

***Policies for the Three Transportation Revolutions of
Shared, Automated, and Electrified Vehicles***

An invitation-only conference

Walter A. Buehler Alumni Center
University of California, Davis

November 15–16, 2016

Hosted by
Institute of Transportation Studies, UC Davis
California Governor's Office

For the first time in many decades, the passenger transportation system is experiencing massive innovation. These innovations could lead toward dramatically different futures. One future could be more urban sprawl, energy use, greenhouse gas emissions, and unhealthy cities and individuals. The other future could bring huge public and private benefits, including more transport choices, greater affordability and accessibility, and healthier, more livable cities, along with less vehicle use and fewer greenhouse gas emissions.

This conference will explore the key policies and strategies that will put us on the latter path—focusing on potential synergies between electrification, automation, and vehicle and ride sharing, and those policies that enhance the synergies in pursuing the public interest. Key questions include timing (will changes be evolutionary or revolutionary), role of different levels of government, and relative importance of different policy goals and innovations.

We are bringing together leading transportation experts and policy leaders to help design policies for rapidly evolving technological and service innovations. This conference will be highly interactive and engaging, reflecting the reality that policies and research are lagging what is happening in the marketplace and that an adaptive and evolving policy approach is needed to maximize public benefits.

Our goal is to generate new and enhanced policies that encourage technologies in the public interest, while not prematurely stifling promising innovations. Our goal is to seek strategies and policies that are unifying rather than divisive, and that encourage innovation. We will produce a series of policy briefs soon after the conference, and a book afterward—with contributions from conference participants.

Conference Agenda (1.5 days)

Tuesday, November 15, 2016

9:00 a.m. – 2:00 p.m.

I. Setting the Stage: What We Know, Don't Know, and Should Be Thinking About

This session will describe the current status and issues, and explore possible futures and desirable outcomes for shared mobility, automation, and electrification. What are possible synergies between the three pathways? How do these pathways of change fit with larger societal trends of inequality and globalization?

9:00 Welcome: Patty Monahan, Energy Foundation; Anthony Eggert, ClimateWorks

9:15 Introduction and Conference Goals: Dan Sperling, UC Davis

9:40 Keynote: Wendy Schmidt, Schmidt Family Foundation

How can the “hell” of vastly increased vehicle use be avoided and the “heaven” of greater access and less greenhouse gases be attained? Each of the following speakers describes status and prospects for their respective innovation pathway, including timing of changes, possible costs and benefits, role of different levels of government, and possible impacts (including issues such as real and perceived safety and security). They will review political, policy, and market lessons learned from the past, and frame follow-up discussions by exploring opportunities to merge these innovations in ways that lead to large public benefits—for instance, incentivizing (or requiring) automated electric vehicles to carry multiple riders.

Shared Mobility: Past, Present, and Future

10:00 Keynote: Susan Shaheen, UC Berkeley

Discussants: Amanda Eaken, NRDC; Robin Chase; Emily Castor, Lyft; Peter Kosak, General Motors; Andrew Salzberg, Uber (invited)

Vehicle Automation and the Future of Cities

11:00 Keynote: Robin Chase

Discussant: Sahar Shirazi, California Governor's Office; Don MacKenzie, University of Washington

Vehicle Electrification and What It Means for Shared Mobility and Vehicle Automation

1:00 Keynote: Diarmuid O'Connell, Tesla

Discussants: Robbie Diamond, SAFE; Anand Shah, Albright Stonebridge Group

2:00 – 3:30 p.m.

II. Breakout Sessions

Each breakout group will have up to 6-15 participants. An expert will introduce the respective topic of that session, and prepare a two-page brief beforehand. The task for each session is to suggest local, state, and national policies that generate public benefits, with a focus on those that cut across two or more sets of innovations. In many cases, entirely new policy and regulatory approaches will be developed—with a focus on the next 5 years.

Maximizing the Social/Equity Benefits of these Innovations

Moderator: Brian Taylor, UCLA

Policy brief: Stuart Cohen and Sahar Shirazi re regarding social equity issues;

- Policies and services that improve social equity including access and affordability
- Potential barriers and pitfalls—how to avoid unintended consequences
- Winners and losers—how to navigate the policy and political landscape?

Clean Car Policies for Automation and Sharing

Moderators and Recorders: Alberto Ayala, CARB; Simon Mui, NRDC; Carl Pope, Inside Straight Strategies; Bob Graham, U.S. DOE; Jake Levine, California State Senate; Don Anair, UCS; Jeff Greenblatt, LBNL

Policy brief #1: Howard Learner et al regarding federal policies on GHGs with autonomous transportation;

Policy brief #2: Jonathan Walker (RMI), "How to accelerate optimal deployment of shared electric (and soon autonomous) vehicle charging infrastructure"

Regulations such as special provisions in GHG/fuel economy regulations and ZEV mandate to reward use of ZEVs and low-carbon vehicles

- Incentives such as local and state initiatives to facilitate ZEV deployment (including conversion of parking to charging stations)
- Targeting more rapid vehicle turnover to gain social marketing value
- Incentives to “right-size” vehicles used for automation and shared use
- Incentives, policies, and regulations to increase use of shared use and automated vehicles, such as
 - cities creating “no private vehicle” zones for shared ZEV and automated vehicles
 - states mandating that all automated vehicles be ZEVs

