August 28, 2019

U.S. Department of Transportation
Docket Operations
Room W12-140
1200 New Jersey Avenue, S.E.
Washington, DC 20590
Submitted via www.regulations.gov

Re: Safe Integration of Automated Driving Systems-Equipped Commercial Motor Vehicles
Docket No. FMCSA-2018-0037

Dear Docket Clerk:

Pursuant to the Federal Motor Carrier Safety Administration (FMCSA) request for comments published in the May 28, 2019 *Federal Register* regarding Safe Integration of Automated Driving Systems-Equipped Commercial Motor Vehicles, Docket No. FMCSA-2018-0037, the Truckload Carriers Association (TCA) hereby submits these comments.

TCA, with offices at 555 East Braddock Road, Alexandria, VA, 22314, is the only national trade association whose collective sole focus is the truckload segment of the trucking industry. The association represents dry van, refrigerated, flatbed, and rail intermodal carriers operating in the 48 contiguous U.S. states, as well as Alaska, Mexico, and Canada. As a major part of an industry that has over half a million companies within the United States operating millions of power units, TCA and its trucking company members regularly comment on matters affecting the national transportation industry's common interests and the potential impacts these matters could have on our operations. With that in mind, TCA and its members are vitally interested in the FMCSA's objectives and strategies to advance safety and interstate commerce, particularly as they relate to the adoption of autonomous vehicle (AV) technologies. While TCA is still in the initial stages of considering how advanced driving systems (ADS) will affect our members, we have provided general answers to the questions outlined in FMCSA's *Federal Register* Notice.

1. **Do the FMCSRs require a human driver?**

TCA has consistently advocated for strong regulations to ensure our nation's roadways remain safe for all vehicles. We applaud FMCSA's efforts to avoid developing duplicative rules for commercial motor vehicles (CMVs) equipped with ADS, as streamlined, clear, and

consistent regulations are essential for truckload carriers operating in interstate commerce who may wish to add trucks with autonomous features to their fleets. TCA agrees that FMCSA can avoid unnecessary regulations by maintaining the current Federal Motor Carrier Safety Regulations (FMCSRs) for the integration of Levels 1-3 equipment as a licensed CMV operator must always be present in those vehicles.

TCA also believes FMCSA is correct in considering that a future "driver" may not be human, and we agree that FMCSA should consider updating the definition of "driver" and/or "operator" in 49 CFR 390.5 to reflect the new responsibilities of a human sitting in a CMV which is being driven by a computer, such as the actions that must be taken in the event of a malfunction. However, we strongly discourage FMCSA from promulgating regulations for Level 4 or 5 automation which eliminate all consideration of a human onboard the CMV during its operation. TCA maintains that a human "operator" should be present in all vehicles, regardless of their level of automation.

The Level 4 and 5 technology has not yet been developed to a point at which the general motoring public is removed from all risk of a malfunctioning or compromised ADS-equipped vehicle. The safety risk and potential loss of property that would result from a crash, in our view, leaves no reasonable alternative to a human being in position to take back control the vehicle at all times. TCA strongly advocates for driver-assist technology, but we cannot support any policy change that would completely remove any consideration of a human being physically present to take control if needed.

In the future, if ADS is more fully developed, and if all safety assurances have been met, standards must be fully outlined by FMCSA, the National Highway Traffic Safety Administration (NHTSA), and all other relevant federal agencies. However, we do not believe that these regulations can be established at this time without quickly becoming outdated and potentially hindering safety. Because this technology is developing at such a rapid pace, TCA cannot comment on our members' plans for adopting fully-functioning Level 4 and 5 CMVs, absent their commitment to have a human in the vehicle at all times.

2. **Commercial Driver's License (CDL) Endorsements**

TCA does not believe special endorsements should be required for individuals operating an ADS-equipped CMV. Because driver-assist features are becoming increasingly prevalent on today's vehicles, drivers are becoming more comfortable with ADS technology and should be able to easily adapt to the new features as they are rolled out. Some amount of training is likely needed at the carrier-level, similar to the driver finishing programs common throughout the industry. Since TCA does not support moving to an operational model in which an individual remotely monitors multiple CMVs, we cannot comment on those requirements at this time.

3. **Drivers' Hours of Service (HOS) Rules**
4. **Medical Qualifications for Human Operators**
5. **Distracted Driving and Monitoring**
6. **Safe Driving and Drug and Alcohol Testing**

For Questions 3-6, TCA affirms its support of ADS with humans present in the CMV operation. As such, all regulations relating to the human driver's HOS and medical qualifications, and the prohibition on devices and substances that can lead to distracted or intoxicated driving, must be maintained regardless of the level of autonomy present in the vehicle.

