



## AUTONOMOUS VEHICLES

### Robot cars could add CO2 by circling block, grabbing pizza

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Development of autonomous vehicles is speeding toward a tipping point, one that could pose disastrous consequences for the environment if policies aren't shaped correctly, experts said yesterday at a California Senate committee hearing.

Self-driving cars could instead offer multiple benefits if they are combined with car sharing, transit and electrification, Dan Sperling, a California Air Resources Board member and director of the University of California, Davis' Institute of Transportation Studies, told the Transportation and Housing Committee.

Upcoming robot cars are one of three revolutions in the transportation sector, he said. The others are ride-sharing companies and a move toward electric vehicles.

"We're on the cusp of a revolution with automated vehicles, and we're already at the early stages of the sharing economy and electrification," Sperling said. "Of these three revolutions, autonomous vehicles, automated vehicles are potentially the most transformational. But if they're combined with the other two, they will be even more transformational and more disruptive, but also more in the public interest."

The committee held the hearing as the California Department of Motor Vehicles updates its policies for companies testing self-driving cars. Roughly 50 companies are approved to test the vehicles in California, said state DMV Director Jean Shiimoto. The DMV submitted new rules for driverless car testing to the state's Office of Administrative Law last month. If approved, they take effect April 1.

Meanwhile, Congress is acting on the issue. A bill, [S. 1885](#), sponsored by Sens. John Thune (R-S.D.) and Gary Peters (D-Mich.), would exempt thousands of autonomous cars from safety laws and clarify the federal government's oversight role for self-driving technologies. The goal is to allow companies such as Alphabet Inc. to test the technology more extensively on public roads. House lawmakers passed their own version by voice vote in September ([E&E Daily](#), Dec. 6, 2017).

Some see that as problematic. Seleta Reynolds, general manager for the Los Angeles Department of Transportation, said the federal legislation would pre-empt state and local authorities from enacting and enforcing traffic laws on self-driving cars. It also would bar laws from regulating design or construction of the vehicles. That poses problems for safety and the environment, Reynolds said.

"The bill challenges the states' ability to mandate electrification and emissions standards as well as its capability to support vehicle-miles-traveled charges," she said. "The bill jeopardizes our future ability to bring about safety, congestion and environmental benefits."

She said that Los Angeles is working with other cities and states to get changes in the legislation.

Sperling said that "policy is lagging" when it comes to automated vehicles and shared rides, though "there's still time to get ahead and steer them to the public interest." Autonomous cars have the ability to address climate change and sprawl, he said, though without the state shaping policies, market forces will direct the cars largely to individual ownership.

"Frankly, that would be disastrous for California," Sperling said. The cars would get purchased mostly by wealthy people, he said, who potentially would use them in ways that are environmentally destructive.

"They can work, they can sleep in the car, they can read, watch movies," Sperling said. "It will allow them to commute much longer distances. ... It will allow them to send the car empty to pick up pizza for dinner, or to go pick up the kids, to circle around the block while they're in a meeting, empty, waiting for them to finish the meeting instead of paying for parking."

That would create far higher vehicle miles traveled per car, more sprawl, more greenhouse gas emissions, and "a growing chasm between the haves and have-nots," he said.

## **Test transit project sees results**

Sperling said the state needs to offer incentives for autonomous vehicle operators to encourage carpooling, including with vans. That works better than penalizing companies for single occupancy, he said. At the same time, he added, the state also should look for ways to protect transit.

Michael Tree, executive director of the Livermore Amador Valley Transit Authority, said his agency saw years of steadily declining ridership. It decided to focus on widely used corridors. It partnered with ride-hailing companies Uber and Lyft, with the transit agency offering to pay up to half of the trip, up to \$5, for people coming to or leaving from a transit ride.

"Ridership's going up," Tree said. "That hasn't happened at the agency in years."

General Motors Co. is committed to using zero-emissions vehicles in its automated cars, Harry Lightsey, GM's executive director of emerging technologies policy, said at the hearing. Right now, those are electric vehicles.

"Last year, our chief executive officer, Mary Barra, announced our vision for the future, our vision for the future with zero crashes, zero emissions and zero congestion," Lightsey said. "Our self-driving vehicle program moves toward fulfilling all three facets of that vision."

State senators said they wanted California to keep its dominance in the autonomous vehicle development world. Many of the companies designing the cars are located in the state's Silicon Valley.

State Sen. Bob Wieckowski (D) asked the DMV whether it was taking too long to update its rules. Eight states now have some level of autonomous vehicle testing, he said. Uber took its autonomous cars to Arizona when the Golden State said it had to apply for special permits to test cars without drivers.

"We're supposed to be the leaders. It looks like other states are taking the lead with our technology," Wieckowski said.

The DMV said it's tracking the results of the testing in the state and that other states might not have a full picture of what's happening with the cars. DMV head Shiimoto said the agency hoped it could allow driverless testing this spring.

State Sen. Jim Beall (D), chairman of the committee, said he wanted the state to take the wheel in the emerging sector.

"We are the birthplace of autonomous vehicles, which is going to be hopefully transformative" with benefits such as reduced congestion, Beall said. "The promise isn't guaranteed ... so we have to look at this on many sides. There may be unintended consequences such as increasing pollution and greenhouse gas emissions."

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