



LPRO: Legislative Policy and Research Office

# OREGO – MILEAGE BASED HIGHWAY FUNDING

## BACKGROUND BRIEF

### INTRODUCTION

Oregon was the first state in the nation to institute a tax on motor fuels to provide funding for transportation infrastructure, beginning with a flat one-cent per gallon in 1919, six years after the creation of the State Highway Department. The legislature then proceeded to gradually increase the amount of the fuels tax every few years. Today, the state fuels tax sits at 30 cents per gallon; in addition, two counties and 26 cities have imposed taxes on fuels sold within their jurisdictions.

Heavy commercial trucks pay a weight-mile tax, except those trucks designated for farm uses (which pay a fuel tax on gasoline or diesel) and those hauling certain products like logs or wood chips (which pay a flat fee based upon the weight of the vehicle). Under this system, vehicles track the mileage traveled on Oregon roads and pay a fee according to schedules based upon the weight of the vehicle. Weight-mile tax rates are set through a “cost responsibility” study that estimates the relative road impacts of passenger vehicles and commercial vehicles. The first such study was completed in 1937; in 1999, Oregon voters

established cost responsibility in the Oregon Constitution (Article 9, Section 3a(3)). Since cost responsibility was instituted, each successive increase in fuels taxes has corresponded with a commensurate weight-mile tax increase.

Since fuel taxes are increased only periodically, they have tended not to keep pace with inflation or the increased costs for materials, labor and equipment. Even though total vehicle miles traveled has increased over time, bringing in more revenue, the additional numbers of vehicles on Oregon roads, combined with an upward historical trend in average number of miles traveled per capita, increase the costs of

maintaining the existing road system and expanding key highway facilities.

Additionally, vehicles have become increasingly fuel efficient since gasoline shortages in the 1970s began a market-driven move toward cars that use less, or alternative, fuels. In addition, federal mandates requiring greater fuel efficiency have hastened this trend. With today’s cars using less fuel to travel, they likewise pay less in fuel taxes, forcing road authorities to do more with less to maintain the system. As electric hybrid and

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plug-in electric vehicles become more prevalent, this trend is expected to continue or accelerate.

The impact of these developments has been a gradual increase in highway congestion, particularly in metropolitan areas, and a gradual decline in the conditions of the highway system. The 2013 Report Card for America's Infrastructure, issued by the American Society of Civil Engineers, gave the nation's roads a "D" grade and its bridges a grade of "C-plus." With federal transportation investments having plateaued, many states are seeking ways to increase transportation funding to address shortfalls and begin to address declining infrastructure.

### ROAD USER FEE TASK FORCE

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Out of concern for these trends, the legislature passed House Bill 3946 (2001), which created the Road User Fee Task Force (RUFTF). The purpose of the RUFTF was to "develop a design for revenue collection for Oregon's roads and highways that will replace the current system for revenue collection." The 12-member group, consisting of state legislators, members of the Oregon Transportation Commission, local elected officials and stakeholders, met eight times. During its deliberations, it studied 28 different revenue mechanisms, eventually determining that any recommendations for a new system should be based on a user-pay method directly related to providing road infrastructure and services, as is the case with fuel taxes.

The RUFTF developed four possible revenue sources for the new system:

- A *per-mile fee* for actual miles traveled on public roads inside Oregon borders;

- A *congestion pricing charge* for vehicles that use certain roadways during high-use times of the day and week;
- A *per-vehicle toll for new facilities*, such as new roads, bridges or extended lanes; and
- A *studded tire use fee* to require vehicle owners using studded tires to pay for damage caused by studded tire use.

Of these four potential options, only the first was considered a viable replacement for the fuels tax as a revenue source. The other three options were considered as capable of addressing specific problems related to highway funding and/or designed to be used in specific areas.

The RUFTF was originally slated to sunset in 2010. However, as concerns regarding the long-term efficacy of fuel taxes continued to grow, the legislature removed the sunset and made it permanent. It continues to operate today, meeting on a quarterly basis.

### PILOT PROGRAM

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Pursuant to its recommendations, the RUFTF directed a pilot program to test the per-mile usage charge concept, which was developed and administered by the Oregon Department of Transportation (ODOT). The pilot program, which began in 2006 and ended in 2007, included 285 volunteer test vehicles equipped with GPS receivers, operating entirely within the Portland metropolitan region. The program was funded primarily through a six-year, \$2.1 million grant from the Federal Highway Administration (FHWA), as well as \$771,000 in matching funds from the state.

Road usage charges were paid at the fuel pump; however, instead of paying a 24-cent-per-gallon fuel tax, pilot participants paid for



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### OREGO VOLUNTARY PROGRAM

mileage traveled based on travel within zones as determined by the on-board GPS. The system collected mileage and fee payment data from each participating vehicle and stored it on a central database at Oregon State University (OSU), with the system querying the central database at OSU to determine total miles traveled since last payment. Vehicles participating in the pilot were required to refuel at two participating Leathers Fuels stations (which were equipped to communicate with the OSU database) twice per month, allowing participants to fuel at other stations the rest of the time.

