Florida Department of Transportation Research

Exploration of a Shift in Household Transportation Spending from Vehicles to Public Transportation
BD549-43

Although public transit use has grown in recent years, it has not increased enough to reduce traffic congestion. Many potential transit riders continue to use their own vehicles for local trips. Policy makers are interested in identifying incentives, such as enhanced services, that might encourage less vehicle ownership and more transit use. A related question is whether the money saved by reducing vehicle ownership would translate into enough rider revenue to offset the cost of enhanced services.

Circulator bus service in downtown Orlando.

Researchers from the University of South Florida Center for Urban Transportation Research performed a cost analysis study to determine the impact of reducing vehicle ownership on household finances and travel behavior. Data about vehicle costs came from the US Bureau of Labor Statistics. Data about the effect of vehicle ownership on travel behavior came from the National Household Travel Survey (NHTS) conducted by the US Department of Transportation. The researchers used the data to develop an Excel-based scenario analysis tool for evaluating the potential consequences of eliminating household vehicles.

The study showed that the savings realized by reducing the number of vehicles owned varied significantly according to the size and income of the household, and the type of vehicles owned. On average, a household could save approximately $3500 per year for each vehicle eliminated. However, even zero-vehicle households often had related expenses for items such as renting cars, driver's license renewal, or sharing expenses when riding with others.

The impact of eliminating a vehicle on travel behavior also depended on the relative wealth of the household. For multi-vehicle households, the impact could be minimal, and result in no shift to public transit. Households moving to zero vehicle ownership accounted for 88 percent of the increase in transit travel noted in the study.

The study results show that the primary impact of a policy designed to offset increased service costs by encouraging vehicle reduction would be on lower-income, zero-vehicle households. The number of new riders would not be sufficient to offset increased costs. The analysis tool developed by the researchers will allow planners to insert local data so that they can evaluate other scenarios for increasing transit ridership and reducing traffic congestion.

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For more information, visit: http://www.dot.state.fl.us/research-center