



## DIVISION OF RESEARCH ISSUE BRIEF

# Exploring the Gas Tax and Mileage-Based User Fee

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### Overview

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The case for the gas tax begins with the State of Oregon in 1919, when Oregon became the first state to implement the motor fuel tax. Oregon's innovative move set a precedent, leading 35 states to adopt the gas tax by 1995, which collectively generated upwards of \$79 million in total revenue. The states reasoned that the collected revenue from the gas tax was to be used for the repairs and damages done to highways and roads. However, by 1932, the federal government recognized the potential of the gas tax, but for different purposes. The year 1932 was in the early stages of the Great Depression, and the federal government was grappling with budget deficits. To close a gaping budget, a 1-cent gas tax under the Revenue Act of 1933 was imposed as an emergency tax. In its first year, \$124.9 million of tax was raised, prompting Congress to raise the tax to 1.5 cents and to permanently levy the gas tax in the Revenue Act of 1941.

The gas tax would later be increased 8 times to close budget gaps and meet revenue needs. By 1993 to decrease federal budget deficits, the gas tax was set at 18.4 cents. Three decades later, and the 18.4 cents gas tax has remained unchanged.

The gas tax in its initial implementation was a reliable source of revenue that funded various road and highway projects. Under a gas tax system, the purchase of motor fuel per gallon is taxed. Currently, the federal gas tax is used to fund the Highway Trust Fund, which receives 84% of its revenue from motor fuel tax, and 16% from other sources like diesel, heavy trucks and trailers sales tax, tires, and heavy vehicles annual use tax. This reliance on the motor fuel tax has slowly eroded the purchasing power of the fund over time because the federal gas tax is not pegged on inflation. And with more vehicles becoming fuel efficient, resulting in decreased fuel purchase, but higher vehicle miles driven, revenue is likely to decrease.

As the landscape of the transportation industry continues to evolve, various factors and trends are emerging that will impact both federal and state transportation trust funds.

## Current Trends

- **Sale/Production of Alternative Fuel Vehicles is Increasing** Between April and June of [2023](#), 295,000 EVs were sold, 48% higher than 2022. This figure does not include alternative fueled vehicles such as plug-in hybrid vehicles (PHV) or hybrid vehicles (HV). [EVs made up 8.5%](#) of all new vehicles sold or leased in February of 2023. [Cox automotive](#) estimates that by the end of 2023, electric vehicles will make up 1 million of total vehicles on the road in the US.
- **EV Infrastructure.** In in the second quarter of 2023 there was a [4.0% increase](#) in the number of charging ports. The highest increase in the type of charging ports was in DC fast ports, 6.1%. The mid-Atlantic region had the largest increase in public charging, 7%.
- **Government regulations** are also pushing for more EVs on the road, eight state have either regulated CO2 emissions from EVs or banned the sale of new vehicles running on an internal combustion engine by a certain year. This demonstrates, especially for the state of Delaware, that the Mid-Atlantic region is moving towards a zero-emission future.

## Delaware's 23 cents / Gallon Gas Tax

- **Year last increased.** 1995.
- **Variability of Gas tax.** Delaware's motor fuel tax is not pegged on gas prices, or the consumer price index (CPI).
- **Share of Total Revenue.** In 2022, motor fuel tax revenue made up 22.8% of all TTF revenues, and 22% in 2023. Revenue from tolls made up the largest component of revenue, making up 22% of total TTF revenues in 2023, and 22.8% in 2022, however, from FY2022 to FY2023 total toll road revenues decreased by 5.3%

## Gas Tax in Neighboring States

2023 Gas Tax (cents/gallon)	Year of Last Increase	Gas Tax Structure
Delaware .23	1995	N/A
Maryland .478	2013	Tax varies with gas price and CPI
Pennsylvania .61	2015	Tax varies with gas prices
New Jersey .423	2016	Tax varies with gas prices and revenue collections
New York .181	2013	Tax varies with gas prices

Table 1. Source ([National Conference of State Legislatures](#))

- **Motor fuel Tax Share of Total revenue.**

Delaware	23%
Pennsylvania	60.2%
Maryland	39%
New Jersey	30%
New York	9.60%

## Recent Fuel Tax Legislation

Thirty-six states have raised or reformed gas taxes since 2010. In [24 states and Washington, D.C.](#), the gas tax/motor fuel tax is adjusted or fixed to inflation or average gasoline prices.

