

0-6672: ITS Strategic Plan for Texas

Background

The purpose of this research was to provide a framework to guide the development and deployment of an integrated statewide program for intelligent transportation systems (ITS). ITS is a critical component of the transportation infrastructure that helps ensure the system operates in the most efficient way possible every day and night, and during all types of situations and weather conditions. It helps travelers:

- Get to their destinations without getting lost.
- Know about changing weather and traffic conditions that may impact their trip.
- Make multimodal choices in congested corridors.
- Plan a reliable trip.
- Even evacuate safely in times of emergency.

Thus, ITS is an essential element of the Texas Department of Transportation (TxDOT) value system that needs to be sustainable into the future to help the department attain its vision and goals in a cost-effective manner.

The Texas Transportation Commission, TxDOT, and the broad community of ITS providers, stakeholders, and agency partners will use the plan developed in this project to promote the development, deployment, and use of ITS statewide. If this plan is to succeed, it needs the cooperation of all affected groups involved in ITS and transportation planning, design, funding, and implementation in the state. The TxDOT ITS Strategic Plan 2013:

- Provides concise ITS Strategic Plan goals and objectives for TxDOT.
- Highlights the ITS priorities from the regional and local perspective.

- Summarizes national trends in ITS strategies.
- Presents a status report on regional ITS in Texas.
- Introduces anticipated ITS services that TxDOT may need in the future.
- Presents a candidate ITS archetype as potential guidance for moving forward with ITS across the state.

What the Researchers Did

Initially, the researchers evaluated the presence of ITS for all 50 states and five U.S. territories. Of the 55 locations studied, evidence of statewide ITS architecture was found in 36. The research team then conducted interviews with stakeholders in various regions across Texas, including TxDOT district staff, municipal staff, and representatives from metropolitan planning organizations, transit agencies, and other agencies involved in transportation. Stakeholders were provided with maps showing current and potential TxDOT ITS implementation and coordination.

Using information gathered from previous stakeholder interviews, researchers developed a sample ITS archetype, presented it to stakeholders, and discussed their concerns and perspective relative to their region. One candidate ITS scenario brought to

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stakeholders to consider is consolidation of the operations of core TxDOT ITS functions into six primary traffic management centers. Stakeholders at the follow-up interviews were asked several questions about this scenario, including:

- Would this be effective for your region?
- Is there a different way to structure it that would be more beneficial to you?
- How do you see your organization fitting into this structure?
- What would be your preferences in how this structure functions?

What They Found

There was a general consensus among stakeholders to move primary centers to urban areas, in terms of equipment and after-hours staffing capability, as long as there is coordination with local agencies and partners. Doing so would make efficient use of resources and limited funding.

Many stakeholders felt that regionalization made sense for their area/district because there would be more consistency and potentially more cost savings, which would ultimately lead to more funding for ITS, though many questions remained regarding how the proposed regionalization would be implemented. During the follow-up interviews, researchers also asked stakeholders what additional ITS services they would like if funding was not a concern. There was an overall willingness to consider additional ITS services throughout the state, and many regions would like to expand their ITS system.

What This Means

TxDOT has four primary goals related to meeting its mission. These goals are to maintain a safe system,

address congestion, connect Texas communities, and become a best-in-class state agency. The agency cannot hope to successfully meet these goals without ITS in its arsenal of strategies to advance transportation across the state. For example, maintaining a safe system translates into reducing crashes and fatalities, reducing the likelihood of crashes and those involving transportation workers, and helping facilitate safe evacuation efforts in the event of emergencies. ITS in its various forms can help address these safety challenges.

Congestion continues to grow on Texas' urban and suburban roadways. Regions can work to grapple with this problem by deploying ITS solutions that help optimize the existing infrastructure and make the most of every square foot of pavement and every installed device that helps manage traffic. Furthermore, ensuring that ITS is part of the connectivity between communities can help foster collaboration and efficient use of the infrastructure along major corridors that serve key regions of the state and beyond.

Finally, incorporating ITS into every aspect of TxDOT's traffic management approach helps ensure that every tax dollar from the citizens of Texas is used to optimize the valuable assets in the transportation system. It will also help TxDOT be a forward-thinking and proactive agency that promotes the development and deployment of innovative traffic management concepts and technologies to take Texas into the future, and meet the challenges and demands of a growing population. This ITS Strategic Plan can help advance TxDOT in achieving its strategic plan both now and in the future.

For More Information

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