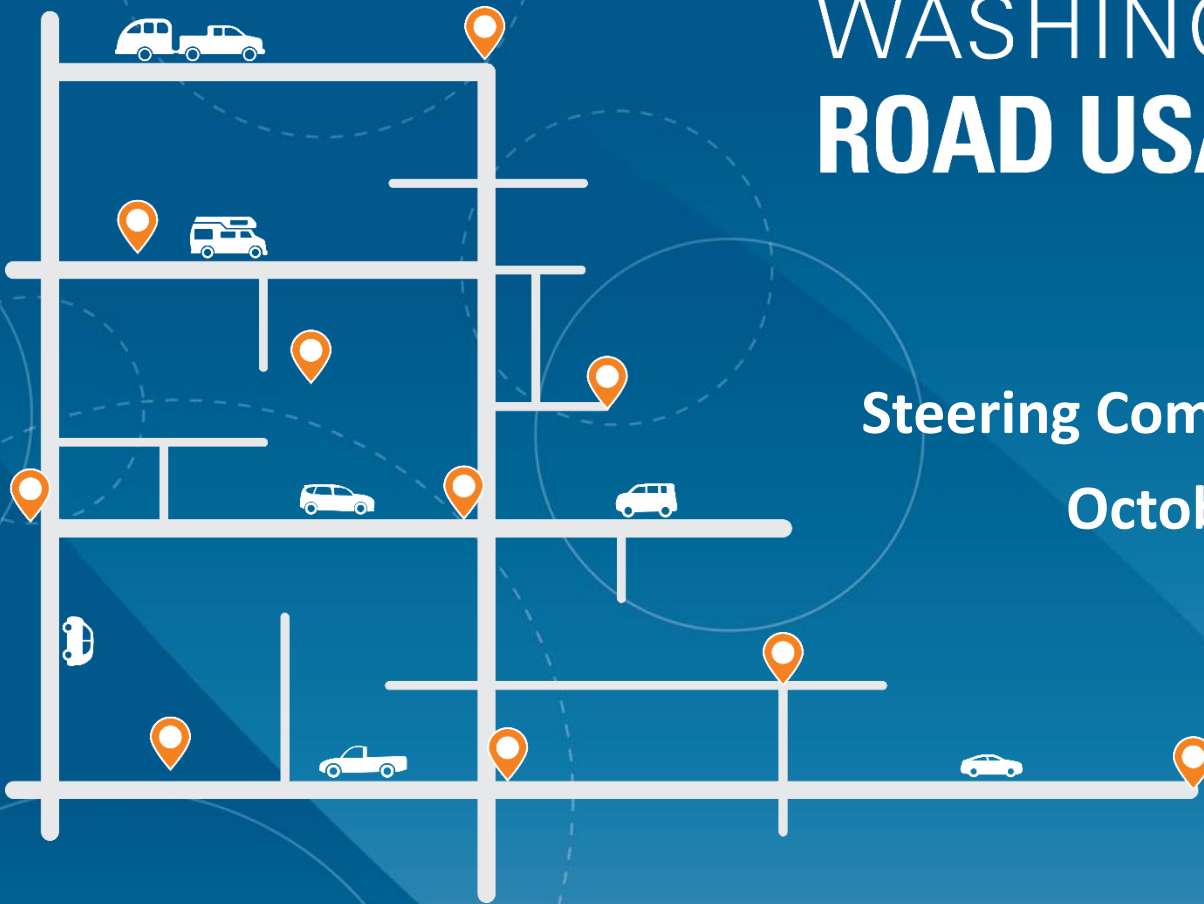


# WASHINGTON STATE ROAD USAGE CHARGE

Steering Committee Meeting #1

October 1, 2015



# Meeting Agenda

- Welcome and Introductions
- Review of the 2015 Work Plan
- Summary of Steering Committee Interviews
- Update on State and Federal Transportation Funding and Related Policy Initiatives
- Road Use Charging Developments in other States and Countries
- Updating RUC Business Case Analysis
- Review of Unresolved RUC Legal, Operational and Policy Issues and Approaches taken in other Jurisdictions
- Discussion of Priority Policies to be addressed in 2015-2016

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# WA Road Usage Charge: 2015 Legislative direction

## 2015-2017 Transportation Budget 2ESHB1299 Section 205:

- *“(1) \$300,000 of the motor vehicle account—state appropriation is provided solely to continue evaluating a road usage charge as an alternative to the motor vehicle fuel tax to fund investments in transportation. The evaluation must include monitoring and reviewing work that is underway in other states and nationally.*
- *The commission may coordinate with the department of transportation to jointly pursue any federal or other funds that are or might become available and eligible for road usage charge pilot projects.*
- *The commission must reconvene the road usage charge steering committee, with the same membership authorized in chapter 222, Laws of 2014, and report to the governor's office and the transportation committees of the House of Representatives and the Senate by December 15, 2015.”*

# 2015 Work Plan

- Update Road Usage Charge (RUC) business case
- Monitor status of national and international RUC developments
- Prepare for joint research and funding opportunities (with WSDOT) with other western states
- Develop options for revised demonstration concept
- Review and develop RUC policy principle options and strategic roadmap for implementation
- Report to the Governor and Legislature recommendations for RUC advancement in Washington

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# Steering Committee interviews

**In light of recent action on the revenue package, do you still feel that a long-term alternative to the gas tax needs to be explored?**

- Most members continue to feel the current revenue model is unsustainable
- Many recognize the new revenue package has reduced the urgency for an alternative to the gas tax
- There is continued interest to understand the effects of bonding on a transition away from gas tax

# Steering Committee interviews

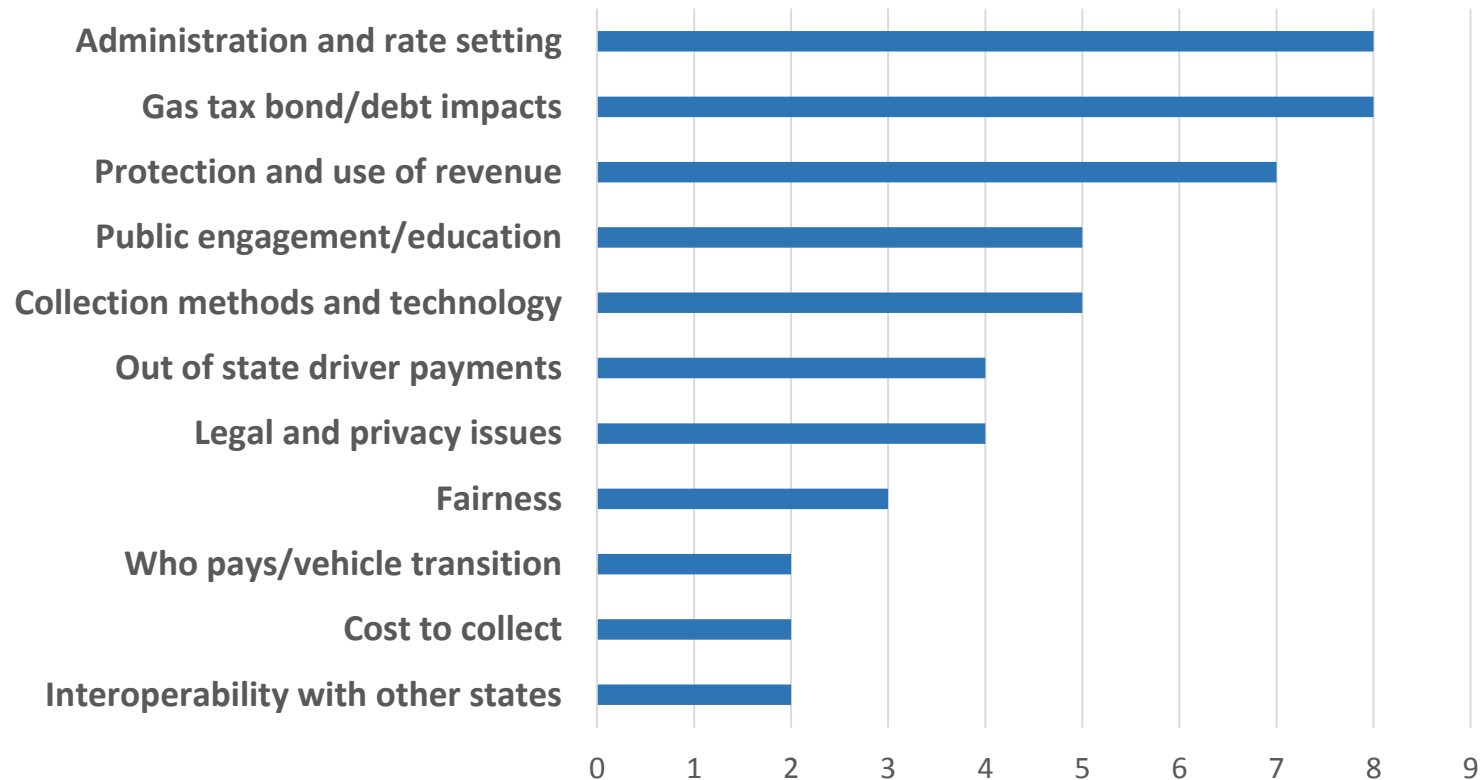
**Looking at what has been done on RUC in Washington to date, (and the Legislative proviso for 2015), what do you think is the most important thing to accomplish between now and the end of year?**

- Leverage the work of other states
- Continue cost analysis
- Strategize on public perception and education
- Revenue transition and roles
- Short and long term strategy for a RUC future



# Steering Committee interviews

**Which policy issues do you think need to be resolved prior to advancing RUC in Washington, and in what priority order?**

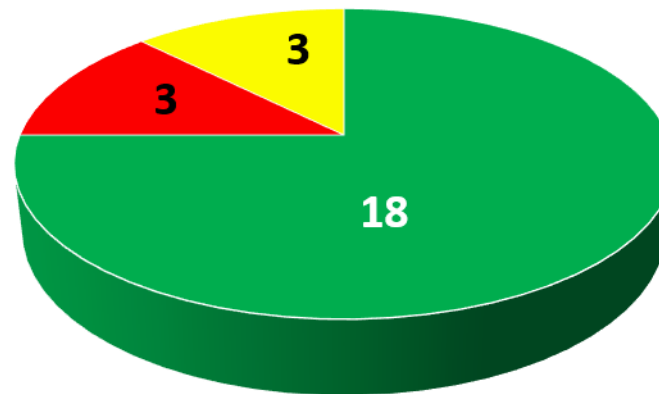


# Steering Committee interviews

**Would you support a road usage charge demonstration project? What guidance would you have for how to develop a demonstration project?**

# Support for Demonstration Project

**Would you support a road usage charge demonstration project? What guidance would you have for how to develop a demonstration project?**



■ Yes ■ No ■ Maybe

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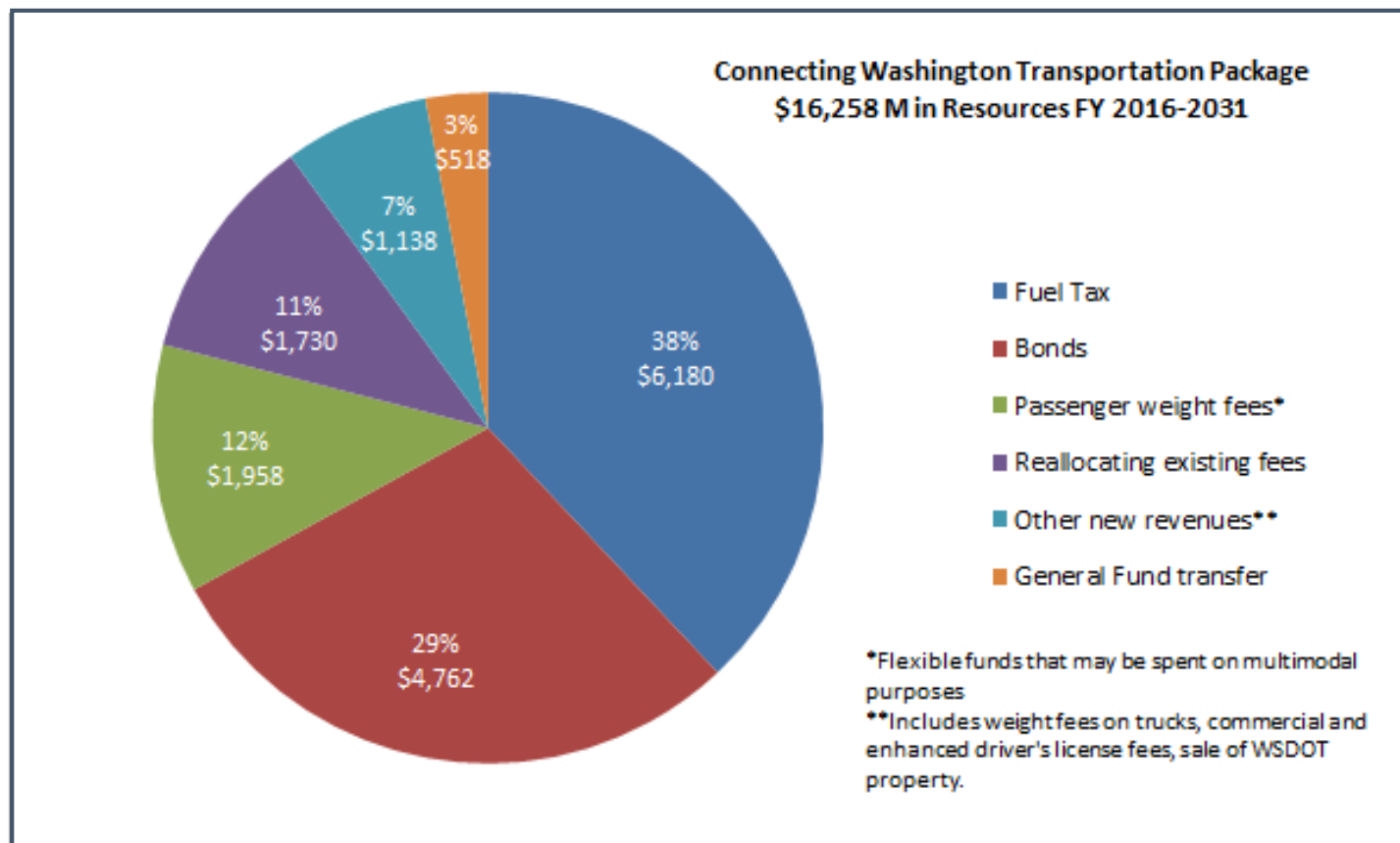
# 2015 Connecting Washington Transportation Revenue Package

## 2015-2031 Connecting Washington: \$16.2 billion

- Fuel tax: 11.9 cents increase, for a total state tax rate of 49.4 cents/gallon
  - First increase: 7 cents, on August 1, 2015
  - Second increase: 4.9 cents, on July 1, 2016
- Passenger weight fee increases for most cars, increases of \$15, \$25, or \$35 depending on weight
  - Increase becomes effective July 1, 2016
- Other state-imposed fee increases (e.g., weight fees on trucks, commercial driver's license fees, enhanced driver's licenses) go into effect July 1, 2016.
- Electric vehicle fee raised from \$100 to \$150
- Authorization of local revenues totaling \$16 billion for ST 3 (planned for 2016 ballot)

