

THE EASTERN TRANSPORTATION COALITION
MILEAGE-BASED USER FEE STUDY

The Eastern Transportation Coalition* Mileage-Based User Fee Study

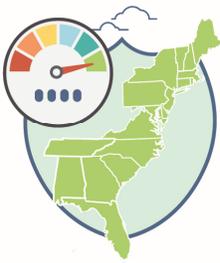
2018 – 2019 Multi-State Truck Pilot Executive Summary

July 2020

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**Formerly the I-95 Corridor Coalition*



Executive Summary

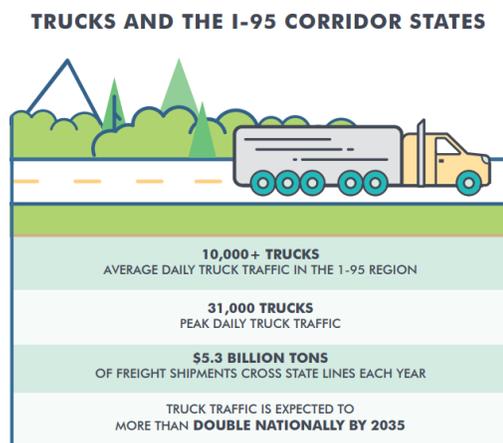
The Nation's First Multi-State Truck Pilot

The trucking industry is the backbone of the nation's economy, carrying 73 percent of domestic cargo by value and over 67 percent by weight in 2018¹. Freight carried by other modes often depends on trucking to provide access to air cargo, railroad, and seaport terminals. Nearly every sector of the economy relies on trucks to transport their goods.

Recognizing that the motor carrier industry has a vital role in the U.S. economy and is a heavy user and funder of the transportation system, the Eastern Transportation Coalition (formerly the I-95 Corridor Coalition)², as part of its ongoing mileage-based user fee (MBUF) research under the U.S. Department of Transportation "Surface Transportation System Funding Alternatives" (STSA) program, conducted the nation's first multi-state truck pilot – to bring the voice of the trucking industry into the national exploration of MBUF.

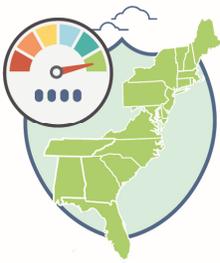
This truck pilot was crucial to the assessment of MBUF as a potential alternative approach for transportation funding for several reasons:

- Motor carriers face unique challenges and it is crucial to gain a better understanding of their needs and viewpoints.
- Commercial vehicles are not only heavy users of the transportation system, they also pay a significant amount to help build and maintain the system.
- Unlike passenger vehicles, commercial vehicles already have a long list of existing reporting requirements to comply with (e.g., International Fuel Tax Agreement (IFTA), International Registration Plan (IRP), and Electronic Logging Device (ELD) rule).



¹ *Freight Facts and Figures*; USDOT, BTS; 2019; <https://datahub.transportation.gov/stories/s/45xw-qksz>

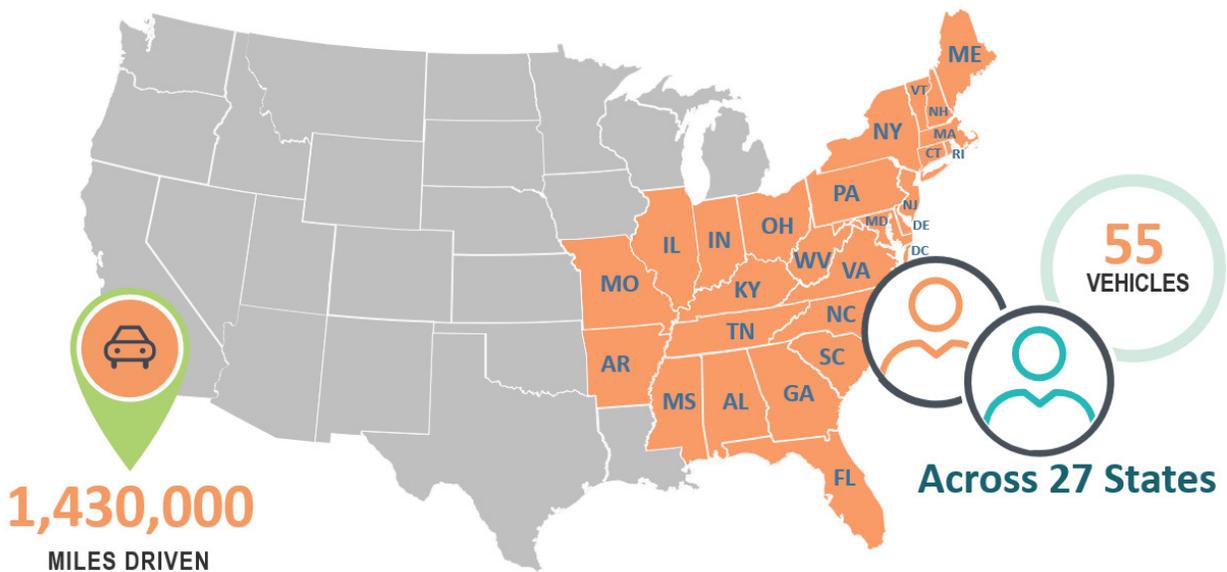
² The Eastern Transportation Coalition is a partnership of 17 states and D.C. focused on connecting public agencies across modes of travel to increase safety and efficiency. For over 25 years, the Coalition has brought together transportation agencies, toll authorities, public safety, and related organizations to work together to address pressing challenges. Today the Coalition represents the world's third largest economy and nearly 40 percent of the nation's gross domestic product. The Coalition provides members with the data, people, resources and tools needed to create solutions and how to get them across the finish line.



