

WASHINGTON STATE ROAD USAGE CHARGE

Steering Committee | June 13, 2023

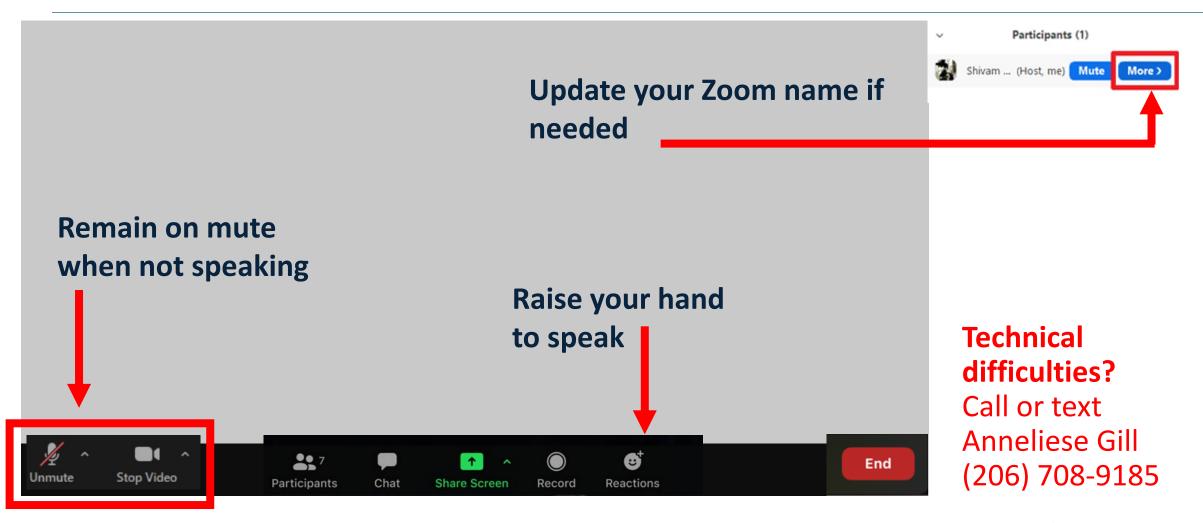


Welcome and Introductions

Roy Jennings Commissioner, WSTC, and RUC Steering Committee Chair



Zoom Interface and Controls





Agenda

- 1) Welcome & Introductions
- Forward Drive Project Update & National RUC Update
- 3) RUC Simulation Update and Initial Results
- 4) Break
- 5) Follow-on Experience Update and Initial Results
- 6) Q&A and Open Discussion



Forward Drive Project Update & National RUC Update

Travis Dunn, Project Manager, CDM Smith

Today's Objectives



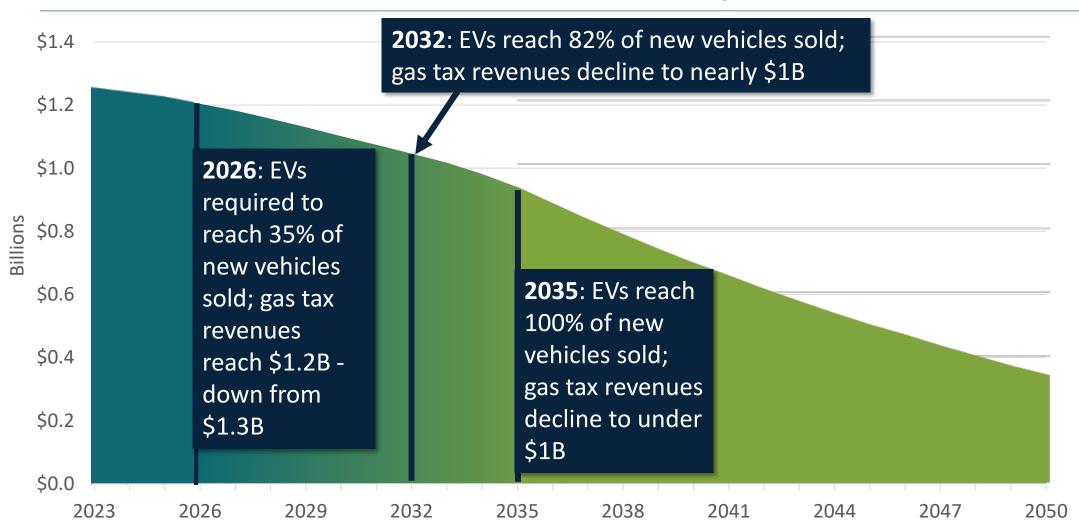
Share results from the RUC Simulation



Provide a progress update on the 3 follow-on experiences



Gas Tax Revenues Will Decline as Zero Emissions Mandates Are Implemented



National Legislative Updates



bills approved by State Legislatures **add kWh taxes on public EV charging** *Montana, Georgia, Utah*



Additional bill implements a **road usage charge program for electric vehicles** *Hawaii**Legislation in Vermont pending



additional bills implements new electric vehicle fees

Montana, Texas



additional bill implements a **new package delivery excise tax** *Minnesota*



EPA Emissions-Reduction Proposed Rules

Light vehicle rule:



- Establishes more stringent vehicle emissions standards for criteria pollutant and greenhouse gas (GHG) emissions for model years 2027 through 2032
- Effectively requires new vehicles sales to be 67% EV/PHEV by 2032

Heavy vehicle rule:



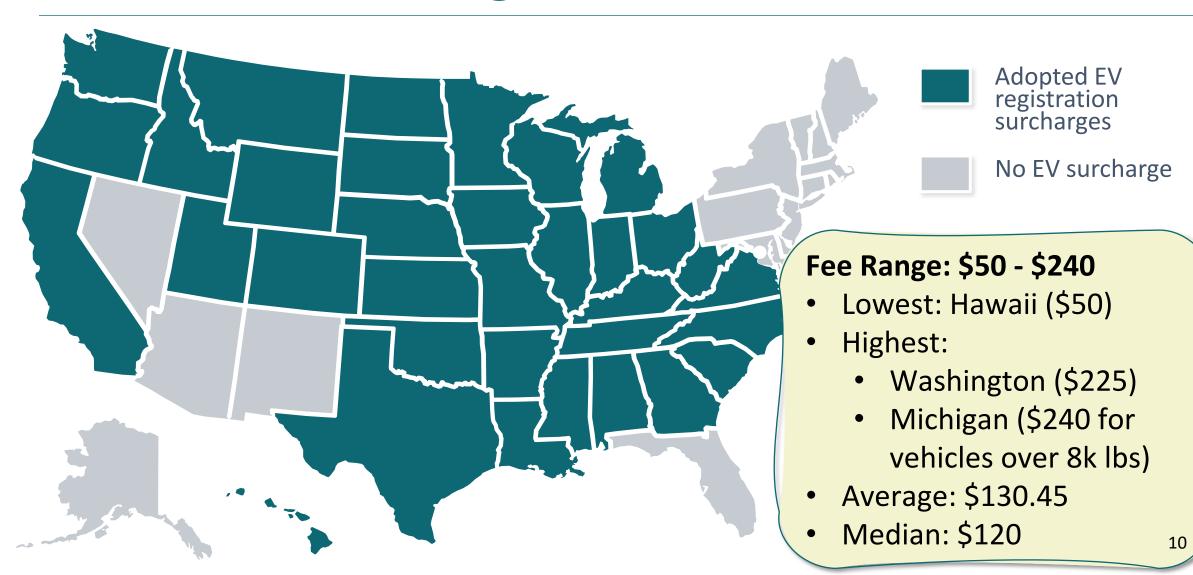
- Establishes new GHG standards for heavy-duty vehicles model years 2028 through 2032
- New standards aim to reduce emissions by 44%

Potential impacts

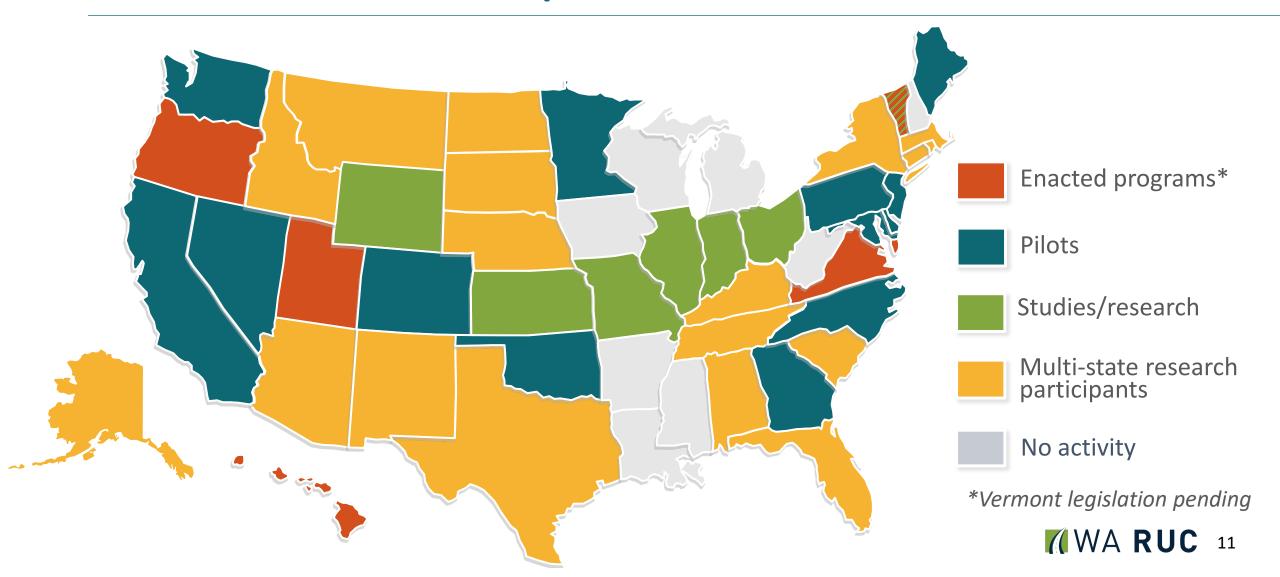


- Would accelerate decline of light-duty fuel consumption nationally, supporting Washington's more stringent mandates
- Heavy vehicle rules would undermine diesel tax receipts
- Comments on draft rule due July 5, 2023 before EPA can begin developing a final rule