Since the pilot program was, in large part, a research project, more data was collected than was envisioned in the event of later statewide deployment. The data collected included location in specific zones at specific hours of the day, in order to emulate a congestion pricing data collection model.

Upon completion, the pilot project was considered a technical and administrative success. However, it was not used as the basis for moving forward with a legislative program for implementation for several reasons:

- Concerns about privacy related to the necessity of installing a GPS device in each vehicle and tracking the vehicle's location and travel;
- Potential expense and complexity of implementation and the possibility of a costly, permanent new government bureaucracy; and
- Desire for free market implementation options, as opposed to ODOT-owned and applied technology, which would potentially lower the cost and increase the speed of technological development.

Following completion of the pilot program, ODOT redesigned the per-mile fee concept in response to the concerns raised in the pilot and based on public comment. First and foremost, the concept was modified for an open technology platform, allowing motorists to select a reporting method and provider from a suite of options, including third-party providers. The process was also separated from paying at the pump, allowing for better privacy protection, flexibility for participants' fueling preferences and the inclusion of plug-in electric vehicles that do not need to stop for fuel.

In 2013, the legislature enacted Senate Bill 810, creating a new, voluntary and permanent program, known as OReGO, through which up to 5,000 vehicles could choose to participate in the road usage charge (RUC) program. Participating vehicles pay 1.5 cents per mile traveled on public roads within Oregon, and the state fuels tax, calculated by fuel consumption reported by the vehicle or calculated using the EPA rating for the vehicle, is credited back to the volunteer's account. While drivers will continue to purchase fuel, and pay fuel taxes at the pump, their RUC is calculated based on mileage driven and the vehicle owner will either receive a bill for additional taxes (if the amount paid in fuel tax is less than the RUC) or receive a refund for excess fuel taxes paid (if the amount paid in fuel tax is more than the RUC).

The program is currently limited to 5,000 passenger vehicles and light-duty trucks, in three categories:

- Up to 1,500 vehicles with fuel ratings less than 17 miles per gallon (mpg);



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- Up to 1,500 vehicles rated between 17 mpg and 22 mpg; and
- Vehicles with fuel ratings over 22 mpg.

Vehicle owners self-select to participate in the program by visiting the [OREGO website](#) and selecting one of two options for a mileage reporting and payment provider. There were three options originally available when the program debuted:

- *Azuga* offers a GPS option, which credits miles logged out-of-state, and a non-GPS option, which does not. Participants prepay into a wallet using a credit or debit card; funds in the wallet are used to cover per-mile charges that exceed Oregon fuels taxes paid at the pump. The onboard GPS device offers a number of additional features, including the ability to log trips, monitor teen driver behavior and diagnose engine and battery health;
- *ODOT* (enabled by *Emovis*) allows drivers to pay (or receive a rebate) on a quarterly basis with a credit or debit card, once the account reaches a threshold of \$20 or more. It does not include GPS, and so does not credit miles traveled outside of Oregon; and
- *Verizon Telematics* offered a GPS-enabled device that allowed rebate for out-of-state miles and provided for payment using credit or debit card. This option is no longer available, and Verizon ceased participation as of October 31, 2016.

Just over 1,000 vehicles are currently participating in the OReGO program. The most commonly-enrolled vehicles are the Toyota Prius, Ford F-150 Pickup and Subaru Outback.

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### ACTIVITY IN OTHER STATES

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*California* enacted Senate Bill 1077 (2014), authorizing a pilot program to study, design, test, evaluate and report on all aspects of a road usage charge system. The pilot launched in July 2016, and currently operates with over 5,000 volunteers. The goal of the pilot is to evaluate a road usage charge as a possible replacement for motor vehicle fuel taxes. The project is overseen by a 15-member technical advisory committee. The legislation sunsets on January 1, 2019. California is also hoping to launch a regional interoperable system with Oregon in 2020 through the Road Usage Charge (RUC) West FAST Act grant.

*Washington* will begin its own pilot in Fall 2017. The program will allow 2,000 volunteers to “test-drive” a per-mile charge system for one year. A 25-member Steering Committee (which includes eight legislators) will guide the work and make policy and design recommendations to the Washington Transportation Task Force, Governor and legislature. To date, the Steering Committee has completed a feasibility assessment and business case evaluation, developed policy parameters for a future RUC system, developed formal Concept of Operations documents and recommended a statewide public demonstration project to test four separate methods of mileage reporting. Washington will coordinate with California and Oregon to develop requirements for a regional interoperable RUC system through the RUC West FAST Act grant.

*Colorado* launched a 100-vehicle RUC pilot in November 2016. The pilot will provide a platform for the state's legislators and transportation officials to make informed decisions as to the feasibility of this infrastructure financing program. The



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Colorado pilot program is expected to end in April 2017, with a final report in July 2017. Colorado will also help Washington, Oregon and California develop requirements for a regional interoperable RUC system through the RUC West FAST Act grant.

