



# WASHINGTON STATE ROAD USAGE CHARGE

## Steering Committee Meeting



Washington State  
Transportation Commission

May 2, 2019  
SeaTac Airport Conference Center  
SeaTac, Washington

# WELCOME AND INTRODUCTIONS

- Steering Committee member self-introductions

Joe Tortorelli  
WA RUC Steering Committee Chair,  
Washington State Transportation  
Commission

# PUBLIC COMMENT PERIOD

- Please try to keep all comments limited to 5 minutes or less

# RECAP OF DIRECTION PROVIDED BY STEERING COMMITTEE

Jeff Doyle  
Project Manager  
D'Artagnan Consulting

- Developmental steps and decisions taken
- Decision-making for remaining Steering Committee meetings

# DEVELOPMENTAL STEPS & DECISIONS TAKEN

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# Issues are addressed when sufficient data exists

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## Before the pilot:

- ✓ How to operationalize the RUC mileage reporting approaches
- ✓ Whether and how to charge out-of-state drivers
- ✓ Exemption from RUC charges
- ✓ Refunds of RUC charges

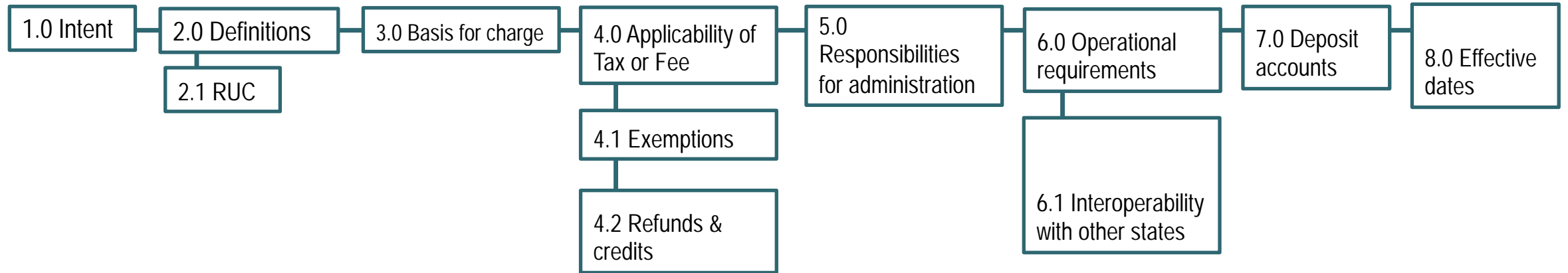
## Anytime:

- ✓ RUC compatibility with tolls
- ✓ Commerce Clause impacts on RUC
- ✓ 18th Amendment impacts on RUC
- ✓ Per-mile rate setting
- ✓ Motor fuel tax bond requirements
- Permanent exemptions from RUC
- ✓ Use or dedication of RUC revenue
- ✓ Rate-setting basis for time-based permit
- Interoperability of RUC with other states

## After the pilot:

- Whether and how best to use private sector service providers
- Drivers' reaction to the proposed RUC system
- Public understanding and acceptance of a RUC system
- State IT needs to support RUC
- Institutional roles in implementing a RUC system
- Transition strategy: which vehicles would pay RUC, and when

# Context for Steering Committee's findings & decisions



# Findings & decisions



What is the vision for RUC as an eventual replacement for the gas tax over a period of time?

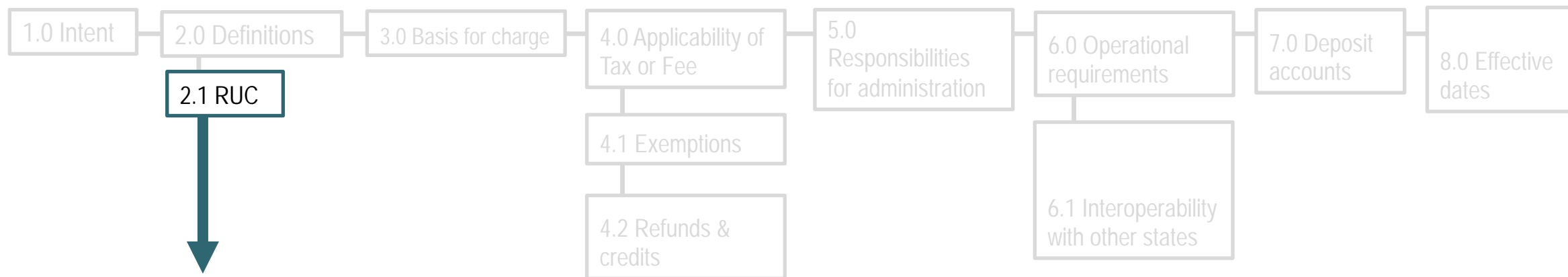
☐ *Transition strategy: September 2019*

Should RUC revenues to be used exclusively for highway purposes? **Version 2.0:**

- ✓ The Steering Committee was directed to conduct RUC research as a future replacement to the gas tax. How the revenue would be spent is a legislative policy decision; the Steering Committee takes no position. If the Legislature decides RUC should be restricted in the same manner as the gas tax it replaces, then it should carry forward the financial advantages currently held by the gas tax – capable of being pledged at the state’s lowest cost of borrowing, and outside of the state’s General Fund debt limit. This can be accomplished by structuring RUC as a type of revenue subject to Amendment 18.



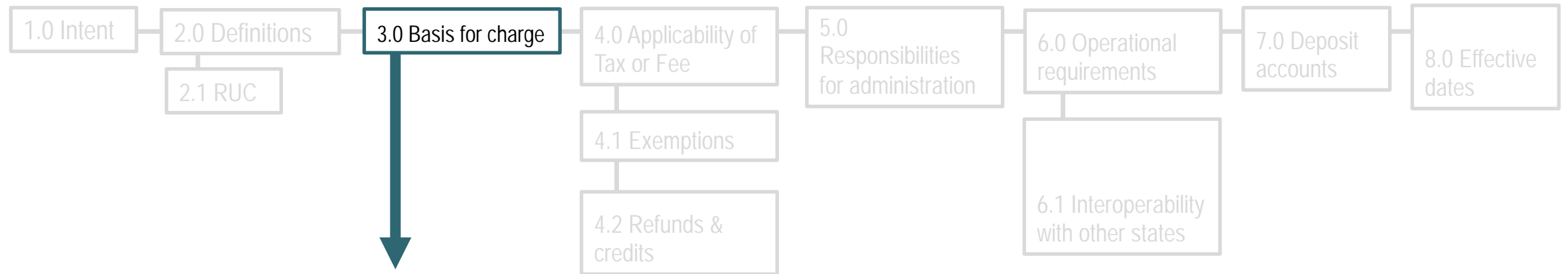
# Findings & decisions



Should RUC be administered as a tax, or structured, implemented and managed as a vehicle license fee?

- ✓ *If the Legislature intends RUC to be restricted in the same manner as the gas tax, then it should be structured and implemented as a mileage base vehicle license fee.*
- ✓ *As a mileage-based vehicle license fee, RUC revenue can be pledged to secure future highway-related bonds outside of the state's General Fund debt limit.*

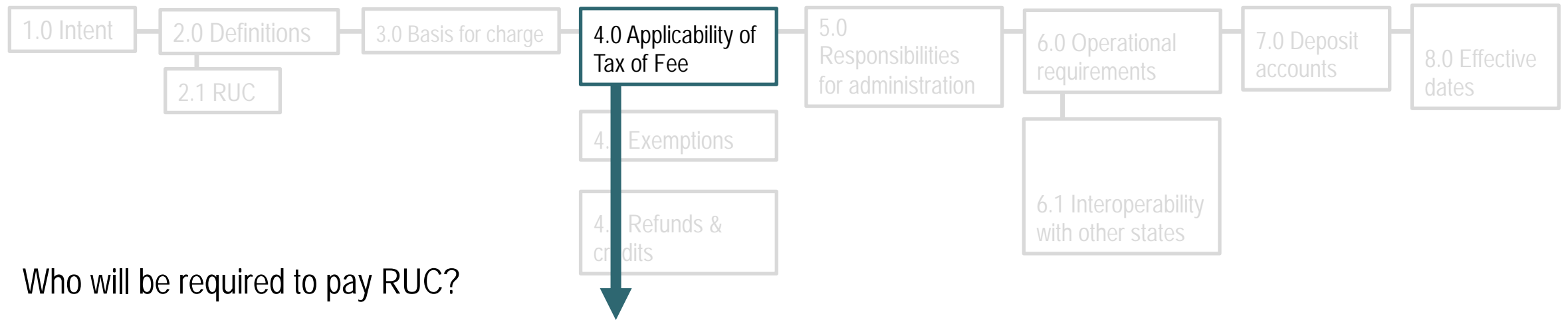
# Findings & decisions



How will the fee be assessed -- for each exact mile (or fraction) driven, or based on mileage “brackets” (similar to how vehicle weight fees are applied), or based on a period of time?

- Driver reaction to the proposed RUC system – June 2019*
- A time-based permit that allows drivers to pay an annual RUC fee for unlimited driving mileage during the year should be offered as an option for vehicle owners.*

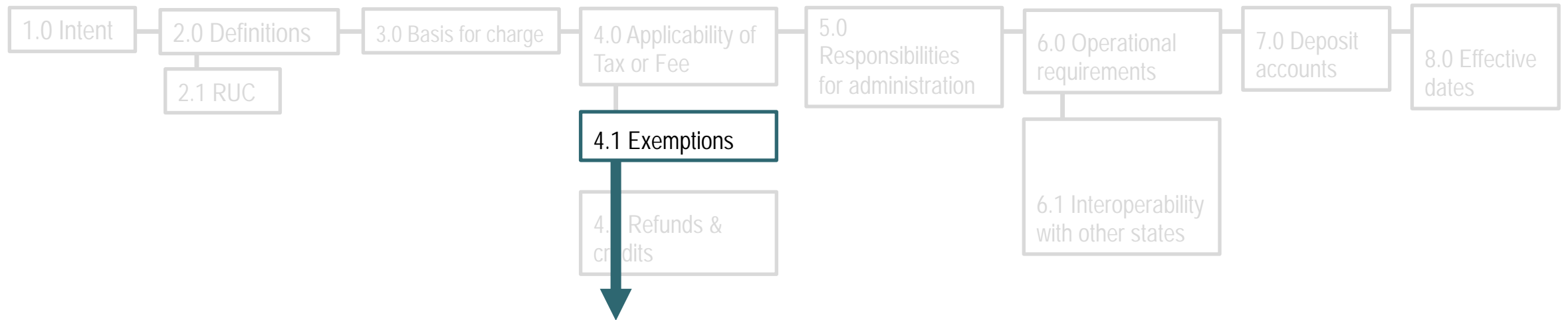
# Findings & decisions



Who will be required to pay RUC?

- Transition strategy – September 2019
- Vehicles subject to RUC – September 2019
- Interoperability test results/out-of-state drivers – May 2019
- ✓ Out-of-state drivers may not be unconstitutionally discriminated against in the application of RUC. Higher effective rates for non-resident drivers, or unreasonable mileage reporting burdens for non-residents must be avoided.

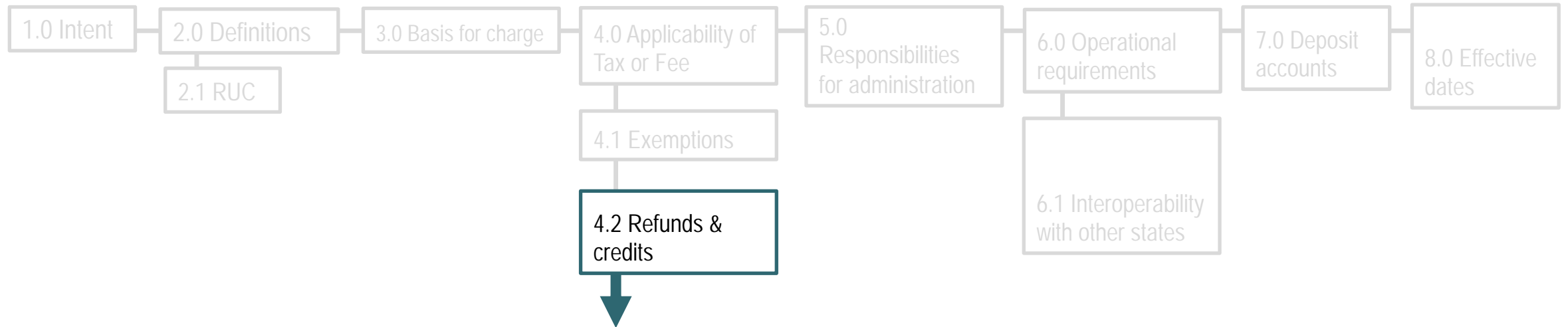
# Findings & decisions



Who will be exempt from RUC?

- Permanent exemptions from RUC – May 2019*
- Interoperability test results/out-of-state drivers – May 2019*
- Transition strategy – September 2019*

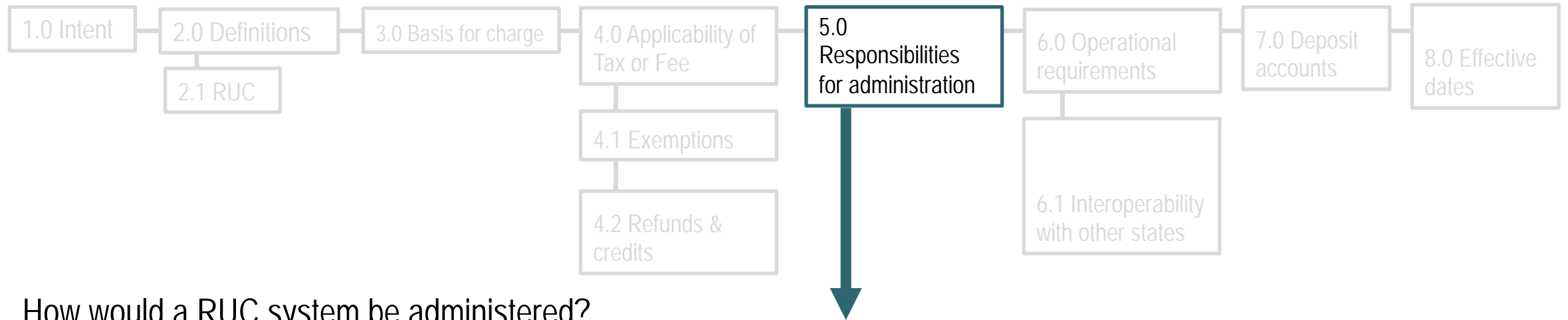
# Findings & decisions



Who will be entitled to refunds and credits?

- ✓ *Refund policies that currently apply to the gas tax should be continued throughout a transition to RUC.*
- Interoperability test results/out-of-state drivers – May 2019*
- Transition strategy – September 2019*

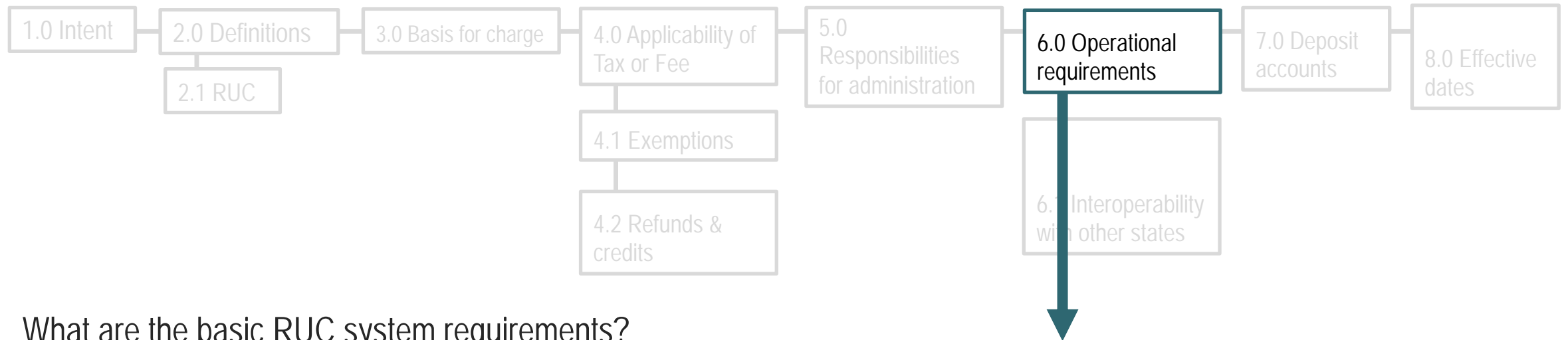
# Findings & decisions



How would a RUC system be administered?