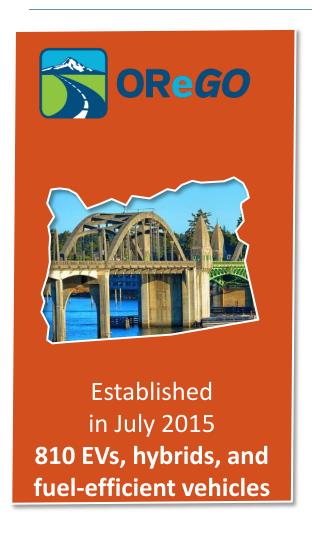
Annual EV Surcharges in 2023

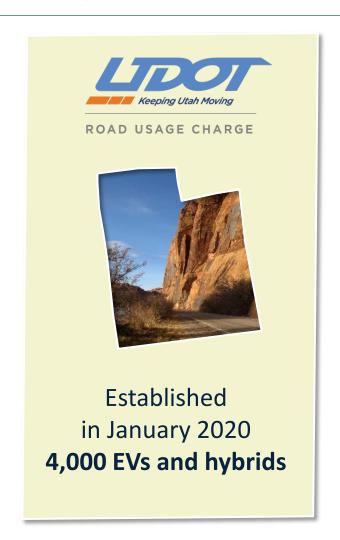


2023 RUC Landscape



Voluntary RUC Programs are Growing







Hawaii: The Nation's Fourth Operational RUC Program

In 2023, Hawaii enacted a bill creating a RUC program for EVs starting in 2025. Until 2028, the program offers a choice between a flat annual surcharge or a per-mile fee capped at the annual surcharge amount

Pre-7/1/2025

7/1/2025

7/1/2028 2033

Mandatory vehicle safety inspections with odometer reading, \$50 EV fee

Option to opt in to RUC capped at \$50 begins for EVs. Rate is 0.8¢/mile, based on state (not county) fuel tax

RUC mandatory for EVs

Target date to extend RUC to all passenger vehicles

Kilowatt-Hour Taxes Explained



A kilowatt-hour (kWh) tax is levied on motorists, EV charging station owners, and/or utilities per unit of kWh consumed.

Self-reporting: EV owners self report the kWh consumed each tax period, then file a return and pay the corresponding tax to the state (Pennsylvania).

At public charging stations: EV owners pay a tax on each kWh they purchase from a public (commercial) charging station. The tax can be levied at several points: on the utility supplying power to the charging site (Montana), on the charging station operator (Utah), or directly on the consumer who is purchasing electricity for their EV (Iowa, Oklahoma, Kentucky).

At home: Since 85%+ of charging occurs at home, capturing all electricity consumed by EVs through a kWh tax would require sub-metering all EV charge points at residences and businesses, with the electric utility applying and collecting the tax on those sub-metered locations (not enacted anywhere).

Kilowatt-Hour Taxes Policy Challenges



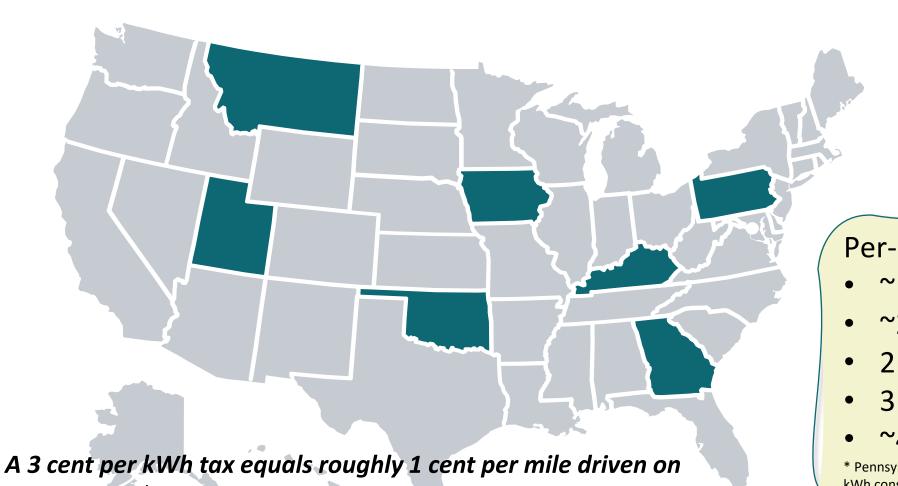
- Little relationship between taxes paid and road usage
- If assessed only at public charging stations, revenue potential is low given <15% of charging occurs at public charging stations
- For states with EV registration fees, EV owners see kWh tax as a double tax
- Where kWh tax is assessed only at public charging stations, it has disproportionate impact on low-income EV owners who are less likely to be able to charge at home
- In some states, "public charging stations" includes those at multi-family residents, leading to equity challenges since the tax applies to apartment-dwelling EV owners but not single-family-unit EV owners

Kilowatt-Hour Taxes Implementation Challenges



- If assessed via self-reporting, risk of high evasion (90%+ in PA)
- If assessed at all charging locations, high administrative costs due to the need to submeter every charge point (in residences, businesses, etc.)
- If assessed at public charging stations, compatibility challenges with EV charging provider payment models (i.e., how to tax kWh at free chargers or pay-by-time chargers)

Kilowatt-Hour (kWh) Taxes in 2023



A 3 cent per kWh tax equals roughly 1 cent per mile driven on average, or \$100 per 10,000 miles driven
Rate equivalencies vary by vehicle model and usage patterns

States with kWh tax at public charging stations only



Per-kWh Tax Rates:

- ~1.7¢ (Pennsylvania)*
- ~2.4¢ (Georgia)
- 2.6¢ (lowa)
- 3¢ (OK, KY, MT)
- ~4.4¢ (Utah)**
- * Pennsylvania's tax is self reported and applies to all kWh consumed by EVs and PHEVs
- ** Utah's tax is 12.5% of the retail cost; assuming \$0.35/kWh yields a tax of 4.4 cents.

Recap of User-Based Funding Options



- Surcharges assessed at vehicle registration based on:
 - Engine type
 - Value
 - Fuel economy
- Motor fuel taxes (for internal combustion engine vehicles)
- Per-kWh taxes (for EVs)
- Per-mile RUC

The Federal STSFA and SIRC grant programs support state explorations of user-based funding options

2023 Federal STSFA Grant Recipients (Last Round)



California: \$3M



Minnesota: \$1.6M





Hawaii: \$1M



Oklahoma: \$1.9M



Michigan: \$2.6M



Virginia: \$3.3M

Federal Activity Updates

- Bipartisan Infrastructure Law enacted November 2021
- SIRC Grants (replaced STSFA)
 - \$75M over 5 years
 - Reduced match: 20% for new applicants, 30% for previous applicants
 - Expanded application eligibility to local governments and MPOs
 - Anticipated notice of funding opportunity: Summer 2023
- National RUC Pilot
 - \$50 million over 5 years
 - Participants from all 50 states
 - Private and commercial vehicles
 - U.S. DOT in coordination with Treasury

An Act

To authorize funds for Federal-aid highways, highway safety programs, and transit programs, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the "Infrastructure Investment and Jobs Act".

SEC. 13001. STRATEGIC INNOVATION FOR REVENUE COLLECTION.

(a) IN GENERAL.—The Secretary shall establish a program to test the feasibility of a road usage fee and other user-based alternative revenue mechanisms (referred to in this section as "user-based alternative revenue mechanisms") to help maintain the long-term solvency of the Highway Trust Fund, through pilot projects at the State, local, and regional level.

SEC. 13002. NATIONAL MOTOR VEHICLE PER-MILE USER FEE PILOT.

- (a) Definitions.—In this section:
- (1) ADVISORY BOARD.—The term "advisory board" means the Federal System Funding Alternative Advisory Board established under subsection (g)(1).
- (2) COMMERCIAL VEHICLE.—The term "commercial vehicle" has the meaning given the term commercial motor vehicle in section 31101 of title 49, United States Code.

RUC Simulation Update and Initial Results

Ging Ging Fernandez, CDM Smith Steven Marfitano, CDM Smith Sabrina Santos, BERK Consulting

Simulation Objectives



Incorporate equity through prototype design



Cost Reduction

Measure **scalability**, cost, and performance of prototype features



Validate design from user experience research and gauge user perceptions and preferences

Concepts Explored in the Simulation



- Self-reporting of odometer readings at registration renewal ("RUC Basic")
- Mileage reporting choices
- Accommodations for low-income vehicle owners
- Alternative invoice designs
- In-vehicle telematics as a mileage reporting choice
- Installment payment plans
- Out-of-state and off-road exemptions without GPS

FOLLOW-ON EXPERIENCES

Simulation Walk-through



19,000

Odometer Mileage

9,500 mi.

