

FAST Act Section 6020: Surface Transportation System Funding Alternatives (STSFA) Biennial Report



U.S. Department of Transportation

Federal Highway Administration

FAST Act Section 6020 Surface Transportation System Funding Alternatives (STSFA) Program

Background:

The Fixing America's Surface Transportation (FAST) Act, Section 6020, directed the U.S. Department of Transportation (DOT) to establish the Surface Transportation System Funding Alternatives (STSFA) Program, with funding levels of \$15,000,000 in fiscal year (FY) 2016 and \$20,000,000 in each of FYs 2017-20. The funds are derived from a set-aside from the Highway Research and Development Program under section 503(b) of Title 23, United States Code. The purpose of the program is to provide grants to States to demonstrate user-based alternative revenue mechanisms that utilize a user fee structure to maintain the long-term solvency of the Highway Trust Fund. These grants must make up no more than 50 percent of total proposed project costs, with the remainder coming from non-Federal sources. If there are not enough qualified proposals submitted in a given year, on or before August 1 of each year, the Secretary of Transportation must transfer available funds back to the Highway Research and Development Program.¹ Section 6020 also lays out specific issues that each demonstration project funded under the statute must address, including: testing, design, implementation, and acceptance of functional future user-based alternative revenue mechanisms that minimize administrative costs; increasing public awareness of the need for, and possible approaches to, alternative funding sources for surface transportation programs; and providing recommendations on various approaches. The grants require a State department of transportation lead. Proposals must address implementation, interoperability, public acceptance and potential hurdles to adoption of the demonstrated user-based alternative revenue mechanism, privacy protection, use of independent and private third-party vendors, congestion mitigation impacts, equity concerns, ease of user compliance, and the reliability and security of technology used. Geographic diversity is a statutory requirement.

Each recipient of a grant under the STSFA Program is required to submit an annual report to DOT that describes (1) how the demonstration activities carried out with grant funds meet the objectives of the program, and (2) lessons learned for future deployment of alternative revenue mechanisms that utilize a user fee structure. The first of these reports were due one year after the first grant was awarded to a project under the program. Section 6020 also requires DOT to produce this biennial report on the demonstration activities carried out under the STSFA Program, and to make it publicly available on the internet. The annual reports from States receiving funding under the program will provide the primary inputs for the biennial reports.² Interest in charging road users based on miles driven spans two decades. It was initially referred to as a vehicle mileage tax (VMT). Several States explored opportunities to create a new funding model. Oregon was one of the first States to utilize funding through the Value Pricing Pilot Program to study VMT strategies. In 2001, the Oregon legislature formed the Road Usage Fee Task Force (RUFTF) with the mission to find an alternative source of transportation funding outside of fuel taxes. The RUFTF developed the concept of a road usage charge (RUC) – where drivers pay for every mile they drive, rather than for every gallon of gas their vehicles consume.

¹ Section 503(b) is a reference to the Highway Research and Development Program.

² The time clock for the year begins once a cooperative agreement is executed between the State and FHWA and the funds are allocated. Only two of the States executed their agreement by December 2016, and the State has 30 days after the 1-year mark to submit their report.

The Oregon Department of Transportation established the OReGO Program, which became operational on July 1, 2015. The State is using STSFA grant money to enhance the OReGO Program (project status provided in the status update section).

Status of FY 2016 and 2017 Grant Projects

The Office of Operations is managing the solicitation, evaluation, and implementation of the STSFA grants. Stewardship and oversight management of awarded projects occurs in coordination with the Federal Highway Administration (FHWA) Division Offices and Headquarters staff. The FHWA published the first-year solicitation March 21, 2016, with proposals due by May 20, 2016. The Secretary awarded eight STSFA grants to seven lead States (California, Delaware, Hawaii, Minnesota, Missouri, Oregon (project lead for two grants), and Washington) totaling \$14,235,000. These proposals contained both pre-deployment and deployment activities, with two consisting of multi-State partnerships.

