STEPS Fall 2017 Symposium AGENDA

UC Davis Activities and Recreation Center

Made possible by STEPS Consortium Members



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STEPS Fall Symposium & Board Meeting Dec 7th and 8th, 2017 UC Davis

Venue: Activities and Recreation Center (ARC) <u>http://goo.gl/maps/yoqVp</u>

1 mile



	Thursday, December 7, 2017				
	8:30 a.m.	Registration and Continental Breakfast			
	8:45 a.m.	Welcome and Introductory Remarks Joan Ogden, Director, STEPS Program			
nod	9:00 a.m.	Keynote: Drew Kodjak, Executive Director, International Council on Clean Transportation The Prospects for Very Low Carbon Vehicles Worldwide			
Very Low Carl Futures	9:30 a.m.	 Panel Discussion Moderator: Dan Sperling, Director, ITS-Davis Drew Kodjak, Executive Director, ICCT Ryan McCarthy, Science and Technology Policy Advisor, California Air Resources Board Tyson Eckerle, Deputy Director of ZEV Infrastructure, California Governor's Office Robert Bienenfeld. Assistant Vice President, Environment & Energy Strategy. Honda. 			
	10:30 a.m.	Coffee Break			
	10:45 a.m.	Keynote: Paula Gant , Energy Policy and Markets Expert U.S. Programs for Emergency Preparedness: Lessons and Approaches for Climate Resiliency			
Resiliency and Vulnerability	11:15 a.m.	 Panel Discussion Moderator: Amy Myers Jaffe, Director of the Program on Energy Security and Climate Change, Council on Foreign Relations Guido Franco, Public Interest Energy Research (PIER) Program, California Energy Commission Obadiah Bartholomy, Manager, Distributed Energy Resources at Sacramento Municipal Utility District Joan Ogden, Director, STEPS 			
	12:15 p.m.	Lunch, Coffee and Poster Session STEPS students and researchers present in poster format			
Freight	2:00 p.m.	 Research Update Moderator: Lew Fulton, Co-Director, STEPS Program Revised Transition Scenarios for California Marshall Miller, Senior Development Engineer, STEPS Freight Decarbonization Comparison between CA-TIMES and the Truck Choice Model Chris Yang, Research Scientist, STEPS Energy Storage with Batteries and Supercapacitors Andy Burke, Research Engineer, STEPS H2 Refueling Infrastructure for Medium- and Heavy-Duty Fuel Cell Vehicles Guozhen Li, PhD Candidate, STEPS Discussants: Dawn Fenton (Volvo) and Sarah Flick (Westport) 			
	3:30 p.m.	Coffee Break			
Three Revolutions	3:45 p.m.	 Research Update Moderator: Dan Sperling, Director, ITS-Davis Status and Updates at 3R Mollie D'Agostino, Policy Director, 3 Revolutions Future Mobility Program, ITS-Davis The Adoption of Shared Mobility and Ridehailing in California and Impacts on Use of Other Travel Modes Giovanni Circella, Director, 3 Revolutions Future Mobility Program, ITS-Davis The cost of 3 Revolutions: a deeper dive Lew Fulton, Co-Director, STEPS Discussant: Simon Euringer (BMW) 			
	4:45 p.m.	Day 1 Wrap Up Joan Ogden			
	5:30-8:30 pm	Dinner Reception at <i>Our House</i> (808 2 nd Street)			

