LBJ Lyndon B. Johnson School of Public Affairs
The University of Texas at Austin

PROJECT SUMMARY

Texas Department of Transportation

0-6802: Summary of Texas Highway Funding Options and Alternatives

Background

During the 2012–2013 academic year, The University of Texas at Austin's Lyndon B. Johnson School of Public Affairs offered a Policy Research Project (PRP) course on Texas highway funding options. PRPs are a standard course in the LBJ School's curriculum and involve team research performed by 10–15 graduate students and two or more supervising faculty on a public policy issue of concern to a client public agency. The Texas Department of Transportation (TxDOT) initially assigned the research team three major tasks in preparation for the 2013 Texas legislative session:

- Identify a menu of feasible, practical funding options to support state highway infrastructure investments in the movement of people and freight.
- Assess the comparative merits of viable options.
- Suggest alternative mechanisms to educate and inform the public regarding the seriousness of the transportation challenges.

What the Researchers Did

The research team interacted with key TxDOT staff and other public officials throughout the academic year to address the tasks. Overall direction and guidance were provided by Phil Wilson, executive director of TxDOT. Mr. Wilson participated in three separate workshops with the research team (October 2 and December 7, 2012, and February 8, 2013) to react to interim findings and then to narrow the scope of study. As a consequence of guidance provided during the December 7 workshop, the scope of study was narrowed to producing four finance issue briefs on the following subjects:

- Energy-sector infrastructure financing.
- Weight-distance charges.
- Electric vehicle fees.
- Toll road availability payments.

Major findings were presented to senior TxDOT management at the February 8, 2013, workshop.

What They Found

Energy-Sector Infrastructure Financing

Several states along the Marcellus Shale formation have been heavily impacted by hydraulic fracturing and have concluded that a user payment method is an effective strategy for funding the necessary road repairs made necessary by energy companies expanding drilling activities in the area. In particular, road user maintenance agreements (RUMAs) have proven to be a successful mechanism in Ohio and West Virginia.

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Weight-Distance Charges

This issue brief examined weight-distance charge (WDC) systems in Kentucky, New Mexico, New York, and Oregon to assess their relevance to Texas. WDCs are designed to capture revenue and recoup the costs of highway consumption by heavy trucks. Researchers found that such a system can be used as a companion funding mechanism by Texas (as is the case in Kentucky) or as the sole funding mechanism for trucks (as in Oregon). However, conducting a highway cost allocation study is essential to assess cost/benefit parity for users.

Electric Vehicle Fees

As newer vehicles with increased fuel efficiency or alternative fuel sources proliferate, the main source of transportation revenue for states—the gas tax—is proving to be inadequate to meet transport funding needs. Therefore, during the 2012–2013 legislative sessions, several states considered bills including new or modified fees imposed on electric, hybrid, or alternatively fueled vehicles. Electric vehicle (EV) fees provide a first step toward charging vehicles based on road use rather than fuel consumption. However, no existing study has found sufficient economic justification to support the implementation of any given fee level.

Toll Road Availability Payments

Availability payment financing is suitable in instances where toll revenue alone is insufficient to repay total financing costs and where financing a road project with state debt would severely limit or exceed a state's debt capacity. Under an availability payment arrangement, a concessionaire builds, finances, operates, and maintains a road. Current statutes do not allow TxDOT to enter into availability payment financing agreements. Yet, several large projects have been financed using this method in Florida, California, Ohio, and Indiana.

What This Means

The benefits that attend formal RUMAs between energy beneficiaries and the state, county, and city highway providers are proving successful. Highways serving the network of sites where energy companies are fracking shale to access oil and gas are rapidly deteriorating, raising vehicle operating costs and compromising user safety. RUMAs and other ways of maintaining system integrity and safety deserve continued scrutiny by those managing TxDOT strategic objectives.

WDC continues to be a consideration when determining equitable road user charges for heavy vehicles, but an updated cost-allocation approach is first needed.

Availability payments form another financing tool for needed highway infrastructure. The Florida Department of Transportation determined that this method would be the least expensive way of delivering a project while, at the same time, relieving itself of the risks inherent in road construction by transferring them to the concessionaire.

EV usage remains an interesting, but distant, issue since EV market penetration is small and hybrid vehicles are the preferred choice for those wishing to lower their carbon footprint. The bounty of Texas natural gas may well provide a more important future fuel for those currently using gas- and diesel-powered engines.

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