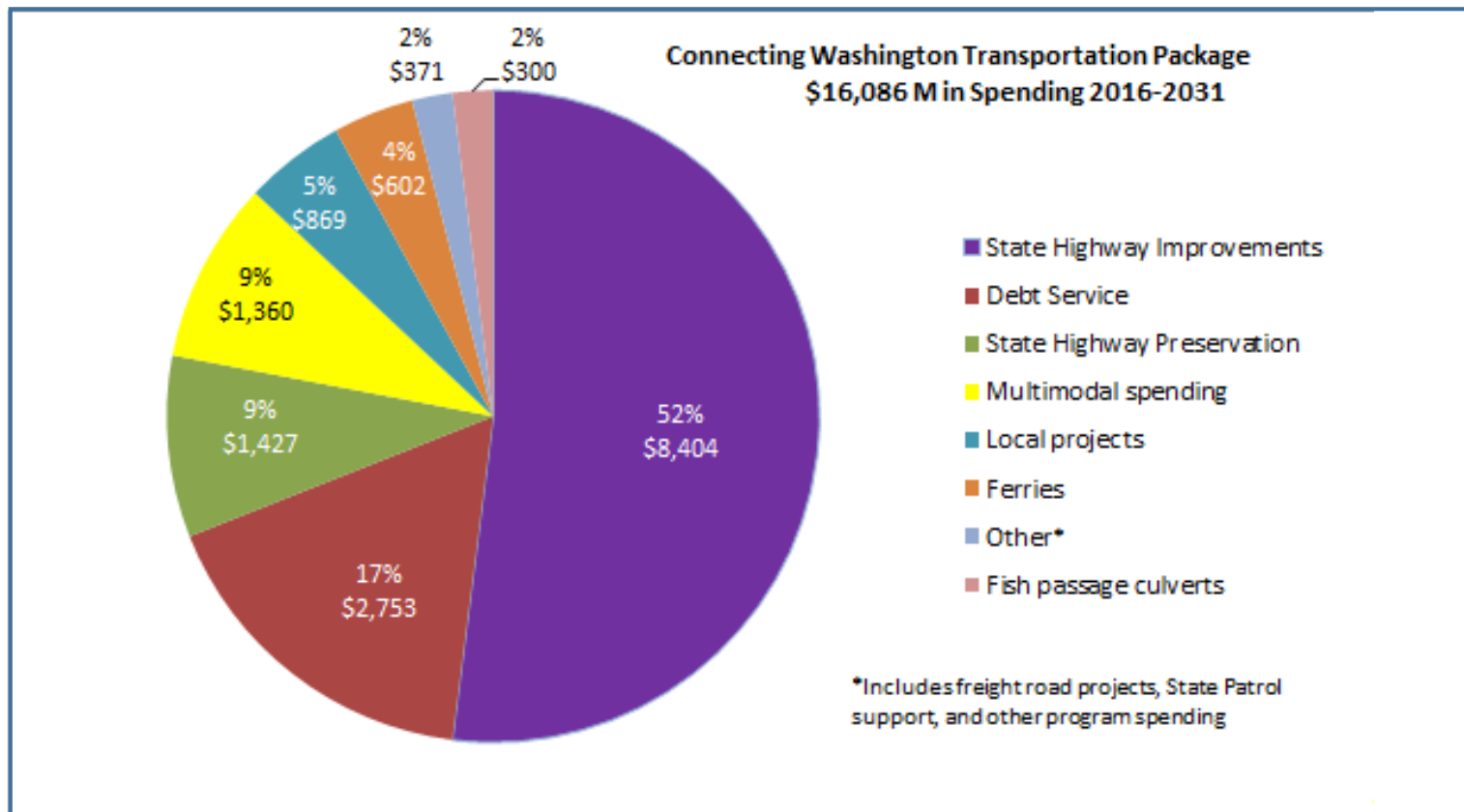
# 2015 Connecting Washington

## Revenue Sources



# 2015 Connecting Washington

## Revenue Uses



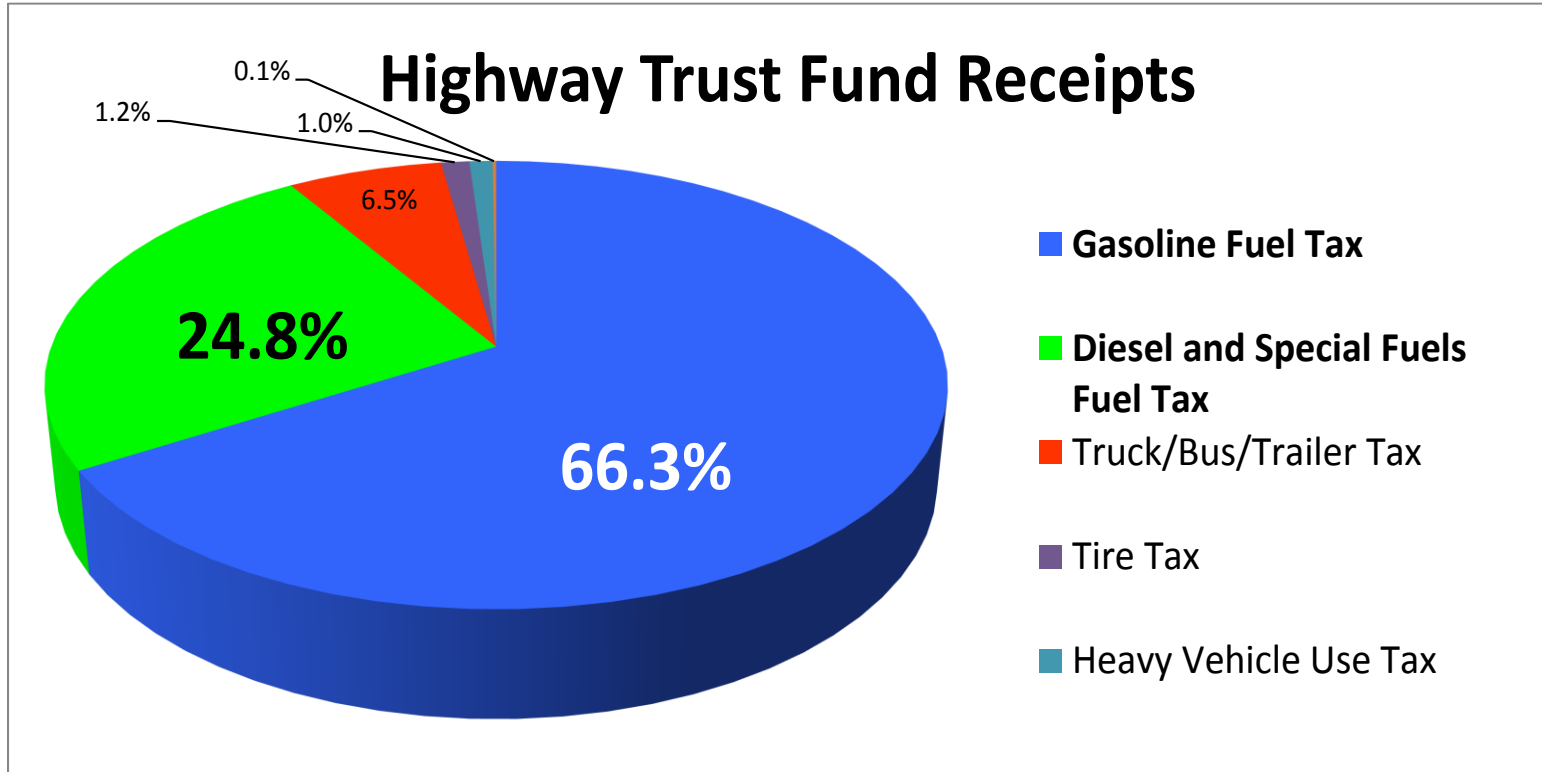
# Federal Transportation Reauthorization: DRIVE Act

- 18.4 cents/gallon federal fuel tax has been in place since 1993
- Congress has not passed a long term transportation authorization (SAFETEA-LU) since 2009, and are on their 34<sup>th</sup> short term extensions
- Current continuing resolution expires October 29, 2015
- The Highway Trust funds' reliance on the motor fuel taxes have resulted in declining revenues and reduced purchasing power.



# Motor fuel taxes support the Highway Trust Fund

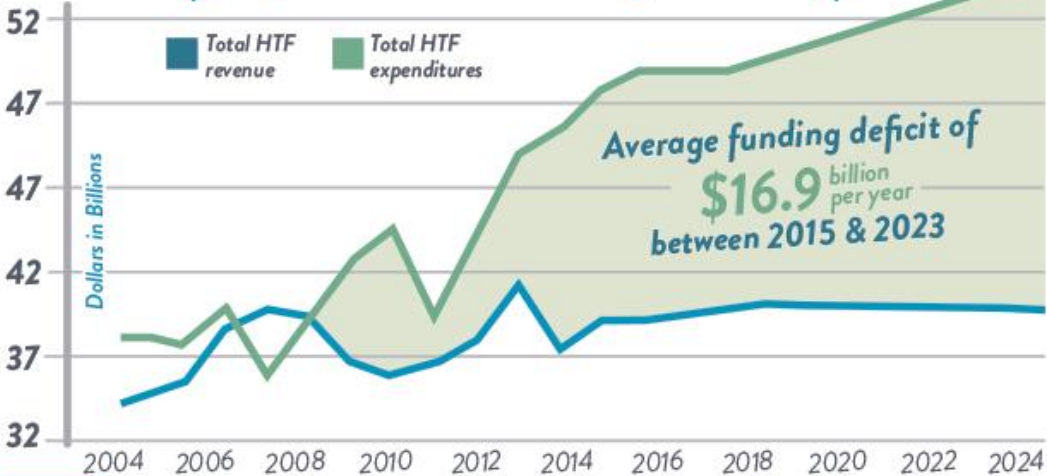
**Motor fuel taxes have comprised 91% of Highway Trust Fund over the past decade**



# Highway Trust Fund revenues no longer sustain federal programs

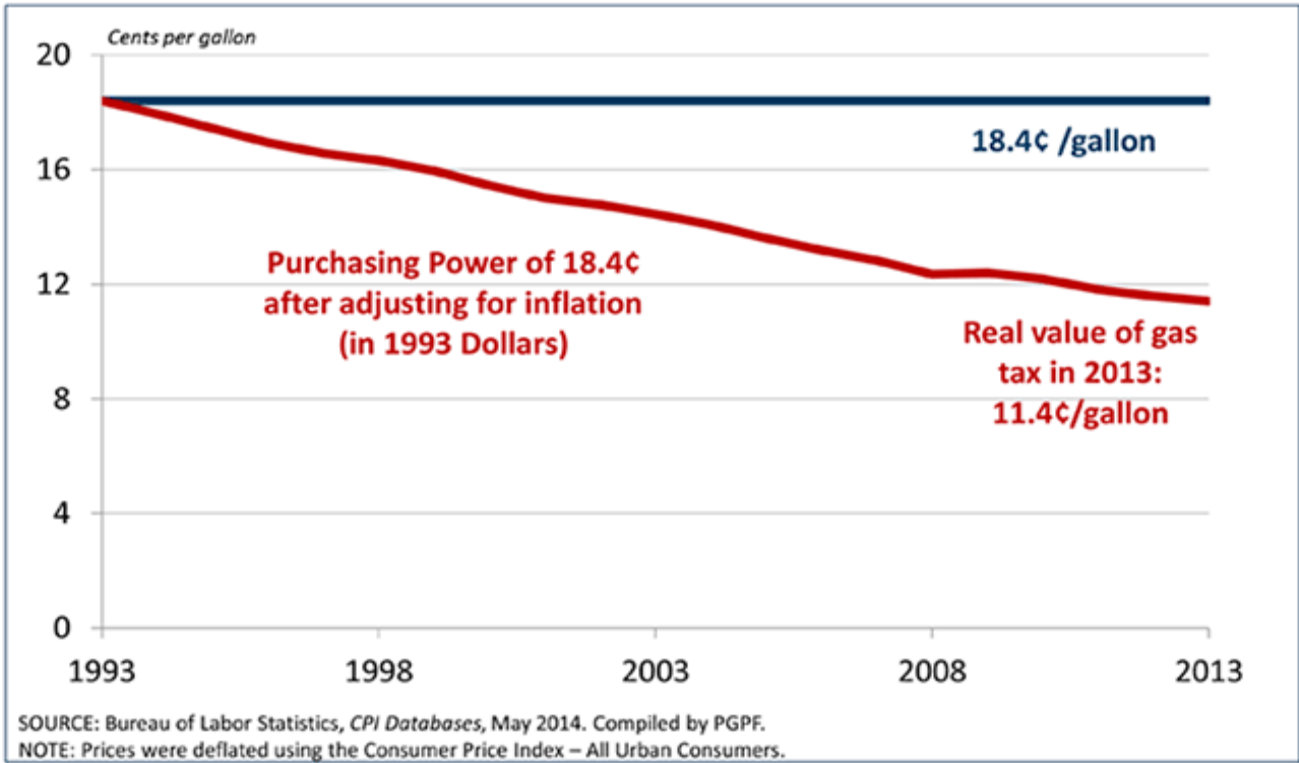
## FEDERAL TRANSPORTATION

funding deficit



Highway Trust Fund revenue has not kept up with the need for transportation projects. Since 2008, the federal government has borrowed \$53.3 billion from the general fund to make up the difference. Source: AASHTO