	Friday, December 8, 2017					
	8:30 a.m.	Continental Breakfast				
	9:00 a.m.	Keynote: Chris Grundler , Director of Office of Transportation and Air Quality, U.S. Environmental Protection Agency EPA Status Update				
	9:30 a.m.	Keynote: Jeremy Martin, Senior Scientist and Fuels Lead, Clean Vehicles Program, Union of Concerned Scientists How Will Biofuel Policies Weather the Storm in DC?				
Biofuels	10:00 a.m.	 Research Update Moderator: Lew Fulton, Co-Director, STEPS Reporting on STEPS advanced biofuels modeling cost study Rob Williams, Research Scientist, STEPS LCFS status report, and update on LCFS spreading to more states/provinces in Canada Julie Witcover, Research Scientist, STEPS Discussants: Chris Grundler (EPA) and Jeremy Martin (UCS) 				
	10:45 a.m.	Coffee Break				
Electric Vehicles	11:00 a.m.	 Research Update Moderator: Dahlia Garas, Program Manager, Plug-In Hybrid & Electric Vehicle Research Center Modeling the Demand for DC Fast Charging: Have we done it all wrong? Gil Tal, Researcher, PH&EV Estimating the impact of monetary incentives on second generation PEV buyers Alan Jenn, Researcher, PH&EV Stuck in the Slow Lane: The last three years marketing ZEVs in California Ken Kurani, Researcher, PH&EV Discussants: Josh Boone (Veloz) and Angela Konert (BMW) 				
	12:00 p.m.	Day 2 Wrap Up and Closing Remarks Joan Ogden, STEPS				
	12:15 p.m.	Boxed Lunch and Adjourn				

	List of Posters					
#	TITLE	AUTHOR	DESCRIPTION			
1	Passenger Rail - 2017 Research Update	Raphael Isaac , Paul Erickson	With the assistance of some colleagues from England and Michigan, I've been using a UK-developed 'Single Train Simulator' to compare locomotive powertrains based on diesel, hydrogen, and battery hybrids, with outputs including total energy requirements and fuel consumption. My poster gives some background to the work, and also shows some of the early results from the simulations of Northern California's Capitol Corridor route between San Jose and Roseville.			
2	The Engine Size Tax and Its Impact on Chinese Automobile Market.	Tongxin Xu, Alan Jenn, Erich Muehlegger	With data on vehicle trims available in China since 2004, we observe clustering of engine sizes around tax cutoff points. There is no clear evidence π that models that size their engines downwards to these cutoff points have fuel efficiency improved more compared with those that haven't. However, the policy does benefit the domestic automakers since they only operate in China and are able to shift their vehicle design faster.			
3	Hydrogen Demand and Refueling Infrastructure Planning for Medium- and Heavy-Duty Fuel Cell Vehicles in California	Guozhen Li, Joan Ogden	We developed a vehicle inventory and refueling infrastructure planning model for the potential medium- and heavy-duty hydrogen fuel cell vehicles in California. This poster shows preliminary results about MD/HD FCV population, geographic population, hydrogen fuel demand, and refueling infrastructure layouts.			
4	Hydrogen Energy Storage for Renewably Intensive Electricity Grids	Zane McDonald, Chris Yang, Joan Ogden, Alan Jenn	A detailed investigation into the optimal sizing and operation of hydrogen energy storage in high renewable scenarios.			
5	V2G and G2V smart grid optimization study in a Renewable- Fossil Based Energy System for Northern WECC	Behdad Kiani	I would be presenting a previous work focusing on utilizing EVs batteries in a smart grid concept for enabling penetration of renewable energy in Vancouver, BC. This study will be used towards a STEPS project on environmentally compatible transportation technologies in California focusing on EV and hydrogen in the transportation sector, to utilize their storage capability for more renewable energy penetration.			
6	Comparative Assessment of Geospatial Models for Electric Vehicle Supply Equipment (EVSE) Planning	Xinwei Li, Sesha Raghavan, Joan Ogden	This research critically reviews existing tools, models, and metrics for addressing EVSE location decisions by investigating the assumptions, inner logic and applicability of each model, and further discussing their capabilities, limitations and results disparities.			
7	Strengthening the inspection and maintenance system of in-use vehicles in India	Jai Malik, Lew Fulton	This study systematically reviewed the institutional framework of inspection and maintenance regime of in-use vehicles in India. The dataset of smog testing (PUC testing) in two Indian cities – Bangalore (big) and Mysore (small) was analyzed to identify the gross emitters and observe the general patterns of emissions displayed by vehicles in the two cities. Surveys of vehicle owners was also conducted in the two cities to understand the maintenance pattern followed, and to gauge their perception of I&M system.			
8	Truck Choice Model	Qian Wang, Marshall Miller, Lew Fulton, Christopher Yang, Joan Ogden	The objective of this project is to understand the technical characteristics of alternative fuel truck technologies and the barriers of adoption. This work focuses on the development of a detailed choice model that incorporates economic and non-economic factors influencing truck purchases, which is used to analyze scenarios for the future deployment of trucks.			
9	Estimating the Potential Demand for Shared Mobility in First/Last Mile Transit Using MTC Travel Demand Model	Miguel Jaller, Caroline Rodier, Elham Pourrahmani	Investigation of MTC travel demand model Results in Response to a new mobility service plus a look at near future progress in the terms of optimization model.			