- **Maryland ([HB 1515](#))** increased the gas tax from 43.5 cents / gallon to 47.8 cents / gallon. (2013)
- **New Jersey ([Bill A12 ScaSa\(2R\)](#))** increased the per gallon tax from 14.5 cents to 37.5 cents. (2016)
- **Utah ([HB 301](#))**, decreased the gas tax from .364 cents to .345 cents / gallon, and increased EV registration fees, and imposed a tax on the sale of electricity for EV charging. (2023)
- **Minnesota ([HB 2887](#))**, is set to index gas tax to the Minnesota Highway Construction Index beginning January 1, 024. (2023)

## Mileage-Based User Fee (MBUF)

Since 2016, **13 individual state pilot programs**, and two coalitions (**The Eastern Transportation Coalition (TETC)**, **Western Road Usage Charge Consortium (RUC West)**), have used Surface Transportation System Funding Alternatives (STSFAs) funds, now replaced by the Investment Infrastructure and Jobs Act (IIJA). The aim for these pilot programs is to test the feasibility of a regional MBUF system and to also address any nuances of the policy. Delaware is a member of the TETC, which makes up 17 states and D.C.

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### Why a MBUF Needs to Be Explored

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- **Decrease in motor-fuel consumption.** The current gas tax relies heavily on the consumption of motor fuel. However, as more fuel-efficient vehicles make it to public roads, consumption of motor fuel is likely to decrease, and miles driven is likely to increase, resulting in a decrease of revenue need to maintain public roads.
- **Affordability of fuel-efficient vehicles.** In an effort to reduce greenhouse emissions, states are making fuel-efficient vehicles more affordable through tax credits and rebate programs. States are also reducing gas emissions by phasing out the sale of gas-powered vehicles.

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### Mechanisms of MBUF

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#### Vehicles Subject to MBUF

- The ideal MBUF system would apply to all types of vehicles. However, some voluntary MBUF programs apply only to highly-fuel efficient vehicles (EVs, Plug-in-hybrid, Gas-hybrid).

#### Mileage Reporting Options

- A device, which can be attached to the on-board diagnostics port with GPS or a plug-in device without GPS.
- A smartphone app which would require participants to capture odometer images.

#### Rate Setting

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- A tiered system based on fuel efficiency of each vehicle is used to calculate how much each participant would pay. This means that the more fuel-efficient a vehicle is, the less rate they would have to pay.
- A single, “revenue neutral,” rate is applied equally to all vehicles regardless of fuel-efficiency.

#### Authorized Agencies

The MBUF system involves close collaborations among various stakeholders.

- **The Department of Transportation.** Enforcing the implementation, overseeing the system, and collection of fees.
- **Private vendors** will also be engaged by providing the necessary technology needed to track mileage and transmit data to the Department of Transportation.
- **Account managers** play a critical role in the managing participant accounts and transactions.

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### Policy Considerations

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**Privacy** stands as the most cited issue for participants in the pilot programs. Many state pilot projects have taken measures to address these concerns, including providing alternative reporting options, utilizing third-party vendors, establishing safeguard and retention policies relating to personal data.

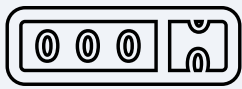
**Equity.** Participants in the road usage pilot programs voiced concerns that under a MBUF, [rural drivers](#), low income households who drive low-fuel efficient vehicles, and those that tend to drive longer distances will pay more in MBUFs than motor fuel tax.