Estimated Miles Over Previous 12-months

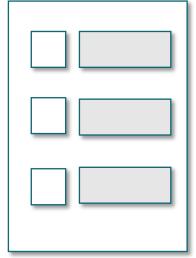


WA RUC FlexPay

WA RUC AutoPilot

WA RUC MilesExempt





Total Reach of Simulation

1,145
participants



492 from organic recruitment

653 from statewide panel

- Responses weighted for a representative sample
- A representative sample minimizes favorability bias and prior RUC exposure

Simulation Experience



70%

were satisfied or very satisfied with the RUC payment and reporting process



85%

said no steps were difficult to complete



reported taking ≤10 mins to complete

Simulation Analytics



5 min. 20 sec.

median time to complete



Mileage reporting selection

2345 is where participants spent the most time



Device Used to Participate in the Simulation



52% used a phone 28% iPhone + 24% Android



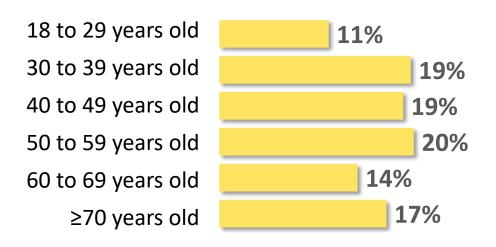
43%
used a computer
30% Windows + 10% Mac
+ 3% Chromebook



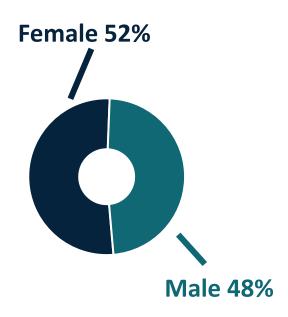
4% used other devices

Characteristics of Simulation Participants

Age and Gender

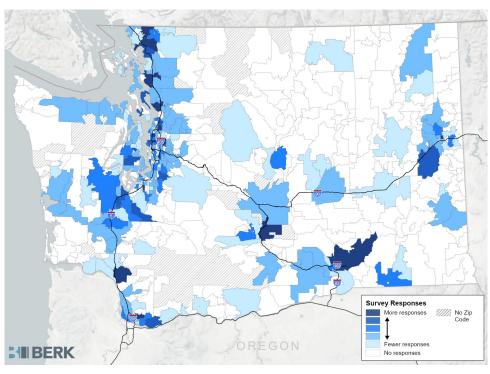


Respondents were evenly distributed among age groups and female and male respondents

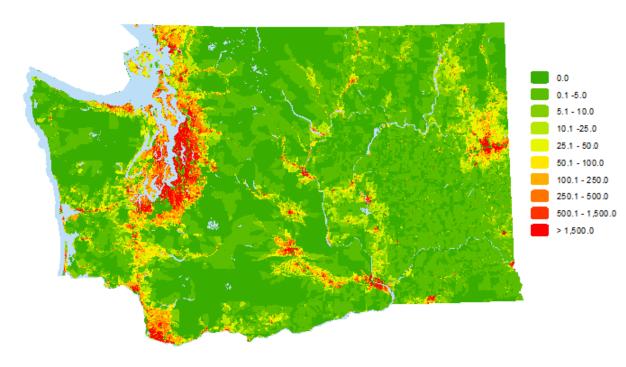


N = 648

Place of Residence

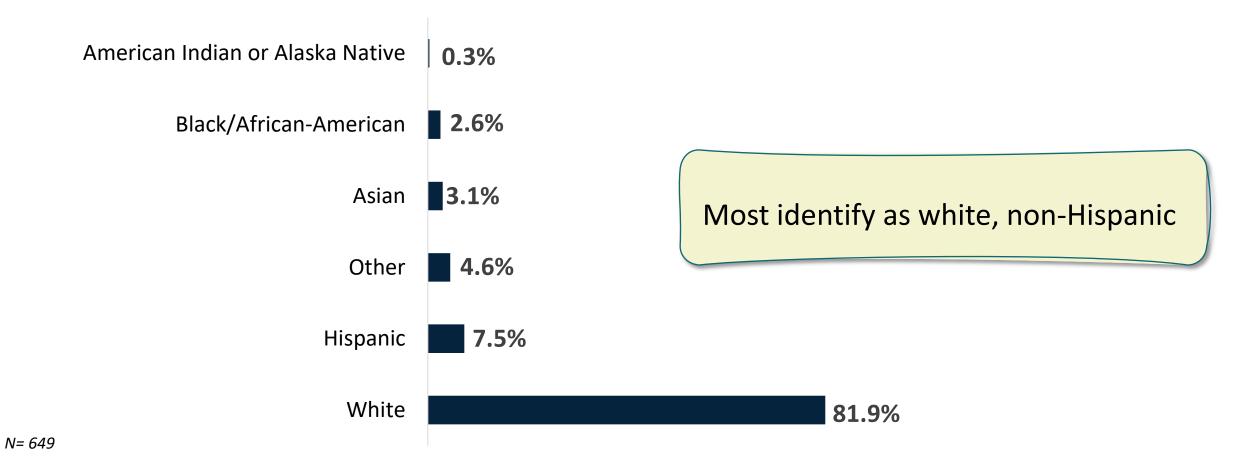


N=653



Source: State of Washington

Race and Ethnicity



Household Demographics



Almost 6 in 10 respondents are married



Most work full time (50%) or part time (13%)



78% have completed at least some college



Most own (78%) or rent (20%) their housing unit



80% live in detached, single-family houses



Almost 6 in 10 live in 1- or 2person households

Household Vehicle Information



Enrollment in State Assistance Programs

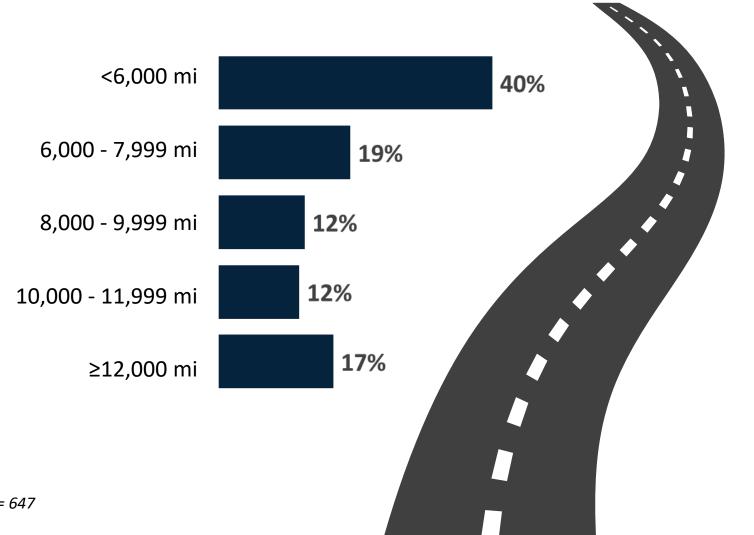
12% of participants are currently enrolled in State assistance programs

- Enrollment differs by income
- More respondents who owed <\$1 in RUC are enrolled in programs
- Medicaid is the most common program



- Currently enrolled in state assistance services
- Not currently enrolled in state assistance services

Driving Habits



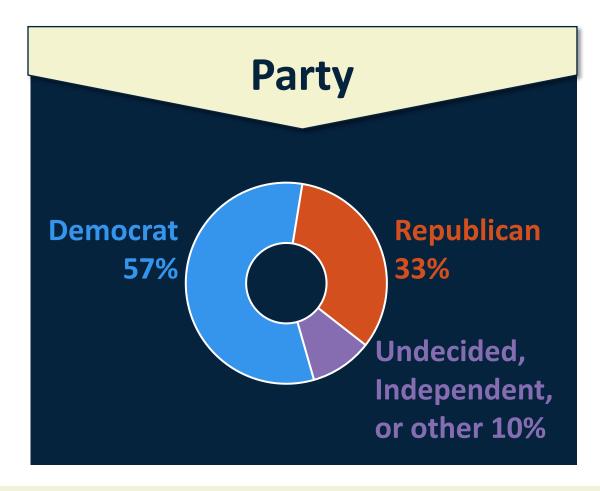


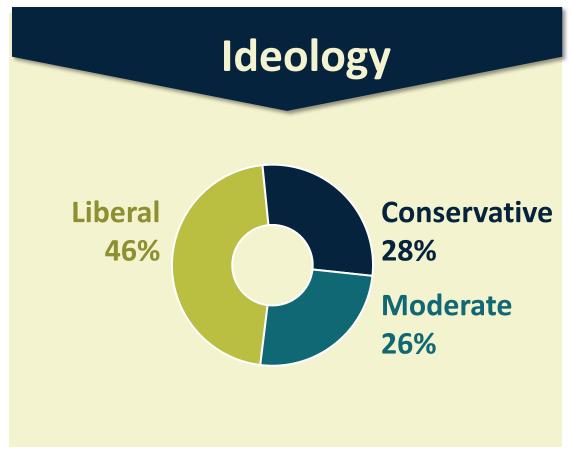
have vehicles with odometer readings of 100K or less

Respondents with lower incomes and rural respondents drive cars with higher mileage



Political Affiliation

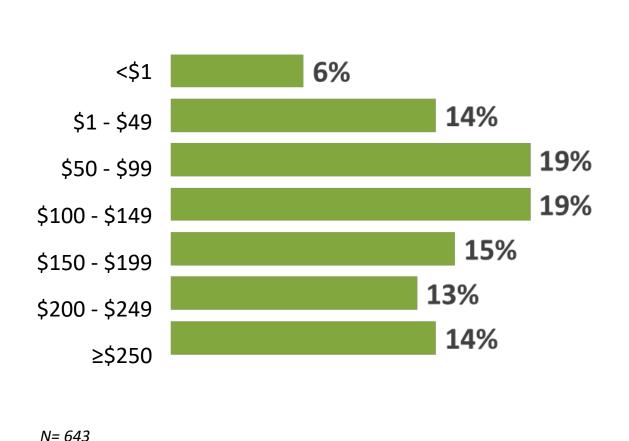






Simulation Results & Findings

Results: Estimated Gas Taxes Paid in the Past Year

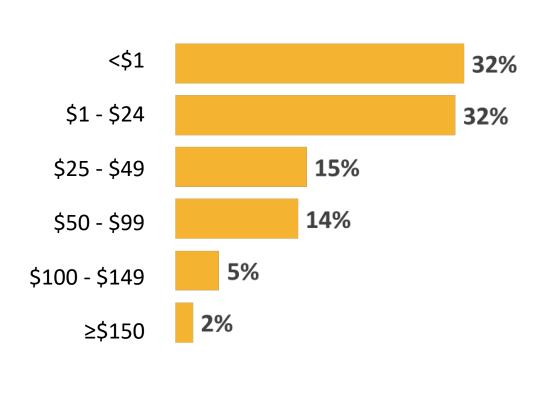






- Those who paid less in gas taxes typically owed more RUC
- Respondents who paid <\$1 were typically those with higher incomes or living in rural ZIPs

Results: RUC Owed (Net of Gas Tax Credits)







Respondents with incomes <\$50,000 and rural respondents typically owed less

N= 648



High-Level Findings



Most **support** a transition to RUC



2 Most want to **self-report** mileage



Most did not want flexible payments – but those who did tended to have lower household incomes





