Washington State Transportation Commission

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Committee on Transportation and Infrastructure
Subcommittee on Highways and Transit

Running on Empty: The Highway Trust Fund
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Chair Crawford, Ranking Member Norton, and Members of the Subcommittee, thank you for the opportunity to appear today at this important hearing on the Highway Trust Fund.

My name is Reema Griffith, and I serve as Executive Director of the Washington State Transportation Commission. Today, it is my honor to testify on their behalf. The Washington State Transportation Commission (WSTC) is a seven-member body of citizens appointed by the Governor for six-year terms. The Washington State Department of Transportation Secretary and a representative from the Governor's Office serve as ex *officio* members. The Commission provides an open public forum for transportation policy development. It reviews and assesses how the entire transportation system works across the state and issues the state's 20-year Transportation Plan. As the State Tolling Authority, the Commission adopts state highway tolls and sets ferry fares. The Commission also conducts special studies and projects as directed by the Legislature.

The WSTC has been conducting a legislatively directed assessment of Road Usage Charging since 2012, carrying out extensive research and testing on the topic. A Road Usage Charge (RUC), also referred to as a Mileage Based User Fee (MBUF), or a Vehicle Mileage Tax (VMT), is a per-mile charge drivers pay for the use of public roadways, embodying the "user pay, user benefits" concept. In Washington State, RUC is being assessed as a replacement to the 49.4 cent-per-gallon state gas tax, and as such, during a transitional time where RUC and gas tax would both be collected, drivers would receive gas tax credits for taxes paid, and those credits would be applied towards their RUC. This approach was successfully demonstrated in Washington State's year-long, 2000-driver statewide pilot test of RUC in 2018 and 2019.

The Need for a New Approach

State and federal gas taxes provide vital funding for our transportation infrastructure, including critical maintenance and preservations needs. In Washington State, the gas tax also funds the nation's largest marine highway system operated by Washington State Ferries. However, revenues from the gas tax are already declining in some states and face a steep decline nationally due to the continued growth of vehicle fuel economy (as measured in miles per gallon, or MPG) and the fact that gas tax is not indexed to inflation in many states or nationally. At the federal level, the gas tax has not been increased in 30 years. As vehicles drive farther on a tank of gas, drivers are buying less gas and thus paying less in gas taxes to use the roads (Exhibit 1).

While the nation and automakers make continued investments that enable a transition to a zero-emission passenger vehicle fleet, our gas tax revenues are on a path to decline. Washington State has enacted a requirement for all new cars sold by 2035 to be zero-emission (e.g., electric, plug-in hybrid electric, fuel cell, or other alternative clean fuels). Our forecasts indicate that gas tax revenues generated for each mile driven will decline by nearly 50% by 2040 (**Exhibit 2**).

Avoiding this decline in revenue requires a broad-based approach that ensures all vehicles contribute to funding our roads and bridges, regardless of engine type or fuel source. This will require a shift away from relying on the consumption of gas to pay for our roads and bridges via the gas tax, and to move to a modernized user fee such as a Road Usage Charge (RUC) in which drivers pay for the miles they drive. RUC provides long-term revenue stability and sustainability by removing the impacts that growing vehicle fuel efficiency and alternative fuels have on today's consumption-based gas tax revenue generation.

Washington State's Road Usage Charge Assessment

Washington State has conducted extensive research and testing on Road Usage Charging since 2012 (Exhibit 3). The Washington State Legislature directed the Washington State Transportation Commission (WSTC) in 2012 to begin an assessment of RUC as a replacement to the state's 49.4-cent-per-gallon gas tax. The WSTC convened a 30+ member Steering Committee made up of various public, private, and non-profit stakeholders, charged with advising the WSTC on its RUC Assessment and pilot testing.

From 2012 to 2015, state funding supported the work of the WSTC and the Steering Committee, which included setting forth high-level parameters for the research program including the following:

- Ensure that during a transition period of moving from the gas tax to a road usage charge, drivers would owe only one or the other, but not both.
- Use a per-mile RUC rate of for all analysis and testing equivalent to what an average driver pays under the state gas tax of 49.4 cents per gallon (2.4 cents per mile, based on an of average 20.5 MPG for passenger vehicles in Washington).
- Provide drivers choices for how they report their vehicle mileage and pay their RUC.

Under the guidance of the Steering Committee, the WSTC adopted a set of guiding principles that formed the basis for the research program that would move forward over the course of a decade. With the overall goal of identifying a sustainable, long-term revenue source for transportation to replace the gas tax, the guiding principles establish the path for how to achieve that goal. The guiding principles are as follows:

- **Transparency:** A road usage charge system should provide transparency in how the transportation system is paid for.
- **Cost-effectiveness:** The administration of a road usage charge system should be cost effective and cost efficient.
- **Equity:** All road users should pay a fair share with a road usage charge.
- **Privacy:** A road usage charge system should respect an individual's right to privacy.
- **Data Security**: A road usage charge system should meet applicable standards for data security, and access to data should be restricted to authorized entities.
- **Simplicity:** A road usage charge system should be simple, convenient, transparent to the user, and compliance should not create an undue burden.
- **Accountability:** A system should have clear assignment of responsibility and oversight and provide accurate reporting of usage and distribution of revenue collected.
- **Enforcement:** A road usage charge system should be costly to evade and easy to enforce.
- **System Flexibility:** A road usage charge system should be adaptive, open to competing vendors, and able to evolve over time.
- **User Options:** Consumer choice should be considered wherever possible.
- **Interoperability and Cooperation:** A Washington road usage charge system should strive for interoperability with systems in other states, nationally, and internationally, as well as with other systems in Washington. Washington should proactively cooperate and collaborate with other entities that are also investigating road usage charges.
- **Phasing:** Phasing should be considered in the deployment of a road usage charge system.

- **Complementary policy objectives:** A road usage charge system should, to the extent possible, be aligned with Washington's energy, environmental, and congestion management goals.

