National Center for Sustainable Transportation
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POLICY BRIEF

Mileage Fees: An Equitable and Financially Viable Alternative to the Gas Tax

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Issue

In the United States, mileage fees, or road user charges, are being explored as an alternative to motor fuel taxes, often called "gas taxes." The search for alternatives is motivated by rising fuel efficiency standards and the increasing number of electric vehicles on the road. These factors have diminished the revenue-generating capacity of gas taxes. While mileage fees are a more stable and fuel-agnostic transportation funding source, they face criticism and low levels of public support due to concerns about costs, protection of drivers' location and privacy, and perceptions that they would raise taxes on low-income and rural households.

Researchers from the University of Vermont Transportation Research Center used data from over 360,000 Vermont vehicles to assess the financial and equity impacts of replacing the Vermont state gas tax with a revenue-neutral mileage fee of 1.5 cents per mile. The researchers then surveyed 623 car drivers in northern New England and 2,114 drivers around the US, before and after offering them an educational experience about mileage fees. The educational experience included videos and quiz-style questions. It covered reasons for a switch to mileage fees, fairness across income and community types, and a personalized cost comparison between the gas tax and mileage fee, based on each respondent's vehicle and travel information.

Key Research Findings

Basic knowledge about the gas tax is lacking. Most survey respondents did not know or were misinformed about how the gas tax is charged, when it was last increased, and what the revenue from the tax is used for.

Revenue-neutral mileage fees result in small annual cost differences for households. Most Vermont households would pay between $5 less and $50 more per year than they currently do with the gas tax, with an average change of $23 more. Even though the 1.5 cents per mile fee is revenue-neutral, households pay more on average to compensate for a decrease in contributions from larger commercial vehicles that have lower fuel economies.

On average, the increase in tax burden from switching to a mileage fee would be smaller for low-income and rural households than it would be for high-income and urban households (Table 1). Rural and low-income households tend to drive less fuel-efficient vehicles than urban and high-income households, so switching to a mileage-based system could save them money.

Annual Household Income	Community Type		
	Rural	Suburban	Urban
Less than $40k	+ $17	+ $32	+ $25
$40 - $85k	+ $17	+ $19	+ $25
More than $85k	+ $28	+ $27	+ $30

Table 1. Expected changes in annual costs for Vermont households when shifting from the gas tax to a revenue-neutral mileage fee (1.5 cents per mile).

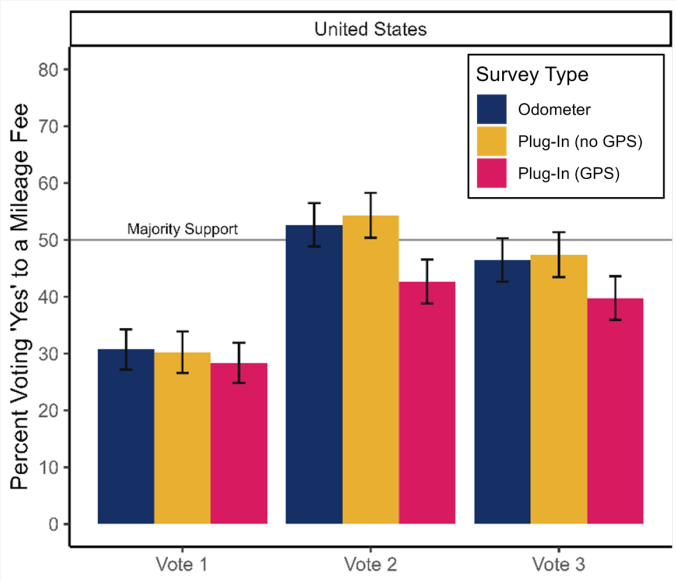

Figure 1. Changes in support of a mileage fee across the survey, with policy education provided after "Vote 1" and individualized cost information provided after "Vote 2". (The differently colored bars show that the effect of educational experiences on the level of support varies with how mileage data is collected.)

Support for mileage fees increases when costs are understood, and misconceptions are addressed. Education about gas taxes and mileage fees increased support for a mileage fee by 14% (Figure 1). Respondents were 5 to 11 times more likely to support a mileage fee after educational experiences, regardless of whether they learned they would likely pay more or less with a mileage fee.

Mileage fee support depends on the rate structure and how fees are collected. Sixty percent (60%) of the respondents said their support would depend on how their mileage information was collected, with most indicating that their support would increase if odometer readings were used. Support was also affected by mileage fee rate structures—such as flat vs. block vs. income-based rates.

Policy Implications

Mileage fees are more equitable than the gas tax and could save low-income and rural households money. On average, a flat rate mileage fee would shift costs now paid through the gas tax onto higher income and urban households. If separate revenue-neutral mileage fees are established for light-duty and heavy-duty vehicles, rural and low-income households would not only pay less than high-income and urban households, they could pay less than they currently do with the gas tax.

Education is effective. Providing basic education on the issues and unbiased, individualized cost information significantly increases support for a mileage fee to replace the gas tax.

Mileage collection methods matter. Providing a choice in mileage collection options is important to drivers. Rate structures are less important to drivers but can be used to increase support if coupled with other policy objectives, such as reducing pollution and assisting low-income households. The administrative costs of these additional policy features should be weighed against the benefits on a case-by-case basis.

More Information

This policy brief is drawn from "Education as a Key Factor in Policy Support: An Evaluation of National Mileage Fee Support as it Varies with Information and Attitudes," a report from the National Center for Sustainable Transportation, authored by Clare Nelson and Gregory Rowangould of the University of Vermont. The full report and associated publications can be found on the NCST website at https://ncst.ucdavis.edu/project/rowangould-2024-mileage-based-user-fees-study.

For more information about the findings presented in this brief, contact Clare Nelson at clare.nelson@uvm.edu or Gregory Rowangould at gregory.rowangould@uvm.edu.

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