



WASHINGTON STATE ROAD USAGE CHARGE ASSESSMENT

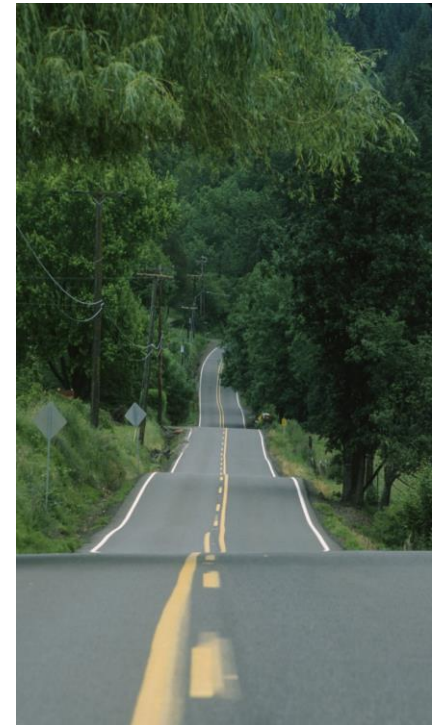
WASHINGTON STATE'S RUC ASSESSMENT

2012 Legislative Mandate:

Identify a sustainable, long-term revenue source for Washington state's transportation system, and transition from the current gas tax

The basis of the assessment:

- RUC rate tested: 2.4 cents per mile
 - $\text{State Gas Tax } 49.4 \div 20 \text{ mpg (state average)} = 2.4 \text{ cents / mile}$
- The pilot was a simulation of a real system
- We assumed revenue neutrality and focused on net revenue potential for both RUC and the gas tax over 24 years (2019 - 2043)
- Assumed drivers would pay either the RUC or the gas tax, but not both



WASHINGTON'S RUC PILOT PROJECT

Summary of Washington RUC Pilot Project:

- **Year-long**, statewide test of Washington-designed RUC system for **2,000** test-drivers

Cross-border testing:

- City of Surrey, BC
- Idaho Transportation Department
- Oregon Department of Transportation

Additional partners: Seattle Electric Vehicle Association and Plug-in America



MILEAGE REPORTING OPTIONS AT A GLANCE



ODOMETER READING

- Post-pay for miles reported quarterly
- Report miles either electronically or in person



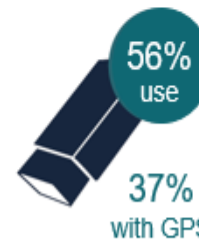
MILEMAPPER SMARTPHONE APP

- Records miles using a smartphone
- Works with all vehicles
- Navigational GPS can be turned on/off
- Available only on iPhone iOS



MILEAGE PERMIT

- Pre-select a block of miles (1,000, 5,000, 10,000)
- Report odometer either electronically or in person every three months
- Obtain additional miles as needed to keep mileage permit valid



19%
without GPS

PLUG-IN DEVICES (WITH OR WITHOUT GPS)

- Automated mileage meter with GPS and non-GPS options
- Plugs into OBD-II ports in vehicles 1996 or newer
- GPS-enabled devices automatically deduct out-of-state miles

LOW-TECH

HIGH-TECH

PILOT OPERATIONS



Quick-Takes & Observations

GENERAL OPERATIONS

- Multiple rounds of system testing prior to launch reduced the number of bugs and glitches experienced in the pilot.
- The WA RUC multi-jurisdictional interoperability HUB successfully demonstrated how the WA RUC system can report miles and move funds across jurisdictions seamlessly.
- Private firms successfully carried out all system requirements, which would allow the state to maintain a thin administrative layer at the government level.
- The enrollment process for the pilot generated the most inquiries, but after that few participants experienced issues that required contacting the Help Desk.

AVERAGE VEHICLE MPG & EV MILEAGE

- The average vehicle MPG among WA RUC pilot participants was 23.1 MPG – noting the average statewide MPG is 20.5.
- Fully-electric vehicles drove **31% less** than gas-powered vehicles, while plug-in hybrid electric vehicles drove **18% less**.
 - This implies that under a RUC system, **EV drivers would pay less** than under a flat-fee system based on the average amount paid by gas vehicles.



ANNUAL COST IMPACT OF RUC ON PEV DRIVERS IN WASHINGTON

- **Using the WA RUC pilot test rate of 2.4 cents per mile:** PEVs will pay more under RUC than the annual PEV registration fee if they drive more than 9,400 miles per year.
- **However, based on average miles driven by PEVs in the US (7,000 miles):** Washington PEV drivers would pay \$168 in RUC — **\$57 less than the current state PEV fee.**
- **Based on WA RUC pilot data, Battery Electric Vehicles (BEVs) reported an average of 8,450 miles. Plug-in Hybrid Evs (PHEVs) reported 9,980:**
 - BEVs would have paid \$203 per year under RUC — \$22 less than the PEV registration fee.
 - The average* PHEV would have paid \$239 per year under RUC, \$14 more than the PEV registration fee.

**NOTE: exact impacts on PHEVs varies by model, because some PHEVs have limited ranges in electric mode (e.g., 12 to 18 miles), and would use gasoline (and pay the gas tax) for daily travel in excess of this range.*

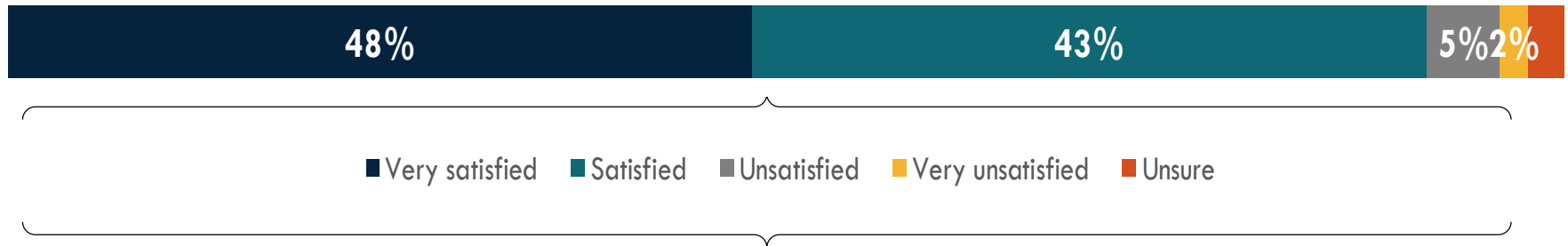
MILEAGE REPORTING

- The level of mileage reporting compliance was on average higher for automated methods than for the manual methods, which required the driver to intervene periodically to report miles.
- Only **6% of the 2,033** participants switched mileage reporting methods during the pilot, and only 1% decided to switch their private Service Provider (who manages their RUC account).
- The WA RUC system was able to accommodate multiple (5) mileage reporting methods, including a “staggered” start – which is what would likely happen in a real RUC system.