The WSTC started its assessment by determining and reporting to the state legislature that RUC was feasible to carry out from a technical standpoint, but public acceptance would require significant outreach and public education around the topic. With guidance from the Steering Committee, a concept of operations was developed, essentially serving as the blueprint for an operational RUC system which formed the foundation for Washington State's RUC pilot test in 2018. A business case analysis was also conducted to quantify how RUC would perform financially compared to the gas tax. The analysis determined that, even while holding the RUC rate constant and accounting for higher costs of administration, RUC would out-produce the gas tax over time as the vehicle fleet transitions to higher MPG and alternatively-fueled vehicles.

Federal Support for Road Usage Charging Research & Testing

In 2016, the Surface Transportation System Funding Alternatives (STSFA) grant program became available. As one of the first states to apply, Washington secured $8.4 million to carry out research alongside the launch of statewide public outreach and demonstration testing, which occurred from 2016 to 2020. During this time, the WSTC conducted a year-long, statewide RUC pilot test with over 2,000 drivers, which fully simulated a RUC program from enrollment to mileage collection to invoicing. No real money was exchanged except in the interoperability test with Oregon discussed below. In the pilot, drivers were given a credit for the estimated gas taxes

paid, and the invoices indicated if they owed RUC charges or if they had a credit due to overpayment of gas taxes.

The 2,000 participating drivers were given three surveys during the pilot, at the beginning, middle, and end. A key take-away from Washington's pilot is that public demonstrations are ideal as educational tools for helping the public understand the funding challenges we face, the choices available for addressing them, and the impacts a RUC would have on drivers both from a participation perspective and a financial impact perspective. The results from our pilot participant surveys showed that support for RUC as a replacement to the gas tax rose from 50% at the start of the pilot to 72% by the end of the pilot. Preference for RUC over the gas tax as a funding mechanism rose from 52% at the start of the pilot to 68% by the end of the pilot. When asked what participants would recommend to officials in considering next steps, 61% of participants urged moving forward with RUC as soon as possible, in the next 5-10 years so that it can eventually replace the gas tax (Exhibit 4, Exhibit 5, and Exhibit 6).

The key components of Washington's RUC pilot included:

- Testing multiple RUC mileage reporting methods with drivers and allowing them to choose between reporting options ranging from low-technology approaches to GPS-based technology (Exhibit 7).
- An interoperability demonstration with Oregon was carried out to test how the movement of RUC revenues between two states with RUC programs could be reconciled and executed efficiently. This aspect of our pilot program involved conducting the nation's first cash-transaction test between our two states. A small group of drivers from each state

drove across our borders, remitting their mileage and state-location information. On a monthly basis, they received and paid invoices for total miles driven in each state, with the RUC rates of each state applied to miles driven. They also received a credit for gas taxes paid, corresponding to miles driven in each state and per the gas tax rates in each state. Utilizing a cloud-based "clearinghouse" approach designed as part of this demonstration, our two states were able to successfully and efficiently collect, reconcile, and transmit the RUC revenues owed to each state based upon the data gathered from drivers.

- Further testing of interoperability occurred with Idaho where a small group of drivers demonstrated RUC in the context of cross-border travel, mileage reporting, and invoicing in a simulated manner. This served to demonstrate multi-state operational capability in the case of one state that does have a RUC program and one that does not.
- Testing the collection and reconciliation of RUC charges between two countries was also demonstrated via a small pool of drivers from British Columbia who utilize one of the busiest border crossings in the country located in Blaine, Washington, to enter the U.S. The test highlighted some of the difficult but surmountable challenges of international cross-border RUC administration including cellular network availability for data transmission and compatibility of privacy laws.

***Forward Drive* – Further Research and Pilot Testing Takes Place in Washington**

In 2020, Washington State received an additional $5.5 million STSFA grant award for the "Forward Drive" program now nearing completion following three years of research and additional testing. This portion of our RUC research has focused on the following activities:

- Building a custom revenue forecasting model calibrated to Washington State that is capable of modeling the long-term impacts of various factors and estimating their financial impacts. Factors include the impacts of EV adoption on fuel consumption, impacts of increased telecommuting, and impacts of autonomous vehicles and ridesharing on total miles driven. Analysis revealed many findings, including steep declines in gas tax revenues in coming years as fuel efficiency increases and adoption of alternatively fueled vehicles accelerates.
- Assessing equity impacts of RUC on low income and under-represented communities and conducting statewide outreach and gathering qualitative input. Outreach to historically underserved communities highlighted concerns about the potential cost impacts of RUC.
- Exploring RUC operational options and innovations, along with opportunities for cost of collection reductions that will enhance efficiencies, lower overall costs, and improve the driver experience.
- Determining what RUC program features need to be standardized to ensure interoperability across states, maximize the ease of revenue reconciliation, and create consistent approaches to reciprocity between states. Through a series of meetings with participants from several states and national organizations, two "mock" standards for vehicle classification and jurisdiction identification was developed. While more work remains to be done in this space, this effort took the first steps in addressing the many interstate dynamics of RUC operations.

The "Forward Drive" research program culminated in the detailed design of an interactive, web-based RUC enrollment, reporting, and payment simulation. Consistent with the project's overall

objectives, the simulation aimed to address user experience, equity, and cost efficiency. The simulation provided Washington State drivers with the opportunity to experience signing up for RUC for the first time, experiencing the process from end to end. Once participants completed the online enrollment and payment simulation, they were given a survey to share their thoughts and perspectives on the experience. The research team was able to measure participant perceptions and opinions, as well as interaction behaviors observed within the simulation.

Over one thousand Washingtonians participated in the simulation and completed a survey about their experiences, of which a portion constituted a statistically representative statewide sample of drivers. Key findings of the 2022-2023 online RUC enrollment and payment simulation include the following:

- 70% were satisfied or very satisfied with the process of enrollment and payment, and 56% reported taking less than 5 minutes to complete the entire process.
- 88% of participants selected self-reporting their miles via a manual/ non-GPS approach like providing an odometer read (Exhibit 8).
- The average amount of RUC due among participants, net of gas tax credits, was $29.64 per year.
- While 85% of participants wanted to pay their RUC charges in one payment, 15% wanted to make four equal payments. Among households earning less than $50,00 per year, 36% preferred to pay their RUC in four installments rather than all at once.
- Rather than detailing exempt miles driven out of state or on private roads, 80% of participants selected a standard exemption of 200 miles from their chargeable annual miles, as a proxy for their non-chargeable miles.

- After experiencing the simulation, participants supported transitioning away from the gas tax to RUC by a margin of 56% to 44%, the highest measured level of support among a representative statewide sample in Washington.

Findings of Washington State's Research Program Spotlight Benefits and Opportunities

Thanks to the STSFA grant program and knowledge sharing among states, RUC programs have been enacted in four states. RUC research efforts have also spread across the country with more states joining the research effort (Exhibit 9). As states build their collective knowledge base, there are some common conclusions around the benefits RUC offers:

- Drivers pay by the mile today under the gas tax, but they do so inequitably. The gas tax is based upon the simple principle of "user pays, user benefits." But today, as vehicles become more fuel efficient and alternative fuels become available, this principle is shifting to "some users pay, while all users benefit." This is because drivers of fuel-efficient vehicles are buying less gas today and are thus paying less in gas taxes. For example, in Washington State, if you drive a car that gets over the state average 20 MPG, you could be paying as little as 1 or 2 cents per mile under the gas tax. However, if a Washingtonian drives a vehicle that gets less than the state average 20 MPG, they will pay more than 2.4 cents per mile, and as much as 5 cents per mile for a vehicle that gets 10 MPG under the gas tax (Exhibit 10). RUC preserves the original user-pay paradigm.
- RUC harmonizes the current conflict between the need for transportation revenue via gas consumption, with policy objectives to reduce harmful tailpipe emissions and improve fairness. Currently, 34 states impose annual EV fees on top of other vehicle registration fees (Exhibit 11). RUC provides the opportunity to waive those fees and replace them

with a user-based approach. And depending on a given state's priorities, RUC provides policy levers that do not exist today under the gas tax. Lawmakers could choose to vary RUC rates by factors such as vehicle weight, emissions rating, owner income, and more.

- While the price per gallon at the gas pump is not something states can control, a flat per-mile RUC rate allows all drivers to pay the same per mile regardless of how often they have to fill-up. This will generate some tax relief for drivers of gas-powered cars who must fill up frequently, while still maintaining a significant operating cost advantage for drivers of more fuel-efficient and zero-emission vehicles (Exhibit 12).
- Lower income households and rural drivers pay more in gas taxes today than they will under a RUC. Based upon 2020 Census data coupled with state vehicle registration data, research conducted under "Forward Drive" revealed a correlation between income, geographic location of residence, and the amount of gas taxes paid. Our analysis shows that low-income and rural areas tend to have lower-MPG vehicles on average, which equates to higher total fuel costs and thus paying more in gas taxes. However, under RUC, drivers of low-MPG vehicles would pay less at a RUC rate of 2.4 cents per mile in Washington State. Our analysis further indicates that households that make less than $50,000 per year currently pay the most in gas taxes per mile driven, on average, but would see a tax reduction under RUC of about $7 per 10,000 miles driven (Exhibit 13). While this tax reduction is modest, it is not insignificant when every penny counts.
- Through our research, we have determined that in general, transportation taxes are a relatively small proportion of total household costs. As lawmakers contemplate ways to provide tax relief to those who need it most, it is important to understand what policy measures will produce meaningful impact to drivers. Analysis of transportation costs as a

percentage of household expenditures by income level reveal that transportation accounts for 40% of expenditures on average for households making less than $30,000 per year, while households making over $150,000 per year devote only 9% of expenditures to transportation. Nearly 95% of transportation costs are derived from owning a vehicle, with gas tax or an equivalent RUC comprising just 4% of household transportation costs (Exhibit 14).

- Through pilot testing of four mileage reporting options that require no location information, Washington State has demonstrated that RUC does not require the use of GPS technology to be implemented. By offering drivers choices for how they remit their miles driven, including "manual" options that do not involve the use of GPS, we have learned that RUC can be as simple as providing an odometer reading once per year during vehicle registration renewal. Other non-GPS mileage reporting options include: taking a picture of one's odometer (submitted via text or mobile app); using a plug-in device without GPS to count and wirelessly transmit total miles driven; or using a smartphone app with the ability to toggle GPS on or off that can collect and transmit miles driven by state.
- In addition to offering drivers choices that include non-GPS mileage reporting, it is critical to enact privacy and data protection laws with a RUC program. Washington State has developed a model privacy policy and statutory language to reflect key provisions that protect drivers from risks associated with sharing road usage data.
- Moving from the gas tax to RUC should not be a sudden change, but rather should be approached as a slow transition where portions of the vehicle fleet are moved over to RUC over time, while still keeping the gas tax in place. Under a slow transition, gas

taxes paid by drivers should be treated as credits toward their RUC, as was demonstrated in Washington's RUC pilot test. A gradual transition to RUC allows several benefits: it supports seamless interstate travel while some states enact RUC programs and others do not; it enables small, incremental payments (gas taxes paid at the pump) to count toward RUC owed; it allows the existing gas tax to serve as a backstop against tax evasion; and for states like Washington that have bonded their gas tax revenues, keeping the gas tax in place enables them to meet legal requirements around revenues to cover outstanding debt payments to bondholders.

Next Steps in Washington State

The WSTC's RUC research program has produced several significant reports with findings and recommendations that span policy development to program implementation to revenue forecasting. The state legislature has seen bills introduced in the 2021, 2022, and 2023 sessions. While legislation has not passed yet, the knowledge base and level of acceptance for a transition to RUC is growing, helping to lay the foundation for the enactment of a small-scale RUC program in the near future. Meanwhile, the WSTC is concluding its current federal research program, "Forward Drive," and will issue the final findings in January 2024 to the United States Department of Transportation, the Washington Legislature, and the Governor.

Appendix of Exhibits

Exhibit 1: Washington's state gas tax is 49.4 cents per gallon. The amount of gas tax paid per 10,000 miles driven varies based on vehicle fuel economy as measured in miles per gallon (MPG). Newer vehicles largely earn higher MPG ratings and pay less in gas taxes per mile driven.

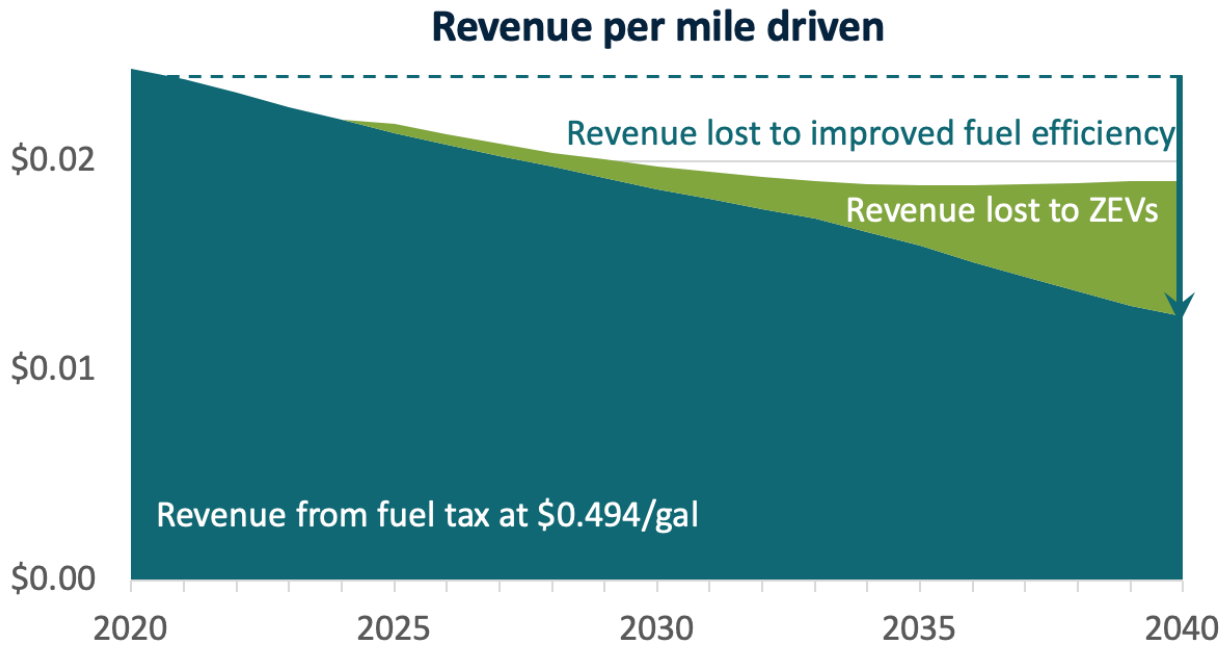

Exhibit 2: By 2040, revenue per mile driven from the Washington state gas tax of 49.4 cents per gallon is expected to decline by 50% from 2020 levels (from 2.5 to 1.25 cents per mile). Approximately half of this decline is attributable to zero-emission vehicles (ZEVs), while the other half is attributable to improving efficiency of internal combustion engine vehicles.

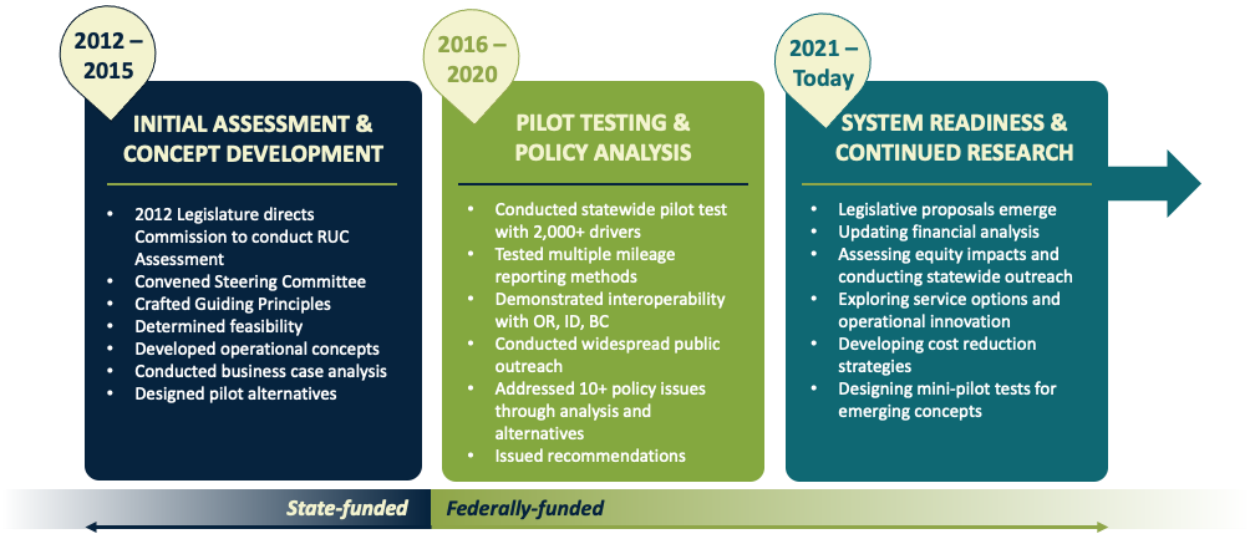

Exhibit 3: Washington's program of research, testing, and policy development for a per-mile road usage charge spans over a decade.

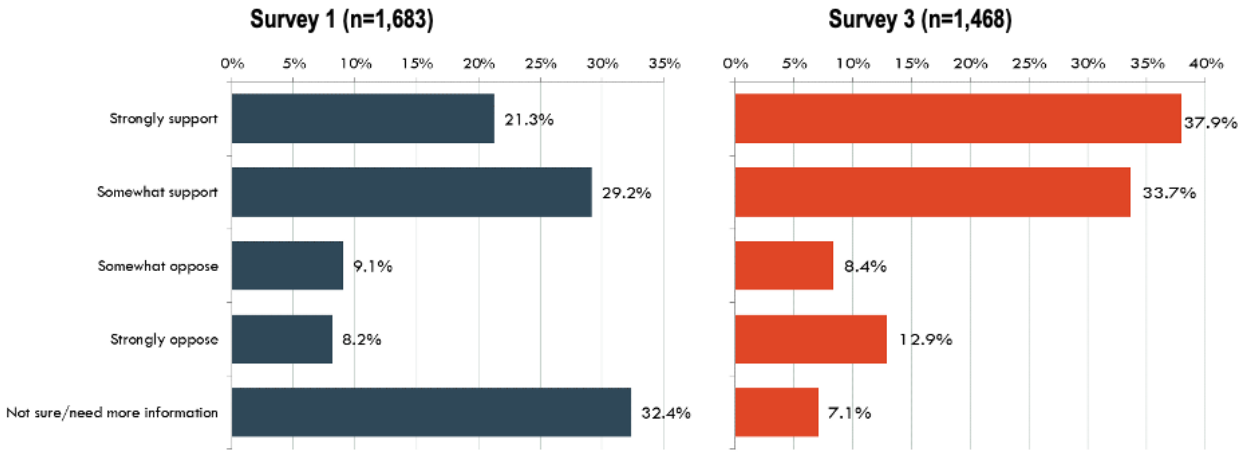

Exhibit 4: Washington pilot participant responses in 2018 (survey 1, prior to the beginning of the pilot test, at left) and 2019 (survey 3, at the conclusion of the pilot test, at right), to the question, "How do you feel about implementing a road usage charge as a replacement to the gas tax to fund transportation infrastructure?"

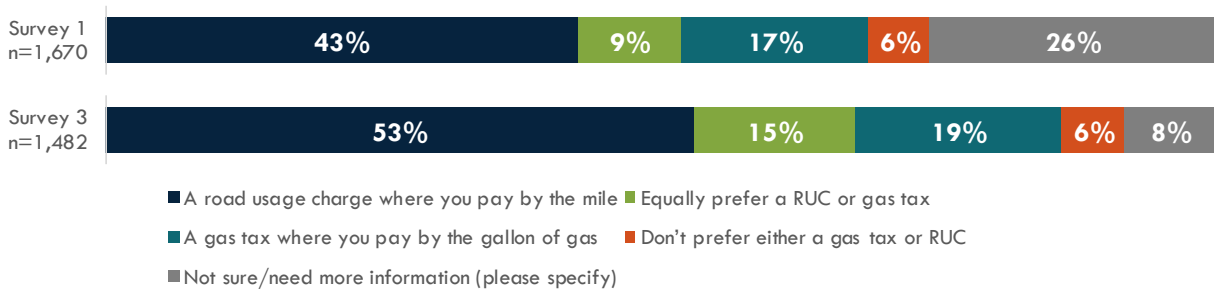

Exhibit 5: Washington pilot participant responses in 2018 (survey 1, prior to the beginning of the pilot test, at top) and 2019 (survey 3, at the conclusion of the pilot test, at bottom), to the question, "Knowing what you know today, which method to fund transportation would you prefer?"

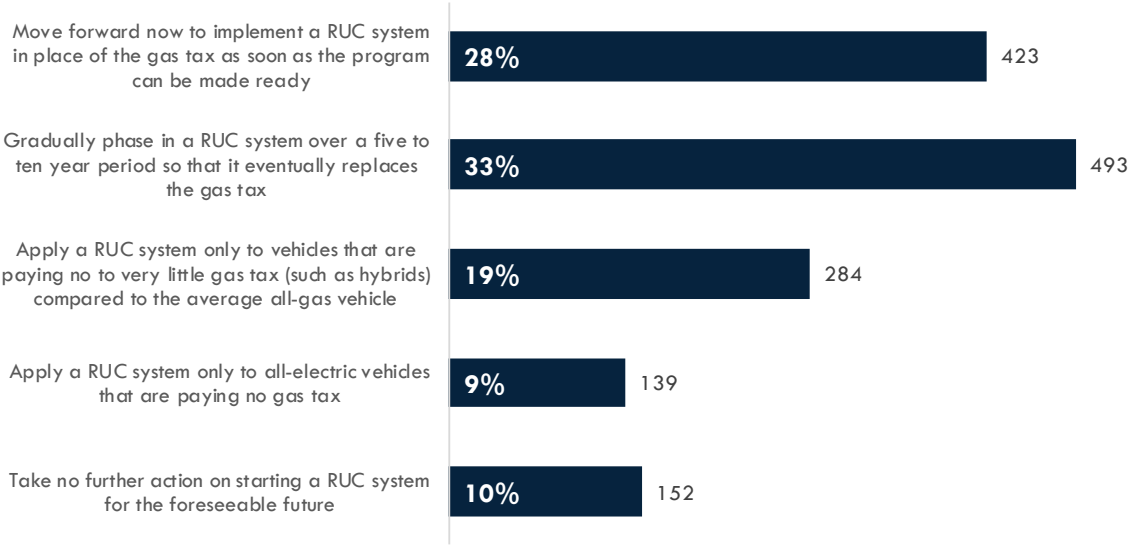

Exhibit 6: Washington pilot participant responses in 2019 (survey 3, at the conclusion of the pilot test), to the question, "Which of the following best represents your advice to elected officials as they consider the next steps in implementing a road usage charge (RUC) system statewide?"

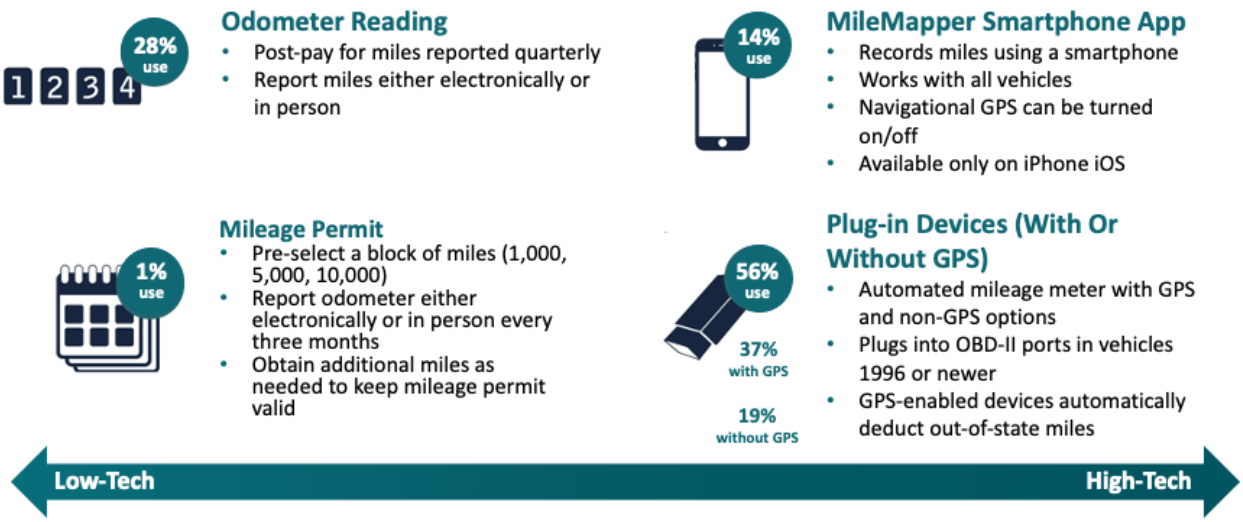

Exhibit 7: Method, description, and popularity of road usage charge mileage reporting methods tested in the statewide 2018-2019 Washington pilot, among over 2,000 participating vehicles.

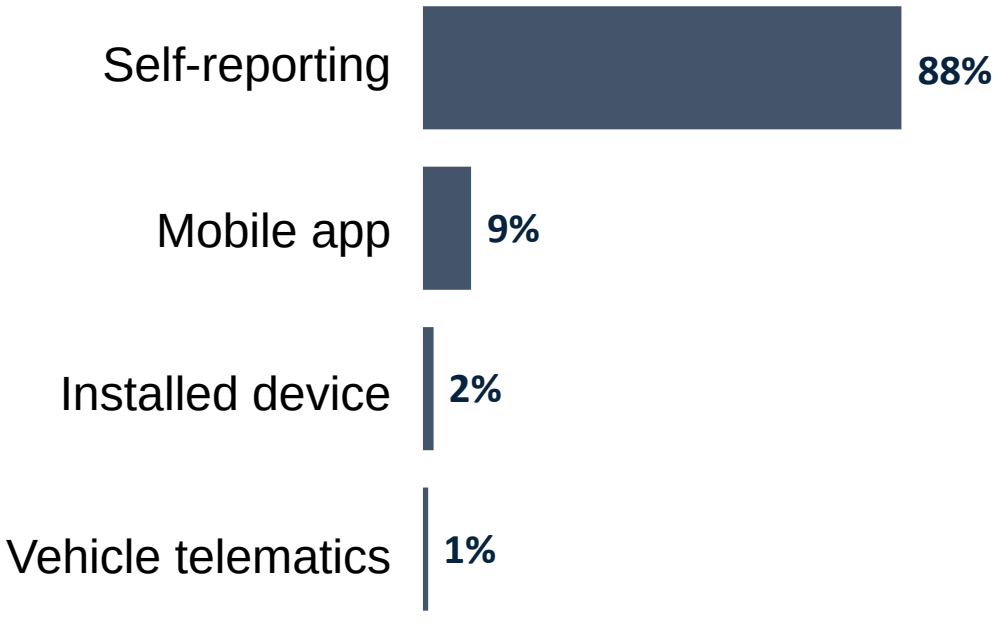

Exhibit 8: Preferred choice of road usage charge mileage reporting method among a statewide representative sample of pilot participants in 2022-2023.

