



Highway Funding in an Age of Disappearing Gasoline Taxes

**Transitioning to Plug-in Electric Vehicles:
Challenges and Best Practices**

**TRB Annual Meeting
Liisa Ecola**

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Gasoline Taxes were Invented Before 1920 But Have Always been “Second Best”

- **State highways were bankrupting states in 1915-25 period; fastest growth of autos and roads ever . . . led to innovation of “user fees”**
- **Tolls – direct user fees – were most desirable in principle**
- **Motor fuel taxes and various “car taxes” adopted as “second best” but practical**



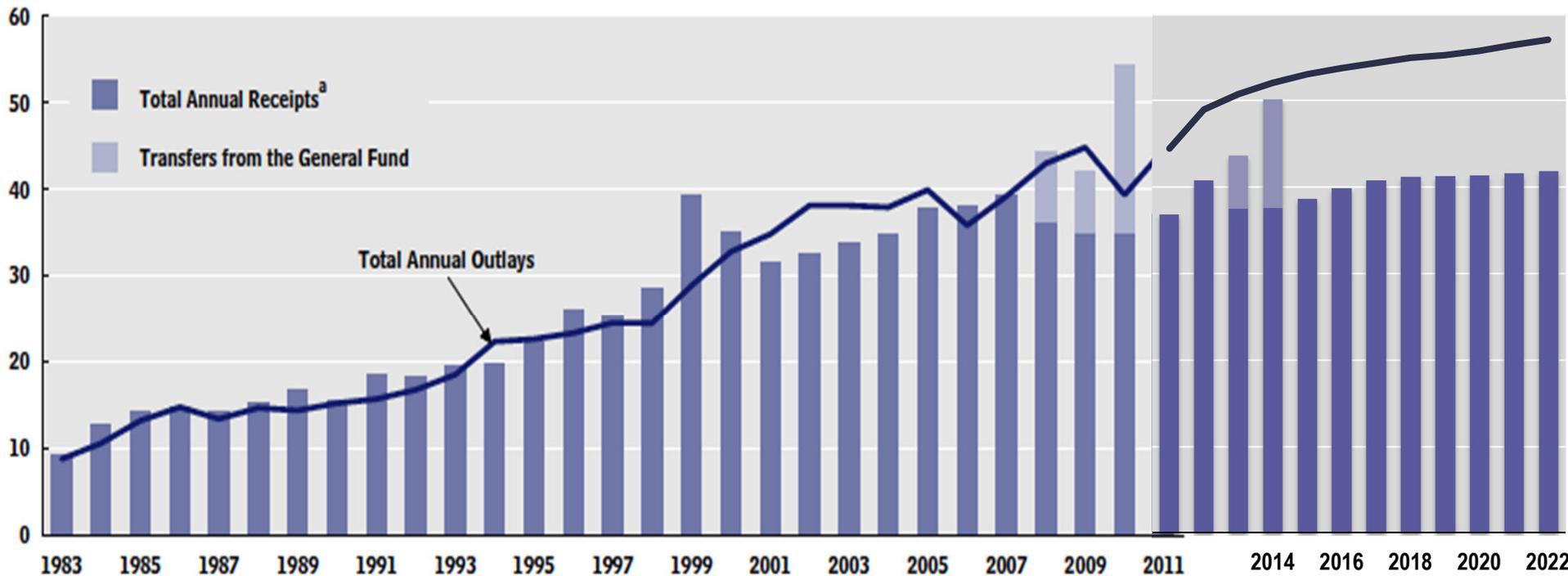
Importance of Fuel Taxes in Highway Funding

	Federal	State	Local	Total
Fuel Taxes	\$38 billion	\$51 billion	\$3 billion	\$92 billion
Other Sources	-	\$46 billion	\$50 billion	\$96 billion
Total	\$38 billion	\$97 billion	\$53 billion	\$188 billion

2008 figures

- **Highway Trust Fund, started in 1957, is chief source of federal funding; 18.4 cents per gallon**
- **State gas taxes vary from 8 to 39 cents per gallon**

The Highway Trust Fund is Becoming More Reliant on General Fund Transfers



Source: Congressional Budget Office based on data from the Department of Transportation.

