Alternative Revenue Mechanisms for the Roadway System

The fuel tax is the backbone of our infrastructure funding system, but its ability to generate revenues is under pressure—more vehicles are using less fuel or none at all. In response, many states are turning to alternative revenue mechanisms to help bridge the funding gap. TPEC researchers gathered data about current policies and practices in the US and abroad.

KEY FINDINGS

Special Registration Fees for Hybrid and EV Models

Across the US, 33 states—including Minnesota—have adopted a special registration fee for electric and hybrid vehicles (see map). These special registration fees are levied in addition to standard motor vehicle registration fees.

The registration fee rate for hybrid vehicles tends to be lower than the rate for EVs. As of 2023, the average registration fee rate for hybrid vehicles is 60 percent of the rate for EVs.

Some states have adjusted rates to increase the fee value, mainly in accordance with price indexes or by statute. Other states use differential rates based on vehicle weight, vehicle fuel efficiency, and vehicle classification.

Overall, revenues collected through these special fees are mainly used to support the statewide transportation system, and in some states to support the transportation efforts of local governments (counties and cities). A few states also dedicate some funding to support EV adoption and EV infrastructure such as charging stations.

The goal of the special fees is to ensure that all vehicle owners—regardless of their choice of propulsion—contribute equitably to the maintenance and expansion of the roadway system.

As of 2023, Minnesota charges an annual $75 special registration fee for EVs. Hybrid vehicles are not subject to the special registration fee.
**Mileage-based User Fees**

Another alternative revenue mechanism is the charge per mile, also known as a mileage-based user fee, distance-based user fee, and roadway user charge (RUC). The fees link taxation to the actual use of the roadway by a driver.

As of 2023, three states have enacted legislation to collect revenues from per-mile charges: Oregon, Utah, and Hawaii. The scope and characteristics vary; in Utah, for example, alternative fuel vehicle owners can choose to pay the RUC instead of a special surcharge. The Hawaii DOT will prepare and submit a plan to the legislature by the end of 2025 to transition all vehicles to a RUC by 2033.

Other states—such as Minnesota, California, Colorado, Pennsylvania, and Washington—have tested or demonstrated per-mile charges, while others have explored or researched this mechanism.

At the national level, the Bipartisan Infrastructure Law (BIL) requires the US Department of Transportation to conduct a national RUC pilot.

Outside of the US, some countries have implemented or are considering RUCs as a mechanism to fund their roadway system. For example, Germany and Belgium have launched RUC systems through tolls aimed at heavy goods vehicles.

**IMPACTS ON MINNESOTA ROADWAY REVENUES**

The adoption of alternative fuel vehicles in the US has seen remarkable growth in recent years. In addition, vehicle fuel efficiency has increased dramatically—by 35.4 percent in the past 20 years (EPA, 2022).

The resulting drop in fuel use erodes the motor-fuel tax base and reduces the revenues generated. This has implications for the maintenance and development of vital transportation infrastructure.

**For more information and additional analyses:**

TPEC welcomes public engagement and encourages you to contact us with your questions, comments, and research needs.

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**ABOUT THE STUDY**

Data for the analysis come from the Minnesota Transportation Finance Database, which was created by TPEC researchers and is updated regularly.

**FURTHER READING**

*Alternative Revenue Mechanisms for the Roadway System* (Nov. 2023), Camila Fonseca-Sarmiento, Jerry Zhao, and Amruthy Shetty