responded. The original intent was to conduct a Web-based survey, but a small majority of the respondents preferred a paper survey. The respondents were widely distributed across Florida.

Survey participants were asked to identify their primary shipping mode, products carried, distances, and other questions to help describe their patterns of activity. In a further set of questions, shippers were asked about typical delivery times and penalties for shipment delays. Shippers were asked about their general attitudes toward several transportation attributes: shipping time, cost, reliability, security and damage, and flexibility. A series of questions addressed choices the shippers would make and the basis for those decisions.

Based on survey and modeling results, researchers ascribed dollar values to various transportation attributes such as on-time delivery and availability of alternatives. They then recommended ways of incorporating these results into freight planning and project evaluation.

Project Benefits

This project provides valuable insights into freight sector attitudes and approaches, providing a basis for better transportation planning that incorporates the needs of the shipping industry.



Billions of dollars of products are carried by various shipping modes, which depend on an efficient and reliable transportation network.

For more information, please see dot.state.fl.us/research-center