RUC PILOT PARTICIPANT INPUT

Three Surveys, 12 Months

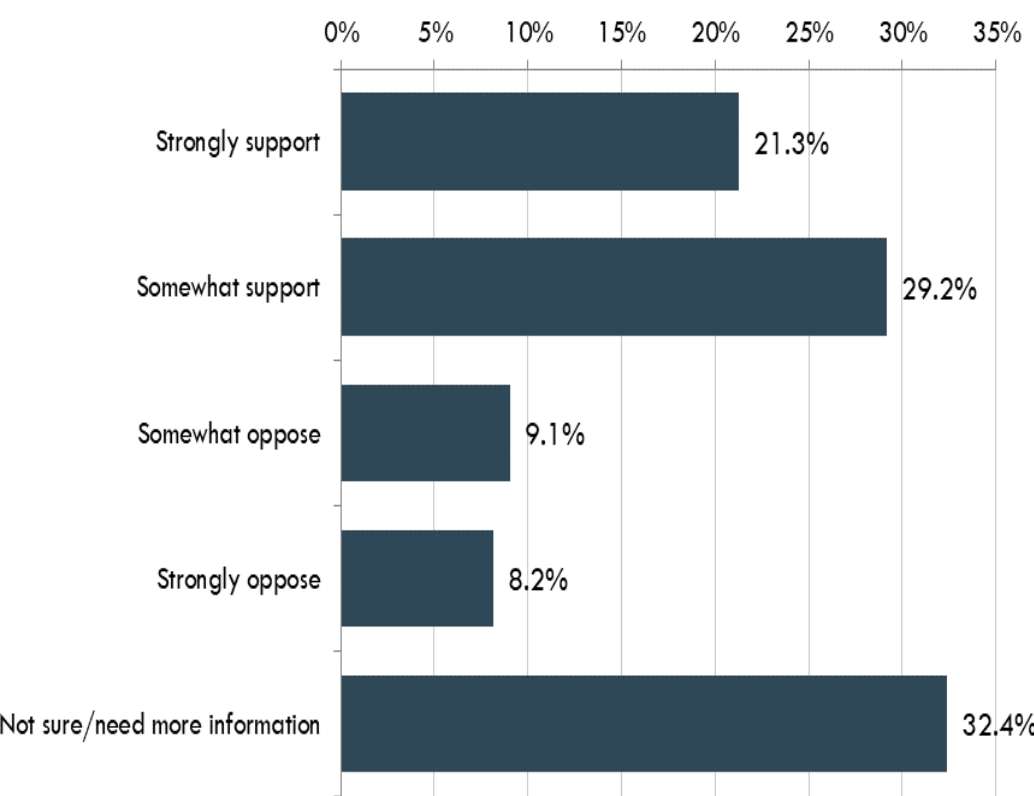
THINKING ABOUT YOUR FULL EXPERIENCE WITH THE RUC PILOT, HOW SATISFIED WERE YOU OVERALL?



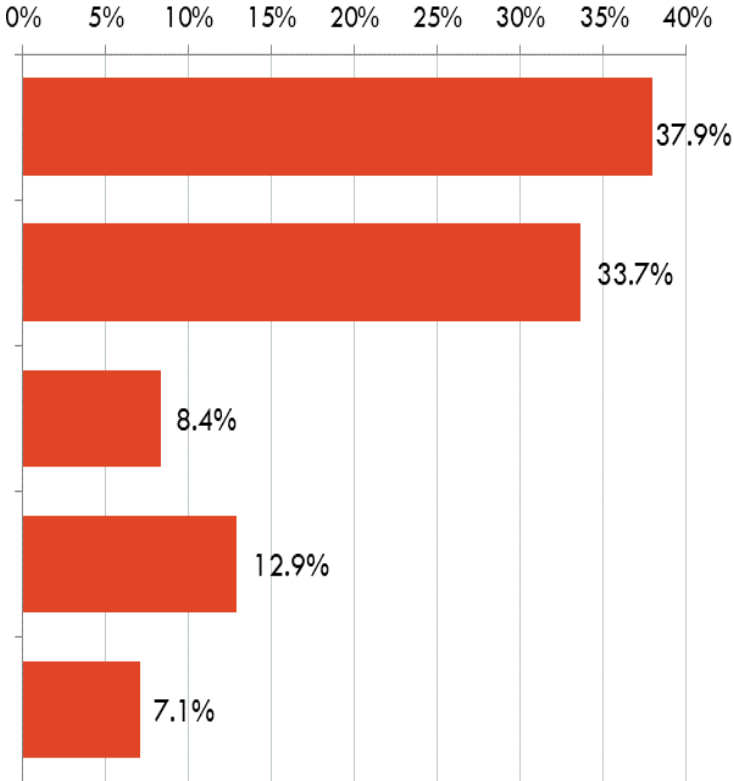
91% were satisfied or very satisfied

HOW DO YOU FEEL ABOUT IMPLEMENTING A RUC AS A REPLACEMENT TO THE GAS TAX TO FUND TRANSPORTATION INFRASTRUCTURE?

Survey 1 (n=1,683)



Survey 3 (n=1,468)



BASED ON YOUR EXPERIENCE IN THE PILOT, HOW HAS YOUR ATTITUDE TOWARDS A RUC SYSTEM CHANGED?