# Motor fuel taxes are losing purchasing power



**7cents /gal.**



# RUC and tolling initiatives: local context

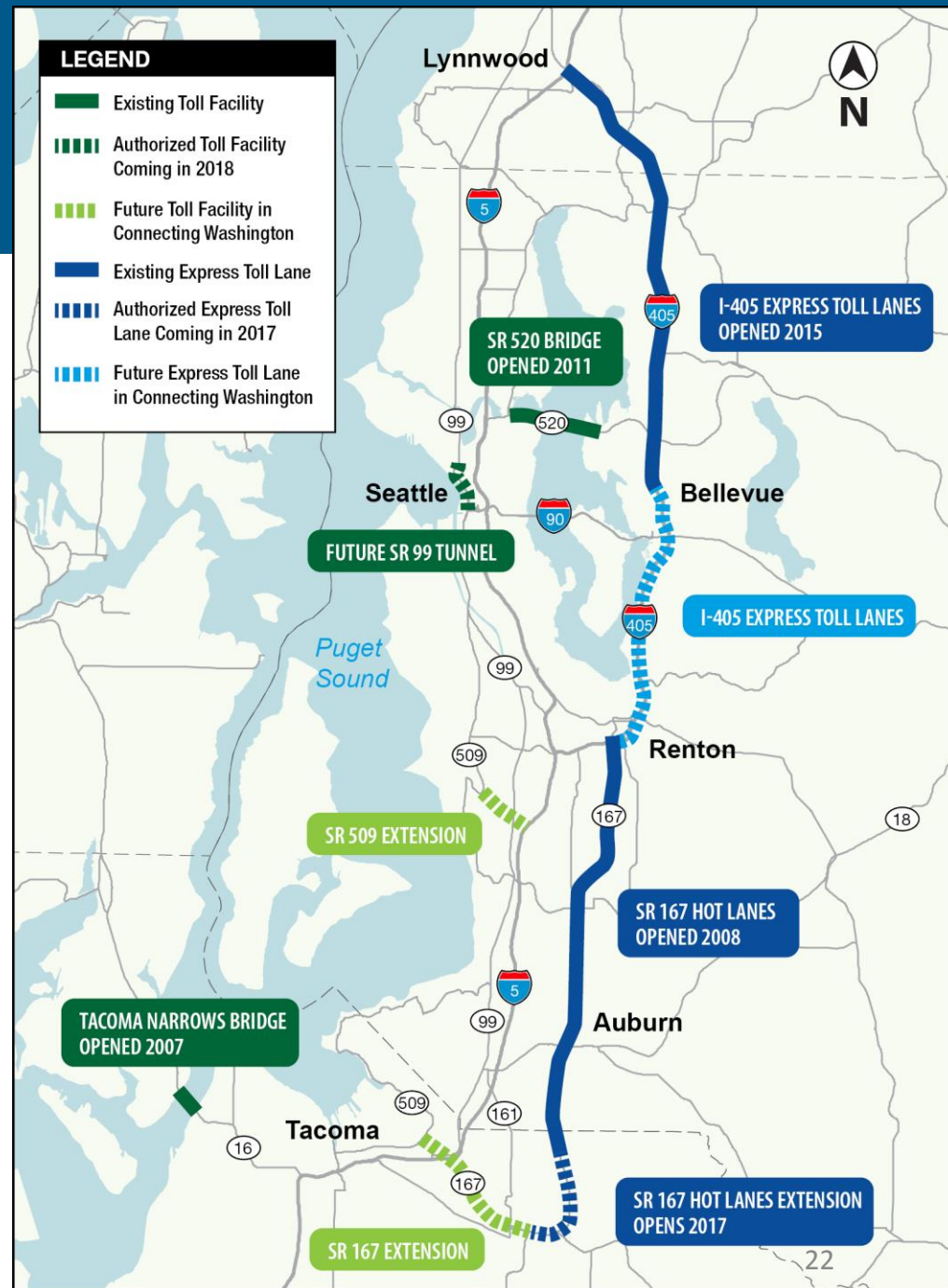
- RUC: ubiquitous, broad-base layer in a sustainable transportation revenue structure
  - Relies on in-vehicle technology paired with cloud-based data collection and account management
- Tolling: facility-specific, targeted revenue generation and/or traffic management tool
  - Relies on embedded roadway hardware to identify the vehicle for payment
  - Driver typically has a choice to use/pay
- Currently, RUC and tolling are complementary but distinct

# RUC and tolling initiatives: local context

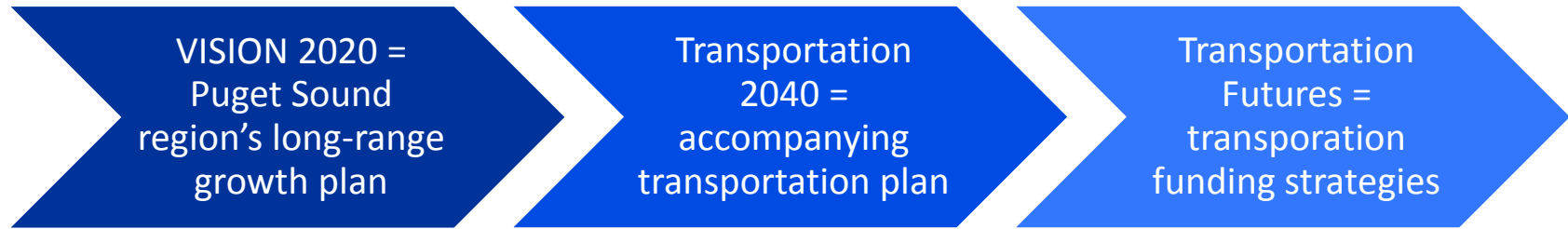
- RUC and tolling distinctions may blur in the future
  - Both are user fees
  - Opportunities exist to unify customer communications and account management
  - RUC may evolve to peak/off-peak (time of day) pricing and/or with different rates by facility type
  - Tolling may evolve to more cloud-based collection
- Useful to review and understand the state of state regarding tolling

# Tolling in Washington State

- 5 legislatively authorized toll facilities
  - SR 16 Tacoma Narrows Bridge
  - SR 167 HOT Lanes
  - SR 520 Evergreen Point Bridge
  - I-405 Bellevue to Lynnwood Express Toll Lanes
  - SR 99 Tunnel (2018)
- Connecting Washington (2ESSB 5987) adds 3 more
  - The I-405 Renton to Bellevue Express Toll Lanes
  - The SR 509 extension project
  - The SR 167 extension project



# Puget Sound Regional Council Transportation Planning Efforts



- Key assumptions of Transportation 2040
  - State will transition from existing motor vehicle fuel taxes to a state-wide road user charge (pay per mile)
  - All limited access highways in the region converted to full tolling by 2040

# PSRC's Transportation Futures Study

- Transportation Futures Study is examining funding options to achieve Transportation 2040's objectives
  - Task Force led effort composed of regional and state elected leadership, and civic leaders
  - Considering several scenarios comprising different revenue sources to fill a \$36 billion (2008 \$s) funding gap net of Connecting Washington
- A regional layer of RUC (pay per mile) is emerging as a lead contender
- A regional RUC raises interesting governance issues and collaboration opportunities, including how regional RUC rates would be set, collected, and distributed locally



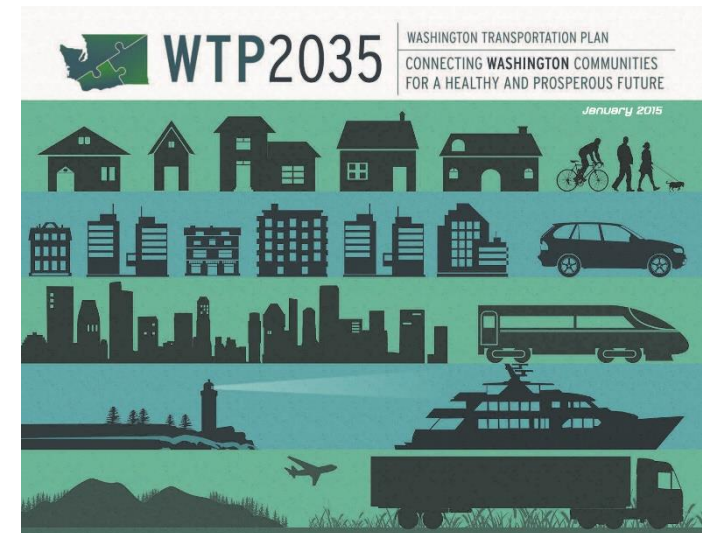
# Washington Transportation Plan (WTP) 2035

WTP 2035 identifies significant statewide transportation issues, and recommends statewide transportation policies and strategies to the legislature and Governor (RCW 47.01.071(4)).

WTP stressed the need to improve the financial health of Washington's transportation system, emphasizing two essential themes:

- Improved effectiveness from expenditure of existing revenues; and
- Enhancing existing revenue sources to address future transportation demands of a growing economy and population.

Among several possible revenue enhancements discussed, WTP 2035 recommends “continued evaluation of road usage charges.”



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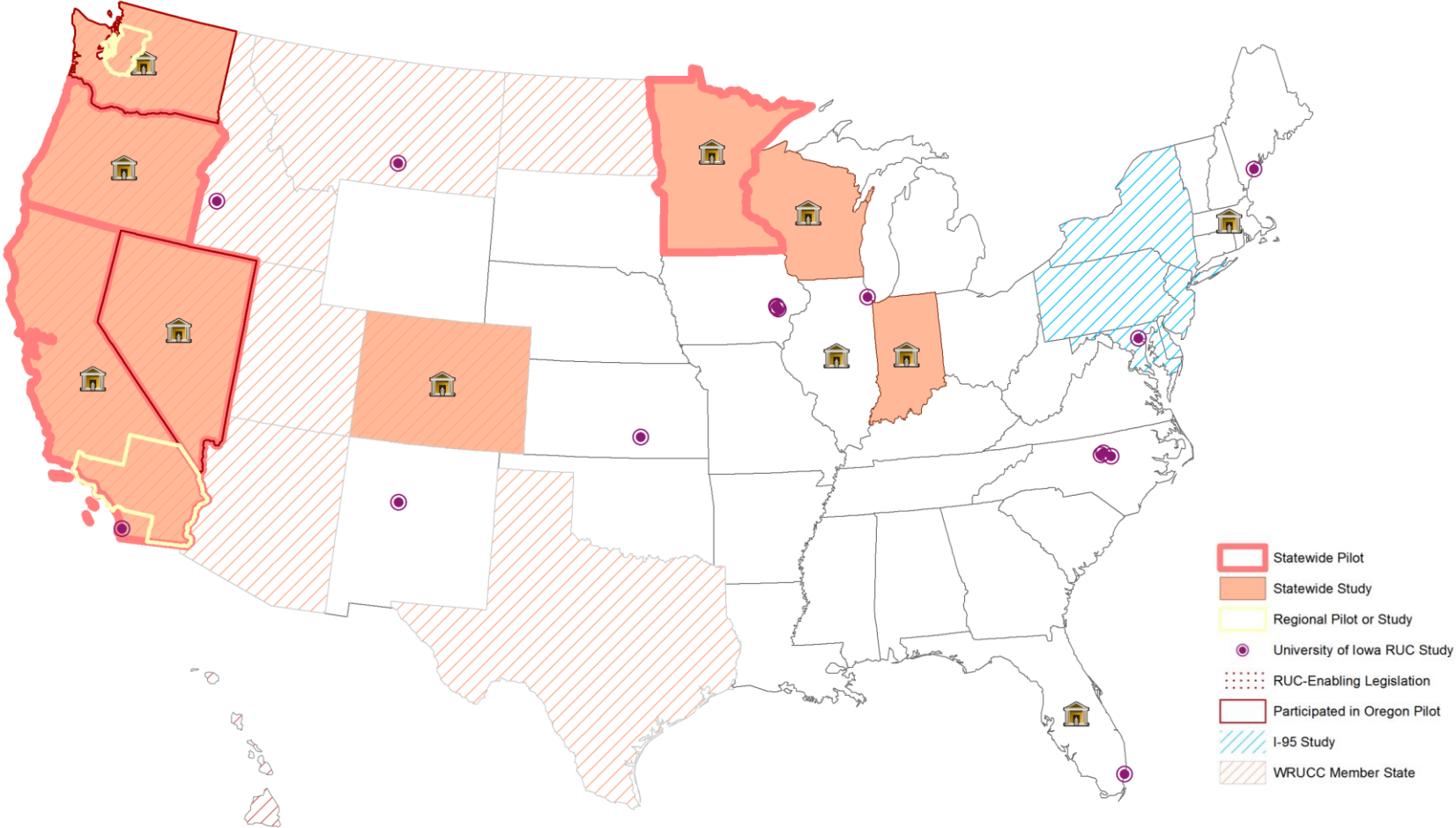
# RUC developments around the United States

## Summary of RUC activities throughout U.S.

Spotlight today is on:

- **OReGO**: Oregon's RUC program
- **California** Road Charge Pilot Project & Program
- **Wisconsin's** mileage-based concept
- Western Road Usage Charge Consortium (**WRUCC**)

# RUC developments around the United States

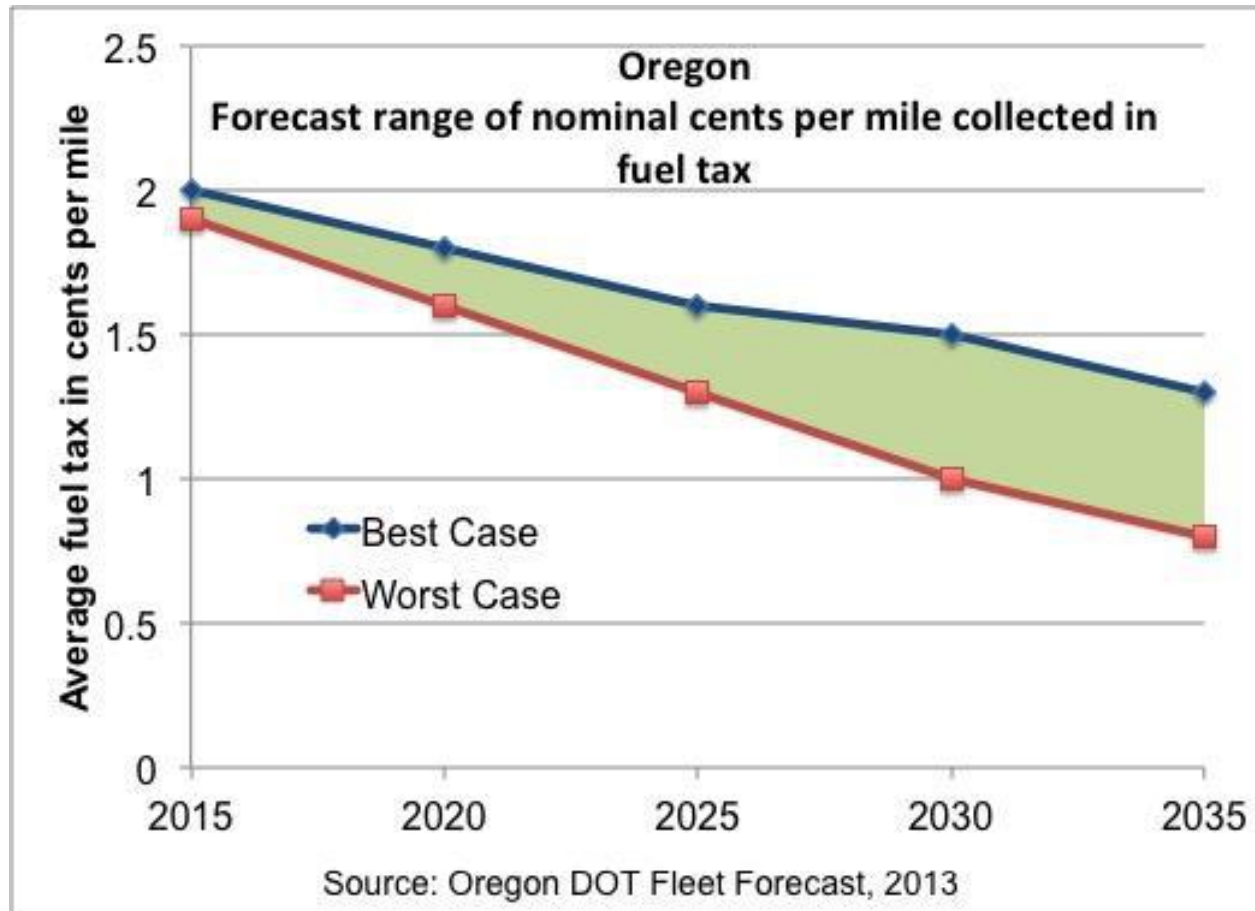


# OReGo: Oregon's RUC program



**OReGO**

# OReGo: Oregon's RUC program



# OReGo: Oregon's RUC program

## Milestones:

**2001:** legislature creates Road User Fee Task Force (RUFTF)

**2006 – 2007:** first Oregon pilot tested pay-at-the-pump with GPS required

**2012 – 2013:** second Oregon pilot had no GPS mandate, motorist choice of mileage reporting

**2013:** Senate Bill 810 authorizes first RUC tax collections in US, capped at 5,000 volunteer participants

**2015:** OReGO RUC program launches

# OReGo: Oregon's RUC program

## Key program features

- Road usage charge of **1.5 cents per mile**
- Drivers credited for gas tax paid
- Two options for reporting miles: OBD-II device with GPS, and OBD-II device with no GPS
- Open system architecture, reliance on private sector firms to provide devices, accounting and value-added services



