

Project Information Form

Project Title:	Technology, Sustainability, and Marketing of Battery Electric and Hydrogen Fuel Cell Medium- and Heavy-Duty Trucks and Buses in 2020-2040
University:	University of California, Davis
Principal Investigator:	Andrew Burke
PI Contact Information:	Email: afburke@ucdavis.edu
Funding Source(s) and Amounts Provided (by each agency or organization):	California Department of Transportation (Caltrans) - \$88,297.00
Total Project Cost:	\$88,297.00
Agency ID or Contract Number:	Caltrans 65A0686 Task Order 004 UCD-CT-FAST-004
Start and End Dates:	December 1, 2018 – November 30, 2019
Brief Description of Project:	The California Sustainable Freight Action Plan includes goals of deploying over 100,000 zero emission vehicles (ZEV) and equipment, maximizing near-zero emission freight vehicles by 2030, and improving freight system efficiency 25 percent by 2030. In addition, the California Air Resources Board is considering a ZEV truck mandate in which ZEV trucks would be powered by either batteries or fuel cells. The choice of ZEV vehicle technology will depend on a variety of considerations and may vary by application. Understanding the benefits and barriers associated with each technology will be critical to ensuring that sustainable freight goals are met in a cost effective and viable manner. This study compares hydrogen fuel cell and battery electric trucks across a variety of applications including short haul drayage, medium-duty urban, vocational, and long haul. The comparisons will include vehicle capital cost, fueling infrastructure considerations, operating costs such as fuel and maintenance, and truck utility for particular applications. Goals will include understanding which technology is best suited for specific applications, what is a reasonable rate of market penetration for ZEVs, and how continued improvements in battery and hydrogen storage technologies will reduce barriers to sales of ZEV MD/HD vehicles.
Describe Implementation of Research Outcomes (or why not implemented):	



National Center for Sustainable Transportation

Place any photos here	
Impacts/Benefits of Implementation (actual, not anticipated):	
Web Links <ul style="list-style-type: none">• Reports• Project website	https://ncst.ucdavis.edu/project/zev-trucks-and-buses-2020-2040/