■ Much more supportive

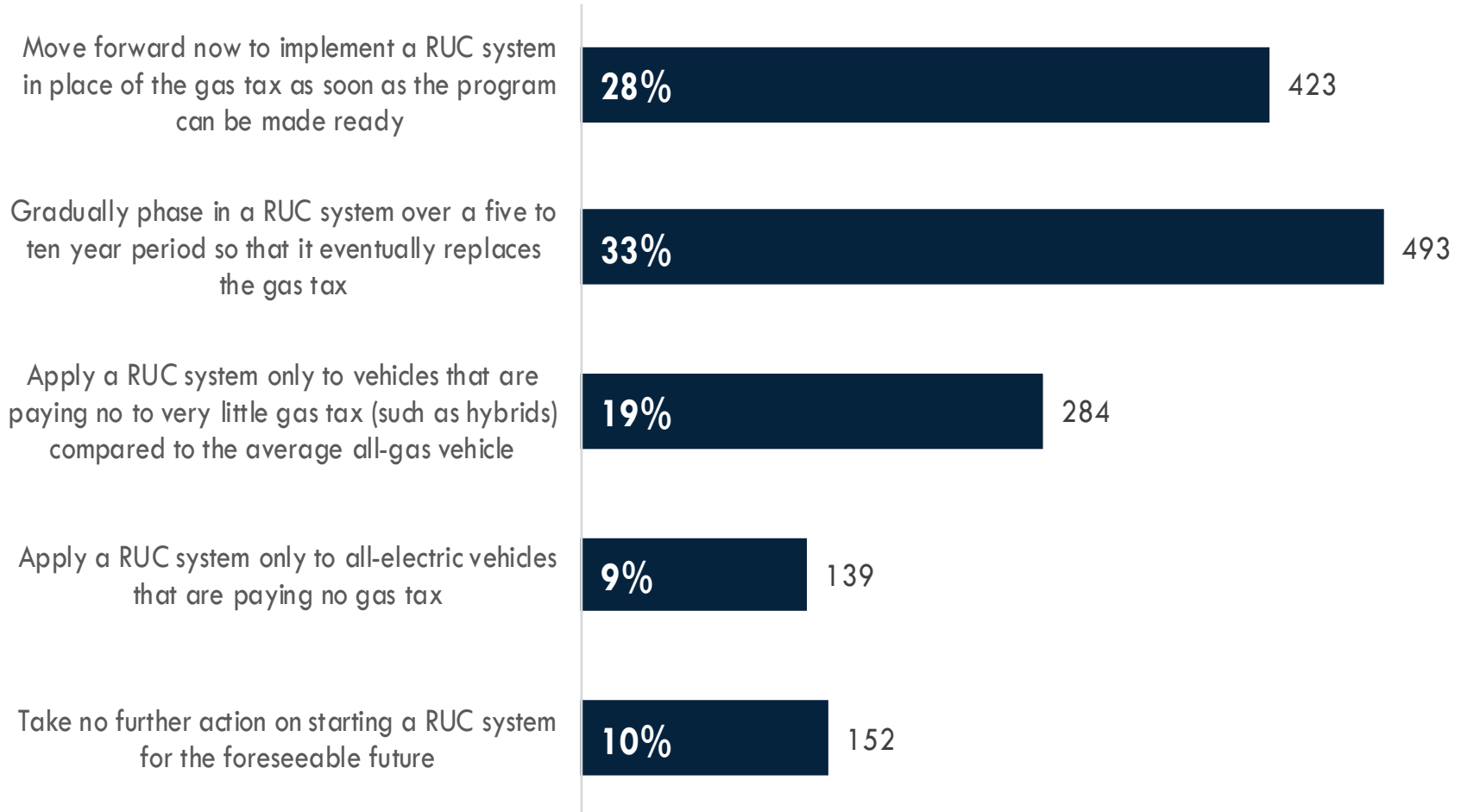
■ A little less supportive

■ A little more supportive

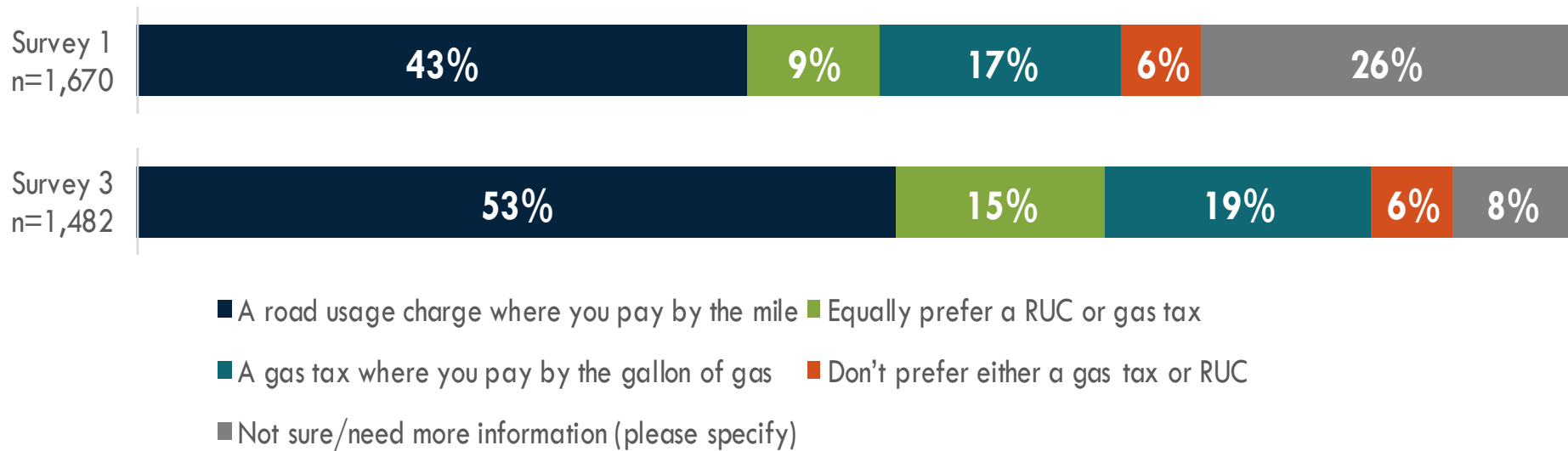
■ A lot less supportive

■ Same as before my RUC experience

WHICH OF THE FOLLOWING BEST REPRESENTS YOUR ADVICE TO ELECTED OFFICIALS AS THEY CONSIDER THE NEXT STEPS IN IMPLEMENTING A RUC SYSTEM STATEWIDE:



KNOWING WHAT YOU KNOW TODAY, WHICH METHOD TO FUND TRANSPORTATION WOULD YOU PREFER?



Preliminary Recommendations

Out for Public Comment

Preliminary Recommendations – Background

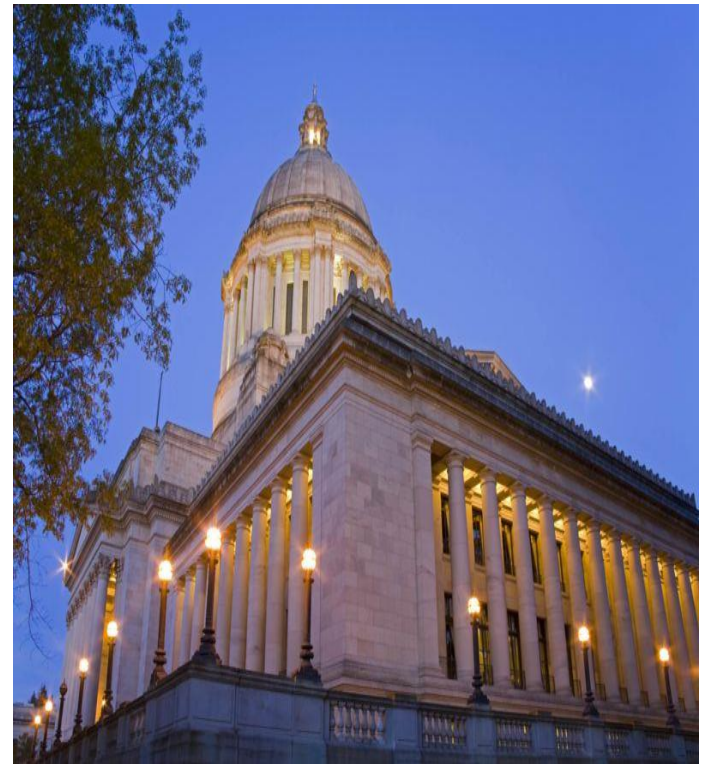
- WSTC received a final report with findings from the Steering Committee in October 2019.
- WSTC reviewed the report and issued 15 preliminary recommendations on the next steps for RUC in Washington.
- Recommendations include methods for transitioning to a RUC, key legislative policies and considerations and potential topics to explore and study in the future.
- Final adoption of recommendations to occur at the December 17 WSTC meeting.

Preliminary Recommendations – Transitioning to a RUC

- Take a slow and gradual approach to introducing road usage charging (RUC) in Washington, including a start-up phase to help inform a transition plan before there is broad, fleetwide adoption in the future.
- A start-up phase should include vehicles that pay little or no gas tax: plug-in electric and hybrid vehicles, which currently pay flat annual fees regardless of miles driven. This will allow the state to continue to develop and test a RUC for at least five years before considering fleetwide implementation.
- Include state-owned vehicles in the start-up phase to test:
 - New approaches to privacy protection
 - RUC compliance and enforcement
 - Travel between states
 - Opportunities to reduce operational costs
 - Improving the driver experience in transitioning away from the gas tax

