STATUS REPORT: WASHINGTON STATE ROAD USAGE CHARGE PILOT PROJECT (STAGE 1)

WASHINGTON STATE TRANSPORTATION COMMISSION

July 26, 2017

D'ARTAGNAN CONSULTING

Jeff Doyle, Project Manager
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TOPIC OVERVIEW

- 2017 RUC updates: legislative, federal, other states,
- WA RUC Pilot Project status report
- Highlight two important milestones:
  - Selection of private firms to provide RUC services during the pilot
  - Results of Smartphone Innovation Challenge
- Upcoming pilot project activities (August through November, 2017)

2017 UPDATES

WASHINGTON STATE LEGISLATIVE UPDATE

State appropriation of federal FAST Act grant funding:

- $550,000 appropriated in 2015-17 Supp. Transportation Budget (expired June 30, 2017)
- Remaining $3,297,000 appropriated in 2017-19 Biennial Transportation Budget (expires June 30, 2019)
- Reimbursable grant funds – WSDOT pays with their own allotment of federal funds, then requests reimbursement from FHWA for authorized RUC project expenditures

Legislative interest in addressing outstanding policy issues ("parking lot"):

- Concern expressed that policy, legal and fiscal questions are piling up and not being addressed yet
- Response: WSTC's Round 2 federal grant proposal seeks funding to fully research and analyze all 18 issues that have been identified by the Steering Committee. Policy analysis to be complete and included in Final Report.

WASHINGTON'S ROUND 2 STSFA GRANT PROPOSAL

Background:

- Federal FAST Act provided $95 million over 5 years for the Surface Transportation System Funding Alternatives Program, administered by FHWA
- Washington's Pilot Project was fully funded for Stage 1 (Final Design & Set-up)
- Remaining funding request is for Stage 2 (12-month live pilot) and Stage 3 (evaluation and reporting): $4.6 million

Summary of Round 2 Proposal:

- Added: mileage permit (removed time permit)
- Added: development and utilization of a model Privacy Impact Assessment (PIA) for RUC
- Added: participation from Idaho drivers to expand the range of jurisdictions participating in the pilot (now includes: active RUC states, other countries, non-RUC states, and WA)
- Added: requirement to complete policy analysis for all 18 policy "parking lot" issues identified by the Steering Committee

UPDATE ON RUC IN OTHER STATES

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CALIFORNIA ROAD CHARGE PILOT PROGRAM

- 9-month pilot completed in March 2017
- 5,000+ vehicles testing 8 mileage reporting methods reported 35+ million miles
- 50+ heavy vehicles tested per-mile charge as a replacement for state diesel excise tax
- Survey results
  - At end of pilot, 85% of participants satisfied or very satisfied overall
  - The number “very satisfied” increased from 37% before the pilot to 61% after the pilot
  - At end of pilot, 73% believe a per-mile road charge is a fair way to pay for road use
- Next steps:
  - California Legislature passed a package of fuel tax and registration fee increases in April
  - California State Transportation Agency final report due to Legislature this year
  - California Transportation Commission road charge recommendations due this year
  - Caltrans will use federal grant for public engagement on transportation funding, organizational design of a road charge with other state agencies, and exploration of a pay-at-the-pump option for road charge

ORe*Go*: OREGON'S OPERATIONAL RUC PROGRAM

- Two year operational anniversary on July 1, 2017 and reported "*the system works*"
- 731 RUC-paying vehicles enrolled as of July 25, 2017
- ORe*G*o provides choice of state account manager or commercial account manager, adding one commercial account manager and losing one since launch
- Majority of Oregonians in 2016 survey agreed a mileage-based system for road funding is fairer than fuel tax, registration fees or vehicle sales tax
- ODOT researching adding embedded telematics, cell phone imagery and data aggregation as reporting options
- 2017 Oregon Legislature enacted an "enhanced vehicle registration fee" that increases proportionately with MPG. However, EVs that opt to pay RUC are exempt from the fee.
- 2016 STSFA Round 1 funding allows ORe*GO to expand* technology options, improve account management and bolster public outreach
- ODOT applied for 2017 STSFA Act grant to add congestion pricing element to ORe*GO* per legislative directive

OTHER STATES

States with RUC pilots/activities:

- Colorado conducted a small scale RUC pilot (~100 participating VIPs)
- Minnesota: examining how mobility-as-a-service (MAAS) affects RUC

RUC West regional pilot:

- Active states and observer states
- Planning activities only; intended pilot launch: mid-2019 (if funded)
- Oregon and California are primary leaders; Colorado may join.