# OReGo: Oregon's RUC program

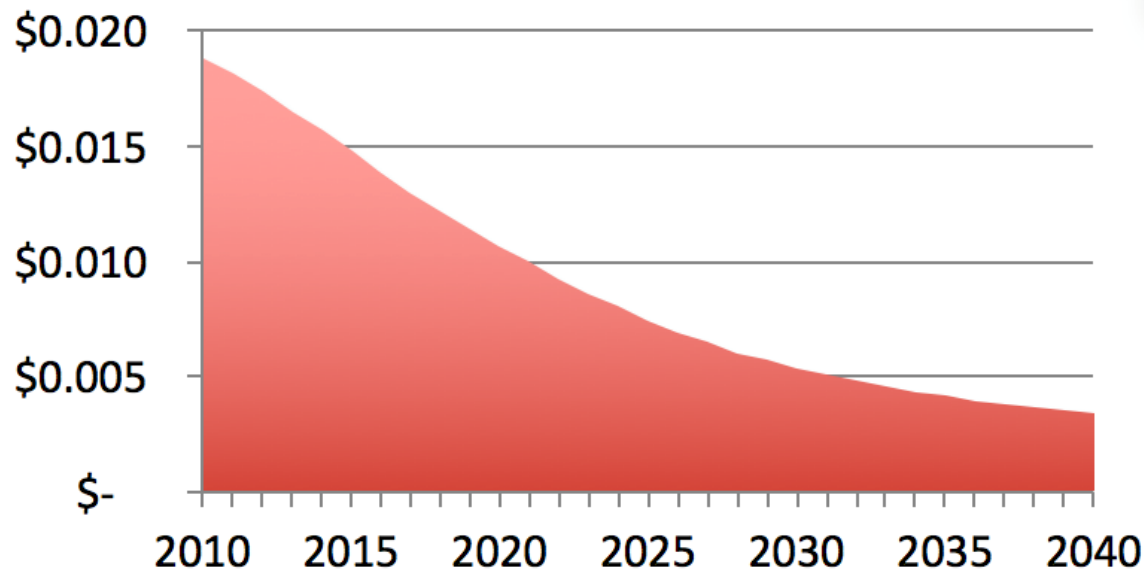
## Current activities

- Open enrollment for volunteer participants began July, 2015 (subject to 5,000 cap)
- Limit on number of below-average MPG vehicles that can participate
- Conducting peer-review of Oregon's RUC system to help ensure it can be used by other states

# California Road Charge pilot program

**California road charge pilot is intended to address zero emission vehicle and overall fleet fuel economy improvements**

**Light Duty Fuel Excise Tax Revenue Per  
Mile Driven (2015 dollars)**



# California Road Charge pilot program

## SB 1077 (2014): Authorizes Road Charge Pilot Program



*California Legislature*

- Purpose: to replace existing fuel tax revenue in the future
- Statewide pilot program to be completed by end of 2017
- Select 15-member Technical Advisory Committee (TAC) charged with recommending pilot design



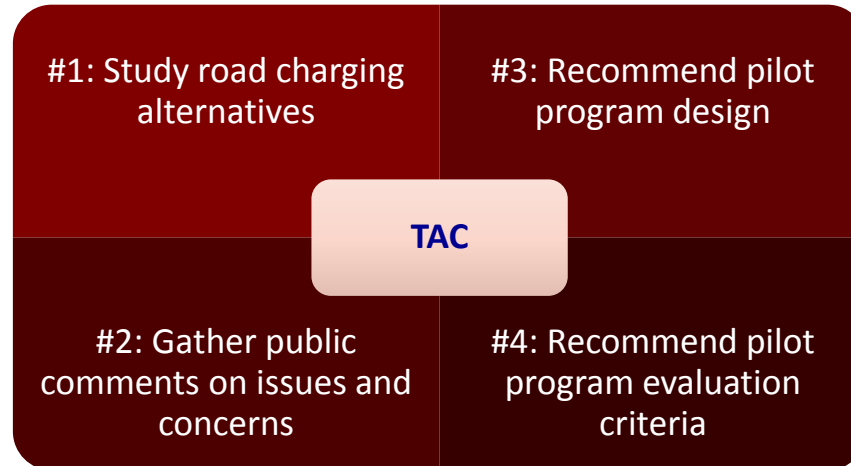
# California Road Charge pilot program

## California agency responsibilities for Road Charge pilot program



# California Road Charge pilot program

## Technical Advisory Committee's work is nearly complete (80%)



- 1 Monthly meetings to study road charging since January
- 2 Extensive public engagement and outreach effort
- 3 Most pilot design recommendations have been made
- 4 Adopted pilot program evaluation criteria

# California Road Charge pilot program

## Key recommendations to date include:

- Will test **6 different methods** of road charge payment and reporting
- Proposed **several privacy protection measures**: “privacy by design” (time permit); governance, accountability and legal protection measures
- **Statewide pilot** with targeted participation goals based on geography, household income, businesses, out-of-state, etc. – approximately **5,000+ participants**
- **California Trucking Association** members volunteered to participate
- Will test **out-of-state vehicle** road charge payment methods
- Independent, 3<sup>rd</sup>-party **pilot evaluation** will span 8 categories, 36 goals and 50 separate measures

# California Road Charge pilot program

## Choices available to California participants: Step 1

### Pay only for miles driven on CA roads

- Off-road and out-of-state miles are free
- GPS required

### Pay for all miles you drive

- Technology optional
- GPS not required

### Pay upfront for all-you-can-drive

- Price based on XX,000 miles/year
- Mileage reporting not required

# California Road Charge pilot program

## Choices available to California participants: Step 2

Pay only for miles  
driven on CA roads

OBD-II with location  
[CAM]

Smartphone  
switchable [CAM]

Telematics switchable  
[CAM]

Pay for all miles you  
drive

Mileage permit [SAM]

Odometer charge  
[CAM]

OBD-II without  
location [CAM]

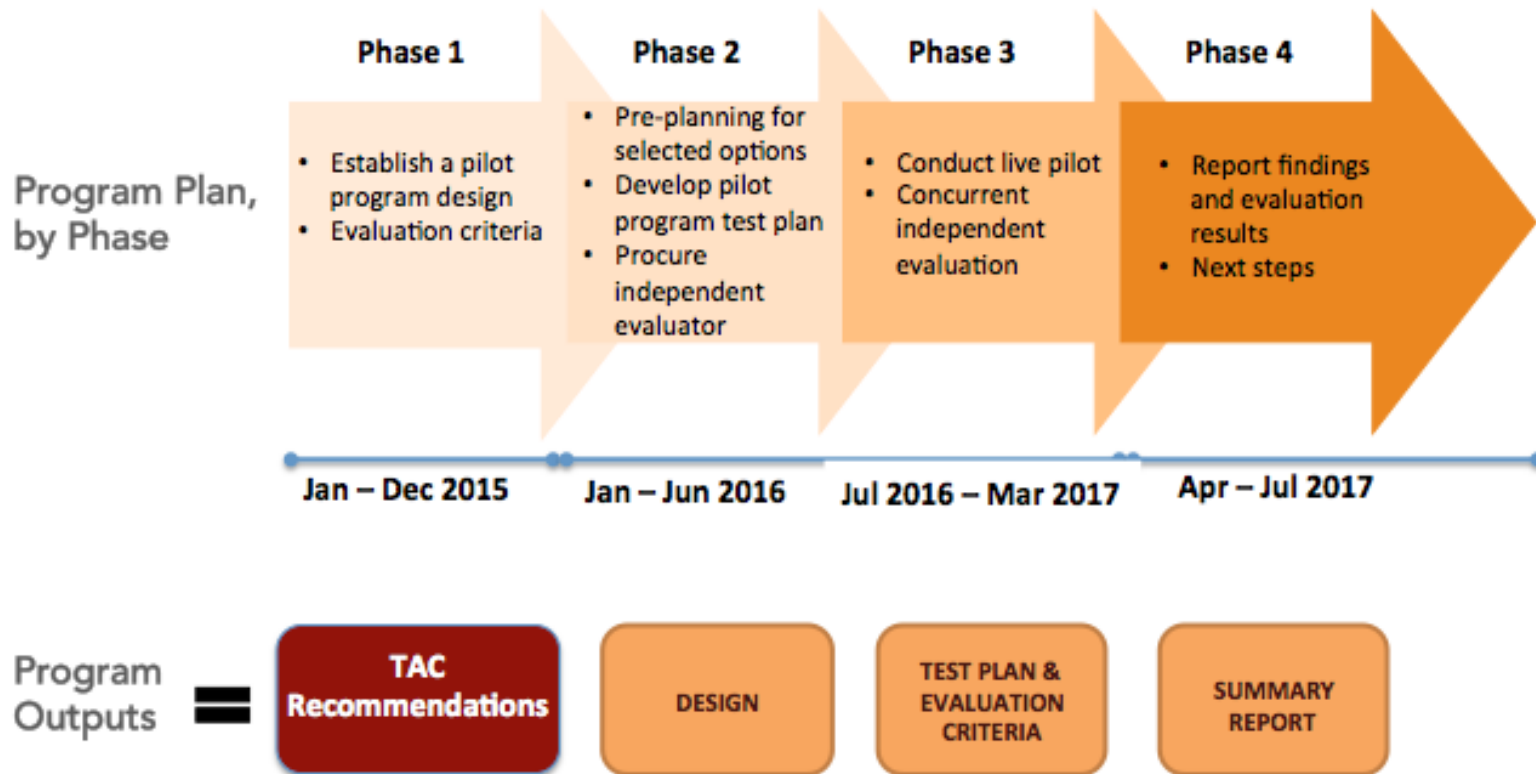
Pay upfront for all-  
you-can-drive

Time permit [SAM]



# California Road Charge pilot program

## 30-month project delivery schedule



# Wisconsin Transportation Finance & Policy Commission's mileage-based registration fee concept

## Mileage-based registration fee proposed as part of 10-year transportation funding package (2013)

**Purpose:** allow a variable pricing component to Wisconsin's vehicle registration fee – based on usage (miles)

### Parameters:

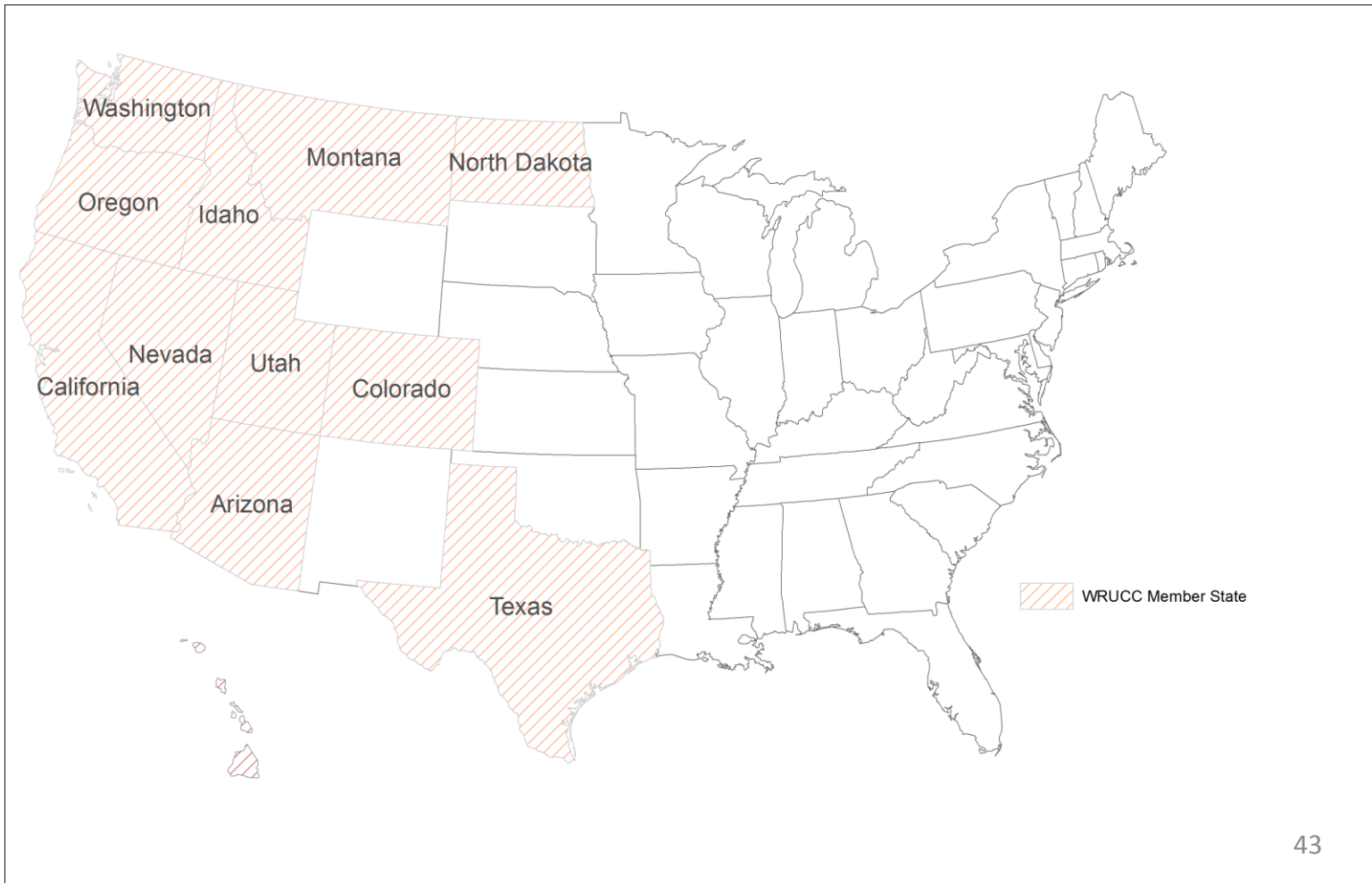
- Leverage existing vehicle registration processes to keep implementation and administrative costs lower
- Low-tech alternative (at least in the short run) to avoid large technology investments

### Key findings:

- Fixed rate + variable component vehicle registration fee could raise very significant revenue when charging 1.5 cents/mile - \$700m per year
- Self-reported mileage raises tax evasion risks; mitigation measures recommended, including periodic independent verification (repairs shops, license subagents, etc.)
- Allowing 3,000 mile credit to all drivers for out-of-state miles is key mitigation strategy

# Western RUC Consortium (WRUCC)

**11 of 16 eligible states have joined the Western RUC Consortium**



# Western RUC Consortium (WRUCC)

## WRUCC projects to date:

### Completed:

- Addressing out-of-state drivers in a RUC system (1 of 2)
- Critical examination of Oregon RUC program
- Impacts of changing vehicle fleet fuel economy on funding levels

### Underway:

- Privacy protection in RUC system
- Elements of multistate RUC certification (1 of 2)
- RUC communications task force (ongoing)

### Active solicitation:

- Addressing out-of-state drivers in a RUC system (2 of 2)
- Roadmap for state consideration of RUC system
- Effects of RUC on rural residents
- Web-based cost of transportation calculator

# International RUC developments

# EU Transition Paths being addressed

## Heavy vehicles first

- Electronic vignette for all HGVs 3.5 tonnes, plus, reducing vehicle registration tax.
- Voluntary weight/distance charge with offsetting partial fuel tax refund (and vignette replacement).