**Cross-Border Conflicts.** Travel across state boundaries is a particular issue found mainly in the east coast/mid-Atlantic northeast of the country. Identifying how to implement a fee based on out-of-state miles is complex.

# COMPARING

## Mileage- Based User Fee & Gas tax

Mileage-based user fee is a fee on number of miles driven



Gas tax is a tax on the purchase of motor fuel per gallon



### SUBJECT VEHICLES

All vehicles including alternative fuel vehicles



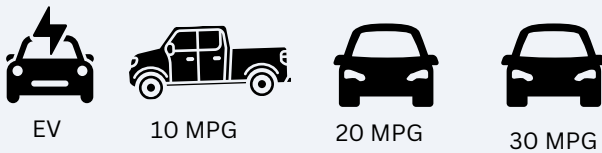
All vehicles that consume motor fuel. **Electric vehicles, or alternative fuel vehicles do not pay gas tax**



### RATE SETTING





Depends on the per-mile rate established by the State, there are two options :

#### Single- Rate, Delaware









1 cents / mile

#### Rate Based on Fuel-Efficiency, Delaware

 EV	.40 cents / mile
 10 MPG	1.44 cents / mile
 20 MPG	1 cents / mile
 30 MPG	70 cents / mile

#### State Fuel Tax

DE		 23 cents / gallon
MD		47.8 cents / gallon
PA		61 cents / gallon
NJ		42.3 cents / gallon
NY		18.1 cents / gallon











**Federal Gas Tax**  
18.4 cents / Gallon



**41.4 cents / Gallon in Delaware**

### SAVINGS COSTS

Assuming 1,000 miles a month, with fuel price at \$3.20 per gallon (includes Delaware's 23 cents per gallon tax and Federal gas tax 18.4 cents per gallon) (out-of-state miles not calculated)

	+\$10	+\$2.10	-\$1.5	-\$13
<b>Scenario 1</b>				
Single-Rate	EV	30 MPG	20 MPG	10 MPG
Gas tax	\$10	\$108.73	\$158.2	\$306
	\$0	\$106.33	\$159.7	\$319
<b>Scenario 2</b>	+\$4	-\$0.6	-\$1.5	-\$9
				
Rate- Based on Fuel Efficiency	EV	30 MPG	20 MPG	10 MPG
Gas tax	\$4.00	\$105.73	\$158.2	\$310
	\$0	\$106.33	\$159.7	\$319



[Click here to Read Full Report](#)

[Click here to Calculate your MBUF](#)

The Eastern Transportation Coalition Report

# FAQS

## MILEAGE-BASED USER FEE

### What is the problem with the current funding model?



More fuel-efficient Cars



Declining Purchasing Power



Heavier Vehicles on the Road

The Federal gas tax has remained unchanged since 1993, similarly, Delaware's gas tax has not changed since 1995. Due to inflation and the consequent increase in the cost of materials and labor, the gas tax has depreciated in purchasing power. In addition, the increasing sale and production of Electric vehicles and highly-fuel efficient vehicles has allowed more vehicles to consume less motor fuel - less gas tax - and drive longer distances. Furthermore, vehicle weights have been increasing since 1980, heavy vehicles- gas and electric- will take a heavier toll on public roads, requiring more frequent road maintenance, and more funding.

