Transportation Pricing and Vehicle Miles Traveled Taxation

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Transportation Funding in the Age of Fuel Efficiency

- Federal government and state fuel tax receipts are now in permanent decline
- Standard vehicles with 100 percent electric motive power entered marketplace in 2010
- Plug-in hybrid vehicles enter marketplace in 2012
- CAFE standards for 2016 and 2025 will impact the entire future fleet composition and fuel efficiency
## Effect of Improving Fuel Efficiency When State Fuel Tax and VMT Are Held Constant

<table>
<thead>
<tr>
<th>Oregon</th>
<th>Est. 2016 CAFÉ Standard</th>
<th>Est. 2025 CAFÉ Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 million auto and light truck VMT</td>
<td>1 million auto and light truck VMT</td>
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<tr>
<td>÷ 21.8 mpg</td>
<td>÷ 34.5 mpg (average)</td>
<td>÷ 54.5 mpg (average)</td>
</tr>
<tr>
<td>= 45,872 gallons of gasoline</td>
<td>= 28,986 gallons of gasoline</td>
<td>= 18,349 gallons of gasoline</td>
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<tr>
<td>× 30¢ Oregon State fuel tax</td>
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<tr>
<td>= $13,761 in nominal revenues</td>
<td>= $8,696 in nominal revenues</td>
<td>= $5,505 in nominal revenues</td>
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**Nominal Revenues**

- **Oregon**
  - 2016: $13,761
  - 2025: $5,505

**Fuel Economy**

- 2016: 34.5 mpg
- 2025: 54.5 mpg

**Gallons Consumed**

- 2016: 45,872 gallons
- 2025: 28,986 gallons

- **Est. 2025 CAFÉ Standard**
  - 2016: -37%
  - 2025: -60%
Road User Fee Task Force

Legislative Mandate

“To develop a design for revenue collection for Oregon’s roads and highways that will replace the current system for revenue collection.”
The 2006 Vision: A Pay-at-the-Pump Model

Wireless Reader

GPS Satellite

On-Vehicle Device (OVD)

Central Database

Modem

VMT Data

VMT Charge

Wireless Gateway

Service Station POS System

Service Station Building

Central Computer

Satellite Signals

VIN, VMT data, Fuel purchase amount
Assessment of Pay-at-the-Pump Model

Critique

Successful, met policy directives, yet …

- Implementation potentially complex and expensive
- Slow technological evolution
  - “Stuck in time” – a closed system
- Public concerns about privacy
  - Mandated vehicle location technology
- Public concerns about fairness and equity
- Public concerns about a costly bureaucracy
New Vision

Build Road User Charging System Upon *Existing Realities* of the Marketplace

- **No Technology Push.** Government should not mandate or push motorists to particular technologies, especially GPS.

- **An Open System.** Allow for system technologies to evolve with marketplace capabilities and motorist preferences.

- **Private Sector Administration.** Tap into market forces to allow the public to choose either government or private sector provision of data collection and payment services.

- **Motorist Choice.** Motorists should choose from several collection methods and technologies to meet individual preferences.
What is an *Open System*?

“An integrated system based on common standards and an operating system accessible to the marketplace whereby components performing the same function can be readily substituted or provided by multiple providers”

There are multiple ways to do it
**New Vision**

Integrate Road Use Charging System with Existing Technology Markets

- **Standards.** ODOT sets standards for mileage data messaging and tax processing systems
- **Certification.** ODOT engages an independent certifications agency to certify on board technologies, transaction processing and account management
- **Respect Markets.** Minimize disruption to existing markets
- **Allow Unrelated Services.** Certified service providers allowed to offer services not directly related to the road user charge
New Vision

Other Requirements for a Road Usage Charge System

- **Auditable.** Keep system fair by limiting cheating
- **Privacy.** Allow protection of personal information
- **Cost efficiency.** For motorist and ODOT
What the Public Wants

Keep it simple!

Problem
Simple is in the mind of the individual
New Vision: Motorists Choose Their Version of Simple

Mileage Collection and Reporting Options

1. **Electronic Reporting from Odometer.** Wireless transfer of mileage data directly from OBD-II port or odometer (Basic OBU)

2. **Electronic Reporting from Location-Based OBU.** Wireless transfer of mileage data from on-board unit with vehicle location capability (Advanced OBU)

3. **Flat Annual Tax.** Purchase unlimited mileage
Moving Towards Implementation
Phase One: Jan to Dec 2012

- Answer practical questions about impact of a Road Usage Charge System
  - Fleet forecast
  - Financial model
  - Transactional model
  - Urban and rural analysis
  - Organizational framework

- Conduct *Road Usage Charge Pilot Project (RUCPP)* to show how system would work
Goals for the Road Usage Charging Pilot Project

- Validate feasibility of Road Usage Charge System
- Demonstrate
  - Viability of RUC system fundamentals -- open system, motorist choice and private sector administration
  - Ability of vendor community to provide and implement key Road Usage Charge System components
RUCPP Scope

- Multiple vendors will provide COTS technologies and functional solutions for each subsystem

- Insider Volunteers
  - From ODOT, Oregon Legislature, Oregon Transportation Commission, RUFTF
  - Will pay Road Usage Charge in lieu of fuel tax

- Washington DOT and Nevada DOT invited

- Follow on tests probable
Next Phase: July 2013 to 2016

- Establish Independent Certifications Agency
- Complete System Development
  - Set standards
    - Security
    - Anti-tampering protocols
    - Accuracy
    - Finalize data messaging format
  - Auditing and enforcement
- Establish market rules
- Determine business cases
The Opportunity

- Strong policy case to begin by applying RUC to electric and plug-in hybrid vehicles

- Enactment of a small, partial program to electric vehicles will
  - Enable development of mileage tax collection system in a small risk environment
  - Enable collection system to grow as electric vehicle market grows
  - Allow motoring public to view an actual mileage use fee collection system in operation
  - Potentially provide the legislature with confidence to add vehicle groupings as comfort with mileage fee system grows
**University of Iowa Field Tests** *(completed 2010)*

- Legislation, pilot projects completed, underway and under study
QUESTIONS ABOUT THE RUCPP