

Funding the Road Ahead: The Transition to Road Usage Charges (RUC)

An Executive Landscape Analysis of STSFA pilots, state legislation, and the shift from 'Pay at the Pump' to 'Pay for the Mile.'

Based on data from the FHWA Independent Evaluation, NCHRP Guide, and NCSL Legislative Reports.

Executive Summary: The Gas Tax has reached its functional limit.

RUC is the leading alternative, but implementation carries heavy friction.

The Inevitability

Vehicle efficiency has broken the user-pay model. Gas tax revenues are decoupling from road usage, necessitating a structural shift.



The Solution

Road Usage Charges (RUC)—also known as MBUF or VMT taxes—restore the user-pay principle by charging for miles driven rather than fuel burned.

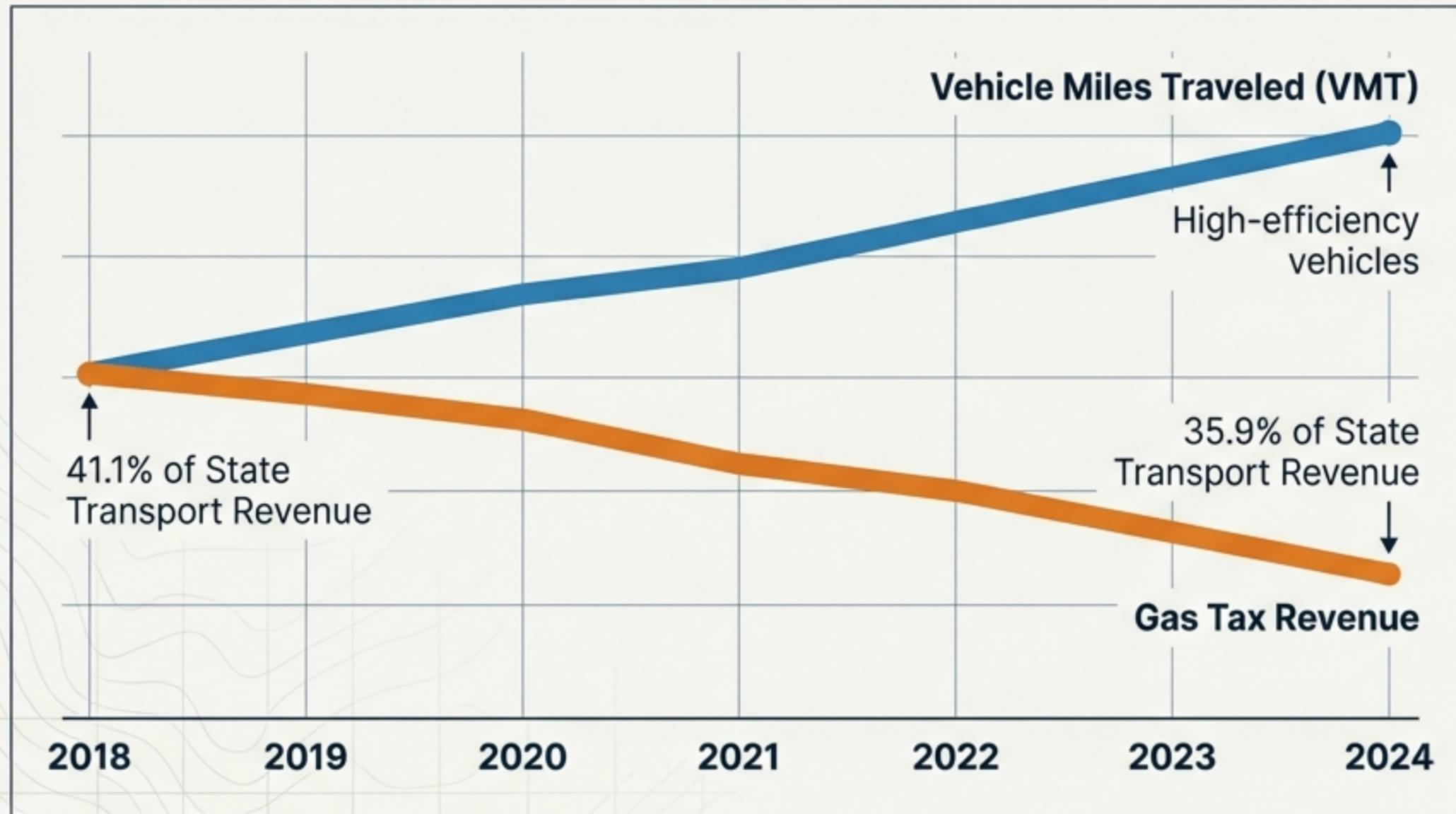


The Friction Points

- **Cost:** Collection costs jump from ~1% (Gas Tax) to ~18% (RUC).
- **Privacy:** GPS is the 'Gold Standard' for policy but the 'Third Rail' for public trust.
- **Equity:** Perception of a 'Rural Penalty' contradicts the data.



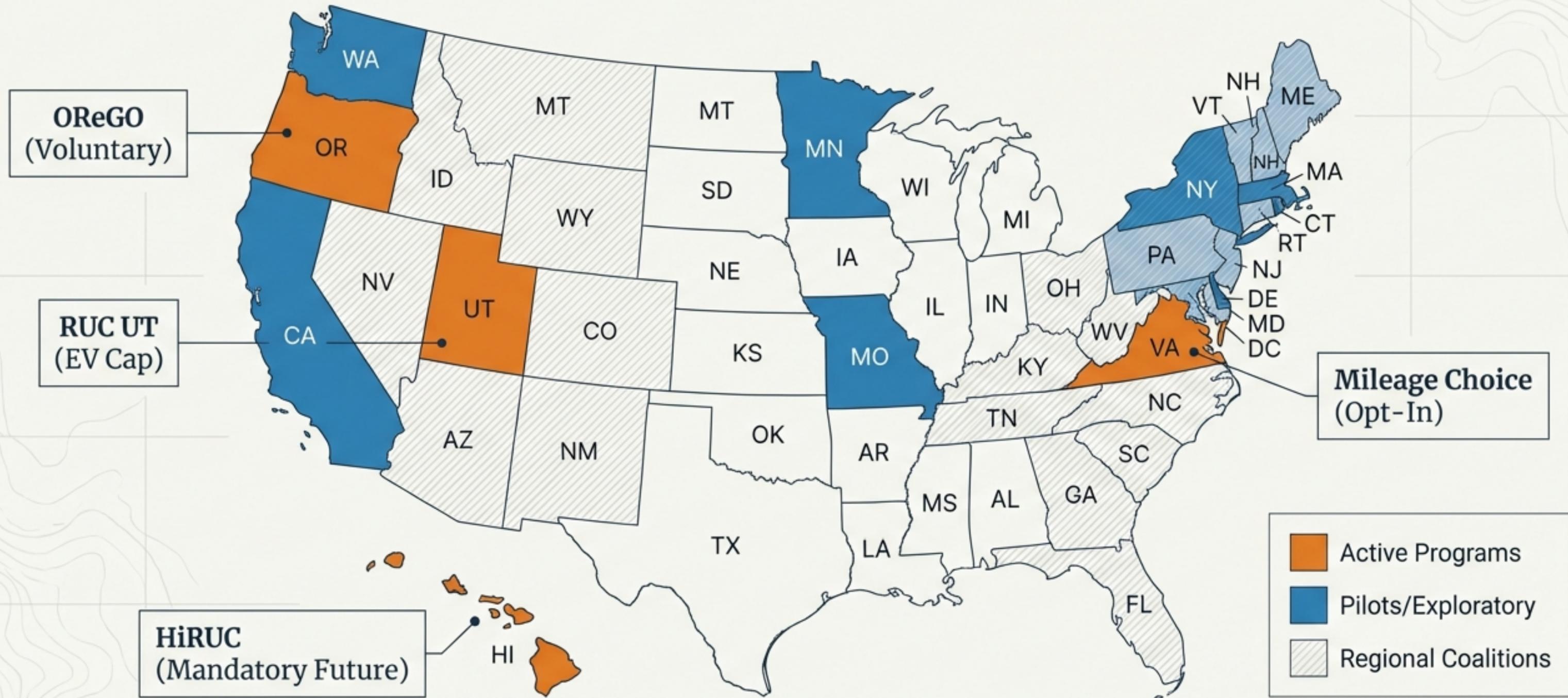
The Burning Platform: Rising vehicle efficiency is decoupling usage from revenue.