Preliminary Recommendations – Key Policies

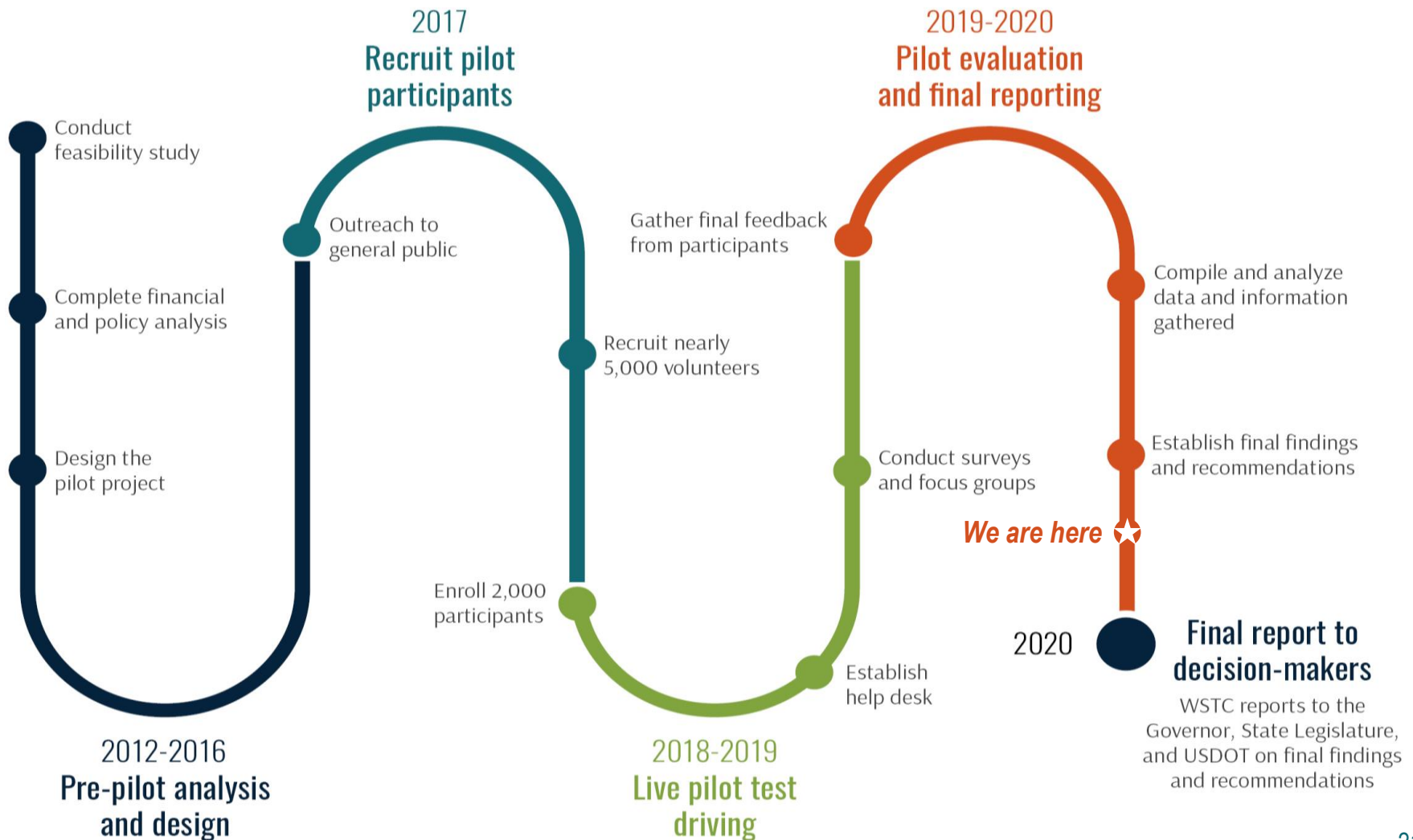
- Implement privacy protection measures in state law specific to a RUC system.
- Restrict RUC revenues to highway-related expenditures by making RUC subject to the 18th Amendment of the Washington Constitution.



Preliminary Recommendations – Continue Research

- Assess potential equity impacts of RUC on communities of color, low-income households, rural communities, vulnerable populations, and displaced communities.
- Continue assessing RUC on a broader scale including testing new mileage reporting options, assessing different approaches to RUC rate-setting and how to maximize compliance.
- In collaboration with other states, conduct additional research on different approaches to reducing administrative and operational costs of RUC, assess how RUC would be applied efficiently to cross-border travel and assess compliance gaps and potential enforcement measures.

PILOT PROJECT TIMELINE





**To stay looped in on our
progress visit:**

www.waroadusagecharge.org

CONTACT INFORMATION

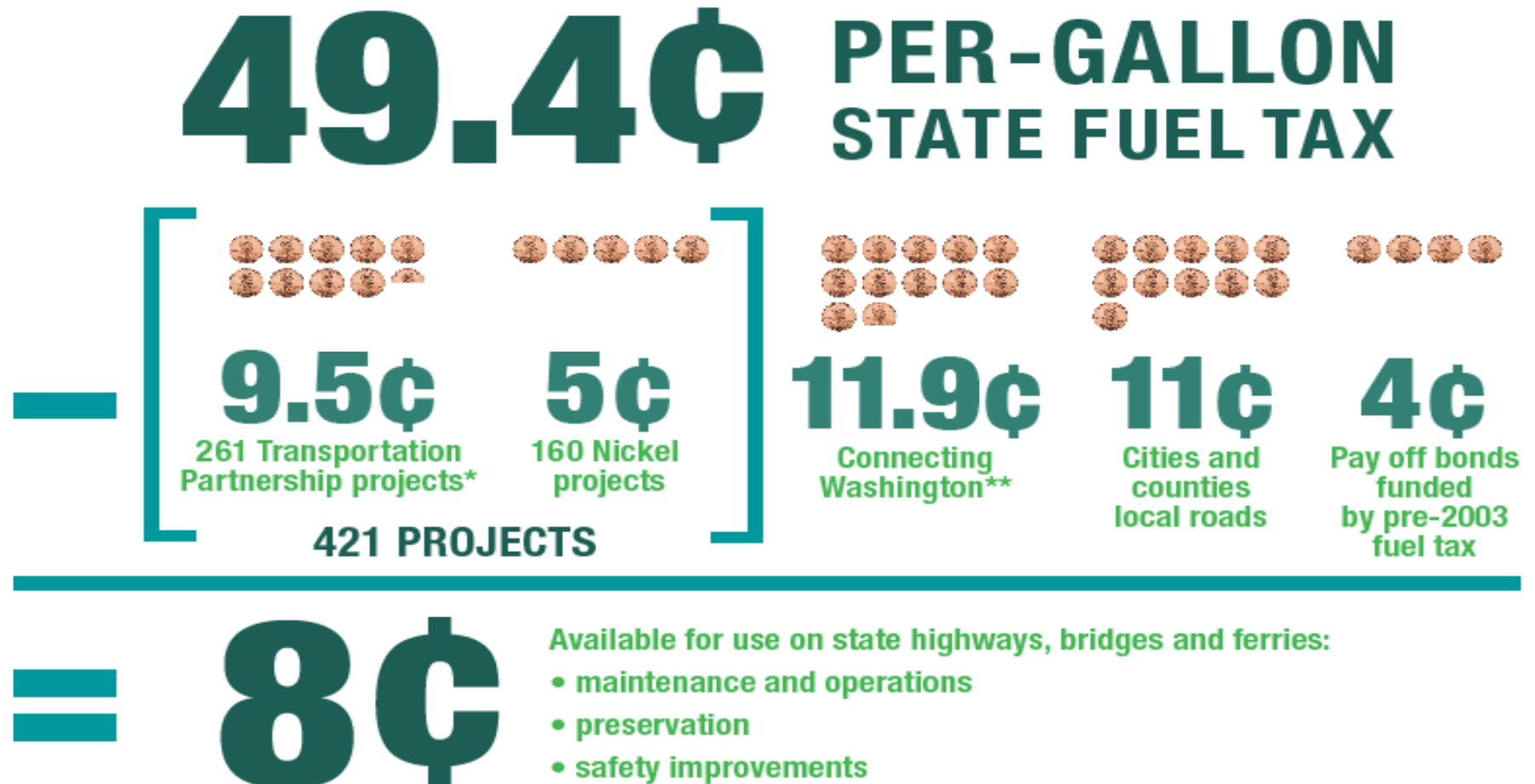
Reema Griffith, Executive Director
Washington State Transportation Commission
griffir@wstc.wa.gov
360-705-7070

Consultant support provided by:



Back-up Slides

WASHINGTON STATE GAS TAX BREAKDOWN



* Of the 9.5¢, 8.5¢ is used by the state for highway projects, 1¢ goes to cities and counties for street and road improvements.

