

WASHINGTON STATE ROAD USAGE CHARGE

BRIEFING BOOK

Steering Committee
Meeting #1
October 1, 2015



Contents

Introduction.....	1
Section 1: Status of RUC in Washington state and overview of 2015 Work Plan.....	4
Section 2: Summary of Steering Committee Interviews	12
Section 3: Update on State and Federal Transportation Funding and Related Policy Initiatives.....	23
Section 4: Road Charging Developments in Other States and Countries	42
Section 5: Updating the Business Case Analysis for RUC in Washington State	74
Section 6: Review of Unresolved RUC Policy, Legal, and Operational Issues.....	84
Appendix Materials	99

INTRODUCTION

Briefing Book for SC Meeting #1

Purpose of this briefing book

This briefing book is provided to RUC Steering Committee members in preparation for the October 1, 2015 meeting. The reading materials within this document are aligned with the Agenda for the meeting, and provide details on each of the topics to be reviewed and discussed. During the meeting, slide presentations will provide a summary of each of these topics (but not repeat everything), so it will be helpful for members to have read the content of the briefing book prior to the meeting. The project team encourages discussion of questions that may arise prior to or during the meeting.

Briefing Book for SC Meeting #1

Overview of briefing book contents

- ▶ **Section 1** provides a recap of road usage charge work completed to date in Washington, followed by a summary of the legislative direction for this current period (now through December, 2015). This section also provides a description of 2015 work plan that will be implemented by the Washington State Transportation Commission and their consultant team, under the guidance and direction of the Road Usage Charge Steering Committee.
- ▶ **Section 2** contains the aggregate responses from the questions posed during the individual interviews with Steering Committee members. The information is summarized and emergent themes are identified.
- ▶ **Section 3** provides information on recent or emerging transportation funding and policy issues at the state and federal level that may have some bearing on the RUC Steering Committee's work. Notably, this section highlights the new transportation revenue packaged passed by the Washington state legislature in 2015.
- ▶ **Section 4** is devoted to a review and status report of road usage charging initiatives in the United States and other countries. Special emphasis is placed on California and Oregon—each with active testing or road usage charge tax collection programs now launching.
- ▶ **Section 5** highlights important developments that will impact the financial analysis (business case analysis) of a potential RUC system in Washington State.
- ▶ **Section 6** is a review of the policy, legal and operational issues for the Steering Committee to prioritize and resolve in the current work period (through December, 2015) and beyond.

SECTION 1: STATUS OF RUC IN WASHINGTON STATE AND OVERVIEW OF 2015 WORK PLAN

Briefing Book for SC Meeting #1

RUC developments in Washington to date

In prior phases of work, the Steering Committee addressed the feasibility and evaluated the business case for road usage charging in Washington, and addressed numerous policy issues, advising the Washington State Transportation Commission (WSTC) of their recommendations. The progression of road usage charge work in Washington through 2014 is summarized in on page 7.

Since the Steering Committee last met in November, 2014, their work culminated in the 2015 report to the Governor and Legislature which covered the following:

- ▶ Development of the **Concept of Operations (ConOps)**, which provides an opportunity to understand at a high level how the system may work from the motorists' perspective. It also serves as the technical basis for the financial analysis, and the starting point for designing a demonstration.
- ▶ Evaluation of **transition strategies**, both in terms of **which vehicles get charged** and how those vehicles would **transition** into a road usage charge system.
- ▶ Preparation of a **financial analysis** that reflected the proposed ConOps, several transition strategies, and several sets of economic assumptions.
- ▶ Development of a **proposed work plan** based on questions that remain after the 2014 work.
- ▶ The proposed work plan included a demonstration, along with a public attitude assessment and public communications and engagement effort.
- ▶ Parallel work by the WSDOT, the Treasurer's Office, and WSTC (along with staff from the Legislature, Department of Licensing, and Department of Transportation) related to certain policy issues.

Briefing Book for SC Meeting #1

RUC developments in Washington to date...

While the legislature did not authorize the proposed demonstration project for the near term, there was recognition of road usage charge work progressing in other western states, and desire for the topic and issues to continue to be monitored and policy issues explored. The legislature developed and passed the Connecting Washington Transportation Revenue 16 year package which increased traditional revenue sources and authorizes bond sales for a total of \$16 B in transportation investments.

The legislature directed the following work be done via the 2015-17 Transportation Budget Proviso to WSTC, found in 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.”

Briefing Book for SC Meeting #1

Progress summary: Investigating road usage charging, 2012 to present

Month/ Year	RUC Milestone	Actions
March 2012	Legislature funds and directs exploration of road usage charging as a potential future replacement for the state gas tax	WSTC establishes 20-member Steering Committee to conduct fact-finding and make recommendations to the WSTC and legislature
December 2012	Steering Committee unanimously concludes that a RUC is feasible in Washington	The Steering Committee finds that a RUC is feasible in Washington state and develops a work plan for 2013-15 to investigate to how such a system might work.
April 2013	Legislature provides funding and detailed direction to WSTC and WSDOT for more detailed work.	WSTC must evaluate the business case and operational aspects of a potential road usage charge.
December 2013	Steering Committee finds that a road usage charge will provide greater and more stable net revenue over 25 years	Steering Committee develops a policy framework for road usage charges; evaluates the financial risks, costs and net revenues for several operational concepts and scenarios; and identifies many issues still to be resolved.
March 2014	Legislature funds continued Steering Committee investigation, including input from State Treasurer	Legislature directs examination of: potential impact on state bondholders of switching from gas tax; urban/rural equity issues; transition issues; and interstate issues.
December 2014	Steering Committee issues report and 2015-16 work plan recommending statewide pilot test	Steering Committee develops a Concept of Operations; examines potential impacts between urban vs. rural drivers; considers alternate methods of implementation to avoid negative impacts to state bonding; and recommends a statewide pilot test in 2015-16.

Briefing Book for SC Meeting #1

Current Road Usage Charge work plan, August—December, 2015

With enactment of the 2015 Connecting Washington transportation revenue package, potential federal and other state partnership opportunities for RUC tests, as well as advancements in CAFE standards and technology, it is important to review and refresh Washington's understanding and approach to earlier policy recommendations, business case evaluation, RUC demonstration project proposal and related public outreach. This scope of work will respond to the legislative proviso that culminates in a WSTC report to the legislature in December 2015 that includes the following:

- ▶ **Updated RUC business case** using an updated financial model incorporating new assumptions, policy considerations, changes in vehicle fuel economy, new heavy truck CAFÉ standards, and other factors.
- ▶ **Status of national and international RUC developments**, with special focus on Oregon, California and British Columbia, including multi-jurisdictional collaborations on RUC.
- ▶ **Potential joint research and funding opportunities** with Oregon, California, and other jurisdictions such as WRUCC (made up of 12 western states) including potential federal funding opportunities within the federal transportation authorization bill.
- ▶ **Revised demonstration concept** to factor in operational, technology, select policy principles and public communications preferences expressed by the legislature, the WSTC, and RUC Steering Committee. A revised demonstration plan must be scalable, be capable of leveraging outside funding, avoid duplicating work conducted in other states, adequately reflect Washington's diverse demographics/geography, and be careful not to create confusion in the public's understanding of transportation tax policy. This work will be anchored by a Steering Committee discussion and articulation of the objectives to be served by a future public demonstration (e.g., measure drivers' experience with a RUC system,

Briefing Book for SC Meeting #1

Current work plan, 2015...

gauge public attitude and acceptance, test interoperability with neighboring states and British Columbia, demonstrate emerging technologies, etc.)

- ▶ **Review of RUC policy principles in the context of other Washington transportation policies,** including the 20-year Washington Transportation Policy Plan, and state and regional tolling strategies.
- ▶ This work plan will be guided by the two RUC Steering Committee meetings in October and December 2015. To help Steering Committee members better envision how the meetings will correlate to the work plan, a “roadmap” for these two meetings is provided below.

Briefing Book for SC Meeting #1

2015 Roadmap: RUC Steering Committee meeting #1, October 1, 2015

Focus Topics	Related Work Plan Tasks	Steering Committee Role
Stakeholder Assessment: inputs to 2015 Work Plan	Legislative and key stakeholder priorities for RUC: Conduct individual interviews with WSTC Commissioners, SC members and legislative transportation leaders to help identify priority issues	<ul style="list-style-type: none"> Participate in individual interviews to assess latest views on RUC and focus areas for remainder of 2015
Update Transportation Funding and RUC-Related Policy Initiatives: federal, regional and state initiatives	Provide Steering Committee with information regarding Washington State, regional and federal funding and policy initiatives related to road charging	<ul style="list-style-type: none"> Consider how recent state funding package alters need or timing for RUC Consider how best to leverage opportunities that may emerge at federal level
RUC Developments in Other States & Countries: U.S. and international	Provide updates on RUC initiatives and developments in Oregon, California, other states and with the Western Road Usage Charge Consortium. Provide information on status of RUC internationally, to include Canada, New Zealand, Australia and Europe.	<ul style="list-style-type: none"> Be apprised of latest developments on RUC Monitor progress in other states, especially Oregon and California Status of RUC internationally
Revise Business Case Analysis: update with new data and assumptions	Update the financial model with new data resulting from the recent revenue package, any changes in VMT and other inputs; and revise assumptions as necessary to reflect changes in federal CAFE standards.	<ul style="list-style-type: none"> Understand how new information may affect the business case for RUC in Washington
Policy Approaches & Priorities: unresolved Legal, Operational and Policy Issues	Review prior list of unresolved legal, operational and policy issues to determine which can be addressed through Steering Committee action in 2015. Establish priority issues for further investigation in remaining months of 2015, 2016 and beyond.	<ul style="list-style-type: none"> Identify action items for 2015 Consider how issues are being addressed in other states Establish priorities for further investigation in 2016 and beyond

Briefing Book for SC Meeting #1

2015 Roadmap: RUC Steering Committee meeting #2, December 1, 2015

A detailed agenda will be developed for this meeting based on issues raised and input received during the October RUC Steering Committee meeting. The general topics to be covered are shown below.

Focus Topics	Related Work Plan Tasks	Steering Committee Role
Revised Business Case Analysis: updated results	Present updated Business Case Analysis, with new costs, revenues and risks, to Steering Committee	<ul style="list-style-type: none"> • Consider how new results may impact timing for RUC
Revised Washington RUC Demonstration: potential demonstration project options	Revise demonstration plan options: assess joint research and funding opportunities with other states or entities; develop demonstration project strategy that provides scalable testing approach to match legislative interest and funding opportunities.	<ul style="list-style-type: none"> • Assess opportunities for joint funding • Provide clear articulation of purposes and goals to be achieved for each demo option • Provide strategic direction on creating a scalable demo project
Recommended Policy Approaches: recommended actions to address select issues	Based on results from SC Meeting #1 and member discussion, develop recommended approaches to selected policy, legal and operational issues for 2015.	<ul style="list-style-type: none"> • Consider and if appropriate, recommend solutions to address select policy issues
Priority Issues for 2016 Work Plan: recommended work plan	Steering Committee deliberation and prioritization of issues to be resolved in next phase of work	<ul style="list-style-type: none"> • Analyze list of remaining issues and determine timelines (2016, or beyond) for addressing each issue

SECTION 2: SUMMARY OF STEERING COMMITTEE INTERVIEWS

Briefing Book for SC Meeting #1

Areas of inquiry

In preparation for continuation of work by the Steering Committee on RUC, it was important to assess the committee member's awareness of the 2015 Transportation Revenue package and Legislative direction on RUC, as well as opinions on the priority of unresolved issues to address in the near and longer term..

Questions asked were:

1. 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?
2. 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?
3. Which policy issues do you think need to be resolved prior to advancing RUC in Washington, and in what priority order?
4. Would you support a road usage charge demonstration project? What guidance would you have for how to develop a demonstration project?
5. Having attended Steering Committee meeting over the past few years, do you have any recommendations on the meeting format (time spent on presentation versus discussion) or materials?
6. Anything else on your mind ahead of our first meeting?

Briefing Book for SC Meeting #1

Question 1: 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?

Responses

- ▶ Almost all noted that the current revenue model is not sustainable in the long run. That fact hasn't changed, and:
 - > There is less urgency on the part of legislators having just passed a gas tax increase, though many noted that it's an interim solution.
 - > There is concern about confusion on the part of the public following the gas tax increase.
 - > Not all are convinced that a road usage charge (RUC) is the right alternative.
 - > Several who support a RUC would like to hear from legislators whether support for continued exploration of RUC exists.
- ▶ Concerns were also raised about borrowing heavily against the gas tax. The horizon to pay off the bonds is long and requires the tax continue to be collected until the bonds are retired.

Briefing Book for SC Meeting #1

Question 2: 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?

Responses

Leverage the work of other states:

Review results from California and Oregon—what's worked and what has not; implementation costs; answers to this and more could help us be more efficient.

- ▶ Lessons learned. This will help set the stage for developing scalable options.
- ▶ Leverage the work and knowledge of other states and use that to move forward with our pilot.
- ▶ What's different about Washington? What would we need to do differently?
- ▶ Research national incentives and grants given to other projects. What do we need to do to get federal money to pilot this?

Continue cost analysis:

- ▶ Narrow down likely administration costs—this is a sticking point for some.
- ▶ Reassess cost/benefit analysis—the why has to be really well thought out.
- ▶ Simply refreshing a business plan concerns me; we need more momentum.

Briefing Book for SC Meeting #1

Question 2, 2015 priorities...

Public perception/education:

- ▶ Make progress on determining what it will take to get public acceptance of transition to a RUC.
 - > Keep the public engaged without overwhelming/scaring them with too much information.
 - > Determine stakeholder and public support.
 - > Understand the barriers to people trusting government to do this.
- ▶ Understand what the legislature actually wants to do.
- ▶ Public education is key. We need to explain it to the entire state.
- ▶ Education around current situation with the gas tax and future implications is needed.
- ▶ We need a good summary of what the revenue picture is now. For example, what does increased mpg of fleet and electric vehicles entering the stream really mean to us?

Transition and Roles:

- ▶ Start looking at transition. That will be a lot harder than actual implementation.
- ▶ Who is going to set the rate and who is going to collect RUC? What are the agency roles?
- ▶ Technology evolves quickly. This is a long term effort; we should not invest too much in one system.

Briefing Book for SC Meeting #1

Question 2, 2015 priorities...

Strategy:

- ▶ Think about a national strategy/conversation. That may be what is needed to establish momentum.
- ▶ Establish if we need to continue to investigate RUC, or do we look at alternatives?
- ▶ What would we do with one more year of study?
- ▶ Slow the process down, or people may come unglued.

Briefing Book for SC Meeting #1

Question 3: Which policy issues do you think need to be resolved prior to advancing RUC in Washington, and in what priority order?

Responses

- ▶ Effects on current debt and bond repayment (8)
- ▶ Rate setting and administration—what data? Who does it—existing or new agency(s)? What is the system? (8)
- ▶ Protection of revenue stream—what the money is used for (7)
- ▶ Collection (how?), transition (alongside fuel tax?) and enforcement (5)
- ▶ Acceptance and communication with the public (5)
- ▶ Legal and privacy issues (4)
- ▶ Out of state drivers (4)
- ▶ Fairness—urban/rural, electric/gas (3)
- ▶ Interoperability with other states and other toll systems (2)
- ▶ Identifying/lowering implementation costs (2)
- ▶ Who pays a RUC –vehicle types, drivers (2)
- ▶ Congestion relief in the Puget Sound region
- ▶ What are the alternatives?

Briefing Book for SC Meeting #1

Question 4: Would you support a road usage charge demonstration project?

Responses

- ▶ Yes—18
- ▶ Maybe—3
 - > What questions would be answered; Do we need three pilots—why not learn from Oregon and California and put our resources elsewhere?
- ▶ No—3
 - > Timing is wrong
 - > We can learn what we need by watching Oregon and California

What guidance do you have for how to develop a demonstration project?

- ▶ Has to be informed by Oregon and California experience (4)
 - > Will be a push pull between wanting to be unique and not reinvent the wheel so maybe you take elements of different experiences
 - > Figure out what we would need to test that wasn't done by California or Oregon
 - > Wait until Oregon is finished and what they have learned—there are a lot of similarities
- ▶ Develop clear criteria for what you are testing and why
 - > Figure out what core questions could be answered

Briefing Book for SC Meeting #1

Question 4, demonstration project...

- ▶ Do it on a small scale
- ▶ Test technology
- ▶ Get input from different types of vehicles, different areas of the state. Get a lot of input and data
- ▶ Let people know we are exploring options, but keep it educational
 - > This is the answer to the education piece
 - > It's a way to see how this might work
 - > Testers become the champions for the system
 - > Focus on influencers
 - > Experience helps with acceptance

Briefing Book for SC Meeting #1

Question 5: Having attended Steering Committee meeting over the past few years, do you have any recommendations on the meeting format (time spent on presentation versus discussion) or materials?

