



Washington State Road Usage Charge Assessment

Transportation Commission Briefing

December 10, 2013



Washington State Transportation
Commission



Washington State
Department of Transportation

Overview of Material for Today's Discussion

- **High level overview of draft final report**
 - » Includes a response to question from last Commission meeting:
“How much gas tax increase achieves the same financial result as a road usage charge?”
- **Steering Committee direction**
- **Proposed work plan and budget**
- **Next steps**

FINAL REPORT OVERVIEW

Context

- **Last year, we found that road usage charging was feasible in Washington.**
- **This year, we tested the business case, and we:**
 - » **evaluated road usage charging policy issues**
 - » **operational concepts**
 - » **whether there was a business case**
 - » **identified implementation issues**

2013 Legislative Directive¹

- **Develop preliminary road usage charge policies that are necessary to develop the business case, as well as supporting research...**
- **Develop the preferred operational concept(s) that reflect the preliminary policies**
- **Evaluate the business case....must assess likely financial outcomes**
- **Identify and document policy and other issues that are deemed important to further refine....to gain public acceptance.**
 - » **Should form the basis for continued work...**
- **Report by January 7, 2014 (extended from December 15, 2013)**

¹*ESSB 5024 Section 205(3)*

Final Report

Table of Contents

What We Found

Executive Summary

1: Introduction

2: Policy Framework

3: Operational Concepts for Business Case Evaluation

4: Business Case Evaluation – Overview

- **4a: Forecasts**

- **4b: Financial and Non-Financial Evaluation**

**5: Policy and Other Issues That Remain and Must be Addressed
Moving Forward**

6: Proposed Work Plan and Budget for FY 2015

Appendices

A: Business Case Evaluation – Quantitative and Qualitative

B: Forecast Details

C: Road Usage Charge Administration Cost Categories

Policy Framework

Developed in a Steering Committee Workshop

- **Goal:** Identify and develop a sustainable, long-term revenue source for Washington State's transportation system to transition from the current gas tax system
- **13 guiding principles (not in priority order) on how we would implement the goal:**

<ul style="list-style-type: none">● Privacy● Transparency● Cost-effectiveness● Complementary policy objectives	<ul style="list-style-type: none">● Equity● Simplicity● Accountability● Enforcement● Data Security	<ul style="list-style-type: none">● User Options● System Flexibility● Interoperability and Cooperation● Phasing
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- **Other important factors:**
 - » Whether it is important to distinguish between travel on Washington public roads and other roads (e.g., outside the State)
 - » Whether people from outside Washington should pay

Proposed Operational Concepts Assessed in Business Case Evaluation

- **Winnowed 8 operational concepts from prior work down to three to determine a range of possibilities:**
 - » **A. Time Permit**
 - A flat fee to drive a vehicle an unlimited number of miles for a given period of time (e.g. a month or a year)
 - » **B: Odometer Charge**
 - A per-mile charge measured by odometer readings
 - » **C: Automated Distance Charge**
 - A per-mile charge measured by in-vehicle technology that can distinguish between in-state and out-of-state travel with periodic billing
 - » **Plus, combinations - A&B; A&C; B&C; A+B+C**



Business case evaluation

- **Financial and non-financial considerations**
 - » Policy makers can balance these
- **Performance criteria based on the goal and guiding principles**
- **Two key assumptions to keep the analysis simple:**
 - » Road usage charges would replace the gas tax in 2015, with little transition period
 - » Rate equal to expected gross gas tax revenue in 2015
 - » Road usage charges would apply to all vehicles that do not use diesel fuel
- **Financial model estimates costs and revenues**
 - » Road usage charges and gas taxes
 - » A range of forecast scenarios for 2015-2040

In all cases evaluated, road usage charging yielded higher net revenues for the 2015-2040 period

- We estimate road usage charging to yield up to \$2.1 billion to \$3.1 billion more than the gas tax between 2015 and 2040
- Considerable differences in the estimated costs of collection:

Concept	Cost/Revenue Ratio
A	7%
B	8%
C	12-13%
A+B+C	10%
Gas Tax	0.8% (excludes evasion)

