Road User Charge Pilot Programs: Examples of Regional Collaboration and Innovation

WEBINAR SERIES: INNOVATION IN PRACTICE
WEBINAR 8

May 14, 2018
Webinar Logistics

- PowerPoint Presentation available on BATIC Website

- Submit questions in Q&A box

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Webinar Overview

- RUC Overview and Activity in the US
- FAST Act STSFA Grants
- Western Road Usage Charge Consortium
- I-95 Corridor Coalition
- Common Themes
- Questions Submitted by Webinar Participants
RUC Overview and Activity in the US

Norma Ortega
VICE CHAIR, Mileage Based User Fee Alliance (MBUFA)
Paying for Transportation in the Long Run

- The current U.S. system relies on fuel taxes
- We have seen a marked decline in revenues
- Two National Commissions have called for short and long-term solutions
- MBUF collection systems have come to the forefront of options to consider
  - Mileage based user fee (MBUF)
  - Road user charge (RUC)
  - Vehicle miles traveled fee (VMT)
Revenue Loss Due to Increased Fuel Efficiency

Vehicle Miles Travelled

Gas Consumption (declining due to increased fuel efficiency)

Year

Volvo's Electric Future
The automaker says starting in 2019 it will make only electric or hybrid cars.

Tesla's Model 3 is the millennial dream car
The interior of Tesla's Model 3, which has a 15-inch touchscreen display.

- Tesla is the premier, aspirational car brand for millennials.
Policy Strengths

- Fairness—proportional to extent of use.
- Applies regardless of propulsion source.
- Will grow along with VMT, as economy and population grow.
- Could be indexed for inflation.
- Could be higher for costly highways, lower for local streets & roads (unlike fuel tax).
- Would restore the original users-pay/users-benefit principle on which fuel taxes used to be based.
Issues That Must Be Addressed

- Privacy protection
- Evolution of technologies
- Scalability of systems
- Flexibility of systems for policy adaptations
- Complexity of implementation
- Difficulty of operations
- Making compliance simple and easy
- Interoperability among states
- Data security
- Cost of administration
- Equity by income, geography and vehicle type
- Transition
Privacy

• Context of privacy debate has shifted with recent scandals. Trust is a bigger issue. Privacy entails both:
  • Protection from government misuse of data
  • Protection against information breaches for malicious intent

• Four approaches to privacy can work in concert
  • Tech that does not transmit data other than $ owed
  • Using a trusted third party to protect and secure private data
  • Tech where user controls privacy settings
  • Privacy legislation that sets rules and accountability
<table>
<thead>
<tr>
<th>Equity Considerations</th>
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<tbody>
<tr>
<td><strong>Rural Drivers</strong></td>
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<tr>
<td>• Typically travel greater distances for essential activities and do more off-road driving</td>
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<td><strong>Fuel Efficient Vehicles</strong></td>
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<td>• Currently paying less than traditional vehicles for same road usage</td>
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<tr>
<td><strong>Less Affluent Drivers</strong></td>
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<tr>
<td>• Currently paying more for road usage than more affluent users due to older, less fuel efficient vehicles</td>
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<td><strong>Non-Resident Drivers</strong></td>
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<td>• Until regional system evolves they could continue paying fuel tax</td>
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Technology for Metering Miles

There are options…

- Odometer - Periodic inspections determine fee.
- Simple On Board Unit (OBU) - On board data collection, with periodic transmission.
- OBU with cellular location - On board determination of jurisdiction of travel.
- OBU with GPS - Fine grained travel data.
- Smartphone application - On board data collection with GPS and cellular communications for metering and reporting.
Likely Success Factors

- Understand contentious issues and address them up front. Build trust.
- Include choices for participants, so they are in control.
- Tackle privacy head on and involve privacy advocates.
- Conduct trials and educational outreach. Include elected officials, media, and stakeholders in the trials.
- Start simple and add on layers over time.
- Build a system that is flexible and easy to adapt and add on and can integrate with other systems.
- Involve private sector and use competition.
RUC Research and Testing in the US

LEGEND
- Conducted MBUF Pilot
- On-going MBUF Program
- MBUF Studies through RUC West Membership
- *STSFA Grant Recipient
FAST Act Surface Transportation System Funding Alternatives (STSFA) Program Grants