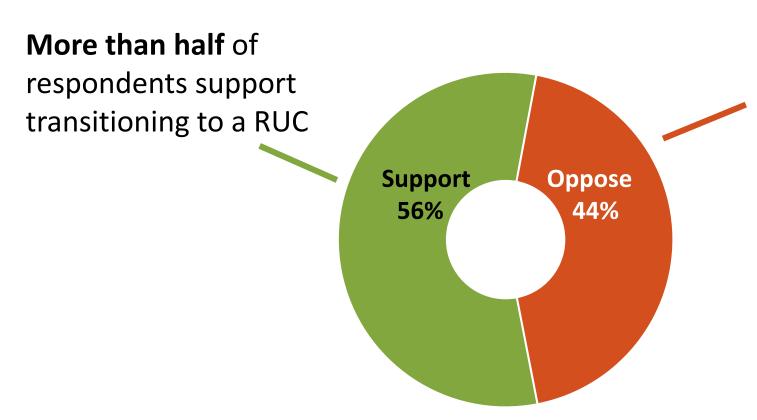
Support varies by political affiliation



The top concern about RUC among participants is data security

Support for Transition to a RUC





Common concerns among those who oppose:

- Fear that RUC would add a new tax
- Program logistics
- Fairness and equity
- Loss of incentive to buy hybrid or electric vehicles
- Privacy

Data Security Concerns



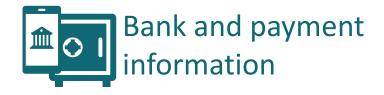
Common Concerns

54%

of respondents have data security concerns – with more concern among rural respondents







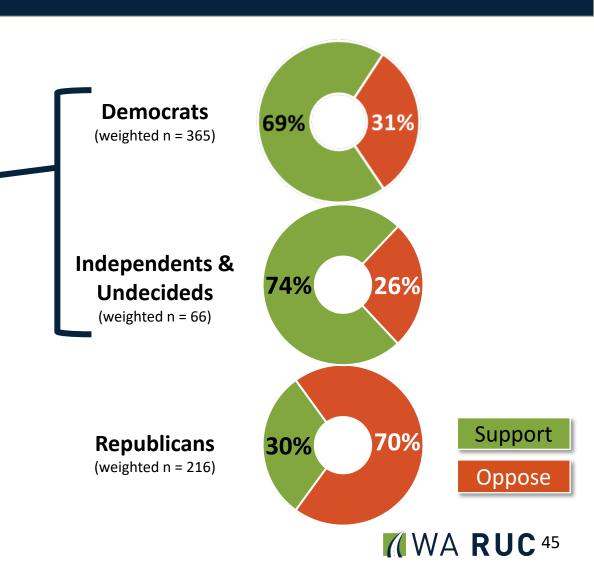






Higher levels of support among:

- Independents and Democrats
- Respondents with higher incomes
- Respondents in western WA and urban ZIPs
- Liberals





Finding #2 Most want to self-report mileage



A desire for a low-cost option likely influenced mileage reporting selection



Most respondents said they would report accurately (though most also think others would be dishonest)



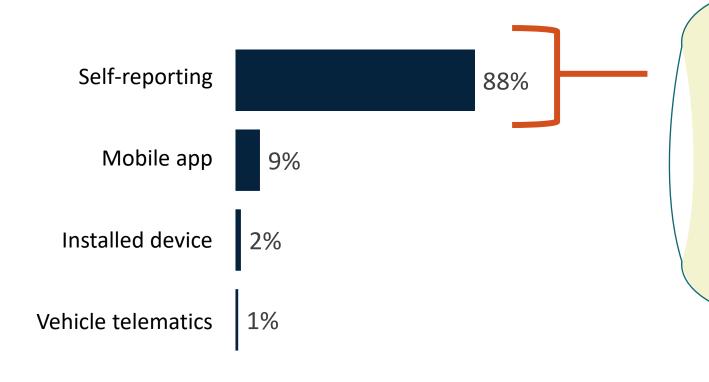
Most believe it's important to have exemptions for out-of-state miles



Few reported driving >200 miles out of state, but more than half wanted to claim an exemption



The Choice to Self-Report



Most respondents opted to self-report mileage

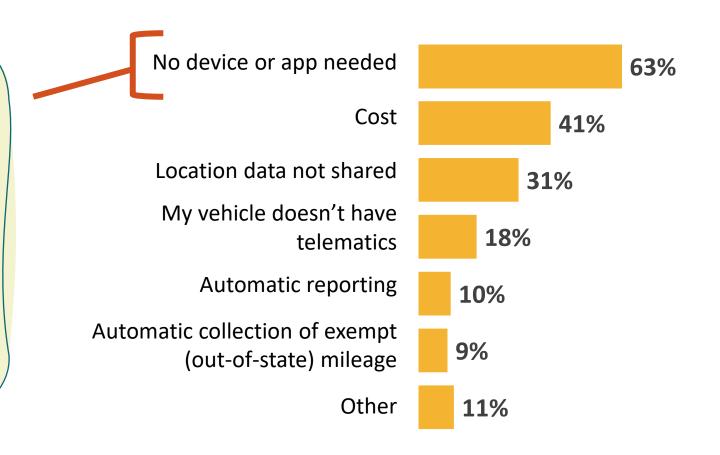
Respondents favored low-tech reporting options that don't require additional steps to complete the process



Reasons for Choosing Reporting Method

Most respondents selected their mileage reporting method because no device or app was needed

Other common reasons include cost and the sharing of location data



Willingness to Pay for Tech-Based Approaches



94%

were not willing to pay more than \$5 per month for technology-based mileage reporting services A higher proportion of rural respondents were **not willing to pay anything** for the use of technology-based approaches to mileage reporting





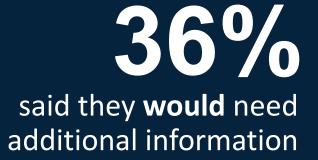


Informing Driver Decision Making



64%

said they **would not**need additional
information to select a
mileage reporting option

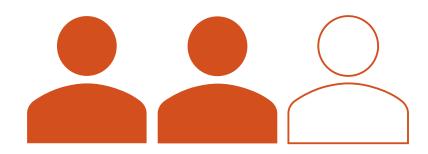


- How mileage reporting options would work
- Cost
- How to report and verify exempt miles
- Privacy, including data collection and use





Privacy and Data Security Concerns



Most (66%) reported privacy or data security concerns with one or more of the tech-based reporting options

There was more concern among rural respondents



Common concerns

- Data security: hacking, identity theft, and app security
- Government having too much information
- Being tracked





Honesty in Reporting

85%

of respondents say they **would** accurately report their miles driven





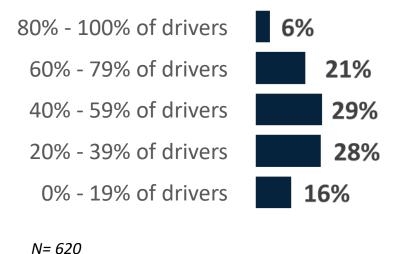


Likelihood of Accurate Reporting: Others

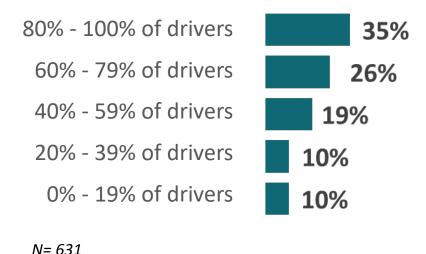
Requiring an odometer photo increases confidence in the accuracy of others' mileage reporting

According to respondents, the proportion of WA drivers that would accurately report their miles driven in the past year:

Honor system only

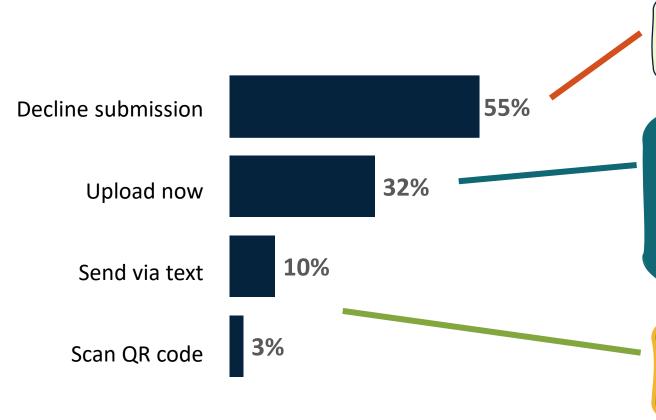


With odometer photo





Submitting Odometer Photos



Over half declined odometer photo submission

"Upload now" was the most common submission selection

 Rural respondents chose this at a higher rate than urban

Urban respondents sent via text or QR code at a higher rate than rural

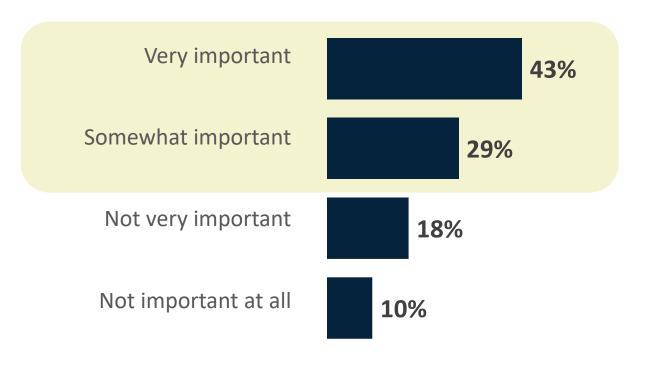


Importance of Mileage Exemptions

72%

of respondents believe that exemptions for miles driven on out-of-state and private roads are important

Higher rates of respondents with higher incomes report that exemptions would be important







Out-of-State Travel Exemptions

Almost half

claimed the standard exemption of 200 miles

Respondents in border counties chose this option at a lower rate than interior counties

N= 634

80%

drove 200 miles or **fewer** on out-of-state or private roads

20%

drove 200 miles or **more** on out-of-state or private roads – and most drove drive 2K miles or fewer





Finding #3

Most did not want flexible payments – but those who did tended to have lower household incomes



Many said having a flexible payment option is important



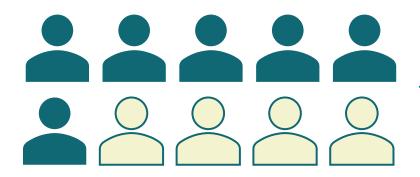
Those with lower incomes were more likely to choose installments than higher income individuals