States act to replace the gas tax as it stands on shaky ground for the first time in history.

Source: National Association of State Budget Officers (NASBO).

The National Landscape: 17 states are actively piloting RUC models.



Operational Models: The Strategic Menu

States are not adopting a “one size fits all.” They are testing distinct implementation strategies.



Oregon (OReGO)

The Volunteer Pioneer.
Voluntary model indexed to fuel tax (5%). Targets high-efficiency vehicles (>20 MPG).



Utah (RUC UT)

The EV Cap. EV only.
Rate is indexed but capped: cannot exceed annual registration fee (\$138.50).



Virginia (Mileage Choice)

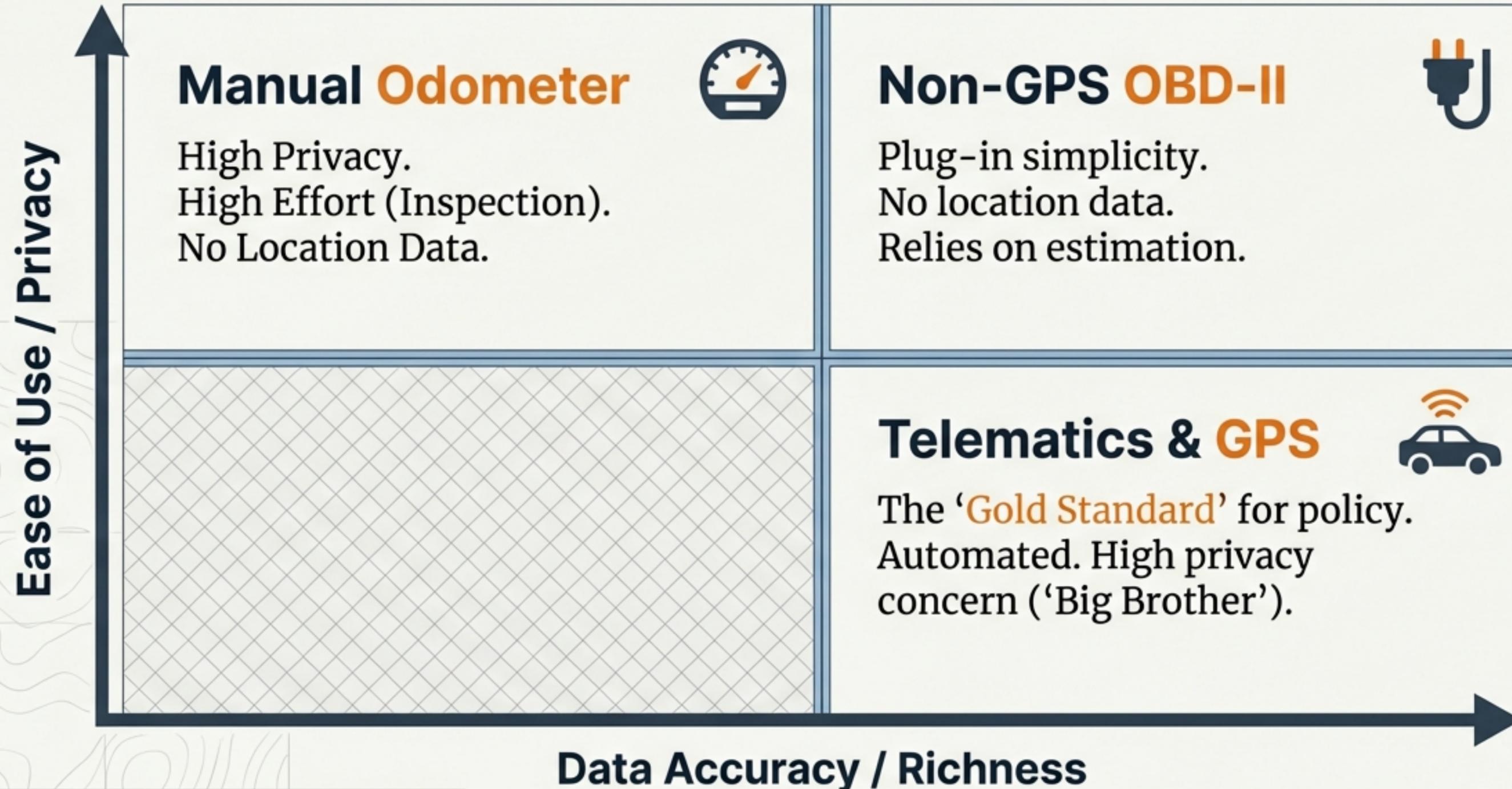
The Opt-In Incentive.
Opt-in to avoid the High Highway Use Fee (\$124.14). Targets >25 MPG vehicles.