** The 11.9¢ gas tax increase was phased in over two years - a 7¢ cent increase on 8/1/2015, and a 4.9¢ increase on 7/1/2016.

PROBLEM

Gas tax won't fund future needs

PLUG-IN ELECTRIC VEHICLES (PEVs) ARE ON THEIR WAY— THE ONLY QUESTION IS HOW QUICKLY?

- Most automotive manufacturers have publicly staked out their plans to electrify their lineups by 2030 (some sooner).
- China is driving growth in new vehicle sales (in 2018, US sales fell for the first time in history).
- European countries are adopting aggressive regulations on gas-powered vehicles (including banning new sales within the next decade). Automakers are adapting accordingly.

CROSSOVER POINT: WHEN PEVS BECOME CHEAPER THAN ICE (GAS) VEHICLES

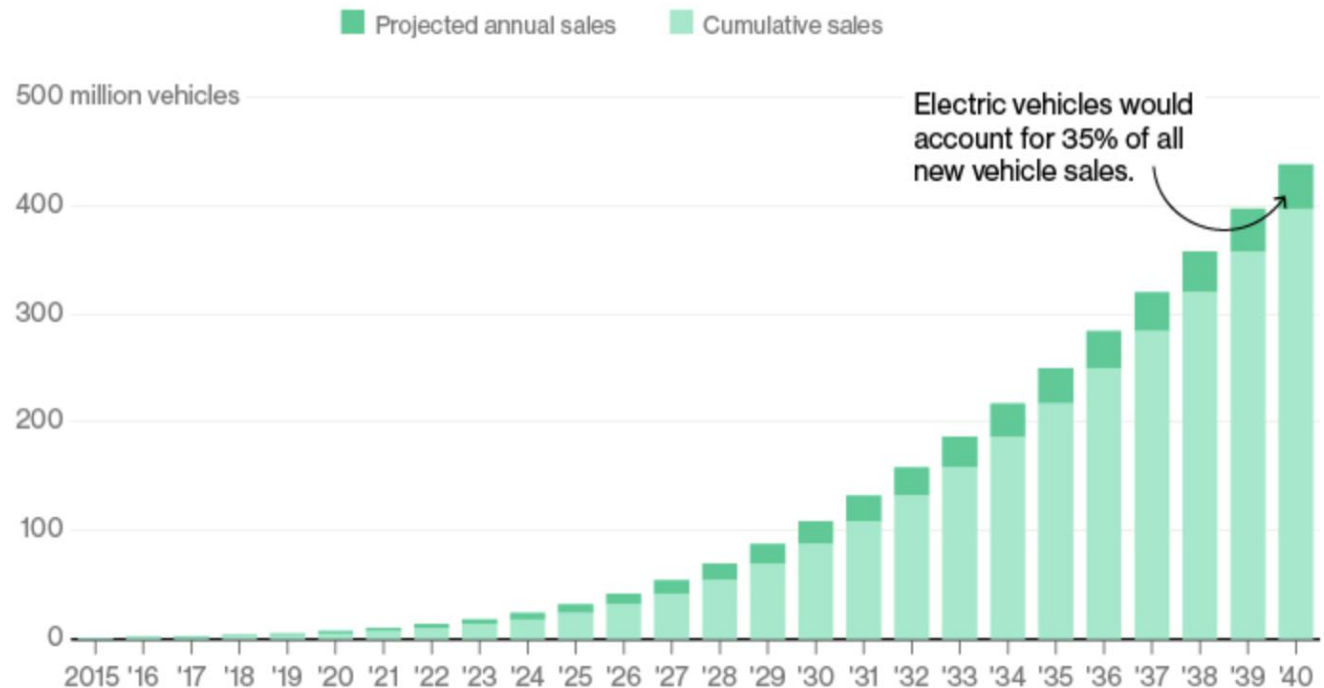
2017 Bloomberg
Forecast: crossover
point will be 2026