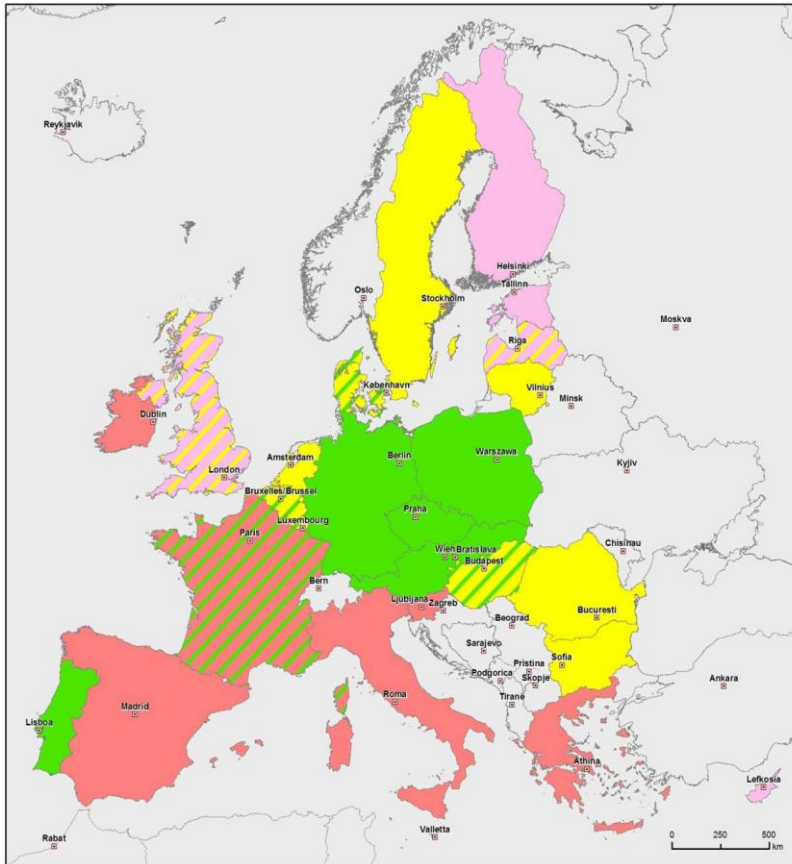
## But light vehicles may follow soon

- Transition to all new vehicles going onto a form of distance charging, fully replacing purchase and ownership taxes, partially replacing fuel tax.

# The EU discussion: is the fuel tax unsustainable?

- Fuel tax revenue has dropped due to increased vehicle fuel efficiency
- Increasingly politically difficult to raise this blunt tax on all road users
- Distance charging raises more revenue, more ‘user pays’ oriented and better vehicle to allocate costs
- Fuel taxes have kept up with inflation better than in the US, but have still lost ground
  - Despite nominal increases, on EU-wide average, fuel tax now €0.10 per liter lower, in real terms, than in 1999

# Current Status of Road Charging in Europe



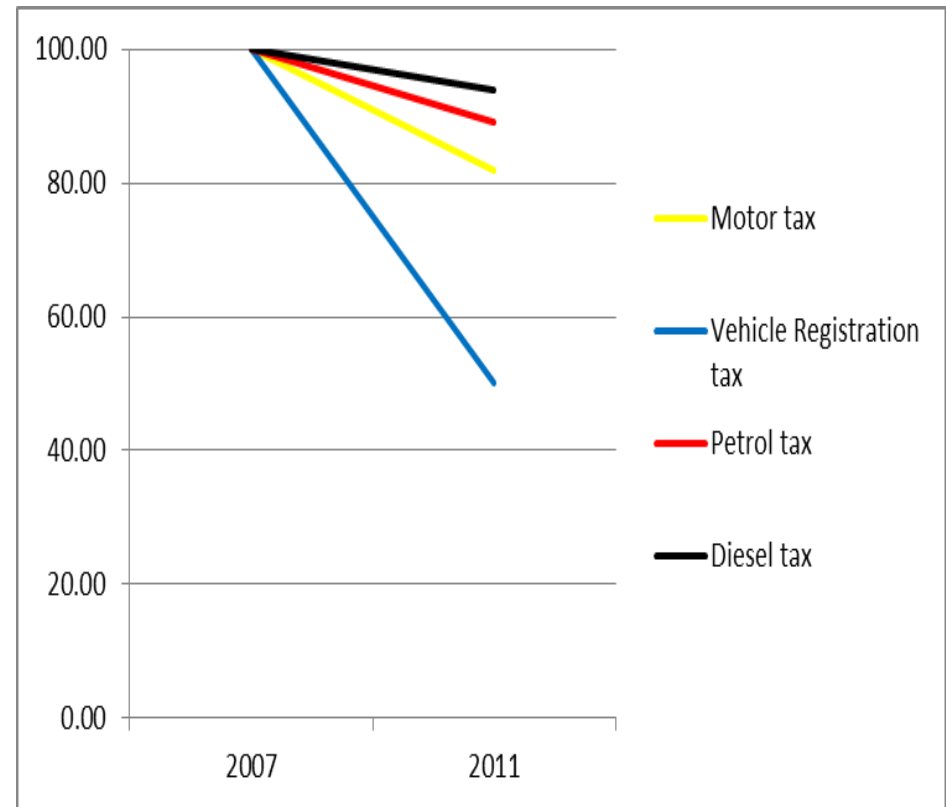
Yellow—Countries with HGV vignettes  
Green—Countries with distance based charging  
Red—Countries with substantial toll networks  
Pink—Countries initiating HGV vignettes

- Vignettes introduced to charge transit traffic for road use
- Distance charging raises more revenue, more user pays oriented
- Italy, France, Spain and Portugal have many toll roads and distance charging
- Germany first country for Heavy Vehicle Road Charging with GNSS device
- Austria followed with HVC & Vignettes
- Hungary now most advanced electronic Vignette using video image capture and has 22 Commercial Service Providers.



# Example: Ireland's revenue challenge

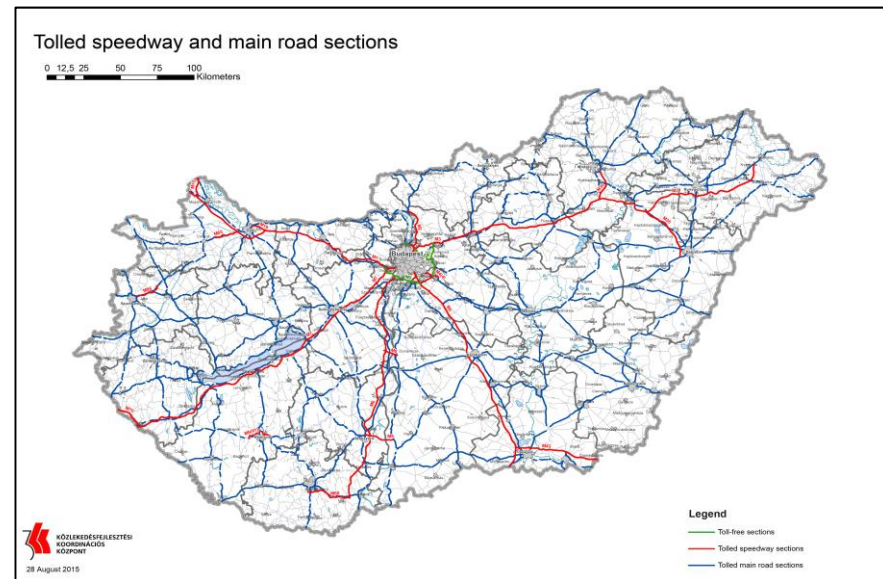
- Improving fuel efficiency
- Drop in vehicle sales
- Fewer vehicles driving more
- Similar to the picture across the EU



Revenue from motoring taxes in real terms (Sources: Irish Tax and Customs)

# Hungary — Hu-Go Charge

- Established a sticker based vignette in 1999
- Replaced in 2008 with Electronic Vignette based on license plate reads
- GPS-based charging initiated in 2013
  - Based on certified service providers
  - 22 CSPs manage accounts & forward revenues to State Motorway Management Company



# Hungary — Hu-Go Charge

## Hungary Hu-Go RUC Statistics

- 57% of RUC Revenues comes from Hungarian Drivers, remainder foreign drivers
- ~150,000 vehicles are registered with accounts
- 81,000 OBUs distributed
- Gross Revenue is €610M [US\$697M]
- Operating costs of €41M [US\$47M] (including enforcement) or ~6.7%
- Offers optional user product – prepaid route ticket
- Range of charges:
  - €0.06 per KM to €0.44 per KM or  
US\$0.11 per mile to US\$0.80 per mile

# Options discussed in EU for fair and sustainable revenues

Options	Risks
Motor and vehicle registration tax increase	<ul style="list-style-type: none"><li>• Dependent on ownership and purchase decisions, not usage.</li><li>• Imposes deadweight costs on economy.</li><li>• Successful in encouraging more fuel efficient vehicles, which reduces fuel tax revenues.</li></ul>
Fuel tax increase	<ul style="list-style-type: none"><li>• Chasing declining source of energy due to efficiency and alternative fuels.</li><li>• Those least able to afford pay the most.</li><li>• Poor reflection of wear and tear imposed by heavy vehicles.</li></ul>
Wider use of tolls	<ul style="list-style-type: none"><li>• Risk of diversion onto alternative routes.</li><li>• Inefficient to toll beyond major highways.</li></ul>
Transition to user pays	<ul style="list-style-type: none"><li>• Short term costs for long term financial and economic gain.</li><li>• Need a long transition time.</li></ul>

# British Columbia – Metro Vancouver

## British Columbia / Metro Vancouver

- Metro Vancouver transportation funding is supported by:
  - 1% of Property Taxes
  - % of BC gas tax
  - Fare Box Collection from Public Transportation
  - Tolls
  - Other (cell tower rentals, rental from advertising)
- Provincial Minister, Helen Clark, promised electorate in 2014 a referendum if road charging were considered
- Mayoral Council of Metro Vancouver supported a C\$7.5 B transportation plan (Transit, biking, road upgrades aimed at reducing congestion).
- Voters asked to consider a 0.5% sales tax called the Metro Vancouver Congestion Improvement Tax.
- Spring of 2015, voters rejected the referendum 62-38.



# New Zealand Road User Charging

## Overview of New Zealand

- The Original Problem: growing heavy vehicle VMT
- RUC since 1978 with paper based system
- Electronic since 2009
- Open System — 2 service providers & 3rd in progress

## RUC Operational Summary

- Applies to all diesel vehicles
- Weight/Mass & distance
- National Systems Strategy
- Independent distance measurement device –
  - Hubodometer or approved “e-hubodometer”
  - includes GPS, sensors & Wireless Communications
- Marginal Social Cost analysis – Cost Allocation for all modes
- Some challenges – Farming, Dairy Industry, Logging Industry



# New Zealand Road User Charging

## New Zealand RUC Statistics

- 76% of RUC Revenues comes from heavy vehicles
- 164,000 Prime Movers and 31,000 trailers
- Charged network is 94,589 kms [58,929 m]
- Gross Revenue is NZ\$1.2B [US\$0.76B]
- Operating costs of NZ\$25M [US\$15.9M] (including enforcement) or ~2%
- Range of charges:
  - NZ\$0.066 per KM to NZ \$0.391 per KM or US\$0.064 per mile to US\$0.402 per mile (Prime movers)
  - NZ\$0.037 per KM to NZ\$0.287 per KM or US\$0.032 per mile to US\$ 0.289 per mile (trailers)



# New Zealand transition paper to electronic charges

System choices based on long term goals:

- Best-fit technology with standards
- Open System Architecture
- Interoperability to allow free roaming
- Most efficient/least cost back office management system
- Advanced payment systems
- Apportion Risks where they best fit
- Competitive Rights of the Market





# NZ eRUC expansion plans

## **New National Transportation Plan calls for expansion of RUC and elimination of gas tax and recommended actions:**

- Investigate levying charges by location and time
- Pilot test to be conducted between 2016 and 2019 by the Ministry of Transportation.
- Eliminate the gas tax and transition all light duty passenger vehicles over to RUC by 2020. Currently only diesel-powered passenger vehicles are subject to RUC.
- Assess the ability for the current system to accommodate: commercial service providers, advanced payment systems, and new technologies.

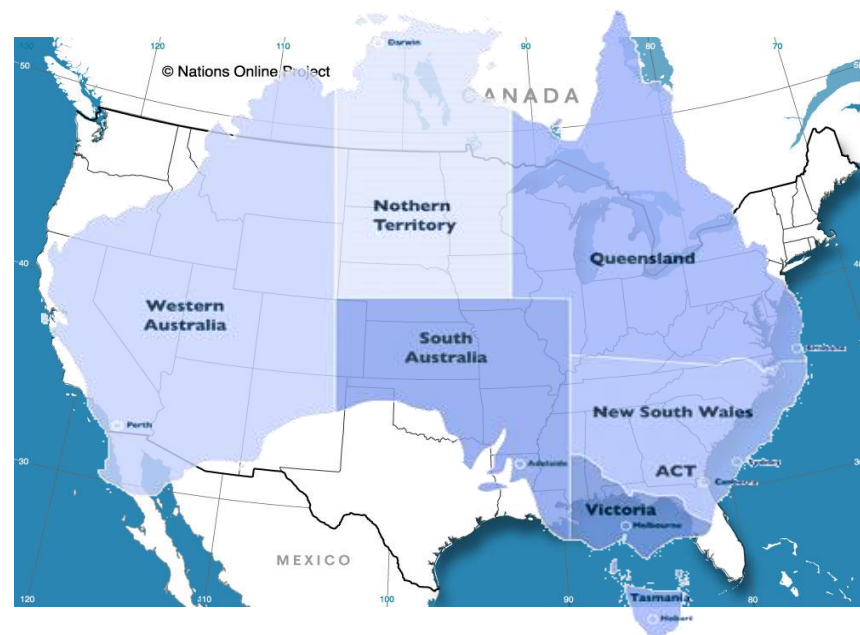
# Australia – a decade of transition

- In 2005 DT&R identified a drop in fuel tax revenues by 24% due to fuel economy of vehicles.
- In 2008, Henry Tax Commission headed by the Treasury studied all Australian taxes in an effort to simplify the nation's tax policies.
- In 2014, the Australian Productivity Commission identified decline in fuel tax revenue alongside growth in road use and costs of construction as a further impetus for policy reform. Their report calls on governments to undertake pilot studies of RUC for light vehicles, using telematics, with revenues dedicated to road spending.
- In 2015, Commonwealth Government proposes to fund WA Perth Freight Link if they impose HVC;
- In 2015, Commonwealth Government proposes to fund SA to investigate and test road charging



# Relative Size of Australia/USA

- Western Australia alone would cover an area from Canada to Mexico, from San Francisco to Denver
- Capital city Perth's population grew 14.2% between 2006-2011
- Over last decade, WA's share of Australian economy grew from 11% to 17%
- WA supplies 43% of Australian exports