Motor Fuel Taxes Waning in Popularity

- **Viability waning because**
 - **Revenues not keeping pace with needs**
 - **Opposition related to high price of fuel and tax increases in general**
 - **Need for revenue conflicts with environmental goals**
 - **Dramatic growth sought in fuel efficiency**
 - **Ultimate replacement of petroleum based fuels for GHG policy reasons**



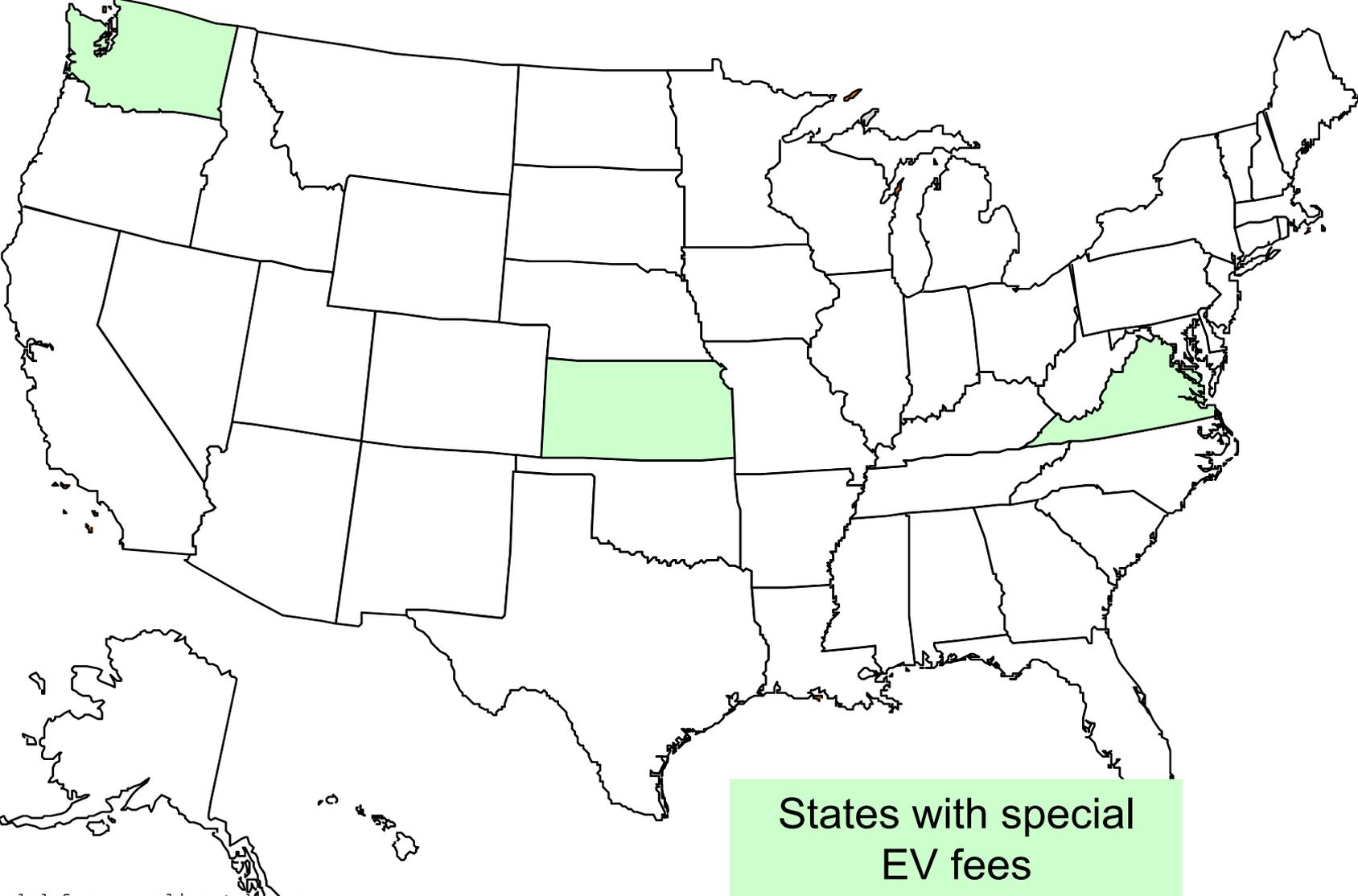
Mileage Fees are a Promising Long-term Replacement for Fuel Taxes

- **More stable revenue stream**
- **Option of structuring fees to reduce congestion, emissions**
- **Option of offering value-added services**
- **Option of collecting travel data to improve planning, operations**

How Growth in EV Fleet Could Affect Adoption of Mileage Fees

- **EVs pose an obvious threat to conventional funding**
- **EVs constitute an “easy target” for early adoption of mileage fees**
- **EVs negate some technological options**
- **EVs create tensions between funding needs and environmental concerns**