2018 Bloomberg
Forecast: crossover
point will be **2024**

2019 Bloomberg
Forecast: crossover
point will be **2022**

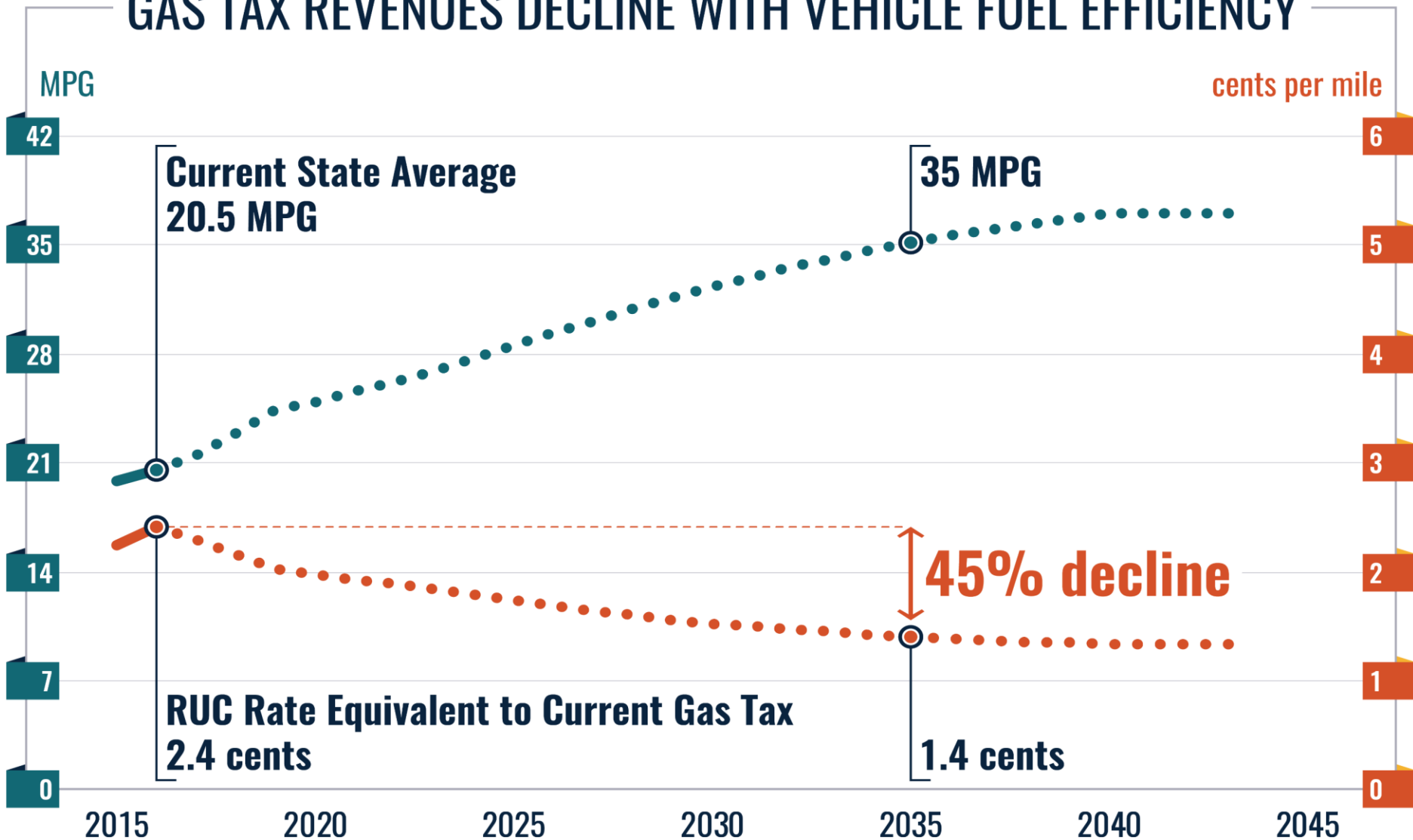
The Rise of Electric Cars

By 2022 electric vehicles will cost the same as their internal-combustion counterparts. That's the point of liftoff for sales.



Sources: Data compiled by Bloomberg New Energy Finance, Marklines

GAS TAX REVENUES DECLINE WITH VEHICLE FUEL EFFICIENCY

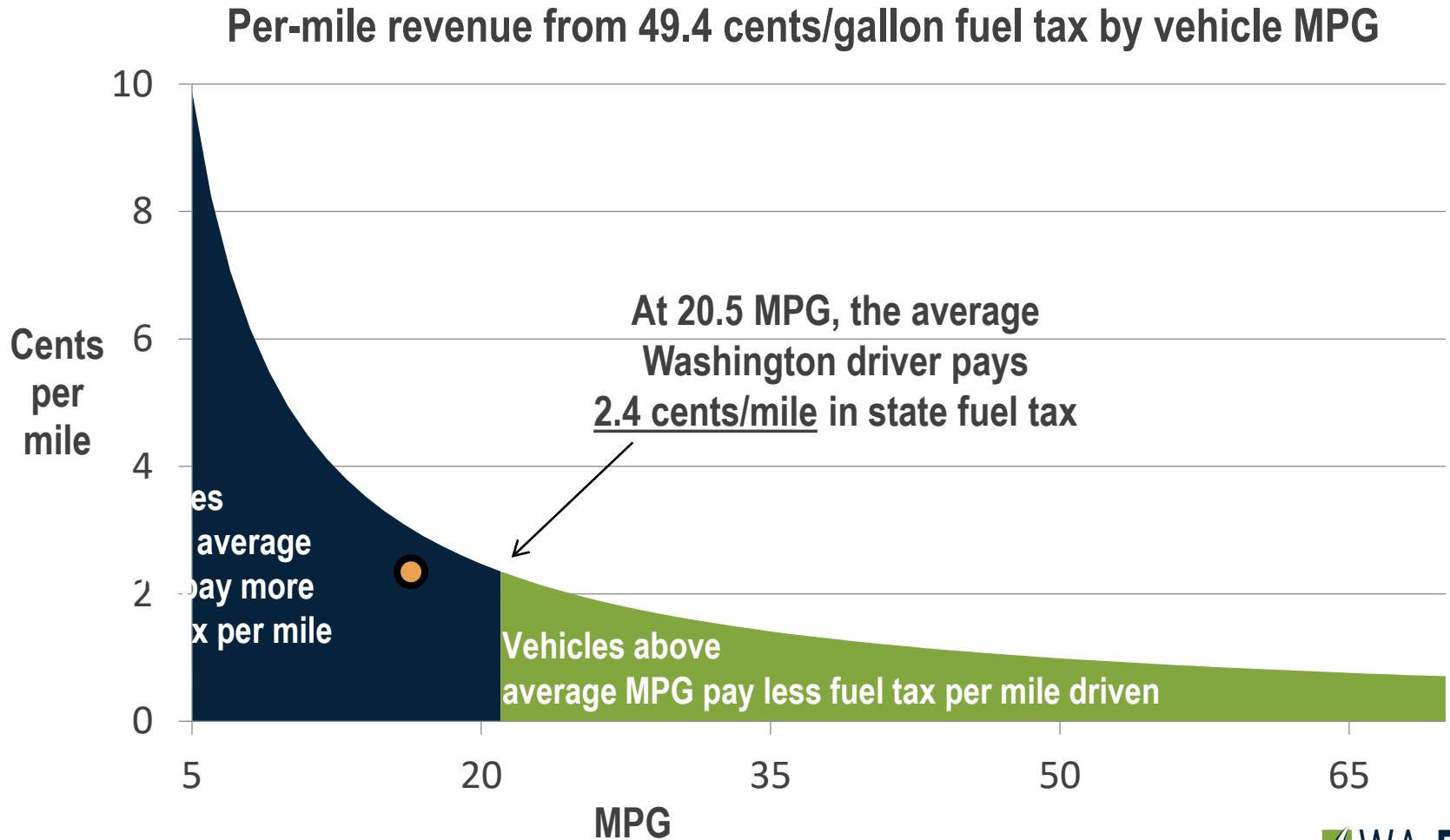


Conservative forecasts say Washington's vehicles will reach a 35 MPG average by 2035—a potential 45% reduction in gas tax revenue per mile driven. As vehicle MPG increases, gas consumption decreases, and thus gas tax revenues decrease as well.

