Exploring Mileage-Based User Fees as a Solution to Transportation Funding

Georgia Joint Study Committee of Electrification on Transportation
November 2, 2022
Why are we talking about transportation funding?
We need our roads.
Drivers are paying less fuel tax per mile driven.
The transportation fleet is changing.

<table>
<thead>
<tr>
<th>Fuel Efficiency</th>
<th>Mileage</th>
<th>Fuel Tax Paid Per Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Efficiency</td>
<td>(5-15 MPG)</td>
<td>$36</td>
</tr>
<tr>
<td>Average Efficiency</td>
<td>(15-25 MPG)</td>
<td>$18</td>
</tr>
<tr>
<td>High Efficiency</td>
<td>(25-45 MPG)</td>
<td>$10</td>
</tr>
<tr>
<td>Hybrid</td>
<td>(45-55 MPG)</td>
<td>$7</td>
</tr>
<tr>
<td>Electric</td>
<td>(FUEL NOT NEEDED)</td>
<td>$0</td>
</tr>
</tbody>
</table>

*Calculations are based on state fuel tax rates for North Carolina.
Virginia: Fuel tax revenues projected to decline by 2040

- ~31% reduction in gas tax collections due to increased fuel efficiency

Source: KPMG Analysis
There is a gap in public understanding.

Example: Pennsylvania
We need a new & more sustainable way to fund transportation.
What is an MBUF?

Most states are looking at MBUF to replace the gas tax.

From this...

HOW MUCH GAS YOU USE

To this...

HOW MANY MILES YOU DRIVE
How MBUF (May) Work:

1. **Vehicle Mileage/Other Data**
   - Mileage reporting device collects and transmits mileage and fuel consumption data to Account Manager.

2. **Invoice**
   - Account Manager performs transaction processing and sends invoice to vehicle owner.

3. **Payment**
   - Vehicle owner makes MBUF payment.

4. **MBUF Transfer**
   - Account Manager transfers MBUF to State with associated reports (e.g., aggregated data).

5. **Oversight Functions**
   - State provides certification, auditing, and oversight of Account Manager.

**Account Managers**
How MBUF (May) Work: Mileage Reporting

- Plug-in device
- Flat fee
- GPS and non-GPS options
- In-vehicle telematics
- Odometer reading
Why Should We Pay Attention to MBUF?
2016: MBUF Exploration Looked Like This
Authorized grants to states for demonstrating:

- ✔ User-based alternative revenue mechanisms
- ✔ Utilization of a user-fee structure
- ✔ A solution to maintain the future long-term solvency of the Federal Highway Trust Fund

Provides $95 million over 5 years

Section 6020 of the Fixing America's Surface Transportation Act
Who is the Eastern Transportation Coalition?

17 States + D.C. and 200+ agencies

- 40% of the U.S. population
- 38% of the nation’s jobs
- 35% U.S. vehicle miles traveled
- 21% of the U.S. road miles

Connecting for Solutions
THE COALITION STRUCTURE

PROGRAM TRACK COMMITTEES

- TRANSPORTATION SYSTEMS MANAGEMENT & OPERATIONS
  - VPP MARKETPLACE
  - DATA TOOLS & USER GROUPS
  - TRAVELER INFORMATION
  - TRAFFIC INCIDENT / EVENT MANAGEMENT
  - OPERATIONS ACADEMY

- FREIGHT
  - FREIGHT PLANNING
  - FREIGHT DATA
  - TRUCK PARKING
  - SUPPLY CHAIN PERFORMANCE
  - FREIGHT ACADEMY

- INNOVATION IN TRANSPORTATION
  - CONNECTED & AUTONOMOUS VEHICLE
  - TOLLING RECIPROCITY
  - MILEAGE-BASED USER FEE
Coalition's STSFA Grant Work aims to bring the nation’s understanding of MBUF forward.

Topics explored in FIVE grants awarded to the Coalition:

- **Out-of-State Mileage**
  How will travel across boundaries be handled?

- **Tolling**
  How can lessons learned from tolling be applied to MBUF?

- **Public Acceptance**
  What is the best way to discuss and design an MBUF system?

- **Trucking**
  How does a user fee fit into current requirements?
A Timeline of Our Work

Phase 1
- Launched 1st passenger vehicle pilot on East Coast (transportation stakeholders)

Phase 2
- Conducted nation’s 1st multi-state commercial truck pilot

Phase 3
- Expanded passenger vehicle pilots to include general public
- Began specialized passenger vehicle pilots in 5 states
- Launched nation’s 1st national commercial truck pilot

We are here:
- ONE MPG DOESN'T WORK

Phase 4
- Launch expanded passenger vehicle and truck pilots

Phase 5
- Launch 5th phase of STSFA-funded work

2018, 2019, 2020, 2021, 2022
Overview of TETC Pilot Work

**Passenger Vehicle Pilots**
- 1,500+ Passenger Vehicles
- 14 States Represented Among Participants
- 3,000 Public Opinion Survey Respondents

**Commercial Vehicle Pilots**
- 270 Commercial Trucks
- 11M Miles traveled in 2020-2021
- 48 States Traveled + Canada

**Completed 3 of 5 awarded grants**

**Participant Surveys & Focus Groups**
- Tolling, Congestion Mitigation & Rate-Setting Studies

**Geographic Equity Analysis**
- Participant Surveys & Interviews
- Motor Carrier Working Group
- Rate-Setting Studies

NATION’S FIRST MULTI-STATE & NATIONAL TRUCK PILOTS
**TETC Phase 4**

**EQUITY ANALYSIS**
- Geographic (ME)
- Socioeconomic (PA, NC, NJ)

**EDUCATION & OUTREACH**
- External Stakeholder Engagement
- Public Opinion Surveys in ME and VA
- Outreach Campaign in VA
- Customized Material

**EXPANDED CAR PILOT**
- Adding General Public (NC and NJ)
- Telematics
- Manual Option
- Rate-Setting

**EXPANDED TRUCK PILOT**
- Fleet Diversity
- Rate-Setting Based on Weight
- Cross-Border Travel

**SUBJECT MATTER EXPERT ENGAGEMENT**
- Motor Carrier Working Group
- Steering Committee
- Peer Exchange Workshop

**SYNERGIES & APPROACHES**
- Clearinghouse
- Examining Tolling Back Office Synergies
Voluntary MBUF Programs are Growing
Virginia has a live MBUF program as of July 1.

What:
• Voluntary MBUF program
• Option in lieu of Highway Use Fee (HUF)
• HUF=85% of lost fuel tax of high efficient vehicles

Who:
• Drivers of >25 MPG vehicles whose vehicle registration is up for renewal

So What:
• Links payment to miles driven for those driving less than average Virginians (11,600 miles per year)
Oklahoma Driving on Road Infrastructure with Vehicles of Electricity (DRIVE) Act of 2021

What:
• Driving on Road Infrastructure with Vehicles of Electricity (DRIVE) Act of 2021

Who:
• Drivers of electric vehicles

How:
• Tax of $0.03 per kilowatt hour to charge an electric vehicle
• Revenue from taxes will support transportation funding
# VT Road Usage Charge Concept Exploration

## Applicability

<table>
<thead>
<tr>
<th>VT Registered Vehicles</th>
<th>Fee Mechanisms</th>
<th>Possible Eligible Vehicle Types</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Flat Fee alone or with</td>
<td>• All Electric</td>
</tr>
<tr>
<td></td>
<td>• Mileage Based User Fee</td>
<td>• Plug-in Electric Hybrid</td>
</tr>
<tr>
<td></td>
<td>• Odometer Based</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Wireless Automated Reporting</td>
<td></td>
</tr>
<tr>
<td>Out of State Vehicles</td>
<td>• Per Kilowatt Hour Fee at Public Charging</td>
<td>• All Electric</td>
</tr>
<tr>
<td></td>
<td>• Plugs in to Electric Hybrid</td>
<td>• Plug-in Electric Hybrid</td>
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2022: A Very Different MBUF Landscape

- Recipients of STSFA Grants
- Legislation for Voluntary MBUF Program
- MBUF Studies through RUC West Membership
- MBUF Studies through Eastern Transportation Coalition
- Conducted/Conducting MBUF Pilot through Eastern Transportation Coalition
What Have We Learned About MBUF?
“You carry your cellphone everywhere you go. You use your GPS most all the time. You’re being tracked regardless, so one more piece of data…put to some other useful function, I think, is a better way of promoting it.”