- ✓ *Rate-setting: the Legislature should establish an initial per-mile fee, and require WSTC to recommend fee adjustments at regular intervals, as is currently the rate-setting practice with other transportation charges (e.g., tolls and fares)*
- ❑ *State information technology needs – May 2019*
- ❑ *Use of private sector account managers – June 2019*
- ❑ *Driving reaction to the proposed RUC system – June 2019*
- ❑ *Institutional roles in implementing any future RUC system – June 2019*

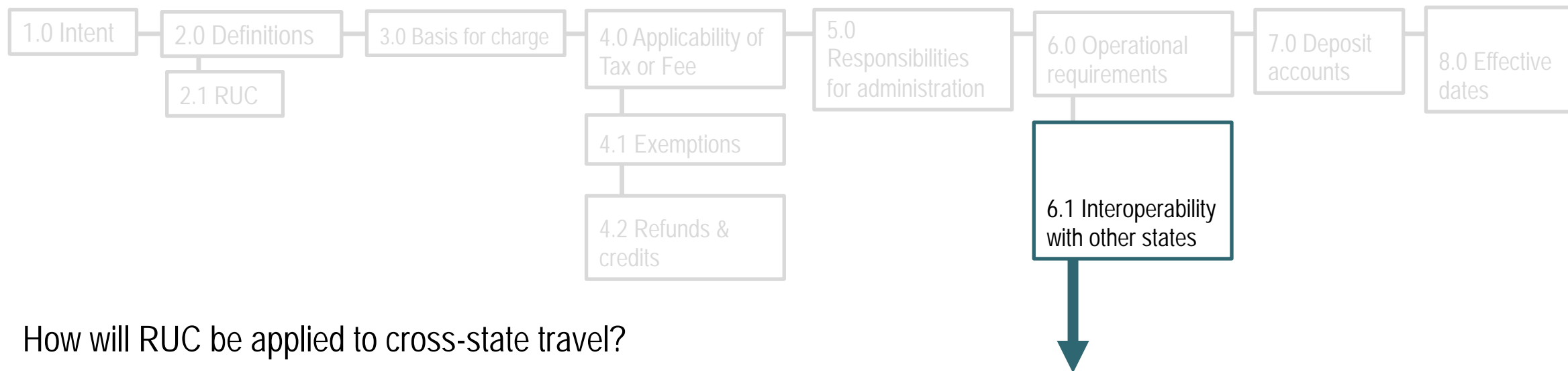
# Findings & decisions



What are the basic RUC system requirements?

- ✓ *Model privacy policy for RUC in Washington: choice of reporting methods alone is insufficient to protect driver privacy; the state should enact privacy protections specific to a RUC system in Washington.*
- ✓ *RUC compatibility with GoodToGo toll system: RUC and the GoodToGo toll system should collaborate – but not merge any functions. RUC and tolling should continue serving separate and distinct policy purposes.*
- ❑ *State IT needs – May 2019*
- ❑ *Driver reaction to the proposed RUC system – June 2019*

# Findings & decisions



How will RUC be applied to cross-state travel?

- ✓ *Out-of-state drivers may not be unconstitutionally discriminated against in the application of RUC. Higher effective rates for non-resident drivers, or unreasonable mileage reporting burdens for non-residents must be avoided.*
- ❑ *Interoperability test results/whether and how to charge out-of-state drivers – May 2019*
- ❑ *Transition strategy – September 2019*

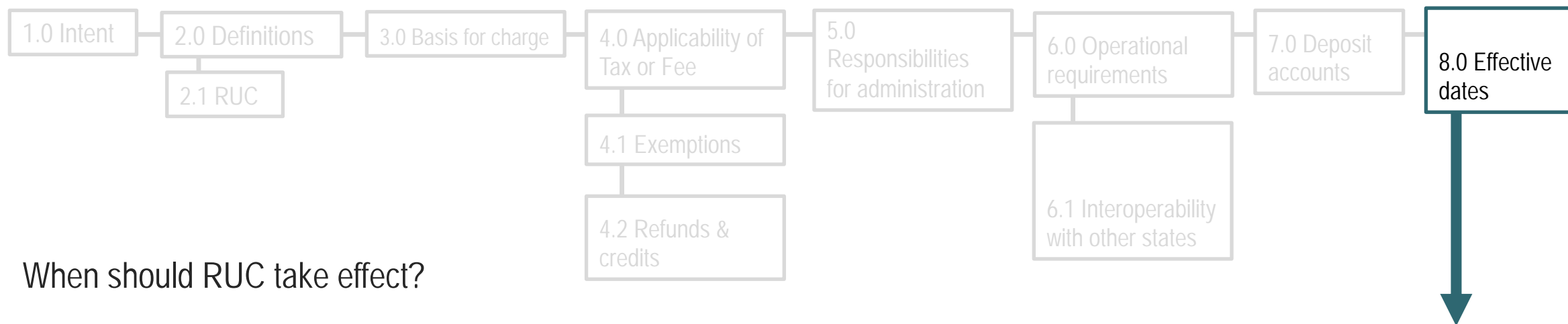


# Findings & decisions



- ✓ *If the Legislature decides RUC should be restricted to highway purposes, proceeds should be deposited in the constitutionally-protected “special fund” (motor vehicle account).*
- ✓ *How RUC proceeds are distributed or invested among qualified highway-related programs is a policy decision for the Legislature, not the Steering Committee.*
- ✓ *If the Legislature limits expenditure of RUC to highway purposes, then should be structured as a Vehicle License fee to better enable future borrowing against RUC revenue.*
- ✓ *Refund policies that currently apply to the gas tax should be continued.*

# Findings & decisions



When should RUC take effect?

- ✓ *Motor fuel tax bond repayment: a complete transition away from the gas tax to RUC cannot happen until 10 years at the earliest, to 25 years from the date of last issuance of bonds secured by the gas tax. The current gas tax cannot be fully repealed until all outstanding MVFT bonds have been repaid.*
- ❑ *State IT needs - May 2019*
- ❑ *Public understanding and acceptance of the proposed system – June 2019*
- ❑ *Transition strategy – vehicles subject to paying RUC – September 2019*

# DECISION-MAKING FOR REMAINING STEERING COMMITTEE MEETINGS

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Jeff Doyle  
Project Manager  
D'Artagnan Consulting

# 2019 Steering Committee policy work plan

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## June 27, 2019 meeting

- Driver reaction to the proposed RUC system
- Public understanding and acceptance of the proposed system
- Institutional roles in implementing any future RUC system
- Use of private sector account managers
- Impact on EV adoption

## September 10, 2019 meeting

- Transition strategy - vehicles subject to paying RUC
- Review and discussion of findings
- Discussion of technical or operational recommendations
- Review of draft report

# PRELIMINARY TECHNICAL DATA FROM THE LIVE PILOT TEST

Roshini Durand  
D'Artagnan Consulting

- Baseline for Preliminary Data Analysis
- Mileage and Revenue
  - Total and Average
  - Per Vehicle Propulsion Type
  - Per Mileage Reporting Method

## Baseline for preliminary data analysis – pilot operations

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- February 2018: Invitations to selected volunteers
- February to April 2018: Enrollment and Account Activation
- May 2018: Remove inactive participants
- August 2018:
  - Open enrollment
  - Invitation to switch mileage reporting methods
- February 2019: End of pilot

## Baseline for preliminary data analysis – Participants and Vehicles

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- Pilot operations: 12 months
- Active participants who completed the pilot: 2,044
- Active participant vehicles that reported mileage: 2,058

# Baseline for preliminary data analysis – Service Providers

Mileage Reporting Methods	DriveSync (~ 90%)	Emovis (~10%)
Mileage Permit	✓	✓
Odometer Charge	✓	✓
Smartphone Mileage Meter	✓	
Plug-in Device (with GPS)	✓	✓
Plug-in Device (no GPS)	✓	





## Mileage and revenue – rules and rates

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- Mileage Charged
  - Total miles driven on roads in Washington, Oregon, Idaho, and British Columbia
  - For GPS-enabled methods, only miles on public roads were charged
- Pilot rates:
  - WA: 2.4 cents (RUC), 49.4 cents (fuel tax)
  - OR: 1.7 cents (RUC), 34 cents (fuel tax)
  - ID: 1.6 cents (RUC), 32 cents (fuel tax)
  - BC: 0 cents (RUC), 0 cents (fuel tax)

## Total mileage and revenue

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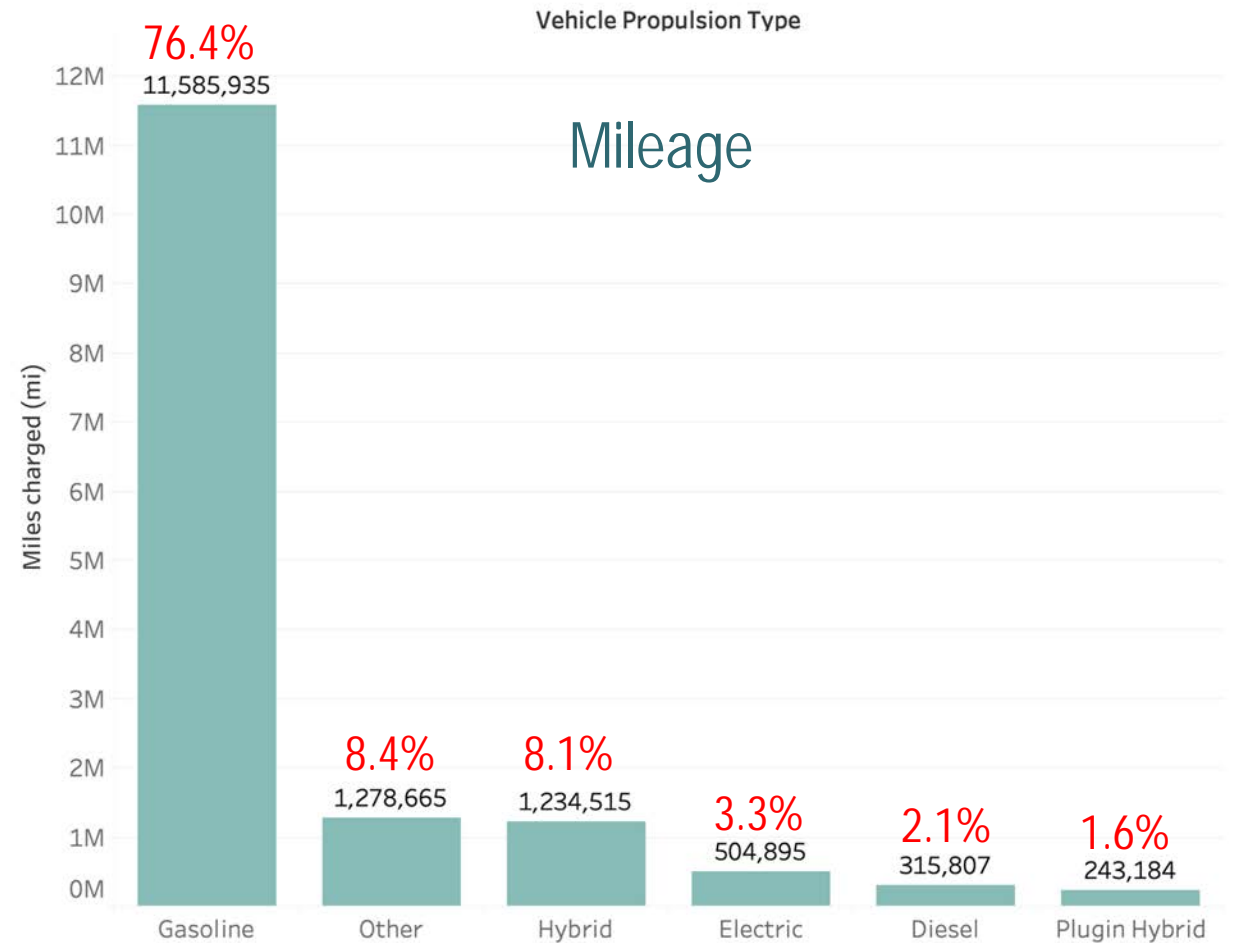
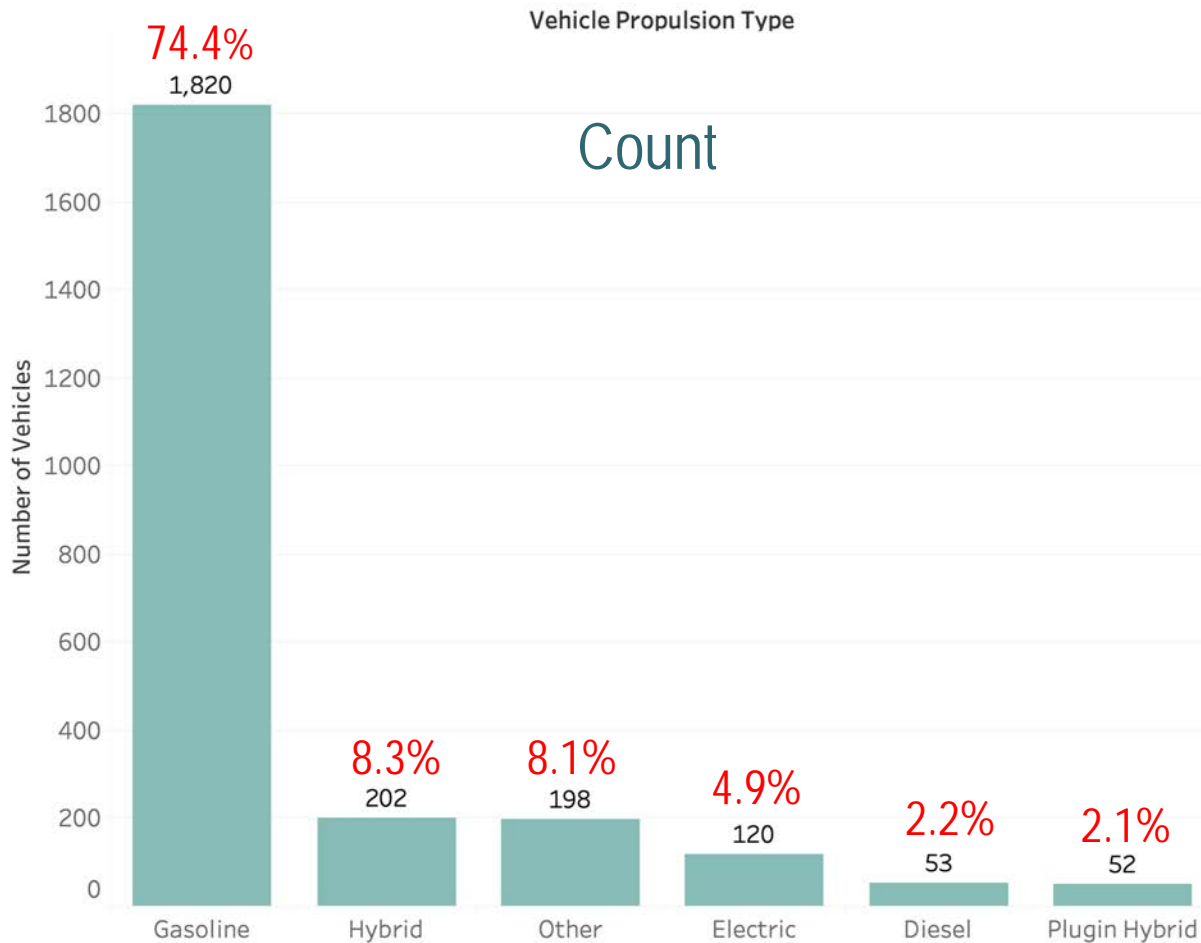
- Total Mileage Reported : 15,239,283
- Total Mileage Charged : 15,163,000 (99.5%)
- RUC : \$357,241 (Average RUC Rate: \$0.0235)
- Estimated Fuel : 634,485 gallons (Average MPG: ~ 23)
- Fuel Tax Credits : \$253,604 (Average Fuel Tax Rate: ~ \$0.40)
- Net RUC : \$103,637 (RUC – Fuel Tax Credits)