STATUS REPORT ON PILOT PROJECT PREPARATIONS

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STAGE 1: FINAL DESIGN & PILOT PROJECT SET-UP

Pilot Project Stage 1:

- Fully-funded (federal STSFA grant, in-kind, toll credits)
- Includes all work leading to launch of live pilot test

Work is organized around four major task areas:

1. Pilot Design & Set-up
2. Comprehensive Public Attitude Assessment
3. Public Communications & Participant Engagement
4. Policy Development, Oversight & Project Management

TASK 1: PILOT DESIGN & SET-UP

Completed and nearing completion:

- ✓ Technical documents (SRS, ICD, ConOps)
- ✓ Procurement of RUC Service Providers (i.e., account managers and technologies)*
- ✓ Smartphone Innovation Challenge*
- Constructing the multi-jurisdictional RUC clearinghouse function (Hub)*

To be completed by mid-November:

- Help desk and participant support
- Partnerships with DOL agents/subagents to provide in-person odometer verification
- Finalize the pilot evaluation plan

Scheduled for later:

- Organizational Design (potential roles for government, private sector in a future RUC system)

* = covered in more detail in later slides

RECONCILING RUC CHARGES AMONG MULTIPLE JURISDICTIONS

The RUC Hub:

A centralized clearinghouse that collects mileage data reported by RUC Account Managers to determine return-to-source revenue distributions to jurisdictions where miles were driven

Key features:

- Any jurisdiction that collects a RUC can participate
- Unless the jurisdictions agree otherwise, all RUC collections remain under the control of the driver's home-state account manager
- Governed by a board of public-sector agencies
- Most similar to: IFTA (fuel tax administrator for interstate trucking)

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TASK 2: COMPREHENSIVE PUBLIC ATTITUDE ASSESSMENT

Completed:

- ✓ Baseline public attitude survey
- ✓ Focus group sessions (in five regions of the state)

Up next:

- Analyzing results from survey and focus groups, and synthesizing findings in a full report

Scheduled later:

- Baseline attitudes of pilot project participants, before beginning the 12-month live test

TASK 3: PROJECT COMMUNICATIONS & PARTICIPANT ENGAGEMENT

Completed:

- ✓ Basic PowerPoint presentation (general audiences, 10 minutes or less)
- ✓ WA RUC Project Style Guide
- ✓ Pilot Project Fact Sheet
- ✓ Media response protocols
- ✓ Draft Communications Plan
- ✓ Draft Recruitment Plan

In Progress:

- 1:1 Listening Sessions

Upcoming:

- Web site changes to support recruiting phase
- New materials to support participant recruitment and enrollment (video, social media, etc.)

TASK 4: POLICY DEVELOPMENT, OVERSIGHT & PROJECT MANAGEMENT

Ongoing:

- Refinements to Policy Issue Work Plan
- Monthly project status reporting (WSTC)
- Quarterly project status and financial reports (FHWA)
- As-requested presentations (WSTC, Legislature)

Scheduled:

- Comprehensive policy issue analysis (federal funding pending)
- Steering Committee meeting: November 9, 2017

SCHEDULE & MAJOR MILESTONES

WA RUC Pilot Schedule Steering Committee Meeting

Exported on July 19, 2017 11:16:07 PM HST

INTRODUCTION OF RUC SERVICE PROVIDERS

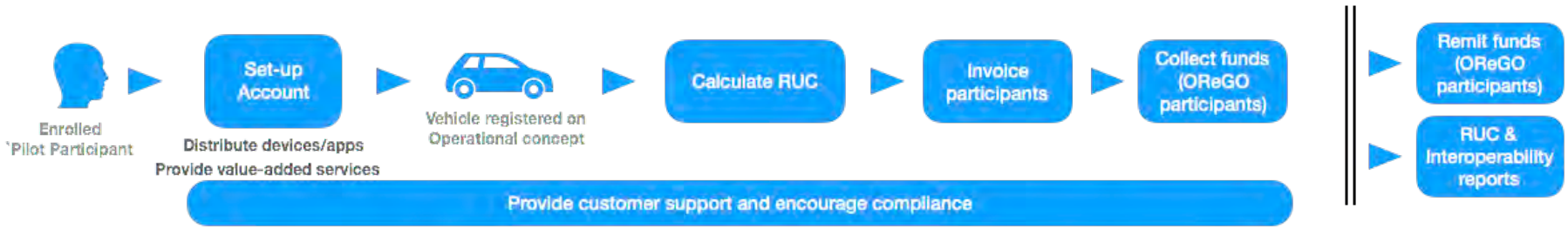
THE ROLE OF RUC SERVICE PROVIDERS IN THE WASHINGTON PILOT PROJECT

Provide end-to-end Account Management services

- Manage pilot participants accounts and provide on-going customer support
- Support and distribute mileage reporting technologies (devices or apps)
- Provide value-added services
- Calculate Road Usage Charges and provide RUC receipts/invoices
- Encourage compliance of pilot participants