RUC West is collecting requirements to launch a western, regional interoperable RUC system as part of its \$3 million FAST Act grant. This project will set the stage for a regional system and pilot test by defining the system (Phase 1A) and developing essential regional pilot project plans (Phase 1B) to prepare for implementation. Demonstration activities (Phase 2) would be the subject of a future grant application. RUC West is a voluntary coalition of 14 western state departments of transportation that are committed to collaborative research and development of a new funding method for transportation infrastructure based on drivers' actual road usage. Formed in 2013, RUC West has funded 14 projects to test the feasibility of RUC systems.

Hawaii secured a \$4 million grant from the FHWA to conduct a three-year demonstration project that will test a RUC system. The first phase of the pilot will launch in 2017 with manual reporting. The project builds on existing state infrastructure that collects odometer readings annually through the state's existing Periodic Motor Vehicle Inspection (PMVI) system. The second phase will test different methods of reporting mileage, such as using smartphones or other technologies that are placed inside vehicles. The Hawaii Department of Transportation will also explore different payment methods.

Minnesota's Department of Transportation tested a road usage charge system in 2011-12. The test relied on volunteer participants measuring their mileage with GPS-enabled

smartphones. Data was collected and participants paid fees based on both the location and the time of day of travel.

Nevada conducted a mileage-based-fee study in 2012. Forty participants used a pay-at-the-pump system that did not rely on the collection of vehicle location data.

The University of Iowa Public Policy Center conducted a two-year field study to evaluate the technical feasibility and user acceptance of a mileage-based vehicle charge. The study included 2,650 volunteers operating in 12 areas nationwide and utilized onboard computers installed in participating vehicles. Participants traveled a total of over 21 million miles, or about 9,000 miles per vehicle.

The FHWA launched a program as part of the FAST Act to provide matching funds to states, or to collections of states, that are researching alternative transportation funding. Below is a list of the recipients of grant funds.



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Entity	Project Description	Basis for Grant Approval from FHWA	Requested Amount / Total Project Cost	Rationale
<b>California (Caltrans)</b>	Pay at the pump/charging station	Builds on existing pilot; the CA pilot will be “coordinated with OReGO RUC system already in place to test interoperability.”	\$750,000/ \$1,527,000	Enhances existing RUC pilot and will be coordinated with OR RUC system.
<b>Delaware (I-95 CC)</b>	On-Board-Diagnostic (OBD-II) based mileage-based user fee	Multi-state pilot using proven technology; building on previous I-95 Corridor Coalition work & the “success and lessons learned from Oregon deployment.”	\$1,490,000 / \$2,980,000	Builds on previous I-95 Corridor Coalition studies.
<b>Hawaii (HDOT)</b>	Mileage data collection based on manual and automated odometer readings at safety inspection stations	Incorporates a low-tech approach with an existing process; high probability of implementation in the near term.	\$6,500,000 / \$19,000,000	Amount recommended was the balance of program funding after other proposed amounts were considered.
<b>Minnesota (MnDOT)</b>	Use of mobility as a service to collect revenue	Incorporates an innovative way to gain public acceptance.	Range of \$300,000 to \$500,000/ \$1,000,000	Task level budget supported this level of funding
<b>Missouri (MoDOT)</b>	Implement a new registration fee schedule based on estimated miles per gallon	Uses a registration fee model based on vehicles’ fuel mileage figures, with variable registration fees for different vehicle types providing an alternative revenue stream.	\$1,000,000/ \$2,000,000	Funding for the adjustable registration fee and public involvement activities; tolling activities were excluded.



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Entity	Project Description	Basis for Grant Approval from FHWA	Requested Amount / Total Project Cost	Rationale
Oregon (ODOT)	Improvements to Oregon's existing road usage charge program—deployment activities	Will enhance functionality, by researching new technology to bring into the RUC market, increasing public acceptance and education efforts and researching compliance and interoperability. Will focus on equity, flexibility, user choice, security, and administration costs.	\$2,100,000/ \$4,200,000	Closes a gap in the existing program. ODOT is working with RUC West with a goal to be portable to all western states and later the nation.
RUC West	Define a regional system to promote and establish RUC consistency, interoperability and compatibility throughout the western United States.	Builds on existing individual state activities (California, Oregon, Washington, etc.) and deployments, and how to integrate these systems.	\$1,500,000/ \$3,258,750	Builds on existing individual state activities, and is looking to integrate these systems to improve regional interoperability.
Washington (WSDOT)	Testing elements of interoperability; piloting three mileage based methods and one time-based method using 2,000 drivers	Provides a solid plan for a pilot and proposes coordination with Oregon, Idaho and British Columbia.	\$7,497,000/ \$16,08,834	Funding is for pre-deployment activities of final design and pilot preparation.

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