Responses

- ▶ Not all interviewees responded to this question. Those that did tended to emphasize more time for discussion throughout rather than detailed presentations followed by discussion at the end of the day.
- ▶ Appreciate materials being sent with sufficient time for review
- ▶ Focus on issues we need to resolve rather than the range of technology options
- ▶ Most people who responded expressed satisfaction with the meeting format and location

Briefing Book for SC Meeting #1

Question 6: Anything else on your mind ahead of our first meeting?

Responses

- ▶ Keep momentum going
- ▶ Learn from Oregon and California
- ▶ Move beyond simply calling it a replacement for the gas tax
- ▶ Think about other funding approaches in addition to RUC

SECTION 3: UPDATE ON STATE AND FEDERAL TRANSPORTATION FUNDING AND RELATED POLICY INITIATIVES

Briefing Book for SC Meeting #1

Overview

- ▶ Washington State has been challenged over the years to find a sustainable and robust revenue stream to maintain and improve transportation infrastructure and services at a level needed to accommodate the aging system and economic growth of the state.
- ▶ At the federal level, the Highway Trust Fund has been unsustainable for several years with existing fuel tax sources not keeping up with the demands of the transportation system.
- ▶ In the 2015 legislative session, leaders of both the House and Senate and the Governor arrived at a transportation revenue package that makes significant investments in corridor completion, local routes, transit investments, traveler and pedestrian safety, and preservation of transportation infrastructure. These investments will make a measurable contribution to improving freight mobility and commute trips in the state.
- ▶ The steering committee's work this fall will review the actions made at the state, and pending on the federal level, and evaluate the RUC business case in light of these actions. It will be important to continue to consider the long term implications of the declining purchasing power of the gas tax, as well as the opportunities to transition to a more fair and reasonable user fee for vehicles using the transportation system.

Briefing Book for SC Meeting #1

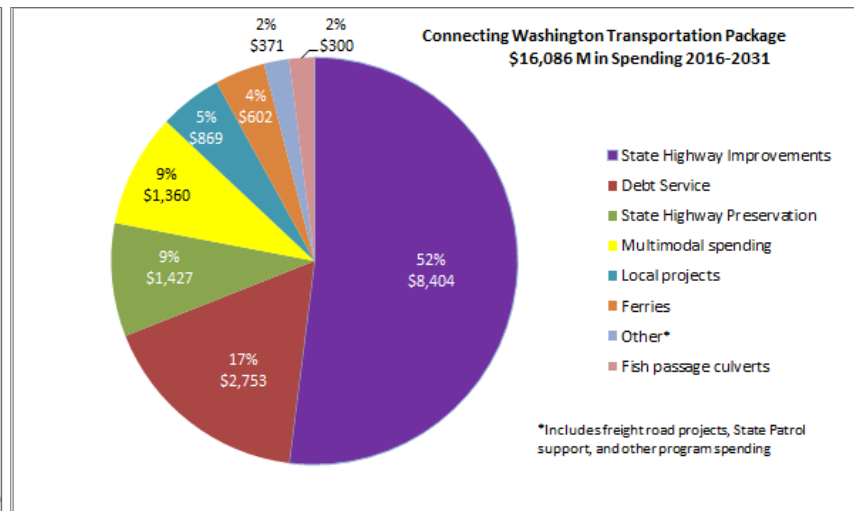
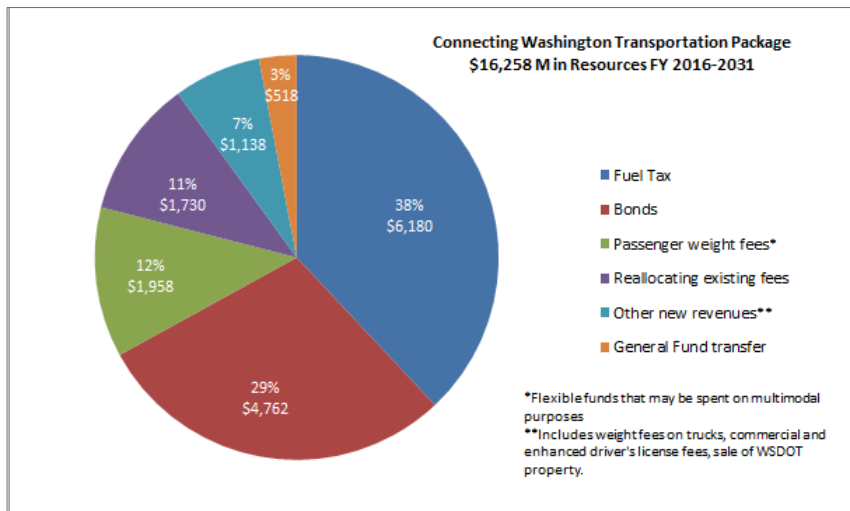
Highlights of 2015-2031 *Connecting Washington* transportation revenue package

- ▶ 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 (with language that states "
 - > ...(5) The annual EV registration renewal fee now applies to vehicles that use both (a) at least one method of propulsion capable of being reenergized by an external source of electricity, and (b) is capable of traveling at least 30 miles using only battery power. In other words, in addition to the 100% battery electric vehicles (BEVs) that are eligible for the annual fee (such as the Tesla Model S and the Nissan Leaf), the fee now applies to Plug In Hybrid Electric Vehicles (PHEVs) that can go 30+ miles on pure electricity before switching to hybrid mode (such as Chevrolet Volt).
 - > This section applies to annual vehicle registration renewals until the effective date of enacted legislation that imposes a vehicle miles traveled fee or tax."

Briefing Book for SC Meeting #1

Highlights of 2015-2031 revenue package...

- ▶ Department of Licensing: \$27.4 Million for business and technology modernization. Pat Kohler, Director of Department of Licensing will briefly update the Steering Committee during the working lunch.
- ▶ Sound Transit received authority to ask Puget Sound residents for additional revenues of up to \$16 Billion to fund the ST3 package. The authority (subject to voter approval) includes:
 - > A motor vehicle excise tax of up to 0.8 percent of vehicle value
 - > An additional sales and use tax of 0.5 percent; and
 - > A property tax levy of \$0.25 per \$1000 of assessed valuation



Source of the data for charts: Office of Program Research

Briefing Book for SC Meeting #1

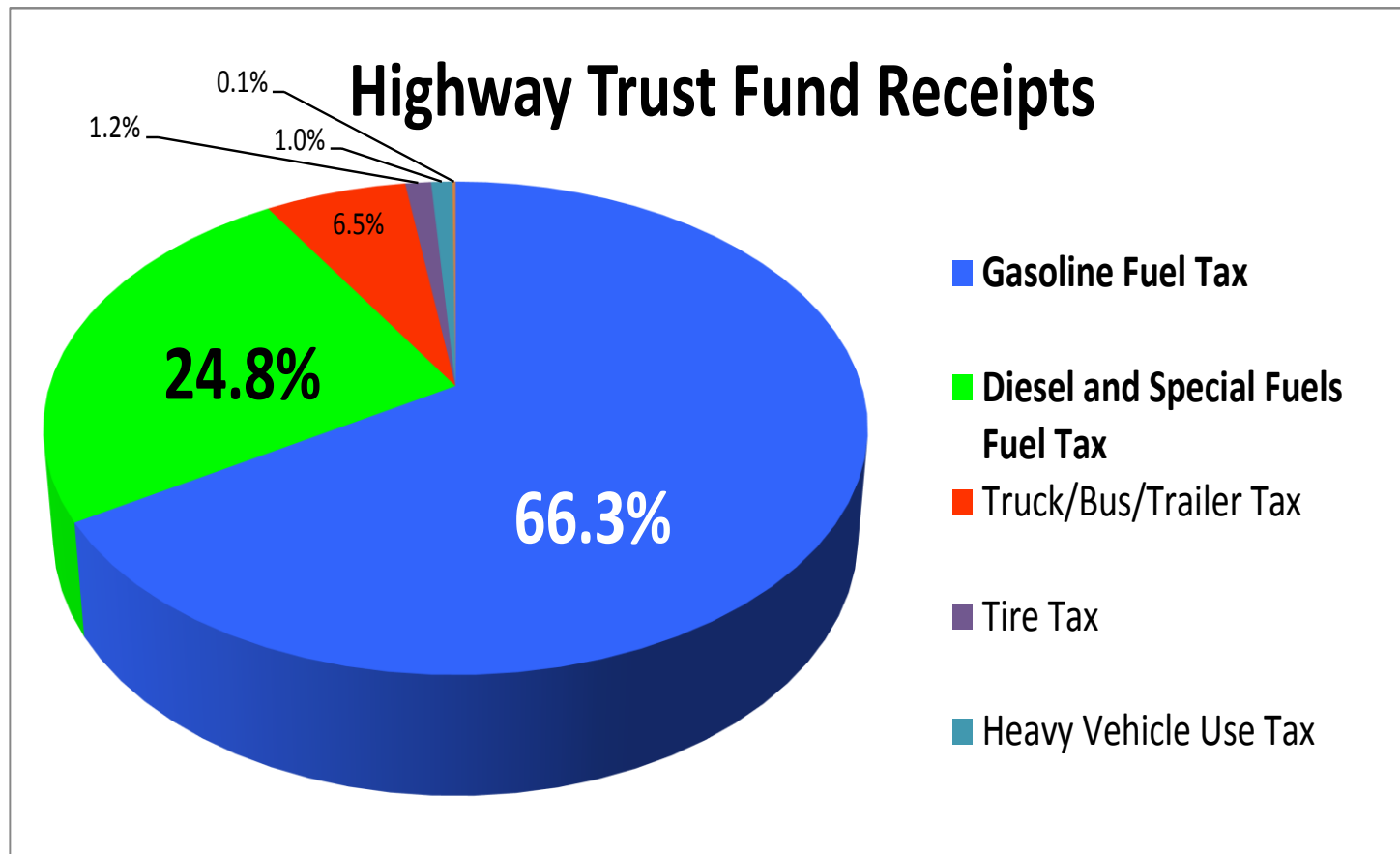
Federal transportation reauthorization: Developing a Reliable and Innovative Vision for the Economy (DRIVE) Act

- ▶ The Highway Trust Fund is insolvent and the federal transportation program is not sustainable with the federal revenue sources currently in place. Congress is nearing the end (October 31, 2015) of the 34th short-term extension, or “continuing resolution”, for surface transportation funding. The last multiyear reauthorization, SAFETEA-LU, expired at the end of September 2009.
 - > Note: A transportation **continuing resolution** is a type of appropriations legislation. The appropriations bill sets aside (directs) revenue for USDOT agencies and federal programs. **Reauthorization** is the process by which Congress prescribes changes, additions, and deletions to the Transportation Act. MAP-21 made sweeping changes in program structure and policy direction, but it wasn’t funded beyond two years.
- ▶ The Highway Trust Fund dependence on a cents/gallon fuel tax has made it susceptible to the effects of increasingly efficient vehicles and inflation.

Briefing Book for SC Meeting #1

Federal transportation reauthorization...

- > Motor fuel taxes have comprised 91% of the Highway Trust Fund over the past decade. (see chart below)

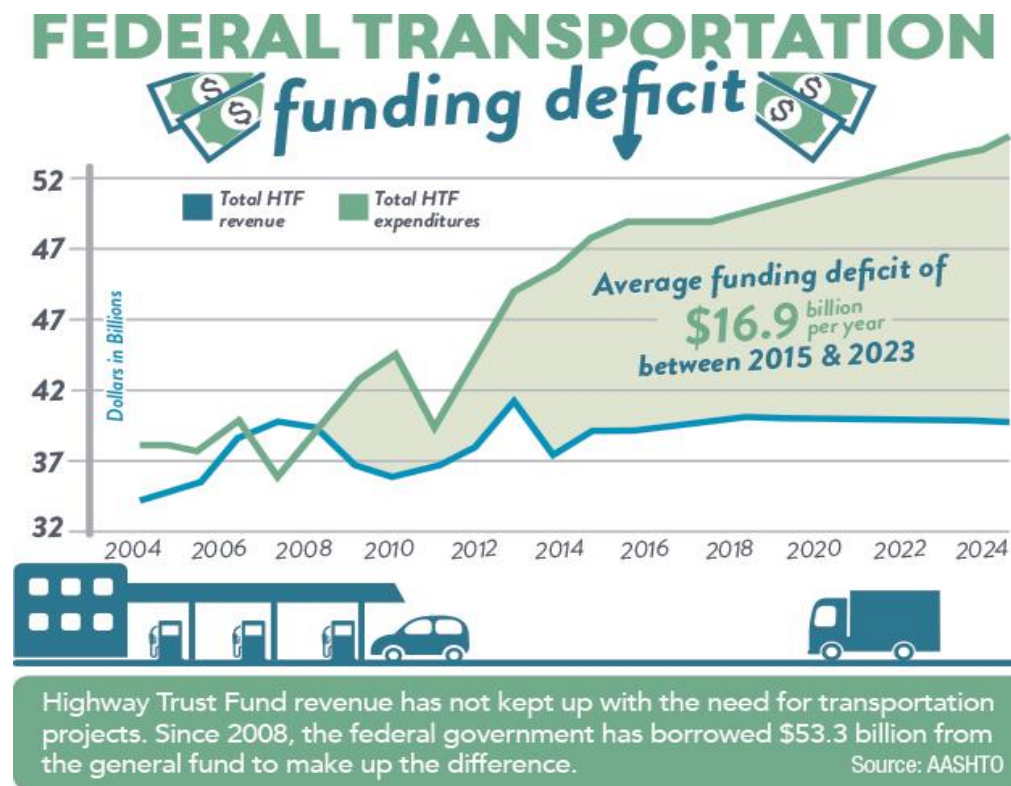


Source: Federal Highway Administration, Highway Statistics, 2011

Briefing Book for SC Meeting #1

- ▶ Without Congressional action, the American Association of State Highway and Transportation Officials (AASHTO) predicts between 2015-2023, the average Highway Trust fund gap between revenues collected and planned expenditures will be \$16.9 billion per year. (see chart below)

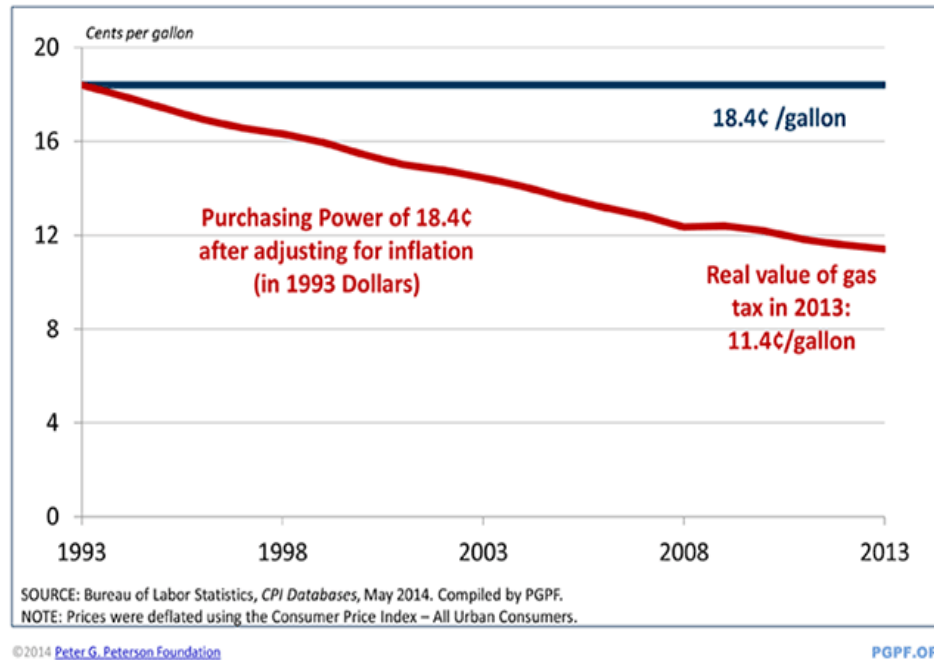
Federal transportation reauthorization...



Briefing Book for SC Meeting #1

Federal transportation reauthorization...

- ▶ Federal, state and local gas tax is losing purchasing power. (see chart below)



- ▶ Congress has been unable to pass any meaningful revenue legislation for Highways and Transit since 2009. In July, 2015, the US Senate passed the DRIVE Act, which was a 6 year reauthorization of the current Transportation Act. The Senate’s DRIVE Act authorizes six years of spending, but provides only three years of funding certainty, with \$51 billion left to fund.
- ▶ In regards to possible study funding for Road Usage Charging, the Senate Drive Act does provide direction and funding for “Researching Surface Transportation System Funding Alternatives” at \$15 million in FY 2016 and \$20 million annually for fiscal years 2017-2021 for the following work plan:

Briefing Book for SC Meeting #1

Federal transportation reauthorization...

