The Impact of ZEVs on State-Generated Transportation Revenues in California

Presentation to the California Transportation Commission

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Acknowledgements

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The question:
How will growing numbers of light-duty ZEVs impact state transportation revenues through 2040?
Methods
Projected future transportation revenue in California to 2040 using:

- Spreadsheet models
- Readily available data (i.e., US International Energy Agency)
- Widely-used assumptions

Key independent variables: state population, # of vehicles, VMT, gas and diesel fuel prices, and adoption rates for ICE vehicles and ZEVs
The taxes/fees projected

All taxes/fees collected by the State of California that met three criteria:

1. Collected from light-duty vehicle owners and users
2. Amount of revenue collected depends at least in part on the vehicle’s fuel source (ICE or ZEV)
3. Proceeds are dedicated to transportation programs
## Taxes and fees projected

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gasoline taxes</strong></td>
<td></td>
</tr>
<tr>
<td>Base excise tax</td>
<td>$0.30 per gallon</td>
</tr>
<tr>
<td>Swap excise tax</td>
<td>$0.173 per gallon (effective 7/1/2019)</td>
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<tr>
<td><strong>Diesel taxes</strong></td>
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<tr>
<td>Excise tax</td>
<td>$0.36 per gallon</td>
</tr>
<tr>
<td>Swap sales tax</td>
<td>5.75% on purchase price</td>
</tr>
<tr>
<td><strong>Vehicle fees (annual)</strong></td>
<td></td>
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<tr>
<td>Transportation Improvement Fee (TIF)</td>
<td>$25 - $175; rate depends on vehicle value</td>
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<tr>
<td>Road Improvement Fee (RIF)</td>
<td>$100 per ZEV (effective 7/1/2020)</td>
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</tbody>
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Results from 2 scenarios compared

1. Low-adoption scenario:
   ZEV ownership grows at the historical rate of net increase
   (~ 26,000 vehicles per year)

2. High-adoption scenario:
   California reaches its goal of 5 million ZEVs by 2030
Findings
Total revenue, both scenarios
Total revenue, by source

Revenue by source – high ZEV scenario
TIF revenue

The graph shows the projected TIF revenue (in billions of 2019$) from 2020 to 2040. The revenue is modeled under two scenarios:

- High ZEV adoption: The revenue is expected to increase significantly over the years, with a steep rise after 2025.
- Low ZEV adoption: The revenue is expected to increase at a slower pace compared to the high adoption scenario. It shows a gradual increase with a less steep incline after 2025.
RIF revenue

*Note*: Revenue from the low ZEV adoption scenario is too small to show.
Conclusions
Summary of findings on revenues

• Total revenue in 2040 will fall somewhere between $8.3 and $12 billion

• Revenues are likely to be higher under the high-adoption scenario, because CA collects annual vehicle fees as well as fuel taxes

• If ZEV prices fall much faster than anticipated, revenue could fall below these projections
Want to learn more?

Reports:

The Impact of ZEV Adoption on California Transportation Revenue.
MTI, July 2019.

The Future of California Transportation Revenue.
MTI, October 2018

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