UC Office of the President
Policy Briefs

Title
Insights on Autonomous Vehicle Policy from Early Adopter Cities and Regions

Permalink
https://escholarship.org/uc/item/4xv6z4mj

Authors
Chatman, Daniel G., PhD
Moran, Marcel E.

Publication Date
2019-10-01

eScholarship.org Powered by the California Digital Library
University of California

Insights on Autonomous Vehicle Policy from Early Adopter Cities and Regions

Professor Daniel G. Chatman, PhD, and Marcel E. Moran
City and Regional Planning, UC Berkeley

October 2019

UNIVERSITY OF CALIFORNIA

Issue

Autonomous vehicles (AVs) are being widely tested and piloted to carry passengers and freight. However, the potential uses and impacts of AVs in communities are uncertain. There are claims that AVs may be able to improve road safety, make travel more convenient, lower shipping costs, and reduce the need for automobile parking[1]. But there are also concerns that AVs may increase road congestion, reduce transit ridership, compete for curb space, and even increase urban sprawl.[2, 3]

To better understanding how cities and regions are currently engaging with and planning for AVs, twenty interviews were conducted with individuals from "early adopter" public agencies across the U.S. who are involved in AV testing, regulation, and planning. Interviews were supplemented by an extensive review of policy and planning documents. This policy brief highlights key findings from this research with more details available in the full report: Autonomous Vehicles in the United States: Understanding Why and How Cities and Regions are Responding.

Key Findings

There is sharp variance in the pace and degree to which cities are identifying and adopting AV policies. Some municipalities are developing policies in order to encourage AV firms to locate within their limits and increase local employment. Others are holding off from enacting AV policy in spite of AV firms carrying out testing on their roads. These approaches reflect different views about the long-term penetration of AVs, as well as the appropriate role of local government in ushering in this technology. There is little consensus in terms of what cities should do regarding AVs, while the vast majority of municipalities have not carried out planning for AVs.

Figure 1 - An autonomous vehicle being tested on public roads in San Francisco, CA.

Cities that are developing AV policies assume AVs will operate as medium-capacity shuttles and private ridehailing fleets, not via personal ownership. AV fleets are expected to benefit from economies of scale to keep ridehailing prices low and to benefit from fleet-based operating updates and machine learning. Prospects for AV-transit partnerships, sponsorship of public AV pilots, AV-specific taxes, and the push to transition curb space away from parking, all depend on this ownership model.

State pre-emption of AV regulation has not fully prevented local governments from influencing AV pilots. Multiple cities (including New York City and San Jose) have influenced AV testing operations even when existing state regulations pre-empt municipalities from directly regulating AVs. Thus, even cities outside Massachusetts – which is unique among states in granting local control over AV activity – have the ability to affect how AVs operate via multiple channels. Furthermore, even when AV operators are not legally required to coordinate with a city to test there, there are often

incentives for cooperation between AV operators and local agencies.

Local public agencies believe their coordination and communication with AV companies is inadequate. Nearly all public-sector interviewees felt the information shared by AV companies was insufficient for their planning purposes, even in cases where explicit partnerships had been established. While understanding that AV companies are operating in a highly competitive market, public agencies continue to seek even rudimentary information about the number of vehicles in a given company's local AV fleet and the geographic extent of testing and pilots. Many interviewees expressed concern that their relationships with AV companies will mirror difficulties with app-based ridehailing services such as Uber and Lyft, including data sharing difficulties, worsening traffic and emissions, and competition with public transit.

The role for regional planning agencies in regards to AVs is uncertain. Examples of how regional agencies are interfacing with AV policy and planning include incorporating AVs into scenario-planning models, and potentially coordinating the dissemination of road-construction updates to AV fleets. Each regional planning agency has a different relationship with its member cities and towns, and provide different types of expertise and resources. This may make developing regional AV policy a challenge, particularly for those MPOs that do not advise cities and towns on land use.

Further Reading

This brief is drawn from *Autonomous Vehicles in the United States: Understanding Why and How Cities and Regions are Responding* report authored by Professor Daniel G. Chatman and Marcel E. Moran, Department of City and Regional Planning, UC Berkeley. The report and this brief are available for download at www.ucits.org/research-project/avs-and-cities.

Contact Informationf

For more information about this brief and/or related work, please contact Daniel Chatman at dgc@berkeley.edu and/or Marcel Moran at moranm@berkeley.edu.

[1] *"Taming the Autonomous Vehicle: A Primer for Cities." 2017. Bloomberg Philanthropies and the Aspen Institute. https://www.planning.org/knowledgebase/resource/9137796/.*

[2] *YFagnant, D.J., and K.M. Kockelman. 2013. "Preparing a Nation for Autonomous Vehicles." Eno Center for Transportation. https://www.enotrans.org/wp-content/uploads/AV-paper.pdf.*

[3] *Weinberg, C. 2017. "Driverless Cars Intensify Fight Over Curb Space." The Information, September 18, 2017. https://www.theinformation.com/articles/driverless-cars-intensify-fight-over-curb-space.*

Research presented in this policy brief was made possible through funding received by the University of California Institute of Transportation Studies (UC ITS) from the State of California via the Public Transportation Account and the Road Repair and Accountability Act of 2017 (Senate Bill 1). The UC ITS is a network of faculty, research and administrative staff, and students dedicated to advancing the state of the art in transportation engineering, planning, and policy for the people of California. Established by the Legislature in 1947, the UC ITS has branches at UC Berkeley, UC Davis, UC Irvine, and UCLA.

Project ID UC-ITS-2019-13 | DOI: 10.7922/G2WH2N79

ITS Berkeley Institute of Transportation Studies