Hawaii (HiRUC)

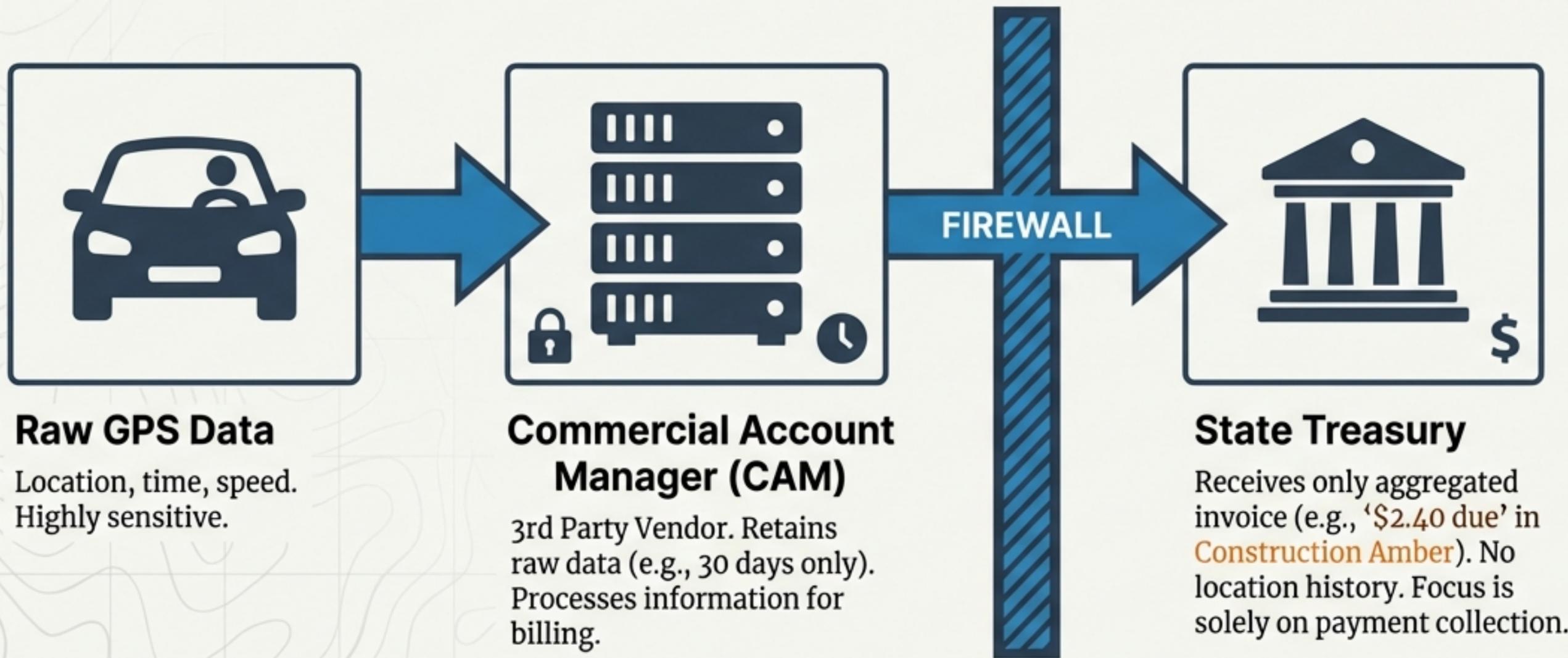
The Mandatory Future.
Mandatory for EVs starting 2028. Collected via annual safety inspections.

The Technical Trade-Off: Accuracy vs. Privacy.



The Data Dilemma: Creating a firewall between State and Driver

A Commercial Account Manager (CAM) model separates raw GPS data from State systems to ensure privacy.