— North Carolina Focus Group

“Even if you were tracking with GPS, my phone and other apps do that as well. I use E-Z Pass on toll roads and that tracks me.”

— New Jersey Focus Group

Real-world pilots reduce privacy concerns.
For drivers, choice is key.

2020-2021 Pilot with Transportation Stakeholders

- 83% chose GPS-based mileage reporting
- 89% were satisfied with the device they chose
- 17% chose non-GPS mileage reporting
- 94% were satisfied with the device they chose
Rural drivers may fare better with MBUF.

Annual Decrease Under MBUF

- $9
- $34
- $17
- $13

Reporting Classes:
- Large Metro Urban
- Large Metro Suburban
- Small Urban
- Mixed
- Rural
EV owners often support MBUF.

AAA Study: Drivers buy EVs primarily because of environmental impact.

1/3 of Oregon’s voluntary participants are EV drivers

Plug In America supports the eventual development of a road usage charge program.
Why? The biggest cost is fuel – not the fuel tax.

- **EV 30kwh per 100 miles**
  - Average Cost:
    - $0
    - $50
    - $100
    - $150
    - $200
    - $250
    - $300

- **Total Fuel Costs**, **Federal Fuel Tax**, **State Fuel Tax**

- **6.30 Average MPG More Efficient Truck**
- **4.50 Average MPG Less Efficient Truck**

- **15 Average MPG Dodge Dakota**
- **35 Average MPG Honda Civic**
- **EV 30kwh per 100 miles Average**

- **More Efficient Truck**
  - **Less Efficient Truck**
A Tale of Two Cars

2009 Toyota Camry

- 25 MPG
- $173 Annual State Fuel Tax Paid

2019 Toyota Camry (Hybrid)

- 52 MPG
- $83 Annual State Fuel Tax Paid

Fairness resonates.
MBUF Technology can handle cross-state travel.

13% of 1.9 million miles traveled in our 2020-2021 pilots were accrued out of state.
Where Does This Leave Us?
Fuel Taxes are Teetering on the Edge

The fuel tax cannot sustain transportation budgets on its own.

MBUF isn’t the only answer, but now is the time to start searching for solutions.
We need pilots, focused outreach, and legislation.
Potential Grant Activities

- Key stakeholder pilot
- Gather feedback
- Household equity analysis
- GA based carrier in truck pilot
- Education & outreach material
There are many ways to talk about MBUF

**Save Money**
- Hybrid and electric owners...
- Save money by paying highway use fees as you drive.

**Innovation**
- You're driving the next generation of vehicle...
- Now plug into the future of highway fees.

**Pay Your Fair Share/Pro-Infrastructure**
- Your high-efficiency vehicle hates potholes.
- Help us fix them on YOUR terms.

**Climate Future**
- The health of our earth is important to you...
- Now help contribute to the health of our roads.

MESSAGE TESTING IN VIRGINIA
Elements of MBUF Legislation

- Rates
- Privacy
- Eligible Vehicles
- Mandatory vs. Voluntary
- Admin
- Transition
Eligible Vehicles
- Start with EVs
- Consider including high efficiency vehicles
- Exclude vehicles that currently pay high fuel tax

Mandatory vs. Voluntary
- Waive registration surcharges for volunteers
- Use a voluntary period to work through implementation details

Admin
- Link MBUF payment and compliance with vehicle registration
- Default to registration surcharge for those who avoid mileage reporting or payment

Rates
- Set initial rate to align with average vehicle fuel taxes
- Cap MBUF at amount of registration surcharges for volunteers, raise over time
- Credit fuel taxes paid toward MBUF but no refunds

Privacy
- Provide choices for miles reporting
- Enact requirements to minimize necessary data collection

Transition
- Require new vehicles to pay MBUF after a certain model year, after transition
- Avoid mandating MBUF on vehicles below a certain MPG

Considerations for MBUF Legislation
Thank you!

https://tetcoalitionMBUF.org

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