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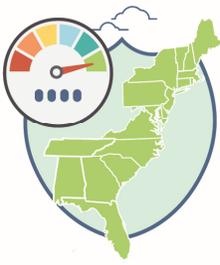
The Coalition's multi-state truck pilot explored how the MBUF concept could be applied to heavy trucks and the feasibility of using existing regulations, administrative processes, and technology as a potential MBUF framework. The truck pilot lasted 6 months from October 1, 2018 to March 31, 2019 with over 50 trucks participating and traveling more than 1,430,000 miles across 27 states. For this pilot, technology partner EROAD's system was installed as the mileage-recording device, details of which are explained in the full pilot report.

States Where Mileage Was Accrued During the Truck Pilot



During the pilot, the Coalition collected and analyzed the truck pilot data, generating a faux statement for each of the four companies participating in the pilot. These statements included the number of participating trucks, average MPG for the pilot vehicles, number of states traveled through during the pilot, number of gallons purchased during the period, location (state) of these purchases and the, mileage driven by the fleet vehicles in each state (excluding the exemptions as per IFTA), and summary showing the estimated costs of fuel, federal fuel tax, state fuel tax and hypothetical MBUF. The statement was designed to show the fleet manager a comparison between the estimated costs under the current fuel tax system versus a potential MBUF approach.

The Coalition's STSFA grant work conducted between 2018 and 2019 established an important starting point to further engage the motor carrier industry in a constructive conversation about MBUF. The collaborative approach between the Coalition and the trucking industry will serve as the foundation for all further exploratory work aimed to ensure the unique perspective of the trucking industry is included in the national debate about potential MBUF solutions.



Pilot Lessons Learned

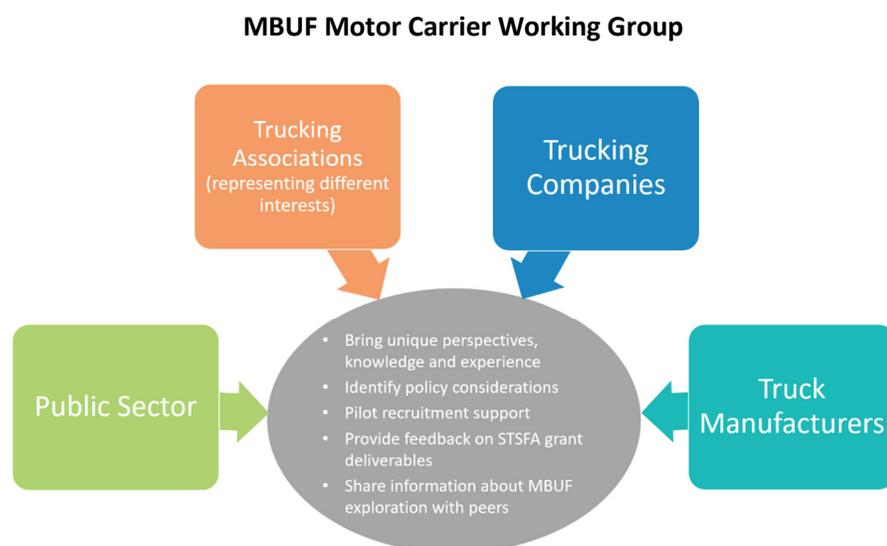
While further work is needed to assess the feasibility of MBUF as a sustainable transportation funding approach, five key insights were identified through the Coalition’s 2018 -2019 motor carrier work:

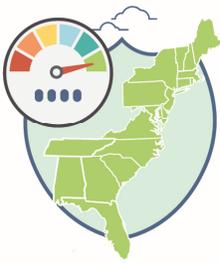
1. ***Bringing the trucking industry’s voice to the table is essential.***

As one of the major users and payers of the transportation network, the trucking industry is a key stakeholder in the search for an alternative sustainable transportation funding approach. Given this, the Coalition made it an early priority to include trucking industry representatives in the STSFA grant work. In 2018, the Coalition established a Steering Committee comprised of key transportation stakeholders representing a range of interests and perspectives including the American Trucking Associations (ATA). The Steering Committee provided guidance and feedback on the motor carrier pilot design and focus areas.

The multi-state truck pilot also created the opportunity for companies to be directly engaged with the assessment of MBUF. Four motor carriers volunteered their staff time and vehicles to participate in the Coalition’s 6-month pilot and provided input via interviews. The participating companies represented a range of fleet sizes, vehicle MPG and freight services to begin highlighting key differences in how trucks use and pay for the nation’s roadways.

An important aspect of the Coalition’s STSFA grant work was the establishment of a Motor Carrier Working Group (MCWG) comprised of trucking executives, association representatives and truck manufacturers to hear directly from industry stakeholders about mileage-based user fees as a potential replacement for fuel taxes. The composition of the MCWG was also intended to bring a range of opinions about MBUF, from opposing to supporting, together. The MCWG provided suggestions for developing per-mile rates for trucks, approaches for communicating MBUF to the trucking industry, how MBUF might function within the existing regulatory framework and ideas for subsequent truck pilots.





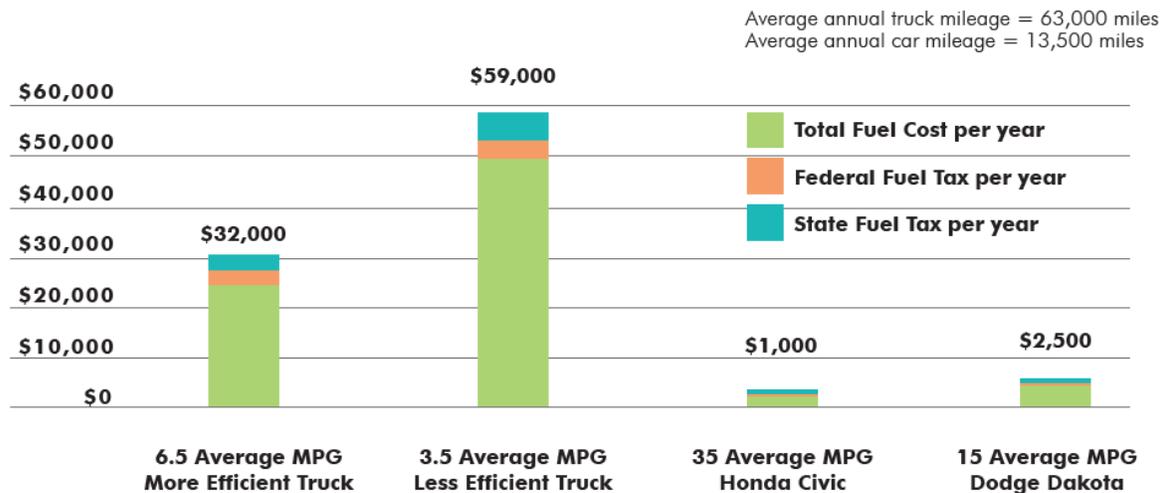
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The issues raised by the MBUF Steering Committee, the truck pilot participants, and the MCWG demonstrated the importance of bringing the trucking industry’s voice to the table. The engagement of these groups is a recognition that alternatives to diesel fuel are being considered by policy makers and an indication of an interest in having the unique operating environment and perspective of the trucking industry reflected in future funding mechanisms. For policy makers to make decision about future options, current transportation funding models must be explored rigorously and informed by the industry. The Coalition will take the ideas generated and policy considerations raised by these key stakeholders and further examine them in future STSFA pilots and grant work.

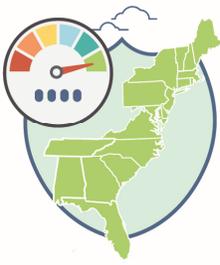
2. Trucks cannot simply be treated as big cars in an MBUF system.