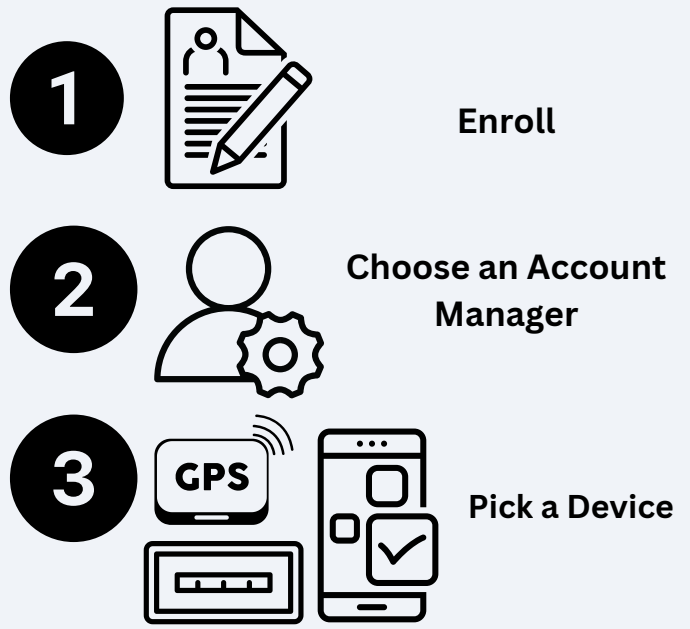
### How does the Mileage-Based User Fee work?

The MBUF is intended to replace the gas tax, both at the federal and State level. However, given that the MBUF is in its initial stages, drivers have the option to enroll in the MBUF pilot programs (some).

Upon enrollment, each driver will choose an account manager, either public or private, who will collect fees and track mileage.

Three device options would be available to drivers. A device with enabled GPS that tracks the location and miles of drivers or a device that only tracks miles. Other options would include a software app that can be installed on mobile devices.

After the device is set up, you will be charged a rate per mile, and will receive regular statements of road charges.



### Why is there an option to have GPS enabled?

The technology currently available to accurately track mileage is limited without the global positioning system enabled. Several pilot programs have added valued-features to drivers who choose GPS enabled devices. These features include tracking location of the car in a parking lot, receiving diagnostic report of vehicles' condition, setting safe zones, and receiving alerts when family members leave the safe zone.

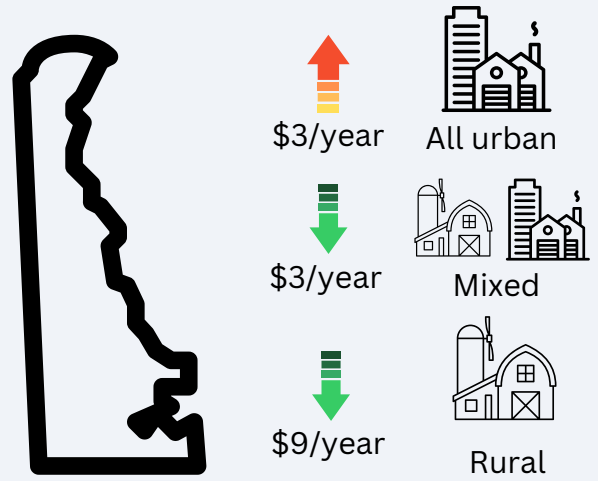


Other pilot programs have established safeguards and retention policies regarding personal data. This included enforcing the data collected on drivers to be deleted within 30 days. Similarly, other pilot programs limited the retention of personal data and anonymized data.

### Will the MBUF put a cost burden on rural, low-income drivers?

Rural drivers tend to make longer trips, but they also make a few of them. Under a single-rate and a variable rate based on fuel-efficiency, rural drivers will be paying less compared to what they pay in gas tax. This is because rural and low-income drivers tend to drive low fuel-efficient vehicles, while urban drivers drive newer more fuel-efficient vehicles. In a gas tax system, rural drivers are paying more than urban drivers even if they are driving the same miles.

MBUF is estimated to change household expenses by about \$1.50 a month



### Is the MBUF more expensive for drivers with highly-Fuel efficient vehicles?

Highly-fuel efficient vehicles will be charged more under the MBUF compared to the current tax model. However, highly-fuel efficient vehicles will pay considerably less compared to low-fuel efficient vehicles, when considering the total cost paid at the pump by gas powered / low-fuel efficient vehicles.

	EV	20 MPG	10 MPG
Single-Rate	\$10	\$158.2	\$306
Rate- Based on Fuel Efficiency	\$4.00	\$158.2	\$310