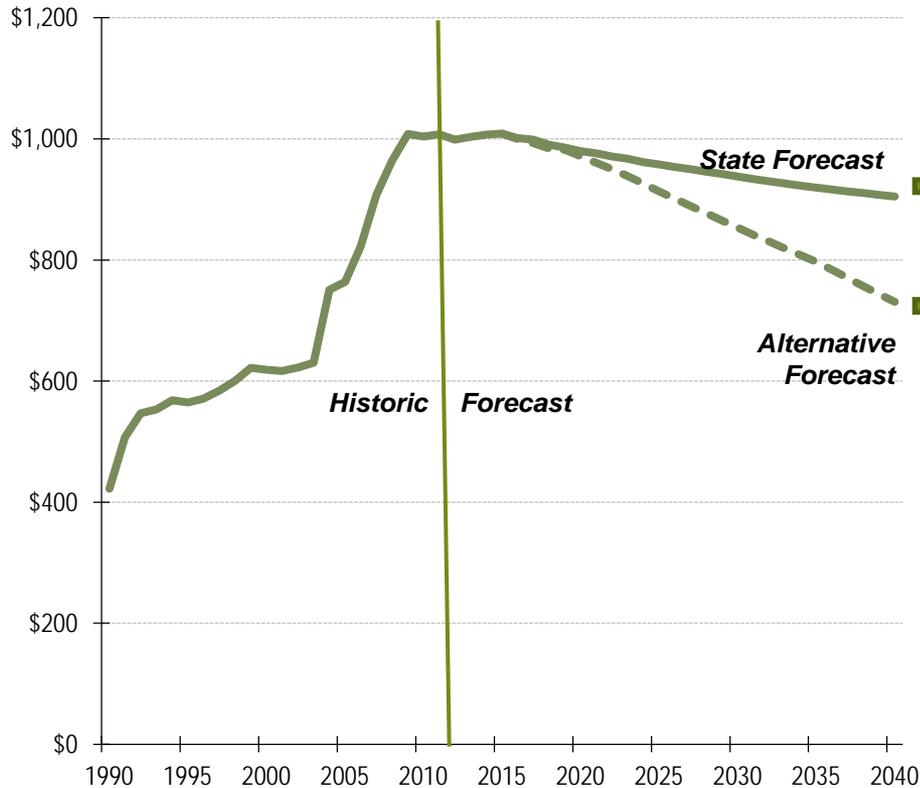
- Different assumptions could yield different results, but:
 - » None of the sensitivity tests led to better financial performance for the gas tax

None of the concepts clearly outperforms the others when considering the non-financial evaluation criteria

	Advantages	Disadvantages
Gas Tax	<ul style="list-style-type: none"> • Simple • Easy to enforce • No privacy issues 	<ul style="list-style-type: none"> • People are unaware of the tax and how much they pay (not transparent) • Imperfect proxy for road usage in that it varies greatly according to the fuel economy of individual vehicles
Concept A: Time Permit	<ul style="list-style-type: none"> • Transparent • Relatively simple • Easy to enforce • No privacy issues 	<ul style="list-style-type: none"> • No relationship to road usage
Concept B: Odometer Charge	<ul style="list-style-type: none"> • Transparent • Relatively simple • Easy to enforce • Privacy not a significant issue (but some might object to mileage reporting) • Strong relationship to use 	<ul style="list-style-type: none"> • Border residents that travel out of state or drive on private land may pay for many miles driven out of state or off public roads
Concept C: Differentiated Distance Charge	<ul style="list-style-type: none"> • Transparent • Strongest relationship to use, capturing in-state versus out-of-state travel 	<ul style="list-style-type: none"> • Less simple than others • Perception of privacy infringement • Less easy to enforce

The business case rests on the pace of fuel economy improvements

Historic and Forecast Gas Tax Revenue (millions)
FY 1990 to FY 2040



Fuel Economy Assumptions

Scenario	2040 Average mpg
2013	19.5
2040 Implied state forecast	27.7
2040 Alternative forecast	34.3

**HOW MUCH GAS TAX INCREASE
ACHIEVES THE SAME FINANCIAL
RESULT AS A ROAD USAGE
CHARGE?**

Compared a combination of Concepts A+B+C to different gas tax increase approaches

- Two views of “same financial result”:
 - » Incremental gas tax increases every five years
 - » A one-time increase in 2015 to achieve the same net present value by 2040
- The answer varies from 2.2 cents to 20.2 cents, depending on how you look at it