Beyond obvious differences in size, trucks are also much different than cars for other, less immediately apparent reasons, including how they are used, the miles they accrue, and the regulations to which they are subjected. Individual trucks on average drive more than four times as many miles per year compared to passenger vehicles and pay substantially more in fuel taxes due to lower fuel efficiencies and a higher federal diesel tax rate than gas tax rate. Trucks also pay several additional federal taxes to support the transportation network (e.g., heavy vehicle use tax, federal excise taxes, weight-mileage tax and higher tolls). In summary, when assessing the feasibility of MBUF for motor carriers, the full picture of the taxes and fees paid by the trucking industry should be taken into account.

Average Annual Fuel Costs and Fuel Taxes for Semi Trucks versus Cars



Trucks also operate in a complex, heavily-regulated environment. Given that trucks transport a substantial portion of the national economy while sharing the roads with the general motoring public, their business environment is highly regulated, including regulations on driver training, work hours, emissions requirements, vehicle readiness, and tax reporting. While improvements have been achieved in the past (e.g. with the establishment of IFTA and IRP), the reporting requirements are many and complex. Changes to transportation funding mechanisms should not result in adding another level of complexity or reverting back from earlier improvements, like before IFTA and IRP. As a way to



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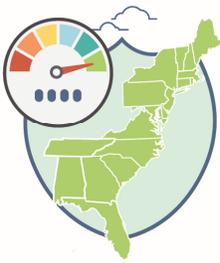
potentially gain support, MBUF implementation scenarios should assess ways to potentially streamline the motor carrier operating environment. The variety of uses and vehicle types and complexity of business models means that an MBUF model for the general motoring public would not translate directly to the trucking industry. Policymakers must approach MBUF in the context of the trucking industry with nuance and recognize that a one-size fits all policy will not produce palatable policy outcomes.

3. Existing regulations provide guidance for MBUF implementation.

IFTA and IRP were both developed to reduce burdensome state-by-state fuel tax and vehicle registration reporting requirements on the trucking industry; a lesson for MBUF. IFTA, as well as IRP, are excellent examples of a national approach while still maintaining state independence on rate setting and other areas, resulting in efficiencies on the motor carrier as well as on the agency side. Overall, there is general consensus that IFTA and IRP provide a framework template for a national implementation for MBUF, that policymakers should consider. With that said, IFTA and IRP are not perfectly compatible with MBUF in their current forms. An MBUF system will require the development of data standards and more frequent reporting timelines. Also, not all commercial trucks are required to register for IFTA and IRP. In addition, policymakers should understand that IFTA and IRP are not currently set up to collect funds from motor carriers and distribute funds to states, which could be a function for them under and MBUF system or could be handled by a separate entity.

Many trucking professionals and policymakers make the immediate connection between ELD and mileage-based user fees MBUF; however, there are some key differences between the two that need to be highlighted. ELDs track a truck driver’s workday to ensure compliance with federal hours of service rules and, as part of that task, only require the collection of location data at a one-hour minimum interval. In addition, ELD data (as per minimum requirements) cannot provide a distinction of mileage by states and does not cover all commercial vehicles. Given MBUF would be linked to financial transactions the ELD self-certification approach by the technology provider would need to be adjusted. For these reasons, the report concludes MBUF for commercial vehicles will require a more robust technology solution than offered by ELD functionalities alone.

Area	IFTA	IRP	ELD
Basis of record keeping			
Qualifying vehicles			
Mileage Data Accuracy			
Location data accuracy / precision			
Data retention			
Clearinghouse			
System requirements			

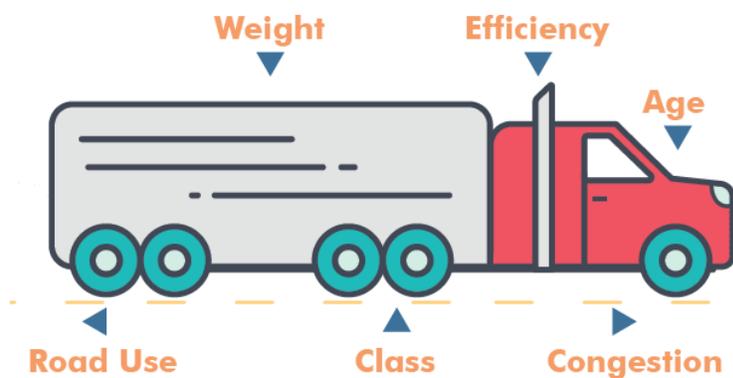


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4. **One rate for all trucks doesn't work.**