With one exception, applications to the program thus far have been from States that had explored some facet of a road user charge strategy on their own in the past. The first year of the program was deployed under a short timeline, which many States felt did not provide them with adequate time to prepare an application. Of the seven States that applied for FY 2016 funding, Hawaii was the only State that had no experience with exploring road user charge strategies. Release of the FY 2017 solicitation was delayed to provide an opportunity for the new Administration to review the notice and gain a better understanding of the program. The FHWA announced the FY 2017 solicitation April 13, 2017, with proposals due by June 12, 2017. As a result, States had 60 days to prepare their applications to allow internal review of proposals and announcement of the awards before the end of FY 2017. The Secretary awarded seven STSFA grants to six lead States (California, Colorado, Delaware, Missouri, Oregon (2), and Washington State)) totaling \$15,522,500.³ Only one new State submitted an application (Colorado).

Progress among grant recipients appears to be directly correlated to the prior level of experience the State had with implementing a road user charge strategy. Two States executed their cooperative agreement prior to the end of 2016. While each of FY 2016 recipients is making some level of progress on its projects, States such as California, Oregon, and Washington, which have more experience, are further along. Delaware and Washington deployed their pilots in early 2018. Hawaii has encountered some unexpected challenges described in the State-by-State status update section. Five out of the seven FY 2016 States have developed a road user charge website (a link is provided as a part of each State's status update). As noted above, the 2017 grant awards were released in October 2017. At this time, all of the 2017 recipients have executed agreements; this report includes general information about the one new State (Colorado) as part of this report.

³ Requests for funding in 2016 exceeded the amount available. Because all the proposals were determined to be worthy of funding the decision was made to fund tasks from all proposals recognizing that States could submit proposals to fund additional tasks (phases) in subsequent years.

Current Project Status

California

Caltrans completed its State funded 9-month California Road Charge Pilot Program (RCPP), with over 5000 vehicles. During the pilot period, participants drove over 37 million miles. The RCPP tested five methods of mileage reporting, including both manual and automatic reporting methods (Time Permit, Mileage Permit, Odometer Charge, Automated Mileage Reporting with no location data, and Automated Mileage Reporting with general location). It also included 50+ heavy vehicles as a replacement for the State diesel excise tax. The pilot helped answer many questions for Caltrans, but also identified areas for additional research. The RCPP also identified serious gaps in the State of California general public's understanding of how transportation infrastructure is funded and why the gas tax is not a sustainable solution. FHWA awarded the California Department of Transportation (Caltrans) \$750,000 in FY 2016 funds. Approximately \$276,000 in FY 16 funds have not been invoiced. A FY 2017 STSFA project will extend the California RCPP to support the demonstration of a pay-at-the-pump/charging station revenue collection mechanism. Caltrans used FY 16 funds to apply a systematic approach to the issue of transportation revenue generation building on the information gathered during California's RCPP. Caltrans has been exploring the following tasks:

1. **Education and Outreach** –

Expanding upon ongoing efforts to engage the public on transportation funding and alternative methods of revenue generation.

2. **Organizational Structure and Compliance Program Development** –

Working in partnership with the Department of Motor Vehicles to leverage and expand the data collected during the RCPP to formulate a streamlined system of administration, oversight, and compliance.

3. **Pay-At-The-Pump/Charging Station** –

Explore an alternative way of collecting revenue for transportation by assessing a mileage-based user fee that replicates the current gas tax collection mechanism, and evaluating the feasibility of eventually replacing the current excise tax method.

A website is available at <https://www.californiaroadchargepilot.com/>.

Colorado

As mentioned in the opening, the Colorado Department of Transportation (CDOT) did not receive 2016 STSFA funding. In 2016, CDOT invested in conducting a very small 100-participant RUC demonstration pilot project consisting of transportation leads, officials, media and the public. The Colorado Road Usage Charge Pilot Program (RUCPP) allowed participants to experience the RUC process (learned how the mileage data is collected and how payments and associated revenues were simulated). There were three payment options available: GPS enabled, odometer reporting, and non-GPS enabled mileage measurements. Payments and associated revenues were simulated. Based upon Colorado's FY 2017 STSFA application, FHWA awarded the State \$500,000 in STSFA funds in October 2017 to address concerns from the rural and agricultural community identified in the Colorado RUCPP.