Most respondents want to pay little to nothing for flexible payment options



Importance of Payment Installments



About 6 in 10 said this option is important for **themselves**

N= 644

Nearly all said this option is important for **others**

N= 636

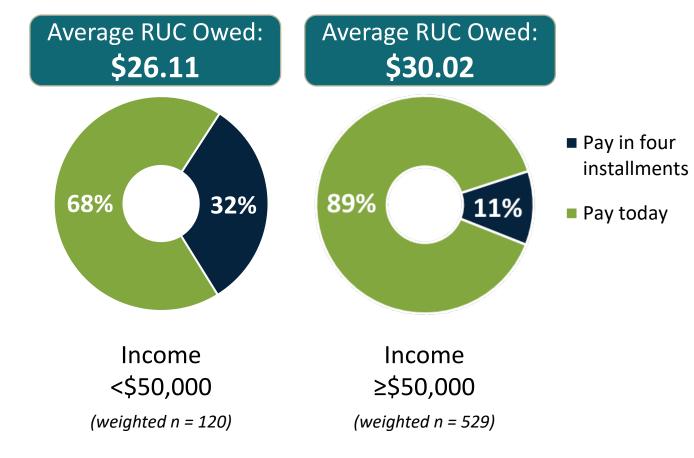




Paying Immediately vs. Installments

Most opted to pay immediately

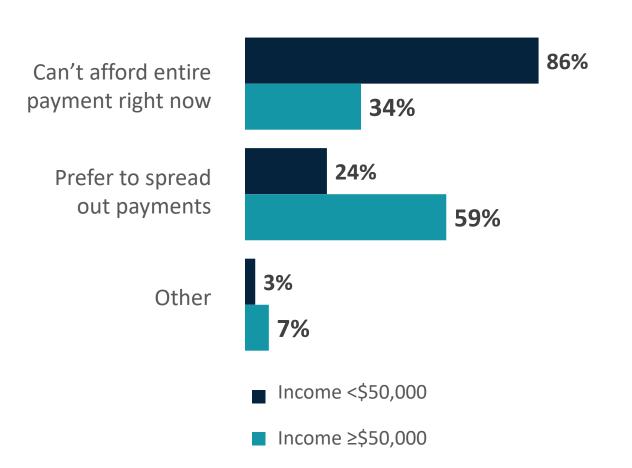
- Choice differs by income
- More respondents with lower incomes opted for installment payments compared to higher income respondents







Payment Option Reasoning



For the 100 respondents who opted to pay in installments, more respondents with low incomes did so because they couldn't afford the entire payment at once

More rural respondents than urban respondents reported an inability to afford the entire RUC payment at once





Payment Preferences

Willingness to Pay for an Installment Option



About 3/4 were willing to pay up to \$1 per payment for flexible payment options

N = 345

Payment by Credit or Debit



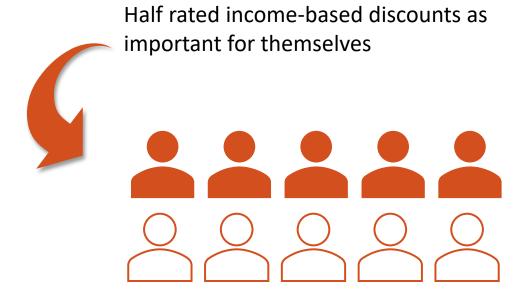
54% chose to use a credit or debit card – with rural and lower-income individuals choosing this option at higher rates

N = 641

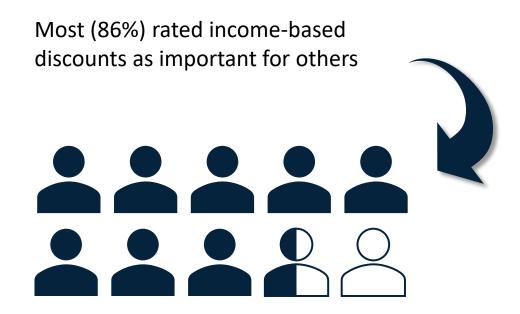




Importance of Income-Based Discounts



N= 647

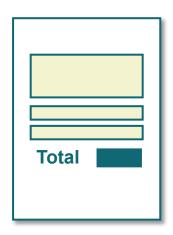


N= 642

Participant Feedback



Invoice Feedback

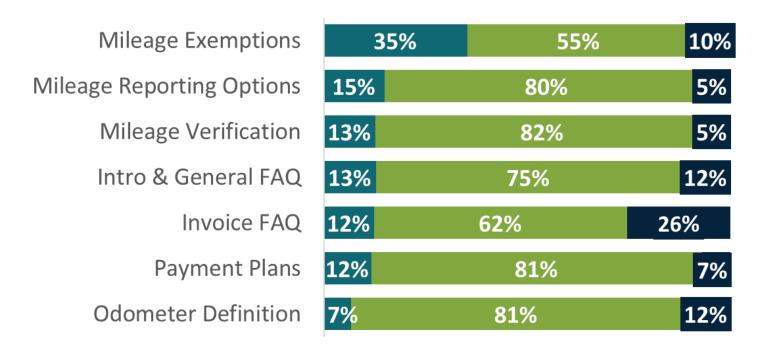


88% of respondents said nothing should be changed in the invoice summary

Suggestions for additions:

- Explanation of the calculation method for estimated gas taxes paid
- Information about how to correct information like vehicle MPG
- Explanation of the purpose of the transaction fee
- Total miles reported in prior years

Usefulness of Information



Most respondents had enough info for each component of the simulation

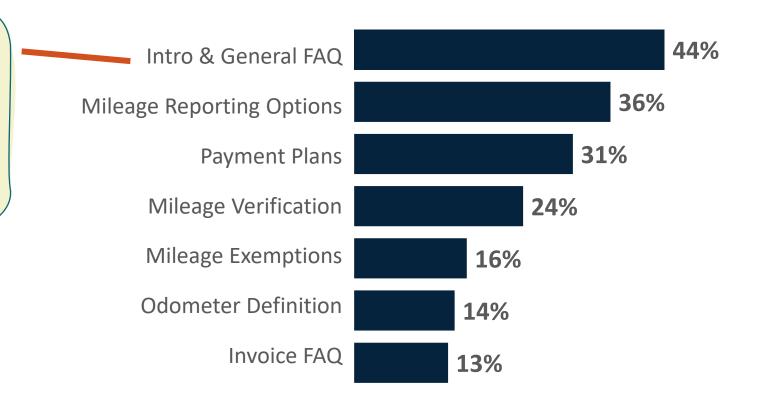
The largest proportion of respondents needed more info about mileage exemptions

■ Not enough information ■ Enough information ■ Did not review this resource



Most Helpful Resources

The resource respondents found most helpful was the Intro and General FAQ





Break

Rejoin at 10:45 a.m.

Follow-on Pilot Experiences: Update and Initial Results

Baxter Shandobil, CDM Smith Roberto Alvarado-Vazquez, CDM Smith Mike Rabinowitz, CDM Smith





Objectives



Test viability of providing payment flexibility for drivers unable to make lumpsum RUC payments



Test the behavior of drivers in a WA RUC FlexPay plan when real currency is exchanged

FlexPay Overview

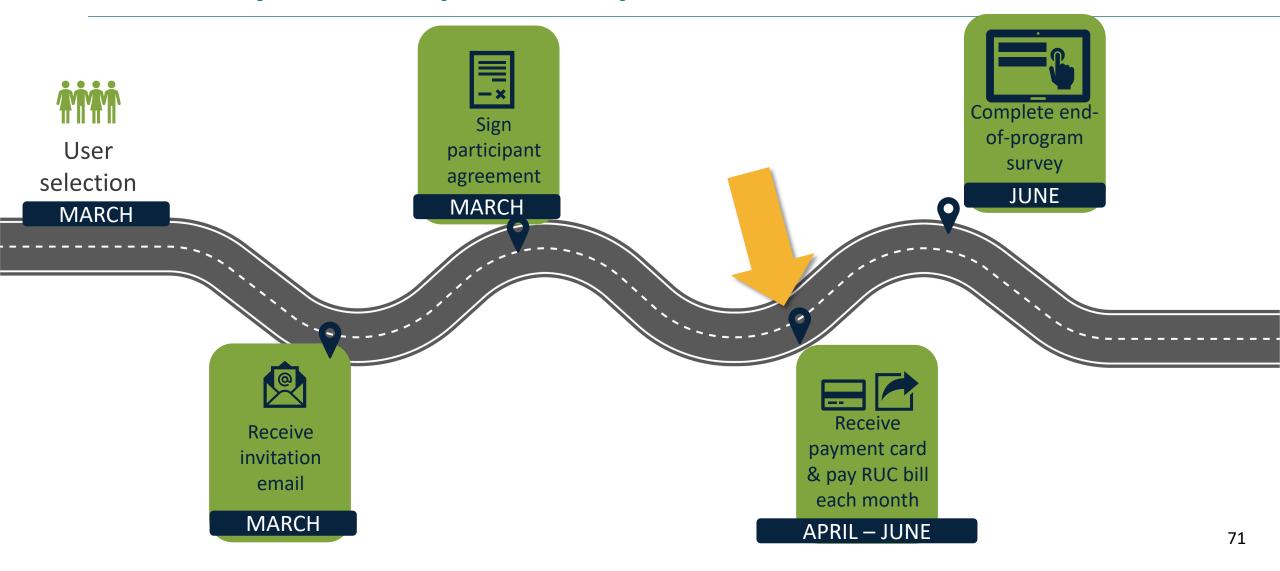
28

participants are currently test driving paying for RUC in installments rather than one lump payment