Report to the RUC Administration

- Remit funds (for OReGO participants)
- Provide periodic RUC and interoperability reports



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APPROACH TO RUC SERVICES

Five Operational Concepts

- Two manual concepts:
  - Mileage Permit and Odometer Charge
- Three automated concepts:
  - Automated Distance Charge (location)
  - Automated Distance Charge (no location)
  - Smartphone Location Application

Two Service Providers

- One Service Provider to cover all five concepts
- A second Service Provider to cover three of the five concepts

"Single-Sign-On":

Centralized WARUC pilot participant account with single-sign-on system.

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RUC SERVICE PROVIDERS

Shortlisted Service Providers with RUC experience

- Azuga
- emovis
- Intelligent Mechatronics Systems (IMS)

Key features across proposals

- Certifications from previous RUC pilot projects
- Coverage of all operational concepts
- Support reliable mileage reporting technology for automated concepts
- Use of mapping technology that differentiates between private and public road networks

SERVICE PROVIDER: AZUGA

Key features

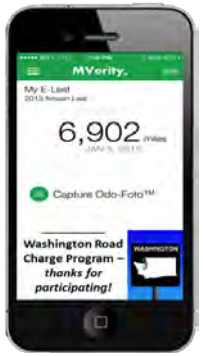
- Integrated Azuga RUC Platform
- Digital Wallet system
- 8 UBI oriented value-added apps for end-users
- Google maps or HERE maps

Technology providers

- Danlaw (Azuga) OBDII device
- Vehcon MVerity odometer capture app

azūga

vehcon



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SERVICE PROVIDER: EMOVIS

Key features

- Modular open platform
- 24 UBI oriented value-added apps for end-users
- OpenStreetMap for public/private road differentiatior

Technology providers

- Automatic OBDII device (with location)
- IMS OBDII device (no location)
- Vehcon's MVerity odometer capture app

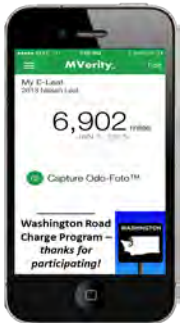
SERVICE PROVIDER: IMS

Key features

- Modular open platform
- 10 UBI oriented value-added apps for end-users
- OpenStreetMap or HERE map for public/private road differentiation

Technology providers

- IMS OBDII device
- IMS odometer capture app
- Vehcon MVerity odometer capture app



SMARTPHONE INNOVATION CHALLENGE

SMARTPHONE CHALLENGE BACKGROUND

Why a crowd-sourced approach to providing a smartphone app for RUC?

- There's no strong business case for a private firm to develop an app that taxes drivers by the mile – at least not currently.
- Past efforts to use smartphones for active mileage recording have been disappointing.
- A crowd-sourced approach is more likely to give greater weight to consumers' needs and preferences than a traditional, government-issued "build to spec" solution.
- Codefests and "hackathons" are extremely cost-effective.

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THE SMARTPHONE CHALLENGE: PROBLEM THAT MUST BE SOLVED

*Can IT engineers, software developers and designers create a prototype solution (software or device) for mileage reporting by **smartphone**?*

- Allows drivers to use their own smartphone to record and report mileage
- Allows drivers to decide whether or when to enable location-based services (GPS)

CoMotion (UW organization that matches private industry with public research) helped support four research teams:

