National Center for Sustainable Transportation

POLICY BRIEF

Road User Charge Administration: Lessons Learned from Fuel Taxes

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Issue

State and federal governments rely on fuel taxes to help build and maintain roads, bridges, and other transportation infrastructure. The federal gasoline tax has not been increased since 1993 and inflation, improvements in fuel efficiency, and an increasing share of electric vehicles on the road have created a revenue shortfall from fuel taxes in the Highway Trust Fund.

Many states have begun conducting pilot programs for a road user charge, or mileage-based user fee, which would impose a fee per mile for drivers rather than a charge per gallon of fuel. Benefits of this system are that it is not sensitive to changes in drivetrain technology to electric vehicles, can be designed to be less regressive than a gasoline tax, and can be easily adjusted for inflation. However, implementing a new tax would have challenges.

Researchers at the University of California, Davis assessed the administration of the gasoline tax, including collection and distribution of revenues, to determine what barriers and opportunities might exist for a road user charge funding mechanism.

Key Research Findings

Historical lessons from the gasoline tax suggest the need for flexibility in raising funds. Changing the gasoline tax, even to account for inflation, requires an Act of Congress. Tax increases are politically challenging to enact. A new road user charge could be designed to adjust automatically to account for factors like inflation, producing a more flexible revenue stream that is not reliant on regular legislative action.

Implementing a road user charge system could present opportunities for refining revenue allocations. With a new fee, Congress could approach disbursement from a clean slate and make new decisions regarding allocation among highways, mass transit, and other programs. Or, road user charge revenue could be put into the existing Highway Trust Fund to be reallocated to the states it was generated in. Funding allocation is currently based on the location of gasoline purchase. Road user charge revenue would likely be distributed based on the location of the miles driven. Such a system could more precisely allocate funds if miles driven were tracked through diagnostic equipment on board the vehicles.

A road user charge could retain many of the benefits of the existing gasoline tax. Through refinements over the past century, the gasoline tax includes several well-functioning traits that could be included in a road user charge system. These include: contract authority that allows the Federal Highway Administration to obligate authorized funds without further legislative action; funding distribution that balances the need for a national, connected transportation system while maintaining an equitable return on each state's contribution; funding flexibility for multi-year projects and contracts; and penalties to enforce compliance with federal transportation standards.

Fee collection would likely be the greatest challenge in implementing a road user charge program. The collection mechanism for the gasoline tax is relatively straightforward, occurring when gasoline leaves bulk storage terminals to be transported to end users (Figure 1), while a road user charge would need to be collected

from millions of individual sources. Multiple collection methods are being piloted in Oregon, California, Washington, and others, including collection through an onboard unit device, radio transponder, or "pay at the pump" mechanism.

Policy Implications

Current pilot programs have demonstrated that a road user charge program is feasible. The evidence suggests that a road user charge system would be more sustainable in the long-run than the gasoline tax, especially if designed in a way to adjust for inflation automatically. The next steps for implementation of a road user charge program will be the technical implementation of tracking miles, reporting, and the administration of the fees.

More Information

This policy brief is drawn from "Federal Road Charge Tax Administration Process," a report from the National Center for Sustainable Transportation, authored by Alan Jenn and Kelly Fleming of the University of California, Davis. The full report can be found on the NCST website at https://ncst.ucdavis.edu/project/federal-road-charge-tax-administration-process.

For more information about the findings presented in this brief, please contact Alan Jenn at ajenn@ucdavis.edu.

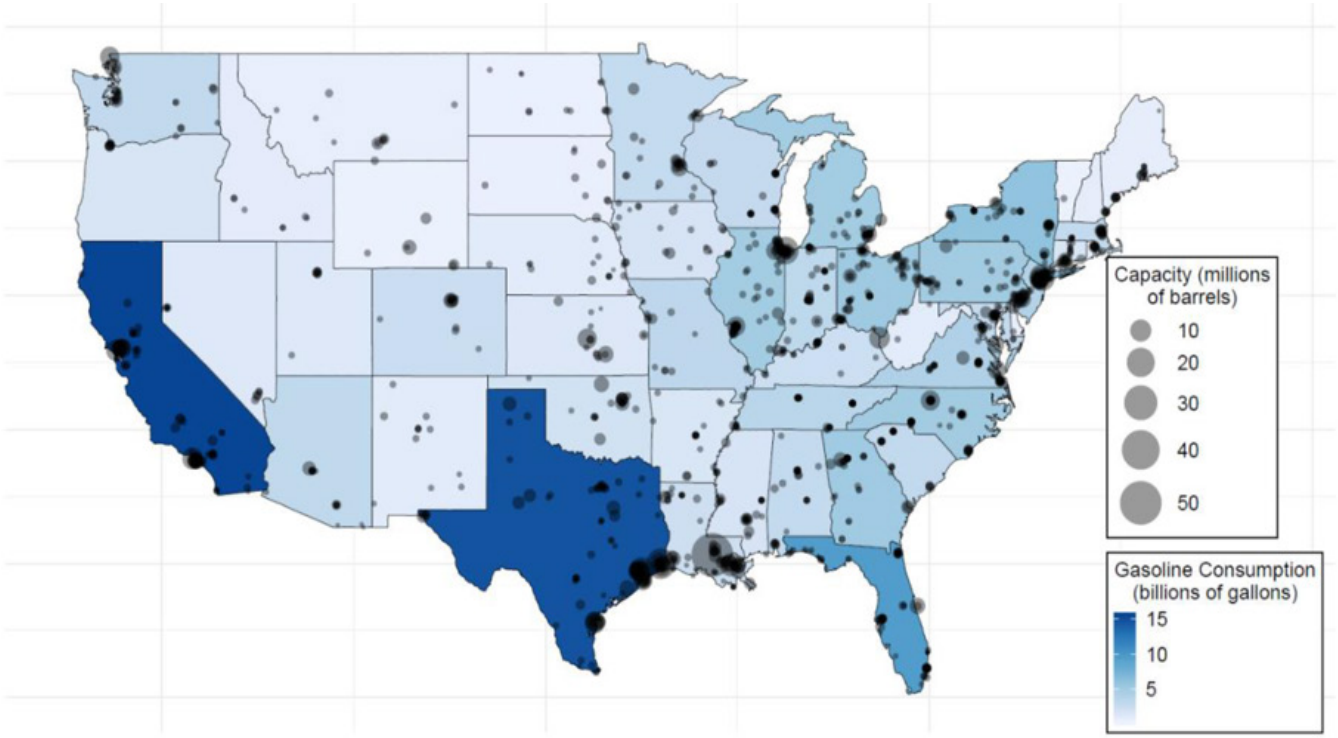

Figure 1. Gasoline, ethanol, and refined oil bulk storage terminal locations in the continental United States (dots) and non-federal highway gasoline consumption reported by each state (shading). The size of the dots corresponds with the terminals' storage capacity.

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