## Average mileage and revenue per year, per vehicle

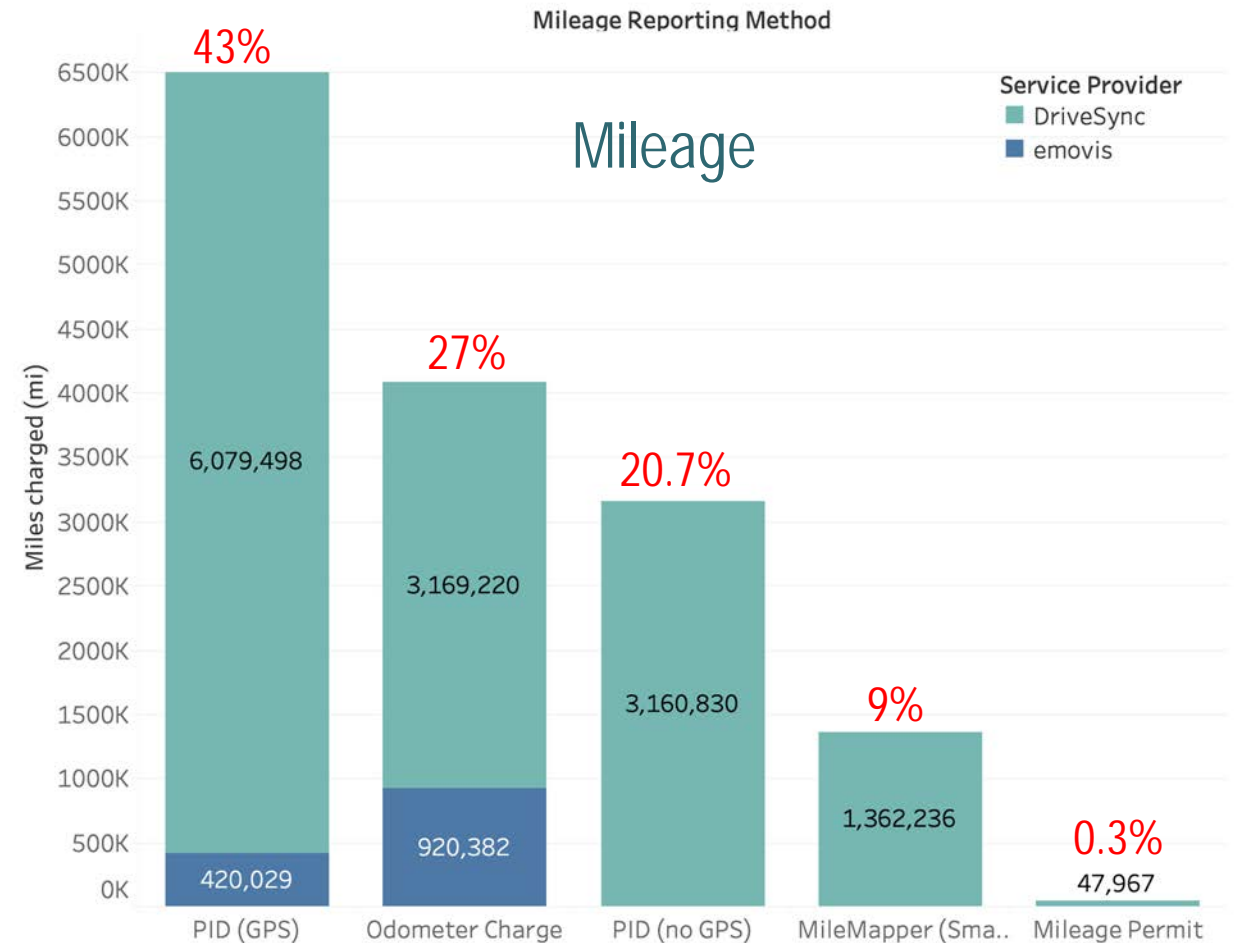
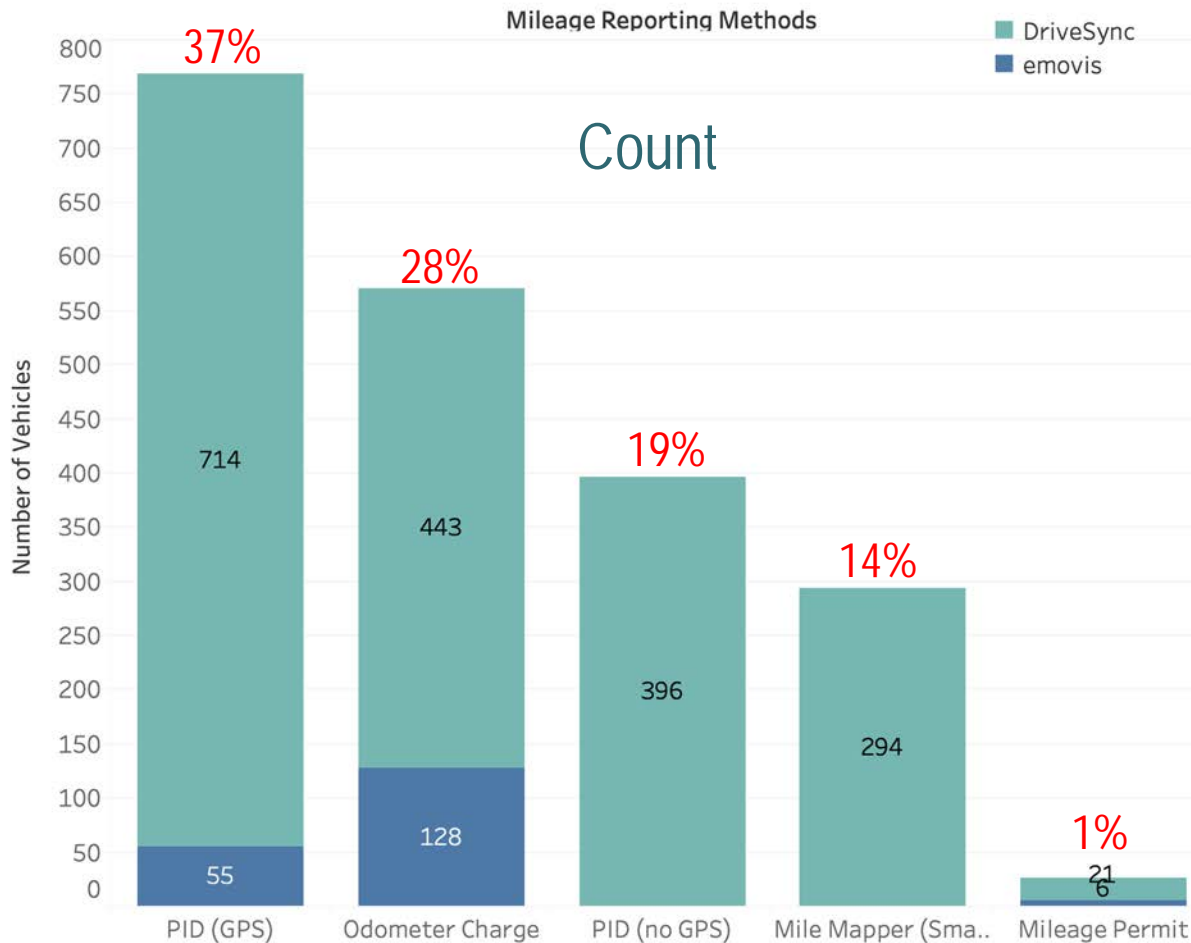
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- Total Mileage Reported : 11,784 miles
- Mileage Charged : 11,722 (99.5%)
- RUC : \$278 (Average RUC Rate: \$0.0237)
- Estimated Fuel : 495 gallons (Average MPG: ~ 23.5)
- Fuel Tax Credits : \$197 (Average Fuel Tax Rate: ~ \$0.40)
- Net RUC : \$81 (RUC – Fuel Tax Credits)

# Participant vehicles by propulsion type



# Participant vehicles by Mileage Reporting Method



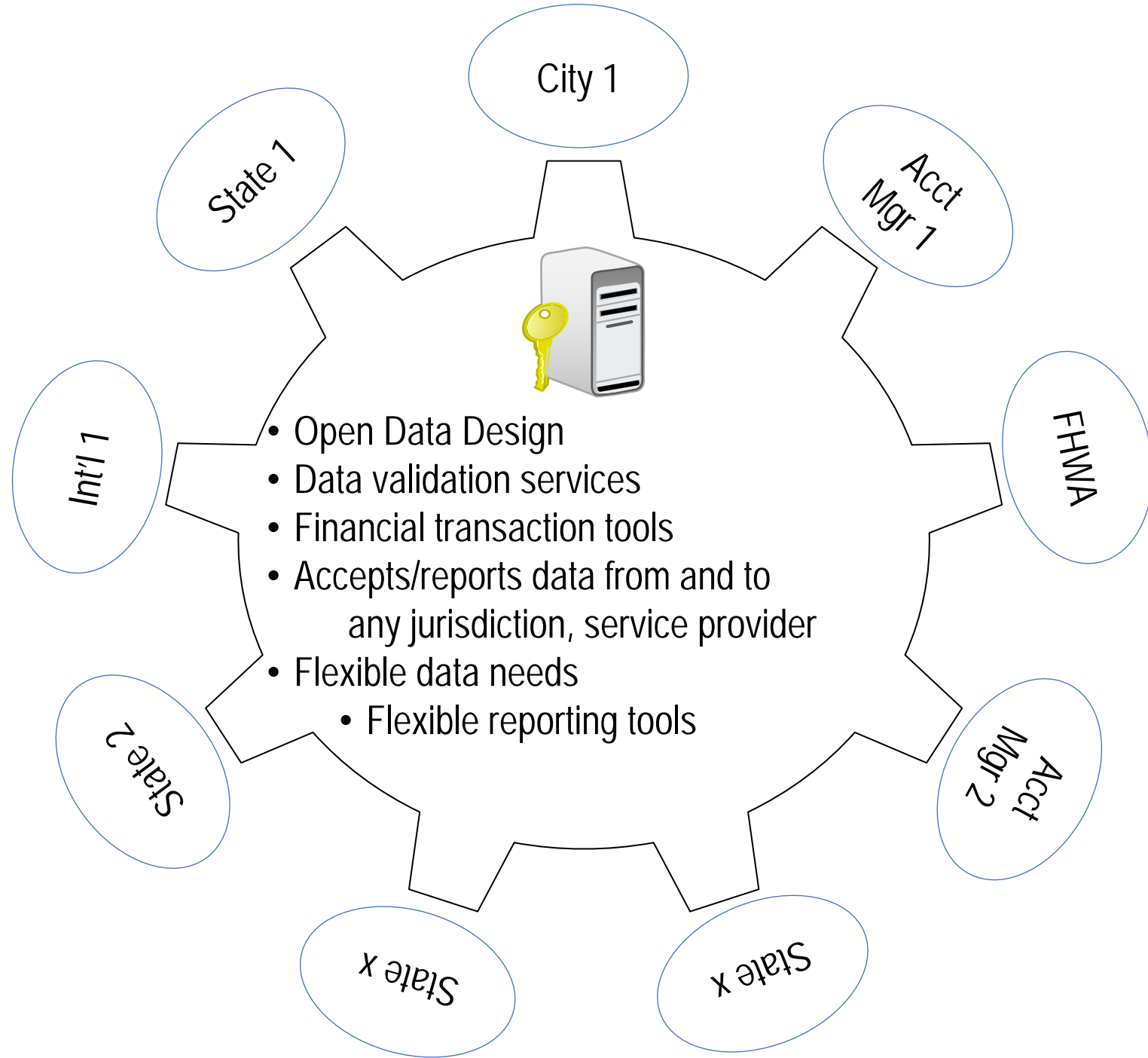
# PRELIMINARY RESULTS OF INTEROPERABILITY TEST WITH OTHER STATES

Travis Dunn  
D'Artagnan Consulting

## WA RUC HUB design features

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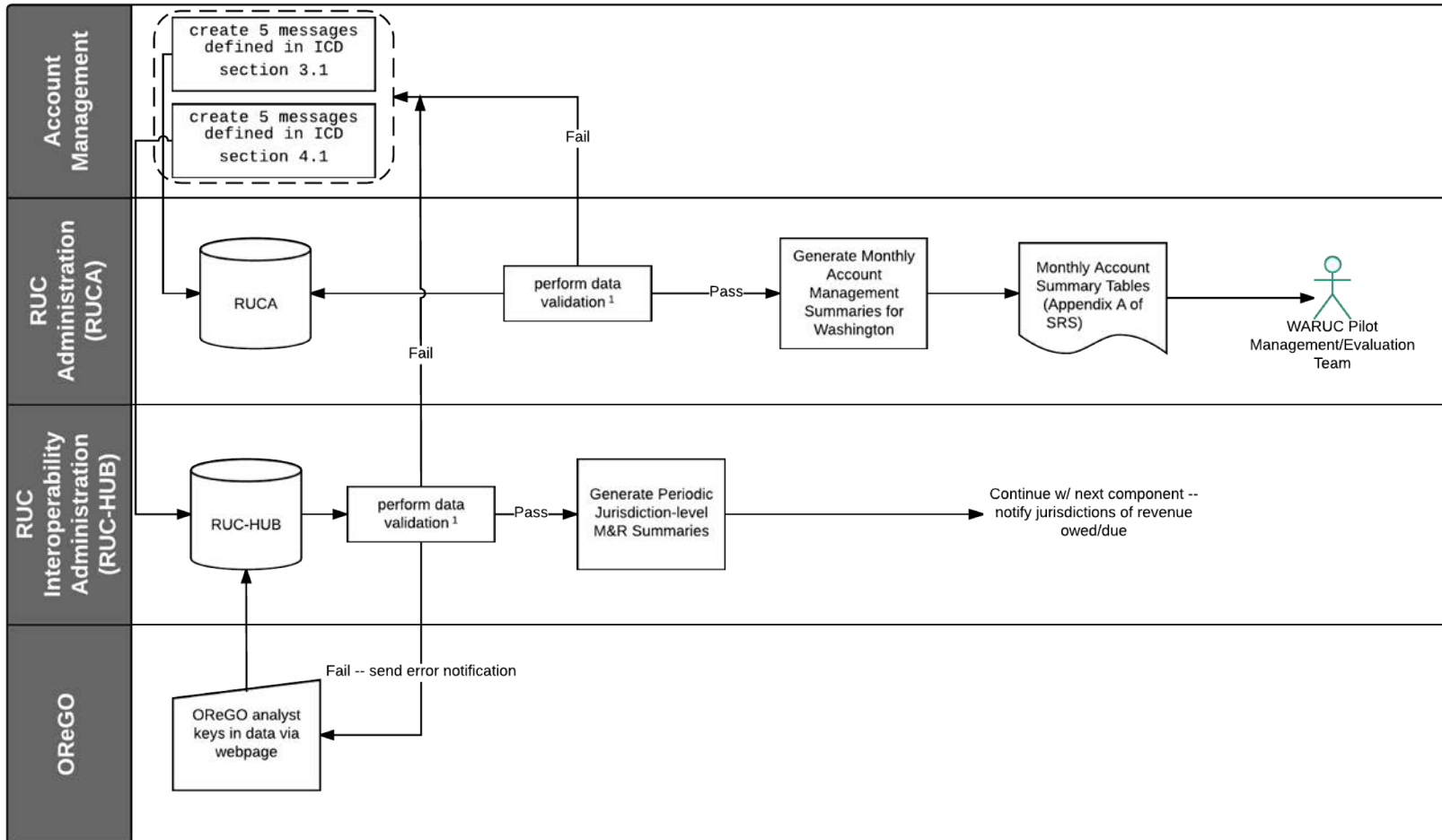
- Does not require bilateral agreements
- Is independent of Service Providers
- Can perform selected data management functions, potentially reducing the state's administration costs
- Performs financial reconciliation of RUC among jurisdictions
- Calculates RUC due to/from jurisdictions
- Handles payments