The 2017 proposal will explore lessons learned from the State funded pilot. The pilot will be expanded to 250 participants over seven months. Efforts to increase public acceptance and improve system functionality will include an upgrade to CDOT's GIS and Road Management Data to allow for the delineation of public and private roads. Offering an additional mileage reporting option (Automated Vehicle Location) for farm equipment. Improving the existing mile reporting options through the refinement of the Colorado RUCPP Mobile Application, and partnering with the Colorado Department of Revenue to define the RUC collection methodology and other administrative system improvements. A website is available at <https://www.codot.gov/programs/ruc>.

Delaware (on behalf of the I-95 Corridor Coalition)

The Delaware DOT, acting on behalf of the I-95 Corridor Coalition, received a \$1,490,000 FY 2016 STSFA grant to conduct an initial pilot of road user charging. The State's goal is to *"Increase public awareness of funding issues and assess the acceptance of Mileage Based User Fees (MBUF)."* There have been some challenges to overcome related to State participation in the pilot. Initially five states intended to participate in the pilot (CT, DE, NH, PA and VT). However, only two states participated in phase one. The Coalition returned \$890,000. There remains a significant amount of interest among the 16 I-95 coalition members to explore road user charges. This project will provide key insights into whether a MBUF approach can be implemented in a multi-State environment. In addition, the team will consider RUC in an area where there are many toll facilities as it relates to potential synergies with tolling. For example: Per the latest census figures, 16 percent of workers living in Delaware work in another State; while 15 percent of workers in Delaware reside in another State. Those are some of the highest percentages of any State in the country. On September 7, 2017, the I-95 Corridor Coalition hosted a "MBUF Vendor Day" in Wilmington, Delaware, to hear from companies that have proven solutions to collecting, processing and administering a mileage-based user fee. The purpose of the event was to gain a better understanding of available user-fee options (both manual and automated methods), review key education, outreach activities, and begin to define the focused pilots in Delaware and other participating coalition member States. The phase one funded pilot began with 140 participants in May 2018. Phase one is complete, but coordination of reimbursement of funds is behind schedule. Of the \$580,000 used to implement phase one, thirty percent has been reimbursed. It is anticipated that the remainder of phase one funds will be expended by the end of 2018.

The FHWA awarded Delaware FY 2017 STSFA funds, which will allow the Coalition to expand the initial pilot project from X to 400 participants. In addition, 50 trucks will also participate in the pilot. The expanded pilot will look at how a user fee would fit into the evolving trends of technology funding and driving. Pilot participants will be offered packages with options such as visual trip logs; driving scores; safe zones; vehicle health; parked car instructions; and incident assistance. A website is available at [The I-95 Corridor Coalition Study](#).

Hawaii

The Hawaii DOT received \$3,998,000 in FY 2016 funds. The Hawaii RUC pilot seeks to understand the impacts of a mileage fee would have on the purchase and use of high MPG or alternative fuel vehicles. The pilot will build on existing State infrastructure that collects odometer readings annually as the basis for testing a road usage charge (RUC) user-based revenue alternatives. The project involves setup and implementation of an accounting system to provide prototypical invoices (or “billings”) for mileage driven and other direct communications about revenue alternatives to over one million motorists. Billings will feature personalized information about motorists’ road use and corresponding RUC, gas taxes paid, and other fees. Hawaii is unique in many ways, most significant of which is its island geography, providing some advantages for tax enforcement, particularly for user-based road taxes such as a RUC. However, Hawaii also must delicately balance the imperative of mobility and energy. Transitioning Hawaii’s ground transportation vehicles from internal combustion engines to high miles per gallon (MPG) and alternative fuel vehicles is an important strategy for supporting Hawaii’s statewide energy policy goals, which include the reduction or the elimination of fossil fuel use. Hawaii is in the top three electric vehicle adopters among States, buoyed by a mild climate, relatively short driving distances, and relatively high fuel prices. The State has a 100 percent clean energy goal by 2045. The successful implementation of these strategies are critical to achieving Hawaii’s 100 percent clean energy goals. Changing the structure of transportation funding, to ensure that system maintenance and energy policy are aligned is integral to achieving the State’s goals.

The Hawaii Department of Transportation, in partnership with the counties of the State of Hawaii (County of Kauai, City and County of Honolulu, County of Maui, and County of Hawaii), are working to implement a three-year, six-phase project that builds on existing State infrastructure that collects odometer readings annually as the basis for testing a RUC user-based revenue alternatives. The project involves implementation of an accounting system to provide prototypical invoices (or “billings”) for mileage driven and other direct communications concerning revenue alternatives to over one million motorists. Billings will feature personalized information about motorists’ road use and corresponding RUC, gas taxes paid, and other fees.

A later phase of the project will demonstrate an automated data reporting and collection system using 2,000 volunteers. The project is behind schedule because there have been challenges in securing a contractor. The State procurement law for professional services requires consideration of a minimum of three proposals. The State DOT solicited a request for proposals twice that resulted in just one response on each occasion. The Agency advertised the project as a competitive sealed proposal in early February 2018 and secured a contractor in August 2018. At this time, no funds have been expended.

Minnesota

The Minnesota Department of Transportation (MnDOT) was awarded \$350,000 in FY 2016 funds. MnDOT intends to demonstrate a user-based fee with fleet operated Shared Mobility (SM) service providers. The MnDOT believes that SM services, such as car sharing and ride sharing, represent important and emerging business models that may have profound impacts on the way we travel in the future. The Shared Mobility approach includes a range of new travel forms that promise greater efficiency, safety, and enhanced mobility. It provides a platform to

explore a practical and implementable path toward wider deployment of distance-based user fees as a replacement for the motor fuel tax. By leveraging the advanced technology that has become a standard of SM service providers, MnDOT will look to develop a user-based fee using existing embedded vehicle technology to collect and report miles driven, and to efficiently and effectively collect appropriate user fees.

Minnesota's approach to a per-mile road user fee is incremental, evolutionary and scalable, allowing powerful societal and technological trends to drive the change. A foundational assumption of this approach is to retain the motor fuel tax, recognizing the importance of adjusting it to keep pace with inflation, but instead charging a distance-based fee on new technologies equipped to collect and report those charges efficiently and effectively. This project will prepare Minnesota for the convergence of SM with broader adoption of vehicle electrification as well as forthcoming vehicle automation. At this time, approximately 40% of the funds have been expended. It is anticipated that all the funds will be expended by the end of 2018. A website is available at <http://www.dot.state.mn.us/distancebaseduserfee/planning-development.html>.

Missouri

The Missouri DOT (MoDOT) applied for and received \$250,000 in FY 2016 STSFA funds to conduct pre-deployment planning to establish a new user-based registration fee to address changes in fuel efficiency and to address equity and fairness in what users pay for the maintenance of road and bridge infrastructure. All FY 2016 funds have been spent. The State's current registration fee structure and system is antiquated and presents an equity gap in the revenue structure. The pre-deployment project identified ways to best implement a new registration fee system based on vehicle estimated miles per gallon MPG. The proposed FY 2017 STSFA Project will implement the system identified as part of the pre-deployment and demonstrate the vehicle registration fee collection system. The project includes a continued public engagement section related to the new registration fee to educate the public on transportation funding and the new system.

