

NCSL ROAD USAGE CHARGING SUMMIT

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June 27, 2022

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RUC Functions

What does it take to
put a road usage
charge in place?

Nine essential functions of a RUC system



Identify subject vehicle & owner/lessee—connect with vehicle registry & set up account



Generate road usage data for subject vehicle over designated time—report data



Access road usage data—receive reporting of road usage data



Apply per-mile charging rates—process data to determine amount of charges



Provide invoice to owner/lessee—issue notice of the charge



Collect payment—provide one or more ways to pay



Issue acknowledgement of payment—create a receipt



Enforce payment—apply mechanisms for ensuring everyone pays



Remit revenue to appropriate fund—integrate revenue collection with financial systems

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Mileage Reporting

What are the choices for collecting mileage data?

Currently viable RUC systems in the U.S.



Low tech

- Builds on existing DMV systems
- Odometer readings manually reported
- Government operated



High tech

- Account-based
- Data collected via automation
 - Plug-in devices
 - In-vehicle telematics
- Private sector operated

Spectrum of reporting options



Odometer
reporting



Odometer image
capture



Smartphone app



In-vehicle devices

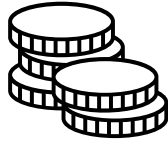


Automaker
telematics

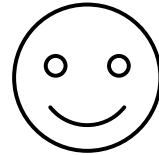
Key considerations



Privacy



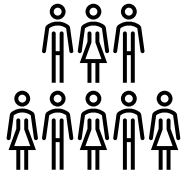
Cost



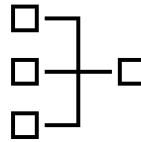
Simplicity



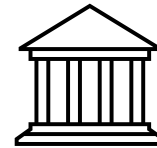
Compliance



Accessibility



Interoperability



Ease of
administration

Odometer reporting



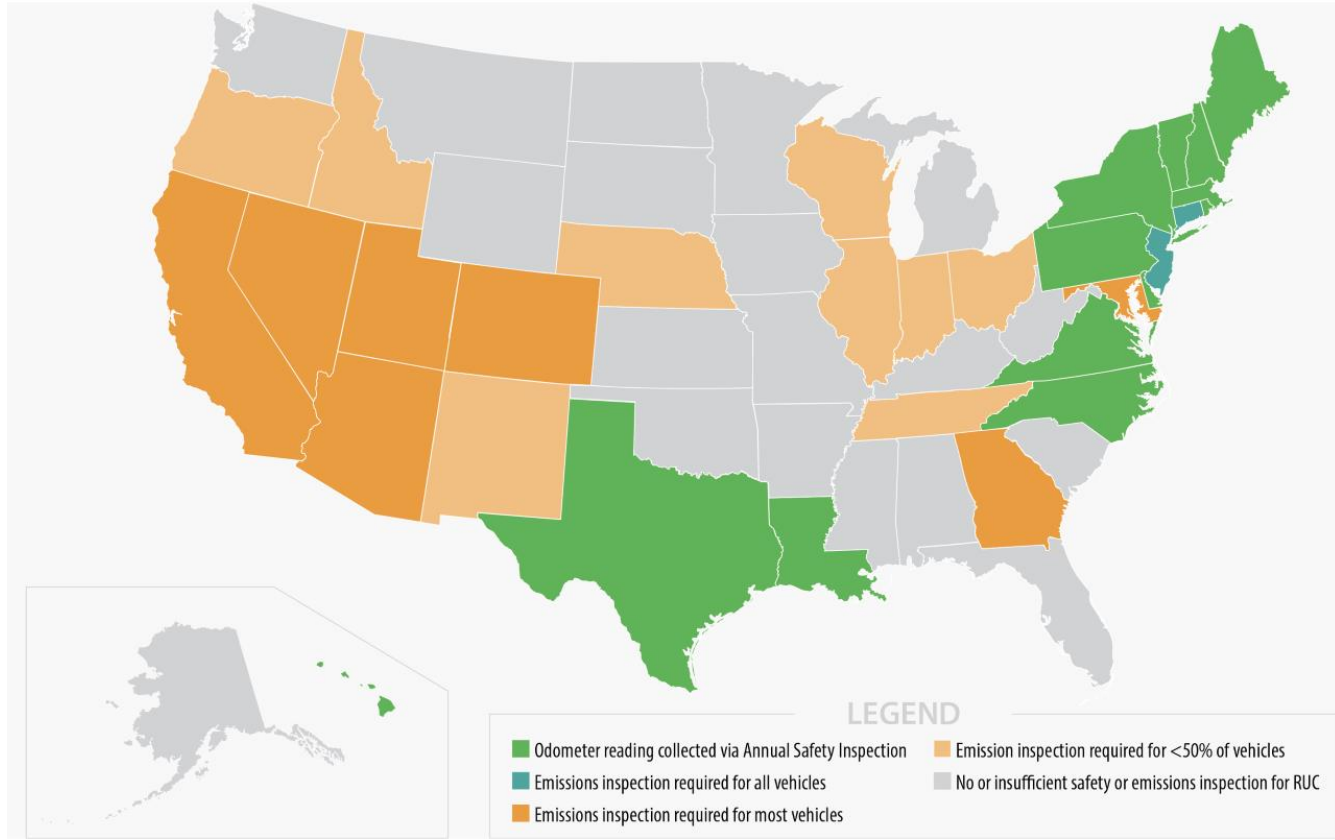
Two flavors: self-reported or third-party verified