# HUB functional view

## Washington RUC -- Functional View by System Component



1. Data validation may result in iterative data loads to both RUCA db and RUC-HUB db by account managers. Generalized process is shown in "Data Validation -- AM to RUCA and HUB" flowchart

## WA RUC HUB functions

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- Data management
- Mileage reconciliation and accounting
- Modeling financial reconciliation between jurisdictions
  - “Paper” reconciliation among participating jurisdictions as a back-office exercise
  - True financial reconciliation between Oregon and Washington simulated
  - Some volunteers paid both Washington and Oregon RUC during the pilot

## Financial reconciliation between Oregon and Washington

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- Small number of both OReGO (~90) and Washington (~25) volunteers paid both Washington and Oregon RUC in the pilot
- To be eligible, participants had to use a plug-in device with GPS
- This small subset of pilot participants was seeded with project funds, so there was no out-of-pocket costs; participants paid funds paid back to the project through monthly invoices

**Bill to**

*[Redacted]*

**Thank you for volunteering for the Washington road usage charge pilot**

**INVO**  
Inv.

**7/2/18**  
Invoice date

**6/1/18 - 6/30/18**  
Invoice period

**\$8.83**

**AMOUNT DUE BY 8/2/18**

### **A** Road Usage and Payment Summary

Distance Charged (mi.)	Road Usage Charge (\$)	Gas Consumption (gal.)	Gas Tax Credit (\$)	Net RUC (\$)
2,014.0	42.64	82.67	(33.81)	8.83

Previous Balance (\$)	12.11
Payments Received (\$)	
<small>June 6, 2018</small>	<b>(12.11)</b>
Outstanding Balance (\$)	<b>0.00</b>
Invoice Total (\$)	<b>8.83</b>
Total Amount Due (\$)	<b>8.83</b>
<small>by August 2, 2018</small>	

More information about your invoice

[Online at waruc.drivesync.com](https://waruc.drivesync.com)

**7/2/18**  
Invoice date

**6/1/18 - 6/30/18**  
Invoice period

**INVO**  
Invoice number

 Nissan

Plug-in Device 

### Odometer Reading

Day	Odometer Reading (mi.)	Reading Type	Distance Driven (mi.)
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### Charges

Jurisdiction	Distance Charged (mi.)	Distance Not Charged (mi.)	RUC Rate (\$/mi.)	Road Usage Charge (\$)	Gas Consumption (gal.)	Gas Tax Rate (\$/gal.)	Gas Tax Credit (\$)	Net RUC (\$)
OR	286.1	3.8	0.017	4.86	13.79	0.340	(4.70)	0.16
All other miles	48.8	0.0	0.024	1.18	2.39	0.494	(1.16)	0.02
BC	154.6	8.5	0.000	0.00	9.75	0.000	0.00	0.00
WA	1,524.5	6.5	0.024	36.60	56.74	0.494	(27.95)	8.65

**8.83**

Total (\$)

## Pilot results (with non-representative volunteer samples)

	Q1	Q2	Q3	Q4	Total
Miles driven in Oregon by Washington drivers	2,406	11,191	10,483	7,906	31,986
Amount owed by Washington to Oregon	\$2.79	\$42.77	\$49.35	\$29.28	\$124.19
Miles driven in Washington by Oregon drivers	2,855	14,692	13,142	13,489	44,178
Amount owed by Oregon to Washington	\$11.84	\$77.47	\$81.42	\$47.58	\$218.31
Net transferred from → to	\$9.05 OR→WA	\$34.70 OR→WA	\$32.07 OR→WA	\$18.30 OR→WA	\$94.12 OR→WA

## What did we learn?

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- Flawless data reporting from Oregon to HUB due to extensive testing and mature operations
- Manual entry of Oregon data quarterly was simple, consumed little time, could be automated
- Updates needed to OReGO technical documentation to track rate tables for all jurisdictions, allow taxable miles outside Oregon
- HUB cannot hold Oregon funds more than 24 hours
- Errors in Washington data reporting due to a less mature system; real system requires more testing
- Next: RUC West will test a “data only” clearinghouse, with bilateral financial transactions

# Options for addressing out-of-state drivers in a live RUC system

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- Near term options
  - Keep the gas tax in place (no change)
  - Allow out-of-state drivers from states with a RUC system to opt in to a multi-state system (similar to pilot approach)
- Additional options to consider in the future
  - Require out-of-state drivers from states with a RUC system to participate
  - Require all drivers from out of state to participate



# RUC EVASION TABLE TOP EXERCISE

Matthew Dorfman  
D'Artagnan Consulting

- Purpose & Approach
- Categories of Evasion
- Top Types of Evasion: General and MRM-specific
- Program Approaches to Combat Evasion
- Possible Implications for Civil Penalties and Law Enforcement
- Undetectable Evasion Scenarios

## What was the RUC Evasion tabletop exercise?

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- Tabletop exercise by project team to identify ways that RUC may go uncollected due to motorist activities
  - Intentional
  - Unintentional
- Brainstorm possible methods of evasion (participants and general public reported their ideas through the special web portal and help desk comments)
  - General
  - Mileage Reporting Methods (MRM)-specific
- Brainstorm measures to combat each evasion method
  - Detection & penalties
  - Prevention & mitigation

## Purpose of RUC Evasion tabletop exercise

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- Intent of exercise is to identify as many ways of defeating system as possible, come up with approaches to combat each, because:
  - Pilot did not include enforcement
  - Steering Committee, Commission, and Legislature should understand implications of evasion for rollout of system
    - Program Policy, Operations, and Technology should be designed to resist evasion
    - Potential role of civil penalties and law enforcement should be understood

# Categories of Evasion



Unintentional  
Noncompliance  
Mistake/  
procrastination  
/not  
understanding the  
program/ not  
having money



Deliberate  
attempt to  
reduce amount  
of RUC owed



Deliberate  
attempt to  
avoid paying  
RUC



Deliberate  
attempt to  
create  
administrative  
chaos/  
undermine  
system



Deliberate  
attempt to use  
RUC system to  
defraud public

*NOTE: these categories are not mutually exclusive*

## Top types of general program evasion: Unintentional Noncompliance (mistake, procrastination, not understanding the program, not having money)

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- Failure to Register for the program
- Failure to pay
- Slow payment



## Top types of general program evasion: Deliberate attempt to reduce amount of RUC owed

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- Misrepresent vehicle type (e.g., claim an EV is a non-EV in order to receive fuel tax credit)
- Receive fuel tax credit for fuel purchased out of state
- Avoid paying RUC while on temporary plate
- Abandon vehicle without paying RUC



## Top types of evasion: Deliberate attempt to avoid paying RUC

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- Register car in different state
- (Permanently) leave state without paying
- Sell vehicle without paying RUC
- Claim car is totaled or stolen when it is not



## Top types of general program evasion: Deliberate attempt to create administrative chaos / undermine system

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- Falsely claim technology / reporting device failure
- Register vehicle to many owners at the same time, pass blame around
- Register a minor as vehicle owner and fail to pay
- Overwhelm customer service with complaints
- Hack RUC accounting system / IT attacks





## Top types of general program evasion: Use RUC to defraud public

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- Create fake website and request payment information (e.g., credit card number)
- Create fake app and request payment information (e.g., credit card number)



# Top types of MRM-specific evasion: Plug-in device

- Leave device unplugged
- Claim device didn't work
- Claim device damaged the vehicle
- GPS jamming
- Device hacking to alter stored trip data



# Top types of MRM-specific evasion: Manual methods

- Overdriving mileage permit
- Not registering promptly
- Submit old picture
- Take pictures of pictures
- Digital odometer rollback



# Top types of MRM-specific evasion: Smartphone app

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- Same as manual methods, plus
  - GPS jamming
  - Hacking smartphone app



## Policy / legal approaches to combat evasion

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- Structure all MRMs as pre-pay (e.g., from an e-wallet)
- RUC follows the vehicle, not the owner—retain official odometer readings, charges assessed from the last official odometer reading regardless of changes in ownership
- No net RUC refunds – fuel tax rebates top out at RUC due
  - Alternatively, only apply RUC to above average fuel economy vehicles
- Limit mileage exemptions on manual methods
- RUC reporting automatically converts to annual time permit if you don't register or report initial odometer reading /plug in device promptly

## Operational approaches to combat evasion (1 of 2)

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- Have a good education / communications campaign
- Create payment programs for drivers with financial limitations
- Encourage SPs to automate as many aspects of payment as possible (autopay solves the problem of forgetfulness or procrastination)
- Flag certain behaviors for audit:
  - Frequent/long unplugs of devices
  - Dramatic decreases in miles traveled
  - Recurring suspicious odometer images

*Note: Audit = VIN Lookup (CARFAX)*

## Operational approaches to combat evasion (2 of 2)

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- Implement penalties & have adjudication process
- Ensure SPs have terms and conditions so device is accepted by drivers as valid
- Ensure SPs use rigorous IT standards

## Technology approaches to combat evasion

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- Validate VIN and license plate at signup (real time connection to DOL)
- Store most recent odometer record with DOL record regardless of MRM
- Require an annual odometer photo even for MRMs using a plug-in device
  - OR make it optional but any unplugs over ~2 days could lead to annual time permit
  - Newest vehicles (incl 30% of 2019 vehicles) include odometer in OBD-II dataset
- Require quarterly odometer reading submissions for manual methods
- Require app to capture images in near real time (not use stored images)
- Require Service Provider to detect correct vehicle & simple GPS jamming



## Possible implications for civil penalties and law enforcement

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- Have progressive penalties for noncompliance:
  - Fine/late fee
  - Mandatory annual time permit
  - Registration hold
  - Impoundment (extreme cases only)
- May need to increase efforts against people who maintain out of state registration despite residing in Washington

## Undetectable evasion scenarios

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- Having two identical vehicles, driving one farther, submitting odometer images from the other
  - Can flag for audit if vehicles registered to same person or at same address submit very close odometer readings
  - Will occur very seldom
- Odometer rollback for vehicles never serviced by official mechanic
  - Not possible with many new telematics vehicles
  - Significant penalties for odometer rollback already exist
  - In the near-term, the mitigation is continuing to collect gas tax

BREAK

# PHASE 3: COMMUNICATING PILOT RESULTS & NEXT STEPS

Ara Swanson  
Envirolssues

- Goals
- Audiences
- Activities
- Plan

## Phase 3 communications – goals

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Communicate pilot process, driver experience, Steering Committee progress, results and next steps



Leverage media to share results and next steps



Analyze and summarize communications to inform final report

## Phase 3 communications – audiences

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- Pilot participants
- Interested stakeholders and organizations
- Media
- General public
- Legislators
- Transportation Commissioners
- Steering Committee
- State and federal agencies

## Phase 3 communications – activities

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Responsive and proactive media engagement



Video highlighting the participant experience



Regular e-newsletters



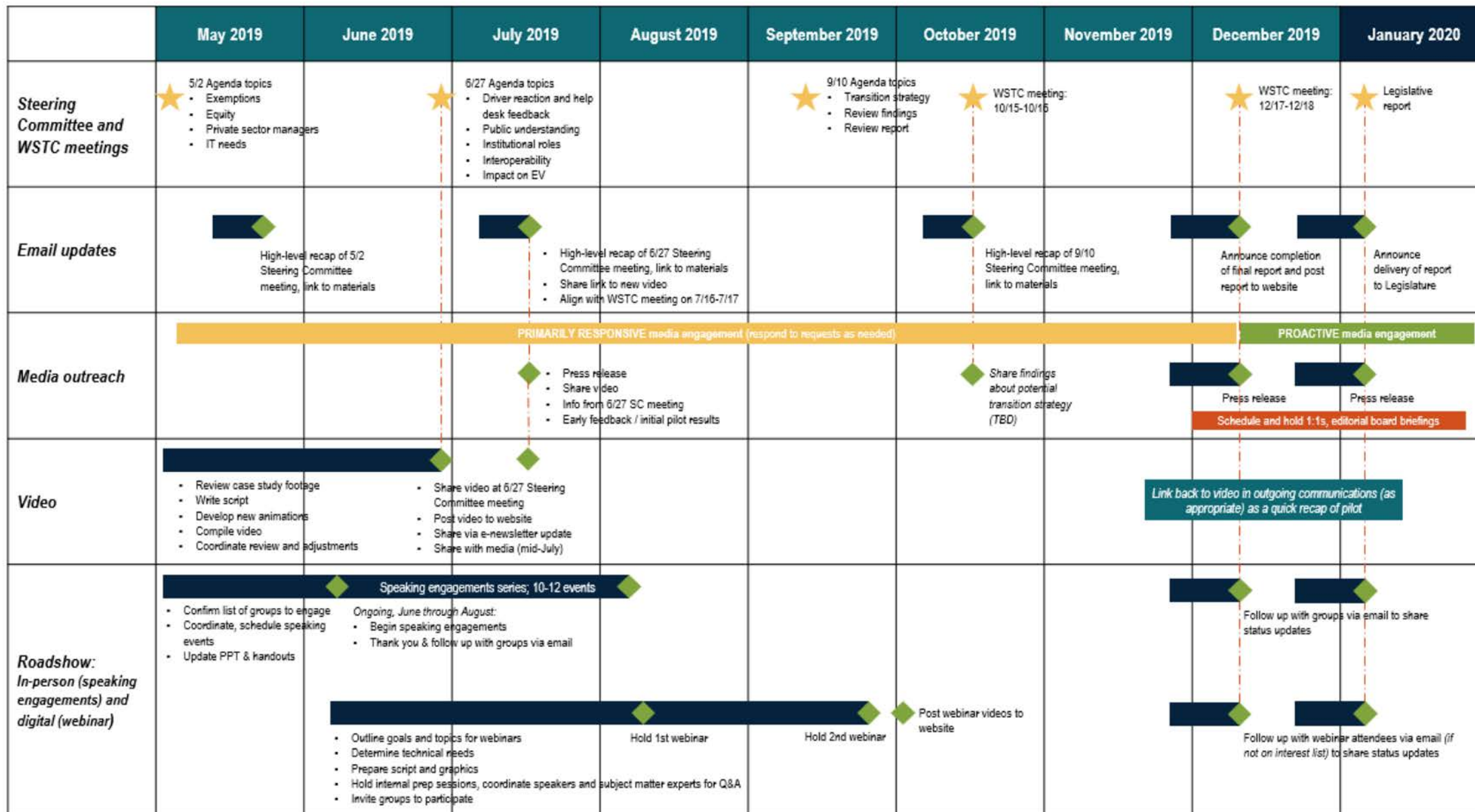
Briefings and webinars



Steering Committee meetings

# WA RUC PHASE 3 COMMUNICATIONS TIMELINE

Draft: April 29, 2019



## KEY



Milestone



Task



Task throughout date range (length of time coordinating, preparing for, or implementing activities)