April – June

FlexPay Participant Experience

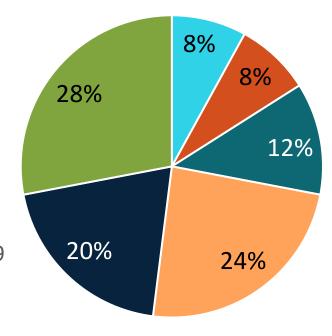


Participant Demographics: Income & Age

Household Income

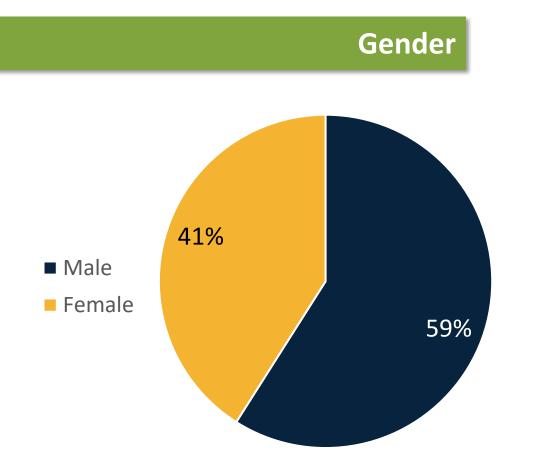


- **\$25,000 to \$49,999**
- \$50,000 to \$74,999
- **\$75,000 to \$99,999**
- \$100,000 to \$149,999
- **=** >= \$150,000

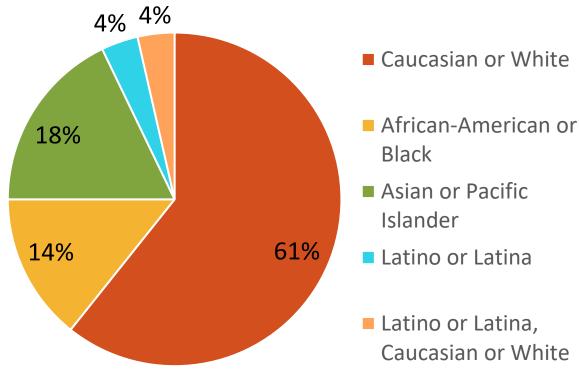


Age 14% 29% ■ 18 to 29 ■ 30 to 44 21% ■ 45 to 59 Over 59 36%

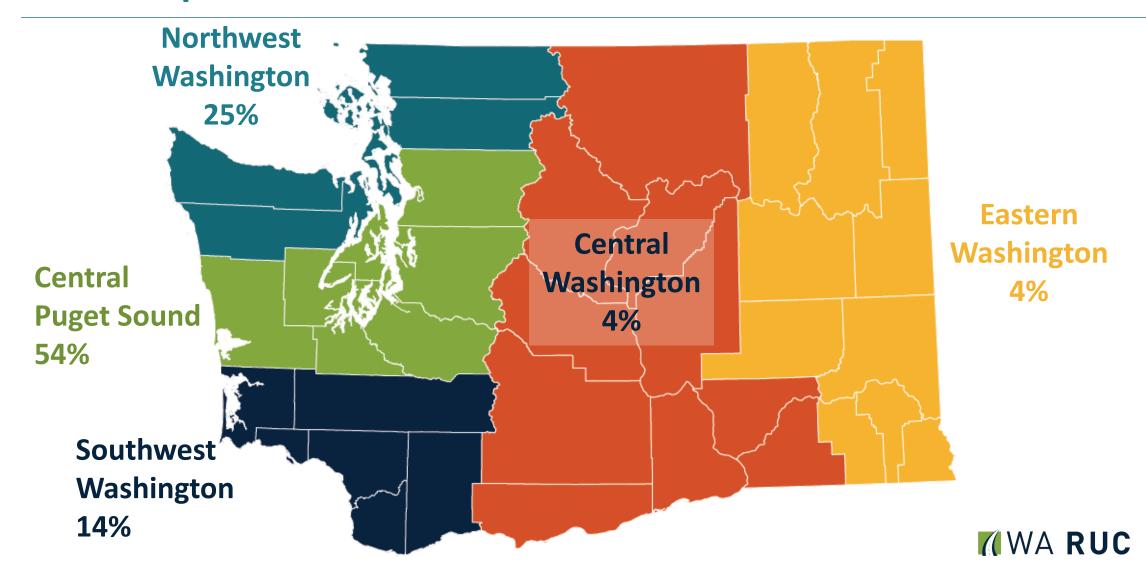
Participant Demographics: Gender & Ethnicity



Ethnicity



Participant Location



Summary of FlexPay Participants' Balances

	Total RUC Owed	FlexPay Monthly Installment Amount Due
Average	\$68.00	\$17.00
Median	\$63.00	\$14.24
Minimum	\$1.13	\$0.28
Maximum	\$231.23	\$57.81

- The mean RUC owed among FlexPay participants was over twice that of simulator participants
- 86% of simulation participants with household incomes
 <\$50,000 opted for flexible payments

FlexPay Follow-On: Attributes of the Customer Experience

Digital Gift Cards

- Mimics wage payment cycle to provide an element of realism
- Minimizes financial risk to research team

Invoices

Invoice viewing portal sent via email attachment

Payment

Payment link embedded in invoice portal

Reminders

 Email reminders sent to participants who have not already paid one week ahead of the invoice due date and again on the due date

FlexPay Follow-On: Attributes of the Customer Experience

Help Desk

Research team ready to field inbound emails and calls

Survey

- Sent via email at the conclusion of the WA RUC FlexPay experience
- Additional datapoints and open-ended qualitative questions

Incentives

- Rewards are accrued by completing tasks throughout the experience
- Incentives provided using the digital gift card service used to provide the funds for participants to pay RUC

The FlexPay Pilot Informs User Experience, Equity, and Cost Effectiveness



WA RUC FlexPay
Participant
Experience



Exit Survey



WA RUC FlexPay Experience (Research Team)

Comprehension and Usability

Compliance Level

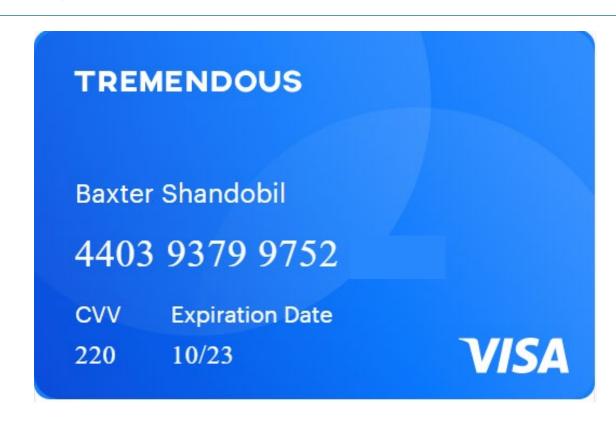
Benefit to Drivers

Administrative Burden



Paying for RUC Charges in Pilot

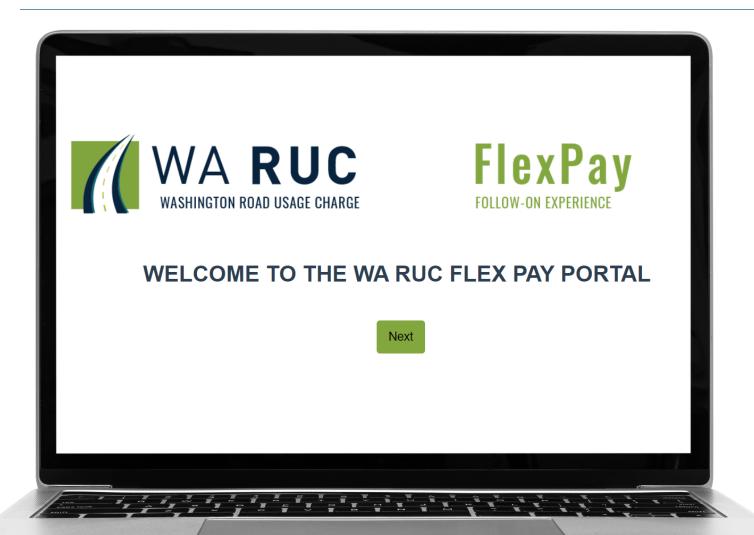
Your June RUC payment card is here! WA RUC | FlexPay VISA Hi {{ recipient_name }}, Thank you for participating in the WA RUC FlexPay follow-on experience as part of the Washington Road Usage Charge (WA RUC) Program. This email contains your April RUC payment card. Please use this card to make your May mock payment, which will be due on Tuesday, May 16. You can treat your RUC Payment Card like a paycheck. When making your mock payment, you are free to use any payment method you choose. You can use the RUC Payment Card provided or use a different payment method and reimburse yourself using the provided RUC



Shown at left is the email participants receive from digital gift card provider, Tremendous, describing the purpose of the RUC payment card. Show above is an example digital RUC payment card.

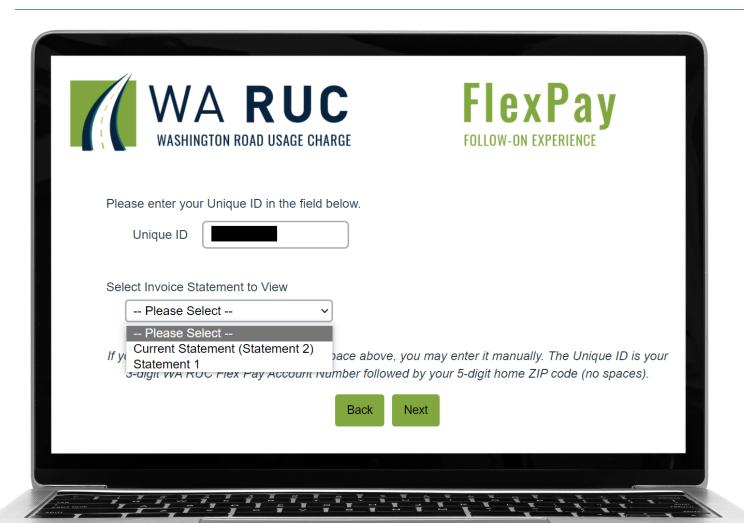
WA RUC

Payment Portal: Entering the Portal



Participants receive their invoices via a link in an email

Payment Portal: Viewing the Invoice



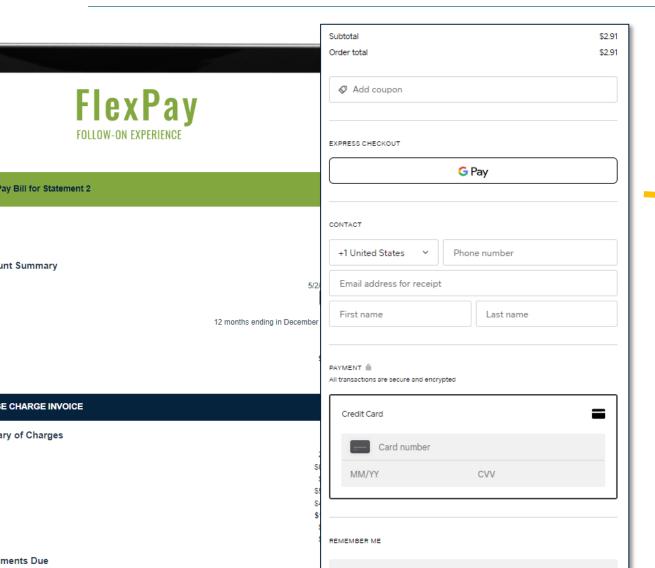
They then select their current invoice

Payment Portal: Making Selections



Here, they can click to make their payment or view their invoice in greater detail