Angela Jacobs

STSFA PROGRAM MANAGER
FHWA
STSFA Program Vision

- FAST Act Section 6020 created a new Section 503(b) of the United States Code which establishes a program to provide grants for the demonstration of:
  - User based alternative revenue mechanisms.
  - Utilization of a user fee structure.
  - For purposes of maintaining the future long-term solvency of the Federal Highway Trust Fund.
STSFA Program Goals

- Implementation, interoperability, public acceptance and potential hurdles to adoption of the demonstrated user-based alternative revenue
- Privacy protection
- Equity concerns
- Ease of user compliance
- Reliability and security related to the use of technology
STSFA Program Funding

- The FAST Act provided $15 million in FY 2016, and $20 million annually from FY 2017 through FY 2020 for demonstration project grants

- 50% match requirement

- The grants are only available to states or groups of states
STSFA Funding Awarded to Date

- For FY 2016, $14.2 million was awarded for STSFA demonstration projects after the reduction of the $15 million in Section 6020 based on the imposition of the FY2016 limitation on obligations.

- For FY 2017 after the obligation limitation takedown, the amount available for award was $18,560,000. Based on the funds requested from the applications submitted, $15.5 million was awarded for STSFA demonstration projects.

- At this time, nine states have been awarded funds
STSFA Types of Strategies Funded

- Expanded existing public outreach programs
- Assess the acceptance of road user charge
- Explore Pay-at-the-Pump/Charging Station
- Explore impacts on rural and agricultural communities
- Demonstrate a user based fee with fleet operated Shared Mobility service providers
FY 2018 Notice of Funding Opportunity

- The FY18 NOFO was released via grants.gov on April 13, 2018
- A webinar is scheduled for May 29, 2018 (1:00 – 2:30)
- The solicitation process will close on July 15, 2018
- The goal is to announce project awards by early fall of this year
Western Road Usage Charge Consortium

Carlos Braceras
DIRECTOR, Utah DOT
BOARD CHAIR, Western Road Usage Charge Consortium
Fast Facts About Transportation Funding

- Loss of Gas Tax Revenue
- Highways in Poor Condition
- Ongoing Costs of Repair
How Does Gas Tax Compare to RUC

**GAS TAX PAID**  
(AVERAGE MONTHLY)

- **LOW EFFICIENCY** 5–15 MPG/10 MPG MEDIAN: $22.00
- **AVERAGE EFFICIENCY** 15–25 MPG/20 MPG MEDIAN: $11.00
- **HIGH EFFICIENCY HYBRID** 25–45 MPG/35 MPG MEDIAN: $6.29
- **ELECTRIC >45 EQUIVALENT MPG (GAS NOT NEEDED)**: $0.00

**ROAD USAGE CHARGE PAID**  
(AVERAGE MONTHLY)

- **LOW EFFICIENCY** 5–15 MPG/10 MPG MEDIAN: $12.00
- **AVERAGE EFFICIENCY** 15–25 MPG/20 MPG MEDIAN: $12.00
- **HIGH EFFICIENCY HYBRID** 25–45 MPG/35 MPG MEDIAN: $12.00
- **ELECTRIC >45 EQUIVALENT MPG (GAS NOT NEEDED)**: $12.00
RUC West Member States

Tier 1: States with Policy Enacted to Implement RUC Programs
- Oregon

Tier 2: States Testing RUC Pilot Programs
- California
- Colorado
- Hawaii
- Utah
- Washington

Tier 3: States Researching RUC Pilot Programs
- Arizona
- Idaho
- Montana
- Nevada
- New Mexico
- North Dakota
- Oklahoma
- Texas
RUC West Projects

- Roadmap for State Consideration of a RUC System
- Addressing Out-of-State Drivers in a RUC System
- Online Road Charge Calculator
- Protection of Privacy in a RUC System
- RUC Vendor Certification
- Effects of a RUC on Rural Residents (ongoing)
Utah Transportation Governance Bill
I-95 Corridor Coalition

Patricia Hendren

EXECUTIVE DIRECTOR, I-95 Corridor Coalition
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

1. **Dive into the difficult issues**
   - Privacy, equity, urban vs. rural
   - Financial implications

2. **Education, education, education**

3. **Gather real-world experience**
   - Focused regional pilot ~ 100 participants – happening now
   - Volunteer pilot ~ 1,000 participants
   - Multi-state truck pilot ~ 50 vehicles
Why I-95 Corridor Coalition?

