



Road Usage Charging in Oregon

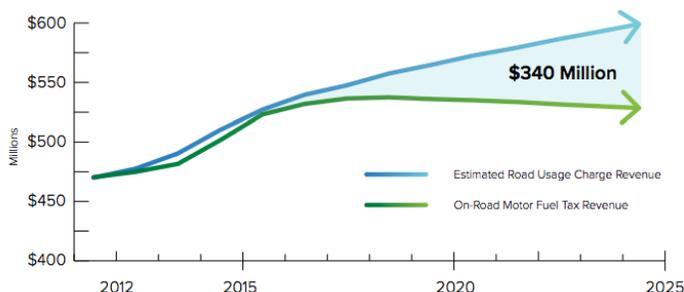


In 2015, the Oregon Department of Transportation set out to demonstrate a fair and sustainable way to fund road maintenance, preservation, and improvements throughout the state. ODOT partnered with a team including ClearRoad to deliver the OReGO system to work with a growing share of Oregon's vehicles.

The Funding Problem

U.S. road infrastructure has seen chronic underfunding, with a backlog of nearly \$1 trillion. Fuel taxes, the primary funding mechanism for roads, have stagnated due to inflation, increasing efficiencies and labor costs.

With fuel taxes bringing in less than half their 1990 value, Oregon was early in seeing the need for a new funding paradigm to avoid further shortfalls in the state's road budget. With state policies pushing EVs in the state, this funding hole will only deepen.



Oregon's Expected Losses from Relying on Fuel Taxes

We dug into the analysis on gas taxes, looked at electric vehicle adoption rates, and sort of came to [Road Usage Charging] as the obvious conclusion

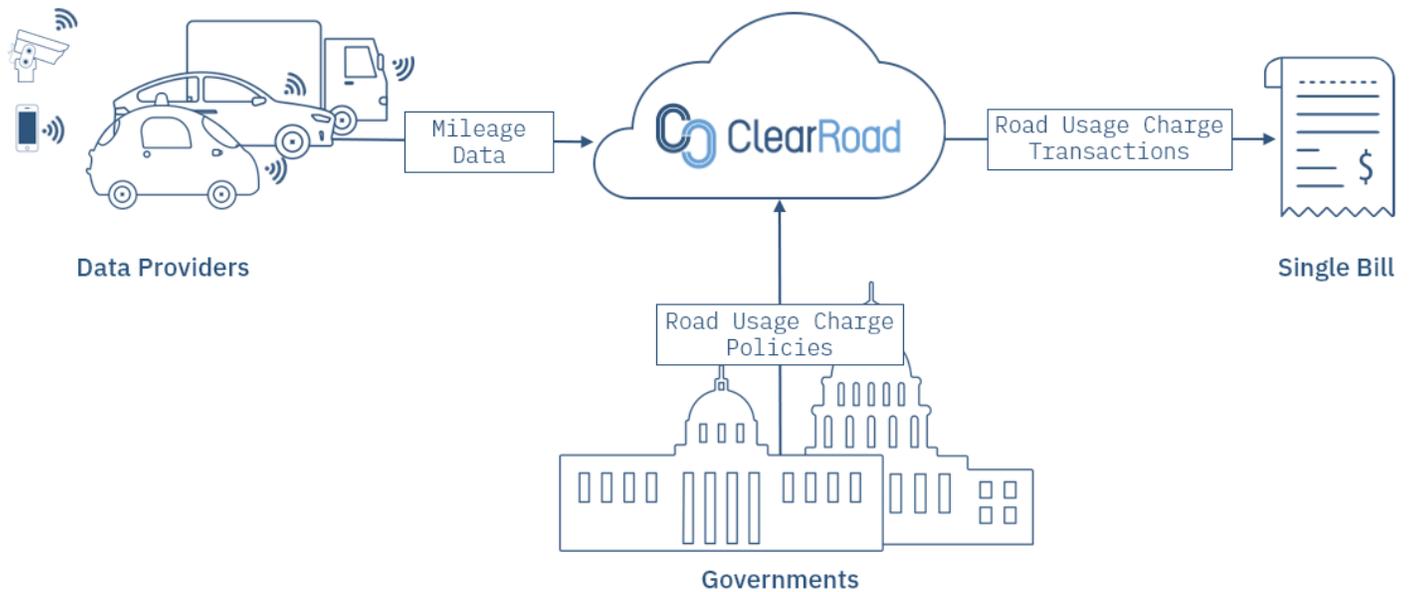
- Robert Atkinson, former head of the National Surface Transportation Infrastructure Financing Commission

Road Usage Charging (RUC)

For over a decade, Oregon has been exploring Road Usage Charging (RUC) as the road revenue source of the future. Also known as vehicle miles traveled, road pricing, or mileage-based user fees, these per-mile or usage-based schemes reestablish the linkage between driving and charges for roadway use.



Launching OReGO in 2015, Oregon set up an inflation-adjustable 1.7-cent per-mile fee, normalizing to the average monthly contribution to fuel tax of the state's drivers. 1,000 early adopters from all regions of the state, driving a wide variety of vehicles, from 1988 Dodge Dakotas to 2016 Toyota Prius received monthly bills for their per-mile usage, while being reimbursed for estimated taxes paid at the pump.



Architecture of ClearRoad's Road Usage Charging Platform

The ClearRoad Platform in Action

ClearRoad's RUC platform is architected for maximum flexibility based on the perspective that states should determine program design rather than the limitations of proprietary & legacy technologies. The platform's adaptability is demonstrated in multiple components:

- An **Open API** that seamlessly pulls mileage data from a wide range of connected & IoT devices, including many already in vehicles
- A **Geoprocessing Engine** that allows managers to define boundaries, times, and fees instantly
- A standardized **RUC Transaction Ledger** that can output to any existing or new billing and reporting systems

To ensure that drivers in OReGO and similar programs have multiple options for participation, ClearRoad works with high-tech, low-tech, and *no-tech* options for reporting mileage. These include embedded and plugin devices connecting with cellular or Bluetooth, smartphone apps, monthly permits, and even in-person reporting.

Note that certain features, such as excluding out-of-state driving, require high-tech reporting solutions.

Additional features that ClearRoad provides for these and other RUC programs include:

- Secondary compliance with smartphone OCR odometer readings
- Jurisdiction- and area-based pricing
- Location-mileage reconciliation
- Vehicle make & model program differentiation
- Trip data validation and auditing logs

The Future of Road Usage Charging – EVs and Local RUC

The OReGO program is poised to grow in meaningful ways. Beginning January 2020, OReGO transitioned to efficient vehicle participation only, so that owners of EVs or 40mpg+ cars and light-duty trucks are required to either pay a surcharge on their annual registration or join the OReGO program and pay by the mile. For most drivers, OReGO enrollment will represent the cheaper option.

In 2020 OReGO will also explore more fine-grained and sophisticated pricing mechanisms through Local RUC, which encompass a series of surcharges on OReGO's standard per-mile fee for driving in and around Portland, OR. These mechanisms are supported by ClearRoad platform out-of-the box.