



Feb. 9, 2018

RE: New Data Shows Self-Driving Cars Cannot Drive Themselves – Halt S. 1885

Dear Senator:

We are writing with troubling new information about the failure of robot cars that should give you great pause about enactment of legislation greenlighting self-driving cars without new adequate safety protections.

Last week, twenty companies released the only publicly available data about the state of robot car technology to the California Department of Motor Vehicles. The reports show so-called self-driving cars cannot go more than 5,596 miles in the best-case scenario without a human test driver taking over at the wheel. In most cases, the vehicles cannot travel more than a few hundred miles without needing human intervention.

You can read the 2017 “disengagement reports” to the California Department of Motor Vehicles here:

https://www.dmv.ca.gov/portal/dmv/detail/vr/autonomous/disengagement_report_2017

It would be a great threat to the public for the Senate to authorize the deployment of robot cars without protections requiring certification of the vehicles when testing shows the state of the technology imperils the public if a human driver cannot take over the car.

The very first cars authorized to operate without human supervision require new forms of protections. We need carefully crafted regulations, designated performance metrics, and a system of certification that guarantees the technology will not imperil the public if a human driver cannot take over the so-called “self-driving” vehicle.

The AV Start Act, S. 1885, does not create any meaningful regulatory structure. No form of certification exists to verify that the self-driving cars can actually drive themselves! As it stands, this piece of legislation gives self-driving car manufacturers full authority in deciding whether or not the vehicles they manufacture are prepared to roam the streets without human supervision. The proposed legislation needs to be immediately halted until specific performance criteria are defined and robot car manufacturing companies demonstrate they meet them.

The data shows, however, that the technology is simply not there yet. The cars manufactured thus far require a human driver actively monitoring them at all times.

Twenty companies with permits to test robot cars in California were required to file “disengagement reports” covering 2017 listing miles driven in autonomous mode and the

number of times the robot technology failed. Nine of those companies including Waymo (a subsidiary of Google's parent company) and GM Cruise, offered specific data showing reasons their robot technology failed.

The data revealed that robot cars tested could not cope when faced with the task of making some decisions humans make every day when they drive. Among the failures that required the human driver to take control:

- GPS signal failure,
- shorter-than-average yellow lights,
- rapid fluctuations in street traffic,
- sudden lane blockages,
- cars parked incorrectly nearby
- hardware failure
- software failure

The bill unanimously approved by the Senate Commerce, Science, and Transportation Committee, has placed no requirements for a human driver to be present when autonomous driving systems are operating. But robot cars that can actually safely drive themselves without human monitoring and intervention simply do not exist yet, despite what AV technology manufacturers might have us believe.

Waymo said that its robot car technology disengaged once every 5,596 miles, or 63 times in 352,544 miles driven, because of problems with the technology itself and not "extraneous conditions" such as weather, road construction, or unexpected objects. Waymo reported that the most common reasons why human test drivers had to take control of a robot car were deficiencies in hardware, software, and perception.

GM's Cruise division, which claims it will put robot cars on the road for public use in 2019, logged the second most miles of the companies that were required to report on their testing. Its cars drove, a total of 131,675 miles and had 105 disengagements or one every 1,254 miles. These numbers show that legislation must account for the fact that AV technologies are not prepared to operate without human control and require designated certification standards in the legislation.

GM Cruise's report revealed that its AV technologies cannot correctly predict the behavior of human drivers, as 44 out of the 105 disengagements (about 40%) in which a driver took control, were cases where GM Cruise's technology failed when trying to respond to other drivers on the road.

We need to verify that self-driving cars can actually drive themselves before we put them on public roads. What makes a car self-driving other than an opinion of a car manufacturer interested in selling their product? Legislation must protect the public by designating standards that guarantee that new vehicles on the road can meet their purported capabilities.

Given that the most recent data shows that the robot cars do not presently satisfy the criteria developers hope to eventually meet, legislation should require that a human driver is present to take control when necessary for safety when the car is operating autonomously. At lower levels of automated technology, such as Tesla's Autopilot, systems must be in place to ensure that the driver remains continuously engaged in monitoring the situation. When such systems don't exist, people get killed.

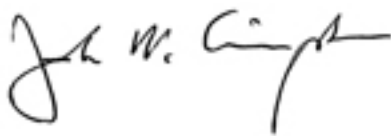
All other companies that released specific data detailing reasons for the disengagements, including Nissan and Drive.ai, a technology startup partnered with Lyft, confirmed Waymo's and GM Cruise's experiences. Nissan said it tested five vehicles, logged 5007 miles and had 24 disengagements. Meanwhile, Drive.ai had 151 disengagements in the 6,572 miles the company logged.

The purported intention of S. 1885 is to improve highway safety through the deployment of Highly Automated Vehicle (HAV) technologies. Commerce Committee Chairman Senator John Thune claimed that "the safety...benefits of self-driving vehicles are too critical to delay." Yet, the facts show that these cars may impose more of a risk to the public than the safety private AV technology manufacturers have misleadingly marketed to the public.

Consumer Watchdog calls upon the Senate to recognize the reality and heed the facts. Legislation must recognize the public safety risk these still developing technologies pose. You must carefully consider the regulations such technologies need, ones that should be far more thorough than the ones we have in place for current vehicle technologies.

Consumer Watchdog calls on you to protect highway safety and halt the AV START Act, S. 1885, unless it is amended to require enforceable safety standards that apply specifically to autonomous technology. For now, given the state of the technology as indicated by developers themselves, any AV legislation should require a human driver behind a steering wheel capable of taking control.

Sincerely,



John M. Simpson
Privacy and Technology Project Director



Sahiba Sindhu
Consumer Advocate