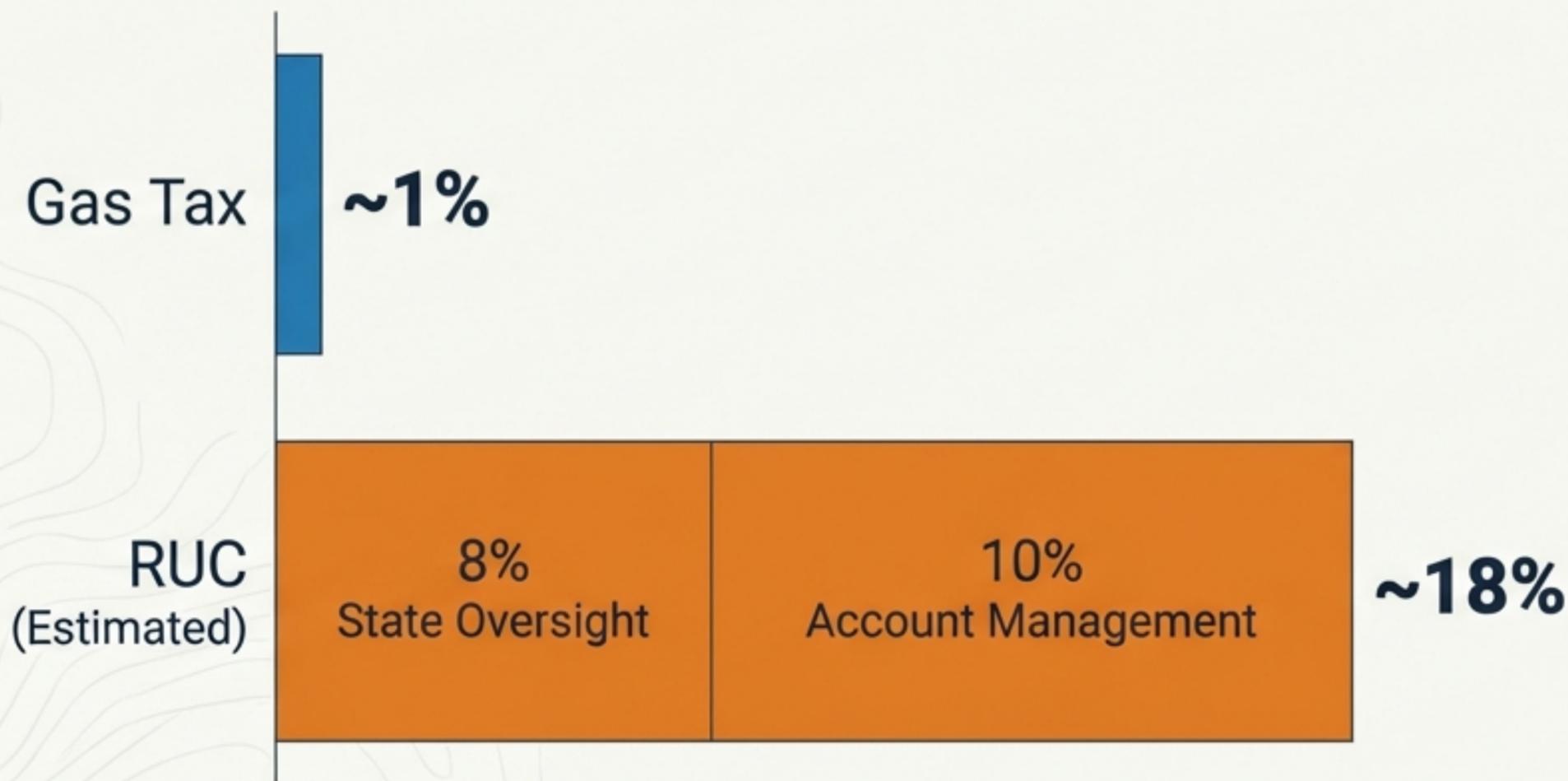


Washington Pilot Finding:

Participants were comfortable with GPS once they understood strict purpose limitations and the firewall structure. Trust is built through transparency and tangible data separation.



