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# ROAD USAGE CHARGING

*A Legislative Primer*



# What is Road Usage Charging?

Road usage charging (RUC) is a way to fund our nation's roadway system. RUC fees are calculated by charging drivers by the mile for total travel instead of by the gallon at fuel pumps. Drivers receive an invoice and can pay in various ways, such as from a prepaid fund or with their vehicle registration. Instead of collecting revenue based on fuel efficiency, the RUC approach transforms roadway infrastructure into a utility.

Road usage charging is also known as mileage-based user fees, distance-based user fees, or vehicle miles traveled fees.

## CALCULATING FEES

Two values are used to calculate RUC. First, the total number of miles a vehicle travels during a trip is multiplied by a per-mile rate. Next, the total gas used during a trip is multiplied by a gas tax, and then subtracted from the initial value:

$$\left( \begin{array}{l} \# \text{ of} \\ \text{miles} \end{array} * \begin{array}{l} \text{Per mile} \\ \text{rate} \end{array} \right)$$

$$\left( \begin{array}{l} \# \text{ gallons} \\ \text{used} \end{array} * \begin{array}{l} \text{Gas} \\ \text{tax} \end{array} \right)$$

RUC

## BILLING DRIVERS

Drivers may choose from several mileage reporting options to collect their vehicle's data, such as:

- » Technology-based plug-in devices
- » Odometer reporting
- » Smartphones
- » In-vehicle telematics

Mileage data is transmitted to RUC account managers who calculate the per-mile rate and fuel tax credits. Account managers send an invoice to the driver and process payments, which are deposited into the state treasury.

Apart from billing, account managers also provide customer service to subscribed motorists and oversee account setup, technology installation (as applicable), payment processing, and account disputes. They may also offer value-added services, such as trip planning, vehicle diagnostics, driving scores, and emissions testing.

No personally identifiable information is shared by the account manager to the state.

## COMPLETED PILOTS

- ▶ **2002** Puget Sound Regional Council Traffic Choices Study
- ▶ **2005** University of Iowa National Evaluation of a Mileage-based Road User Charge
- ▶ **2006** Oregon Mileage Fee Concept & Road User Fee Pilot Program
- ▶ **2007** Minnesota Mileage-based User Fee Demonstration
- ▶ **2013** Oregon Road User Charge Pilot Program
- ▶ **2015** OreGO
- ▶ **2016** California Road Charge Pilot Program
- ▶ **2017** Colorado Road Usage Charge Pilot Program
- ▶ **2018** I-95 Corridor Coalition MBUF Pilot  
Missouri RUC Research & Public Outreach  
RUC West Regional Pilot  
Washington RUC Pilot
- ▶ **2019** I-95 Corridor Coalition Public Outreach  
Minnesota Distance Based Fee Demonstration
- ▶ **2020** I-95 Corridor Coalition Tolling Demonstration & National Truck Pilot  
Minnesota Distance Based Fee Demonstration  
Utah RUC Program  
California Four-Phase Demonstration
- ▶ **2021** Hawaii RUC Pilot  
Kansas/Minnesota Joint MBUF Pilot  
Ohio MBUF Public Outreach  
Vermont RUC Study  
Wyoming RUC Feasibility Study
- ▶ **2022** Virginia MBUF Program
- ▶ **2023** California Public/Private Roads Pilot  
Texas Smartphone App Pilot

## LESSONS LEARNED

**RUC maintains confidentiality.** Reliable and accurate technology can report mileage to calculate fees while still protecting driver privacy.

**Additional assessment options are needed.** Variety allows participants to select how to report their mileage and which services they want from account managers. User demand offers an opportunity for the private sector to compete for services, which will fuel innovation and offer incentive to improve the customer experience.

**Outlining common standards will encourage an open platform.** As vendors compete for customers with ever-improving services, RUC should remain flexible as technology evolves. States should avoid specifics and instead focus on creating an environment that encourages numerous vendors and tech solutions. System standards, business rules and service levels should be articulated without isolating companies or technologies.

**Fairness is the most compelling argument.** States increasingly face a significant threat to infrastructure funding and struggle with heightened congestion issues. While it is difficult to get the public on board with alternative revenue programs to combat these challenges, research has shown that drivers respond to an equitable approach. The same trends impacting the long-term viability of fuel taxes also renders them less equitable as newer, more efficient vehicles pay less and electric vehicles pay nothing. RUC collects funds from all drivers for each mile driven — regardless of the vehicle model, year, or fuel type.

