Title

Comparing the Impacts of Mileage-Based User Fees and Gas Tax on Low-Income Drivers in Southern California

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Issue

California has set goals to reduce greenhouse gas emissions, prompting stakeholders in the transportation sector to research ways to reduce vehicle miles of travel (VMT) through possible pricing strategies to incentivize less driving. The current transportation funding mechanism relies on the state gas tax. This tax is not a sustainable source of revenue since increases in the fuel economy of vehicles — absent an increase in the tax — will reduce revenue generation.

It is in this context that the Southern California Association of Governments (SCAG), the metropolitan planning organization for the larger Southern California region, is investigating ways to incentivize less driving while generating adequate revenue to support the region's transportation system. One potential strategy for doing this is a mileage-based user fee, also called a VMT tax or VMT fee. Rather than taxing the use of gasoline, a VMT fee directly taxes driving based on the number of miles driven. The fee is expected to be implemented at a rate of $0.025 per mile.

One concern that needs to be addressed before introducing a VMT fee is how the program might affect low-income drivers. Although the percentage of households with zero vehicles is higher in the low-income group, 84% of low-income households own at least one vehicle and, therefore, would be affected by the mileage-based user fee program. SCAG is interested in understanding the equity implications of adopting a VMT fee. In addition, they would like to identify households — particularly low-income households — who live in areas that require long-distance travel and who may be disproportionately burdened by a VMT fee.

Study Approach

This study draws on data from the California add-on of the 2017 National Household Travel Survey (NHTS) to estimate the effects of a mileage-based user fee compared to the current gas tax system on drivers by income. The researcher analyzed 3,468 households that have at least one vehicle and have submitted vehicle information, regardless of whether they made a trip on the travel day, and used 1.5 times the 2016 federal poverty line as a yardstick for determining whether a household is low-income, adjusting for household size.

The researcher calculated the daily VMT of households by income and household location and descriptive statistics of characteristics of vehicles owned by households in the SCAG region. They then calculated the gas tax and VMT tax cost and cost burden relative to households' income and see the change in burden by income and household location.

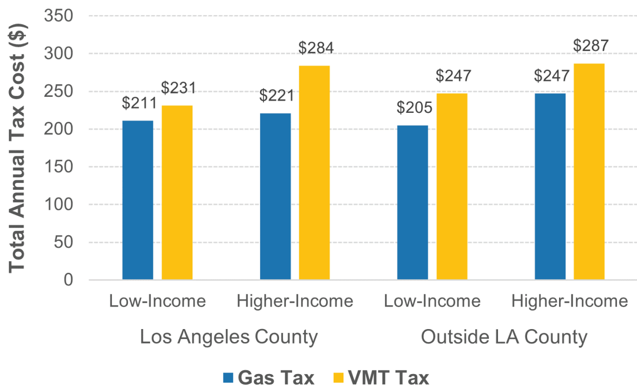

Figure 1. Median Annual Household Gas Tax and VMT Tax by Income and Location, SCAG Region

Research Findings

- In general, the VMT of higher-income households is about 20% higher than that of the lower-income households.
- Since low-income households own older, less fuel-efficient vehicles, they pay more than higher-income households, even if they drive the same number of miles.
- Low-income households generally pay less fuel taxes than higher-income households, but the cost burden is higher.
- Low- and higher-income households living in Los Angeles County pay a similar amount for the fuel tax. This might be because 8% of vehicles in higher-income households in Los Angeles County are not operated by regular gasoline or diesel, which means they are not paying fuel tax.
- Overall, all households would experience a tax cost increase, but the increase would vary by household location and income group. (Figure 1) Higher-income households would experience a greater increase in their total tax, but only a 0.03% increase relative to their income. Low-income households on average would pay 0.1% more of their income under the VMT tax.

Recommendations

- Low-income households will have less of a tax burden if the VMT fee policy is designed to price only trips generated during peak hours that low-income drivers are less likely to make. The benefit of this policy is that it can help reduce congestion; however, this policy greatly reduces the revenue for maintaining the transportation system.
- Consider designing an income-based tiered rate policy that offsets the cost for low-income households. Under this policy design, low-income households living in non-urban areas would benefit since they have higher VMT.
- Provide cash assistance to low-income households to alleviate their burden. The benefit of this is that they can decide where to allocate the funds they receive.
- Invest in transit and increase access to transit so that low-income drivers can avoid paying the VMT fees. The funds collected from a VMT tax scheme could help mitigate the burden on low-income households by subsidizing transit particularly in places where transit works best.
- If the VMT tax is implemented, there will be less incentive to drive fuel-efficient vehicles. Thus, designing a separate policy that encourages “green” vehicles would be helpful in achieving California’s goal of converting its entire fleet to electric vehicles.

Park S., Equity and Mileage-Based User Fees: An Analysis of the Equity Implications of Mileage-Based User Fees Compared to the Gas Tax in the SCAG Region (Master’s capstone, UCLA). [https://escholarship.org/uc/item/34p9f3ww.](https://escholarship.org/uc/item/34p9f3ww)

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