In use: New Zealand

Tested: Hawaii, Washington

- Privacy** ✓ Maximum privacy protection
- Cost** ✓ Low cost on par with vehicle registration fees
- Simplicity** ✓ Simple for vehicle owners
- Compliance** ❖ Possibility for fraud
- Ease of administration** ✓ Works easily with DMV systems
- Accessibility** ❖ Requires working odometer, long payment intervals
- Interoperability** ❖ Cannot distinguish miles by location

Odometer reporting



Odometer image capture

Like mobile check deposit, works via any web-connected mobile device

In use: Oregon, Utah

Tested: California, Hawaii, Washington, Eastern Transportation Coalition

- Privacy** ✓ Strong privacy protection
- Cost** ✓ Low cost on par with vehicle registration fees
- Simplicity** ✓ Simple for vehicle owners
- Compliance** ✓ Fraud protection measures available
- Ease of administration** ✓ Works easily with DMV systems
- Accessibility** ✓ Short payment intervals possible
- Interoperability** ❖ Cannot distinguish miles by location

Odometer image capture

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Smartphone app

Using a smartphone alone to report mileage has promise, challenges
Tested: California, Washington

- Privacy** ✓ User control over privacy
- Cost** ✓ Low cost on par with vehicle registration fees
- Simplicity** ✓ Simple for most vehicle owners
- Compliance** ✓ Susceptible to gaps in reporting
- Ease of administration** ✓ Not dependent on vehicle registration
- Accessibility** ❖ Short payment intervals, requires smartphone
- Interoperability** ✓ Can distinguish miles by location

Smartphone app



In-vehicle devices

In use: Oregon, Utah

Coming soon: Virginia

Tested: California, Washington, Hawaii, Colorado, TETC

- Privacy** ✓ User control over privacy
- Cost** ❖ Costly to deploy today and at small scales
- Simplicity** ✓ "Plug it in and forget it"
- Compliance** ✓ Tamper-evident
- Ease of administration** ✓ Not dependent on vehicle registration
- Accessibility** ❖ Available on cars since 1996, some EVs not covered
- Interoperability** ✓ Can distinguish miles by location

Automaker telematics

In use: Utah

Tested: California

- Privacy** ? Potential for user privacy control
- Cost** ? Holds promise for low-cost data
- Simplicity** ? Holds promise for little user actions required
- Compliance** ? Holds promise for accurate, tamper-proof data
- Ease of administration** ? Not dependent on vehicle registration
- Accessibility** ? Available on almost all new cars
- Interoperability** ? Has potential to distinguish miles by location

Automaker telematics

Gaps

- Widespread interest, cooperation from automakers
- Understanding of range of possible business models
- Standard formats for reporting vehicle data for tax purposes

Opportunities

- Agency-automaker engagement to develop standards, conduct tests
- Laws directing state agencies to engage with automakers
- Standards for vehicle data ownership and usage

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Making Choices



Spectrum of reporting options



Odometer reporting



Odometer image capture



Smartphone app



In-vehicle devices



Automaker telematics

Spectrum of reporting options



Low tech



High tech

"High tech" contracting considerations

Don't

- X Pick a technology
- X Lock in with one vendor
- X Work in isolation
- X Wait for the federal government to "figure it out"

Do

- ✓ Set open standards
- ✓ Create an open market
- ✓ Collaborate with other states
- ✓ Leverage federal support to craft solutions that work across the states

Mileage-reporting elements of enabling law

- Direct one or more state agencies to develop mileage reporting solutions
- Prescribe characteristics that matter in your state, e.g., at least one method that does not require location data
- Authorize innovative contracting approaches to ensure evolution in technology, business models
- Require automaker participation by making miles driven data available to authorized agency for specific purposes

A faded, blue-tinted background image of a busy city street with cars, buses, and a train on an elevated track. A yellow crosshair is visible in the upper left quadrant.

**Questions
are
Welcomed**