- > Authorizes the Secretary of Transportation to promote research of user-based alternative revenue mechanisms that preserve a user fee structure to ensure the solvency of the Highway Trust Fund.
 - > Requires the Secretary to provide grants to States or other appropriate entities to conduct research to support this effort.
 - > Requires the Secretary of Transportation, in consultation with the Secretary of the Treasury, to establish a Surface Transportation Revenue Alternatives Advisory Council to inform the selection and evaluation of user-based alternative revenue mechanisms.
 - > Tasks the Council with defining the functionality of two or more user-based alternative revenue mechanisms, identifying technological, administrative, institutional, privacy, and other issues associated with the mechanisms, collecting information through public outreach, and providing recommendations on a process and criteria used for selecting research activities identified by the council.
- ▶ On Feb. 3, 2015, Congressman Blumenauer of Oregon has introduced HR 679 which directs the Secretary of the Treasury to establish the Road Usage Charge Pilot Program to make competitive grants to state or local governments, or metropolitan planning, regional transportation planning, or tribal organizations to conduct pilot studies on implementing mileage-based fee systems as a method for funding transportation highway projects.

The legislation directs the Secretary to establish a working group to:
develop national technology standards for a road usage charge, as well as national privacy standards for such a charge that balance the effectiveness of revenue systems with user privacy;
and evaluate the potential of the methods studied in the program to manage demand and reduce the emission of greenhouse gases.

- > No formal action has been taken on his proposed bill.

Briefing Book for SC Meeting #1

Tolling initiatives and related work in the Puget Sound region

Context for Tolling and RUC

It is important to understand the similarities and differences between tolling and a RUC system, given a future in which they will coexist and may potentially evolve to increasingly align or better complement each other over time. A RUC system can be designed to serve as the ubiquitous, broad-base layer in a sustainable transportation revenue structure. Although the current focus on RUC is to replace a motor fuel tax with a fixed rate for all mileage traveled on the state's public roadway network, a RUC system could also be adapted to vary charges by facility type, geographic location, and/or time of day, applications which begin to blur the lines between RUC and current trends in electronic toll collection. In many operational concepts, the infrastructure for RUC collection relies on a combination of in-vehicle technology paired with cloud-based data collection and account management. In contrast, tolling systems currently rely much more on embedded roadway hardware (e.g., gantries and toll plazas), though electronic tolling pairs these with in-vehicle transponders that connect to back office systems for accounting functions similar to RUC.

At present, tolling serves as an additional layer that can be added upon a RUC system base, designed to provide highly-targeted, facility-based revenue collection and funding for the specific, costly infrastructure improvements and/or to provide specific travel time savings benefits for motorists that choose to use the tolled route or lanes. The two approaches represent complementary but distinct user fee systems, each serving a different underlying policy purpose. However, there undoubtedly will be opportunities for these two user fee systems to be more integrated in the future, at least from the customer-facing communications about the cost of travel and account management, if not also for a closer alignment of technology applications and uses of revenues. For these reasons, it is useful to review the state of tolling in Washington State and where it may be headed.

Briefing Book for SC Meeting #1

Existing and forthcoming toll facilities in Washington State

Excluding ferries, the legislature has authorized five toll facilities that are either currently operating or under construction, all of which are in the Puget Sound region.

- ▶ SR 16 Tacoma Narrows Bridge (new span)
- ▶ SR 167 High Occupancy Toll (HOT) Lanes
- ▶ SR 520 Evergreen Point Bridge
- ▶ I-405 Bellevue to Lynnwood Express Toll Lanes
- ▶ SR 99 Tunnel (Alaskan Way Viaduct Replacement)

As of October 2015, four of the five authorized toll facilities listed above are operating, with the I-405 Express Toll Lanes having just opened at the end of September 2015. Tolling on SR 99 is anticipated to begin in mid-2018 following completion and testing of the new tunnel.

Second Engrossed Substitute Senate Bill 5987, also known as the “Connecting Washington” transportation revenue package, was signed into law by governor on July 15, 2015. Connecting Washington levies additional motor vehicle fuel taxes and other vehicle fees to fund a package of capital projects. Three potential toll facilities are included in the package to receive funding:

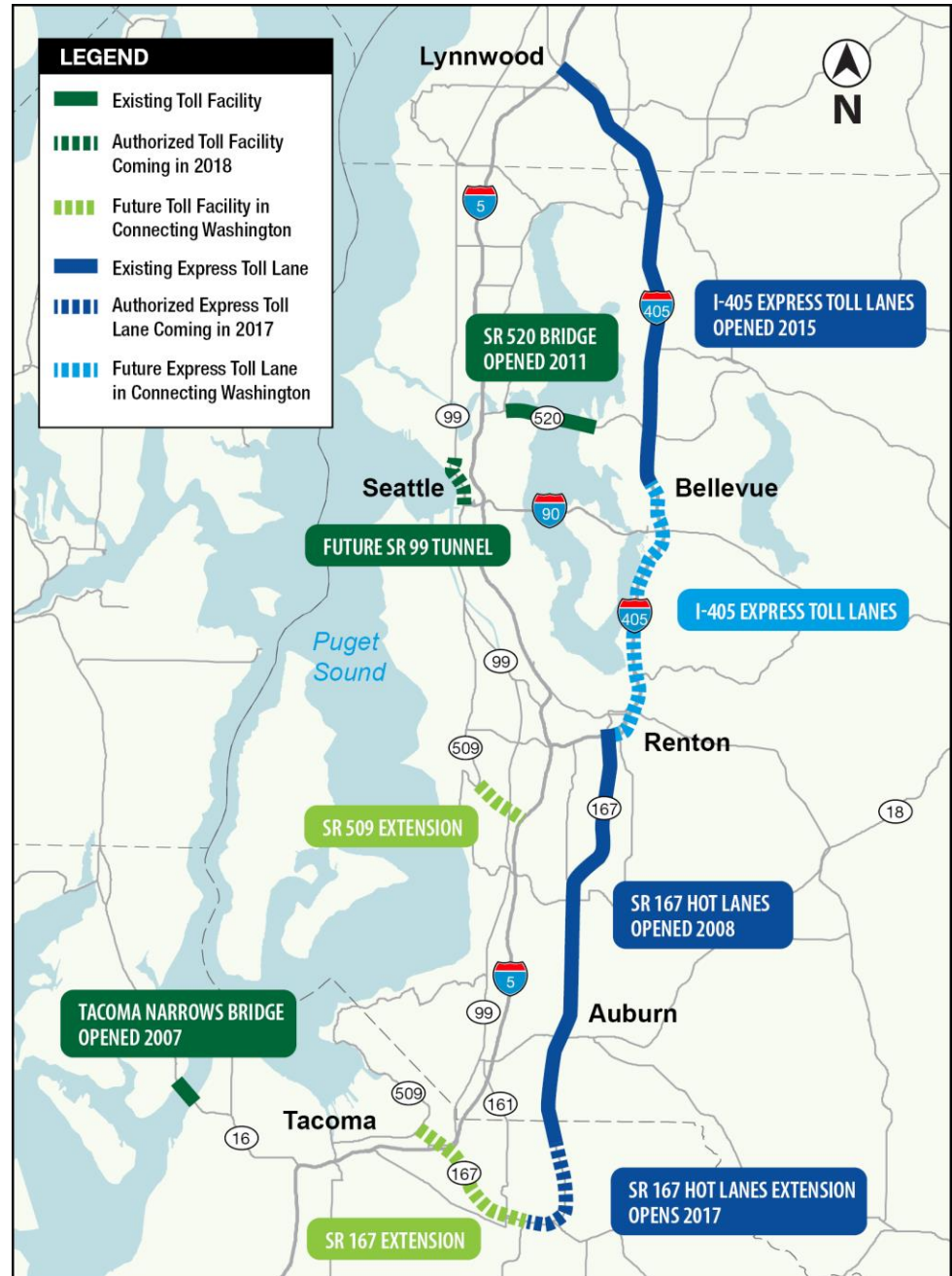
- ▶ The I-405 Express Toll Lanes between Renton and Bellevue;
- ▶ The SR 509 extension project; and
- ▶ The SR 167 extension project.

Briefing Book for SC Meeting #1

The I-405 Express Toll Lanes between Renton and Bellevue would connect the existing ETL section to the north with the existing SR 167 HOT lanes to the south, creating a seamless “Eastside Corridor” ETL system. The other two projects represent new construction (greenfield) extensions of the existing SR 509 and SR 167 corridors. These projects are assumed to use full tolling on all lanes, with tolls varying by time of day in each direction of travel.

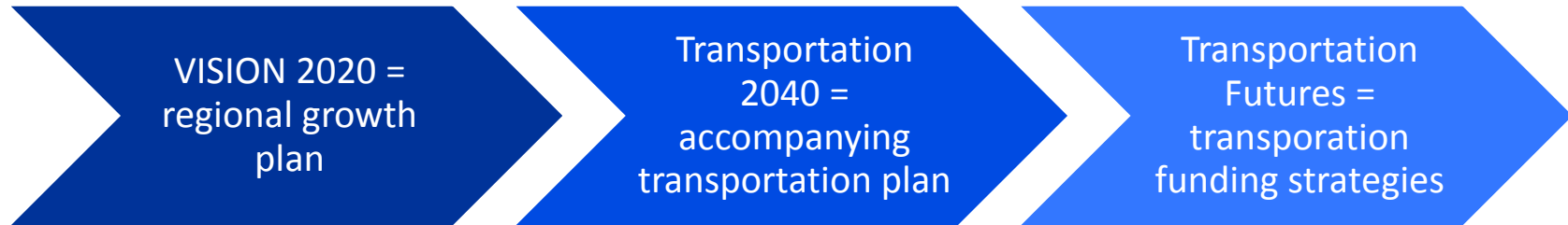
Current planning work on all three of these projects assume that tolls would fund a portion of the capital cost, and the identified Connecting Washington funding amounts provide the balance of funding needed consistent with those assumptions.

The map figure to the right shows the locations of the existing, authorized, and future Connecting Washington toll facilities.



Briefing Book for SC Meeting #1

Puget Sound Regional Council “Transportation Futures” study update



VISION 2040

The Central Puget Sound Region offers a wide array of economic, educational, and recreational opportunities within a breathtaking landscape and noteworthy culture, making it a highly desirable place to live and work. Nearly 3.7 million people currently call the four-county region home, and another 1.5 million are expected to be added by the year 2040, accompanied by 1.2 million new jobs. To address and provide a strategy for that growth, the Puget Sound Regional Council (PSRC) adopted VISION 2040 in 2008. VISION 2040 is an integrated, long-range strategy for managing this growth in a responsible manner that preserves and promotes economic vitality, a healthy environment, and the well-being of people within vibrant communities.

By supporting compact communities comprising both housing and employment sites, VISION 2040 strives to focus new growth and redevelopment in urban centers, contain the existing urban area boundaries, and conserve adjacent farm and forest lands. The strategy provides a framework for addressing policies around land use, economic development, transportation, public facilities, and environmental issues. In particular, VISION 2040 provides a foundation for the region’s transportation plan, **Transportation 2040**.

Briefing Book for SC Meeting #1

Transportation Futures update...

Transportation 2040

The regional transportation plan, Transportation 2040, was initially released in 2010 and updated in 2014 to better reflect the conditions following the recent economic downturn. Transportation 2040 is a bold multimodal long-range plan that establishes three integrated strategies:

- ▶ Congestion and Mobility;
- ▶ Environment; and
- ▶ Funding.

Within each of these three strategies, there are four categories of investment:

- ▶ Preservation, Maintenance and Operations;
- ▶ Safety and Security;
- ▶ Efficiency; and
- ▶ Strategic Capacity.

Transportation 2040 assumes that the state will transition from the existing motor vehicle fuel tax to a state-wide road user charge (pay per mile) scheme over the next two decades, and that all limited access highways in the region will be converted to full tolling by 2040.

Transportation Futures

In 2014, the PSRC embarked on an ambitious “Transportation Futures” study to further develop funding strategies to implement the identified investments and approaches of Transportation 2040.

Briefing Book for SC Meeting #1

Transportation Futures update...

The study empaneled a Task Force of regional and state elected leadership, and civic leaders representing diverse regional interests that is currently working on long-range approaches and strategies on how to best to meet, fund, and finance future regional transportation needs.

Although the recently passed Connecting Washington transportation revenue package funds some of the capacity investments in Transportation 2040, there remains approximately \$36 billion (in constant 2008 dollars) of unfunded transportation needs through 2040 for which new funding regional sources must be identified. The Task Force is currently considering several scenarios comprising different revenue sources in various combinations that vary from the combination of RUC and system-wide tolling in Transportation 2040. Potential revenue sources include the following.

- ▶ System-wide or selected tolling of limited access facilities
- ▶ An additional, regional layer of RUC (pay per mile) added to the state level, on a flat rate or variable peak/off-peak basis
- ▶ A carbon tax or emissions fee
- ▶ Transportation utility districts based on trip generation rates
- ▶ Phasing out of alternative (electric) vehicle fees and vehicle license fees with implementation of RUC
- ▶ Increases in ferry and transit fares beyond Transportation 2040 levels to keep pace with inflation

Briefing Book for SC Meeting #1

Transportation Futures update...

While the Task Force's work is far from complete, early indications are that a regional RUC / pay per mile mechanism in addition to the assumed underlying state base level is emerging as a key component. If this moves forward, it will likely create some interesting dialogue around regional governance, including how regional RUC rates would be set, collected, and distributed locally.

Briefing Book for SC Meeting #1

Washington State Transportation Plan policy elements related to RUC

The Washington Transportation Plan (WTP 2035) is a comprehensive and balanced statewide transportation plan that establishes a 20-year vision for the development of the statewide transportation system, from state highways and ferries to sidewalks and bike paths, county roads, city streets, public transit, air and rail. It was adopted by the Transportation Commission in December 2014 and submitted to Governor Inslee and the Legislature.

WTP 2035 identifies significant statewide transportation issues, and recommends statewide transportation policies and strategies to the legislature and Governor (RCW 47.01.071(4)). By law, WTP 2035 is required to be consistent with state's growth management goals, reflect the priorities of government, and address regional needs, including multimodal transportation planning.

WTP 2035 is based on the following six transportation policy goals established by the Legislature:

- ▶ **Preservation:** To maintain, preserve, and extend the life and utility of prior investments in transportation systems and services.
- ▶ **Safety:** To provide for and improve the safety and security of transportation customers and the transportation system.
- ▶ **Mobility:** To improve the predictable movement of goods and people throughout Washington state.
 - > NOTE: the 2015 Legislature passed ESB 5995 which modifies the Washington State Policy Goal on Mobility to read: Mobility: To improve the predictable movement of goods and people throughout Washington state including congestion relief and improved freight mobility.

Briefing Book for SC Meeting #1

Washington State Transportation Plan and RUC...

- ▶ **Environment:** To enhance Washington’s quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment.
- ▶ **Stewardship:** To continuously improve the quality, effectiveness, and efficiency of the transportation system.
- ▶ **Economic Vitality:** To promote and develop transportation systems that stimulate, support and enhance the movement of people and goods to ensure a prosperous economy.

In WTP 2035, the Commission also stressed the need to improve the financial health of Washington’s transportation system (page 90) and emphasized 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.” (Page 93)

In the body of WTP 2035, the Commission notes some of the underlying reasons to move toward a road usage charge:

- ▶ Changing demographics, preferences, and technologies. Younger people are not being licensed or driving at the same rate as previous generations. (page 33)

Briefing Book for SC Meeting #1

Washington State Transportation Plan and RUC...

