

Fuels, Freight, and the Tennessee Economy

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MOTIVATION AND RESEARCH PROGRAM

The domestic emergence of previously unrecoverable natural gas and petroleum promises to be transformative. Coal, as a source electricity generation and of rail and waterway freight traffic continues a steady long-run, decline. At the same time, seemingly permanent lower natural gas prices are producing record investments in new chemical and plastics capacity that will require freight carriage. Finally, interpreting the effects of this new fuels environment has been complicated by international circumstances that have left crude petroleum prices to as low as \$30 per barrel and that have sharply reduced the global demand for basic and intermediate commodities U.S. commodities.

Here, we focus on the ways these changes are altering the landscape faced by Tennessee's Department of Transportation. On the demand-side, fuel-dependent distribution activities are a key determinant of localized roadway use. Moreover, in Tennessee, as elsewhere, reduced coal volumes are creating excess capacity on localized railroad and waterway segments, along with fears about future modal availability.

On the supply-side, observed, fuels-related changes can also affect infrastructure construction costs and Tennessee's ability to afford new transportation capacity. Motor Fuel (diesel) taxes are the second largest form of highway revenues and fuel prices are major determinant of highway construction costs..

Fashioning a freight policy response to this new, fuel-related setting is unavoidable. Accordingly, we focus on four specific research topics. These include:

- Predictions of fuels-induced changes to freight demands corresponding changes in Motor Fuel Tax and Transportation Equity Fund revenues;
- Estimations of the long-run impacts of changing fuels production and transportation on the cost of delivering transportation infrastructure;
- An assessment of how fuel-related declines in coal transportation are affecting the availability of and access to railroad and navigation freight services and the extent to which this may affect corresponding demands for state-level support for modal access; and
- A preliminary exploration of how changing fuel prices and related behaviors affect the demands for last-mile freight access in Tennessee related effects on community freight planning.

RESEARCH OUTCOMES

The ultimate effects of what is being loosely termed an energy-led "renaissance" are likely to vary across geographies. The aim of this research is to pinpoint the early-stage, Tennessee-specific changes that are likely to affect the demands for state-provided transportation resources, the cost of delivering these resources, and the availability of the state-generated funds that support resource delivery.

PROJECT SCHEDULE AND FURTHER INFORMATION

Work on the research outlined above commenced on October 1 of this year and is scheduled to be complete by December 2017. For further information, please contact:

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