Phase 2 will address the requirements of implementation by fully demonstrating the next generation of the MPG-based vehicle registration fee collection system. The new proposed registration fee system will also address equity concerns, adjusting the fee based on varying vehicle MPG ratings. By relying on vehicle information at the time of registration, the proposed project helps to address concerns with data security and privacy, as well as user compliance issues. This could also address a way to reduce the administrative cost of a RUC-based system. The MoDOT has been working on their MPG feasibility study. As part of their effort, the State coordinates with the Department of Revenue (DOR) to collect the necessary vehicle data. By the end of the fourth quarter of FY 2017, the DOR completed decoding nearly 4.6 million vehicle identification numbers based on data provided by the DOR. The team is working on building a financial modeling tool to support analysis of revenue alternatives.

Oregon

The State of Oregon launched its RUC Program, OReGO, on July 1, 2015. The OReGO Program offers a new way to fund road maintenance, preservation, and improvements. The OReGO volunteers pay a RUC for the number of miles they drive (1.5 cents per mile through

December 2017), instead of the fuel tax. Volunteers receive credits on their bill for the fuel tax they pay at the pump. OreGO provides all the information in an electronic format. The FHWA awarded the Oregon Department of Transportation (ODOT) \$2,100,000 in FY 2016 and \$2,315,000 in 2017 STSFA funds. The current project schedule based on a 2016 start date will be completed in 2019. So far, the state has billed for \$917,945 of FY 2016 funds. The primary project objectives of the work supported by FHWA are to: expand the market, increase public awareness, evaluate program compliance mechanisms, and to explore interoperability.

Expand the Market:

1. Through new technologies – The team is collaborating with current OReGO commercial account managers to increase technology options for collecting and reporting mileage and fuel consumption data. The team will also evaluate and certify new technologies for use in the OReGO Program.
2. Manage the market cycle – The goal is to streamline certification and processes for Account Manager (AM) market entrance and exit to reduce negative business and consumer impacts and enhance the benefits of an agile system. This project is also working to identify what is required for ODOT to serve as its own AM rather than outsourcing to a private vendor.
3. Manual reporting options requirements – The team is developing a strategy for the ODOT RUC Program to make it possible to enroll any vehicle registered in Oregon regardless of the vehicle owner’s access to technology or the vehicle’s technology capabilities.
4. Agency partnering – The team is partnering with other Agencies and initiatives that capture the same data points as OReGO to streamline internal processes and participants’ experiences.

Increase Public Awareness – The team is researching current public opinion on a RUC to devise and execute an education program and develop educational tools.

Evaluate Program Compliance Mechanisms – The team is evaluating current AM compliance mechanisms and RUC participant compliance. For AM compliance, the team seeks to identify areas for improvement to meet the RUC Program’s goals of cost-effective compliance and enforcement, decreased administrative costs, and improved net program revenue. To evaluate current and potential compliance mechanisms for RUC participants (“RUC Payers”) the team hopes to advise decision-making bodies regarding a desired level of compliance and costs of enforcement.

Explore Interoperability – On September 18, 2017, ODOT hosted a 2 1/2-day RUC Forum. The forum gathered policy advisors, tax administrators, consultants, vendors, and representatives from all interested States to discuss the challenges and opportunities available to shape the future of transportation funding using a road user charge. More than 140 people attended the event from 16 States and six countries. The forum gathered interested parties including, State DOTs, tax administrators, vendors, and consultants to collaborate on interoperability opportunities and share lessons learned. A website is available at <http://www.myorego.org/>.

Oregon (on behalf of the Western Road User Charge Consortium)

Since 2013, RUC West, a consortium of 14 Western States (Arizona, California, Colorado, Hawaii, Idaho, Montana, New Mexico, Nevada, North Dakota, Oklahoma, Oregon, Texas, Utah, and Washington), has tackled many of the policy, organizational, technological, and operational challenges associated with RUC. The RUC West applied for and received \$1,500,000 in FY 2016 STSFA pre-deployment funds to develop a regional RUC concept of common operating procedures that will collect RUC in two different States and assess how to reconcile with each State. There are \$233,912 remaining in FY 2016 funds. The FY 2017 STSFA Project builds upon pre-deployment planning work. The RUC West will use the grant to pilot a regional system between California and Oregon. The regional pilot will utilize the existing RUC platforms in each State, and test the use of a clearinghouse to collect and reconcile the RUC information from each State. The project will launch a pilot between California and Oregon to connect the two States' per-mile road user charging systems, with the ultimate objective of expanding the concept to a regional level. The consultant team has been meeting with consortium members as part of the State's requirements gathering sessions. The goal is to complete the collection of requirements from all consortium members by the end of the fourth quarter. Work is also underway to develop the overall evaluation plan. A website is available at <https://www.rucwest.org/>.