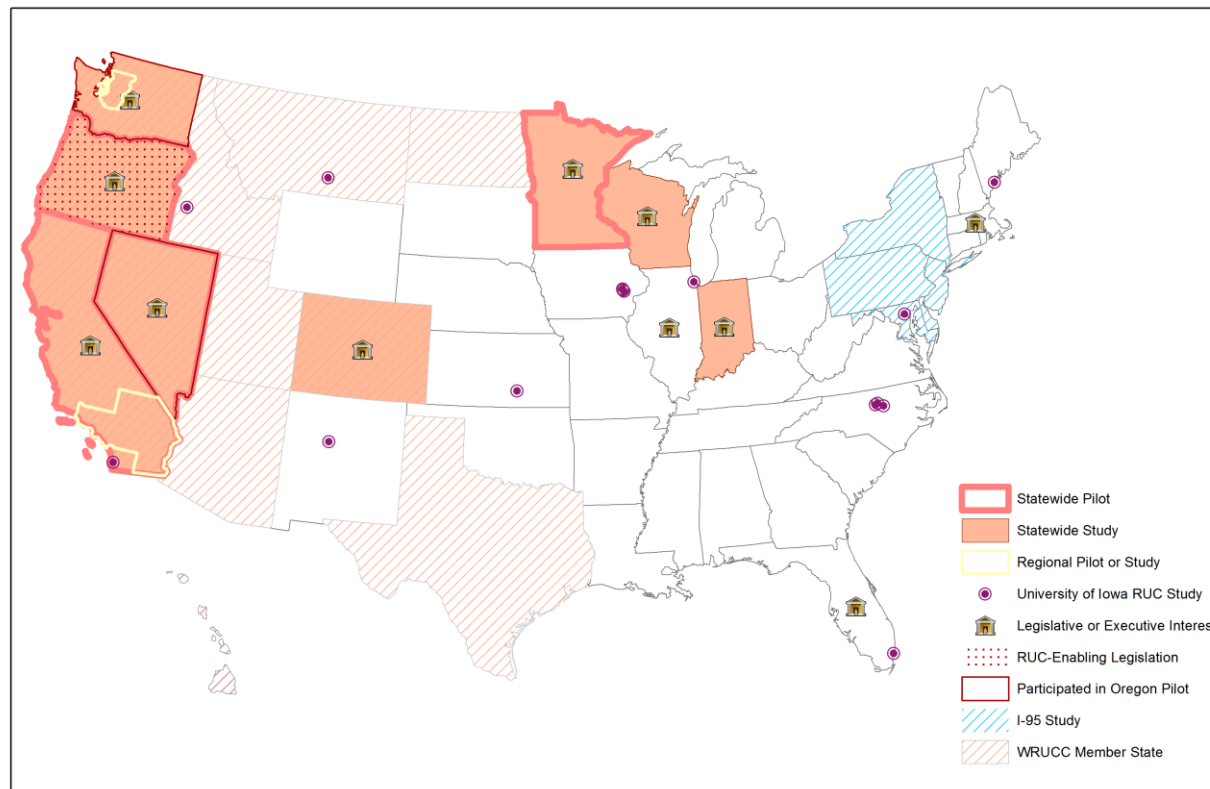
- ▶ Fuel tax revenue is unpredictable and volatility is likely to continue. A sustainable alternate funding source should not be so heavily based on fuel consumption. (page 40) Options may include further expansion of toll roads and express toll lanes, road usage charges, congestion pricing, employer-funded transportation choices, strategic private sector partnerships, and value-capture strategies. (page 41)
- ▶ New funding sources should be flexible and equitable and balance user-pay with ability-to-pay approaches. (page 41)

SECTION 4: ROAD CHARGING DEVELOPMENTS IN OTHER STATES AND COUNTRIES

Briefing Book for SC Meeting #1

RUC developments around the U.S.

In 2012, when the Washington RUC Steering Committee was first briefed on road usage charging around the world, there were very few examples of implemented systems for passenger vehicles, and none in the U.S. Today, Oregon has begun RUC operations, California will begin a statewide RUC demonstration project in 2016, and several other states are making preparations for their own RUC demonstration projects. Several other states are actively studying road usage charging. The map below provides a pictorial summary of current RUC development around the U.S.



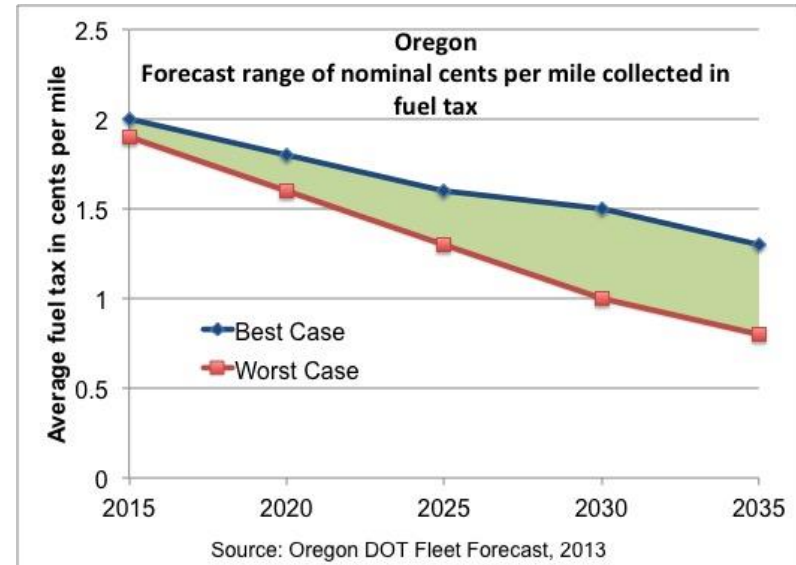
Briefing Book for SC Meeting #1

Oregon implements Road Usage Charge after 14 years of studies, trials

Oregon has been a pioneer in transportation funding as the first state to implement a gas tax (1919), weight-mile tax (1925), and RUC for passenger vehicles (2015). Passenger vehicle RUC exploration began in 2001 with the legislature’s creation of the Road User Fee Task Force (RUFTF), which oversaw a study of revenue alternatives, resulting in the recommendation to pursue RUC through pilot testing.

Oregon’s first pilot (2006-2007) was a technical success but a policy failure. It featured a “pay at the pump” model, using an in-vehicle device to record mileage with GPS and communicate data to the point-of-sale system at fueling stations. At fueling, participants received a mock receipt showing gas tax credits and mileage fees due. The reliance on a single GPS-based device created public concerns about privacy, and the emergence of all-electric and plug-in hybrid vehicles raised doubts that a pay-at-the-pump model could work in the long term.

Oregon’s second pilot (2012-2013) was both a technical and policy success. After several years of policy development and R&D, the second pilot demonstrated user choice, open systems, commercial account management, and no GPS mandate.



Briefing Book for SC Meeting #1

Oregon program is built around choice, open architecture, commercial account managers, interoperability, and scalability

Following the success of the second pilot, the Oregon legislature passed Senate Bill 810 in 2013, creating the nation's first permanently operational RUC program, populated initially by up to 5,000 volunteer motorists. OReGO began live operations (including tax collection) on July 1, 2015.

Strategic Objective of OReGO

Oregon DOT has adopted the following strategic objective for its RUC program:



“Create a sustainable road usage charge market that is simple and easy for payers, flexible and encourages evolution of mileage reporting technologies and business systems into effective, affordable, convenient and attractive options for the motoring public.”

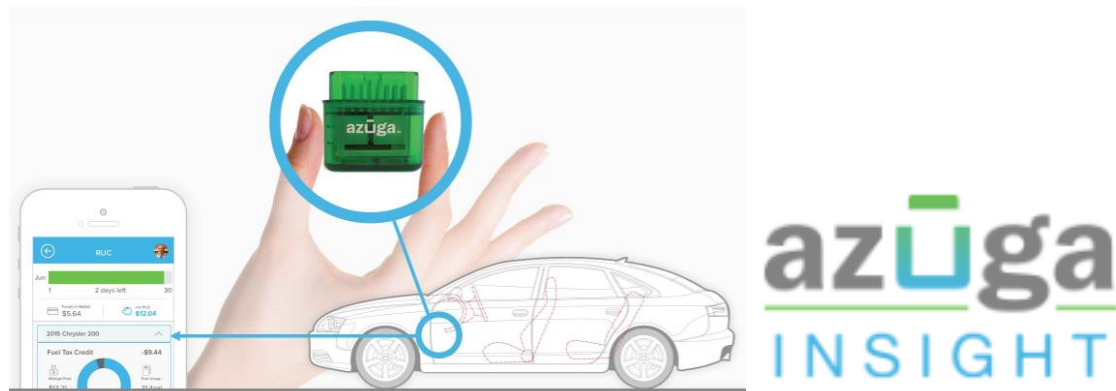
Oregon is hoping to foster commercial markets for RUC and related services as a means of driving down the cost of operations and to provide more choices to motorists. To enable this, they have adopted the following principles for their system:

- ▶ Design the OReGO program with an **open architecture** to enable new market entrants
- ▶ Provide **motorists choices** in how they will report and pay for their road use
- ▶ Remain **technology agnostic**, relying on performance requirements and not device specs
- ▶ Allow motorists to use **private sector account management** services
- ▶ Ensure system design is **interoperable, scalable** and **geographically unlimited** to allow maximum compatibility with other jurisdictions and growth of private markets
- ▶ Develop OReGO to be **policy neutral** on future evolution—leave policy to the legislature.

Briefing Book for SC Meeting #1

Oregon's program has three mileage reporting choices

Option 1: AZUGA GPS-enabled mileage reporting



Characteristics:

Motorists prepay into an account (similar to Washington's *GoodToGo* toll accounting) by credit or debit card. After installing the device into the OBD-II port of the vehicle, mileage is recorded and taxable miles—on public roadways in Oregon—is charged while off-road and out-of-state miles are deducted from the motorist's RUC invoice. Refunds are applied for gas taxes paid, if any. Additional connected-car enabled services are available such as visual trip logs, fuel usage and costs per trip, teen driver "safe zones", find-my-car apps for smartphones, etc. With express approval of the motorist, mileage data may be shared with others.

Briefing Book for SC Meeting #1

Oregon's three mileage reporting choices...

Option 2: Oregon DOT non-GPS mileage reporting, by Sanef ITS



Characteristics:

Motorists receive the device after registering their account with the Oregon Department of Transportation (through their private partner, Sanef ITS), and plug the device into their OBD-II port of the vehicle. Total mileage is recorded regardless of where driven, since the device has no location detection capability needed to deduct mileage driven out-of-state. Invoices for miles driven are provided quarterly, unless the motorist's amount due is less than \$20, in which case the invoice will be provided at the next quarterly billing. Refunds are provided if the motorist pays more at the fuel pump in gas tax than is owed for the road charge. No additional connected-car enabled services are available. Oregon DOT and its partner, Sanef ITS, are prohibited from sharing mileage data even if motorist consents.

Briefing Book for SC Meeting #1

Oregon's three mileage reporting choices...

Option 3: Verizon GPS-enabled mileage reporting for InDrive customers



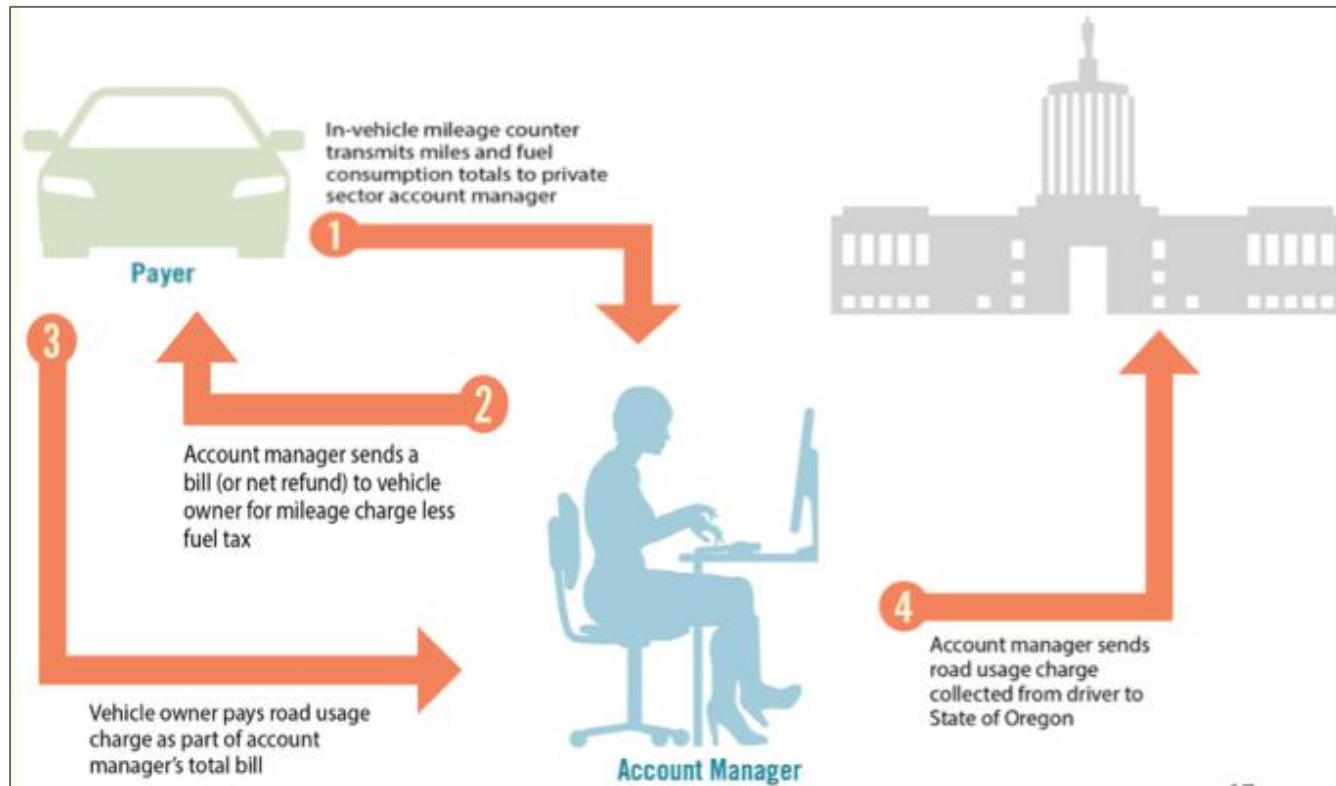
Characteristics:

Motorists who have already signed up for the In-Drive program—a pay-per-mile insurance program—can choose the Verizon telematics option. The In-Drive device records mileage and can differentiate between taxable miles (on public roads in Oregon, which are charged), and off-road and out-of-state miles, which are deducted from the motorist's RUC invoice. Refunds are applied to gas taxes paid, Motorists signed up for InDrive can monitor their driving mileage, and the safer they drive, the more they save on auto insurance. Additional services are available such as stolen vehicle tracking, automatic crash notification, data services and family monitoring.

Briefing Book for SC Meeting #1

OReGO system overview

From a transactional and system perspective (as opposed to the individual motorist’s perspective), there are many business rules and policies that must be developed and implemented to ensure that the system operates in a manner that is fair to the public and achieves both the revenue and strategic development goals of the state of Oregon. For each of the three options outlined above, the following figure provides an overview of the generic account management process for RUC transactions.



Briefing Book for SC Meeting #1

Oregon Road Usage Charge program

OReGO private sector Account Managers—the private firms that have been certified to provide road charging services—may conduct their own recruiting efforts to enroll motorists willing to participate in the program.

OReGO Account Managers proceed to enroll volunteers into the program. After installing the device, the in-vehicle mileage counter transmits miles and fuel consumption totals to the private sector Account Manager, where a bill (or net refund) is prepared showing the mileage charge owed after any deduction for fuel taxes already paid. Vehicle owners pay 1.5 cents per mile to the private account manager. The proceeds from the mileage charges paid to the account manager are collected and forwarded to the State of Oregon.

Current Status of OReGO

- ▶ Participation cap: 5,000 total volunteers
- ▶ Original on-line volunteer expressions of interest: 2,678 vehicle owners.
- ▶ Participants as of September 21, 2015: 896 Oregon drivers.
- ▶ Breakdown by vehicle MPG: 25% below 17 mpg; 31% with 17-22 MPG; 44% above 22 MPG.
- ▶ Mileage reporting devices chosen by volunteers: GPS devices: 72%. Non-GPS devices: 28%.
- ▶ Top enrolled vehicle types, by make/model: 1—Toyota Prius. 2—Ford F-150 pick-up truck.

Briefing Book for SC Meeting #1

California enacted “Road Charge” pilot program legislation in 2014

The California Road Charge Pilot Program was approved by the legislature and enacted into law by Governor Brown in August 2014. The pilot program is currently in the public input and design phase, but will begin pre-implementation activities toward the end of this year. The statewide pilot test featuring about 5,000 volunteers is scheduled to begin in Summer 2016.

