

9-1530: State Responses to Energy Sector Developments

Background

New and expanding energy sector developments—oil, natural gas, coal, wind, biofuels, and solar—are occurring in numerous states throughout the country. While states, counties, and communities are realizing economic benefits from these activities, the impacts from energy development on the transportation system are immediate and extensive. Rural roads and bridges are especially vulnerable to the increased volumes of trucks, but additional demands are also being placed on the rail, port, and aviation networks. State departments of transportation and other agencies are responding in numerous ways to increased truck traffic, infrastructure deterioration, and safety concerns.

To help facilitate the sharing of information and experiences among states, the Texas Department of Transportation (TxDOT) took the lead in developing the Transportation Pooled Fund Project: State Responses to Energy Sector Developments. In addition to TxDOT, participating agencies included the California Department of Transportation, Louisiana Department of Transportation and Development, Montana Department of Transportation, North Dakota Department of Transportation (NDDOT), Ohio Department of Transportation, Pennsylvania Department of Transportation, and Washington State Department of Transportation.

What the Researchers Did

Researchers first obtained information on responses to energy sector impacts in each state

through site visits and literature reviews. Approaches used for industry and community engagement, roadway and infrastructure management, safety, funding and financing, workforce recruitment and retention, and planning and forecasting were documented. Representatives from the participating states met on March 23–24, 2016, at the Texas A&M Transportation Institute State Headquarters and Research Building in College Station, Texas, to share experiences, discuss common issues, and identify topics for further research. A state-of-the-practice synthesis, including future research needs, was developed based on information from the site visits, the workshop, and the literature review.

What They Found

The participating states are using a variety of techniques to address impacts on the transportation system from energy sector developments. The Bonded and Posted Road Program in Pennsylvania and the Road Use Maintenance Agreements in Ohio take different approaches for obtaining funding from the oil and gas industry for needed roadway repair and upgrades caused by heavy trucks serving well sites. Figure 1 illustrates the damage done by

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Project Completed:

7/31/2016

trucks in Pennsylvania and the restored roadway financed by energy sector companies.

Other states were able to secure additional funding for repairs and upgrades through legislation. Voters in Texas approved Proposition 1 and Proposition 7, providing additional funding for TxDOT from the existing Texas Oil and Gas Production Taxes, the General Sales and Use Taxes, and the Motor Vehicle Sales and Rental Taxes. The North Dakota Legislature increased funding to NDDOT in 2013 and 2015 for transportation projects in the oil impact areas. Safety improvement projects in the participating states included adding turn and bypass lanes, traffic signals, and lighting at selected locations. North Dakota added roundabouts and truck bypass routes in a few

locations. States also replaced or upgraded bridges, accelerated pavement replacement, widened shoulders, and implemented public service safety campaigns.

What This Means

This project allowed participants to gain a better understanding of the numerous options and approaches being used in other areas that may be appropriate for consideration in their state. This project also established a network of peers throughout the country for ongoing information exchanges and consultation. The identified future research topics should continue to build on a common body of knowledge of methods to address energy sector transportation improvements.



Source: Pennsylvania Department of Transportation.

Figure 1. Roadway Impacts in Pennsylvania—Pavement to Mud and Then Restored.

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Keyword: Research