Project Summary

Texas Department of Transportation

0-6297: Freight Planning Factors Impacting Texas Commodity Flows

Background

An efficient, reliable, and safe multimodal freight transportation system reduces transportation and supply chain transaction costs and increases connectivity, reliability, and accessibility to local and global markets. An efficient freight transportation system, therefore, supports economic development, the expansion of international trade, increases national employment, growth in personal income and the Gross Domestic Product (GDP) of a region, and improves the quality of life of its citizens. However, dramatic increases in freight volumes have also resulted in concerns about the growing disparity between demand and the capacity of the freight transportation system, resulting in, for example, bottlenecks and landside access concerns to ports and airports. Already, certain transportation corridors are having difficulty accommodating the growing freight transportation demand.

Intermodal and freight concerns have thus received increasing attention in the wake of globalization, increasing congestion, and changes in the logistics structure of shippers. Both the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and the subsequent reauthorization of the Transportation Equity Act of the 21st century (TEA-21) emphasized an understanding of the freight transportation sector as critical to transportation planning. This requires an improved understanding of the factors impacting freight demand, as well as robust models and data to estimate future freight demand.

Against this background, the objective of this research study was to analyze relevant freight data and to start engaging Texas shippers and freight stakeholders in a dialogue to provide insight into: (a) *how, why, who, what, and where* freight moves on the Texas transportation infrastructure, (b) whether the Texas transportation system is adequate in serving business needs, and (c) about any improvements that are deemed necessary to serve Texas businesses better. The emphases of this study were on engaging the freight community in Texas and to gain insight into their perceptions of major statewide or aggregate freight issues.

What the Researchers Did

The research effort involved the following:

- Conducting an extensive literature review of previous reports and research studies, including MPO plans, statewide transportation plans, standalone freight plans, and consultancy efforts that were underway.
- Analyzing available economic data from sources, such as the Bureau of Labor Statistics, to characterize Texas economic activity by region.

Research Performed by:

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- Telephone interviews with chambers of commerce and economic development agencies to identify the major revenue generating sectors/industries by region.
- Administering mail-out mail-back surveys to Texas shippers identified by chambers of commerce and economic development agencies.
- Conducting shipper workshops in six Texas regions to gain insight into modal choice considerations and any transportation improvements required to serve Texas businesses better.
- Reviewing and updating the document entitled *State-of-the-Practice in Freight Data: A Review of Available Freight Data in the U.S.*
- Developing a relational multimodal freight database containing publicly available data.
- Conducting six freight stakeholder focus groups to (a) obtain input on the identified multimodal freight system trends; (b) identify any needs/issues pertaining to the freight transportation system in Texas; and (c) explore policies/strategies, and performance measures for Texas.
- Exploring the interest in and feasibility of a Texas freight stakeholder working group.

What They Found

Accurate freight data is critical to understand freight demand and to evaluate current and future freight transportation capacity. In addition, reliable and robust freight data is also critical to the development of freight performance measures (FPMs).

In Texas, freight movements have and are expected to continue to increase by all modes due to sustained and anticipated economic and population growth combined with its optimal location along critical trade corridors. Therefore, good freight planning will become critical to ensure that the Texas infrastructure can accommodate the estimated increases in freight demand.

Finally, a number of states have benefitted from engaging the private sector as stakeholders (i.e., freight advisory committees/stakeholder working groups) when conducting statewide freight planning. During this research study, 35 companies and agencies expressed an interest in working with TxDOT in developing and implementing a freight stakeholder working group for Texas.

What This Means

Researchers recommend that : 1) TxDOT develops and populates an architecture that will facilitate the collection of reliable, comprehensive, and robust freight data, 2) the work that has been conducted as part of this research study be extended and that a detailed “standalone” freight plan be developed for Texas, and 3) the mission, purpose, objectives, and mandate of a Texas freight stakeholder working group be explored during a meeting of interested freight stakeholders.

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