Factors leading to exploration of road usage charging in California

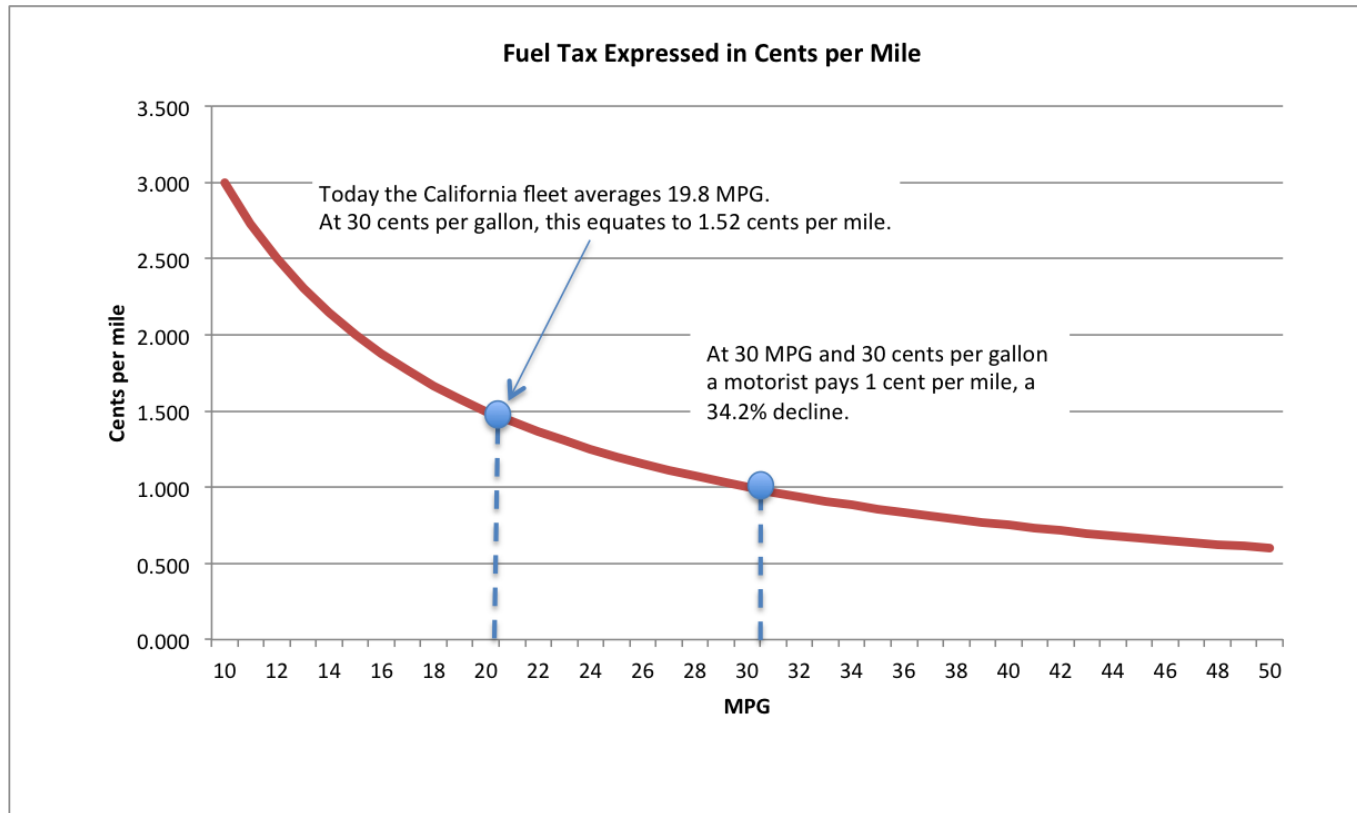
Fuel taxes represent the most important highway revenue source for California. Improvements in on-road vehicle fuel economy and conversion of the fleet to other energy sources (e.g., electric vehicles), threaten to undermine fuel tax revenues in California, as has been projected in other states as well.

The following figure illustrates the relationship between fuel economy and fuel tax revenues on a per mile basis in California. The horizontal axis depicts on-road fuel economy as reflected in MPG, while the vertical axis represents the equivalent cents per mile in fuel tax paid, at 30 cents per gallon (the combined rate of the statewide base excise tax and price-based excise tax on gasoline in California as of July 1, 2015). According to the Air Resources Board, California light vehicles averaged about 20 miles per gallon in 2015. This means that the average gasoline-powered car is contributing $30 \div 20 = 1.5$ cents per mile driven in California fuel taxes. Model Year 2015 vehicles are projected to average just over 26 miles per gallon, so those cars are contributing only 1.1 cents per mile on average. **Drivers will be paying only 0.77 cents per mile by 2040, a decrease of 37% from today.**



Briefing Book for SC Meeting #1

California implemented road charge pilot to address zero emission vehicle and overall fuel economy improvement trends and goals



Note: Fuel tax expressed in cents per mile as a function of fleet fuel economy.

Briefing Book for SC Meeting #1

California is exploring Road Charge as a replacement for state gas taxes

Faced with the likely erosion of motor fuel tax revenues, the California state legislature passed, and Governor Brown signed, Senate Bill (SB) 1077 directing the Chair of the California Transportation Commission (CTC) to create a Technical Advisory Committee (TAC) to study road charging alternatives to the California gas tax and make recommendations to the Secretary of the California State Transportation Agency (CalSTA) on the design and independent evaluation of a road charging pilot program. This investigation of road charging policy by an independent, select stakeholder committee convened by the Transportation Commission is very similar to Washington's approach.

However, SB 1077 went further. The legislature also directed that a statewide pilot program be conducted to test various road charging policies, technologies, and payment approaches. Once the TAC's recommendations have been made to CalSTA, pre-implementation activities will begin in preparation for the pilot project, currently scheduled to begin in Summer 2016.

The California legislature has made clear that the road charge is intended to be a replacement mechanism for the gas tax—drivers would not pay a road charge in addition to a state gas tax.

California's TAC observed other possible policy reasons for a potential transition to a road charge system, including its potential to be a more equitable way to pay for roadways than the gas tax.

Briefing Book for SC Meeting #1

Several agencies play roles in California's Road Charge program

The following entities have distinct and important roles in the California Road Charge program:

- ▶ **California Transportation Commission (CTC):** makes appointments to the Road Charge Technical Advisory Committee and provides input to California State Transportation Agency (CalSTA) on final pilot design.
- ▶ **California Road Charge Technical Advisory Committee (TAC):** 15-member select stakeholder committee studies road charge design options and makes recommendations on final pilot design features to CalSTA.
- ▶ **Caltrans:** provides all consultant and staff support for the TAC, and is responsible for implementing the road charge pilot program. Reports directly to CalSTA.
- ▶ **California State Transportation Agency (CalSTA):** the state agency that oversees all transportation-related agencies in California. Makes final decisions on how the road charge pilot will be implemented.

Briefing Book for SC Meeting #1

Currently, the Road Charge Technical Advisory Committee (TAC) is meeting to carry out its four primary activities

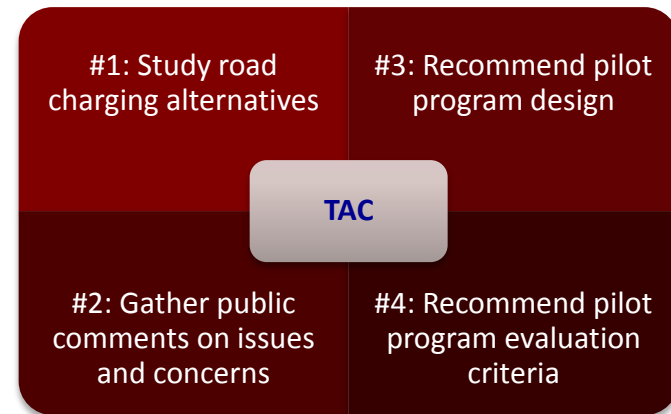
1: Study road charge alternatives

Throughout the year, the TAC studied several road charge approaches, including self-reported mileage, certified odometer readings, smartphone-based mileage reporting, in-vehicle device-based mileage reporting, and telematics-based reporting.

2: Gather public comment on issues and concerns

In addition to evaluating the technical dimensions of road charging, the TAC developed an extensive public involvement effort to provide key information and feedback on its policy and design recommendations. These activities included:

- ▶ 12 open public meetings being held at 10 different locations throughout California;
- ▶ Establishment of a road charge advisory group comprised of over 30 stakeholders to help provide review and feedback on the TAC’s work;
- ▶ Launch of a dedicated website to provide public information and to receive public comments;
- ▶ Focus groups in five cities across California to gain better insights into public knowledge and opinion; and
- ▶ Statewide public telephone survey to assess initial public attitudes about road charging.



Briefing Book for SC Meeting #1

Four primary activities of California's TAC...

3: Recommend road charging approaches and pilot program design to CalSTA

SB 1077 required the TAC to analyze and make recommendations on several issues, which were subsequently framed as “decision points” for the TAC. A list of the decision points and TAC recommendations is summarized in the table on pages 39 and 40.

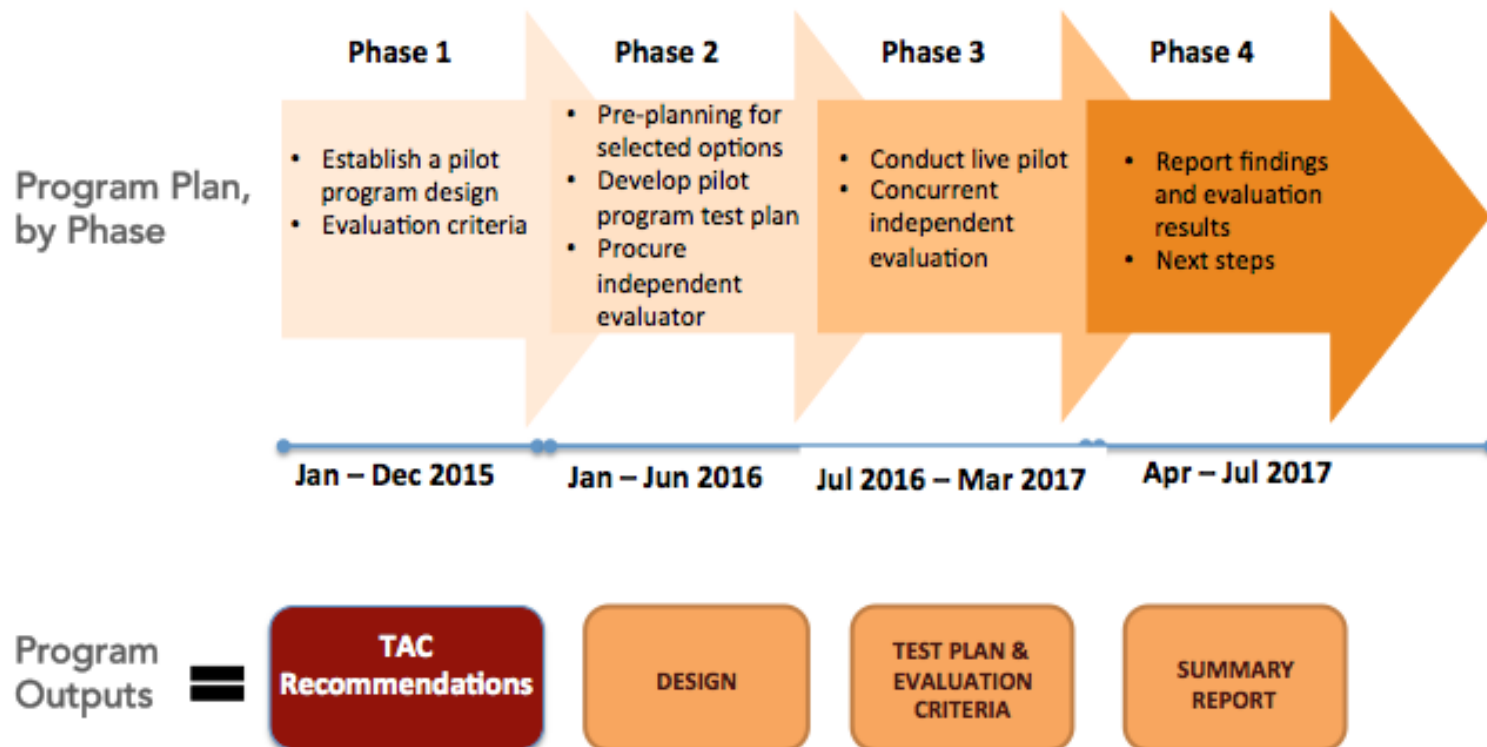
4: Recommend criteria to evaluate California's pilot

Finally, the TAC developed criteria to guide the evaluation of the pilot by an independent evaluator. The evaluation criteria span eight categories (revenue, cost, operations user experience, privacy, data security, equity and communications), with 36 separate goals and 50 individual criteria.

Briefing Book for SC Meeting #1

California’s pilot spans nearly three years at a cost approaching \$10 million

In early 2015, the California legislature appropriated approximately \$9.6 million to Caltrans to carry out all Road Charge Pilot program activities, including conducting a 5,000+ person statewide pilot project to be completed no later than December 2017. The administration has expedited the pilot project so that it is now scheduled to begin in July 2016 and be completed in 9 months, in early 2017.



Briefing Book for SC Meeting #1

California Road Charge TAC pilot design recommendations

The pilot will offer drivers a choice in account managers

More than one non-state account manager will be available for pilot participants to choose from. A simulated state account manager will also be offered.

The pilot will offer drivers a choice in mileage recording methods

Methods under consideration for the pilot include time permits, mileage permits, odometer charges (prepay and post-pay), automated distance charging without location information, and automated distance charging with location information.

Out-of-state vehicles will be included in the pilot and simulate payment for driving on California roads

Drivers from neighboring states who drive regularly in California will be recruited to participate in the pilot.

The pilot will test an open system design

Security standards and privacy protections will be required, and data content messaging formats between service providers and the state may be defined. However, the system will otherwise be designed in a way that is technology neutral and allows entry of multiple operational concepts, technologies, and service providers.

The pilot will test the interoperability of California's system with that of other states

In the event another state does not have a pilot operational concurrent with California's, interoperability will be simulated using account managers.

The pilot will include individuals, households, businesses, and at least one government agency

This represents the diversity of vehicle ownership types most common in California.

Briefing Book for SC Meeting #1

California Road Charge pilot design recommendations...

The pilot will include a cross-section of 5,000 vehicles that are reflective of the fleet currently using California's public road network

The pilot will recruit a variety of vehicles with the goal of forming a vehicle pool that reflects the diversity of the fleet currently using California roads according to the matrix of vehicles and participant demographics developed and recommended by the TAC.

The pilot will offer methods to exempt miles driven on private roads or out of state

Both manual and automated options for claiming mileage exemptions will be tested.

The pilot will feature three approaches for protecting privacy: governance, accountability, and legal protection

The TAC recommended 12 privacy principles (governance), 4 privacy evaluation criteria (accountability), and privacy protection provisions (legal protection).

The pilot will be evaluated according to criteria recommended by the TAC

The 50 evaluation criteria adopted by the TAC span the following eight categories: revenue, cost, operations, user experience, privacy, data security, equity with respect to fuel tax, and communications.

The pilot will test ten data security features

The TAC adopted security features for authentication, authorization, data modification notification, data masking, encryption, data storage, data transmittal, data destruction, general IT network security, and third party data security system verification.

Briefing Book for SC Meeting #1

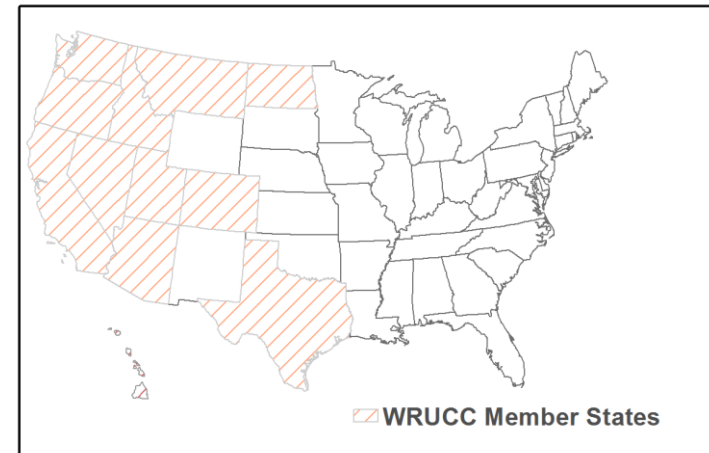
Western Road Usage Charge Consortium (WRUCC) vision and purpose

The Western Road Usage Charge Consortium is a voluntary coalition of Departments of Transportation. Members are collaborating on research and development for RUC systems. The WRUCC was created by adoption of an organizational Charter.

Vision

WRUCC's vision is to develop RUC systems that:

- ▶ Are open systems to foster competition in the market for providing RUC services;
- ▶ Allow for motorist choice in how a RUC would be assessed and paid;
- ▶ Are compatible with readily-available and affordable consumer products & technologies (e.g., smartphones, in-vehicle navigation systems); and,
- ▶ Are designed to achieve the primary purpose of collecting road use taxes to fund roadway maintenance and improvements.



Purpose

WRUCC formed to develop **expertise** and preparedness within public agencies and facilitate **resource-sharing** for research and projects of mutual interest. WRUCC offers opportunities to achieve economies of **scale** by **joint testing** of RUC systems over wide territory (i.e., western US). It also functions as a **best practices** forum for sharing information and lessons learned. Members are free to determine if or how they wish to advocate testing or implementation of RUC systems in their states—they are not required to adopt or advocate a system used by another member.

Briefing Book for SC Meeting #1

WRUCC goals reflect shared interests of member states

Consortium members have joined together to:

- ▶ Explore the technical and operational feasibility of various applications of multi-jurisdictional RUC systems;
- ▶ Investigate public and key decision maker criteria for acceptance and share experience and lessons learned to foster positive outcomes;
- ▶ Develop standards and protocols for how RUC could best be collected and remitted among various jurisdictions;
- ▶ Develop preliminary operational concepts for how a multi-jurisdictional RUC system would be administered;
- ▶ Develop a model for regional cooperation and interoperability of RUC system that can be used in the Western region and potentially across North America;
- ▶ Engage the automotive manufacturing and technology sector to encourage the ability for mileage reporting to occur in conjunction with other products and services the sector provides in the marketplace; and
- ▶ Share knowledge to maximize member preparedness and efficiency of policy and program development for road usage charging.