10	Costs of Shared Mobility, Electric Vehicle Integration, Autonomous Vehicle, and Consumer Behaviors in terms of mode and vehicle choices	Junia Compostella, Lew Fulton	Development of a new cost estimating system for various service/technology options now and in the future such as 2030 based on travel choice behavior and investigation of policies that might influence this behavior in the near and longer term.
11	What Drives Your Drivers: An In- Depth Look at Lyft and Uber Drivers	Rosaria Berliner, Gil Tal	A look at potential drivers for services such as Uber and Lyft.
12	Understanding the Factors Affecting Changes in Household Car Ownership in California	Farzad Alemi, Giovanni Circella, Susan Handy, Patricia Mokhtarian	This study investigates the factors affecting the propensity to change car ownership. The propensity to change car ownership can emerge from a range of factors and circumstances, including major life events, residential location, attitudes toward a car (instrument vs. affective attitudes), disrupting technologies and trends (e.g. shared mobility, telecommuting, and use of social media), individuals lifestyle, differences between current and desired level of car ownership as well as other exogenous stimuli (e.g. habits and changes in the cost of vehicle ownership). This study builds on a research project that investigates emerging travel patterns and residential location decisions among millennials (i.e. young adults between the age of 18 to 34 as of 2015) and the members of the previous Generation X (individuals between the age of 35 to 50 as of 2015) in California.
13	What We Know about the Use of Ridehailing: Frequency of Use and Impacts on Other Modes	Farzad Alemi, Giovanni Circella, Susan Handy, Patricia Mokhtarian	This study investigates the factors affecting frequency of use of ridehailing services and the impacts that these new services may have on the other components of travel behavior.
14	Trip analysis to determine PEV charging behavior, infrastructure placement, and charging infrastructure policy	Alex Campbell, Gil Tal	This study is using big data tools and Google's Cloud Platform to analyze data recorded by OpenXC loggers installed in UC Davis Fleet Services vehicles. With this data, this project aims to inform training and charging policy to maximize charging utilization by drivers, as well as inform charger installation locations. By using UC Davis as an analogue, the project can inform a similar project that aims to find policies and methods to electrify mobility both on-duty (government NTV fleet) and off-duty (personally owned and shared mobility) light- duty vehicles aboard Marine Corps bases in Southern California.
15	Plug-in Electric Vehicle (PEV) Infrastructure Planning: Overview, Approaches and Insights	Sesha Raghavan, Xinwei Li, Joan Ogden, Lew Fulton	Research Question:How to approach PEV charging infrastructure needs modeling that reflects the current reality and expected future scenarios. An explanatory summary of PEV infrastructure modeling with some key insights and gaps in contemporary planning approaches, and potential areas of further investigation will be presented.
16	Considerations in the use of supercapacitors in combination with batteries in vehicle applications	Andrew Burke	Research objectives include: Investigate the use of batteries and supercapacitors in PHEVs; Select components that are appropriate and optimum; Compare the system size and cost with/without supercaps; Simulate the PHEVs with supercaps on various driving cycles, and; Highlight the advantages of using supercaps from the battery stress and thermal management points-of-view.
17	China Low-speed Electric Vehicle Boom	Jinpeng Gao, Daniel Sperling, Yunshi Wang, Gil Tal	The identity of LSEVs is still unclear for lack of national and industrial standards; public policies concerning LSEVs and regulations are lagging far behind the rapid increasing LSEV market. Therefore, our study tries to fill this gap by doing a research on the LSEV market in China. We will focus on LSEV users in China, especially in small-sized cities and rural areas. The primary purpose is to explore the development trend of the LSEV market in China by examining both current and potential LSEV consumers.