The Cost of Collection: System Economics

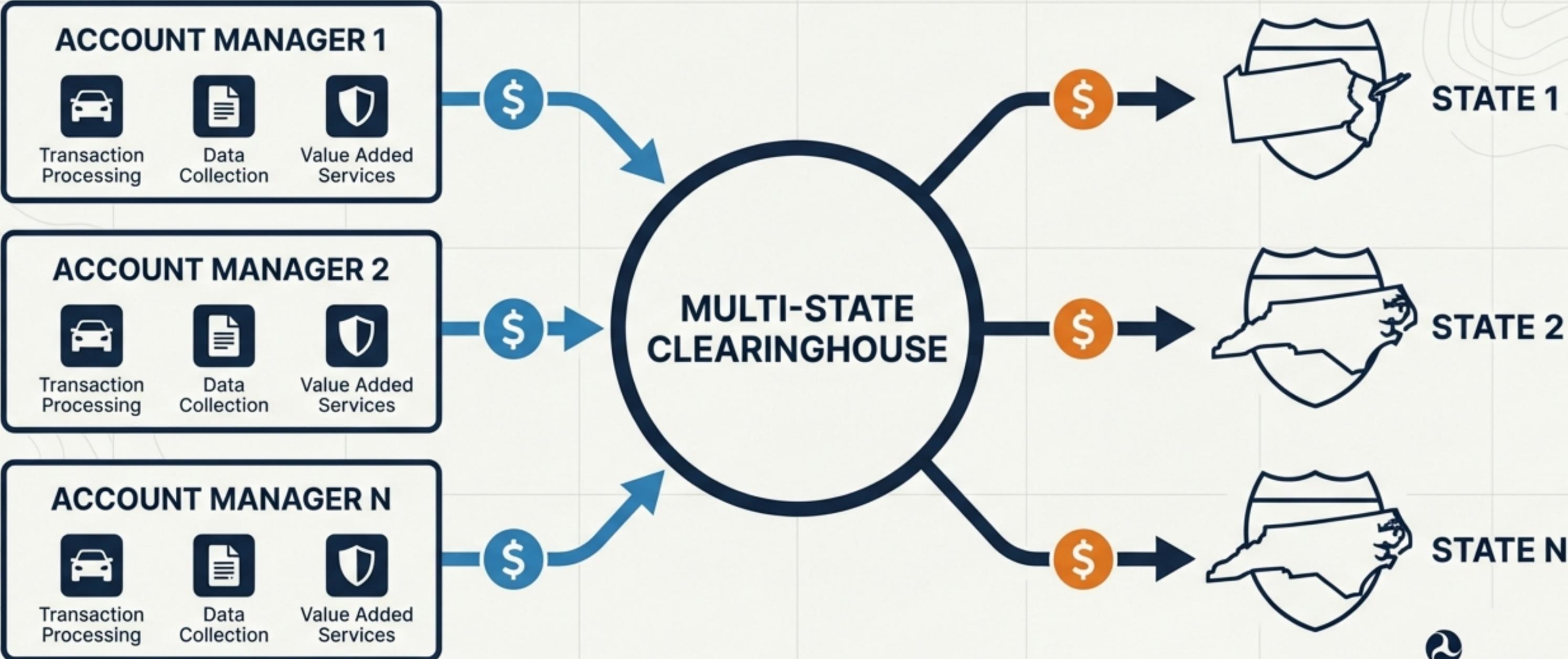


The Missouri Pivot:
Due to a constitutional cap limiting collection costs to 3%, Missouri abandoned RUC for “MPG-based registration fees” to remain compliant.



Interoperability: Solving the Border Problem

Reconciling revenue across state lines requires a Clearinghouse architecture.



The Equity Question: Myth vs. Reality.

The Perception



Rural drivers drive longer distances, so RUC will cost them more.

The Data (RUC West Study)

Rural drivers do drive more miles, but drive older, less efficient vehicles. They currently pay disproportionately high gas taxes.