# RUC EXEMPTIONS IN A FUTURE PROGRAM

Travis Dunn  
D'Artagnan Consulting

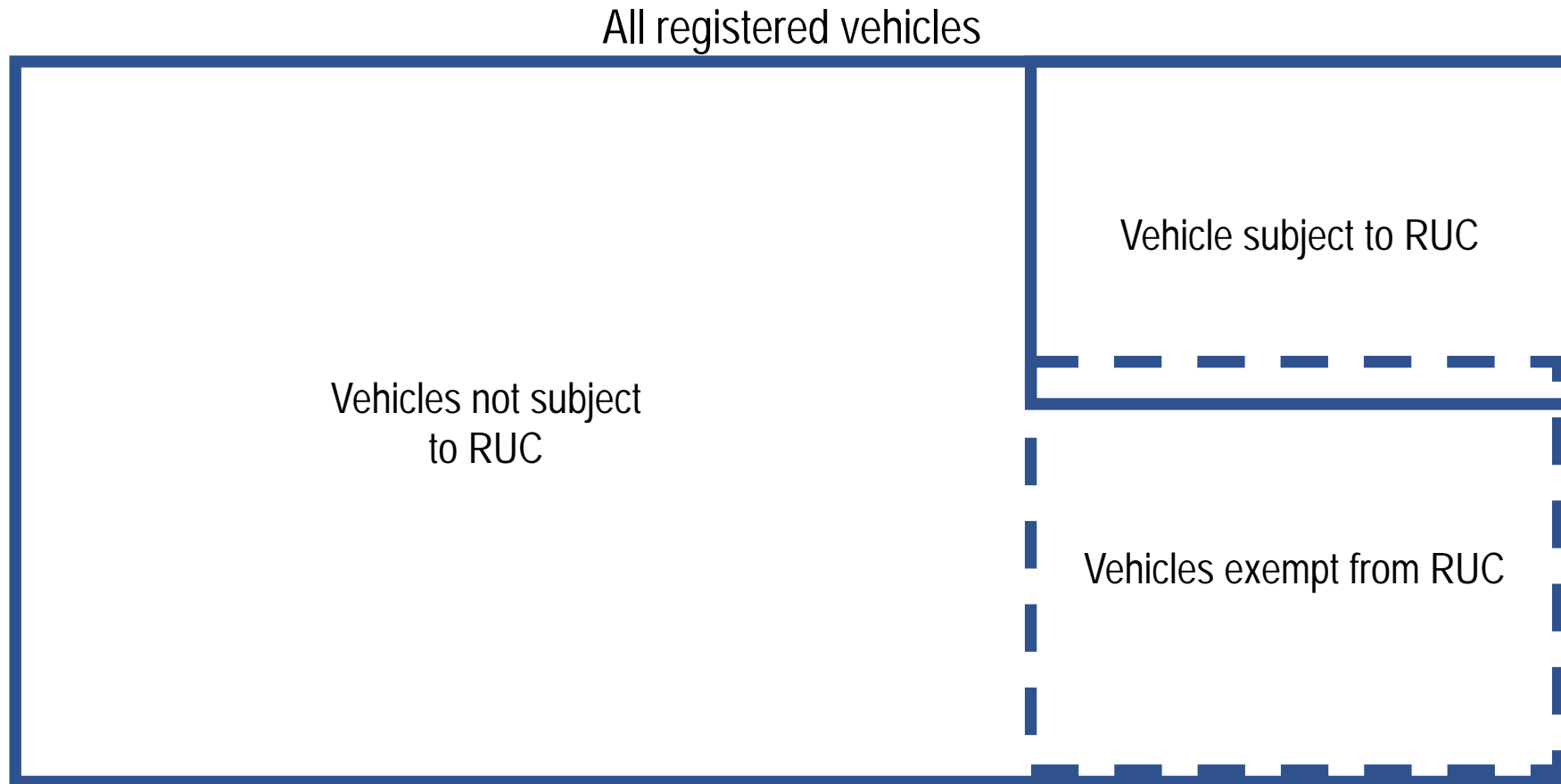
# Types of exemptions

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- Vehicles
  - By class of vehicle
  - By primary use of vehicle
- Miles
  - By activity
  - By location

# Vehicle exemptions, illustrated

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# Exemptions vs. Refunds

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- Exemptions
  - Available upfront
  - More effort for the state
- Refunds
  - Available after the fact
  - More effort for the end user

# Pilot exemptions

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- Vehicles
  - Exemptions: vehicles over 10,000 pounds, vehicles with fewer than 4 wheels
  - Vehicles not subject: Those that did not volunteer to participate
- Mileage exemptions
  - Out of state\*
  - Off road\*\*
  - Private roads\*\*

*\*exemption only available for plug-in device with GPS or smartphone app with location*

*\*\*exemption only available for plug-in device with GPS*

## Reasons for RUC exemptions

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- Constitutional or statutory requirement
- No nexus between vehicle miles driven and a charge for usage
- Other policy considerations

## Sources of exemptions

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- Fuel tax statute (RCW 82.38)
- Other RUC programs

# Washington fuel tax exemptions (RCW 82.38.080)

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- Diesel fuel sold
  - To state & local governments for use in highway construction and maintenance equipment
  - For use in public firefighting equipment
  - To the U.S. government
  - To private, non-profit providers of transportation services to persons with special needs
  - As waste vegetable oil
  - To privately owned urban passenger transportation systems operating vehicles with >15-passenger capacity within a single county
  - To publicly owned and operated urban passenger transportation systems
- Motor vehicle fuel (gasoline) sold
  - To U.S. armed forces or national guard for exclusive use in ships or for export from the state
  - To foreign diplomatic and consular missions (if the country grants an equivalent exemption)
  - To entities for purposes of racing not legally allowed on public highways



## Washington fuel tax refunds (RCW 82.38.180)

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- Refunds are available for tax paid on fuel:
  - Used for purposes other than propelling a motor vehicle on a public highway (except for fuel consumed by vehicles required to be registered)
  - Exported out of state
  - Lost due to fire, lightning, flood, wind storm, or explosion
  - Lost due to leakage greater than 500 gallons
  - Used in power take-off equipment
- Refunds are available for diesel tax paid on fuel:
  - Used for or incidental to logging operations on a federally owned highway which charges a user access fee
  - Used by special mobile equipment (e.g., construction equipment)
  - Used for movement between two pieces of private property wherein the movement is incidental to the primary use of the vehicle
  - Inadvertently mixed with dyed fuel

## Other examples of RUC exemptions

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- Oregon
  - Vehicles: no exemptions
  - Miles: no exemptions (out of state miles are not subject)
- Utah
  - Vehicles: no exemptions
  - Miles: no exemptions

# RUC vehicle exemptions

Class of vehicle	Recommendation	Reason
Foreign diplomatic and consular mission vehicles	Exempt	Align with fuel tax statute 82.38.080(2)(b)
Out of state (<45 days in state)	Do not subject	No clear precedent; can include or exempt later (will pay fuel tax in the meantime)
Diesel transit vehicles	Do not subject	Align with fuel tax statute 82.38.080(1)(g)
Publicly owned diesel construction, firefighting vehicles	Do not subject	Align with fuel tax statute 82.38.080(1)(a)-(b)

# RUC mileage exemptions

Class of mileage	Recommendation	Reason
Off road miles driven by farm vehicles, vehicle operated exclusively in natural recreation areas, and vehicles operated exclusively in state parks by the parks and recreation commission	Exempt	Align with fuel tax statute 82.38.180(1)(a)
Out of state	Do not subject	No nexus

BREAK: WORKING  
LUNCH

# RECENT LEGISLATIVE ACTIVITIES & PROVISIONS RELATED TO RUC

- Update on legislative session proposals and actions
- Update on congressional interest in a national RUC pilot project

# WASHINGTON STATE LEGISLATIVE ACTIVITIES

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Reema Griffith,  
Washington State  
Transportation Commission

# CONGRESSIONAL INTEREST IN A NATIONAL RUC PILOT PROJECT

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Jeff Doyle  
D'Artagnan Consulting



# SURVEY RESULTS FROM DOL SUBAGENTS ON THEIR WA RUC EXPERIENCE

Steve Morello  
D'Artagnan Consulting

- Introduction
- Key Results of Onboarding Survey #1
- Key Results of Closeout Survey #2

## Objective and background

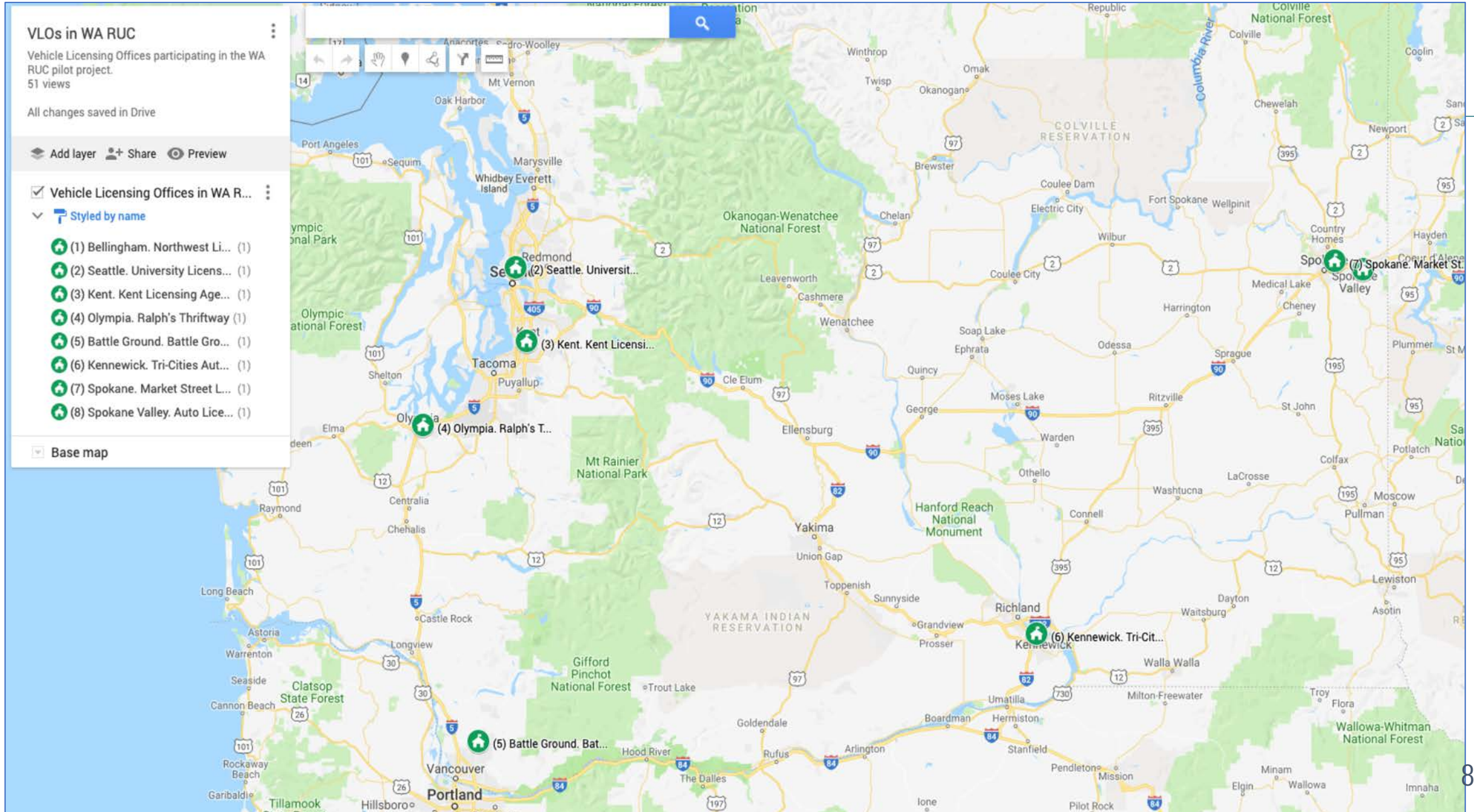
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- A key objective of the WA RUC Pilot Project

*Develop and pilot a method for those that do not have a mobile device with a camera or prefer not to use their personal mobile device for privacy reasons*

- DOL helped establish contact with VLOs about their potential participation to provide service to walk-in participants needing to submit periodic photos of their odometer mileage and license plate
- Eight Vehicle Licensing offices agreed to participate following a recruitment campaign.

# Map of the eight vehicle licensing offices that participated in the WA RUC pilot project



## Key stages and dates of VLO involvement

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- On-site training of VLO reps: 28 December 2017 – 29 January 2018
- WARUC Pilot Project launch: 30 January 2018
- Survey #1 for VLO reps: March-July 2018
- Mobile VLO: June 2018
- VLO meetings with Project Team: August-September 2018
- Closeout Activities: December 2018-February 2019

# Key results of onboarding survey

- Almost 50% of the VLO reps indicated they were familiar with the concept of road usage charging before the WA RUC pilot
- Most VLO reps (21 of 23) felt comfortable assisting participants and answering their questions
- Method of using the MVerity App for taking and uploading pictures worked well for most VLO reps with one interesting comment:

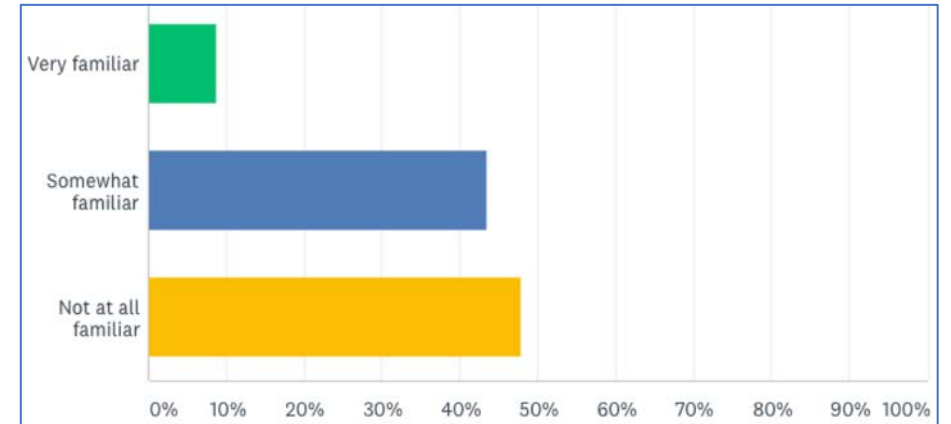
*"Sometimes the software works and sometimes it doesn't, usually we have to restart the phone in order to have the app work again but even sometimes that doesn't work. I'd like to see a more reliable app produced or this one have its bugs worked out."*

- Several VLO reps provided ideas on to improve the Participant experience when they visit a VLO:

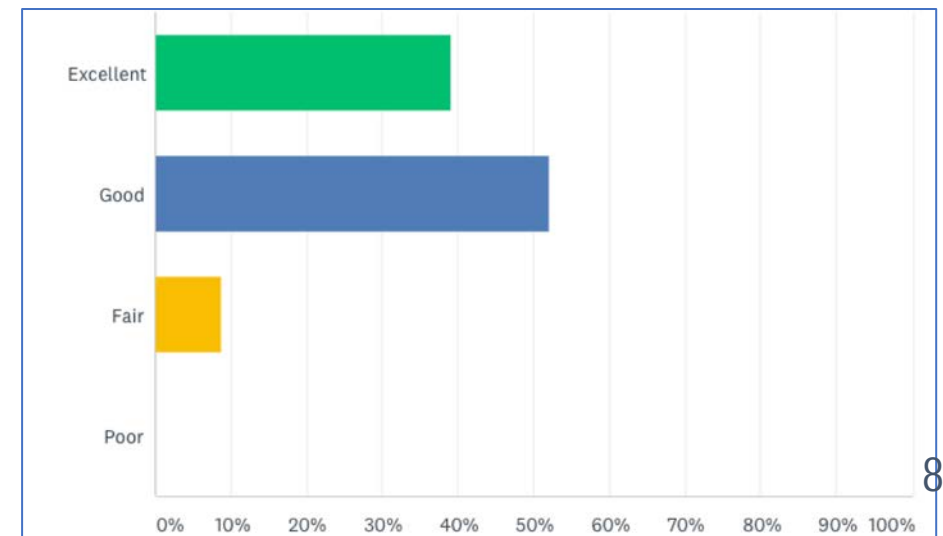
*"Would be nice if customers could take the pictures on their phone."*

*"Having the customer enter a phone number and the app should pull up their information rather than have them enter all their information every time."*

How familiar were you with the concept of RUC before the WA RUC pilot?