Synergies with Public Transit

Moderator:

Policy Brief: Steve Polzin (USF)

- Role of micro-transit, dynamic paratransit services
- Solving the first/last mile and increasing use of line haul transit services

- Partnerships of shared-use companies and automated vehicle fleets with transit agencies (including bikeshare), and local governments, with focus on enhancing equity and access to destinations
- Avoiding replacement of line-haul transit with smaller driverless vehicle trips
- Principles for an optimum transportation network, for shared use, transit, and automated vehicles, in urban, suburban, and rural communities

Improving Access and Reducing Overall Vehicle Use with Automation and Shared Mobility

Moderators: Levi Tilleman, Valence Strategic; Joan Walker, UC Berkeley

Policy Brief 1: Chris Ganson, California Governor's Office

Policy Brief 2: Marco Anderson and Huasha (SCAG) (focused on land use policy)

- Address feedback and rebound effects (induced vehicle travel) with automated and shared use vehicles, and implications for livability, health, environment, GHGs, and sprawl
- Pricing of parking and curb space
- Increasing access to shared automated ZEVs by mobility disadvantaged and low income travelers, via investments in infrastructure in key locations, changes in services, and land use policies in disadvantaged communities
- State and federal actions to reward local governments for investing in and supporting initiatives to reduce VMT
- Local policies for converting curb parking, parking lots, and parking garages to new uses, including bike/pedestrian facilities, drop-off zones, use of open space, and infill housing

Socially-Optimal Road Pricing for Shared Use, ZEV, and Automated Vehicles

Moderator/Discussant:

Policy Brief: Steve Raney, Smart Mobility, Silicon Valley

- Barriers and opportunities
- Practical strategies at local, regional, and state level

Active Transportation

Moderator/Recorders: Sahar Shirazi, California Governor's Office

Policy Brief: Susan Handy (UC Davis)

- Encourage synergies and discourage clashes between automated vehicles and active transportation needs
- Speed rules and enforcement, especially in urban zones
- Opportunities to expand and protect space for bicyclists and pedestrians

Urban Delivery of Goods

- Focus on linkage with passenger platforms/services
- On-demand and automated urban freight deliveries

- Freight-only zones and times, delivery networks and hours, coordination between transit agencies, cities, local businesses, and freight networks
- What is the right level of impedance (pricing, regulation) on freight/delivery travel in cities, and how do we achieve it (avoiding “excessive” driverless errands and local delivery traffic)

Governance: Who’s in Charge?

Moderator: Steve Heminger, Metropolitan Transportation Commission

Policy brief: David Ory, Metropolitan Transportation Commission (with Carol Cooper, King County; Fanta Kamakaté, ICCT)

Recorder: Pete Slowik, ICCT

We focus here not on the regulations put forward by government agencies, but rather the statutory mandates and structures of government agencies, asking if they are capable of advancing these three revolutions. To narrow the scope and hopefully lead us to a focused and productive conversation, we intend to cover:

- regulation of shared mobility services;
- housing policy;
- transit agencies; and,
- regulation of autonomous vehicles.

4:15-5:30

III. Short Presentation of Each Policy Brief to Full Conference (Plenary)

5:30-7:30

IV. Reception and Dinner (on site)

7:30+

V. Select committee of ~10 will spend Tuesday evening drafting refined set of proposed policy actions and strategies

Committee: Anthony Eggert, ClimateWorks; Chris Ganson, California Governor’s Office; Morry Cater; one individual from each breakout group

Wednesday, November 16, 2016

9:00 – 10:30 a.m.

IV. Report of Select Committee and Discussion with Audience

Participants will respond to the outputs of the breakout sessions. They will assess which strategies and policy actions would be most effective at increasing the public benefits—greater access and less environmental impact. What is missing? Proposals for new policy briefs will be identified.

10:45 – 11:45 a.m.

V. Round Two of Breakout Sessions

Breakout groups for new policy brief topics will be organized. Moderators, presenters, and discussants for each breakout group from the previous day will reconvene (if refinements are deemed necessary), but others will be free to move to different groups and the new groups. The goal of this Round Two is to draft additional policy briefs (beyond the previous day's topics) and refine the findings of those from the previous day.

11:50-12:30 noon

VI. Closing Session (Plenary)

One to three individuals who have attended the entire conference will synthesize and elaborate upon rapporteur reports and strategies going forward.

Closing keynotes: Chris Grundler, EPA; others

Conference Program Committee

Don Anair, UCS
Alberto Ayala, CARB
Emily Castor, Lyft
Jamie Dean, 11th Hour Project
Robbie Diamond, SAFE
Amanda Eaken, NRDC
Anthony Eggert, ClimateWorks
Chris Ganson, California Governor's Office
Peter Kosak, General Motors
Patty Monahan, Energy Foundation
Timothy Papandreou, Google X
Sahar Shirazi, California Governor's Office
Dan Sperling, UC Davis (chair)

Sponsors

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Energy Foundation
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Pisces Foundation