

Date: May 20, 2019

Ms. Heidi King  
Deputy Administrator  
National Highway Traffic Safety Administration  
1200 New Jersey Avenue, S.E.  
Washington, DC 20590

Subject: Docket No. NHTSA-2019-0016

RE: Docket No. NHTSA-2019-0016 [General Motors Petition for Temporary Exemption From Various Requirements of the Safety Standards for an All-Electric Vehicle With an Automated Driving System]

Safety Matters – 21st Century (Safety Matter) is submitting the following comments pursuant to the notice which appeared in the Federal Register on March 19, 2019.

Safety Matters is an organization that was recently formed to provide expert commentary on, but not limited to safety issues for autonomous vehicles from individuals possessing significant background in the field of automotive safety.

Safety Matters is providing the following comments on the following topics relative to the exemption GM is seeking under 49 CFR Part 555. Should the NHTSA grant GM's petition, we recommend NHTSA consider setting the terms and conditions as they relate to the following:

1. A system for assuring seat belt usage laws are followed.
2. Warnings regarding frontal Air Bag deployment zones.
3. Child Restraints

#### Seat Belt Usage

First, Safety Matters believes that any vehicle without a human driver must be equipped with a robust system that ensures seat belt usage by all vehicle occupants throughout the entirety of any given journey.

All states except New Hampshire have laws that require front seat occupants to wear seat belts, and even New Hampshire requires those under 18 years old wear seat belts. California, where it is anticipated that GM's "Zero Emission Autonomous Vehicle" (ZEAV) will be tested, has primary enforcement laws for seat belt usage for all occupants. Drivers in California are responsible for ensuring all passengers are belted, and if a passenger is unbelted, both the belted driver and the unbelted passenger receive citations (\$162 for an adult, \$435 for a child).

It seems like it should be a basic assumption that an Automated Driving System (ADS) must be capable of operating a vehicle in a manner compliant with all traffic laws, including those laws pertaining to seat

belt usage. However, it is unclear what exactly GM's plans with regards to assuring that the ADS is driving within the confines of the law regarding seat belt usage. GM states on page 38 of its petition, "The ADS will convey appropriate reminders and warnings to all vehicle occupants to fasten their seat belts prior to initiating a ride."

To drive in a manner compliant with the law, if a passenger becomes unbuckled while the vehicle is in motion, if necessary, a driver must stop the vehicle at the nearest safe location and wait until all passengers are buckled before proceeding.

Just as providing reminders and warnings to fellow passengers to fasten their seat belts does not relieve human drivers from their responsibility under the law, neither should doing so absolve an automated driver.

A vehicle sophisticated enough to negotiate traffic and avoid all associated road hazards, can certainly be equipped with a system capable of determining how many occupants there are inside the vehicle, whether they have their seat belts fastened, and respond appropriately.

Therefore, Safety Matters requests that among the terms and conditions for granting GM's petition, the ZEAV must be equipped with a system that ensures seat belt usage by all vehicle occupants in accordance with traffic safety laws.

#### Air Bag Deployment Warning

In addition to an accurate description of the vehicle's air bag system, FMVSS 208 S4.5.1(f)(1) requires that *...The owner's manual shall also explain that no objects should be placed over or near the air bag on the instrument panel, because any such objects could cause harm if the vehicle is in a crash severe enough to cause the air bag to inflate.*

Because GM's ZEAV will be used in taxi like service environment, it is unlikely that passengers will have any foreknowledge of where the frontal air bag deployment openings are located in the vehicle. With frontal air bag openings located on top of the dash, it would be ill advised for a passenger to place a book there. Students with a large heavy book bag and /or a musical instrument case on their laps might also be at risk.

Therefore, Safety Matters believes there should be a label with contrasting colors (perhaps bull's eye like) that clearly marks the location of any frontal air bag opening (including knee air bags) along with an associated warning against placement of objects there.

#### Child Restraints

Safety Matters is concerned that a taxi like service without a human driver present will not be conducive to the proper use of child restraints, or any use of them at all, especially forward-facing child restraints. While parents often take along infant carriers with them when they shop and run errands, they do not generally take along forward-facing child restraints. These are often heavy and bulky. It can take some time to properly install them, especially in a vehicle one is not familiar with. Add on to this,

simultaneously supervising the child, curb side, on a busy street and the possibility of unfavorable weather conditions.

For this and other reasons, Safety Matters believes that NHTSA should consider whether it would be appropriate to require the ZEAV be equipped with built-in child restraints for the rear outboard seating positions. GM used to provide built-in child restraints in certain vehicles as late as the 2005 Chevrolet Venture.