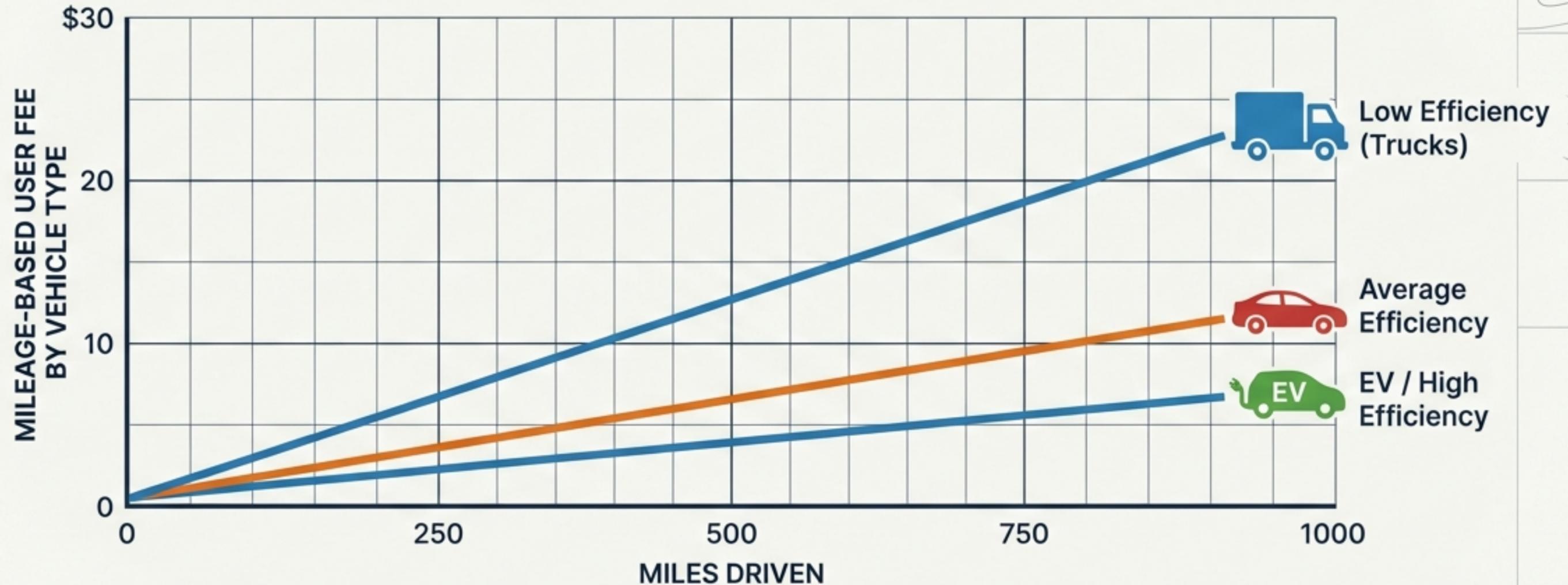
Rural Households pay 1.9% to 6.3% LESS under RUC.

Urban Households pay 0.3% to 1.4% MORE.



The Fairness Debate: Penalizing Efficiency?

Mileage-Based User Fee by Vehicle Type



A fuel-efficient truck (6.5 MPG) pays a penalty under flat RUC, while a gas-guzzler (3.5 MPG) gets a rebate.



Public Perception & Communication

Acceptance requires decoupling 'Tracking' from 'Payment'.

Motivators



Fairness



Sustainability

Barriers



Privacy
Paranoia



Double
Taxation Fear

Communication Strategy: Avoid jargon like 'MBUF'. Use clear terms like 'Road Usage Charge' and ensure visible credits for gas tax paid.



The Commercial Sector: One-size-fits-all fails for trucking.

A Tale of Two Carriers

Carrier A (Inefficient - 3.4 MPG)



\$68,000
Rebate
under flat rate

Carrier D (Efficient)



\$1,400
Penalty
under flat rate

Operational Opportunity

Leverage existing frameworks rather than new hardware:
Electronic Logging Devices (ELD) and IFTA/IRP reporting.



Gap Analysis: We know how to pilot; we do not yet know how to scale.

Transition Pathways

Phasing out Gas Tax vs. Parallel Systems.

Standardization

Confusing Terminology (MBOF vs. RUC vs. VMT).

Data Standards

Need for a national repository for interstate reconciliation.

The Bonding Problem

Impact on state bonds backed by gas tax revenue.



Strategic Recommendations.



Closing Thought: The technology is ready. The barrier is no longer technical—it is social and political.