COMOTION
» Your Innovation Partner

ELECTRICAL ENGINEERING

Information School
UNIVERSITY of WASHINGTON

HCDE Human Centered Design & Engineering
University of Washington

HCDE Human Centered Design & Engineering
University of Washington

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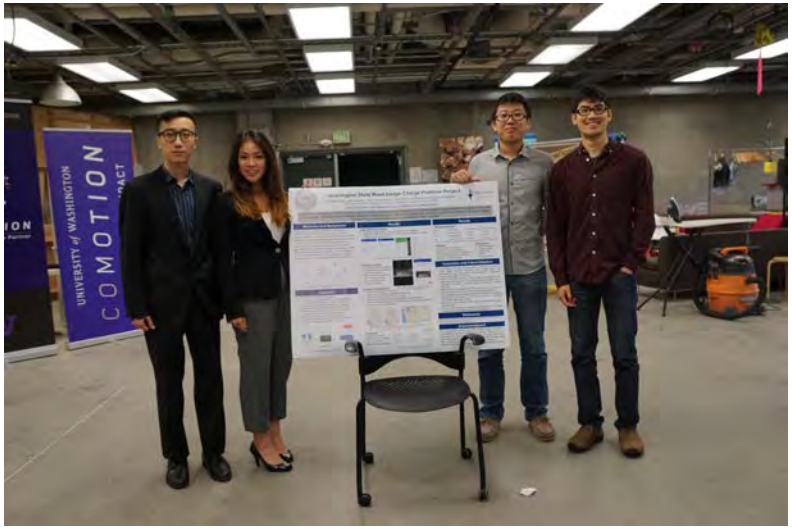
UW ELECTRICAL ENGINEERING DEPARTMENT TEAM

Developed a smartphone app for the Android operating system

Primary innovative contributions:

- Toggle on/off location-based (GPS) mileage recording, to ensure out-of-state miles are deducted from a drivers' RUC account
- *Border Proximity Detection*, where an audible sound reminds drivers to activate the out-of-state mileage deduction feature as the vehicle approaches a state border. Or, the driver can select "automatic" mode, where the app turns on out-of-state mileage deduction automatically when it detects a state border has been crossed.



UW INFORMATION SCHOOL (iSCHOOL) TEAM

Developed an iOS app: *WARUC*, now available in Apple's App Store

Primary innovative contributions:

- Simple, "no-look" swipe on the smartphone screen to activate or deactivate mileage recording
- Full-functioning WARUC app available for download in Apple's App Store (free)

Information School
UNIVERSITY of WASHINGTON

https://youtu.be/Z49JwJyzac0

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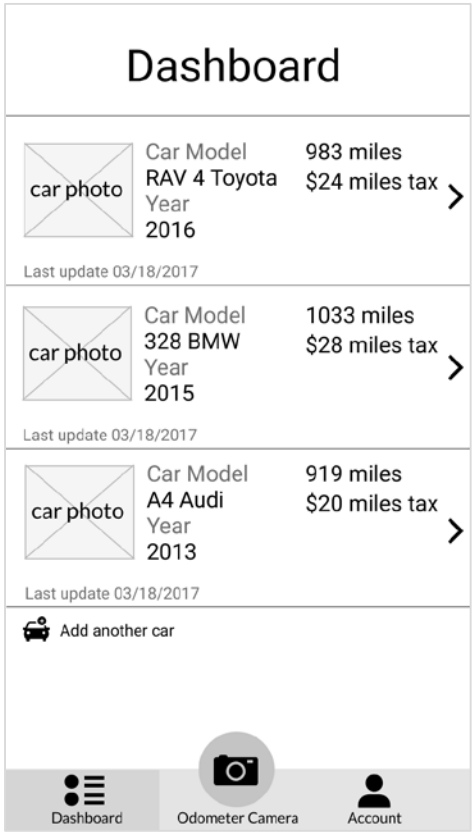
UW HUMAN CENTERED DESIGN ENGINEERING TEAM 1

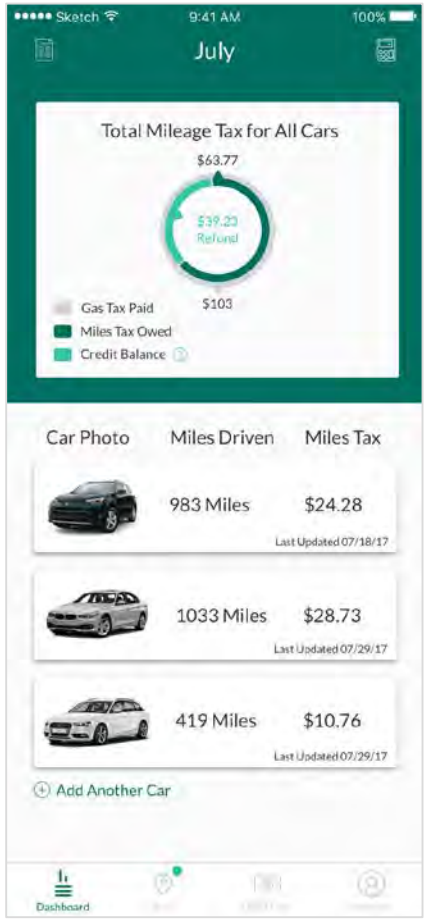
HCDE Human Centered Design & Engineering
University of Washington