Thinking about the user manuals, please rate how helpful they were in servicing participants with their odometer readings





# Key results of closeout survey (1 of 2)

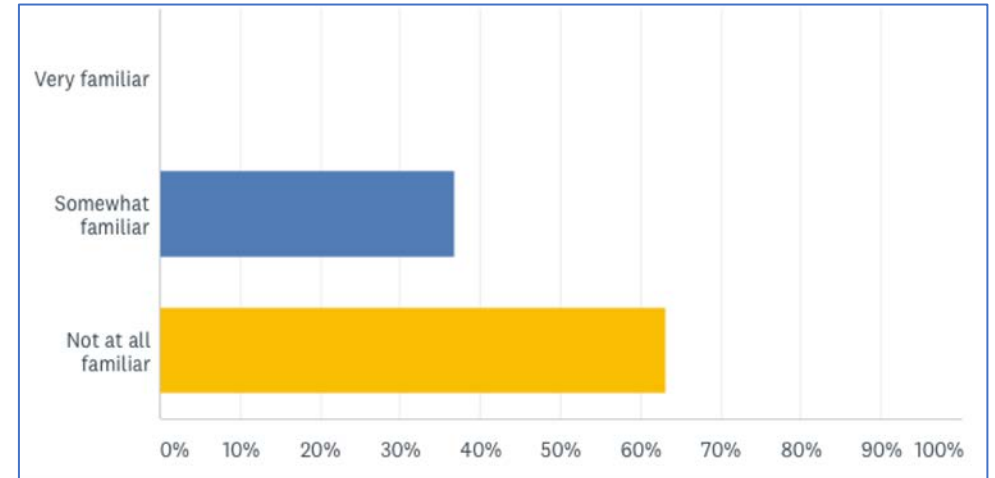
- In contrast to the first survey, 12 out of 19 VLO reps were not at familiar with road usage charging before the WARUC Pilot and training.
- Training was useful: All VLO reps (18 of 19 responded) indicated the training helped them become familiar with the concept of RUC for the WARUC Pilot Project.

*"It made me very aware of the taxes I pay at the pump. Things that I didn't pay attention to and took for granted...now mattered"*

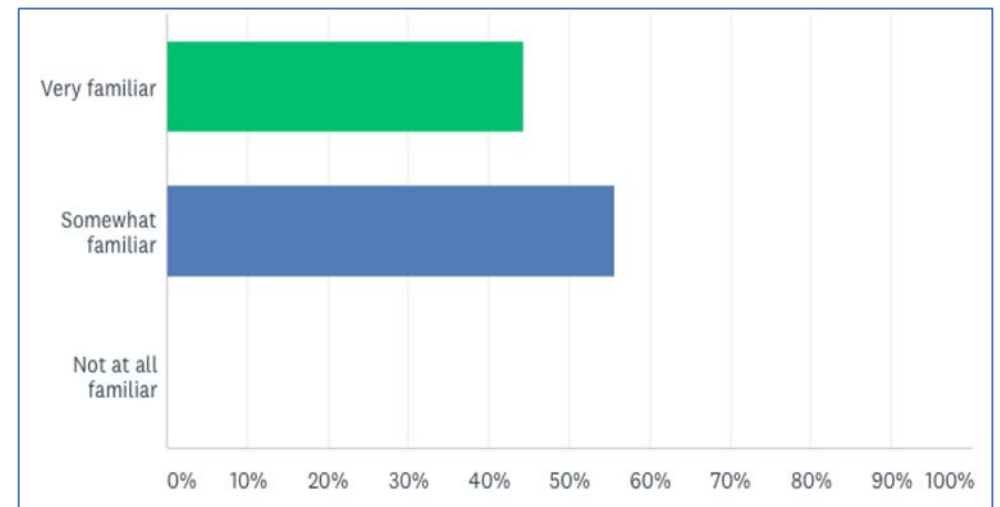
*"It educated me. I learned more about gas tax and actual usage expense."*

- The User Manual and Transactions Log provided for reference and use during the 12-month pilot
  - > *Easy to use by all VLO reps for those who indicated that they had used or referred to both during the pilot.*

How familiar were you with the concept of RUC before the WA RUC pilot and on-site training?



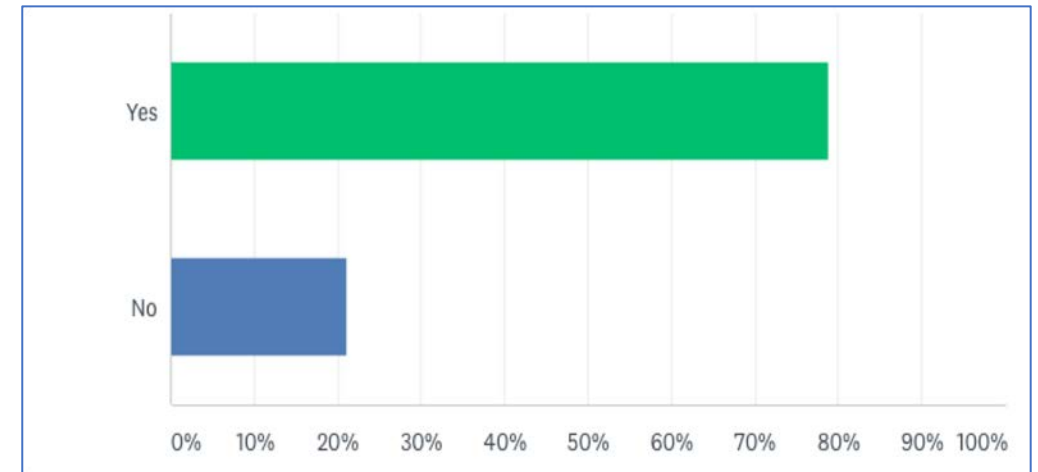
How familiar were you after the training with the concept of RUC for the WA RUC pilot?



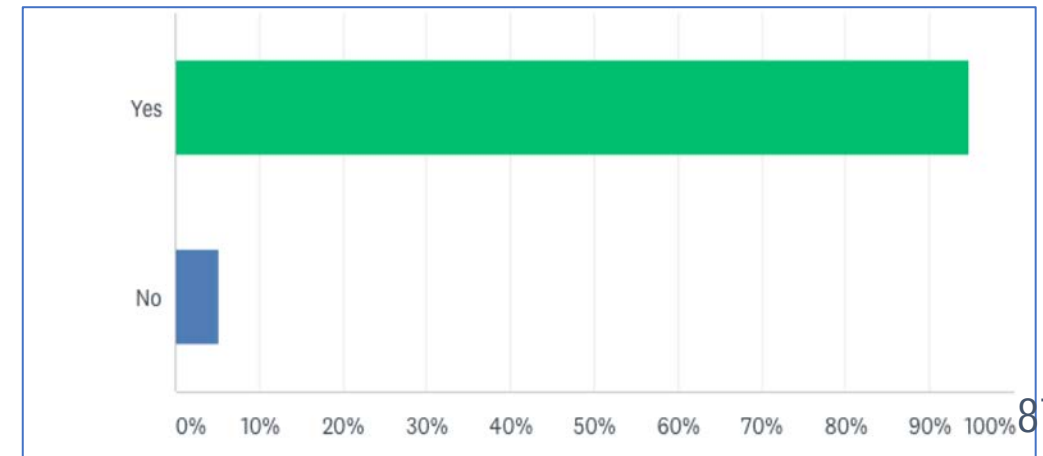
## Key results of closeout survey (1 of 2)

- Method of using MVerity App for taking and uploading pictures worked well. Comments worthy of further consideration:
  - "Maybe when you take the picture the app auto fills the mileage."*
  - "But the camera would not work sometimes. Took awhile to load sometimes."*
  - "iPhone worked about 70% of the time."*
- Hypothetical question about a future system with VLO support for submitting odometer readings:
  - > 18 of 19 VLO reps believe that this would be of interest to their business
- Final comments from VLO reps:
  - "We enjoyed engaging with the participants. We went out to the vehicles and took odometer picture and it allowed us to spend time with them."*
  - "It was fun communicating with customers. Hearing their feedback. Looked forward to next reading."*
  - "It was easy to do. It's right up our alley and works well within our system."*

Based on your experience providing services at \$5 per transaction, do you think this is a fair fixed fee per transaction in comparison to other vehicle licensing fees?



If a future system included VLO support for submitting odometer readings as an additional source of work and revenue, do you think your VLO would be interested?



# DOL IT SYSTEM CAPABILITIES & NEEDS TO SUPPORT RUC

Matthew Dorfman  
D'Artagnan Consulting

- Purpose
- Role of DOL
- IT Needs in Other Operational RUC systems
- Business Scenarios and Assumptions
- IT Needs Assessment
- Implications for Policy and Operations of a Potential RUC System



## Purpose of IT needs assessment

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- RUC System will need to interact with state IT systems—at a minimum, the motor vehicle registry
- Steering Committee, Commission, and Legislature should understand implications of cost and time of implementation for state IT systems

# Role of Washington State Department of Licensing (DOL) in a future RUC system

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- Motor Vehicle Registry needed to verify driver and vehicle data
- Three reasons why DOL should house RUC Operations:
  1. DOL has a new, very capable motor vehicle registry, DRIVES. Additional activities to support RUC, could easily be added.
  2. DOL has experience with operational customer-facing programs.
  3. DOL has a network of subagents.
- Policy and RUC administration could be housed elsewhere
- Thus, project team reached out to DOL for IT Needs assessment

## IT needs in other operational RUC systems (1)

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### Oregon

- Opt-in OReGO RUC program operational since 2015
- Plug-in Devices with and without GPS
- Two Commercial Account Managers (CAMs) and one State Account Manager (SAM), all operated by private companies
- Data collected by RUCAS at ODOT, no connection to DMV, no enforcement

## IT needs in other operational RUC systems (2)

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### Utah

- Opt-in RUC for alternative fuel vehicles (instead of flat fee) goes live Jan 1 2020.
- Plug in Device with GPS AND annual smartphone app true-up
- One Service Provider
- Data collected by UDOT, enforcement

### New Zealand

- RUC for Diesel Vehicles since 1978
- Mileage Permit
- Administered by New Zealand Transport Agency

## Mileage reporting methods (MRM)

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- Automated
  - Plug-in with GPS: needed to exclude non-chargeable travel
  - Plug-in without GPS: simple to offer for those who dislike GPS
- Manual
  - Time Permit (annual flat fee)
    - No-technology option
    - Backup in case of enforcement
  - Odometer Reading (pay based on submitted readings)
    - Simple manual option

## Business scenarios

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- Scenario A: Fully State Operated RUC system
  - DOL runs entire RUC system, merely procuring devices and software
  - Not used anywhere devices are used to record RUC
- Scenario B: Service Provider / State Hybrid RUC system
  - DOL runs manual methods, Service Provider(s) runs devices
  - DOL provides gets data from Service Provider(s), provides oversight
- Scenario C: Service Provider Operated RUC system with State Oversight
  - Service Provider runs all methods
  - DOL provides gets data from Service Provider(s), provides oversight

## Hypothetical first two phases of RUC transition

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- Assumptions for IT Needs Exercise—NOT RECOMMENDATIONS
- Phase 1 (July 2021-July 2025): RUC applies to Battery-electric and Plug-in Hybrid Electric Vehicles only
  - Replaces the \$100 portion of the \$150 EV dedicated to road uses
  - ~1% of vehicles in 2021
- Phase 2 (July 2025-TBD): RUC applies to vehicles over 40 mpg
  - Maybe 10% of fleet
- Further Phases expected but not included in IT Needs

## Detailed assumptions

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- RUC is a new per mile Vehicle License Fee
- Enforcement included, like toll violations, leads to registration hold
- 2.4 cents per mile (for test purposes only)
- Fuel tax offset included
- Light passenger vehicles only



## Assumptions about estimates

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- Estimates are based on the assumptions provided above.
- The estimates only include IT hardware and software needs. No staffing, service providers, or app costs.
- Further detailed assumptions, included in the Appendix to report.
- DOL presents the cost estimates as being within a 50% margin of error.

## Seven categories of IT needs

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<b>IT Category</b>	<b>Description</b>
<b>Financial</b>	How the system handles financial transactions, including computing amounts owed
<b>Vehicle Record</b>	How the system displays the vehicle record, including whether a vehicle is liable for a certain fee
<b>E-Services</b>	A range of online services for users, including payment, receipt records, and odometer records
<b>Letters and Notices</b>	How the system generates letters and notices to be sent to users
<b>Reports</b>	How the system generates summary reports for internal and external review
<b>Interfaces</b>	How the system interfaces with other systems
<b>Security</b>	Reviews of system security to ensure changes made do not create security vulnerabilities

# IT needs estimate

## Scenario A: fully State-run

Category	Person-hours labor
Financial	300
Vehicle Record	480
E-Services	348
Letters and Notices	190
Reports	80
Interfaces	100
Security	100
Phase 2 Update	300

- No OBD device provider offering the service required by DOL.
- Customer service, device inventory maintenance, etc. provided by DOL
- Not Recommended

**Total estimated development hours = 1,538**  
**Total estimated security review hours = 100**  
**Total Cost: \$ Indeterminate**  
**Duration of development: Indeterminate**

# IT needs estimate

## Scenario B: Service Provider/State hybrid

Category	Person-hours labor
Financial	300
Vehicle Record	530
E-Services	348
Letters and Notices	190
Reports	80
Interfaces	220
Security	100
Phase 2 Update	300

**Total estimated development hours = 1,708**  
**Total estimated security review hours = 100**  
**Total Cost: \$ 1,015,300**  
**Duration of development: 25 months**

- Provision of manual methods is natural fit with Vehicle Licensing offices
- One service provider for manual methods makes sense
- State-run payment option
- Whether Service Provider is independent or state branded (white labelled) can be decided later
- Recommended

# IT needs estimate

## Scenario C: Service Provider-run with State oversight

Category	Person-hours labor
Financial	0
Vehicle Record	250
E-Services	0
Letters and Notices	20
Reports	30
Interfaces	220
Security	100
Phase 2 Update	20

- Same approach as in Oregon and Utah
- One commercial service provider for manual methods
- Faster to implement
- No state-run payment option
- Recommended

**Total estimated development hours = 540**  
**Total estimated security review hours = 100**  
**Total Cost: \$ 365,300**  
**Duration of development: 10 months**

## Implications of DOL's information technology needs for future RUC program

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Service Provider is needed for automated reporting:

- No OBD-II provider offers the needed services
- Even if such a provider could be found, no guarantee of net savings
- DOL could not easily provide customer service for OBD-II devices or device management

Choice between Service Provider and State for manual reporting:

- Manual reporting is a natural fit for DOL
  - Time Permit is essentially the same as a Vehicle License Fee
  - Odometer Reading only adds one data point
  - Would be more natural fit with VLO network
- Market could be engaged—ask potential SPs if they would want this role?

Whether Service Provider is independent or state-branded can be decided later

# EQUITY IMPLICATIONS OF RUC IN LIEU OF GAS TAXES

Allegra Calder  
BERK Consulting

## Legislative directives

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### 2017-2019

- Advance the work completed since 2011 in evaluating a road usage charge as an alternative to the motor vehicle fuel tax to fund future investments in transportation

### 2019-2021

- The final report on the road usage charge pilot project is due to the transportation committee of the legislature by January 1, 2020, and should include recommendations for necessary next steps to consider impacts to communities of color, low-income households, vulnerable populations, and displaced communities.



## Steering Committee definition

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At the start of the RUC Steering Committee process, Guiding Principles were adopted which included a definition of “equity” for purposes of applying it to a road usage charge:

“All road users should pay a fair share with a road usage charge.”  
*(2017 Pilot Project Implementation Plan Final Report, p. 33)*

# What do we mean by Equity?

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- There is no universal definition.
- In the literature on infrastructure finance and service delivery, Susan Rosenbloom notes more than 25 separate definitions of equity.
- Increasingly equity implies proportionality of impacts, often with a focus on communities of color, low-income households, and other vulnerable populations.

