

Cooperative Automated Transportation (CAT) Coalition Policy Legislative & Regulatory (PLR) Working Group

Summary of Truck Platooning Policy Issues Presented at the CAT PLR Working Group Webinar on February 1, 2019

What is truck platooning?

Platooning links two or more trucks electronically so that they can follow more closely, reducing fuel consumption and increasing highway capacity. With platooning, the acceleration and braking of the platooning trucks are linked using vehicle-to-vehicle communications technology so that a change in speed in the lead truck is immediately matched by the following trucks. In driver-assistive truck platooning, the drivers maintain control of the steering function for lane-keeping and lane-changing and have the ability to leave the platoon at any time. The systems are designed to adjust when another vehicle cuts into the space between the trucks, and the platooning trucks are equipped with active safety and collision avoidance systems to help prevent collisions. Platooning can reduce fuel consumption by 7.25% combined for both trucks in a two-truck platoon at a 40-foot gap at 65 mph.

What policy issues do States need to consider?

States should review their following distance laws and enforcement procedures as described below:

States are responsible for establishing and enforcing laws related to safe vehicle following distances. For trucks, there are basically two types of following distance laws in place in states:

- Numerical Minimum Following Distance
 - A defined numeric minimum following distance, e.g., “at least 500 feet” (in 24 states as of October 2018). These may prevent platooning.
- “Reasonable and Prudent”
 - A flexible, discretionary standard (in 26 states as of October 2018). Platooning can be legal under these laws.

States that wish to allow platooning should consider adding a provision to their current law that would exempt vehicles in a platoon (other than the lead vehicle) from the numerical standard.

Communication and education of law enforcement so that they will be able to identify appropriate truck platooning operations will help reduce the burden on law enforcement and reduce mis-identification of vehicles that are engaged in platooning.

How does truck platooning impact infrastructure and traffic operations?

Platooning operations can take place on any limited access, multi-lane, divided highway in any lane that currently allows trucks.

Infrastructure operators have expressed concern regarding the potential for platoons to subject bridges to stresses exceeding the bridge design specifications. While this is likely minimal (for example, a Florida DOT analysis found that fewer than one percent of bridges on their interstate and turnpike mainlines might be of concern), platooning systems can be programmed to automatically increase the distance between platooning trucks when approaching bridges of concern so as to not exceed maximum stress levels. This is actually an improvement over the current situation where there is no control over the spacing between trucks as they cross a bridge. During the November 2018 FHWA Workshop on Highway Automation Infrastructure Design and Safety, FHWA noted research they are conducting to understand structural safety regarding bridges with the introduction of Connected and Automated Vehicles. The results of this research could help infrastructure operators to better understand the factors that need to be considered when evaluating existing bridges or specifying design standards for new bridge construction to assure that the requirements for truck platooning are adequately addressed.

Traffic operations should be improved with platooning. At high market penetration, simulation studies have shown that platooning would improve flow in heavier traffic since platooning trucks take up less road space than trucks traveling alone.