# Western Australia's Resources Sector

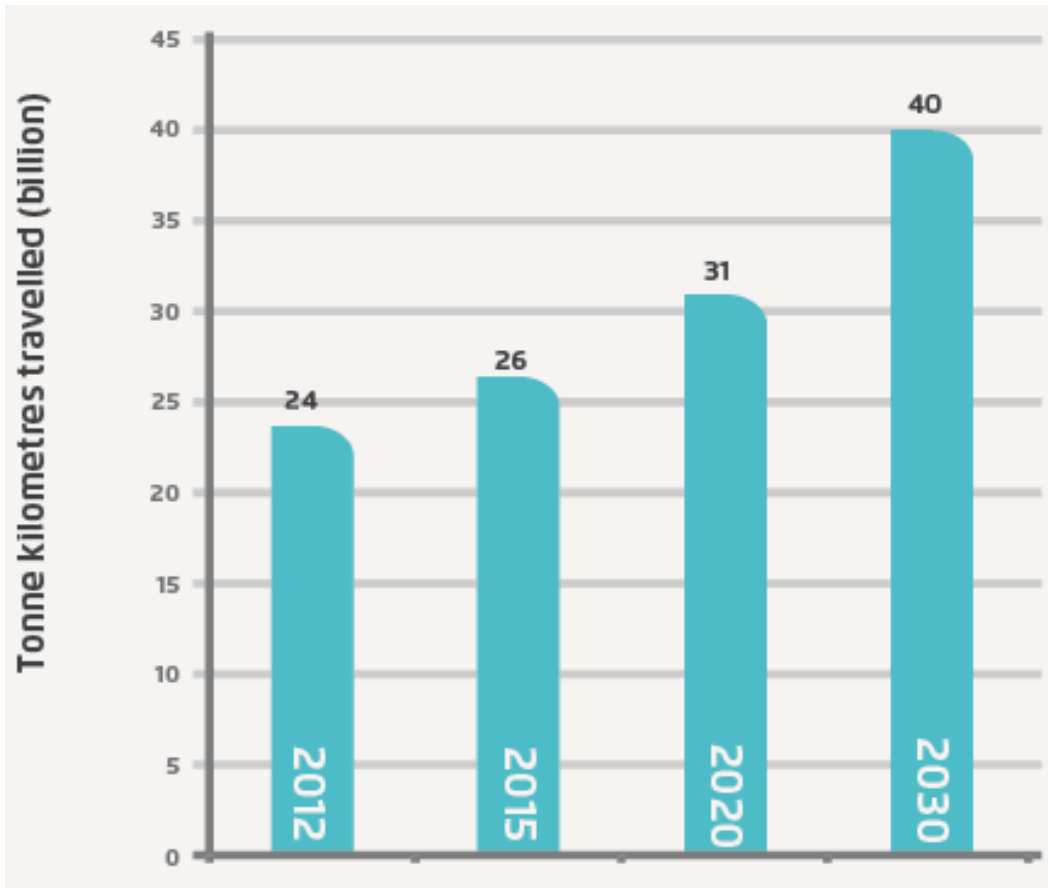
- In 2014, the state's resources sector was worth \$114.1 billion in sales value:
  - iron ore \$65.1 billion
  - petroleum products \$25.1 billion
  - gold \$8.7 billion
- As at February 2015, 90,800 people directly employed in Western Australia



Royalties provide a significant return to Western Australia in making up **22 per cent** of the State's budget for 2014-15 - up from 5% in 2003-04

# Roads

## Movement of Registered Freight Vehicles


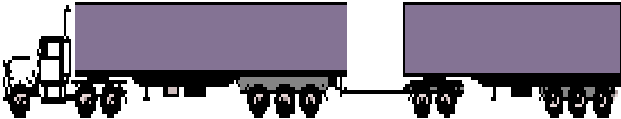


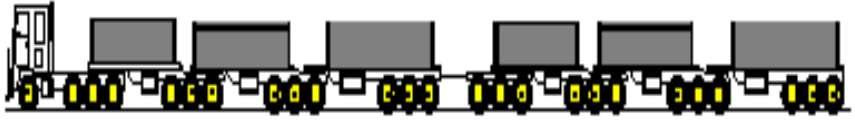


- Forecast to increase to 40 billion tkm by 2030
- Expansion of mines, development of processing plants and industrial estates along Pilbara coast
- Great Northern Highway and North West Coastal Highway will be integral parts of the network

# Australia has unique vehicles

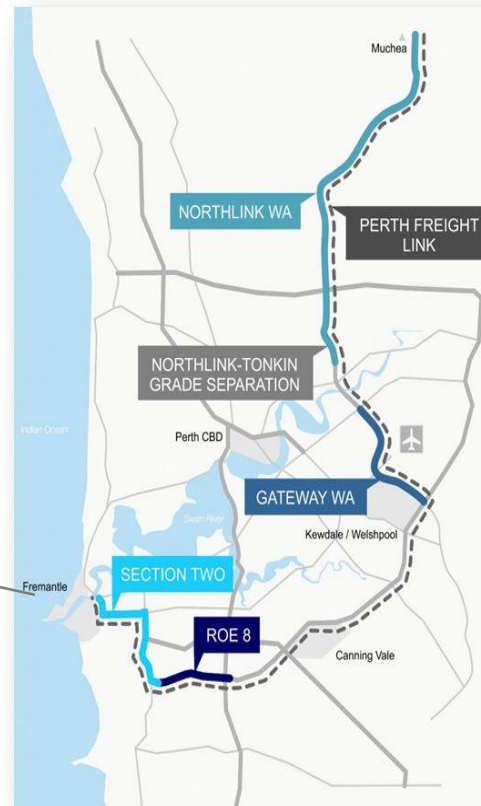


# Australia has unique vehicles

	<b>B-Double</b> 25 m, 62.5 tonnes
	<b>Double Road Train</b> 36.5 m, 79 tonnes
	<b>Triple Road Train</b> 53.5 m, 115 tonnes
	<b>AAB Quad</b> 53.5 m, 146.7 tonnes
	<b>ICON (Double B-Triple)</b> 53.5 m, 166 tonnes

# Heavy Vehicle Charge

Main Roads is tasked with introducing a Heavy Vehicle Charge on a 50-mile freight route from Fremantle Port, covering three major road projects, including...





# Heavy Vehicle Charge (HVC) Overview



- A Heavy Vehicle Charge is proposed for vehicles over 4.5 tonnes
- Charged every time heavy vehicles use all, or sections of the Perth Freight Link route from Muchea to Fremantle Port
- HVC costs to operators offset by productivity savings – time from shorter journeys and lower vehicle operating costs

# Program Direction

- Establish Heavy Vehicle Charge initially on Perth Freight Link
- Use revenue stream to initially pay back A\$627M [US\$449M] of State Investment
- Use future revenue stream to improve alternate routes and add new routes to charge
- Open system with multiple (up to 3) service providers to be tested in 2016-17.
- System Operational by 2019
- Transition to light vehicles in future

# Meeting Agenda

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- **Updating RUC Business Case Analysis**
- Review of Unresolved RUC Legal, Operational and Policy Issues and Approaches taken in other Jurisdictions
- Discussion of Priority Policies to be addressed in 2015-2016

# Issues to address in business case update

- Washington State Transportation Revenue Package
  - Change in fuel tax rate necessitates change in RUC rate
  - Transition to RUC possibly impacted by bonds
- Federal CAFE standards for trucks
  - EPA recently announced extension of fuel economy standards for medium- and heavy-duty trucks through MY 2027
  - Current + new standards are predicted to result in a 40+% reduction in fuel consumption
- Changes in VMT and fuel consumption trends
  - Previous RUC business case analysis relied on a range of forecasts including VMT, fuel economy, and fuel consumption
  - Updates to all inputs will be made – using scenarios as before as necessary

# Issues identified by Steering Committee members

- Discuss RUC Rate
- Tighten RUC cost estimates
- Revisit forecasts of fuel consumption and VMT
- Address agency responsibilities
- Re-consider RUC transitions
- How long is the fuel tax viable?
- Do more than simply “refresh” the business case

# Updated approach: revenue per mile driven

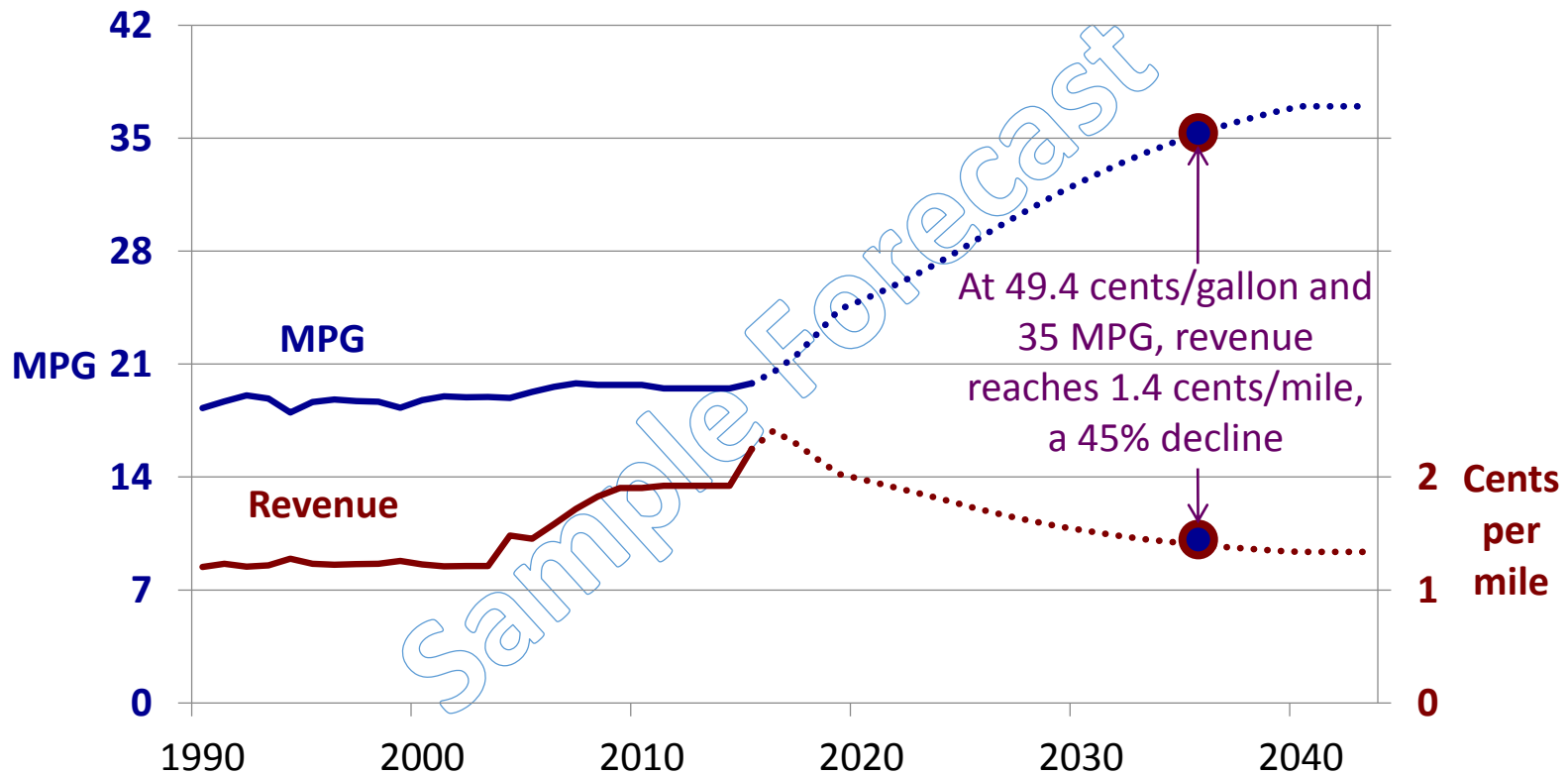
- Purpose of business case analysis is to provide comparison of fuel tax and RUC
  - Steering Committee has not been tasked with addressing “*what is the revenue need?*” for transportation
  - In the past, the Steering Committee has seen *total net revenue* of fuel tax vs. RUC as the key output for comparing the two policies
  - This year, we propose an alternative approach that highlights the distinction between fuel tax and RUC over total revenue
- Proposed key output: *net revenue per mile driven*. For example:

Policy	Tax rate	Average MPG	Gross revenue per mile driven	Net revenue per mile driven
Fuel tax	49.4 cents/gallon	19.75	2.50 cents/mile	2.49 cents/mile

# Updated approach: revenue per mile driven

- *Net revenue per mile driven* emphasizes:
  - Cost of collection of RUC vs. fuel tax
  - Difference in net revenue of RUC vs. fuel tax under various assumptions
- *Net revenue per mile driven* de-emphasizes:
  - Total VMT
  - Total gallons consumed
  - Total revenue

# As fleet MPG improves, fuel tax revenue per mile declines



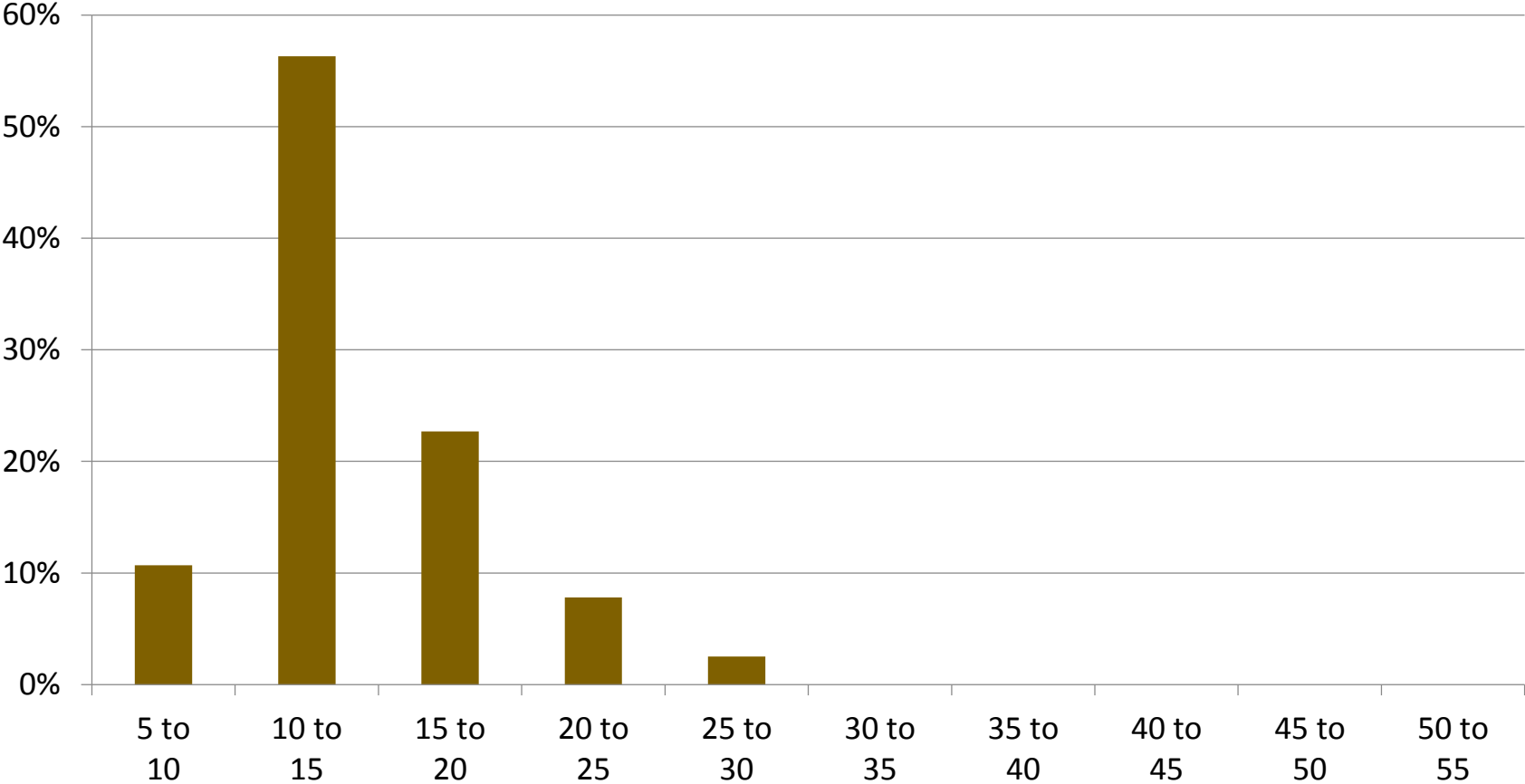
*State fuel tax rate increases in 1990, 2003, 2005-2008, and 2015-2016*