Sources: Transportation Research Board, *Equity of Evolving Transportation Finance Mechanisms*, Washington DC, 2011. Rosenbloom, S. 2009. *The Equity Implications of Financing the Nation's Surface Transportation System*. TR News, No. 261, March–April, pp. 3–9.

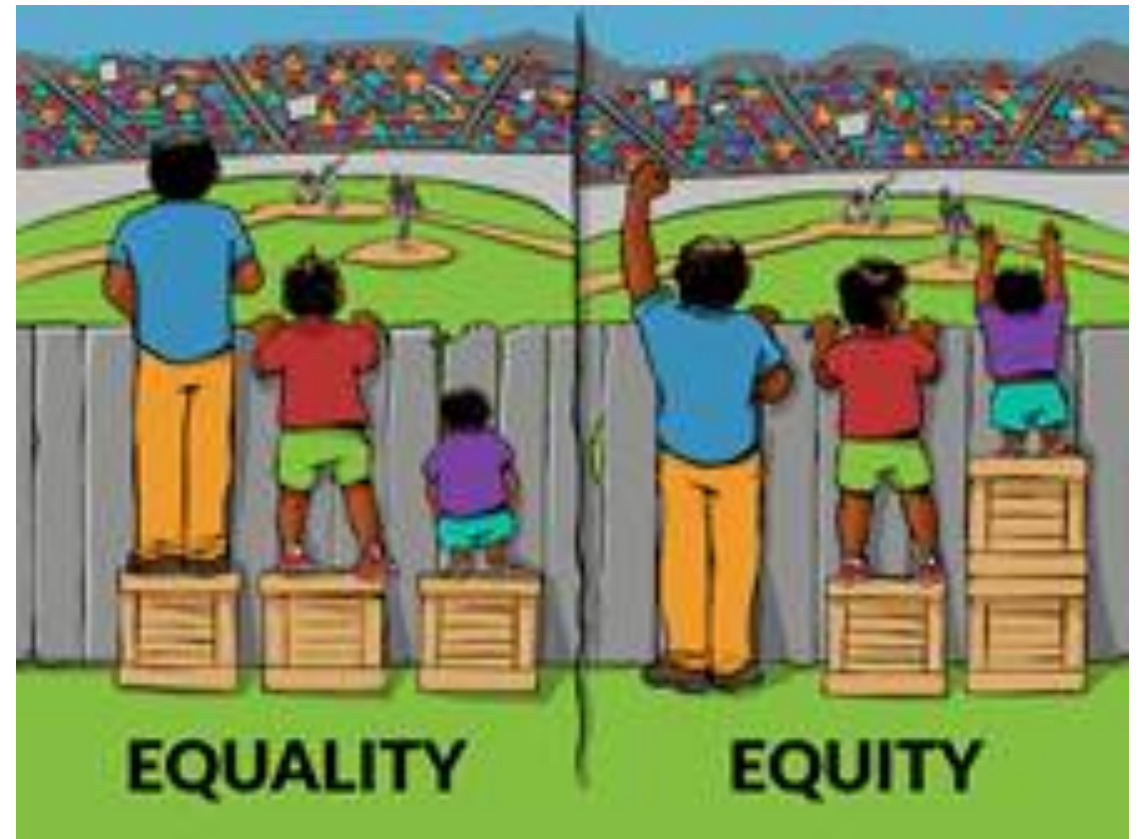
## Example Equity concepts

Type of Equity	Simple Definition	Transportation Example
Benefit received	I get what I pay for	People who use a facility the most pay the most
Ability to pay	I pay more because I have more money	A project is financed through a progressive tax that is disproportionately paid by higher income people.
Return to source	We get back what we put in	Transit investment in each county is matched to that county's share of metropolitan tax revenues used for transit.
Costs imposed	I pay for the burden I impose on others	Extra expense required to provide express bus service for suburb-to-city commuters is recovered through fares on this service.
Process (or participation)	I had a voice when the decision was made	Public outreach regarding proposed new HOT lanes provides transparent information and seeks to involve all affected parties in public hearings and workshops.

Source: Transportation Research Board, Equity of Evolving Transportation Finance Mechanisms, Washington DC, 2011.

# Equality is not necessarily Equity

- Equality – everyone is treated the same
- Equity – treatment differs according to need



## Other Equity concepts

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- Horizontal equity: all people within a group are treated the same
  - With a flat per-mile RUC rate, everyone would pay the same amount per mile for the use of roads. This assumes the 'group' is all drivers.
- Vertical equity: refers to the distribution of costs and benefits across different groups of people. Most often this concept differentiates between income groups based on their ability to pay

## Equity in the context of RUC

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- Using the Guiding Principles definition:
  - The gas tax is inequitable given drivers of more fuel-efficient or electric vehicles pay little to no gas tax because they fill up less often or not at all.
  - A RUC would implement a more equitable tax system than the gas tax in that everyone would pay the same amount regardless of vehicle type or fuel source.
- Currently, cars that are less fuel efficient fill up more often and end up paying much more in gas taxes, and thus pay a disproportionate share of the cost for roads that all cars use.

# What do we know about low-income drivers?

Source: US Federal Highway Administration's National Household Travel Survey.

This includes daily non-commercial travel by all modes, including characteristics of the people traveling, their household income, and their vehicles.

Survey data from Washington State residents (1,326 total responses).

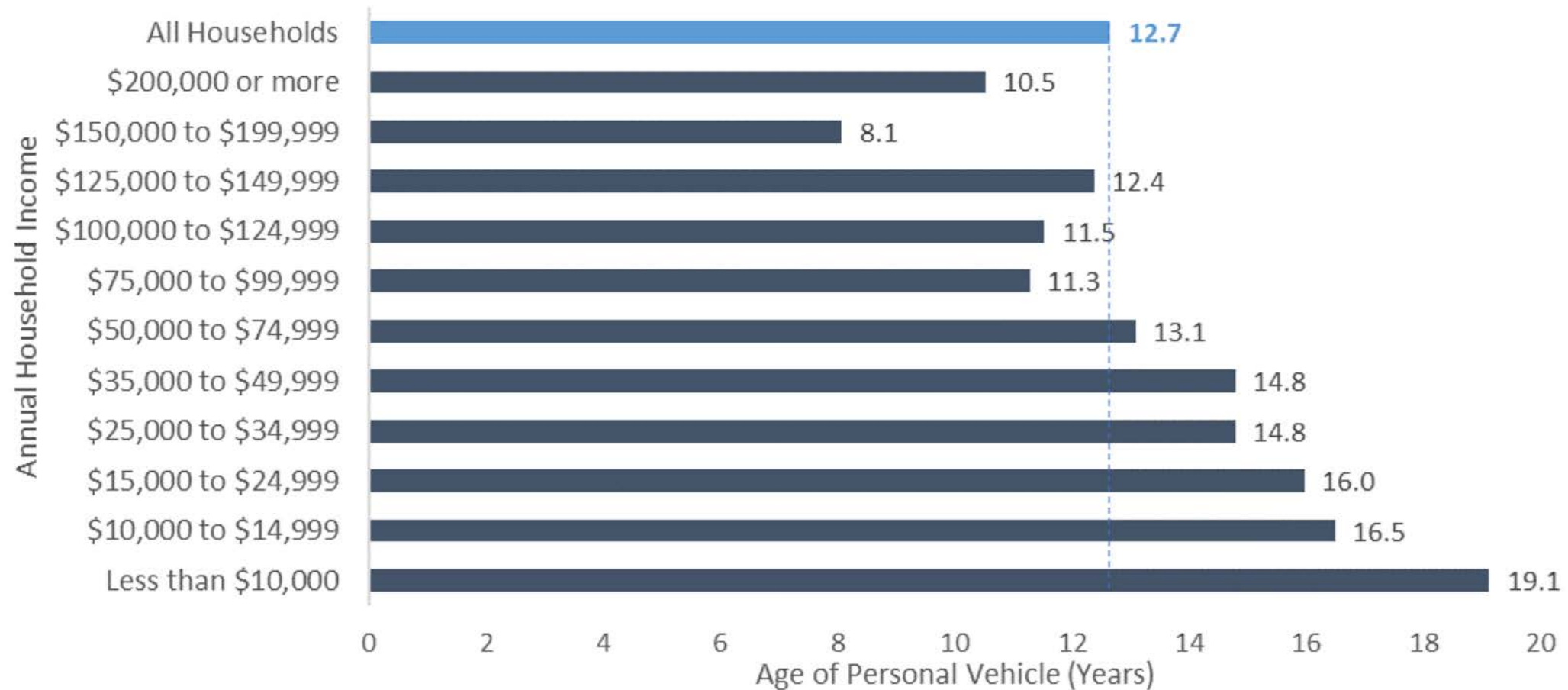
## How is low-income defined?

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- Income needed to pay for basic needs differs by geography and household size, thus, there is not one definition of low income.
- Most federal and state benefit programs employ income thresholds by household size as either:
  - A percent of the federal poverty level, which does not account for location, OR
  - Relative to the area median income, which does account for location.

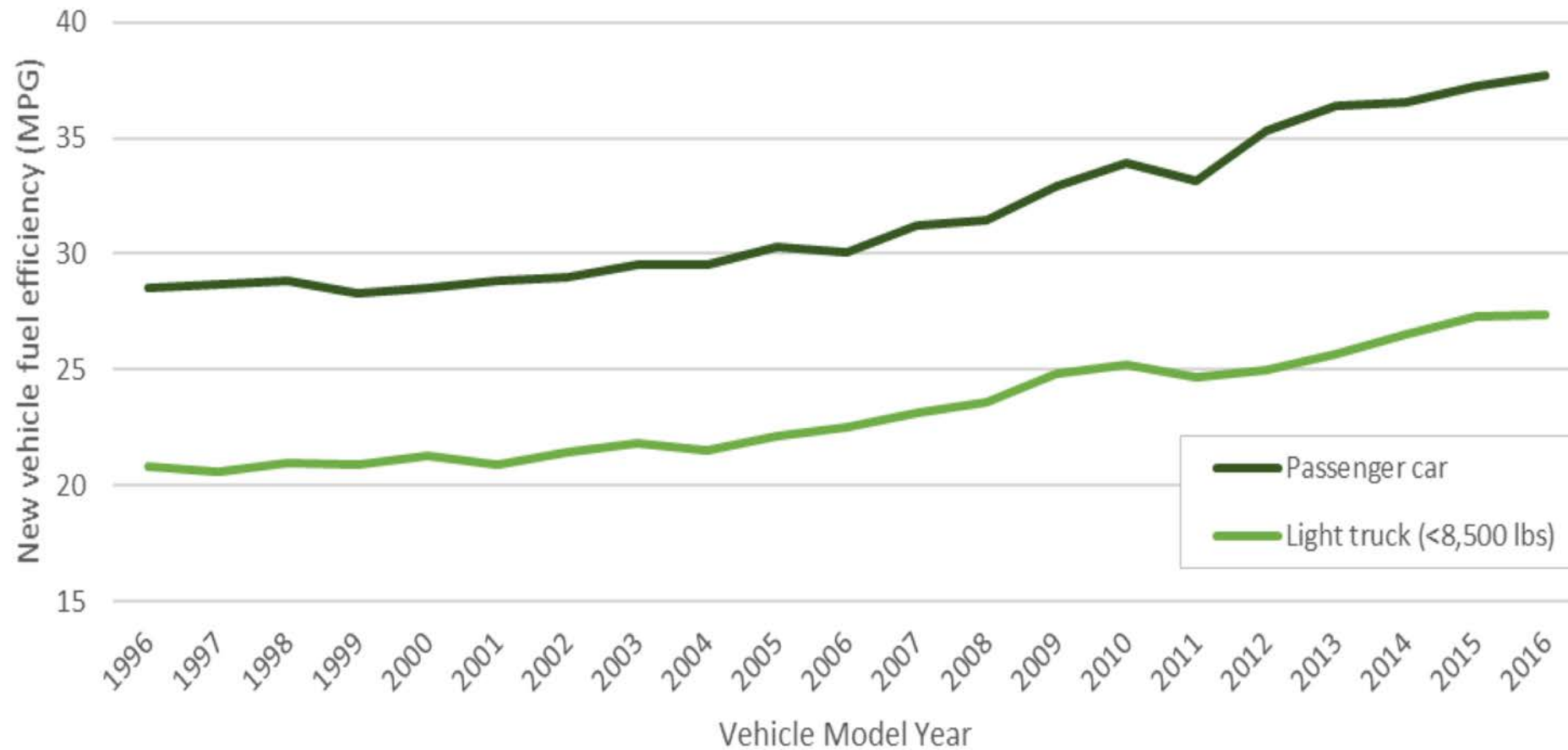


## Average vehicle age is older for lower income households



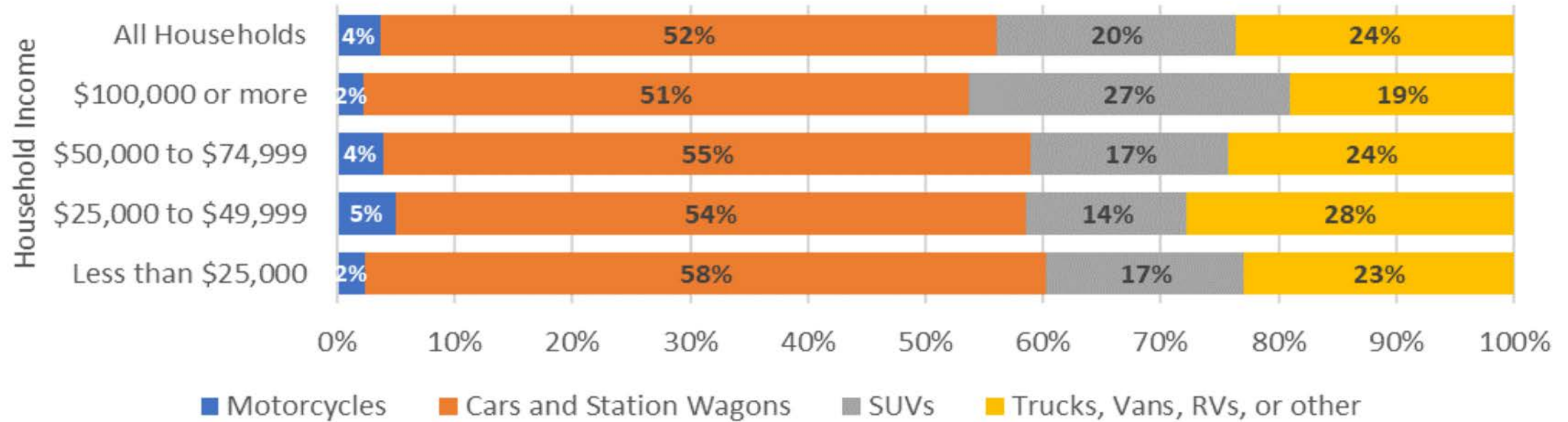
Source: Federal Highway Administration, 2017 National Household Travel Survey (NHTS); BERK, 2019.