# How do states prepare for RUC?

**To conduct a RUC study, states need to develop policies and administrative duties, determine business rules and requirements, and secure vendors, which typically takes nine to twelve months. A deployed RUC pilot lasts between several months to a year. Longer studies are ideal because they capture seasonal variations.**

1. Define goals and determine the study's focus.
2. Recruit legislative champions and engage state agencies to identify best practices, available systems, and personnel needed.
3. Listen to the public's concerns and gather feedback to develop a communications and outreach plan.
4. Create a Technical Advisory Committee to oversee the pilot and provide guidance for future RUC initiatives.
5. Establish stakeholder roles and responsibilities, and draft legislation that supports alternative transportation funding research.
6. Determine the pilot's optimal size, location, and duration and consider funding sources. Identify requirements and work with vendors to align technologies and services.
7. Deploy the pilot. Support participants with sign-up and customer service. Communicate regularly with service providers and survey participants to gauge satisfaction, potential issues, and behavioral trends.
8. Evaluate the pilot and develop a report summary.

# Does RUC need legislation?

Research has shown that the public generally does not understand how funding works for transportation infrastructure and commonly considers current spending programs as wasteful and inefficient. Building political support from elected officials or passing legislation that backs research can help mitigate public concern as state agencies pursue RUC studies. However, state agencies that cannot generate political support for RUC may still pursue research on their own.

Legislatively supported initiatives are more likely to survive changes in the political realm, but also require more effort, consistent engagement, and a longer timeline. Task forces and commission groups may take a year or more to convene and issue recommendations, but are likely to be more widely supported because they have full input from a number of stakeholders.

## CASE STUDY Legislative Support

*Oregon developed a task force comprised of policy makers, transportation stakeholders, and other advocates to assess fuel tax alternatives. After examining numerous funding options, the task force ultimately recommended that the legislature pursue RUC as a long-term alternative to fuel taxes. Legislators initiated a pilot, and its success led to an additional pilot that was followed by the legislated implementation of the OreGO program in 2015. Since then, both Utah and Virginia have launched legislatively authorized RUC programs, both of which are focused solely on electric vehicles. Several other states have also enabled legislation to explore alternative funding solutions.*

## CASE STUDY Agency-run

*Minnesota completed several studies and a pilot without legislation by relying on funding from the Minnesota Department of Transportation's research program. If Minnesota decides to pursue RUC as a funding alternative, the state's legislature is well prepared with MnDOT's research on specific issues and challenges to guide future initiatives. Most RUC pilots to date have not required legislation, rather authorizations have come from administrative rule within the DOT or through informal authorization.*

## Is there funding available for RUC pilots?

The Surface Transportation System Funding Alternatives grant program, a \$95M program established by the FAST Act in February 2016, funded 51 RUC-related pilots, studies, and knowledge exchanges. The new Investment in Infrastructure and Jobs Act provides two distinct programs for RUC:

Section 13001 -- **Strategic Innovation for Revenue Collection** - A 5-year, \$75M grant program for states, local governments, and metropolitan planning organizations to further the study of user-based funding models. This program will require a 20% match from new states pursuing grants and a 30% match from states who have previously been awarded grants under the STSFA program.

Section 13002 -- **National Motor Vehicle Per-Mile User Fee Pilot** - A 5-year, \$50M grant to conduct a national RUC trial for up to 1,000 participants in each of the fifty states, including Washington D.C. and Puerto Rico.

Generally, RUC pilots for up to 200 participants cost between \$500,000 to \$700,000. Larger pilots — including geographically-separated programs — can cost between \$1.5 million and \$5 million.

## CURRENT CHALLENGES

RUC needs further evaluation because of state-to-state variances in demographics, geography, and culture. While policymakers and the public question its viability as a new funding model, RUC is also critiqued for:

**Privacy.** Many potential RUC systems collect location data from in-vehicle devices or smartphones, which garners concern over government agencies tracking drivers. However, some RUC assessment options do not rely on location data, and most states only receive periodic aggregated data from vendors. Intermittent data means agencies do not have information in real-time or for individual trips. How private companies use driver data is also a concern, but states can require vendors to obtain explicit consent from participants to use their data outside of RUC assessment.

**Fairness.** Since RUC charges drivers by miles traveled, rural drivers fear that they will pay more since they typically drive farther than their urban and suburban counterparts. Recent research by the Western Road Usage Charge Consortium found that a RUC program may benefit rural drivers since they tend to drive older, less fuel-efficient vehicles and pay more per mile in fuel taxes. Conversely, electric drivers assume RUC will penalize them for buying environmentally-friendly vehicles. A properly implemented RUC normalizes the usage-based concept by charging all drivers for their unique road use, regardless of the efficiency of their vehicle.

Contact us to learn more.

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