Payment Portal: Making the Payment

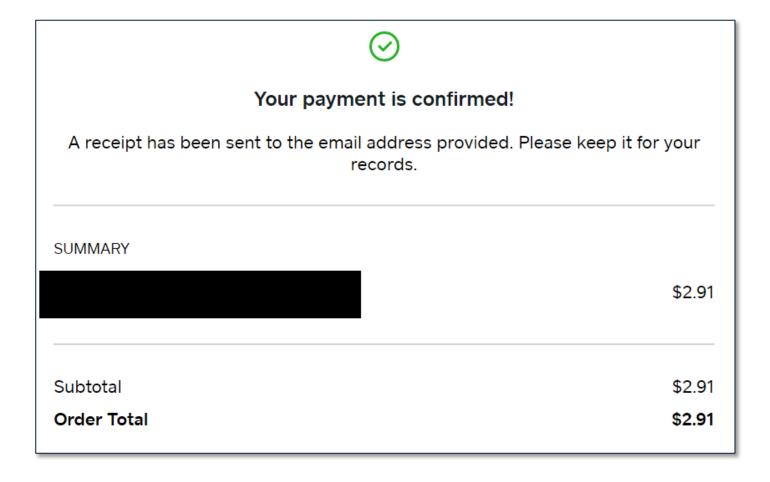


After clicking the payment link, they are sent to Square's* payment site to complete the transaction

*Square is a commercial retail payment processing service used to collect payments from participants

Payment Portal: Getting the Receipt

Participants receive a payment confirmation email once the process is complete



Preliminary Findings

- A majority of participants paid the 1st cycle of their RUC FlexPay bill.
 - All but 1 participant paid on time.
- Participant engagement waned slightly between cycles 1 and 3.
 - Research team will ask about the reasons why engagement decreased in the post-FlexPay survey

	Cycle 1 (28 Participants)		Cycle 2 (28 Participants)		Cycle 3 (26 Participants)*	
	Participants	% of Participants	Participants	% of Participants	Participants	% of Participants
Paid Invoice	26	93%	20	77%	16	62%
On-time Payment	25	89%	18	69%	16	62%
Paid After Late Notice	1	4%	2	8%	TBD	TBD
Did not Pay	2	7%	6	23%	TBD	TBD

Preliminary Findings

Automated late notices are an effective means of increasing on-time payments

	Cycle 1 (28 Participants)		Cycle 2 (28 Participants)		Cycle 3 (26 Participants)*	
	Participants	% of Participants	Participants	% of Participants	Participants	% of Participants
Paid before 1 st reminder	19	68%	8	31%	16	62%
Required 1 st reminder (1 week before due date)	4	14%	3	12%	3	11%
Required 2 nd reminder (day of due date)	2	7%	7	27%	TBD	TBD
Paid After Late Notice	1	4%	2	8%	TBD	TBD

WA RUC

Help Desk Inquiries During FlexPay Follow-On

22 inquiries



Compressed quarterly timeline made the payment schedule confusing

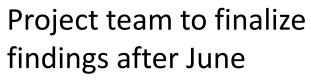
Common themes

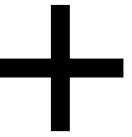
Mock payment card send-out and separate invoice was difficult

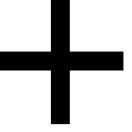
Some participants emailed the Help Desk to verify successful payment

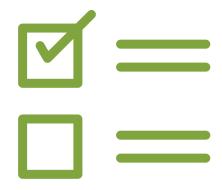
Next Steps







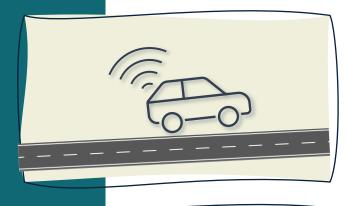




Participants to complete survey by June 30th



Objectives



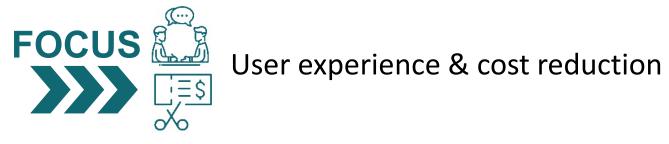
Test viability of using embedded telematics-based mileage reporting for RUC



Evaluate cost of collection and processing

AutoPilot Overview

participants will use the technology already built into their vehicle



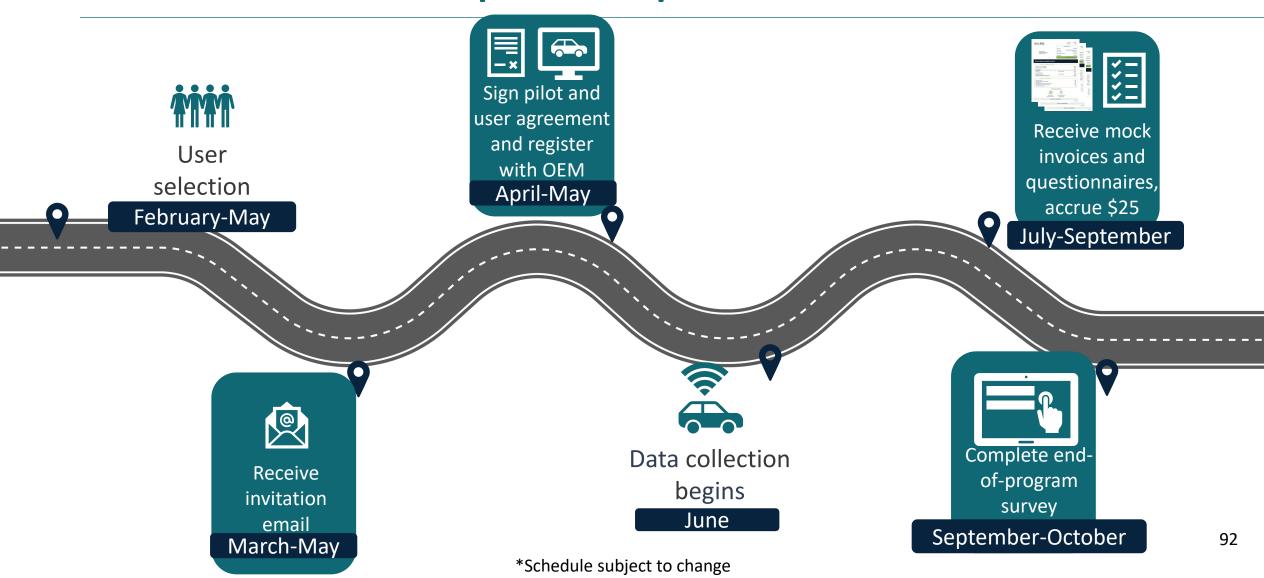


June – October

AutoPilot: Eligible Vehicles



AutoPilot Participant Experience



AutoPilot Data Being Collected



Vehicle Identification





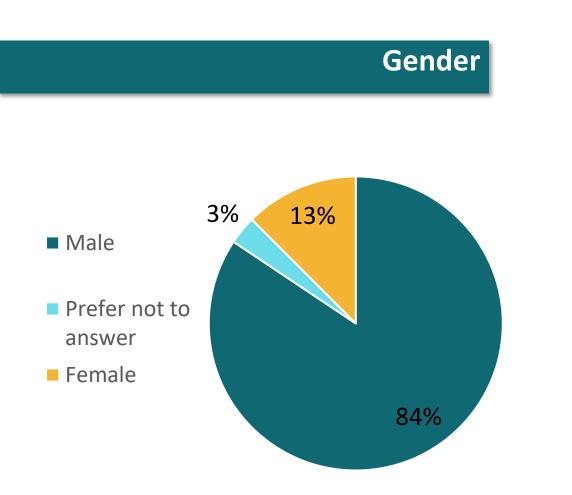


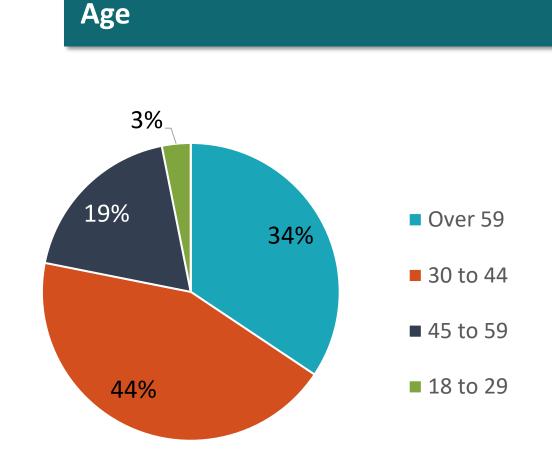




Test in progress – findings will be presented in October

Demographics of Enrolled Participants

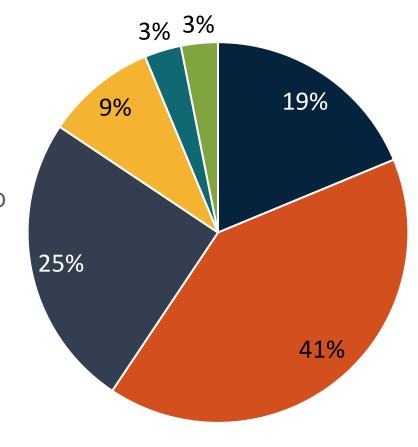




Demographics of Enrolled Participants

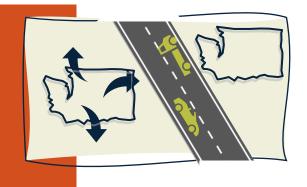
Household Income

- Prefer not to answer
- \$150,000 USD or more
- \$100,000 to \$149,999 USD
- \$75,000 to \$99,999 USD
- \$50,000 to \$74,999 USD
- \$25,000 to \$49,999 USD

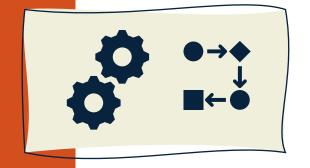




Objectives







Explore options for providing exemptions for out of state and private road travel

Develop and test tools and procedures for self-reported mileage exemption claims

Understand the level of effort required to operate and enforce a mileage exemption program

MilesExempt Key Questions



Can we offer exemptions without relying on standard deductions or advanced technology?