List of Registrants

FIRST NAME	LAST NAME	JOB TITLE	COMPANY/ORGANIZATION
Robert	Bienenfeld	AVP, Energy & Environment Strategy	American Honda Motor Co., Inc.
Amy	Jordan Bason	Energy Analyst	Aramco
Tom	Baloga	Sr. Director, Gov't Affairs	Audi of America
Ruben	Aronin	Vice President, Outreach & Communications	Better World Group
Simon	Euringer	VP Technology Office USA	BMW Group
Monterey	Gardiner	Senior Advanced Technology Engineer	BMW Group
Angela	Konert	Head of Government and External Affairs California	BMW of North America, LLC
Michelle	Bogen	Advanced Technology Engineer	BMW of North America, LLC
Maik	Schwalm	Senior Researcher	BMW Technology Office
Bill	Elrick	Executive Director	CaFCP
Mark	Wenzel	Climate Change Adviser	CalEPA
Sarah	Pittiglio	Research Coordinator	California Air Resources Board
Bianca	Marshall	Air Pollution Specialist	California Air Resources Board
Ali	Koohestani	Air Pollution Specialist	California Air Resources Board
Leslie	Baroody	Air Pollution Specialist	California Air Resources Board
Robert	Nguyen	Staff Air Pollution Specialist	California Air Resources Board
Emily	Wimberger	Chief Economist	California Air Resources Board
Jack	Kitowski	Chief, Mobile Source Control Division	California Air Resources Board
Earl	Landberg	Air Pollution Specialist	California Air Resources Board
Corey	Bock	Research Economist	California Air Resources Board
Anil	Prabhu	Manager, Fuels Evaluation Section	California Air Resources Board
Тао	Huai	Branch Chief	California Air Resources Board
Don	Chernich	Manager	California Air Resources Board
Ryan	McCarthy	Science and Technology Policy Advisor	California Air Resources Board
Sonya	Collier	Air Resources Engineer	California Air Resources Board
Bradley	Cole	Air Resources Supervisor	California Air Resources Board
Cody	Howard	Air Pollution Specialist	California Air Resources Board
Jeff	Lidicker	Air Resources Engineer	California Air Resources Board
Mang	Zhang	Branch Chief	California Air Resources Board
Lindsee	Tanimoto	Light-Duty EV Specialist	California Energy Commission
Tim	Olson	Senior Policy Advisor	California Energy Commission
Matt	Coldwell	Advisor to Commissioner Scott	California Energy Commission
Tomas	Ortiz	Energy Analyst	California Energy Commission

Hieu	Nguyen	Energy Commission Specialist I	California Energy Commission
Tyson	Eckerle	Deputy Director of ZEV Infrastructure	California Governor's Office
Brian	Helmowski	Environmental Scientist	CalRecycle
Soheila	Khoii	Research Manager	Caltrans
Eric	Fredericks	Chief, Sustainable Freight Branch	Caltrans
Ellen	Greenberg	Deputy Director, Sustainability	Caltrans
Tyler	Monson	Associate Transportation Planner	Caltrans
Кауо	Lao	Associate Transportation Planner	Caltrans
Jeremy	Matsuo	Senior Equipment Engineer	Caltrans
Huilan	Han	Transportation Engineer	Caltrans
Patrick	Tyner	Transportation Planner	Caltrans, Division of Research and Innovation
Simon	Bisrat	Senior Environmental Planner	Caltrans, Division of Research and Innovation
Matt	Franklin	Engineer	Chevron
Micah	Berry	Fuels Advocacy Specialist	Chevron
Amy	Jaffe	Senior Fellow	Council On Foreign Relations
Tim	Frazier	Exec. Advanced Engineering	Cummins
Sean	Waters	Director Product Compliancer	Daimler Trucks
Lorenzo	Kristov	Principal	Electric System Policy
Ryan	Barr	PhD Student	UC Davis
Chris	Busch	Research Director	Energy Innovation LLC
Guillaume	Peronnet	VP Strategy	Faurecia
Gerald	Esper	Regulatory Development	FCA US
Ross	Good	Sr. Manager State Gov't Relations	FCA US LLC
Tim	Wallington	Senior Technical Leader, Environmental Science	Ford Motor Company
Dan	Adsit	Manager	Ford Motor Company
Yan	Fu	Manager, Sustainability Analytics	Ford Motor Company/Global Data, Insight and Analytics
lan	Sutherland	Staff Researcher	General Motors
Jamie	Hall	Manager, Advanced Vehicle and Infrastructure Policy	General Motors
Mary Beth	Stanek	Director, Advanced Technology and Government Relations GM	General Motors
Madhu	Raghavan	Group Manager, Hybrids & Global Energy Systems	General Motors R&D
Drew Kodjak	Kodjak	Executive Director	International Council on Clean Transportation
Rosa	Dominguez-Faus	STEPS Program Manager	ITS-Davis
Beth	Bourne	Assistant Program Manager	ITS-Davis
Christopher	Yang	Project Scientist	ITS-Davis
XINWEI	LI	PhD student	ITS-Davis

Qian	Wang	GSR	ITS-Davis
Guozhen	Li	Graduate Student	ITS-Davis
Taylor	Shinnick	Stewardship Manager	ITS-Davis
Alan	Jenn	Researcher	ITS-Davis
Mollie Cohen	D'Agostino	Policy Director	ITS-Davis
Jinpeng	Gao	GSR	ITS-Davis
Andrew	Burke	Research Engineer	ITS-Davis
Lew	Fulton	Co-Director, STEPS	ITS-Davis
Joan	Ogden	Director, STEPS	ITS-Davis
Dan	Sperling	Director	ITS-Davis
Gil	Tal	Professional Researcher	ITS-Davis
Thomas	Mackey	Director, Development and External Relations	ITS-Davis
Jae Hyun	Lee	Post-doc	ITS-Davis PH&EV Research Center
Dahlia	Garas	Program Director	ITS-Davis PH&EV Research Center
Christian	Will	Visiting Scholar	KIT Daimler
Farhad	Farnam	Professor	Los Rios Community College
Laura	Podolsky	Policy Director	National Center for Sustainable Transportation
Elizabeth	Connelly	Postdoctoral Researcher - Transportation Policy Analysis	National Renewable Energy Laboratory
Marc	Melaina	Senior Engineer	NREL
David	Lewis	Director - Wholesale Marketing & Business Development	PG&E
Roy	Kiga	VP of Grid Integration	PG&E
Mallikarjun	Angalakudati	Vice President	PG&E Corporation
Jacques	Franco	Science & Policy Fellow	PIEEE - ITS
Eric	Cahill	Program Director	Plug In America
Brian	Johnston	Sr. Project Engineer	Renault Nissan Mitsubishi Alliance
Lance	Atkins	Principal Engineer	Renault-Nissan-Mitsubishi Alliance
Paul	Philley	Program Supervisor	SacMetro Air Quality Management District
Obadiah	Bartholomy	Manager, Distributed Energy Resources	Sacramento Municipal Utility District
Lisa	Mirisola	Program Supervisor	SCAQMD
Greg	Kamla	Downstream Policy Manager - Transport	Shell
Xiaoliang	Ding	Team leader	SINOPEC
Xin	Guo	Team leader	SINOPEC
Xiaohong	Zhang	Director	SINOPEC
Paula	Gant	Energy Expert	Speaker
Tom	Cackette	Consultant	Tom Cackette Consulting