*MPG forecast is illustrative only. It is based on U.S. EIA 2015 projections adjusted downward for WA State*



# Evolution of Light-Duty Fleet Fuel Economy

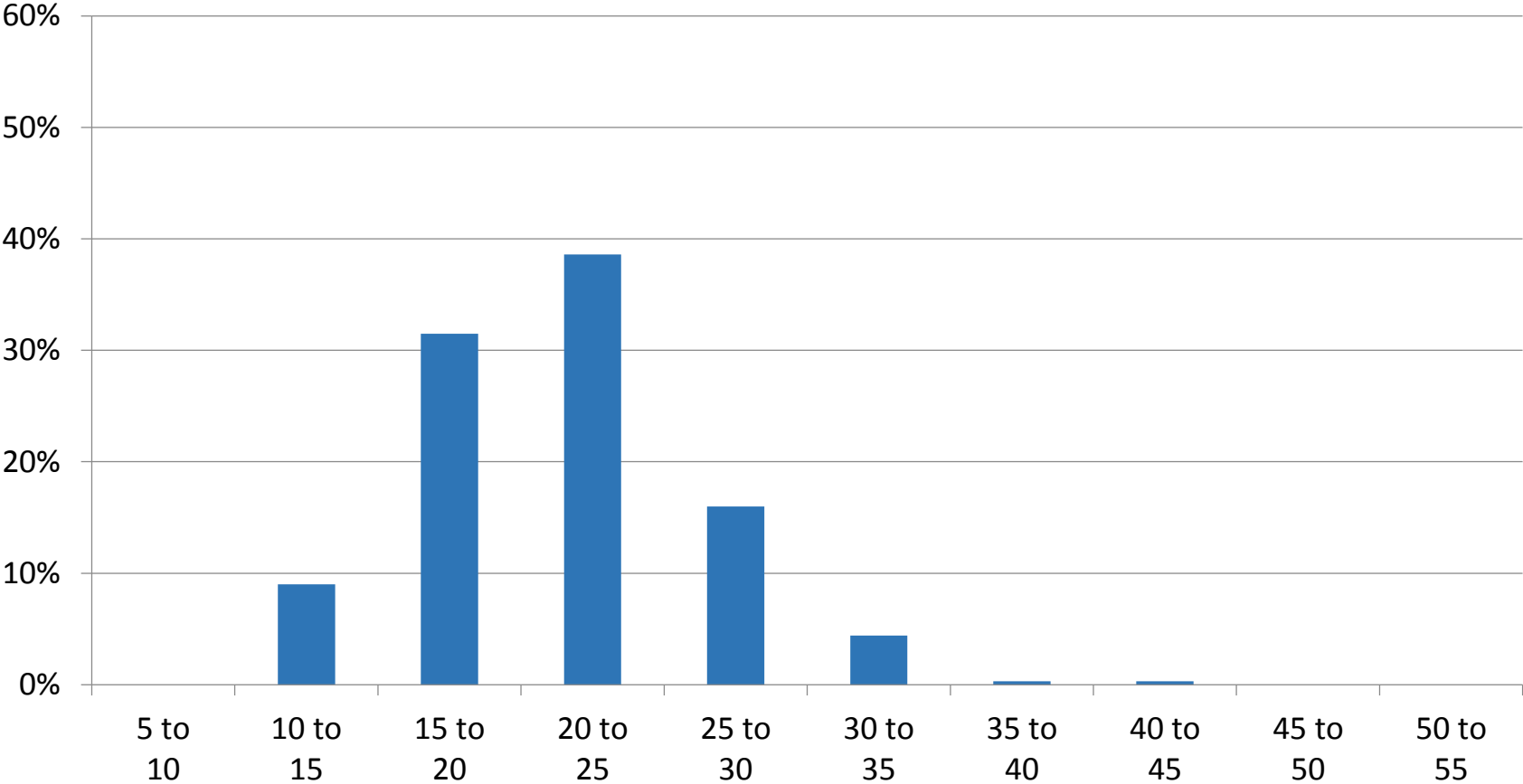
Model Year 1975



Source: EPA, Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends: 1975 Through 2014

# Evolution of Light-Duty Fleet Fuel Economy

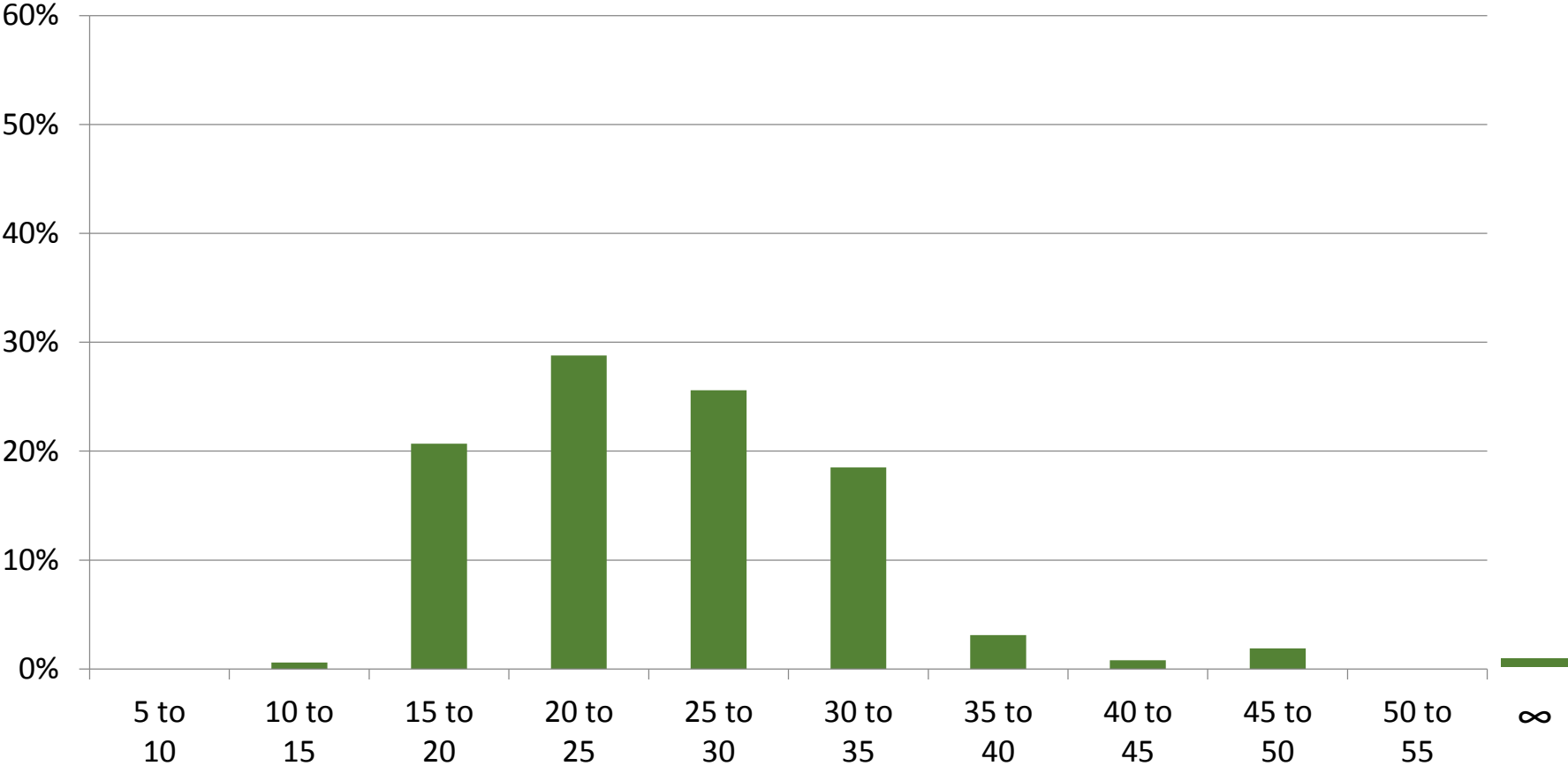
Model Year 1995



Source: EPA, Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends: 1975 Through 2014

# Evolution of Light-Duty Fleet Fuel Economy

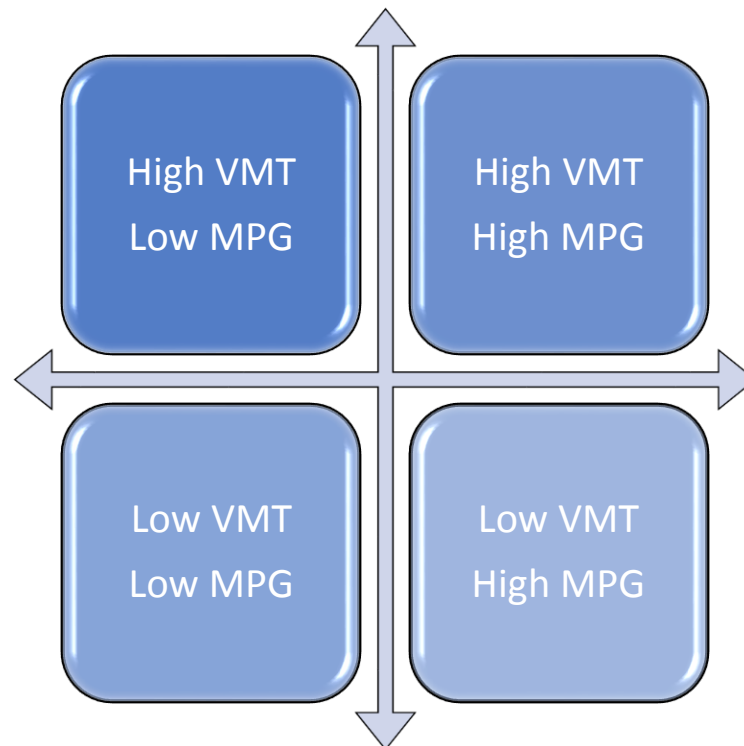
Model Year 2014



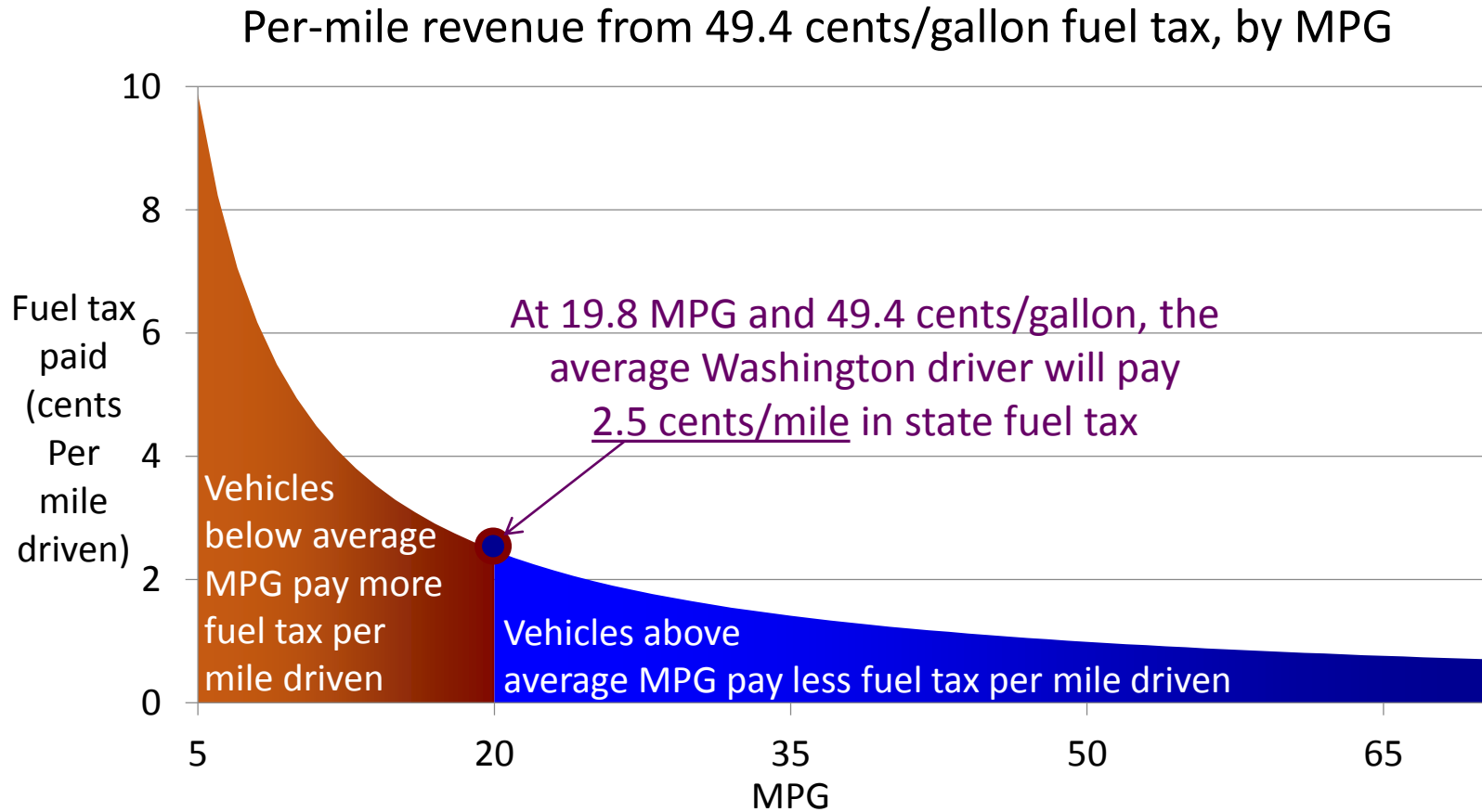
Source: EPA, Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends: 1975 Through 2014