How can we balance user needs (ease of use, convenience, privacy) with state needs (claim check, cost reduction)?



Are participants willing to and able to manually compile and submit data for claiming exemptions?

Miles Exempt Overview

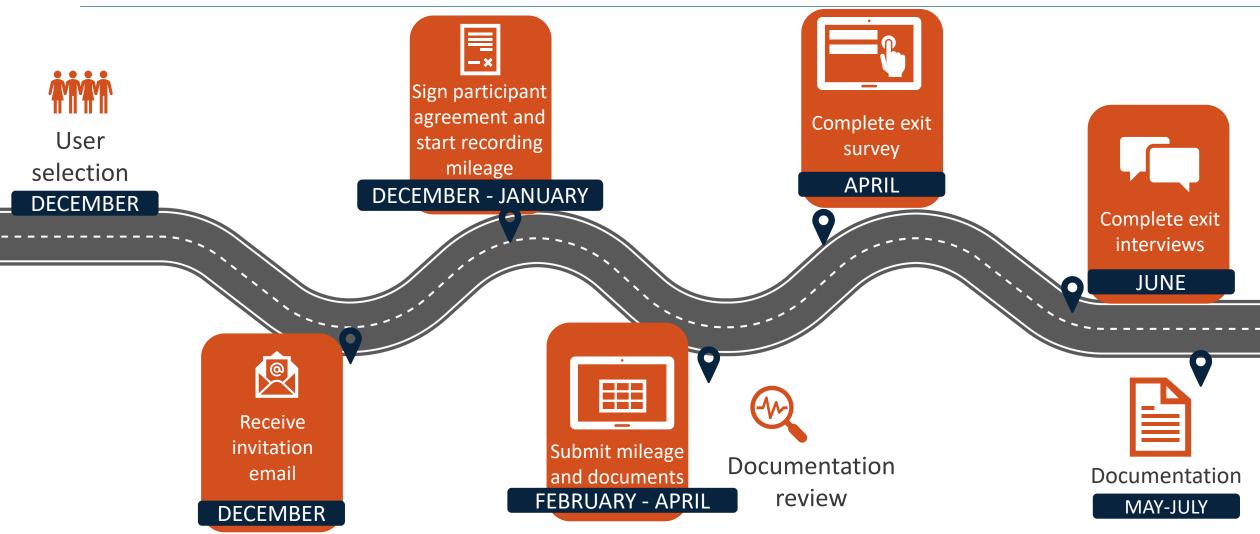
participants tested the process of claiming exemptions for miles driven out of state or on private roads





January – May

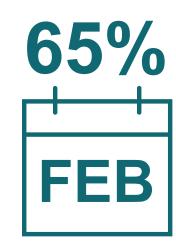
Miles Exempt Participant Experience



participants – 55 interacted at least once

Response percentage by month:

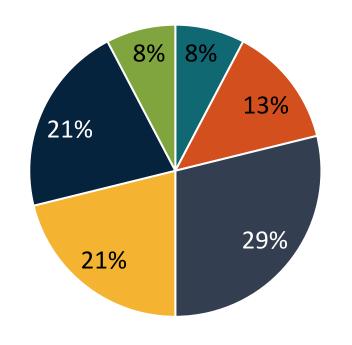




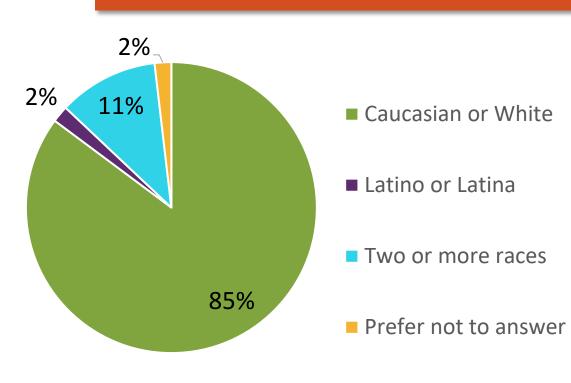


Household Income

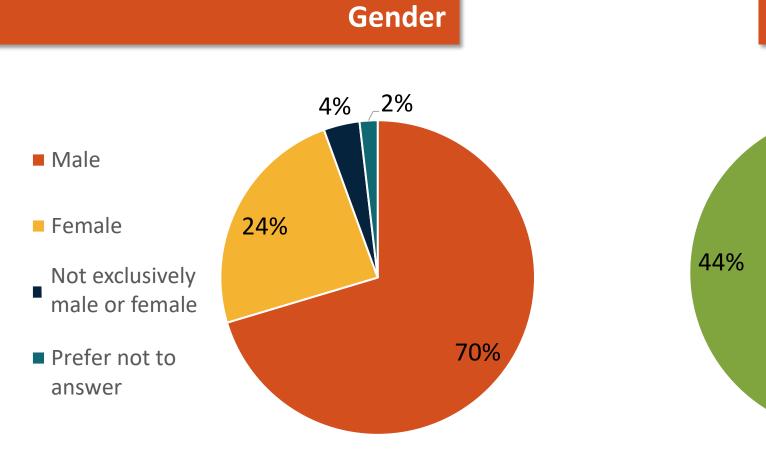
- \$25,000 to \$49,999 USD
- \$50,000 to \$74,999 USD
- \$75,000 to \$99,999 USD
- \$100,000 to \$149,999 USD
- \$150,000 USD or more
- Prefer not to answer

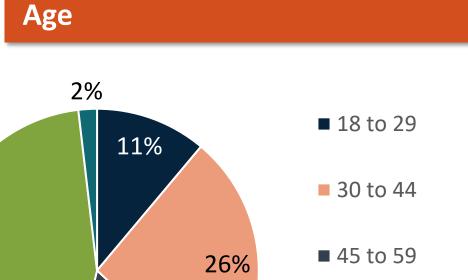


Race/Ethnicity









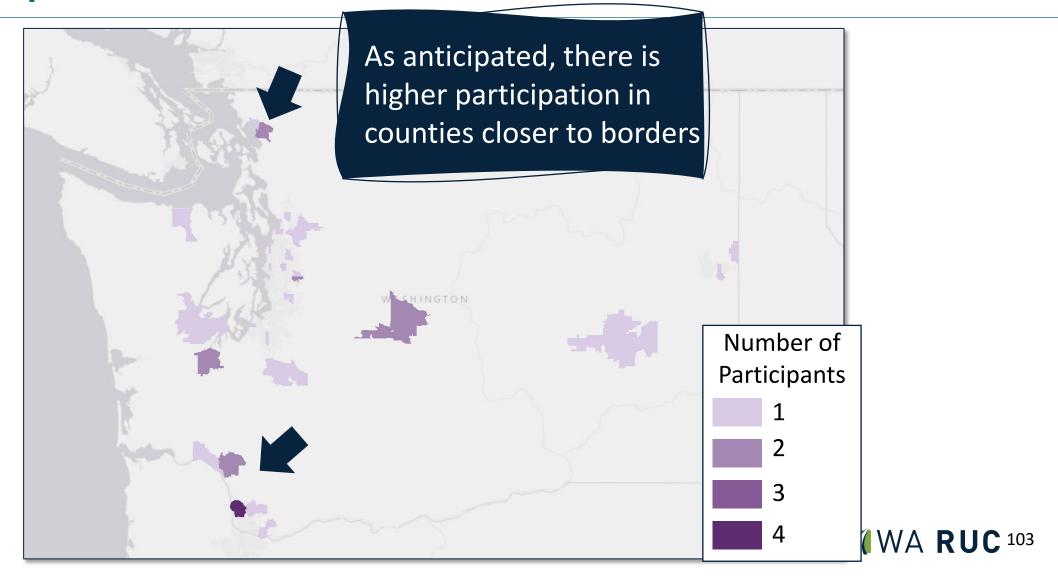
17%

■ Over 59

■ Prefer not to

answer

WA RUC 102



To Maximize Learnings, Evidence Submittals Were Deliberately Non-Prescriptive

- Documents we expected to receive from participants for required evidence submittals
 - Gasoline receipts
 - Retail receipts
 - Employment records
- Creative solutions submitted by participants
 - HOA covenants
 - Invoices for private road maintenance
 - Annotated Google Maps Timelines





MilesExempt Key Questions



Can we offer exemptions without relying on standard deductions or advanced technology?



How can we balance user needs (ease of use, convenience, privacy) with state needs (claim check, cost reduction)?



Are participants willing to and able to manually compile and submit data for claiming exemptions?

MilesExempt: Early Findings



Participant feedback



found the process easy or very easy to understand



80% would claim exemptions for every eligible trip if MilesExempt was the only mechanism available



of those who submitted claims found that collecting evidence was easy or very easy



of those who submitted claims found that submitting evidence was easy or very easy

Q&A and Open Discussion

Travis Dunn, Project Manager, CDM Smith

November 1 Agenda: Sneak Peak



Final results of follow-on experiences



Update on mock standards committee



Preview of Forward Drive final report

THANK YOU!

Reema Griffith, Executive Director Washington State Transportation Commission griffir@wstc.wa.gov 360-705-7070

Consultant support provided by:









