Questions

• The gasoline tax offers a large secondary benefit of promoting fuel efficiency, how do we (or should we) reconcile this in a road charge?

• What are the most important considerations for transitioning to new funding mechanisms?

• How do the technical implementation challenges compare to perception and politics?
The future of funding for transportation infrastructure

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A shocking disruption, adoption of PEVs

- California’s ZEV mandate and governor’s goals will mean high adoption of plug-in electric vehicles (PEVs)
- Electric vehicles do not pay any fuel taxes towards funding infrastructure that they use
Expected shortfall from gasoline efficiency gains

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue (millions of $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>0</td>
</tr>
<tr>
<td>2025</td>
<td>800</td>
</tr>
</tbody>
</table>

Type
- Shortfall from efficiency

Model
- Linear Growth
- Optimistic
What about alternative fuel vehicles?

The Institute of Transportation Studies at UC Davis is currently conducting a study to assess the following pricing schemes on the ability to provide sustainable funding, the complexity of the policy, and how difficult it is to implement:

- Electricity charge, $/kWh
- Energy fee, $/gas equivalent
- Road charge, uniform mileage fee, $/mi
- Advanced road charge, incorporating other pricing mechanisms
  - Potential mechanisms include: efficiency, occupancy, congestion, etc.
Rolling out road charges on a PEV platform

• Road charge only for electric miles (e-miles)
• Our study has constraints of operationalizing pricing exclusively for PEVs, but this actually offers several benefits:
  • No need to get rid of gasoline tax
  • Addresses fuel transition issue
  • Gradual rollout is easier to implement since PEVs are lower volume
  • Lower administrative costs: no need for refund checks
Key Takeaways

• The actual difference between fees (electricity versus energy versus mileage) is relatively marginal, the fees can be structured to provide similar revenues

• Key considerations are political feasibility, complexity of implementation, and costs

• Roll out on the electric vehicle platform can avoid many of the above issues