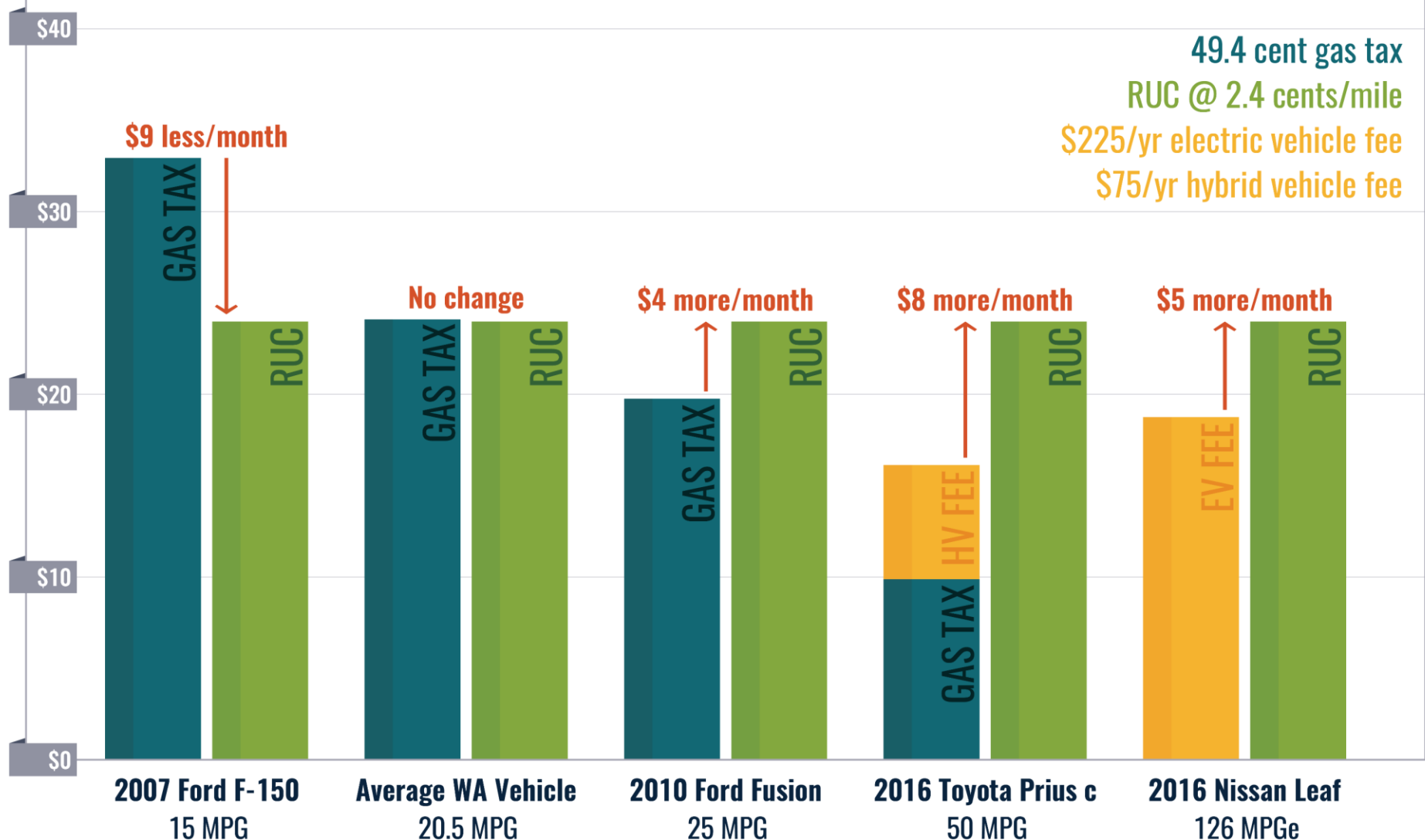
The state gas tax increased in 2015-2016.

KEY FINDINGS TO DATE

TAXING GALLONS HAS REAL FAIRNESS AND EQUITY CHALLENGES



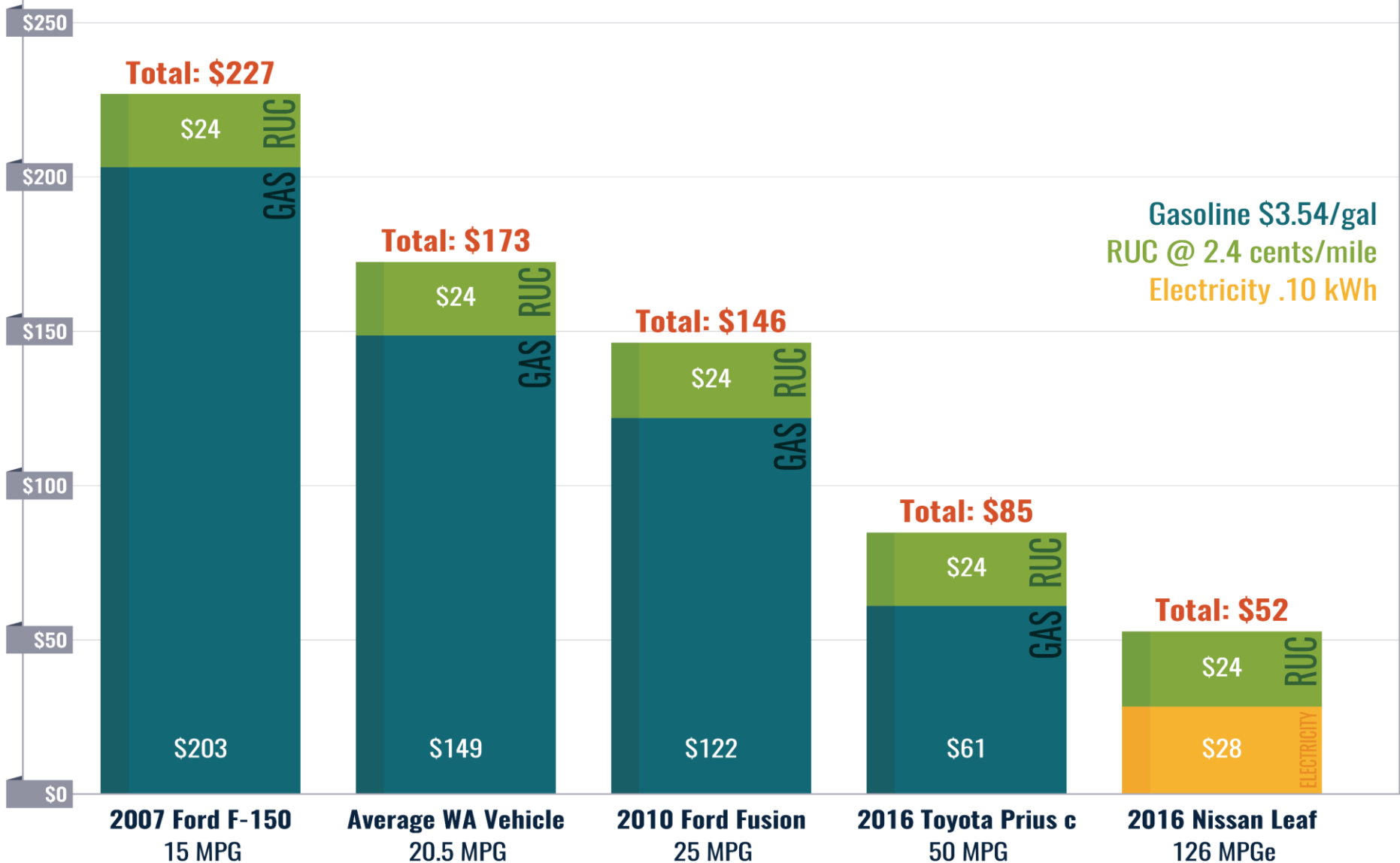
COST OF GAS TAX OR ROAD USAGE CHARGE (RUC) AT 1,000 MILES/MONTH



What you drive will determine the cost impact of RUC:

- Less fuel efficient vehicles will see a decrease in the amount of taxes paid
- More fuel efficient vehicles will see an increase in the amount of taxes paid
- The total effect is that all drivers pay the same rate to use the roads—regardless of their vehicle's MPG

MONTHLY FUEL + ROAD USAGE CHARGE (RUC) COST PER 1,000 MILES TRAVELED



While RUC does result in drivers of fuel efficient vehicles paying a little more in taxes for transportation as compared to the gas tax, the overall cost advantage of owning a fuel efficient, hybrid, or EV remains significant.

For example, under RUC, owners of a Prius will pay \$142 dollars per month less than the Ford pickup truck driver.

