

How Will California's Electric Vehicle Policy Impact State-Generated Transportation Revenues? Projecting Scenarios through 2040

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California faces unprecedented uncertainty about how much transportation revenue the state will raise from the collection of taxes established in 2017 under Senate Bill 1 (SB 1). These taxes on motor fuels and annual registration fees on light-duty vehicles are the largest source of revenue for state highways and also contribute substantially to local transportation and public transit budgets.

To help policymakers navigate this uncertainty, we projected revenue from the SB 1 taxes through 2040 under a set of eight scenarios that consider a wide range of possible futures. The scenarios consider changes to revenue that could arise from implementation of California's zero-emission vehicle (ZEV) regulations, as well as from changes in population size, per-capita VMT, vehicle ownership rates, and trucking industry operations.

California's stringent regulations and legislation aimed at replacing internal-combustion engine (ICE) vehicles with ZEVs are a particular focus of this study because replacing ICE vehicles with ZEVs will reduce fuel purchases and thus fuel tax revenue.

[By] 2027, the state could be losing more than a billion dollars annually compared to projected 2024 revenue.

Study Methods

We used a spreadsheet model and well-known public data sources to project SB 1 revenues under eight scenarios. The scenarios illustrate the revenue consequences of different levels of ZEV adoption and vehicles miles of travel. There is no certainty that the future will resemble one of the scenarios, but considering

the whole set of outcomes helps state leaders identify policies that can achieve desired outcomes under varying conditions.

Findings

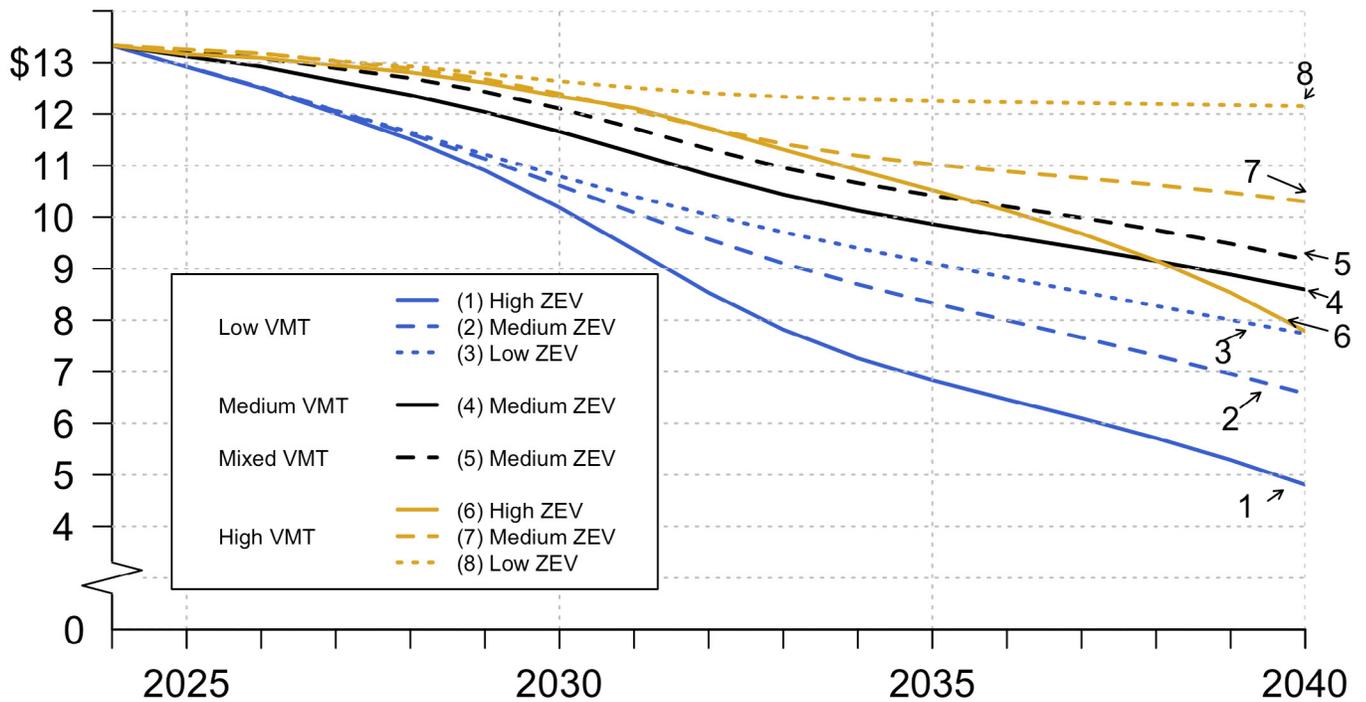
- The scenarios illustrate the futility of projecting future revenues with any confidence for more than a few years into the future. The annual revenue raised under all the eight scenarios diverges steadily over time. By 2040, annual revenue ranges from \$4.8 to \$12.2 billion.
- The state may lose substantial revenue if the SB 1 taxes and fees are not changed and/or replaced soon. In just three years, by 2027, the state could be losing more than a billion dollars annually compared to 2024 revenue.
- A fast ICE to ZEV transition would significantly reduce annual revenue—but falling VMT could have an equally large impact on revenue.
- Fuel taxes currently provide most SB 1 revenue, but by 2040 vehicle registration fees may provide the majority of SB 1 revenue.

Policy Recommendations

1. Establish a plan for replacing lost fuel tax revenues within a few years. Regardless of what revenue alternative(s) are selected, the rates should be indexed to inflation to retain purchasing power over time.
2. Explore a wide variety of tax and fee options to augment or replace fuel taxes. Alternatives include mileage fees, taxing the electricity used to power electric vehicles, increasing annual vehicle

Total Projected State Revenue Under the Eight Scenarios (billions of 2024 dollars)

Note: ZEV = zero-emission vehicle; "VMT" = vehicle miles traveled



registration fees, and moving away from user fees altogether to rely on general revenues, such as income and sales taxes.

3. Update scenario revenue projections annually to reflect changing conditions.
4. Expand the scope of the projections to include other large sources of California’s transportation revenue, such as heavy-duty vehicle weight fees and local-option sales taxes.
5. Choose simple and transparent models for future projection studies so that stakeholders understand how different inputs translate to different revenue trends.
6. Engage a wide range of stakeholders to develop scenarios that incorporate the future conditions that different groups anticipate.
7. Develop an online projection application that allows the public to experiment with how changing the model inputs influences revenue.

About the Authors

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To Learn More

For more details about the study, download the full report at <http://transweb.sjsu.edu/research/2312>



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