Focused on smartphone app design that appeals to the average driver

Primary innovative contributions:

- Extensive driver surveys (102 responses) and in-person interviews (8 people) to identify preferences of the average driver
- Clever “explainer video” to help drivers learn the primary reason for RUC, and how the smartphone app is used





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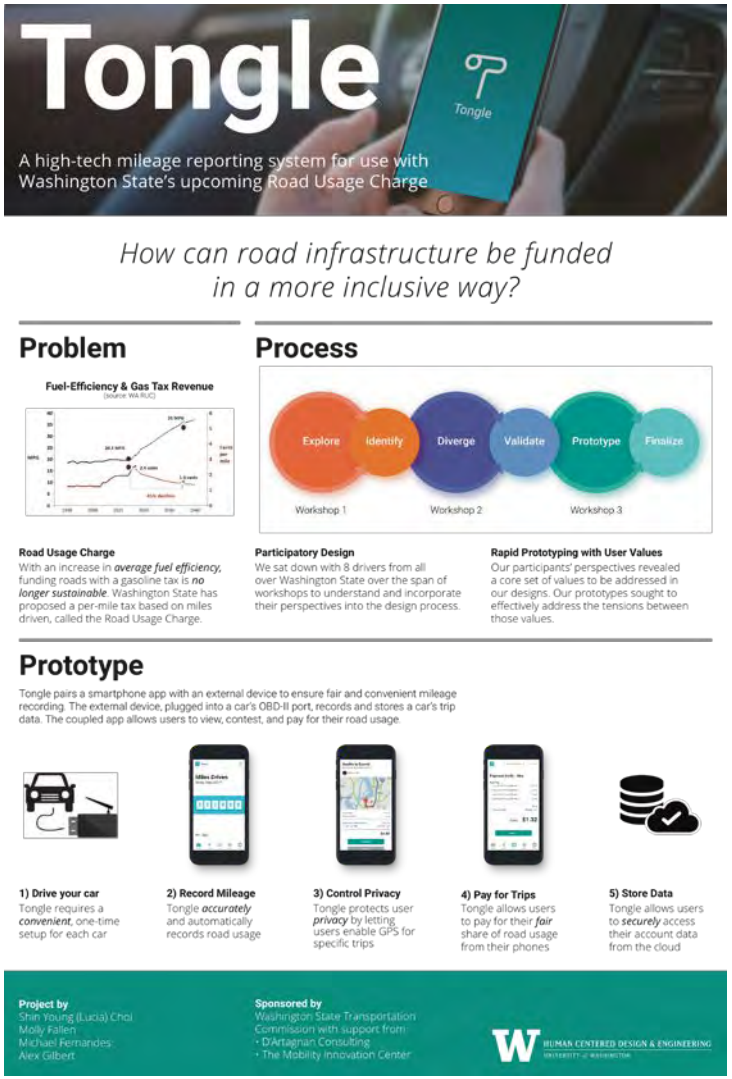
UW HUMAN CENTERED DESIGN ENGINEERING TEAM 2



Applied "Participatory Design" principles to balance individual preferences with revenue collection needs

HCDE Human Centered Design & Engineering
University of Washington

Primary innovative contributions:

- Three interactive workshops with 8 volunteers guided all design choices
- Drivers can choose to categorize their trips to self-analyze (and economize) their driving habits
- Drivers can quickly and easily "*Contest this Trip*" through a drop-down menu, requesting their RUC account manager to fix any incorrect mileage

https://youtu.be/OKMhZurVVe4

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PREVIEW OF UPCOMING ACTIVITIES

UPCOMING PROJECT MILESTONES

Stage 1 Milestones (August – November 2017)

- Decision by FHWA on Round 2 STSFA Grant Funding (funds live pilot, evaluation and reporting)
- Web site refresh
- Begin participant recruitment activities
- Provide active assistance to British Columbia and Idaho participants
- Testing of all devices, account services and customer interface/support
- Establish partnerships with DOL agents/subagents located near participants that choose in-person odometer validation method

THANK YOU

Consultant support provided by: