Transportation Projects at a Glance

RECENTLY COMPLETED

**Estimating Grid Impacts from the Electrification of Buses, Drayage Trucks, and Cars**  
*Funder: County of Los Angeles, through an agreement sponsored by the California Energy Commission*

Maximizing public benefits of transportation electrification, as well as managing associated grid impacts, requires careful infrastructure planning. In this study, the Luskin Center for Innovation (LCI) study focused on light-duty commuter vehicles, transit buses and drayage trucking in LA County to develop spatially resolved forecasts of charging demand and assess the opportunities and constraints presented by current distribution grid infrastructure.

**Advancing Zero-Emission Drayage Trucks for the San Pedro Bay Ports**  
*Funders: Strategic Growth Council and Earthjustice*

LCI examined the barriers and opportunities involved in moving toward zero-emission drayage trucking, with a focus on the nation’s first and second largest ports, the adjacent Ports of Los Angeles and Long Beach. The report proposes a set of short-and-medium-term policies and strategies that address main barriers and opportunities to make significant progress in the 2020s toward a full transition to zero-emission drayage trucks.

**Designing Clean Vehicle Incentive Programs for Low-income Households**  
*Funders: California Air Resources Board, the Strategic Growth Council, and CalTrans*

LCI supported California to improve clean transportation access for disadvantaged communities. Recent studies have 1) surveyed low- and moderate-income households about their vehicle history and travel preferences and 2) assessed how existing state incentive programs are helping lower-income households replace their polluting vehicle. The findings of these projects provide a roadmap for other parts of the state to implement pilot programs already operating in the San Joaquin Valley and South Coast areas, and ongoing work regarding the optimal incentive levels and loan types to induce lower income households to purchase a clean car.

**Evaluating the Largest Smog Repair Program for Low-income Households**  
*Funder: UCLA Institute of Transportation Studies*

In a series of studies, LCI analyzed data from the San Joaquin Valley’s smog test and vehicle repair program, known as Tune In & Tune Up. Key findings include that the program is a model that other regions could use to efficiently reduce emissions from light-duty vehicles while addressing the mobility needs of low-income households. LCI also evaluated the cost-effectiveness and health benefits of the program.

**Understanding Electric Vehicle Awareness and Designing Vehicle Rebates for All**  
*Funder: California Air Resources Board and Luskin Center for Innovation’s foundation*

More Californians can now afford clean vehicles, in part thanks to LCI research. We assessed the performance of alternative rebate designs for plug-in electric vehicles (PEVs) and compared these alternatives in terms of cost effectiveness and equity. Based in part on the findings, the State of California adopted a progressive rebate system in which low- and moderate-income drivers receive extra financial incentives to purchase a clean vehicle. There is now also a cap on rebates based on income.
Planning for Electric Vehicle Charging Infrastructure Investments

*Funder: Mobile Source Air Pollution Reduction Review Committee (MSRC)*

LCI provided guidance for siting electric vehicle charging equipment across the diverse South Coast region, focused specifically on charging opportunities at workplaces and multi-unit dwellings. LCI analysis is now being integrated into a spatial tool hosted by the Southern California Association of Governments to inform strategic investments in charging infrastructure to meet unrealized demand for electric vehicles.

**CURRENT RESEARCH**

**Identifying the Workforce Implications of Achieving Carbon Neutrality in the Transportation Sector**

*Funder: California Environmental Protection Agency (Cal-EPA)*

To support California’s ambitious goal of carbon neutrality by 2045, Cal-EPA has partnered with the University of California Institute of Transportation Studies on a landmark study. LCI is part of the team from UCLA, along with UC Davis, UC Berkeley and UC Irvine, that will identify and evaluate strategies to achieve carbon neutrality in the transportation sector by 2045. LCI is specifically focused on examining the workforce and labor implications of the transition to carbon-neutral travel and goods movement.

**Forecasting Performance of Policy Interventions to Transition to Low-Carbon Medium and Heavy-Duty Vehicles**

*Funder: California Air Resources Board (CARB)*

In partnership with lead-institution UC Irvine, LCI is participating in a CARB-funded study on how California can accelerate the transition to low-carbon medium/heavy-duty vehicles and off-road equipment between 2020 and 2050. LCI is specifically focused on modeling fleet turnover scenarios and forecasting the impact that current and proposed policy interventions will have on fleet composition over the study time period.

**Evaluating the Use of Fast-charging Stations to Support Electric Vehicle Drivers in Multi-unit Dwellings (MUD)**

*Funder: EVgo Services LLC*

LCI is evaluating a multi-unit-dwelling (MUD fast charger pilot program to examine whether such installations can provide critical charging support to MUD residents who may not have off-street parking and rarely have access to home charging. The research adds to LCI’s existing body of work on overcoming barriers to electric vehicle charging in multi-unit dwellings.

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