States Pursuing Mileage Fees, EV Charges, or Both



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States with special EV fees



States that have unsuccessfully introduced legislation to levy mileage fees initially on EVs

States Pursuing Mileage Fees, EV Charges, or Both

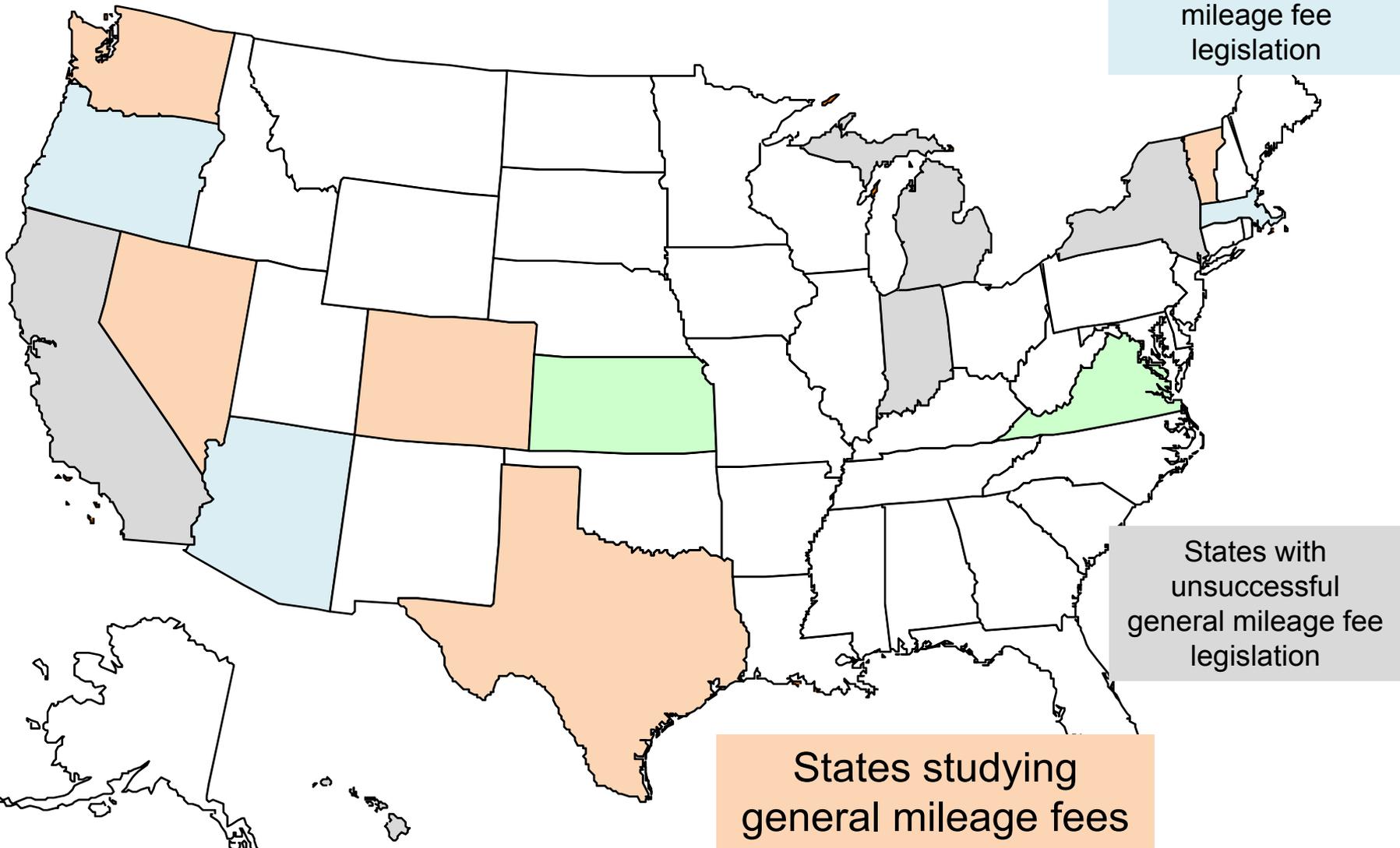
States with special EV fees

States with unsuccessful EV mileage fee legislation

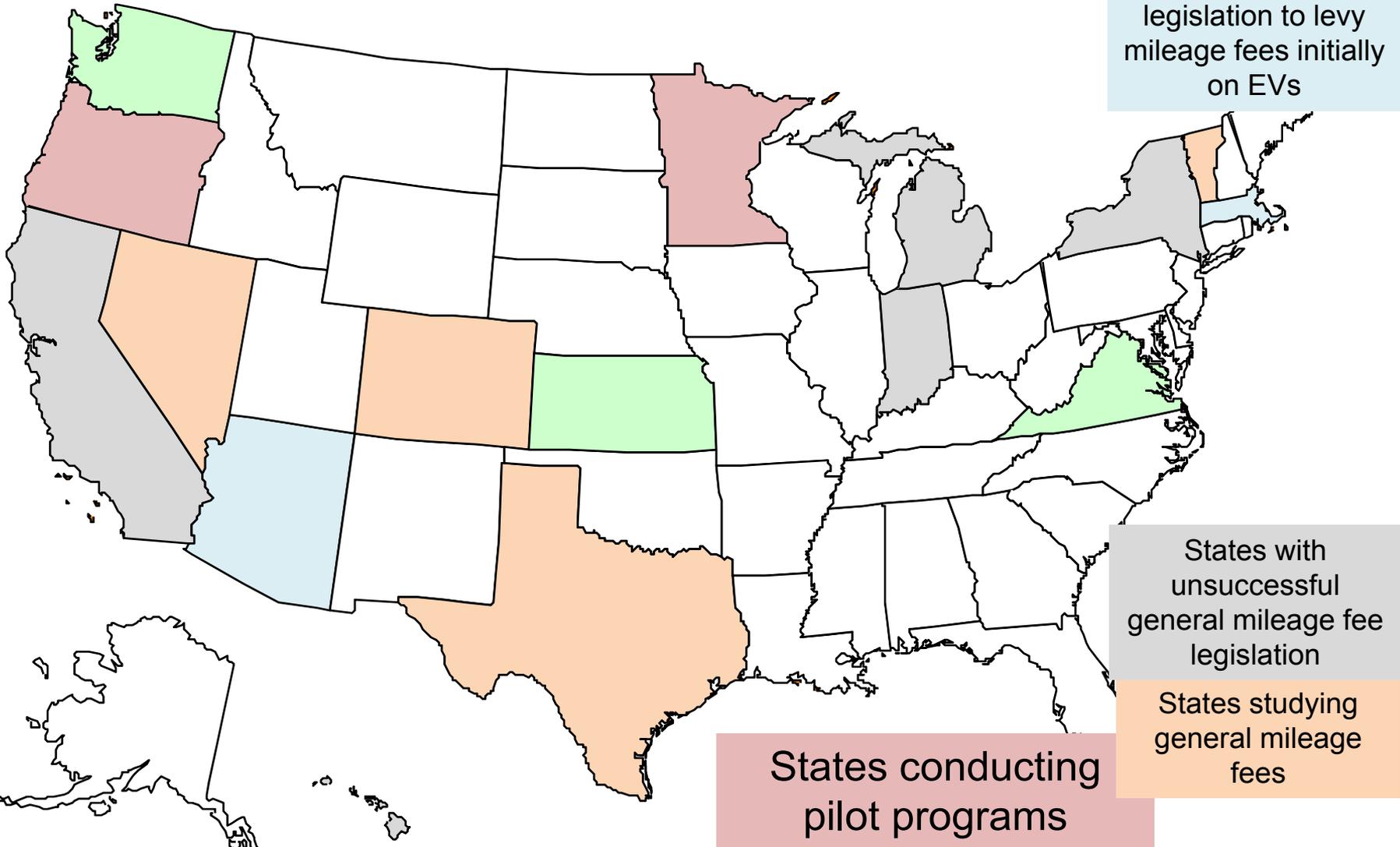


States that have unsuccessfully introduced general mileage fee legislation

States Pursuing Mileage Fees, EV Charges, or Both



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Full reports, *Implementable Strategies for Shifting to Direct Usage-Based Charges for Transportation Funding System Trials to Demonstrate Mileage-Based Road Use Charges*

Research brief, *Moving Toward Vehicle Miles of Travel Fees to Replace Fuel Taxes: Assessing the Path Forward*

Guidebook, *Mileage-Based User Fees for Transportation Funding: A Primer for State and Local Decisionmakers*

available at: www.rand.org/transportation



Projected Gap Between VMT and Fuel Consumption Underscores Value of Mileage Fees