Washington

Like Oregon, Washington State had already begun to explore road user charge strategies prior to the enactment of the FAST Act. Washington received an FY 2016 STSFA pre-deployment grant in the amount of \$3,847,000 to complete Stage one of the Washington RUC Pilot, which included the pilot preparation, planning and recruitment. Based on reimbursements for work completed, \$121,981 in 2016 funds remain. The FY 2017 STSFA proposal will implement Stages two and three, which includes the 12-month live demonstration and evaluation/reporting of the Washington RUC Pilot. The purpose of the pilot is to collect feedback from users regarding methods for assessing user fees, and to collaborate with other States and jurisdictions to test and develop organizational and operational capabilities for implementing a RUC program. The pilot project will test five operational concepts of mileage reporting: Two manual concepts (mileage permit and odometer charge) and three automated concepts (automated distance charge with location; automated distance charge without location and smartphone location application). The project will also test interoperability across State lines as well as across an international border. The Washington RUC Pilot will work with Idaho, Oregon, and British Columbia, Canada.

While funding flows through the State DOT, the Washington State Transportation Commission (WSTC) is the lead agency on this project. At this time, WSTC has completed preparation of technical documents and procurement of RUC Service providers (i.e., AMs and technologies). They have also created a help desk and established partnerships with Department of Licensing (DOL) agents/subagents to provide in-person odometer verification.

The WSTC sponsored a Smartphone Challenge. They took a crowd-sourced approach to assist in identifying a smartphone app for RUC. The State elected this approach because past efforts to use smartphones for active mileage recording were not very successful. The problem to be solved is whether information technology engineers, software developers and designers could

create a prototype solution for mileage reporting by smartphone. The WSTC worked with a University of Washington organization called CoMotion to support four research teams.

At this time, the recruiting phase is well underway. The State's goal was to enroll 2,270 participants and by the end of 2017, the pool of eligible participants grew to over 4,500. The State is currently focused on final end-to-end testing; configuring pilot reporting and reconciliation systems; preparing customer support; working with project partners in Idaho, Oregon, and British Columbia; and finalizing the plan for evaluation of the pilot concurrently with live operations. Each mileage reporting method has undergone three rounds of rigorous testing. In March 2018, Washington launched its pilot program with 2000 volunteers. A website is available at <https://waroadusagecharge.org/>.

National Evaluation of Pilots

The FHWA has secured the services of a contractor to support preparation of the national evaluation. The evaluation will be based on data collected from grant recipients and will identify how the pilots deployed have met the requirements outlined in Section 6020. The report will share lessons learned across project deployments and describe whether it appears that road user charge strategies can supplement or replace the existing gas tax as a transportation revenue source. Based on the progress of pilots underway, FHWA estimates the first evaluation report should be complete by mid-2019.

Challenges/Risks

At this time, while States are making progress on road user charge related strategies, the execution of tasks by the majority of States specifically funded by the STSFA has been limited. There have been questions raised regarding the small number of applicants seeking funds. The road user charge strategy remains a very new concept, but States are expressing interest as a result of Section 6020 providing Federal funding to explore RUC as either a supplement and/or alternative to the gas tax. FHWA continues to identify activities to increase State participation in the program through outreach and education. In 2018, FHWA sponsored a national congestion pricing conference, which included a session that addresses this topic. The BATIC Institute hosted a Road User Charge Webinar that featured presentations about STSFA projects in early 2018. FHWA released the FY 2018 Notice of Funding Opportunity April 13, 2018. Staff received seven proposals by the July 16 deadline.