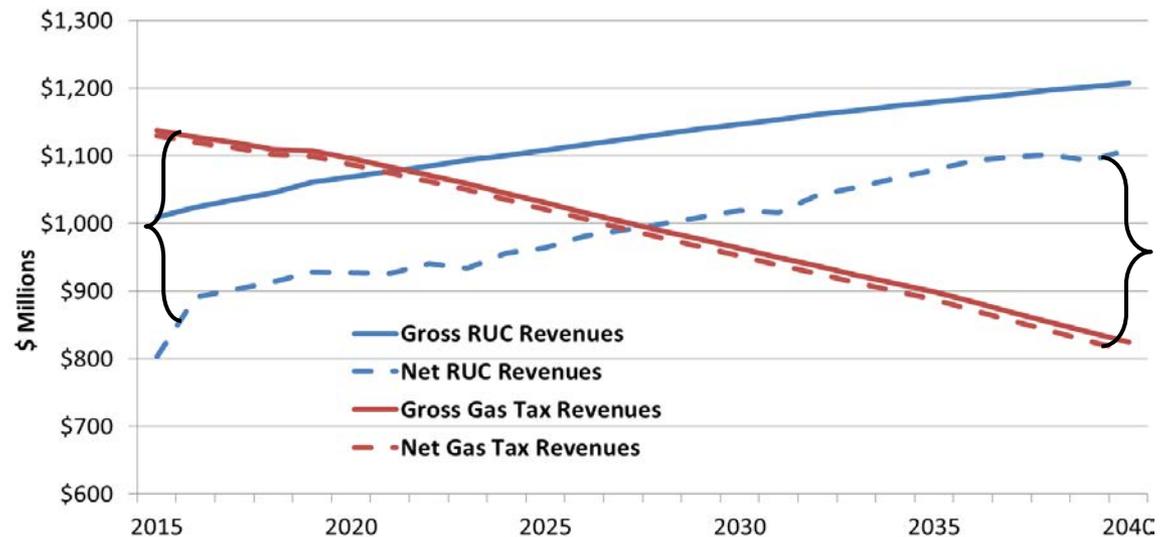
Gas Tax Needed by 2040 to Equal Net Road Usage Charge Revenue for Concept A+B+C

Fleet Fuel Economy Forecast by 2040	Gas tax increase (cents)	Gas tax amount (cents)
Incremental increases every 5 years, starting in 2022 – final amount of increase by 2040		
Global Insight Forecast (34.3 mpg)	20.2	57.7
Implied State Forecast (27.7 mpg)	9.1	46.6
One time increase in 2015		
Global Insight Forecast (34.3 mpg)	5.0	42.5
Implied State Forecast (27.7 mpg)	2.2	39.7

A single gas tax increase in 2015 can yield the same net present value as the road usage charge

- A single 5 cent increase yields considerably more than the road usage charge in the early years
- The gas tax would lag the road usage charge in later years
- But gas tax revenue will decline over time, requiring a large increase in 2040
 - » The cash flow would be heavily front-loaded

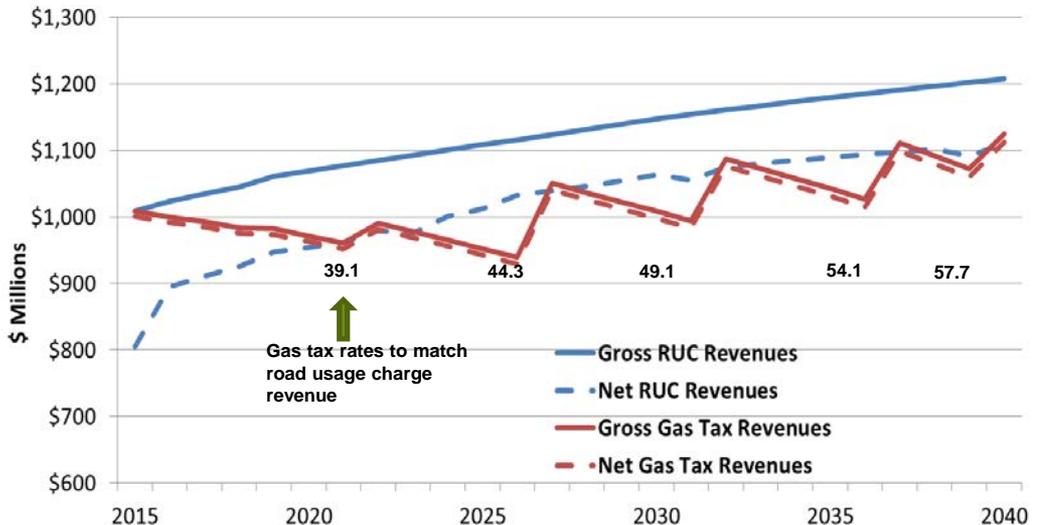
Cash Flow Comparison-34.3 mpg with a single increase of 5 cents in 2015



Incremental gas tax increases would achieve the same net present value result as a road usage charge

- Assumes first increase in 2022, when net revenue from gas tax drops below road usage charge
- Five year increment is arbitrary—many other approaches possible
- Avoids a big increase at the end
- Total increase by 2040 = 20.2 cents in increments