Briefing Book for SC Meeting #1

WRUCC has completed four joint research projects with six more on the way

- ▶ Completed projects
- ▶ Addressing out-of-state drivers in a RUC system (phase 1 of 2)
- ▶ Critical examination of Oregon RUC program
- ▶ Impacts of changing vehicle fleet fuel economy on state transportation funding
- ▶ RUC communications task force (ongoing)
- ▶ Projects underway
- ▶ Protection of privacy in a RUC system
- ▶ Key elements for a multi-state RUC certification program (phase 1 of 2)
- ▶ Active solicitation
- ▶ Addressing out-of-state drivers in a RUC system (phase 2 of 2)
- ▶ Roadmap for state consideration of a RUC system
- ▶ Effects of a RUC on rural residents
- ▶ Web-based cost of transportation calculator

Briefing Book for SC Meeting #1

Road Usage Charge interest among other states is widespread

Below are brief summaries of various RUC-related work or policy initiatives from other states.

Wisconsin

Wisconsin’s bi-partisan Transportation & Policy Finance Commission researched mileage-based registration fees and developed a framework for a potential low-tech approach. The Commission recommended it along with a five-cent increase in the gas tax to the Governor and legislature, but no action has been taken on either revenue source. However, the legislature is considering a proposal that would allow Wisconsin DOT to require drivers to report their annual odometer readings at the time of registration. This is intended to provide the state with important data for studying how much money could be raised from a mileage-based vehicle registration fee.



Nevada



Nevada was among the first states to research and test a potential road usage charge. Nevada DOT carried out the effort solely as a research project, in partnership with the University of Nevada-Las Vegas, so no legislative authorization was required. Nevada DOT earmarked \$1 million from their annual allotment of federal research funding (SPR funds, State Program Research) to conduct the research, which included a pilot test of a road usage charge. A second pilot had been planned that would have tested a new pay-at-the-pump method but that concept has not moved forward.

Briefing Book for SC Meeting #1

Interest among other states...

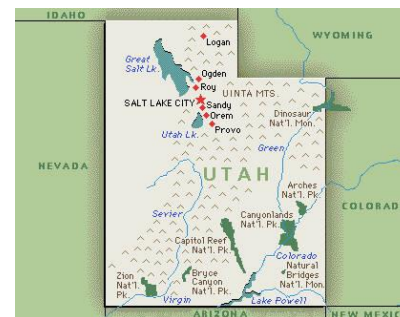
Colorado

Ten months ago, Colorado DOT announced that they were planning to launch a small RUC pilot project. As originally conceived, the project would involve 100 drivers who volunteer to participate in the pilot. Much like Oregon’s first pilot and the pilot now planned in California, participants would not pay actual money to CDOT but would instead receive a monthly or quarterly billing that shows how much would be owed in RUC at the rate of 1.5 cents per mile, versus what they paid in the state’s gas tax. Like Nevada, Colorado is intending to conduct this small-scale pilot strictly as a research project within their available funds, rather than seeking a comprehensive statewide test that might require legislative authorization and additional funding. This pilot project is expected to take place sometime in 2016.



Utah

Utah DOT is active in researching road usage charges and related policy implications. UDOT is currently analyzing the potential impacts of high-mileage vehicles on their projected state transportation funds, which are heavily reliant on gas taxes. The state recently increased its gas tax by five cents (effective January 1, 2016), and authorized a local-option county sales tax increase of .25% to fund transportation. The local option sales tax, in particular, drew criticism from the Utah Taxpayers Association because it is not a user fee and not in any way tied to use of the transportation system. The Utah Taxpayers Association has instead urged consideration of a mileage-based fee. Utah DOT officials are still considering the best approach to exploring RUC in more detail.



Briefing Book for SC Meeting #1

Interest among other states...

Indiana

The Indiana legislature directed Indiana DOT to conduct an analysis of potential alternative revenue mechanisms that could help address the state's transportation infrastructure. INDOT studied a variety of traditional and innovative funding methods to address the infrastructure-funding gap, over 50 alternatives. Among the few mechanisms that appeared most viable for the state were a road user charge for passenger vehicles, and a road user charge specifically for trucks (a combination of weight and distance). The report is being finalized and will be transmitted to the Governor and the legislature for their consideration.



Briefing Book for SC Meeting #1

International RUC developments of interest include Europe, New Zealand, Australia, and Canada

Though studied extensively, both by academics and by practitioners, implementation of RUC has been limited to the following global examples:

- ▶ Europe. Several European nations use vignettes (stickers) that allow foreign motorists access to motorways for a designated period of time (a few days to a year).
- ▶ New Zealand. All diesel and other alternative fuel vehicles have been subject to road charges since 1978 using a paper-based licensing scheme in which motorists pre-purchase blocks of kilometers.

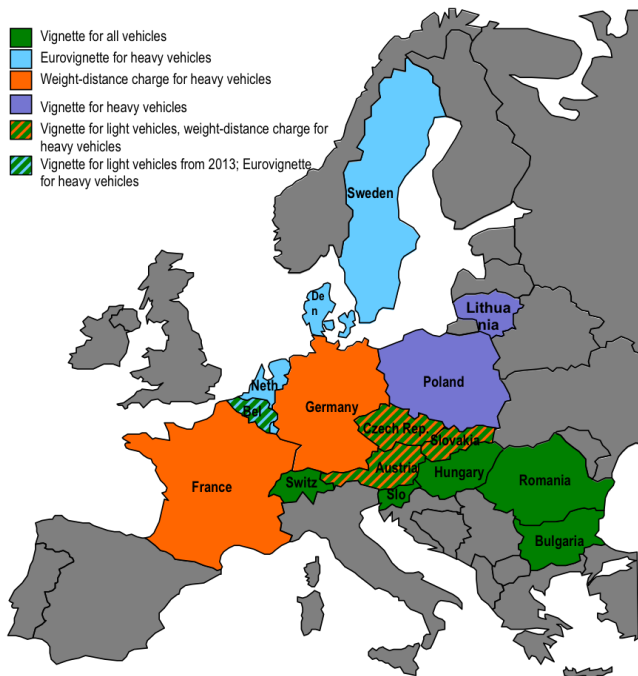


Since the Steering Committee was last briefed in 2012, there have been a few notable developments for road usage charging in other countries. This section highlights recent developments and status of RUC in **Europe, New Zealand, Australia, and Canada.**

Briefing Book for SC Meeting #1

Europe refresher: Several countries use vignettes (stickers) to charge for motorway use by visitors—an example of time-based road charging

Paper vignettes. A vignette is a windshield sticker that allows a vehicle to use certain roads in a country for a defined period. Frequent users typically buy a vignette that is good for a year, but shorter periods (down to a few days) are also available, depending on the country.



Electronic vignettes. Two countries (Hungary and Romania) have operational electronic vignettes systems. With an e-vignette, no physical sticker is required. Instead, the license plate is registered with authorities for a set number of days.

Charge for motorways only. In most countries, the vignettes are required only to use the limited-access highway system (e.g., Autobahn, Motorways, Autoroutes).

Tax out-of-country motorists. All countries that have vignettes also have fuel taxes, but as fuel prices vary across Europe, and distances are short, in many cases the fuel taxes are inadequate because foreign motorists may drive through a country without purchasing any fuel.

Non-discriminatory. EU rules require that vignettes not discriminate in design or practice. Systems must charge the same amount to everyone, regardless of nationality.

Briefing Book for SC Meeting #1

New Zealand is the largest and longest lived example of road charging for light vehicles

1978 Startup: In 1978, New Zealand introduced a road charge (known in New Zealand as RUC) on all non-gasoline vehicles as well as any vehicles over 3.5 metric tons. A paper-based scheme was adopted that uses windshield-mounted sticker licenses. At the time of adoption, the number of non-gasoline passenger cars was negligible. Today, there are about 550,000 diesel cars subject to road charges. Compliance is enforced at roadside against odometer readings, through annual safety inspections, and using a robust audit program. Police have authority to ticket motorists whose licenses are not current. Because New Zealand is an island nation, cross-border travel is not an issue.



2008 Update: In 2008, government commissioned an independent review to provide recommendations on updating policies and technologies associated with road charges. The following passage punctuates their findings: *“A good charging system should not be discarded in the pursuit of a perfect system. The policy aim should be for a system that accomplishes as many and as much of the objectives as possible at low cost and, from a dynamic perspective, is not so complicated that different parties are constantly tempted to chip away at various components and undermine it.”*

2009 Private Sector Agents: The government certifies private sector agents to handle license sales and fee collection for motorists, some of whom use electronic methods to replace paper licenses.

Briefing Book for SC Meeting #1

New Zealand is exploring new developments and improvements to its RUC program – including transitioning to an electronic system

New Zealand is now in the midst of transitioning from their earlier paper-based RUC system to allow electronic RUC reporting and payment systems.



Offering these system choices is driven by the government’s long-term goals for an open system architecture, interoperability to allow roaming throughout the country, developing the most efficient (and least cost) back office management system, and forward-compatible with advanced payment systems.

The heavy vehicles subject to RUC have been adopting electronic solutions since 2009, and penetration is now over 25%. The government is now looking at ways to enable and encourage electronic options for light-duty vehicles.

Briefing Book for SC Meeting #1

New Zealand's National Transportation Plan calls for expansion of RUC and elimination of gas tax

The National Transportation Plan identified the following goals and recommended actions:

- ▶ Investigate RUC for heavy vehicles, including levying charges by location and time, with a 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.

Briefing Book for SC Meeting #1

Australia: Nearly a decade of analysis and policy development moving toward RUC for light vehicles

Australia has been addressing RUC for the past decade, but recent years have seen growing momentum. Like the U.S., Australia collects Federal fuel taxes, a portion of which is returned to the states. States supplement federal funds with local sources of transportation revenue such as vehicle registration fees, tolling, and parking revenues.



The possible transition to a RUC system is marked by the following major recent milestones:

- ▶ In 2008, a federal commission headed by the Treasury studied all Australian taxes in an effort to simplify the nation’s tax policies. The commission recommended transportation taxes be reformed to “[give] individuals a clear signal about the cost of infrastructure, [so] they will have an incentive to use it efficiently.”
- ▶ The commission, known as the Henry Tax Review, published a report in 2010 identifying the consolidation of all motor vehicle related taxes into a single, unified charge using distance traveled as the most promising policy.
- ▶ 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.

Briefing Book for SC Meeting #1

Western Australia is investigating a heavy vehicle road charge

Main Roads Western Australia is the government agency responsible for providing passenger and freight mobility and transportation infrastructure in the state (including the large metropolitan area of Perth). In response to the heavy mining industry that dominates the economy Main Roads Western Australia is moving ahead with plans to introduce RUC for heavy vehicles that travel along a 50-mile freight route between Fremantle Port (the major export terminal for mineral commodities from Western Australia) and Perth's strategic industrial areas.

The Perth Freight Link project provides a free flowing, fully grade separated, high productivity freight roadway connection for light and heavy vehicles; and is the largest infrastructure investment in Western Australia totaling over \$1.1 billion. The project will introduce a distance-based user charge on heavy vehicles over 4.5 tons and generate revenue to repay a portion of the capital costs of the project (with the rest being provided by State and Federal contributions), and provide a sustainable source of funds to maintain and renew the corridor while providing funds for other projects to enhance road freight productivity.

The project will be implemented over the next four years with a commission date of December 2019. The nature and scope of the Perth Freight Link Heavy Vehicle Charge project is similar to systems developed for projects of a larger network scale such that the principles and issues remain the same.

Briefing Book for SC Meeting #1

Canada: Metro Vancouver looks at prospects for road use charging in wake of failed sales tax referendum to fund transportation

Current BC Premier Christy Clark pledged during election campaign in Fall 2014 that a referendum on potential new revenue sources for Metro Vancouver transportation improvements would be held. Although common in the U.S., transportation ballot initiatives and referenda rarely, if ever, take place in Canada. This referendum was to lay out a set of transportation planning principles, potential funding sources, and/or specific transportation investments for the Metro Vancouver region.

Voting took place in Spring 2015, with citizens of Metro Vancouver considering whether to adopt the Mayor's Council transportation investment plan, which outlined \$7.5 billion in transit, biking, and road upgrades aimed at reducing congestion. To fund these investments, voters were asked to approve a new 0.5 percent sales tax called the Metro Vancouver Congestion Improvement Tax.

Ultimately, voters rejected the referendum by a margin of 62-38. The result of the referendum makes it uncertain how improvements to transit and transportation will be funded over the next decade in British Columbia. Despite this setback, the Mayor's Council will consider alternative regional funding sources as outlined in the Plan.

- ▶ Mobility pricing on roads (distance or usage-based fees, similar to RUC)
- ▶ Increase to the Provincial Sales Tax within Metro Vancouver
- ▶ Land value capture
- ▶ Annual vehicle registration fees
- ▶ Increase the BC carbon tax within Metro Vancouver.

SECTION 5: UPDATING THE BUSINESS CASE ANALYSIS FOR RUC IN WASHINGTON STATE

Briefing Book for SC Meeting #1

There are several issues to address in the business case analysis update

Washington State Transportation Revenue Package

- ▶ In 2015, the Legislature passed and the Governor signed a bill to raise gasoline and diesel taxes to 49.4 cents/gallon by July 1, 2016. Implications for RUC analysis:
- ▶ How should the Steering Committee address “revenue neutral” RUC rate, now that the fuel tax rate is higher?
- ▶ What are the forecasted long-term revenues associated with this new fuel tax rate?
- ▶ The level of this increased revenue stream to be bonded is not yet known. Implications for RUC analysis:
- ▶ How much fuel tax revenue will be available for purposes other than debt service?
- ▶ What transitions from a fuel tax to RUC are feasible in light of any potential new bonding?

Federal Regulations related to CAFE standards for trucks

- ▶ EPA recently announced an extension of fuel economy standards for medium- and heavy-duty trucks through Model Year 2027, estimated to result in a 20+% reduction in fuel consumption over 2017 (over 40% improvement from today). The potential impact of these new standards on diesel tax revenues needs to be analyzed. It was not a factor in previous analyses because truck CAFE standards were very recent and expected to expire in 2018.

Changes in VMT and fuel consumption trends

- ▶ Previous RUC business case analysis relied on a range of economic forecasts including VMT, fuel economy, and fuel consumption. Updates to all of these inputs are needed.

Briefing Book for SC Meeting #1

Steering Committee members also identified many issues to address

Interviews with Steering Committee members revealed a number of questions, issues, and requests related to the RUC business case analysis. Below are key issues distilled by the project team:

- ▶ **RUC Rate.** A common request was for the Steering Committee to reconsider its previous assumption of a per-mile RUC rate that is “gross revenue neutral” with fuel taxes.
- ▶ **Tighten RUC cost estimates.** In past years, the RUC operational cost estimates ranged widely from as low as 3% to as high as 12% based on varying assumptions about how the system would work. Several members expressed interest in narrowing the analysis further.
- ▶ **Revisit forecasts of fuel consumption and VMT.** In past years, the analysis considered a wide range of possible future VMT and fuel consumption trends. Based on recent events such as dramatic declines in fuel prices, how have those forecasts changed, and how does that influence the business case for RUC?
- ▶ **Address agency responsibilities.** Especially given DOL’s technology modernization project, is it possible to more precisely characterize how a RUC system might fit within existing state agencies? If so, how does this impact costs of implementation and operations?
- ▶ **Re-consider RUC transitions.** Unless RUC revenues can be used to service outstanding fuel tax bonds, what are realistic options for a transition away from fuel tax toward RUC?
- ▶ **How long is the fuel tax viable?** Given recent fuel tax increases by the Legislature, what are the consequences of continuing with a fuel tax policy in the medium term?
- ▶ **Do more than simply “refresh” the business case.** Given some of the issues above, we may need to revisit some of the basic assumptions of the RUC business case analysis.

Briefing Book for SC Meeting #1

Possible new approaches to the business case analysis

Over the past several years, the RUC business case analysis attempted to portray a side-by-side comparison of net RUC and net fuel tax revenues based on initially revenue-equivalent RUC and fuel tax rates that did not change over the course of the analysis horizon. The purpose of this approach was to allow Steering Committee members to compare the two policies on equal footing. However, this approach had several shortcomings.