*East Coast voice is needed.*

LEGEND
- Conducted MBUF Pilot
- On-going MBUF Program
- MBUF Studies through RUC West Membership
- STSFA Grant Recipient

*Note: The map shows states with MBUF activities, including West Coast states.*
Why the I-95 Corridor Coalition?

16 states + D.C.

In the Corridor

2nd
Largest Economy in the World
$4.7 Trillion
40% of US GDP

37%
Of America’s population:
110 Million people

46
Major Seaports
$172 Billion Imports
34% of U.S. total

Boston, Massachusetts
New York, New York
Philadelphia, Pennsylvania
Washington, D.C.
Raleigh, North Carolina
Charleston, South Carolina
Savannah, Georgia
Orlando, Florida
Miami, Florida

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The I-95 Corridor Coalition is a partnership of multi-state, multi-modal public agencies working together to create a seamless and efficient transportation system.
Focus of I-95 MBUF Study

- **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?
Out of State 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 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
Almost 40% of America’s GDP passes through the Corridor
Multi-State Truck Pilot

• 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.

Trucks have been collecting MBUF data for decades as part of the International Fuel Tax Agreement (IFTA)
Exploring Value-Added Amenities for Trucks

IN-VEHICLE HARDWARE
- Electronic logging device (ELD)
- Internal and external sensors
- Cryptographic module
- Tamper-proof
- Distance, time and location

GPS Data
Global Cellular Data Network

EROAD Enterprise

IN-VEHICLE HARDWARE GATEWAY

DEPOT
Road Charging
- Weight-Mile Tax
- Road Use Assessment Fee
- Road User Charging
- Inter-operable tolling
- Corridor Tolling
Regulatory
- Hours of service
- IFTA
- IRP
- Permitting
- Overweight
- Over dimension
Commercial
- Tracking
- Overspeed
- Idle time
- Fuel
- Insurance
- Data Messaging

User Support

WEB PORTAL

Infrastructure (cloud)
Public Agencies
Mobile Carrier
Banking/Credit Cards
Map Providers
Value added Services

BATIC INSTITUTE
AASHTO CENTER FOR EXCELLENCE
Exploring Value Added Amenities for Cars

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

Source: I95CC Round II STSFA Proposal
Phase I: Pilot Launched

May 1st – July 31st

130+ people have agreed to participate from around the east coast

~75 people have completed enrollment

80% Plug-In Device with Location

10% Plug-in Device w/o Location

10% Android Phone w/ Location
Common Themes

Jennifer Brickett
DIRECTOR
BATIC Institute an AASHTO Center for Excellence
Common Themes

- Education at all levels is critical for success
- Multi-state pilot programs are key to addressing interoperability
- Collaboration and resource sharing is a cost-effective way to build the public sector organizational capacity and expertise
- STSFA grant opportunities are key for advancement
Questions and Answers

Jennifer Brickett
DIRECTOR
BATIC Institute: An AASHTO Center for Excellence
Discussion

Please submit any questions to our panel using the Q&A box in the bottom left corner of your screen.
Wrap-Up

- The BATIC Institute will post responses to all questions received today on its website.
- The recorded webinar will also be available on the BATIC Institute website:
  
  www.financingtransportation.org

UPCOMING BATIC INSTITUTE OFFERINGS

- **Webinar on State Legislative Initiatives in Transportation Funding and Finance**
  June 13

- **P3 Basics Training for Planners**
  Spokane, WA
  July 17

- **P3 Basics Training at NCSL Legislative Summit**
  Los Angeles, CA
  July 29 - 30

- **Roundtable on Funding & Financing Short Line Rail**
  Miami, FL
  September 11

- **Roundtable on Transit Oriented Development**
  Miami, FL
  September 11

Thank you for attending today’s webinar.