## Older vehicles have lower average fuel efficiency (MPG)



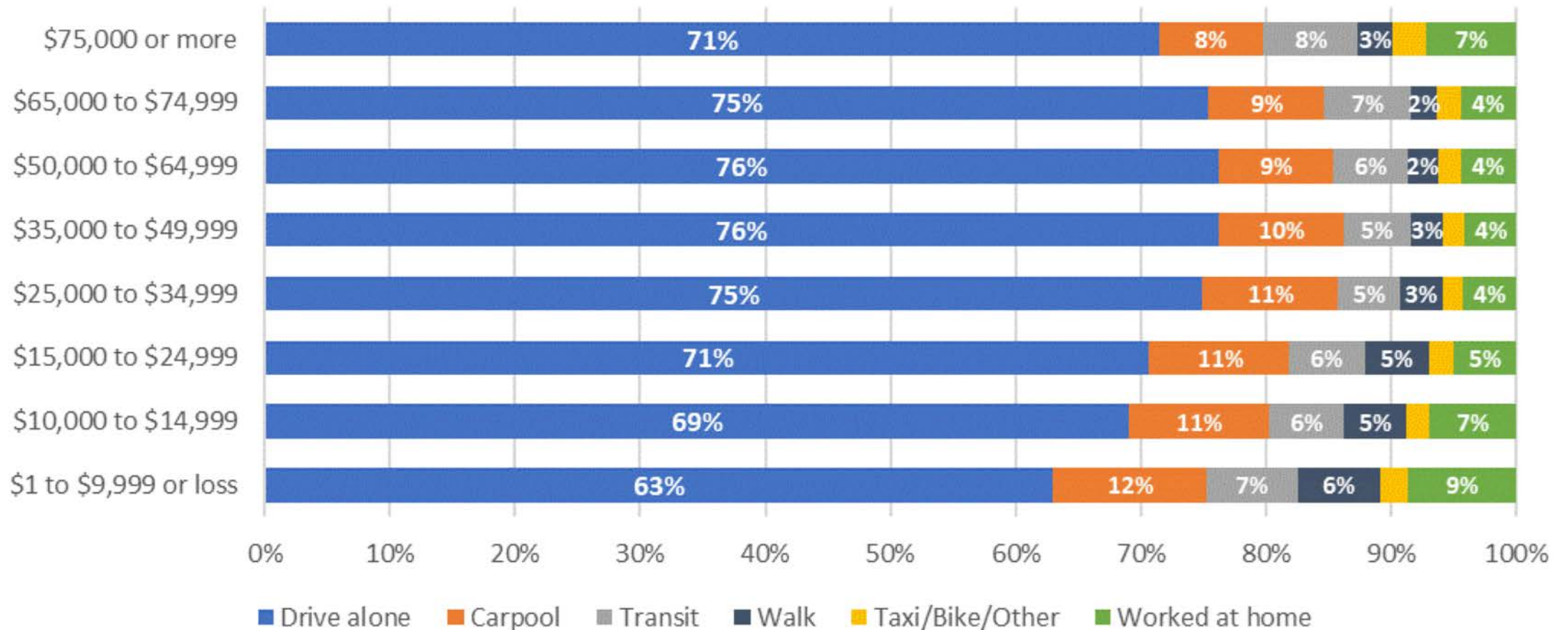
Source: Federal Highway Administration, Highway Statistics (Washington, DC: Annual Issues), table VM-1, available at <http://www.fhwa.dot.gov/policyinformation/statistics.cfm> as of May 16, 2018; BERK, 2019.

## Vehicle type is not that different across incomes



Source: Federal Highway Administration, 2017 National Household Travel Survey (NHTS); BERK, 2019.

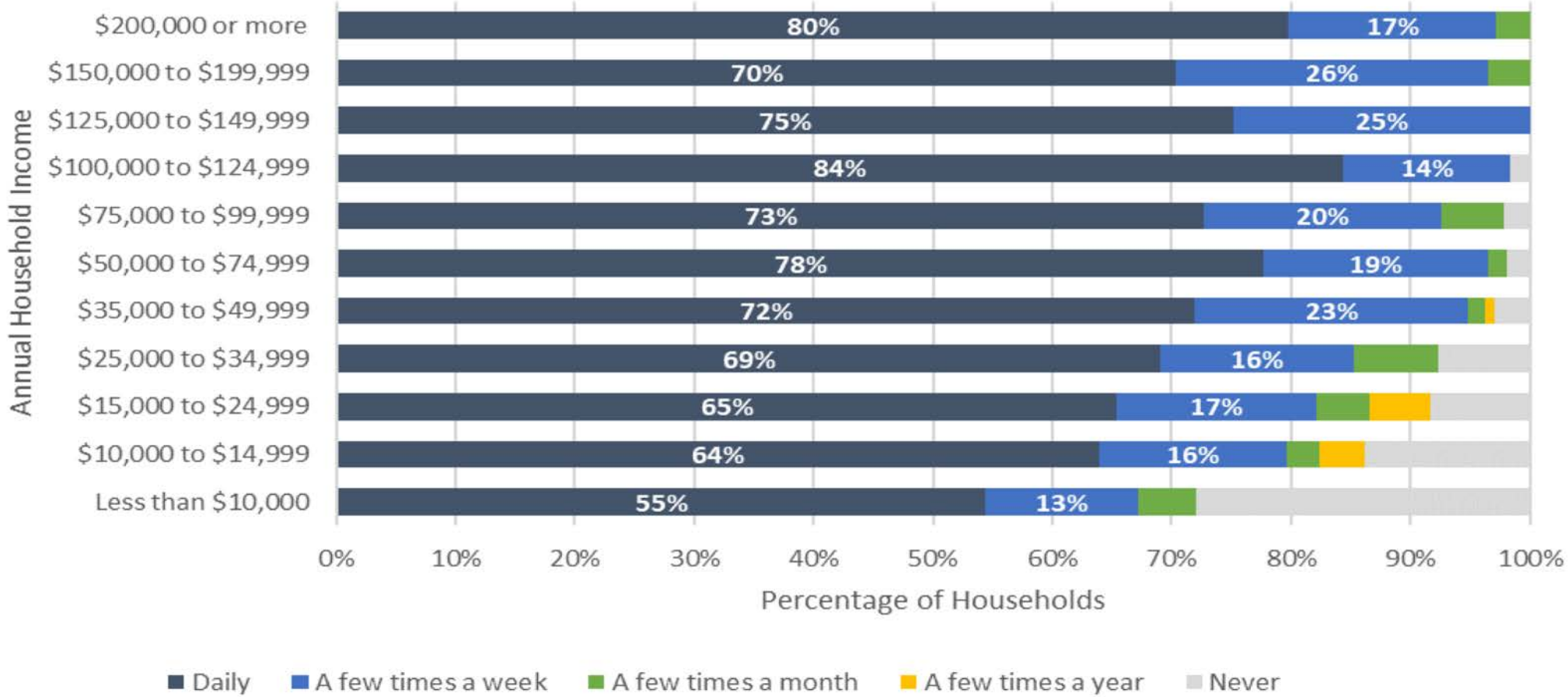
## Lower income individuals are less likely to drive alone to work



Note: The income category \$1 to \$9,999 or loss includes households with negative income.

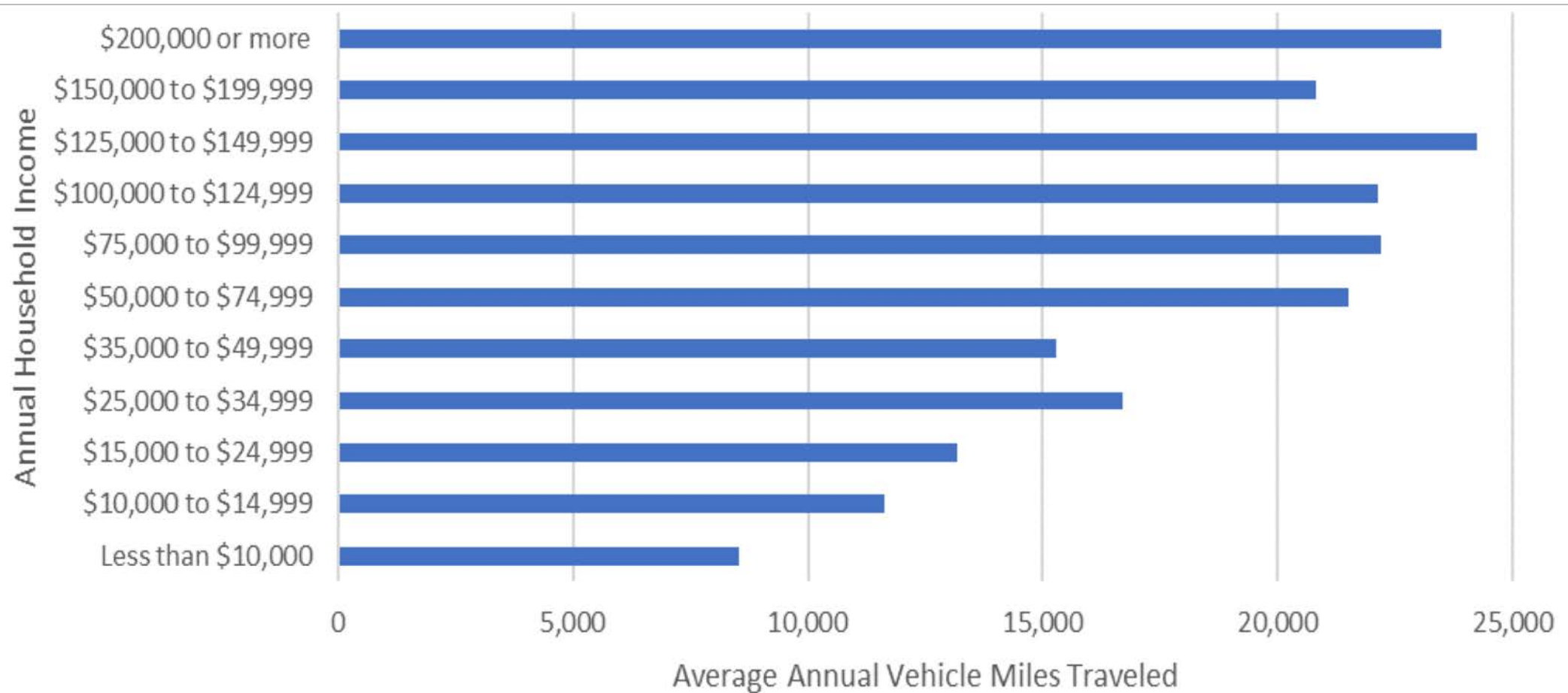
Source: 2013-2017 American Community Survey 5-Year Estimates; BERK, 2019.

# Lower income households use their vehicles less often



Source: Federal Highway Administration, 2017 National Household Travel Survey (NHTS); BERK, 2019.

## Lower income households drive fewer miles per year, on average

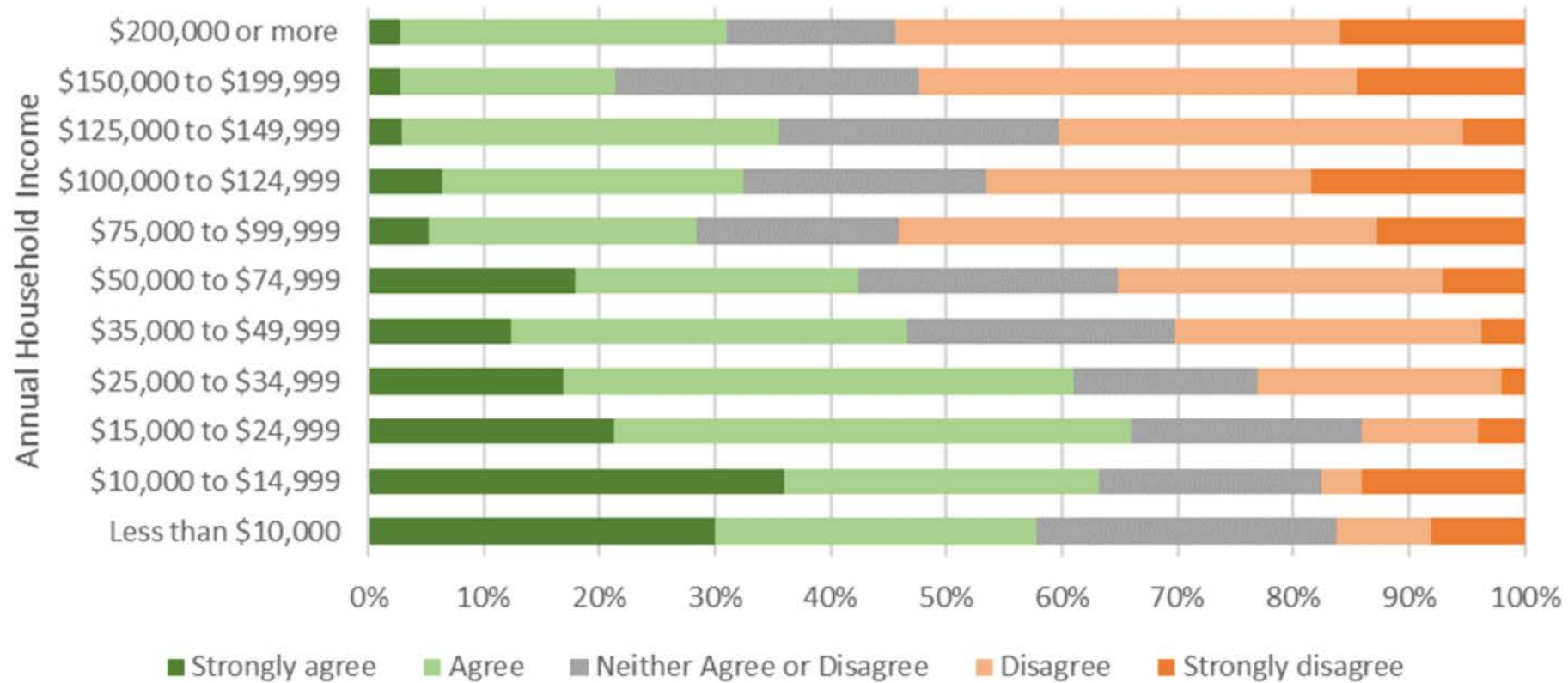


Source: Federal Highway Administration, 2017 National Household Travel Survey (NHTS); BERK, 2019.



# Cost has an impact on travel

Responses to “ The price of gas affects the number of places I go”



Source: Federal Highway Administration, 2017 National Household Travel Survey (NHTS); BERK, 2019.

# What have we learned from Pilot Participants?



# Thinking about a potential RUC system, how would you rate the importance of the following issues?

	% responding "Very Important"			
	Survey 1	Survey 2	Survey 3	Change
<b>Privacy:</b> My personal and driving information cannot be sold to any organization or shared with entities without my consent.	81%	90%	90%	↑
<b>Simplicity:</b> It is easy to participate in and not time-consuming to comply with.	69%	79%	79%	↑
<b>Data security:</b> It provides the highest level of data security possible and drivers can obtain information that clearly outlines the security measures.	72%	77%	75%	↑
<b>Transparency:</b> Clear information is available on the rate and how it is set, as well as RUC system operations.	74%	74%	70%	↓
<b>Cost-effectiveness:</b> The RUC is efficient for the State of Washington to collect, administer, and enforce.	60%	67%	65%	↑
<b>Equity:</b> All drivers pay their fair share based on how much they use the roads and regardless of vehicle type.	58%	60%	61%	↑
<b>Enforcement:</b> It is easy to enforce, and costly to evade.	48%	57%	58%	↑
<b>User options:</b> It provides choices to drivers for how they report their miles.	42%	58%	52%	↑
<b>Charging out of state drivers:</b> Visitors to the state pay for their use of WA roads.	30%	43%	40%	↑

## Participants define fair in various ways

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Focus group participants described what fairness meant to them:

- All vehicles pay,
- Everyone pays for what they use
- It accounts for income
- It accounts for vehicle weight and studded tires

## Participants define fair in various ways

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Survey participants were asked “How do you define fair?” Responses largely fall into one of four categories:

- Pay for what you use (varies among gas used, road used, miles used)
- Everyone pays/shares the burden (varies as to which methods achieves this)
- Equal, everyone pays the same
- Equitable, everyone pays according to X (income, wear and tear on the road, type of vehicle driven)

## Discussion questions

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- Which definition of fair and/or equity does the Steering Committee want to use?
- Given the SC charge to explore RUC as a replacement to the gas tax, is horizontal equity sufficient?
- Are there any impacts we should explore mitigating at this phase in the project?

# (DRAFT) OUTLINE OF STEERING COMMITTEE'S FINAL REPORT

Jeff Doyle  
Project Manager  
D'Artagnan Consulting

- Handout: Top-level outline
- Committee member discussion

# (HANDOUT: OUTLINE OF FINAL REPORT)

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# COMMITTEE DISCUSSION

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# THANK YOU!

Questions? Contact: Reema Griffith, Executive Director  
Washington State Transportation Commission  
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360-705-7070

Consultant support provided by:

