

Environmental

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Project Title:
Assessing the Potential Impacts of
Toll Discounts on ZEV Adoption

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Assessing the Potential Impacts of Toll Discounts on ZEV Adoption

This project will provide an analysis of the potential impacts of toll discounts on ZEV adoption and express lane usage for ZEV fleet sizes up to 5 million vehicles, the state's adoption target for 2030.

WHAT IS THE NEED?

Programs granting carpool decals to electric and fuel cell vehicles have been important drivers of zero emission vehicle (ZEV) adoption in California, and studies have attributed as much as 40% of ZEV adoptions to these programs.

WHAT ARE WE DOING?

In this project, we will assess the impacts of discounted express lane tolls on ZEV adoption statewide and specifically in disadvantaged communities and areas where these discounts will have the largest impact. The results of this analysis will be used to propose a discount system that will encourage ZEV adoption but not overly burden express lane infrastructure.

WHAT IS OUR GOAL?

This project will provide an analysis of the potential impacts of toll discounts on ZEV adoption and express lane usage for ZEV fleet sizes up to 5 million vehicles, the state's adoption target for 2030. This analysis will test multiple pricing schemes: discounts from 0 to 100%; discounts that change by time of day; targeted discounts for low-income households; and discount durations of the first 3-10 years of a vehicle's life. This analysis will assess the benefit of each pricing scheme for households with different potential to use toll lanes in order to accurately estimate the sensitivity of ZEV adoption to toll discounts statewide and to estimate the total number of vehicles that would use the discounts under each pricing system.



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WHAT IS THE BENEFIT?

The deliverables for this project will include a recommend pricing scheme, an expected number of ZEVs using the discount under this scheme, an identification of the most useful toll discount mechanisms to increase ZEV adoption among low-income households and provide an interactive tool to explore the impact of different pricing schemes on adoption.

This analysis will enable Caltrans to create statewide standards for express lane discounts to help California meet targets for ZEV adoption by 2030.

WHAT IS THE PROGRESS TO DATE?

- Finalized baseline for EV adoption + use of HOT lanes
- Began development on EV adoption model incorporating HOT lane discount
- Established parameters for downscaling outputs to match to local / equity concerns
- Meeting with LA area express lane