Alternative Gas Tax Options

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ABSTRACT

This paper describes and summarizes the first year of field operations for a National Evaluation of a Mileage-based Road User Charge. The study, which is the second phase of an evaluation of alternative funding mechanisms to potentially replace the current motor fuel tax, was authorized by the 2005 federal transportation reauthorization act (SAFETEA-LU). It is the first such study to access road user charging on a national and multijurisdictional scale.

During the first year of the study, 1,500 volunteer participants were selected from a pool of approximately 40,000 candidates to evaluate a system for automatic collection, reporting, and invoicing of mileage-based road use charges. Participants were recruited and selected from six areas throughout the country to mirror a variety of demographic characteristics of the U.S. population as a whole. The road user charge system is able to collect and apportion mileage charges to multiple jurisdictions, including federal, state, and local. The system utilizes an on-board unit (OBU) installed in the participant’s vehicle. The OBU contains a GPS receiver with an associated geographic database to identify the taxing jurisdiction(s) in which the vehicle is travelling. The OBU obtains vehicle miles travelled (VMT) information from the electronic odometer data available on the vehicle’s OBD-II bus. Mileage charges for each relevant jurisdiction are computed by the OBU and uploaded to a billing center via a wireless data link.

Throughout the study, participants are administered a series of surveys to assess their attitudes and perceptions regarding various aspects of the system and the overall concept of mileage-based charging.

Key words: fuel tax—road user charge