7. Inspection, Repair, and Maintenance

TCA strongly believes that every possible effort must be made to protect public safety by implementing rigorous inspection requirements for ADS-equipped CMVs. The individuals performing the inspection and maintenance of these vehicles must have the proper training, provided by the manufacturer. While it is too soon to determine best practices for inspection and maintenance, TCA believes that FMCSA should require documentation of the training received by those responsible for the vehicles, much like the pre-trip inspection process.

TCA also acknowledges that failure to apply safety-critical updates to any type of technology, including devices incorporated into CMVs on the roads today, can lead to significant safety lapses. While it would be difficult for FMCSA to enforce compliance with software updates, companies have the responsibility to implement safety patches when they become available from the software company, as failure to do so could lead to accidents. FMCSA could record whether a carrier has a mechanism in place to adopt software updates through its pre-established safety audits, but it is unlikely that FMCSA has the operational bandwidth to ensure every carrier is complying with every software update. Software developers and manufacturers also bear responsibility for developing and communicating the software updates, so federal regulators must ensure these companies are holding their devices to the highest safety standards as well. In the event of an accident, litigation will determine which entity should be held liable for a failure of an ADS-equipped vehicle and whether the accident was caused by the failure to adopt a safety-critical update by a carrier or the manufacturer or developer's failure to provide that necessary update.

8. Roadside Inspections

TCA does not believe carriers should be required to notify FMCSA that they are operating Level 4 or 5 ADS-equipped CMVs since these carriers are responsible for complying with the FMCSRs regardless of the technology being used. The industry is not currently in a position to begin widespread adoption of Level 4 or 5 technology, and as such, any requirements for notification to federal regulators could present an obstacle to adoption at the carrier level.

We agree that clear markings and malfunction indicators are appropriate to ensure the safety of any humans inside the vehicle as well as the motoring public, and to protect the value of the load being transported. These should be standardized by the manufacturers and should not be the responsibility of motor carriers. Law enforcement personnel should also be able to utilize these malfunction indicators to determine whether a vehicle can no longer operate safely, which should be followed-up with further analysis. The protocols for this analysis cannot presently be established, however we believe FMCSA should work with

manufacturers and the law enforcement community to develop these standards as the technological development progresses.

Additionally, we believe that these vehicles must be required to pull over safely at the direction of federal and state officials or first responders. Because Level 4 and 5 equipment is still being developed to comply with these real-world scenarios, TCA sees this as another example of the need for a human to be physically present in these vehicles. The artificial intelligence used to control AVs has not yet been proven to set the appropriate priorities in terms of safety. It is feasible that a situation may present itself in which, for example, the ADS-equipped CMV would have to choose between moving out of the way of an ambulance and engaging in a dangerous situation with a human-driven passenger vehicle on the road. In this sort of situation, we are confident that only a human CMV "operator" could make the appropriate decisions about safely maneuvering around both vehicles as the technology currently stands today.

9. Cybersecurity

TCA recognizes considerable safety and cargo risks associated with the integration of Level 4 and 5 ADS-equipped CMVs if humans are not physically present in those vehicles, which is just one of the many reasons why we support focusing on the Level 1-3 driver-assist technologies over the fully autonomous options at this time. As more advanced and secure ADS is developed, we encourage FMCSA at its partners at NHTSA to place the onus on manufacturers and software developers to protect the cybersecurity of the vehicles. As noted above, carriers must develop best practices for applying safety-critical software updates, but they will not have the expertise to develop and maintain in-depth cybersecurity systems at the carrier level. As with the software updates, FMCSA can ensure carriers have protocols in place to prevent hacking and protect cybersecurity to the extent possible through regular safety audits.

10. Confidentiality of Shared Information

TCA believes that the manufacturers and developers of ADS-equipped CMVs have an obligation to their customers to protect and responsibly use the data generated through these devices. While sensitive and non-sensitive data require different levels of protection and consent for use from the vehicle owner, there should be transparency as to the uses of the data once it has been collected. We affirm the ADS manufacturer or developer may only utilize data generated through the devices after the vehicle owner approves the data sharing through an agreement written in a concise manner and in plain language, and that the owner may elect not to share sensitive data with no risk to the operability of the ADS technology. Only after the manufacturer has received the appropriate consent from the vehicle owner can the data be shared with FMCSA in an aggregated and anonymized fashion.

We appreciate FMCSA's goal of being proactive in a time of rapidly changing technology, and we applaud the Agency for soliciting the input of all stakeholders as it considers updating regulations to reflect our new reality. We look forward to advancing

commonsense solutions to many of the obstacles presented by ADS-equipped vehicles to protect safety of all roadway users while ensuring innovation and technological progress.

Sincerely,

John Lyboldt
President
Truckload Carriers Association