The pilot clearly showed that one-rate for all trucks doesn't work due to the vast differences in vehicle operations, types, ages, performance and mileage travelled. Rates for the pilot were set based on each Coalition state's diesel tax and an assumed average fuel efficiency of 6 MPG. This rate was designed to be neither an increase nor decrease in tax revenue for the collecting agency, or "revenue neutral." However, three of the four fleets involved in the pilot had average MPG values less than 6 MPG, resulting in a net MBUF credit (i.e., the MBUF amount charged was less state fuel tax paid). At first, these differences may not seem large, but multiplied over a company's fleet, the costs add up quickly. For example, one company in the pilot had 40 vehicles with an average MPG of 3.42. If the per-mile MBUF rate was to be set using the national MPG average, this company would receive a rebate of over \$68,000 per year in state fuel taxes. The company with the most fuel-efficient fleet, and under the MBUF based on 6 MPG, would be asked to pay a penalty of over \$1,400 for its five fuel efficient trucks. In other words, one MBUF rate across all trucks would create a situation where fuel inefficient fleets would be rewarded and fuel-efficient fleets would be penalized.

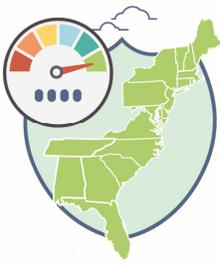
As was shown in the pilot data, motor carriers in different sectors of trucking and different terrain produce different average fuel efficiencies. For instance, drayage trucks operating in an urban, short



haul environment will likely not see the same efficiencies as companies that accrue more highway miles. The MCWG suggested several key attributes including age of truck, vehicle class, weight, fuel efficiency. The Coalition will work with industry stakeholders on how to explore MBUF rate setting in future truck pilots. In summary, rate setting will be much more complicated than for passenger vehicles.

5. **Further need for education and outreach.**

Education about MBUF is a dialogue. Sharing the pilots results and highlighting key differences between trucks and passenger cars helps reduce misinformation about motor carriers and will help the industry craft an acceptable approach to MBUF that considers their interests. The future transportation funding solution cannot be solely on the shoulders of motor carriers, as this approach is inconsistent with the "user pays for what they use" principle. Beyond the Coalition's MBUF activities related to trucking, the Coalition's passenger vehicle pilots also serve to educate the general public about the need for sustainable transportation funding to build and maintain the transportation system, which is a shared goal of the trucking industry. With this pilot work, the Coalition is equipping policymakers with data-driven, industry-informed analysis to make pragmatic decisions on the viability of MBUF.



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Need for Further Research

The first Multi-State Truck pilot provided valuable insights and identified the need for further research to answer the question if a MBUF is a sustainable future funding solution. The 2020 STSFA grant activities for the Coalition MBUF effort will include a broader multi-state truck pilot with 200 tractor-trailers traveling through the lower 48 contiguous United States, making it the largest mileage-based user fee truck pilot conducted in North America. The 2020 truck pilot will build off the lessons learned from the Coalition’s STSFA grant activities and closely analyze rate-setting by developing per-mile rates for each state, examining weight-based variable rates and applying multiple rate structures for background analyses. The pilot will also explore proofs of concept about how to use MBUF technology to incorporate existing tolls and MBUF into an integrated driver statement to further study operational efficiencies that could be achieved. System requirements for truck-based MBUF will also be examined.

In addition to the pilot, STSFA grant activities will include expanded education and outreach activities. These activities will target commercial vehicles and motor carriers, discussing how MBUF potentially could help provide a more sustainable funding source for transportation and the potential MBUF approaches. The Coalition will continue its ongoing outreach to the trucking industry including the MCWG to present findings and hear feedback on ways to improve the research and further address policy questions.

Characteristics of the 2019-2020 Multi-State Truck Pilot

Pilot Characteristic	Approach
Size	200 commercial vehicles
Vehicle Types	Mostly class 7 and 8 trucks and some medium trucks (10,000 to 26,000 pounds)
Coverage	Widen the pilot footprint to cover most if not all of the lower 48 states by including carriers from outside the Coalition states.
Per Mile Rates	Rates will be developed for each state in the continental U.S., not just the Coalition states. State-specific rates will be based on several considerations (i.e. pilot fleet average MPG). Include a separate rate for the federal diesel tax, and examine how other federal taxes could be included in the rates. Multiple rate structures will be developed for the pilot and applied in background for subsequent analyses.
Automated Tolling	“Desktop” exercise and proof of concept, using the data collected during the pilot, of how MBUF could incorporate existing tolls as part of an integrated statement. This will focus on the toll roads in Delaware, Pennsylvania, and New Jersey.
IFTA and IRP	Further assess the feasibility of IFTA and IRP as frameworks for MBUF implementation
MCWG	Gather input regarding the pilot design, rate setting, standards, and compliance practices