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California Preparing for Self-Driving Cars by 2015.

Self-driving cars sound like fantasy to many, but regulators are laying the groundwork for the technology to hit the roads next year.

Autonomous vehicles are headed for the commercial market, and they may find their way onto our roadways as early as 2015.

But that reality would require a huge rework of today's operational regulations for personal vehicles — and the California Department of Motor Vehicles (CA DMV) is moving fast to see that it does in fact become reality. Accounting for the multitude of issues and conflicts with existing regulations is a big job, so the CA DMV is looking to the public for help. On March 11, the department workshopped its regulations at its headquarters in Sacramento, where representatives of industry, advocacy groups and the public met and discussed what the future of autonomous vehicles will look like.

The workshop, a recording of which is [available on Google+](), was attended by Google; automakers like Volkswagen Group, Mercedes and Chrysler; and third-party manufacturers like Garmin and TomTom. IT Security and privacy advocacy groups were also represented, along with some members of the public, both through a Google Plus webcast and in person.

"They [the automakers] want to come to California because there are 38 million people in California and they see the market," he said. "They see the different terrains. There are mountains, beaches, deserts, forests — there are all of the different climates, and all of the different roadways. There are rural roads, and congested city streets."

Getting autonomous vehicles launched commercially is a huge job because of all the factors at work, which include privacy, security, safety, liability, proper usage and standardization, but Soriano said the DMV will reveal a draft of the regulations in June or July in a hearing where the public will have a chance to see what the rules are going to look like, and then weigh in on them. The public will have a chance to formally address the regulations and influence them, Soriano said, noting that the public already *has* influenced the DMV's work through participation in online communities on Reddit, Twitter, Google Plus and LinkedIn.

"They've heavily influenced what we brought up and what we discussed at the workshop," Soriano said. "The things that are brought up online, we monitor this; people come up with ideas that we are actively discussing."

One discussion on Reddit received more than 700 comments from users who had questions, suggestions and concerns about the upcoming regulations. As with all things technology, the issue of privacy is one of the prominent concerns with autonomous vehicles. In this vein, Consumer Watchdog, a nonprofit advocacy group, [told the DMV on March 11]() that new driverless car regulations must protect privacy.

"The DMV regulations must give the user control over what data is gathered and how the information will be used," said Privacy Project Director John M. Simpson. "The DMV's autonomous

vehicle regulations must provide that driverless cars gather only the data necessary to operate the vehicle and retain that data only as long as necessary for the vehicle's operation."

And Soriano is well aware that privacy is a main concern. "What information is being collected by these automobiles and who has access to that information?" Soriano explained rhetorically. "Who owns that information? How is that information going to be used other than the operation of the vehicle?"

People are talking about the good and bad uses of such data, Soriano said. A good use might be insurance companies taking a vehicle's driving habit data and applying it to the owner's rates in some yet-to-be-determined way, while a bad use could be if a user's Google habits somehow influenced his navigation software's decision-making, Soriano said. Hypothetically, a person who frequently Googles hamburger restaurants might find her car's navigation system taking her on detours through her town's hamburger district — if advertisers greased the right palms (with money, not hamburgers).

"It's not like you can go across the street to Joe Bob's Garage and say, 'Hey, can you certify that this thing is safe?' There's no industry for that," Soriano said.

Cybersecurity as it pertains to personal vehicles faces a similar problem. There simply aren't many practical studies of the challenges facing cybersecurity in autonomous vehicles, and how could there be? The vehicles don't yet exist in the numbers that they presumably someday will. "it's going to be difficult at best to try to regulate some of these things," Soriano said.

There is also the task of deconflicting existing regulations with the use autonomous vehicles. As this technology rolls out, vehicle code will need to adapt, but right now there are a lot of question marks, Soriano said.

"Potentially these things could roll out, and if the vehicle code doesn't change, it still will be illegal for you to text and talk on the phone while you're in these vehicles" he said. "But that doesn't make sense, so we're thinking of all these things that need to be changed."

Another big issue, which was raised by at least one Reddit user, is whether it will be permissible to drink and ride in an autonomous vehicle. Some vehicles are semi-autonomous, allowing for user operation on demand, while others are completely autonomous. Some support the idea of only embracing fully autonomous vehicles with an eye on what are estimated as large benefits.

"One of the primary functions of self-driving cars will be to transport people who cannot drive, whether they be too elderly, too young, visually impaired, and most importantly, inebriated," [one Reddit user wrote](). "We have the potential with SDCs to wipe out drunk driving in a generation."

One of the biggest hurdles when it comes to issues such as these, Soriano said, pertains to public perception and acceptance of new technologies and the cultural shifts they often bring about. Some people might not like the idea of people getting drunk in their cars, even if it were found to be safe. But that's something that will change over time, he noted, and their regulations will continue to change as well.

"What we produce at the end of this year," Soriano said, "is not going to be the end all to be all."

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