

# State Role in Autonomous Vehicle Rollout Key to a Green Outcome

Autonomous vehicles have arrived. According to the National Highway Traffic Safety Administration, “Possessing the potential to uproot personal mobility as we know it, to make it safer and even more ubiquitous than conventional automobiles and perhaps even more efficient, self-driving cars have become the archetype of our future transportation.”

Automakers are heavily investing in the development of automated technologies and have announced the dates that their AVs will be available. Examples include Tesla (2018), Honda (2020), and General Motors (2025). Furthermore, some automakers are partnering with ride-sharing companies such as Uber and Lyft to develop automated fleets. Although fully autonomous vehicles on public roads today are carefully supervised and allowed only in limited areas, many new cars already utilize at least some type of automated technology — ranging from lane departure warnings to adaptive cruise control.

State legislatures are paying attention, as they have jurisdiction over the registration, licensing, traffic, insurance, and liability laws that govern AVs. The National Council of State Legislatures reports that about 20 states have enacted AV laws and several governors have issued executive orders. The majority of states are focused on testing and development of AVs and have yet to pay serious attention to the environmental implications. NHTSA has taken note: “Gaps in current regulations should be identified and addressed by the states,” including the “environmental impacts.”

The research on whether AVs will have net negative or positive environmental impacts remains inconclusive,

in part because adoption rates are difficult to predict. Factors that cut in favor of environmental gains include the incorporation of eco-driving practices that optimize fuel use. Driverless cars also could reduce the wasted fuel associated with road congestion by, for example, reducing the number of accidents. And, if accidents are reduced considerably, as expected, safety standards could be changed to allow for lighter, more fuel efficient cars.

Further in the future, AVs could yield fuel efficiency benefits from driving in formation to minimize drag and by communicating with each other to avoid congestion. Some predict that consumers will eschew car ownership altogether when networks of AVs allow for rides on demand.

Conversely, AVs could increase dramatically the total vehicle miles traveled each year, as people may use them who do not currently drive, such as the young and elderly. And, current drivers could increase the frequency or distance

of their travel, including commutes to work, because they are able to conduct other tasks than driving. In some cases, AVs could replace use of transit. Moreover, AVs in theory could drive faster and less efficiently than traditional cars, because they are not as hampered by driver reaction time.

Because of the transportation sector’s large carbon footprint, the Center for American Progress argues that it is critical to invest in additional research on the climate impacts of AVs. CAP concludes that ultimately the most important factor from a climate change mitigation perspective is for AVs to be powered by clean energy.

At least one state — North Dakota — has authorized a study that was not completed but could have included examination of “the degree



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that automated motor vehicles could reduce congestion and improve fuel economy.”

And, although states generally are pre-empted from setting fuel economy or tailpipe standards for new cars (in certain cases California can set its own standards, which other states can adopt), they can consider ways to mitigate increases in miles driven. As a contractor-prepared study for the California Air Resources Board concludes: “There are multiple paths for AVs to take in their evolution, and some will be more climate-friendly than others. . . . ARB should focus on promoting those paths for AVs.”

Although the optimal approach will vary, some of the recommendations prepared for ARB could inform other states’ strategies. They include ensuring that environmental agencies engage with other state regulatory agencies on AV-related issues; supporting local communities and metropolitan planning organizations in managing potential impacts, such as by incorporating AVs into transportation and land use models; including AV technologies in clean vehicle programs; and promoting the adoption of AV car sharing.

States are understandably focused on the immediate challenge of safely testing AVs, but at this fork in the road it is important to find a way to ensure that AVs not only dramatically change the country’s approach to transportation but are environmentally beneficial in doing so.