RUC ≠ TOLLING

RUC & tolling are separate tools in our tool box

- RUC is being looked at as a foundational funding source for the statewide transportation system, replacing the gas tax
 - *Assumes drivers would pay RUC AND tolls – just like they pay gas taxes AND tolls today*
- Tolling is used to pay for a specific project and/or manage demand on a specific corridor, with the revenues dedicated to that corridor or project
- While RUC could incorporate pricing for congested corridors, to do so requires the mandatory use of GPS – and this conflicts with a key priority:
 - *Consumers must have a choice for how they report their miles, including not using GPS*
 - *Privacy trumps pricing*



EVEN WITH ANNUAL GAS TAX INCREASES REVENUE WILL NOT KEEP UP WITH NEEDS

Sort of like scooping water out of a sinking boat.....

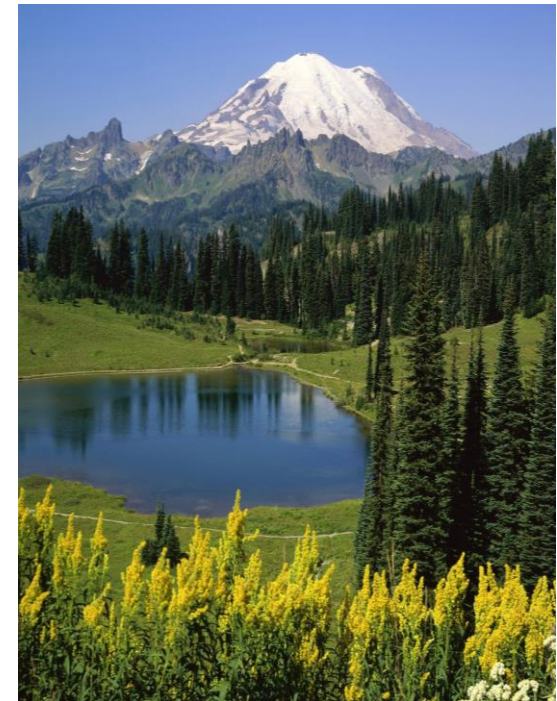
- The gas tax would have to be raised about 1.5 cents per gallon, per year on all vehicles from 2019-2043 in order to equal net revenues from a road usage charge of 2.4 cents per mile
- By 2043, drivers would be paying **85 cents / gallon** – with reduced purchasing power
- Would not address growing funding needs for improvements nor maintenance – it would keep funding at status quo equivalent levels



RUC ENABLES POLICY HARMONIZATION

A RUC system presents the opportunity to harmonize transportation energy and environmental imperatives:

- The gas tax is one dimensional – it is collected as a flat rate at the distributor level, and cannot be varied or customized
- There are current Washington State laws and policy goals related to VMT and emissions reductions which are inherently in conflict with long-term transportation revenue needs
- Less gas consumption = less revenue for roads
- RUC is capable of accommodating policy goals and transportation revenue needs
 - Depending on policy priorities, decision-makers could choose to vary RUC rates by factors such as vehicle MPG, vehicle weight, engine type, fuel source, etc.

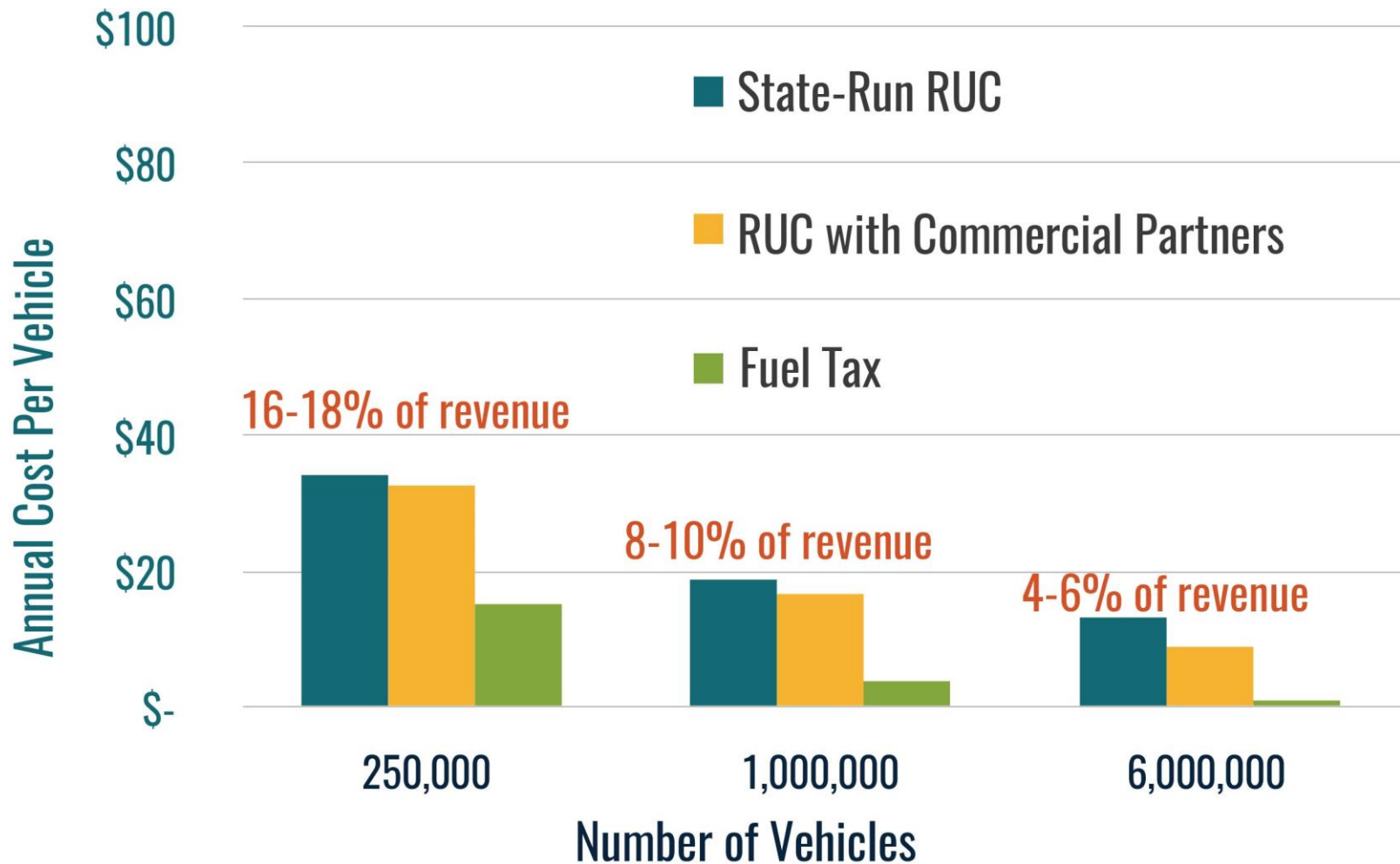


OUT OF STATE DRIVERS

- We need to be able to charge people from out of state for their use of Washington roads
- In a potential RUC system, the state could keep the gas tax in place while it slowly transitions away from it, and towards a road usage charge
 - **NOTE:** WA drivers would pay either the gas tax or the road usage charge – but **not both**
- Keeping the gas tax in place during a transitional period has many advantages:
 - Provides adequate revenue to repay state highway bonds
 - Provides an easy way to collect from out-of-state drivers
 - Serves as “pre-payment” for any RUC owed at the end of the reporting period, allowing RUC balances due to be much lower



ALTHOUGH RUC IS MORE COSTLY TO COLLECT THAN FUEL TAX...



...RUC PROVIDES MORE SUSTAINABLE NET REVENUE

