Road Usage Charging

WA State Transportation Commission
February 16 & 17, 2021

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Topics

- OReGO Updates
- Local Area Pricing
- CV Ecosystem
OREGON

OReGO Updates
Oregon’s Road User Fee Task Force

Legislative Purpose

“Develop a design for revenue collection for Oregon’s roads and highways that will replace the current system for revenue collection.”

See: ORS 184.843
Oregon’s Road User Fee Task Force

Factors to be considered:
- Availability, reliability & security
- Protection of personally identifiable information
- Ease & cost
- Methods of compliance

See: ORS 184.843(8)
RUC & other funding methods

Road charging is...
• A base rate that all users pay
  Similar to fuel tax
• Not variable by time of day
  Unlike congestion pricing
• Applicable to the entire system and not just a feature or segment of road
  Unlike tolling
SB 810 (2013) - Road Usage Charge Program

Fully operational for up to 5,000 vehicles

1.5 cents per mile
Fuel tax credit
Mileage reporting choices
GPS not required
Open system
Private sector administration
Penalties for fraud
Protects personally identifiable information

myOReGO.org

- EVs enrolled in OReGO do not pay the registration surcharge (HB2017 – Eff. 1/1/2018)
- Vehicles with combined rating of ≥ 40 that are enrolled in OReGO do not pay registration surcharge
  - RUC rate indexed to fuels tax (Eff. 1/1/2020)
- Look at point of sale enrollment
Mandatory program
2021 RUFTF legislative proposal

- Mandatory for passenger vehicles, with a combined efficiency rating of at least 30 mpg, beginning with model year 2027
- Structure program to support other pricing mechanisms
- Opt-out fee
- Eliminate supplemental registration fee
- Seek federal funds for studies, pilots, etc.
- Sunset voluntary program in 2029
- Study feasibility of including commercial vehicles between 8,000 & 26,000 pounds in a pay by the mile program – either weight mile or OReGO
**Ongoing Public Education and Outreach**

- 2014 – Listening tour & focus groups – resulted in OReGO brand, website
- 2015 – Launched program; developed FAQs & blog posts
- 2017 –18 – in-person & on-line focus groups; In-The-Moment™ research on messaging – resulted in new website and messaging
- 2020-21 – Linear focus group during 6 month local area pricing pilot
RUC & other funding methods

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Local Area Pricing
STSFA Pilot: Evaluate as a local funding option

Static and variable rates

Layered options

Corridor options
STSF Pilot: Get driver feedback on experience

Pilot goals and research objectives

- Goal: ODOT understands how to scale OReGO at the local level.
  - Objective: Recruit and retain a minimum of 75 participants in each sub-pilot.
  - Objective: Collect user-experience feedback from participants throughout the pilot.
  - Objective: Evaluate the feasibility of congestion pricing/tolling.
- Goal: Pilot participants develop a new or stronger relationship to OReGO.
  - Objective: Support relationship building through research touchpoints with participants.
- Goal: Elected officials understand measures to scale OReGO.
  - Objective: Distill research information into key recommendations and considerations for future policies.
Components of a toll system largely mirror that of a RUC system

Administration

Account Management: Technical

Account Management: People

Transaction Processor

Data Collector

Back Office

Roadside Equipment
Single user account

Superior user experience

Provide choice of who manages users’ accounts

Menu and access to services

Evaluate spending to reduce administrative costs

Ease of payment for all
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RUC – Enabled by Connected Vehicle Ecosystem
New technology presents new challenges and opportunities.
How it works now

Other viable options (not in production)
- Use of OEM telematics data
- Manual reporting option
- Validation of odometer reading through odometer image capture
**Connected vehicles**

Transportation systems are becoming information systems.

Roadways are influenced by digital messages, not just physical infrastructure.

Connectivity can improve safety and mobility.

Data can support road usage charging.

OEMs changing business models.
Connected vehicles operate better in a connected ecosystem

- Technology-based road usage charging aligns with the user pays principle
- Could lower administrative costs
Connected Vehicle Ecosystem

IoT/Edge – connected devices, systems & facilities

Cloud Analytics – data processing, analytics & storage

Open Ecosystem – open development environment for 3rd party partners to deliver services & apps
Connected vehicle ecosystem
Enabling V2I, I2V, V2V, and V2X

V2X VEHICLE-TO-EVERYTHING

DIRECT COMMUNICATIONS
- USES DSRC/C-V2X
- OPERATES IN THE ITS BAND (5.9 GHz)

V2N VEHICLE-TO-NETWORK

NETWORK COMMUNICATIONS
- LTE/5G FOR V2N
- OPERATES IN LICENSED CELLULAR SPECTRUM AND OVER THE INTERNET
Open Ecosystem
Siloed to Connected
SDK/Data API Layer

Cloud Analytics
Hindsight to Foresight
Data Processing, Storage & Analytics Layer

IoT/Edge
Sense to Action
IoT API Layer
The Network Effect

Value of an asset increases with the number of people connected to it.
CVE - RUC application

Connected Vehicles

CVE
- Ingests data
- Aggregates data
- Validates
- Applies business logic
- Reports data

ODOT Administration
- Monitoring & reporting
- Resolving issues & inquiries
- Managing participants
- Accounting
- Collecting RUC revenue
- Generating business rules

Clearing house
- Collecting data
- Processing reports
- Communicating with business partners

Business Partner
- Setting up & managing accounts
- Managing claims
- Collecting RUC funds
- Reporting RUC revenue & remitting funds
Possible ITS Applications
Improving safety & mobility

- Curve warning
- Weather incident reporting
- Connected traffic signals
Future state:
Enabled by leveraging the private sector

- Emerging technology solutions (P2P payments, blockchain, etc.)
- Account administration
- Interoperability
- Integrated user experience
- Data & cyber security

🌟 = Existing applications
## What will it take?

### Draft work plan

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| 1) Implement manual reporting  
2) Collaborate on CVE (ongoing)  
3) Accept AV-RUC report & evaluate suggestions for program  
4) Finalize local pricing pilot  
5) Publish RUFTF report to legislature | 1) Certify Business Partners  
2) Conduct dealer education  
3) Conduct point of sale enrollment pilot & evaluate outcomes  
4) Complete medium duty study (RUFTF)  
5) Continue public education | 1) Evaluate blockchain for clearinghouse (RUC West)  
2) Prepare for RUC pilot using CVE  
3) Evaluate payment options for cash preferred payers  
3) Publish RUFTF report to legislature | 1) Develop requirements for vehicle transfers  
2) Conduct RUC pilot using CVE  
3) Certify new reporting options using cellular connectivity  
4) Develop certification requirements for OmniAir to use for certification of data collection | 1) Identify gaps in program that would cause implementation delays related to a mandate  
2) Implement dealer point of sale enrollment  
3) Continue public education  
4) Publish RUFTF report to legislature | 1) Finalize program changes to support a mandatory program  
2) On board new staff to support program  
3) Identify future opportunities by evaluating program through service level agreements & other protocols  
4) Prepare to transition program to final home  
5) Prepare for integration with tolling |
Lessons

- Build partnerships
- Education matters
  - Public
  - Political
- Make it seamless for the public, if possible
- Leverage emerging technologies