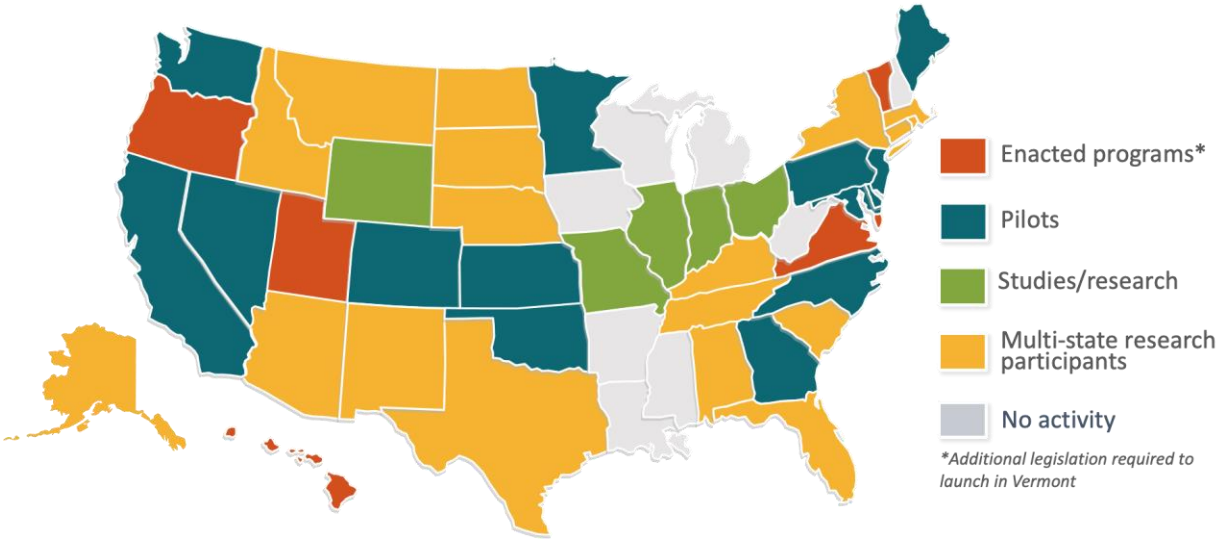

Exhibit 9: Status of enacted programs, pilot programs, studies and research, and multi-state research among the states.

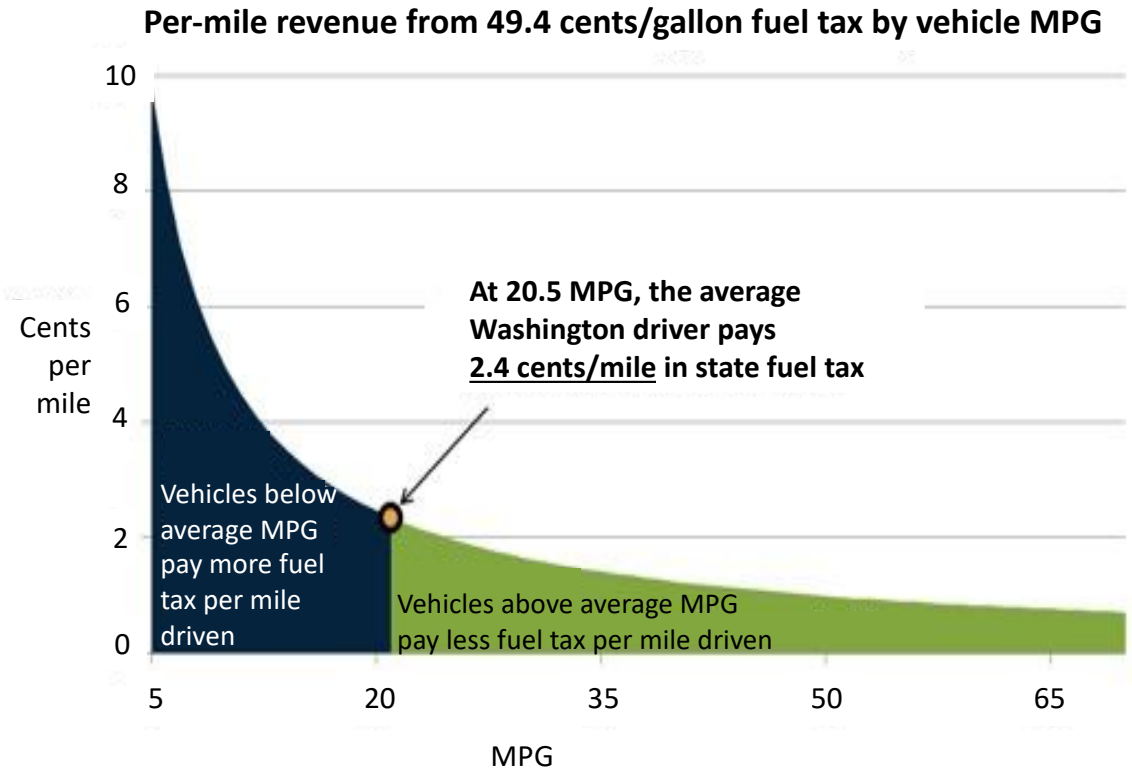

Exhibit 10: Washington state gas tax expressed in cents per mile driven. Vehicles below the statewide average of 20.5 MPG pay more per mile driven in gas taxes than vehicles above the statewide average MPG.

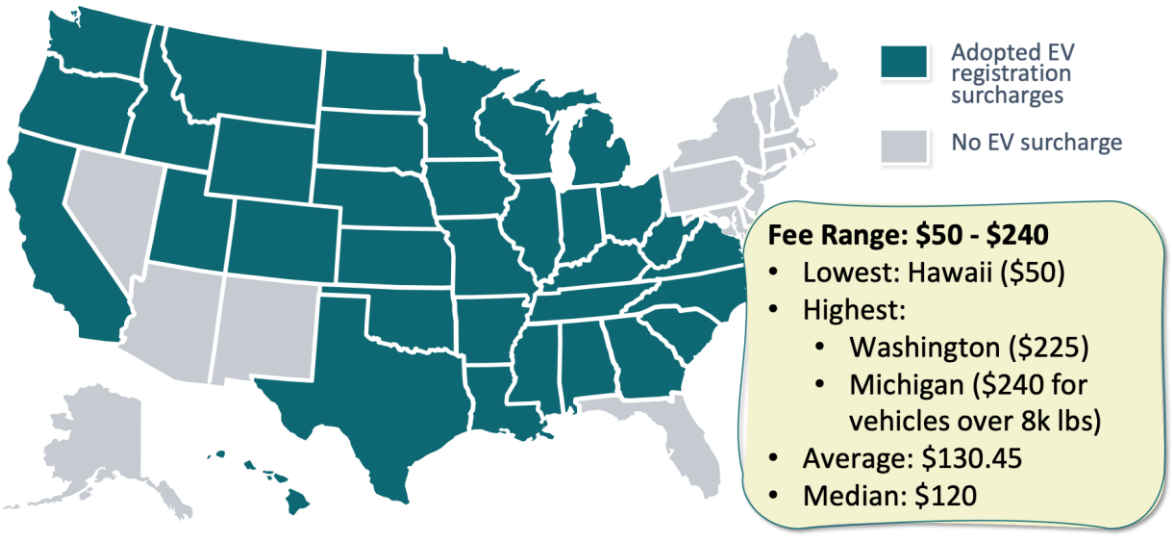

Exhibit 11: States with an annual registration surcharge applied to electric, plug-in hybrid electric, hybrid, and/or highly fuel-efficient vehicles as of 2023 (note: fees are waived for participants in per-mile road usage charge programs in Virginia, Utah, and Oregon, and starting July 2025 in Hawaii).