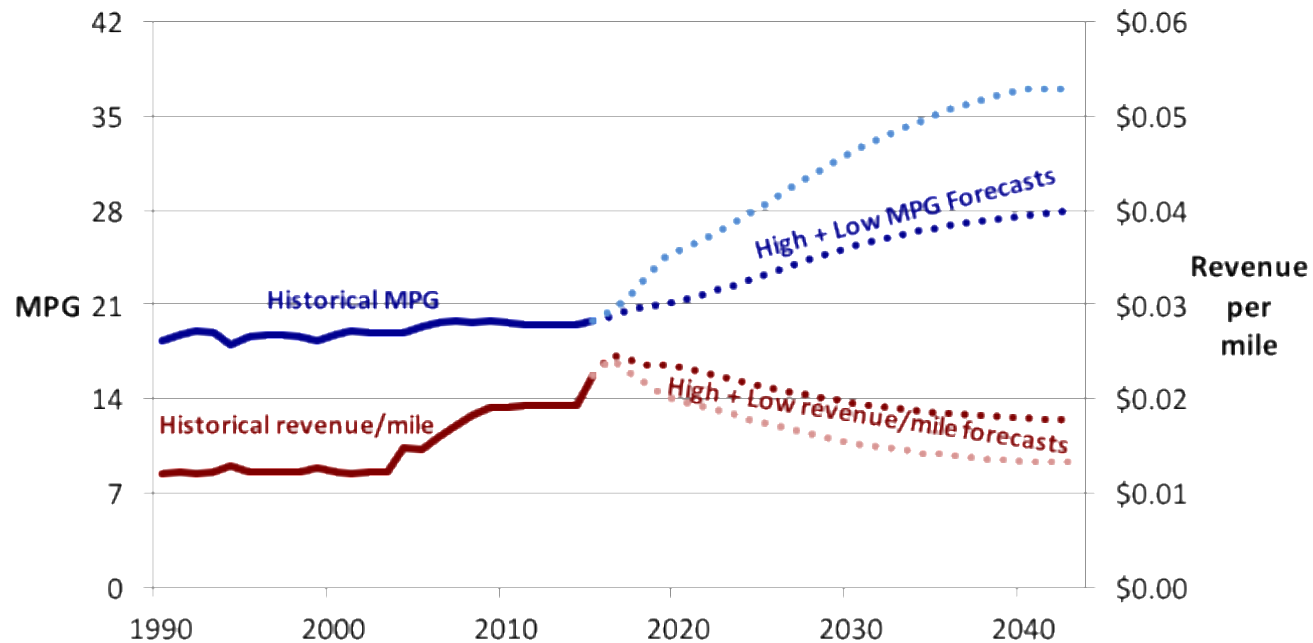
Aggregate vs. Per-Mile Revenue

- ▶ Depictions of *aggregate* net revenue relied on long-term forecasts of economic variables such as VMT and fuel consumption, which have high degrees of uncertainty. To mitigate this, the team characterized each combination of forecasts as a distinct future scenario. Key input forecast variables included the following:
 - ▶ Vehicle miles of travel
 - ▶ Fuel economy
 - ▶ Fuel consumption (note that any two of these three variables can be used to compute the third)
- ▶ An alternative approach is to present net revenue *per mile driven*. Under this approach, the total amount of forecasted VMT and fuel consumption need not be a factor.
- ▶ Regardless of the approach, we will propose to present net revenue and/or net revenue per mile driven for light vehicles and heavy vehicles separately, incorporating new CAFE standards as appropriate for both vehicle classes separately.

Briefing Book for SC Meeting #1

Example of fuel tax trend presented as net revenue per mile driven

The chart below shows an example of net revenue per mile driven, comparing MPG (upper plot line, corresponding with left axis) with fuel tax revenue per mile (lower plot line, corresponding with right axis). For example, in 2015, fuel tax will generate about 2.5 cents per mile. By depicting revenue per mile driven, the analysis need not consider aggregate VMT trends, which are subject to great uncertainty in the long term.

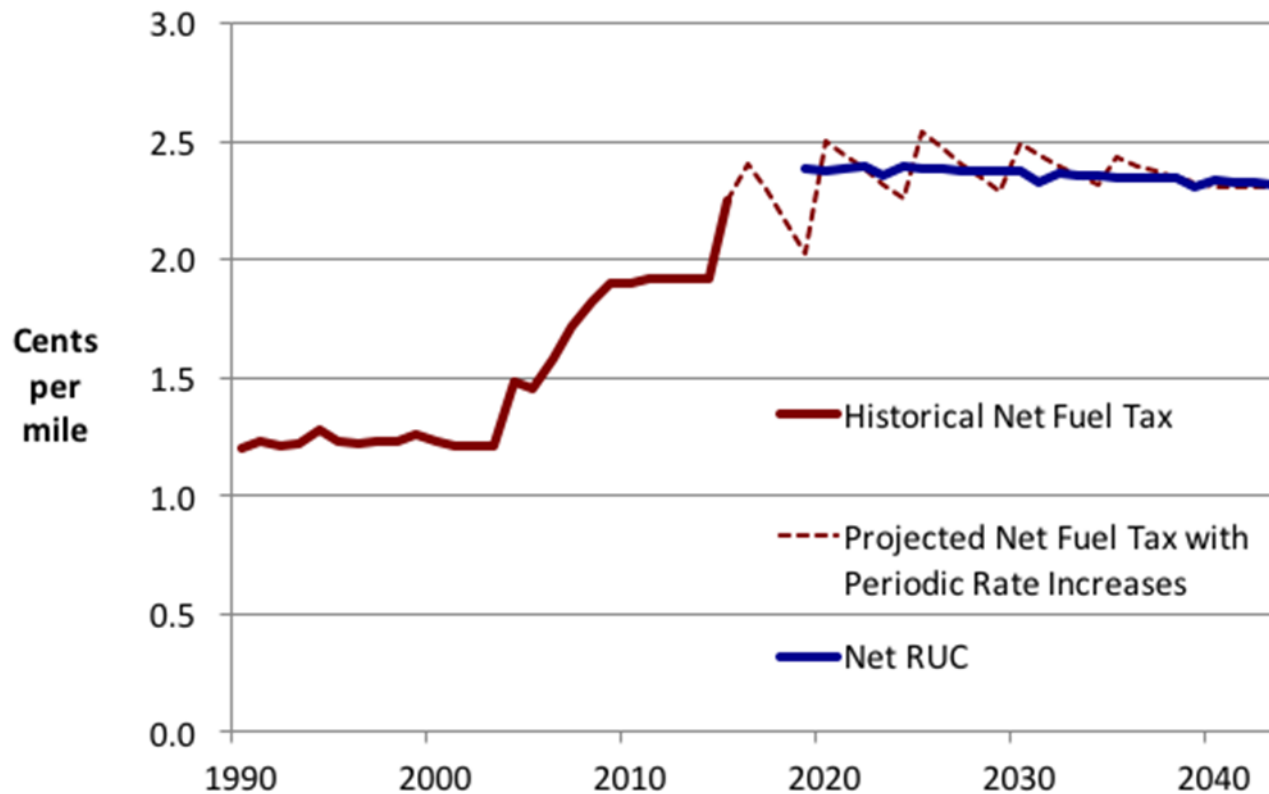


State fuel tax rate increases in 1991, 2004, 2006-2009, and 2015-2016

Briefing Book for SC Meeting #1

RUC vs. fuel tax net revenue per mile driven

The chart below depicts net revenue per mile driven of fuel tax, both historical (solid line) and projected (dotted line). Note that there were state fuel tax rate increases in 1991, 2004, 2006-2009, and 2015-2016. The chart assumes further rate increases of 13 cents in 2020, 10 cents in 2025, 8 cents in 2030, and 5 cents in 2035, ending at 85.4 cents per gallon. This results in similar net revenue as RUC under a flat per-mile rate of 2.5 cents per mile from 2019-2040 (solid, flat plot line).



Briefing Book for SC Meeting #1

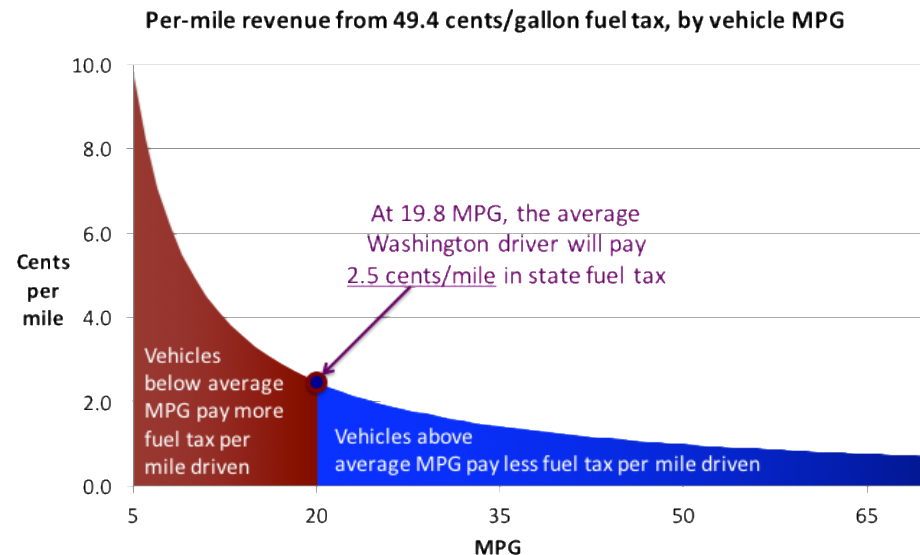
Issues for Steering Committee consideration

1. RUC rate

- ▶ Current assumption is “gross revenue neutral with fuel tax.”
- ▶ 49.4 cents/gallon is “gross revenue neutral” with **2.5 cents/mile** (see chart)
- ▶ Keep this assumption or consider others?
- ▶ Other approaches to selecting the rate
- ▶ Cost allocation-based
- ▶ Need-based
- ▶ Political negotiation

2. Fuel tax rate

- ▶ In the past, for comparative purposes, we assumed fuel tax and RUC rates would remain flat through 2040.
- ▶ Should we revisit this approach?
- ▶ **Option 1:** assume a flat 49.4 cents/gallon through 2040 and compare with a flat RUC rate
- ▶ **Option 2:** assume fuel tax rate continues to increase periodically based on historical trends and compare with a flat RUC rate



Briefing Book for SC Meeting #1

- ▶ **Option 3:** assume fuel tax rate continues to increase periodically based on historical trends and compare with a RUC rate that also increases periodically.

Briefing Book for SC Meeting #1

Issues for Steering Committee consideration...

3. Cost estimates

In order to narrow the range of cost estimates from previous years, it would be necessary to make assumptions about certain cost-influencing variables that until now have been left undecided. Below are three key assumptions that would help us to narrow the cost estimates.

- ▶ **Agency administration.** Make assumptions about agency or agencies in charge of RUC implementation and operations.
- ▶ **Private Service providers.** To date the business case has assumed that private service providers are *not* involved in RUC operations. The resulting cost estimates reflect fully a state-run system, with the assumption that any involvement by private service providers would only be pursued if it could be achieved more cost effectively.
- ▶ **Transition toward RUC.** Any assumptions about a transition toward RUC may be influenced by other considerations (such as outstanding fuel tax bonds), but they also impact cost of administration.
- ▶ **RUC operational concepts.** Reaffirm the operational concepts from last year (A, B, C, and/or D).

Briefing Book for SC Meeting #1

Issues for Steering Committee consideration ...

4. Bonding

- ▶ Assumption is that no individual vehicle pays both fuel tax and RUC.
- ▶ Depending on transition approach, fuel tax would remain in place for as long as several decades.
- ▶ Revisit these assumptions regarding a transition? Options:
- ▶ Option 1: Assume that sufficient fuel tax must be collected to cover outstanding (and any expected new) fuel tax bonds, and leave fuel tax in place for sufficient numbers of vehicles to allow for a transition that covers debt service.
- ▶ Option 2: Assume that fuel tax is always collected as a pre-payment for RUC, and the RUC operational concepts serve as a means of reconciliation (this was the assumption in last year's business case analysis).
- ▶ Option 3: Do not consider debt service needs as a barrier to transition away from fuel tax, for analysis purposes only.

SECTION 6: REVIEW OF UNRESOLVED RUC POLICY, LEGAL, AND OPERATIONAL ISSUES

Briefing Book for SC Meeting #1

Review of unresolved legal, operational and policy issues

Over the past three years the Steering Committee has explored the feasibility of a road usage charge (RUC), tested the business case and developed a Concept of Operations (ConOps). In spite of the good work done to date, numerous questions remain and there are many policy, legal and operational issues that still need to be discussed and resolved prior to initiating a RUC in Washington State.

Currently, Oregon and California continue to advance their efforts on testing RUC and Washington State will likely learn from their experiences in the coming months. The information in this section lists the policy, legal and operational issues that remain unresolved in Washington, and briefly reports whether and how other states have addressed them.

The main purpose of this section is to prepare the Steering Committee for a discussion at the October 1, 2015 meeting where members will be asked to share their perspectives on which issues should be addressed sooner rather than later to help form the basis for a work plan for 2016 and beyond.

Timeframes for current and future RUC work

The current period of work (funded by the legislature) will be carried out through the remainder December 2015. Work in 2016 (unfunded) is expected to run from Spring 2016 through December 2016.

Briefing Book for SC Meeting #1**Unresolved policy issues and approaches taken in other states**

The following unresolved issues were identified by the Steering Committee in their 2014 report and through individual interviews with members. The issues are not displayed in any priority order.

1. Transition approaches: which vehicles should be subject to RUC—at the beginning, and over time? How and when would the transition be made from gas taxes? What scenarios would result in a reasonable and sustainable transition way from the gas tax?

- ▶ **Washington:** Undecided. Considered a model year mandatory RUC (e.g., all Model Year 2020 and newer vehicles), title transaction-based transition, and registration-based transition.
- ▶ **Oregon:** Maximum of 5,000 volunteers to start. Limit on number of low-mileage (<17 mpg) vehicles. Gas tax is refunded to RUC payers; all others continue to pay gas tax. Legislature will consider options for expanding the program in 2016.
- ▶ **California:** Not yet addressed.

2. Vehicles subject to RUC: which vehicles are required to pay a RUC?

- ▶ **Washington:** only light-duty passenger vehicles. Still considering three scenarios: all light vehicles; only above average MPG vehicles; or only vehicles newer than a specific model year.
- ▶ **Oregon:** volunteers only at this stage. Considered but did not adopt mandatory RUC for all-electric and/or high-MPG vehicles.
- ▶ **California:** for volunteer pilot project, all vehicles under GVW 10,000 lbs. are eligible to participate. The California Trucking Association has volunteered to participate and will recruit medium (>10,000 lbs.) and heavy trucks (>26,000 lbs.) to participate.

Briefing Book for SC Meeting #1

Unresolved policy issues and approaches taken in other states...

3. Income Equity of RUC versus other methods: how should impacts of a RUC on lower-income communities be treated?

- ▶ **Washington:** not considered as part of RUC work plan.
- ▶ **Oregon:** no special rates or accommodations in OReGO program.
- ▶ **California:** offer road charge payment option that allows people to pay as they go (mileage permit), without use of technology or newer cars. No special road charge rates for lower-income households will be offered in the pilot.

4. Urban/Rural Equity of RUC versus other methods: how should impacts of a RUC on rural communities be treated?

- ▶ **Washington:** analysis found only small variation in miles driven between urban and rural residents. Compared to gas taxes paid, those driving older, lower-than-average MPG vehicles would pay less under a RUC if the rate is set to be gross revenue neutral with the current gas tax.
- ▶ **Oregon:** conducted statewide study and found little variation in miles driven between Western Oregon drivers, regardless of urban vs. rural, but found that Eastern Oregon drivers tend to drive more miles, although many are off road and out of state. Vehicle owners in rural counties have lower MPG vehicles on average than urban counties, thus they tend to pay more under the current fuel tax system than they would pay under RUC.
- ▶ **California:** no formal analysis has been conducted to date; analysis from Oregon and Washington have been considered.

Briefing Book for SC Meeting #1

Unresolved policy issues and approaches taken in other states...

5. Mileage-based license fee or similar RUC alternative: have all the RUC alternatives been considered to date?

- ▶ **Washington:** suggested as an alternative compatible with state's existing gas tax bond obligations. No further analysis conducted to date.
- ▶ **Oregon:** annual time permit (allowing unlimited use of roads) tested but not implemented to date.
- ▶ **California:** will test odometer charge (pay for each mile driven based on annual odometer reading).
- ▶ **Wisconsin:** Finance Commission developed framework for a low-tech, mileage-based registration fee.

6. Data security and Public Records Act: how can RUC data (including personal information) be protected in light of existing regulations under the Public Records Act?

- ▶ **Washington:** not yet considered.
- ▶ **Oregon:** personally identifying information is exempt from the state's open public records law.
- ▶ **California:** for pilot program only, volunteers must consent to share data for research purposes. Draft legislative provisions would exempt all personal information collected for road charge program from public disclosure.

Briefing Book for SC Meeting #1

Unresolved policy issues and approaches taken in other states...

7. Public perception and acceptance: how are public attitudes toward RUC at various stages of development being considered by policy-makers?

- ▶ **Washington:** not yet considered.
- ▶ **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 and telephone surveys to measure baseline public perception and opinion. Additional focus groups and participant surveys throughout the 9-month pilot test.

8. Rate-setting method for mileage charge and time permit: how should rates be set, by whom, and in what amount, especially for the fixed-price, time permit that allows unlimited mileage?