Robert	Wimmer	Director	Toyota
Ken	Laberteaux	Senior Principal Scientist	Toyota
John	Willard	Consultant	Toyota
Jean	Chu	Research Scientist	Toyota
Karim	Hamza	Research Scientist/Contractor	Toyota Research Institute, North America
Karl	Simon	Director, Transportation and Climate Division	U.S. Environmental Protection Agency
Benjamin	Ellies	Technology Advisor	U.S. Environmental Protection Agency
Aaron	Hula	Technology Advisor	U.S. Environmental Protection Agency
Christopher	Grundler	Director Office of Transportation and Air Quality	U.S. Environmental Protection Agency
John	Mikulin	Regional Lead, ZEV Deployment	U.S. Environmental Protection Agency, Region 9
Raphael	lsaac	Graduate Student Researcher	UC Davis
Alan	Jenn	Postdoctoral Researcher	UC Davis
Marshall	Miller	Senior Development Engineer	UC Davis
Giovanni	Circella	Director, 3 Revolutions Future Mobility Program	UC Davis
Miguel	Jaller	Assistant Professor	UC Davis
Zane	McDonald	Graduate Researcher, Energy Graduate Group	UC Davis
Seshadri	Srinivasa Raghavan	PhD Student TTP	UC Davis
Julie	Witcover	Ass't Project Scientist	UC Davis
Leticia	Pineda	Graduate Student Researcher	UC Davis
Farzad	Alemi	PhD Candidate	UC Davis
Ken	Kurani	Professional Researcher	UC Davis
Jai	Malik	Graduate Student Researcher	UC Davis
Sadanand	Wachche	Grad student	UC Davis
Jin Wook	Ro	Graduate Student Researcher	UC Davis
Masoud	Rahman	Senior Researcher	UC Davis
Rosaria	Berliner	Graduate Student Researcher	UC Davis
Junia	Compostella	PhD student	UC Davis
Behdad	Kiani	Assistant Project Scientist	UC Davis
Tongxin	Xu	PhD student	UC Davis
Elham	Pourrahmani	Graduate Student Researcher	UC Davis
Rob	Williams	Research Scientist	UC Davis
Grant	Matson	Graduate Student Researcher	UC Davis
Yunshi	Wang	Director	UC Davis China Center for Energy and Transportation
Jeremy	Martin	Senior Scientist and Fuels Lead, Clean Vehicles Program	Union of Concerned Scientists
Diego	Martínez-Bernal	Graduate Researcher	U.S. Environmental Protection Agency

Sharyn	Lie	Director, Climate Economics & Modeling Center	U.S. Environmental Protection Agency
Josh Boone		Director	Veloz
Nick	Tamborra	Regulatory Affairs Manager	Volkswagen Group of America
Sam	McLaughlin	External Research Manager	Volvo Group
Michael	Coates	West Coast Representative	Volvo Group
Dawn	Fenton	Director, Sustainability & Public Affairs	Volvo Group North America
Sarah	Flick	Corporate Development Manager	Westport Fuel Systems

Directions and Logistics

Driving Directions to the ARC and Parking

From San Francisco:

Take US-101 S via the ramp to Oakland/I-80/San Jose Take the exit onto I-80 E toward Oakland (Partial toll road) Slight right at CA-113 N (signs for CA-113/Woodland) Take the Russell Blvd exit toward Davis Turn right at Russell Blvd Turn Right at La Rue Rd Turn Left at Orchard Park Road

From Sacramento:

Take I-80 W Take exit 70 to merge onto CA-113 N toward Woodland Take the Russell Blvd exit toward Davis Turn right at Russell Blvd Turn Right at La Rue Rd Turn Left at Orchard Park Road

Parking

Parking lot 25 West Entry Parking Structure Day permits must be purchased for \$9/day from machines upon entry to the lot (cash or credit cards accepted).

Lodging

Hyatt Place UC Davis Reservations: 530.756.9500 This hotel is on the UC Davis campus. It is about a 20-minute walk to the Activities and Recreation Center (ARC) where the event will be held and a 15-minute walk to downtown. Parking in the Hyatt Place lot is complimentary for registered Hyatt guests. Aggie Inn Reservations: 530.756.0352 This hotel is in downtown Davis about one block off--campus. It is about a 20-minute walk or 10-minute drive to the Activities and Recreation Center (ARC) where the event will be held. Best Western Plus Palm Court Hotel- Davis Reservations: 530.753.7100 This hotel is in the middle of downtown Davis about five blocks off-campus. It is about a 20minute walk or 10-minute drive to the Activities and Recreation Center (ARC) where the event will be held. Hallmark Inn --Davis CA Reservations: 530.753.3600 This hotel is in downtown Davis about six blocks off-campus. It is about a 20- to 25-minute walk or 10-minute drive to the ARC where the event will be held. Best Western University Lodge Reservations: 530.756.7890

This hotel is in downtown Davis about one block off--campus. It is about a 20-minute walk or 10-minute drive to the Activities and Recreation Center (ARC) where the event will be held.