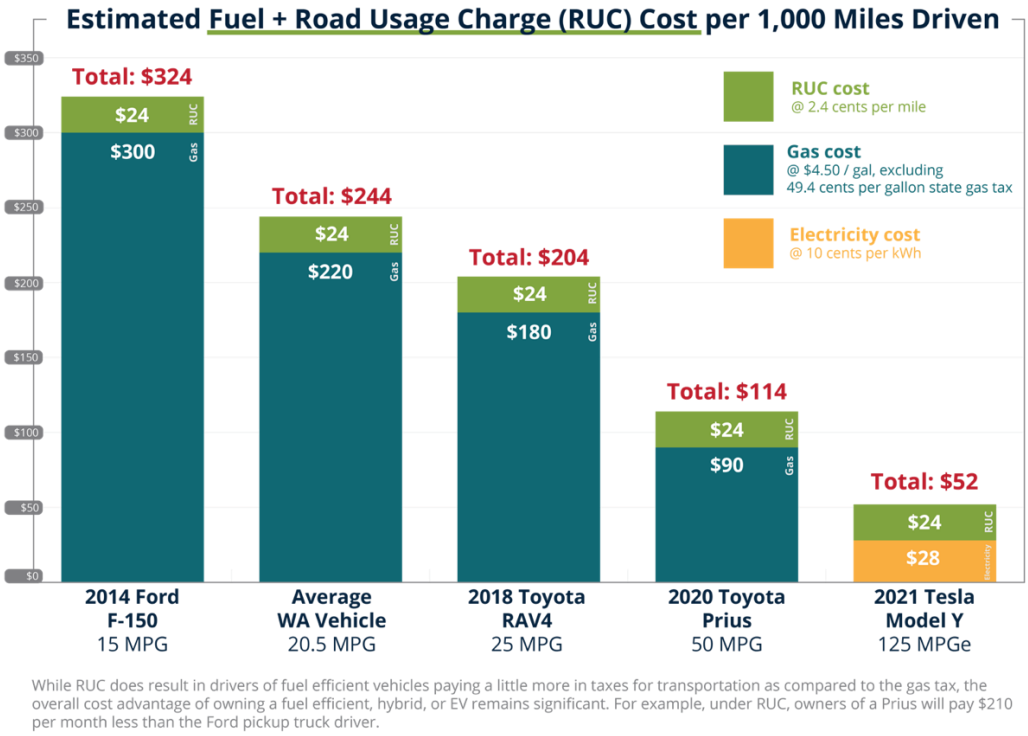

Exhibit 12: Cost of fuel and road usage charge of 2.4 cents per mile, per 10,000 miles driven for five vehicle types in Washington. This chart assumes removal of the state gas tax of 49.4 cents per gallon, EV fees of $225 per year, and hybrid fees of $75 per year.

Census tract average household income	Census tract average MPG	Fuel tax per 10,000 miles driven	RUC per 10,000 miles driven	Change under RUC
Less than $50k	20.0	$247	$240	↓ $7
$50-75k	20.1	$246	$240	↓ $6
$75-100k	20.5	$241	$240	↓ $1
$100-150k	21.4	$231	$240	↑ $9
Over $150k	22.6	$219	$240	↑ $21

Exhibit 13: Vehicles registered in Census tracts with an average household income less than $50,000 would save an average of $7 per 10,000 miles driven under a road usage charge of 2.4 cents per mile, compared to the gas tax of 49.4 cents per gallon. Meanwhile households in Census tracts with average household incomes over $150,000 would pay an average of $21 more per 10,000 miles driven under RUC.

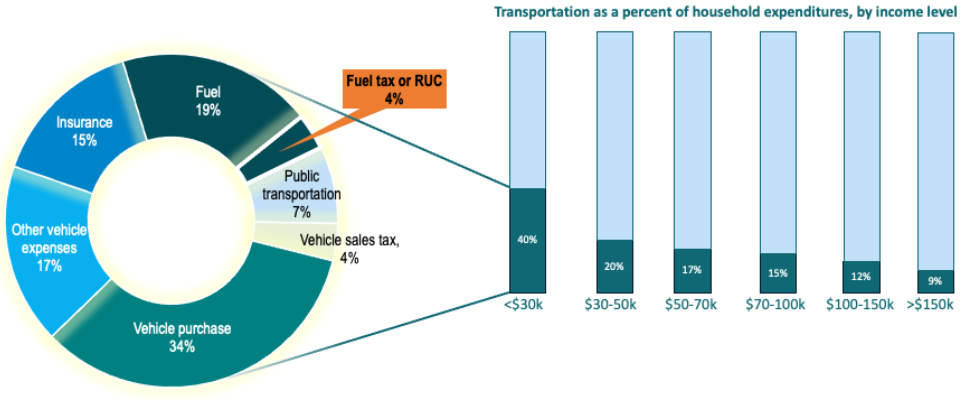

Exhibit 14: Transportation costs as a percentage of total household expenditures by income level (right) and break down of transportation costs among low-income households (left), showing fuel tax or road usage charge as 4% of all transportation household costs.