- ▶ **Washington:** not yet addressed. For analysis purposes, a gross revenue neutral rate equivalent to the gas tax is assumed for purposes of comparing and contrasting RUC against the gas tax.
- ▶ **Oregon:** legislature sets RUC rate, currently 1.5 cents per mile. Unlimited miles annual permit was priced and tested at the 98th percentile (30,000 miles/year), but not implemented.
- ▶ **California:** for light duty passenger vehicles, will test a rate set to be revenue neutral with state gas tax paid by average California motorist (approximately 1.5 cents per mile). No decision on pricing to test for unlimited miles annual permit. No decision on road charge rate to test for heavy trucks (26,000 lbs.) that participate in pilot. Assumption is that legislature will set all rates in a permanent road charge program.

Briefing Book for SC Meeting #1

Unresolved policy issues and approaches taken in other states...

9. RUC exemptions, refunds and credits: what types of vehicles should be exempt from paying a road usage charge—transit, agricultural vehicles, heavy trucks, tribal vehicles, etc.?

- ▶ **Washington:** no final decisions except that trucks subject to the truck weight fee would be exempt from RUC. Assumption is that vehicles exempt from gas tax would also be exempt from RUC.
- ▶ **Oregon:** all-volunteer program—no final decisions about which vehicles (if any) should be exempt from a potential mandatory program.
- ▶ **California:** no final decisions on road charge exemptions in a permanent program. Specifically exploring whether or how to collect road charges for mileage driven on tribal lands.

Briefing Book for SC Meeting #1

Unresolved legal issues and approaches taken in other states

1. Protection of motor fuel tax bonds: can a RUC be implemented in a manner that protects the legal obligations and ratings of current motor fuel tax bonds?

- ▶ **Washington:** initial assessment in 2014 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 potential negative impacts.
- ▶ **Oregon:** no issues related to imposing a road usage charge in lieu of the state gas tax. Bonds are backed by 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 bond obligations or credit ratings. Most California transportation bonds are paid out of general revenue.

2. Privacy issues: what options are available to protect personal privacy (collection methods, account/data security, etc.?)

- ▶ **Washington:** decided that GPS technology (which can be used to reveal location information) cannot be required in a RUC system. No further work done on this topic.
- ▶ **Oregon:** GPS technology cannot be required (i.e., no GPS mandate). Oregon laws restrict sharing of road charge information and require that all personally identifying information be destroyed within 30 days.
- ▶ **California:** GPS technology cannot be required. A time permit must be offered in the pilot as a road charge 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 and evaluations are planned.

Briefing Book for SC Meeting #1

Unresolved legal issues and approaches taken in other states...

3. Is RUC a tax or fee? if a road usage charge is a fee rather than a tax, different laws apply to how a RUC is authorized and the rate adjusted.

- ▶ **Washington:** not yet considered. Likely a legislative determination. Note that this may have implications on the ability to service bond debt with RUC revenues.
- ▶ **Oregon:** Oregon legislature considered RUC a tax, triggering supermajority requirements for its passage and any future adjustments.
- ▶ **California:** not yet ready for consideration. California’s pilot program is voluntary and does not collect real money.

4. Use and/or dedication of revenue (18th Amendment): would a road usage charge be subject to the same restrictions as the motor fuel tax under the 18th amendment of the state constitution?

- ▶ **Washington:** the decision of restricting RUC revenue for highway purposes under 18th Amendment will be made by the legislature. A road usage charge could be structured either way—as a “tax intended to be used solely for highway purposes” or as a more general tax that does not have that restriction.
- ▶ **Oregon:** by statute, the Oregon legislature has restricted the use of revenue from their RUC in the same manner as their state gas tax.
- ▶ **California:** no decision or recommendation has been made. It is recognized that this is a policy decision for the legislature to make.

Briefing Book for SC Meeting #1

Unresolved legal issues and approaches taken in other states...

5. Requiring payment from out-of-state motorists: how can the system be designed to accommodate (and enforce) RUC payments by out-of-state vehicles on Washington roads?

- ▶ **Washington:** have only decided that out-of-state motorists should pay, but have not decided how best to collect a RUC from them. Participated in WRUCC Phase I study that developed options for collecting RUC from out of state motorists.
- ▶ **Oregon:** OReGO only allows current Oregon residents to pay the RUC. Out of state vehicles continue to pay the gas tax. Oregon is collaborating with other states on how to best collect a RUC from out-of-state drivers.
- ▶ **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 a limited period of time. Both methods will be tested in the upcoming pilot project.
- ▶ **WRUCC:** the Western Road Usage Charge Consortium has completed phase I of an interjurisdictional RUC study and about to embark on phase II. The project will develop up to three methods that states could employ to collect road usage charges for travel by out-of-state vehicles.

Briefing Book for SC Meeting #1

Unresolved operational issues and approaches taken in other states

1. Mileage reporting methods: which of the options identified (Time permit; Odometer charge; Automated distance charge; Smartphone distance charge; and on-board telematics) are useful to test, considering Oregon and California are conducting RUC pilot tests?

- ▶ **Washington:** recommended pilot test of Time permit, Automated distance charge, Smartphone distance charge, and on-board telematics. May be interest to explore other approaches, such as mileage permit and mileage based license fee.
- ▶ **Oregon:** only allows automated mileage reporting, either with or without location detection (GPS). No odometer-based system, time permit or other manual method.
- ▶ **California:** will test six methods identified above plus a mileage permit where drivers can purchase a fixed number of miles as needed (e.g., sold in denominations of 1,000 and 5,000 miles).

2. System technology required to support RUC: what information technology software, hardware, and services are required to support RUC, and who is best suited to provide it—public or private?

- ▶ **Washington:** ultimately, depends upon which RUC operational concepts are selected. However, most will require at least some level of upgraded IT system at the Department of Licensing. The legislature recently funded a major upgrade to DOLs vehicle records database.
- ▶ **Oregon:** Oregon has been able to leverage their existing IT systems because ODOT already administer a state weight-mile tax for trucks. However, OReGO primarily relies on private sector account management IT services.
- ▶ **California:** actively assessing the organizational and IT capabilities and needs as part of their pilot program preparation.

Briefing Book for SC Meeting #1

Unresolved operational issues and approaches taken in other states...

3. Use of commercial account managers: Should a road usage charge system in Washington allow private account managers to be involved in measuring road use and collecting charges on behalf of the state?

- ▶ **Washington:** not yet decided. This is a key variable in the financial cost model to estimate potential cost-of-collections for each RUC operational concept.
- ▶ **Oregon:** relies on commercial account managers to a great extent. Even the state account management responsibilities are contracted out to the private sector.
- ▶ **California:** pilot will test at least two commercial account managers, and one (simulated) state account manager.

4. Scalable demonstration project options: how can the state be prepared to conduct a demonstration/pilot project in Washington, either with another state or as a Washington-only test of RUC?

- ▶ **Washington:** to be determined in 2015 funded work plan.
- ▶ **Oregon:** is considering options to test interoperability with California's pilot system. Cost sharing may be possible with Washington and/or California.
- ▶ **California:** statewide pilot project is already funded and planned to commence in July 2016. Cost sharing may be possible with Oregon or Washington.

Briefing Book for SC Meeting #1

Unresolved operational issues and approaches taken in other states...

5. Organizational design and agency roles: which state agencies should participate in the design, implementation, operations and enforcement of a road usage charge?

- ▶ **Washington:** decisions (or assumptions) must be made about which operational concepts will be provided in a RUC system, and the extent that private sector firms will be used to provide technologies or services. The Department of Licensing has been identified as an essential party to any RUC system.
- ▶ **Oregon:** Oregon DOT (ODOT) administers the RUC program. The state's Department of Motor Vehicles is contained within ODOT.

6. Interoperability with other states: should Washington develop a RUC system that is interoperable with other states?

- ▶ **Washington:** yes, but means of achieving interoperability has not been explored.
- ▶ **Oregon:** yes, ODOT has the goal to develop the commercial market for RUC services. Interoperability is a key strategy to help foster adoption by other states and services by the private sector. ODOT is conducting a peer review of their system (by WRUCC states) to ensure that the ODOT system is fully compatible with other states.
- ▶ **California:** will test interoperability as part of their forthcoming pilot test. Actively seeking Oregon RUC drivers to help test California's pilot system.
- ▶ **California:** a major work element of their pilot program is the organizational design and agency roles for their road charge program. The California DMV is viewed as an essential party to any RUC system.

Briefing Book for SC Meeting #1

Unresolved operational issues and approaches taken in other states...

7. Enforcement of mileage reporting and payment:

- ▶ **Washington:** not yet considered.
- ▶ **Oregon:** OReGO relies on electronic methods to detect incidents requiring enforcement. Statute authorizes penalties and interest for late payments and categorizes tampering with mileage recording devices or other fraudulent activities as a Class A traffic violation enforced by the state.
- ▶ **California:** since pilot project will not have volunteers make road charge payments with real currency, enforcement of road charge payments is not necessary. Considered simulation of road charge evasion in order to test the enforcement mechanism, but ultimately recommended against testing enforcement in this current pilot. Data anomalies will be investigated, but these investigations will not be treated as enforcement.

8. Refine cost-of-collection estimates: what variables must be refined, or decisions made, in order to narrow the range of potential public and private collection costs for RUC?

- ▶ **Washington:** decision on operational concepts, use of private account managers, and other factors must still be decided. This issue is a key element of 2015 (funded) work plan.
- ▶ **Oregon:** actual experience with OReGo will help calibrate cost-of-collection estimates with actuals.
- ▶ **California:** conducting a business case analysis similar to Washington. Will use pilot project data to help refine system cost estimates.

Briefing Book for SC Meeting #1

Unresolved operational issues and approaches taken in other states...

9. Interoperability with toll systems: what are the benefits and drawbacks of having a RUC system that is interoperable with Washington's GoodToGo toll system?

- ▶ **Washington:** not yet considered.
- ▶ **Oregon:** No toll systems in Oregon, so not an important consideration.
- ▶ **California:** not yet considered.

10. Effects on congestion levels in urban areas: can (and should) road usage charge pricing be designed to improve congestion levels in urban areas?

- ▶ **Washington:** not yet considered. Assumption is that road usage charge would simply replace existing gas tax, which has no region, area or zone-specific pricing intended to improve congestion.
- ▶ **Oregon:** first ODOT pilot program applied differential rates based on location of travel within Oregon, with higher rate applied in the Portland metropolitan area. However, such a variable-priced RUC system requires use of GPS or similar technology, which Oregon drivers found unacceptable.
- ▶ **California:** California authorizing legislation (SB 1077) specifically prohibits any requirement for the use of location-based technologies (GPS devices, cellular phone triangulation). This makes it extremely difficult to vary the per-mile price based on location of travel (i.e., within congested urban areas).

APPENDIX MATERIALS

Additional information about tolling in Washington State

Overview of tolling legislative authorization and governance

For nearly 80 years, Washington State has used tolling of motorists to help pay for major highway capital infrastructure projects, primarily bridges and ferries. While tolling in state dates back to 1917 when Clark and Multnomah Counties jointly constructed the Interstate Bridge across the Columbia River between Vancouver, Washington and Portland, Oregon, the State of Washington did not own and operate any toll facilities until 1937 when the state legislature created the Washington Toll Bridge Authority (TBA), empowered to finance, construct, and operate toll bridges, and in 1951, ferries. When the TBA was dissolved in 1977, the legislature divided its duties between the newly formed Washington State Transportation Commission (WSTC) and the Washington State Department of Transportation (WSDOT). WSTC determines tolls and related policies and charges for toll facilities, including the exercising of those powers as related to financing and fiscal management. WSDOT plans, designs, constructs, operates, collects tolls on, maintains, and repairs toll facilities. The Office of the State Treasurer (OST), in concert with the State Finance Committee, also plays a key role in financial planning, issuing bonds, administering debt service retirement accounts, and maintaining investor relations.

Briefing Book for SC Meeting #1

State law regarding toll facilities can be found in the Revised Code of Washington, Title 47, Chapter 56 (RCW 47.56). The following table summarizes the different roles associated and each party’s key responsibilities as they currently relate to authorizing, financing, constructing, rate setting, operating, and maintaining toll facilities.

ROLE	RESPONSIBILITY			
	STATE LEGISLATURE	WSDOT	WSTC	OST / STATE FINANCE COMMITTEE
Authorizes tolling / authorizes sale of bonds	●			
Appropriates toll revenue	●			
Sets toll rates, fees, policies, and exemptions			●	
Ensures that tolls are sufficient to meet any required obligations			●	●
Plans, designs, and constructs new toll facilities		●		
Operates and maintains toll facilities		●		
Collect tolls and maintains customer accounts		●		
Toll facility financial planning		●		●
Sell bonds / administer debt service / bond investor relations				●

Briefing Book for SC Meeting #1

Excluding ferries, the legislature has authorized five toll facilities that are either currently operating or under construction, all of which are in the Puget Sound region.

- ▶ SR 16 Tacoma Narrows Bridge (new span)
- ▶ SR 167 High Occupancy Toll (HOT) Lanes
- ▶ SR 520 Evergreen Point Bridge
- ▶ I-405 Bellevue to Lynnwood Express Toll Lanes
- ▶ SR 99 Tunnel (Alaskan Way Viaduct Replacement)

Objectives of tolling

Tolls can be implemented for a variety of purposes or objectives. Most objectives can be grouped into one of two categories which are not mutually exclusive.

- ▶ Revenue generation
- ▶ Traffic / demand management

Historically, revenue generation has been the main objective of tolling, and it continues to serve as key purpose under the notion that those who use a resource should be the ones to pay for it. Under this objective, future toll revenues are leveraged to repay bonds that are sold to provide up-front construction funding. However, the “out-of-pocket” cost of the toll also tends to suppress or divert traffic demand relative to toll-free levels. The Tacoma Narrows and SR 520 Bridges and the SR 99 tunnel are example where revenue generation is a key objective of tolling.

With the advent of electronic tolling technologies that allow for tolls to be easily varied by time of day and collected automatically without stopping at a toll booth, tolling is increasingly being used for traffic demand management purposes. During times when demand would otherwise exceed the capacity of

Briefing Book for SC Meeting #1

the roadway, causing congestion and breakdown of traffic flow, the toll is set to uphold performance targets, such as maintaining at least 45 mph at least 90 percent of the time, which tends to maximize traffic flow on the facility. The Bellevue to Lynnwood I-405 Express Toll Lanes and the SR 167 HOT Lanes apply tolls to one or two lanes adjacent to the toll-free general purpose lanes in each direction. These “choice” lanes use dynamic pricing algorithms that adjust the toll to meet the performance target, subject to minimum and maximum toll rates and carpool exemptions adopted by WSTC.

SR 520’s tolls, which vary by time of day according to a fixed schedule, were also set with traffic / demand management objectives in mind, as part of provisions under a federal Urban Partnership Agreement (UPA) which provided grant funding to implement tolling and transit improvements in the corridor. Toll scenarios being studied for the SR 99 Tunnel have likewise assumed that rates would vary by time of day to help manage demand and generate revenue.

Existing and forthcoming toll facilities in Washington State

As of October 2015, four of the five authorized toll facilities listed above are operating, with the I-405 Express Toll Lanes having just opened at the end of September 2015. Tolling on SR 99 is anticipated to begin in mid-2018 following completion and testing of the new tunnel.

Second Engrossed Substitute Senate Bill 5987, also known as the “Connecting Washington” transportation revenue package, was signed into law by governor on July 15, 2015. Connecting Washington levies additional motor vehicle fuel taxes and other vehicle fees to fund a package of capital projects. Three potential toll facilities are included in the package to receive funding:

- ▶ The I-405 Express Toll Lanes between Renton and Bellevue;
- ▶ The SR 509 extension project; and
- ▶ The SR 167 extension project.

Briefing Book for SC Meeting #1

The table below provides additional information regarding each of the eight existing, authorized, or future Connecting Washington toll facilities.

Toll Facility	Type	Status	Tolling Start Date	Toll Structure	Toll Bond Funding?
SR 16 Tacoma Narrows Bridge (new span)	Full tolling	Existing	2007	Fixed rate, collected eastbound for round-trip	Yes
SR 167 High Occupancy Toll (HOT) Lanes	Express toll lane	Existing, extension under construction	2008 (extension in 2017)	Dynamically variable rate	No
SR 520 Evergreen Point Bridge	Full tolling	Existing, replacement under construction	2011	Variable rate on a fixed schedule	Yes
I-405 Express Toll Lanes (Bellevue Lynnwood)	Express toll lane	Just completed	2015	Dynamically variable rate	No
SR 99 Tunnel (Alaskan Way Viaduct Replacement)	Full Tolling	Authorized for tolling / under construction	2018 (projected)	TBD (likely variable rate on a fixed schedule)	Legislative direction
I-405 Express Toll Lanes (Renton Bellevue)	Express toll lane	Connecting Washington project, not yet authorized for tolling	Next decade	TBD (likely dynamically variable rate)	TBD (assumed in planning study)
SR 509 Extension	Full tolling	Connecting Washington project, not yet authorized for tolling	Next decade	TBD (likely variable rate on a fixed schedule)	TBD (assumed in planning study)
SR 167 Extension	Full tolling	Connecting Washington project, not yet authorized for tolling	Next decade	TBD (likely variable rate on a fixed schedule)	TBD (assumed in planning study)