Florida Department of Transportation Research

Managing Consumer Fuel Price Driven Transit Demand
BDK85 977-39

Recent years have seen a steady, conspicuous rise in gasoline prices, more than doubling in the last ten years. Fuel prices and environmental impacts are widely perceived as encouraging changes in American's transportation habits, such as using public transit and purchasing electric vehicles. The media focus on gas prices has amplified these perceptions, but are they real? If higher gas prices cause greater use of public transit, then what is the extent of the effect, and who is making the switch? Can transit agencies predict the impact of gas prices and adjust their services strategically? In this project, University of South Florida researchers examined the response of public transit ridership to changes in gas prices (ridership elasticity) through a literature review, a series of analyses, and a survey of transit operators.

The researchers reviewed studies with national, regional and local scope, emphasizing identification of transit modes that benefitted from a rise in gas prices. Numerous studies of ridership elasticity were found; however, few studies established cause and effect, and when they did, the effect was typically small. In fact, the primary effect of rising gas prices on driving behavior was that people made fewer trips.

Nevertheless, where gas prices had an effect on ridership, rural riders and riders with fewer transportation options were affected more significantly. Urban riders, who often have more options, tended to switch modes more quickly. Interestingly, increased gas prices had a noticeable effect on where people bought homes.

Two Florida transit agencies, in the Tampa and Fort Lauderdale metro areas, were analyzed in detail for impacts during July 2008, the month when so-called 'four-dollar gas' appeared, making a profound impression on the public, as indicated in media reports, and possibly triggering behavioral changes. An effect was difficult to document, even considering the depth of the researchers' analysis. The growth in one transit

Gas prices have risen consistently over the last decade, but have they driven an increase in public transit ridership?

service seemed to be related to tapping latent demand, rather than as a response to fuel prices.

Public transit operators in Florida were surveyed about three main subject areas: profiles of the size and services they offered; the measured or perceived relationship between gas prices and transit demand; and actions considered or implemented to address the outcomes of this relationship. The survey design provided for additional, more in-depth questioning where respondents identified certain conditions of interest to either reinforce or refute research findings. Comparing real-world experiences with the body of research on gas prices and transit demand provided a basis for the study's recommendations.

The study concluded with a set of strategies transit operators can employ to help accommodate transit demand, encourage new or infrequent riders to take trips on transit, and manage the costs associated with increased fuel price to operate transit vehicles. The careful and thorough analysis produced in this project offers valuable insight for transit planners and operators.

Project Manager: Erin Schepers, FDOT Public Transit Office
Principal Investigator: Justin T. Begley, University of South Florida
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