Cash Flow Comparison-34.3 mpg with increases every five years starting in 2022



Implications of this comparison

- **Key takeaways:**

- » Emphasizes the declining ability of the gas tax to generate a sustainable revenue stream without periodic increases
- » Emphasizes the up-front investment cost of the road usage charge approach
- » Encourages an examination of the non-financial performance criteria

- **Steering Committee's reaction:**

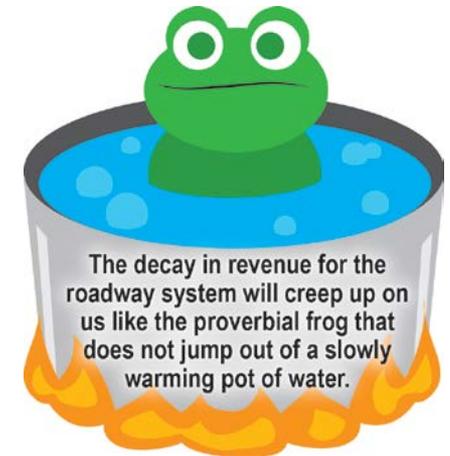
- » Increases in the gas tax will provide short term solutions, but meeting long-term needs will be challenging
- » A road usage charge is a more sustainable, and reliable revenue source that ensures everyone pays their fair share

STEERING COMMITTEE DIRECTION

Steering Committee Direction

Key Findings

- The road usage charge systems we evaluated will cost more to collect than the gas tax, but will have greater and more stable net revenue over 25 years
- Providing drivers choice as to how they pay a road usage charge will help improve public acceptance and mitigate privacy concerns
- Gas tax increases can raise more net revenue in the short term than the road usage charges we evaluated , but over the long term will continue to erode in value, thus requiring frequent increases
- A road usage charge system with choice ensures everyone pays their fair share for using the roads, regardless of fuel source or miles per gallon



Steering Committee Direction

Next Steps

- Continue these investigations so that Washington has options developed when action may be needed in the future
- Refine road usage charge concepts to address policy, technical, and public acceptance issues that have been identified

PROPOSED WORK PLAN AND BUDGET

Work Plan Objectives

- Answer some of the “parking lot” issues that guide a specific concept of operations and to inform potential legislation
- Create a detailed, refined concept of operations for a potential road usage charge system, and for a potential pilot or phased implementation plan
- Defer (until 2015) work on:
 - » Public education and outreach
 - » Rate setting
 - » Allocation of implementation responsibility among agencies
 - » Detailed technical requirements/standards
 - » Detailed transition strategy
 - » Pilot or market testing of implementation options

A “concept of operations” differs from the “operational concepts” developed for the business case evaluation

- **Provides much more detail and is sufficient to develop a requirements document**
- **Concept of operations is a formal systems engineering document:**
 - » **Defines entire operation of the road usage charging system from the perspective of the user.**
- **Expand upon the three operational concepts evaluated so far as a single integrated concept**

Task 1: Refine Policy Direction Addressing the Priority “Parking Lot” Issues.

- **Policy questions that influence concept of operations:**
 - » Which vehicles should be subjected to a road usage charge?
 - Was our assumption that “all gas vehicles should pay” a good assumption?
 - What are the implications for costs?
 - » Should out-of-state drivers be charged, and if so, how?
 - » Which Principals should be exempt, if any?
 - » How should we transition from the gas tax?
- **Policy questions that influence legislation:**
 - » What are the implications for existing and future gas tax bonds?
 - » Research urban/rural equity issues

Task 2: Develop a Concept of Operations

- **Single concept of operations for Concept A+B+C that reflects the policy recommendations from Task 1**
 - » **Develop as if for a complete system, and then potentially create a limited version for use in a pilot**
 - » **Estimate costs for updating the financial evaluation**
- **Consider, at a very high level, potential transition approaches (with further detail deferred to later phases)**

Task 3: Risk Analysis

- **Conduct workshops with State agencies:**
 - » **Inventory of technical, operational, cost, communications, and policy risks and threats to the development and implementation of a road usage charge**
- **Identify mitigation measures to alleviate uncertainty in the execution of the system**
- **Identify potential costs of risks**

Task 4: Financial Evaluation

- **Refine the financial evaluation with revised cost and revenue data based on decisions taken in Tasks 1, 2, and 3, including:**
 - » **Initial recommendations on transition**
 - » **Updated information on the costs of gas and diesel tax collection (if possible)**
 - » **Risk mitigation measures**

