



THE MARYLAND HOUSE OF DELEGATES ANNAPOLIS, MARYLAND 21401

HB 1464

Vehicle Laws – Vehicle Data – Ownership and Use

Chair Barve, Vice Chair Stein, Colleagues on the Environment & Transportation Committee. The goal of HB 1464 is to protect the privacy of the data collected on us by our cars. More and more, our cars are becoming super computers. The comfort and convenience is great, but there is a danger as well. Our cars can gather data not only on speed and seat belt use, but travel locations and times. They can video not only the scenery around us or the car that sideswipes us, but also the occupants in the vehicle. We need to ensure that the data our cars collect is ours and protected.

What exactly are cars collecting? While it is unclear the full scope of the data being collected, some information can be found:

“As autonomous cars strive to make sense of the world around them, they collect massive amounts of data, including traffic and congestion patterns, where pedestrians cross the street, which houses and businesses have Wi-Fi, and other details, which could be monetized.”

<https://phys.org/news/2019-02-self-driving-cars-geospatial-keys.html>

Electric cars collect data:

- Including start and end times of journeys, connect and disconnect times of chargers, and the battery level. Cars with GPS navigation systems can also collect detailed information about routes. And advanced systems can record details like how much the air conditioning is used, or how hard a driver accelerates.
<https://www.bbc.com/future/article/20131015-hidden-habits-your-car-is-sharing>
- Including anonymized vehicle ID, time stamps (date and hour) at activity's beginning/end, distance travelled, activity's duration, state-of-charge, total consumed energy, GPS location, velocity, start/end battery temperature, start/end outside temperature.
<https://pdfs.semanticscholar.org/cf9d/a3813e8cba4d2cd622622aff8055bbbe46a8.pdf>

Equally if not more concerning is the footage captured by the increasing number of cameras in and on cars. There are ones that continuously monitor an unattended car or activate when a car is touched. Some cameras record the scenery during a trip while others watch the driver to make

sure s/he is paying attention. <https://www.washingtonpost.com/technology/2020/02/27/tesla-sentry-mode/> (This article is perhaps the most pointed piece I have read about car surveillance: the author notes the benefit of how the cameras on his Tesla captured who hit the car, and discusses the danger that comes from increased surveillance.)

Here are a few examples from car manufacturers' websites of their surveillance technology:
Tesla:

Sentry Mode adds a unique layer of protection to Tesla vehicles by continuously monitoring the environment around a car when it's left unattended. When enabled, Sentry Mode enters a "Standby" state, like many home alarm systems, which uses the car's external cameras to detect potential threats. If a minimal threat is detected, such as someone leaning on a car, Sentry Mode switches to an "Alert" state and displays a message on the touchscreen warning that its cameras are recording. If a more severe threat is detected, such as someone breaking a window, Sentry Mode switches to an "Alarm" state, which activates the car alarm, increases the brightness of the center display, and plays music at maximum volume from the car's audio system. If a car switches to "Alarm" state, owners will also receive an alert from their Tesla mobile app notifying them that an incident has occurred. They'll be able to download a video recording of an incident (which begins 10 minutes prior to the time a threat was detected) by inserting a formatted USB drive into their car before they enable Sentry Mode. <https://www.tesla.com/blog/sentry-mode-guarding-your-tesla>

Cadillac:

The CT6 utilizes four of the vehicles' seven exterior cameras to provide recorded video of the CT6's surroundings. The cameras are strategically placed without compromising the sculpted exterior — one in each door-mounted rearview mirror, one integrated into the front grille and one mounted on the rear trunk lid. When the video recording system is activated, the cameras can capture video in one of two modes: using the front and rear cameras during vehicle operation or using all four cameras in a round-robin fashion when the vehicle security system is armed. The latter mode will only record video once the CT6 has been disturbed. The same cameras are also used to provide a 360-degree display around the vehicle on the CUE screen to aid in vehicle maneuvering.

Cadillac expects the surround-vision video recording system to be used by CT6 owners to record events such as a memorable drive, for security in the case of a vehicle being tampered with or to record an incident.

Captured footage is stored on a standard SD card in the trunk of the vehicle. Owners can choose to save certain captures indefinitely on the SD card or they can view or save the video files onto their personal computers.