# Updated approach: scenarios

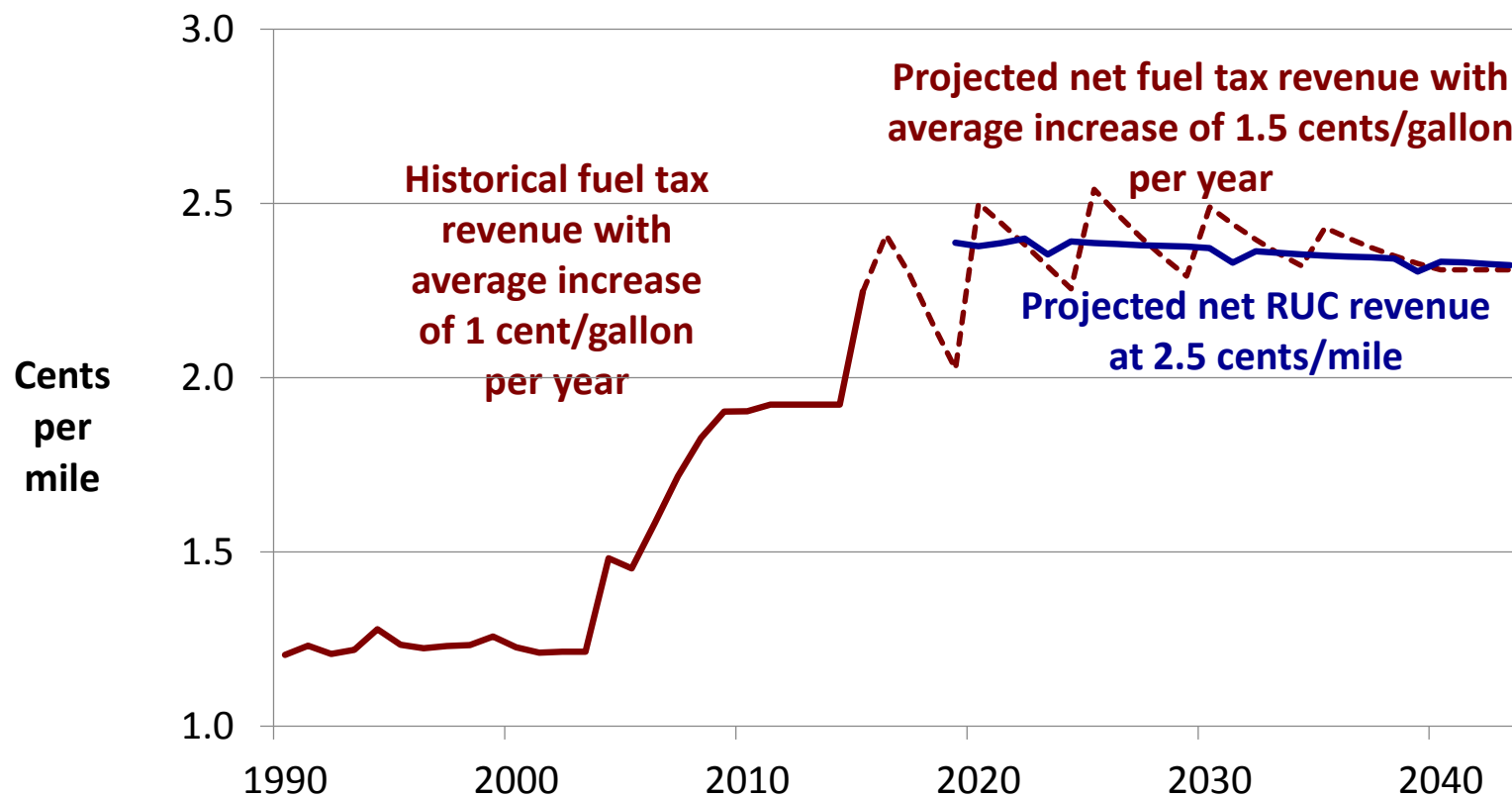
If total revenue is a desired output, we propose to construct four scenarios for long-term projections



# Issue #1: RUC Rate



# Issue #2: Fuel Tax Rate



## Options

- Determine fuel tax rate that matches a flat RUC rate (above)
- Assume RUC and fuel tax rates remain flat – and compare
- Assume both rates increase periodically – and compare

# Issue #3: Key assumptions to narrow cost estimates

- Interest among Committee members in narrowing the range of cost estimates for RUC collection
- Key assumptions needed to narrow cost estimates *for analysis purposes only*. **Any input provided by the Committee is not to be interpreted as a policy decision or direction.**
  - Agency administration
  - Private service providers
  - Transition from fuel tax to RUC
  - RUC operational concepts

# Issue #4: Outstanding fuel tax bonds

- Assumption: no motorist pays both fuel tax and RUC
- Options:
  - Assume fuel tax in place long enough to retire existing and future fuel tax bonds
  - Assume fuel tax as a pre-payment mechanism for RUC, thus covering future fuel tax bonds
  - Do not consider debt service as a barrier to transition away from fuel tax



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# Unresolved issues & approaches taken in other jurisdictions

## Top unresolved policy issues:

- **Transition approaches:** how and when would a transition be made from gas tax?
- **Vehicles subject to RUC:** which vehicles are required to pay?
- **Equity/Fairness of RUC:** how does RUC compare with gas tax for different persons?
- **Alternative RUC approaches:** are there lower-tech methods for RUC?
- **Data security:** can personal information be protected from disclosure?
- **Public perception and acceptance:** what are public attitudes toward RUC at various stages of development?
- **Rate-setting:** how will they be set, by whom, and in what amount?
- **Exemptions, refunds and credits:** what types of vehicles are exempt from RUC?

# Unresolved issues & approaches taken in other jurisdictions

## Top unresolved legal issues:

- **Protection of motor fuel tax bonds:** how can RUC be implemented in manner that protects legal obligations and ratings of current bonds?
- **Privacy issues:** what options are available to protect personal privacy?
- **Tax or fee:** is RUC a fee rather than a tax, affecting how rates are adjusted?
- **Use or dedication of revenue:** is RUC subject to same 18<sup>th</sup> amendment restrictions as gas tax?
- **Payment from out-of-state motorists:** how can RUC be designed to accommodate (and enforce) payments by out-of-state motorists?

# Unresolved issues & approaches taken in other jurisdictions

## Top unresolved operational issues:

- **Mileage reporting methods:** which options should be used in Washington?
- **System technology to support RUC:** what IT software, hardware and services are required to support RUC?
- **Use of commercial account managers:** should private firms be involved in RUC tax collection?
- **Scalable demonstration project options:** how can state be prepared to conduct a demonstration/pilot project if funded?
- **Organizational design/agency roles:** what state agencies should participate in RUC?
- **Interoperability with other states:** how will Washington's system work with others?

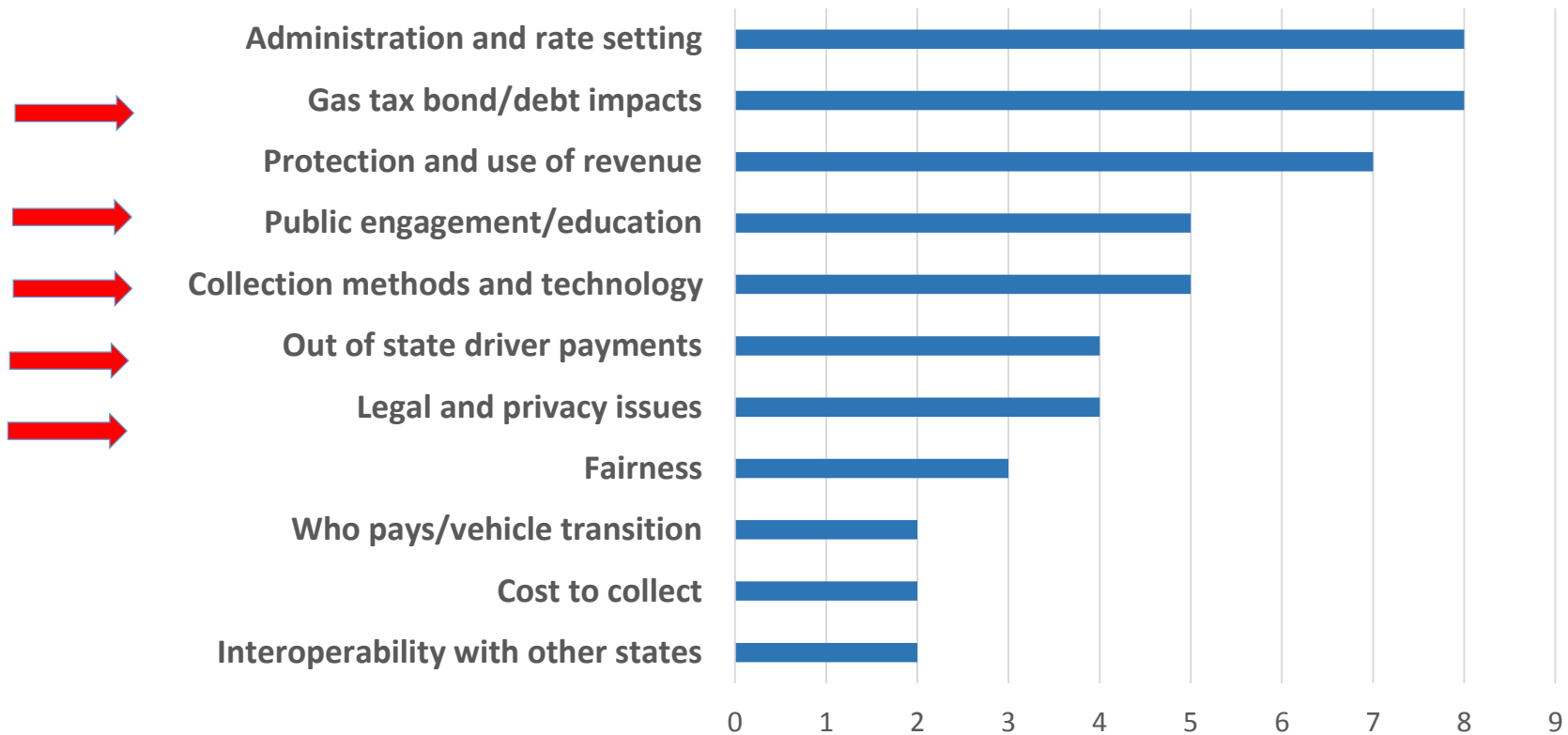
# Unresolved issues & approaches taken in other jurisdictions

## Top unresolved operational issues (continued):

- **Enforcement of mileage reporting and payment:** how will payment be enforced?
- **Refine cost of collections estimates:** what variables must be refined, or decisions made, to narrow the range of potential public and private collection costs?
- **Interoperability with toll systems:** what are the benefits and drawbacks of a RUC that is interoperable with Washington's *GoodToGo* toll system?
- **Effects on congestion levels:** can (and should) RUC be priced to improve congestion in urban areas?

# Unresolved issues: approaches taken in other jurisdictions

## How five high-interest issues have been addressed in other jurisdictions



# Unresolved issues: approaches taken in other jurisdictions

## Approaches taken in other states

### Gas tax bond/debt impacts

**Oregon:** no issues related to imposing a RUC instead of the state gas tax. Bonds are backed by the state highway trust fund, which includes fuel tax, RUC and weight-mile tax.

**California:** no issues have been identified related to potential impacts on state's outstanding obligations or credit ratings. Most California transportation bonds are paid out of general revenues.

**Washington:** initial assessment from Treasurer's Office cast doubt on feasibility of repealing the gas tax while state bonds pledging those revenues are still outstanding. Careful structuring of a RUC would be required to avoid negative impacts.

# Unresolved issues: approaches taken in other jurisdictions

## Approaches taken in other states

### Public engagement/education

**Oregon:** public acceptance factors measured in first pilot; second pilot was designed to address public concerns. Second pilot also measured acceptance factors among participants (acceptance was high). No additional public acceptance surveys are planned for OReGO.

**California:** extensive public outreach, statewide focus groups, telephone surveys to measure baseline public perception and opinion. Additional focus groups and participant surveys throughout 9-month pilot test.

**Washington:** limited media outreach when first RUC assessment was launched in 2012. No other public engagement planned.



# Unresolved issues: approaches taken in other jurisdictions

## Approaches taken in other states

### Collection methods and technology

**Oregon:** considered several mileage reporting options, but implemented only automated mileage reporting with OBD-II port devices

**California:** will test six mileage reporting options: time permit; mileage permit; manual odometer charge; OBD-II without GPS; OBD-II with GPS; Smartphone with GPS on/off; In-vehicle telematics with GPS on/off.

**Wisconsin mileage based registration fee concept:** self-reported odometer readings (periodically verified). Annual vehicle registration fee varies based on miles driven during year.

**Washington:** 2014 recommendations to test four methods: time permit; manual odometer charge; OBD-II automated distance charge; and Smartphone distance charge.

# Unresolved issues: approaches taken in other jurisdictions

## Approaches taken in other states

### Out-of-state driver payments

**Oregon:** OReGO only allows current Oregon residents to pay the RUC. Out of state vehicles continue to pay the gas tax.

**California:** a limited number of out-of-state drivers in the pilot will be required to pay the California road charge using GPS-enabled technology (cell phone, in-vehicle GPS device or telematics), or by purchasing a time permit allowing travel on California roadways for limited time. Both methods will be tested in the upcoming pilot.

**WRUCC:** completed Phase I of an interjurisdictional RUC study, demonstrating different approaches for how RUC charges could work between participating states.

**Washington:** have decided that out-of-state motorists should pay, but no decision on how best to collect RUC from them.

# Unresolved issues: approaches taken in other jurisdictions

## Approaches taken in other states

### Privacy

**Oregon:** GPS technology cannot be required in a RUC system. Statutory requirements for retention and destruction of Personally-Identifying Information.

**California:** GPS technology cannot be required. A time permit must be offered as an option for persons not wanting to report any mileage information. Legal provisions to protect privacy have been drafted for consideration by agencies and legislature. Privacy and data security audits are planned.

**Washington:** decided that GPS technology cannot be required in a RUC system. No further work done on this topic.

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# Useful filters for prioritizing issues

## The territory ahead...

- Re-examining the need for a gas tax alternative: business case for RUC in Washington
- Washington statewide demonstration test unlikely before 2017-19
- Unless: there is an emergent opportunity

## Time frames:

- **2015** (4 months, September – December)
- **2016** (9 months, April – December, *subject to funding*)
- **2017-19** biennium (24 months, *subject to funding*)

## Emergent opportunities (readiness):

- Federally-funded pilot project grants to states
- Multi-state or similar partnering opportunity with OR, CA, BC, others

## Logical sequence of events:

- Decisions required for a pilot are different than for a fully-implemented RUC program
- Technical details that must be resolved to advance RUC

# Initial attempt at applying filters

**2015:** what is *required*, what is *funded*, *time available* to resolve, *SC interest*, and readiness for *emergent opportunities*:

- ✓ Business case revisions
- ✓ Structuring RUC to protect bond obligations
- ✓ Refining operational concepts (and range of costs to collect)
- ✓ Scalable demonstration project alternatives
- ✓ Defining the proper work plan for next step in 2016

**2016 proposed work plan** (to be decided by SC): readiness for emergent opportunities, logical sequence, SC interest, and time available to resolve:

- Transition approach: what is the logical progression of decisions and actions to move away from reliance on the gas tax?
- What safeguards can be put in place to protect personal privacy in a RUC system?
- What is the most effective and economical approach to requiring RUC payments from out-of-state motorists?
- Other issues TBD...

**2017-19:** logical sequence, SC interest, time available to resolve:

- TBD...

**Mid-or-longer term:** logical sequence

# Discussion of Steering Committee priorities for 2015-2016

## Steering Committee discussion points:

What are your thoughts on these proposed filters? Anything you would add, delete, or modify?

What do you think of the proposed groupings after applying the criteria?

Is there anything you've read, heard or discussed that changes your initial opinions or preferences for priority issues?

For December meeting: must recommend priority order of issues to address in 2016 work plan proposal