Task 5: Final documentation

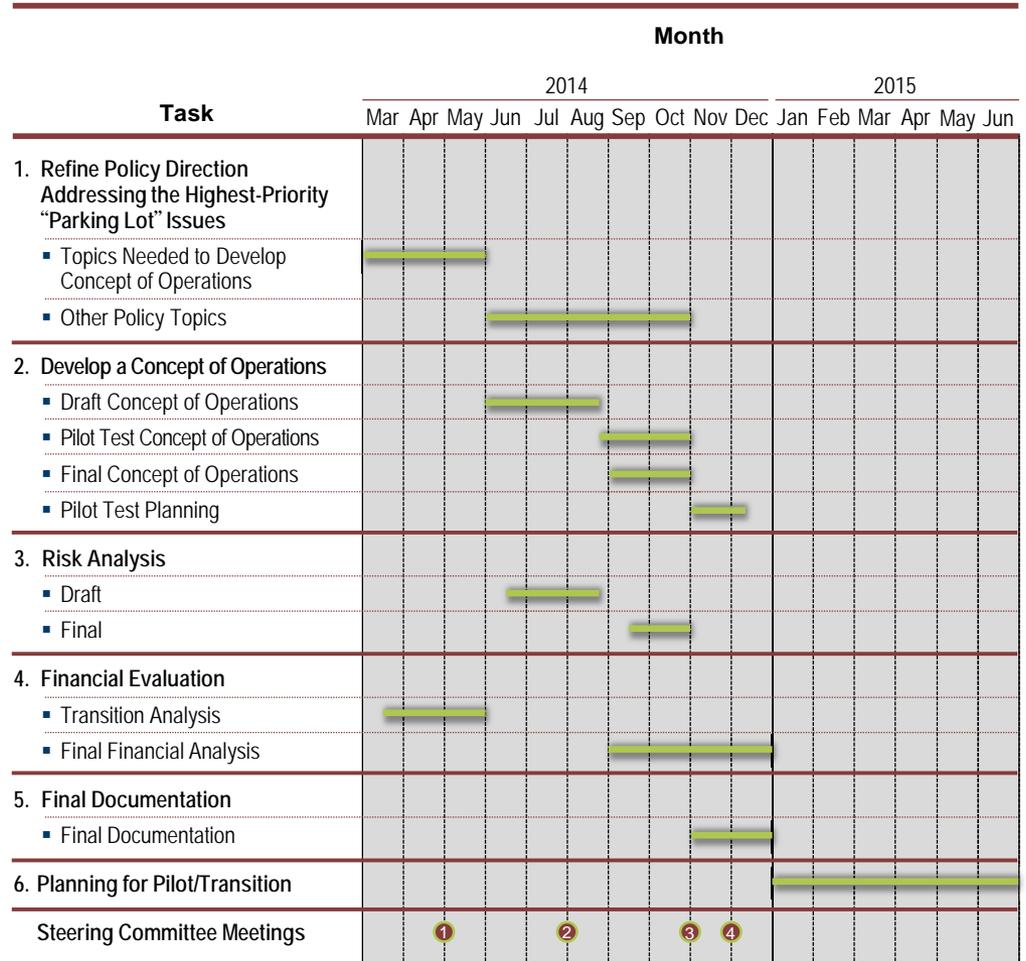
- **Produce a final report and presentations**

Task 6: Pilot Test/Transition Planning

- **Develop grant proposals for federal pilot programs**
- **Focus groups to vet the concept of operations**
- **Further planning for pilot tests or market tests**
- **Initiate transition planning scenarios**

Schedule

- First three months: policy topics needed to develop the concept of operations and initial evaluation of transition approaches
- Concept of operations, risk analysis and further policy analysis in parallel
- Financial analysis at end
- Final documentation by late Fall 2014.
- Pilot test/transition planning in early-mid 2015.



Estimated Budget

Task	March 2014- June 2014	July 2014- June 2015	Total
1. Refine Policy	\$114,500	\$ 69,400	\$183,900
2. Concept of Operations	81,600	81,600	163,200
3. Risk Analysis	-	105,600	105,600
4. Financial Evaluation	85,100	120,100	205,200
5. Final Documentation	39,800	60,700	100,500
6. Planning for Pilot /Transition	-	105,600	110,600
Total	\$321,000	\$548,000	\$869,000

NEXT STEPS

Next Steps

- **Finalize report based on today's direction**
 - » **Work with Commissioners on the Road Usage Charge team to finalize**
 - » **Submit to Governor and Legislature by January 7, 2014**
- **Present to Transportation Committees early in 2014 Legislative Session**

Thank You

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THANK YOU