Bringing MBUF Exploration to the East Coast

Dr. Patricia Hendren
Executive Director, I-95 Corridor Coalition
Insights to share from I-95 MBUF Study

1. The problem is here and now

2. Opportunities abound

3. I-95 MBUF study overview

4. Phase I pilot launch
THE PROBLEM
Transportation revenue is declining

Vehicle Miles Traveled

Gas consumption with increased efficiency

VMT Growth

Revenue loss due to increased fuel economy

Year

Transportation fleet is changing

<table>
<thead>
<tr>
<th>Efficiency Type</th>
<th>Average Monthly Gas Tax Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Efficiency</td>
<td>$58.20</td>
</tr>
<tr>
<td>Average Efficiency</td>
<td>$29.10</td>
</tr>
<tr>
<td>High Efficiency</td>
<td>$16.63</td>
</tr>
<tr>
<td>Electric</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

Miles driven vs. Average monthly gas tax paid graph:

- LOW EFFICIENCY: $58.20
- AVERAGE EFFICIENCY: $29.10
- HIGH EFFICIENCY: $16.63
- ELECTRIC: $0.00

I-95 Corridor Coalition Mileage-Based User Fee Study
Transportation fleet is weakening

39%
Decrease in purchasing power of gas tax since 1993

I-95 Corridor Coalition Mileage-Based User Fee Study
Drivers have no idea how little they are paying in gas tax.
OPPORTUNITIES
1 million times more memory

64G of memory on iPhone X

64K of memory on Lunar Module

Source: Popular Mechanics
1 semi-autonomous car generates 4 terabytes of data a day
MORE DATA THAN 3,000 PEOPLE
People are more connected & demanding

- **411 Million devices** worth $34 billion
- **92%** Of adults now have a cell or smart phone
- **$6.5 Billion** in revenue by 2019
- **$57.6 Billion** a year on the on-demand economy

WEARABLE TECH  
SMART PHONES  
RIDESHARING  
ON-DEMAND SERVICES

I-95 Corridor Coalition Mileage-Based User Fee Study
MBUF is the intersection of these trends
East Coast voice is needed
I-95 Coalition STSFA Grants

**Purpose:** Explore the feasibility of replacing the gas tax with a mileage-based user fee program in a multistate environment

- **OUT-OF-STATE MILEAGE**
  How will travel across boundaries be handled?

- **TOLLING**
  What is the relationship between tolling and MBUF?

- **TRUCKING**
  How does a user-fee fit into current requirements?

- **AMENITIES**
  Will value-added amenities help with public acceptance?
Important to Remember:

The I-95 Corridor Coalition members want to promote a better understanding of why investing in transportation is important, and why the current fuel tax does not provide a long-term and equitable solution in this regard. The Coalition, representing transportation agencies along the entire Eastern Seaboard, believes exploring the feasibility of a MBUF solution is important; for now, however, the Coalition is neutral if MBUF is the ultimate solution.
OOS travel happens everyday

- The I-95 MBUF study will examine issues associated with the large amount of out-of-state (OOS) travel in the corridor.
  - For example, over **4 million person trips** are made annually by car between the Washington DC metropolitan area and the Philadelphia, Pennsylvania area.
  - And, **16%** of Delaware residents **work in a another state** while **15%** of Delaware workers **live in another state**.
Toll roads are common in the corridor.
Intersection of Tolling and MBUF

- Interoperability
- Using toll data to support MBUF
  - Estimate out-of-state travel
- Using MBUF to support toll collection
  - I-95 (Two-way barrier toll)
  - Delaware Memorial Bridge (One-way barrier toll / entering DE)
  - Delaware SR-1 (Toll depends on where vehicle enters / exits)
- Role of back office centers in MBUF
Exploring “Value-added” in cars

“Technology and drivers’ needs and wants are turning vehicles into a transportation ‘Fitbit’”

Source: I95CC Round II STSFA Proposal
What do people want?

- Geofencing
- Battery Health
- Remote Emissions
- Engine Health
- Trip Log
- Driver Scores
- Gamification
- Find My Car
5 Billion TONS OF FREIGHT

Almost 40% of America’s GDP passes through the Corridor
Multi-State Truck Pilot- Phase II

• The I-95 Corridor Coalition truck pilot, slated to begin by the end of the year, will include 50 vehicles equipped with EROAD in-vehicle hardware for six months.

• The EROAD system will record accurate GPS-based mileage data and use applicable formulas to support MBUF.
Phase I Pilot: May 1 – July 31

149 participants

77% Plug-In Device with Location

16% Plug-in Device w/o Location

7% Android Phone w/ Location

13 coalition states with residents participating
Participating in the Phase 1 Pilot

Plug-In Device with Location

Trip Logs
Vehicle Health
Battery Voltage
Driver Scoring
Achievements
Safe Zones
2MyCar

I-95 Corridor Coalition Mileage-based User Fee Study
Battery is fully charged
Last Reading: 05/17/2018 2:38 PM
Voltage: 12.5
Low Battery Events This Month: -
Voltage level is OK
### TRIPS

#### Last 7 days

<table>
<thead>
<tr>
<th>DATE</th>
<th>START</th>
<th>END</th>
<th>EVENTS</th>
<th>MILES</th>
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<td>4:38 PM</td>
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<td>6:10 PM</td>
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<td>3:57 PM</td>
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<td>0.0</td>
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</table>

*Any anomalies in route shown do not affect your Mileage-Based User Fees*
**ACCOUNT SUMMARY**

<table>
<thead>
<tr>
<th>Funds in Wallet</th>
<th>Mileage-Based User Fee (MBUF)</th>
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<tbody>
<tr>
<td>$48.50</td>
<td>Mileage Based User Fee $3.07</td>
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<tr>
<td></td>
<td>Fuel Tax Credit - $3.13</td>
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<tr>
<td></td>
<td><strong>MAY MBUF</strong> - $0.06</td>
</tr>
</tbody>
</table>

**Current Usage**

<table>
<thead>
<tr>
<th>Date</th>
<th>State</th>
<th>Billable Miles</th>
<th>Mileage-Based User Fee (MBUF)</th>
<th>Fuel Tax Credit ($)</th>
<th>Net MBUF ($)</th>
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</thead>
<tbody>
<tr>
<td>04-15-2018</td>
<td>MD</td>
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<td>$0.32</td>
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<td>$0.00</td>
<td>$0.00</td>
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</tbody>
</table>
Learn More

www.i95coalitionmbuf.org