The three remaining cameras on the CT6 are utilized for the industry-leading and award-winning Rear Camera Mirror, the Lane Keep Assist system and the Night Vision system.

<https://media.cadillac.com/media/us/en/cadillac/news.detail.html/content/Pages/news/us/en/2016/jun/0614-ct6-surround-view.html>

Chevrolet

Owners of 2015 Chevrolet Corvettes will feel better about handing over the keys to their car, thanks to the new Valet Mode with Performance Data Recorder.

The industry-exclusive system allows drivers to lock the interior storage, disable the infotainment system and record video, and vehicle data when the Valet Mode is active.

“Think of it as a baby monitor for your car,” said Harlan Charles, Corvette product manager. “Anyone who has felt apprehension about handing over their keys will appreciate the peace of mind of knowing exactly what happened while their baby was out of sight.”

Introduced in 2014, the Corvette Valet Mode is turned on through the settings menu and activated by entering a unique four-digit code. A confirmation entry of the code simultaneously locks the storage bin behind the center stack display, the glove box and disables the radio and infotainment system.

With the introduction of the industry-first Performance Data Recorder for 2015, Corvette drivers can also record HD video, and vehicle data – including speed, engine RPM, gear position and g-force – when Valet Mode is active.

The video can be viewed instantly on the Corvette’s eight-inch color touchscreen when the car is parked, or downloaded to a computer.

“Performance Data Recorder was initially designed as a tool for track days, allowing drivers to record their laps and improve their driving skills,” said Charles. “We soon realized the system could have many more applications, such as recording a scenic drive up Highway 101, or recording when the Valet Mode is activated.”

The Performance Data Recorder – or PDR – system was developed with Cosworth, the British motorsports-engineering company that supplies the Corvette Racing team’s data acquisition and telemetry electronics systems.

The system includes a 720p, high-definition camera mounted within the windshield header trim, which records the driver’s point-of-view through the window.

<https://media.gm.com/media/us/en/gm/news.detail.html/content/Pages/news/us/en/2014/Aug/0818-corvette.html>

BMW:

BMW will use facial recognition technology to help take the drudgery out of stop-and-go traffic.

The semi-autonomous driving system, which debuts this year in the redesigned X5 crossover, allows for hands-free and pedal-free driving on limited-access highways and at speeds slower than 37 mph.

For the first time, BMW is using an in-cabin optical camera to address a critical challenge with semi-autonomous driving systems — ensuring that drivers are paying attention to the road... The fourth-generation X5 has a camera mounted in the instrument cluster that

checks to see that the driver's eyes are open and facing the road. The camera doesn't record in-cabin activity, BMW emphasized.

It's an approach Cadillac has taken with its Super Cruise semi-autonomous highway driving system. It is less intrusive than the steering wheel position sensors some automakers use to monitor driver alertness.

The camera-based approach provides direct feedback on whether the driver's attention is on the road, said Sam Abuelsamid, senior analyst with Navigant Research.

<https://www.autonews.com/article/20181001/OEM06/181009966/bmw-camera-keeps-an-eye-on-the-driver>

Volvo:

Volvo said on Wednesday it will use cameras installed inside its vehicles to monitor driver behavior and intervene if the driver appears to be drunk or distracted. It's a risky move by an automaker, even one with a reputation for safety like Volvo, which could raise concerns among privacy advocates.

Volvo's in-car cameras will monitor eye movements to gauge driver distraction and / or intoxication. If a driver looks away for a period of time, such as at a smartphone, or fails to keep their hands on the steering wheel, a representative from Volvo's on-call assistance centers will call them to check in. Drivers who aren't watching the road, or even have their eyes closed, will be warned as well. If they don't respond, the car will slow and even stop. The system will roll-out to all Volvo cars by early 2020.

<https://www.theverge.com/2019/3/20/18274235/volvo-driver-monitoring-camera-drunk-distracted-driving>

What are states doing about this? Not much. This year 3 states (AZ, MA & ND) have introduced privacy legislation relating to Automatic Vehicles. To date, I have seen no legislation to put privacy protections around the data collected by any other type of car.

I urge you to pass HB 1464 so we can protect our drivers and their privacy.