

Safety Priority Statement

Advanced Driver Assistance Systems and Speed Limiters in Large Trucks

Current Situation:

In 2019, there were more than 5,000 people killed in crashes involving large trucks, according to the National Highway Traffic Safety Administration (NHTSA). Since a low in 2009, fatalities in large truck crashes have increased 48 percent. Additionally, in 2018, 151,000 people were injured in crashes involving a large truck the latest year for which data is available.

Based on the latest full data ¹available, of the approximately 5,000 fatalities in 2018:

- 71 percent (3,525) were occupants of vehicles other than large trucks;
- 18 percent (885) were occupants of large trucks; and
- 11 percent (541) were nonoccupants (pedestrians, pedal cyclists, etc.).

Proposed Position:

Technology solutions can prevent or mitigate crashes and should be more widely deployed in large trucks. Advanced Driver Assistance Systems (ADAS) are vehicle technology that assist drivers to avoid crashes through passive notifications and active interventions. ADAS can include automatic emergency braking, adaptive cruise control, and lane departure warning. Speed limiting technology is already installed on most large commercial trucks and can be set to limit the maximum speed the truck may travel.

ADAS and speed limiters can reduce the frequency and severity of large truck crashes. Lives can be saved. Heavy truck manufacturers should install these technologies as standard equipment on new commercial vehicles that operate on US roads and Highways. ADAS should be subject to minimum performance standards, and speed limiters should be set at a safe maximum speed that will reduce crashes as demonstrated by objective, independent research.

Projected Reduction in Crashes:

ADAS and speed limiters can prevent and mitigate crashes from a wide range of causes including speed, distraction, fatigue, and impairment. In 2017, the AAA Foundation for Traffic Safety ²found that if all new large trucks were installed with automatic emergency braking and air disc brakes, 7,705 crashes, 92 deaths and

¹ <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812891>

² <https://aaafoundation.org/air-disc-brakes-leveraging-large-truck-technology-engineering-realize-safety-gains/>

4,200 injuries could be avoided annually. According to the U.S. Department of Transportation (DOT)³, truck speed limiters, if set to a maximum speed of 65 mph, could save more than 200 lives and prevent nearly 5,000 injuries annually.

ADVANCED DRIVER ASSISTANCE SYSTEMS

Advanced driver assistance systems (ADAS), sometimes referred to as collision avoidance systems, consist of technologies installed on large trucks that can assist drivers to avoid crashes. A field study of these technologies by NHTSA in 2016⁴, found that “CAS [collision avoidance systems] technologies show potential for significant safety benefits for commercial vehicle drivers.”

The newest generation of these technologies uses a combination of features that attempt to improve driver awareness, assist the driver in maintaining safe distances, and intervenes if the driver does not respond to a potential conflict. ADAS features include:

- **Collision Warnings** (forward collision warning and lane departure warning)
- **Collision Intervention** (automatic emergency braking)
- **Driving Control Assistance** (adaptive cruise control)
- **Parking Assistance**
- **Other Driver Assistance Systems**

Forward Collision Warning (FCW): This technology monitors the road environment ahead of the truck driver, using forward facing radar and/or video camera sensors. The system initiates an alert (audible, visual, haptic or some combination), if a front collision is likely, allowing the driver to begin an avoidance maneuver. FCW is comprised of Impact Alerts, Following Distance Alerts, and Stationary Object Alerts, which provide context about the urgency of the potential conflict.

Lane Departure Warning: Lane Departure Warning systems use sensors to detect a vehicle’s position within the lane and provides an alert (audible, visual, or haptic) to the driver whenever the vehicle begins to unintentionally (no turn signal) leave the lane of travel.

Automatic Emergency Braking: This technology automatically decelerates the vehicle to reduce the impact speed or avert the crash altogether.

In 2020, IIHS, concluded that “equipping large trucks with forward collision warning and automatic braking systems could eliminate 2 of 5 crashes in which a large truck rear-ends another vehicle.” The study further found that large trucks with forward collision warning and automatic emergency braking reduced rear-end crashes by 44 and 41 percent, respectively.

The European Union has required automatic emergency braking with forward collision warning on most new heavy trucks since November 2013, but the U.S. does not have a similar requirement.

³ <https://www.govinfo.gov/content/pkg/FR-2016-09-07/pdf/2016-20934.pdf>

⁴ https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/812280_fieldstudyheavy-vehiclecas.pdf

Adaptive Cruise Control: This technology is similar to cruise control, in that the truck technology can regulate both speed and following distance to a lead vehicle. Adaptive Cruise Control uses a sensor (radar, lidar, camera or other) to detect the speed and distance of any lead vehicle. If a lead vehicle is present and driving slower than the cruise control speed, ACC will slow the truck in order to maintain a safe distance.

SPEED LIMITERS

Background:

Since the early 1990s, all US manufacturers of heavy trucks, those weighing more than 26,000 lbs., have installed speed limiter technology.⁵ In 2015, a survey of trucking fleets by the American Transportation Research Institute (ATRI) found that 85 percent of trucking fleets used speed limiters on 100 percent of their fleet's trucks. The most common speed limit was 65 mph, ATRI notes.

State speed limits allow US trucks to travel on certain routes up to 80 mph, or higher, despite data from NHTSA that, in 2018, there were 9,378 fatalities in crashes where at least one driver was speeding, which is 26 percent of total traffic fatalities for the year.

According to the Federal Motor Carrier Safety Administration, 10,440 people were killed from 2004 to 2013 in large truck crashes, where the speed of the commercial motor vehicle (CMV) likely contributed to the severity of the crash.⁶ A 2012 study commissioned by FMCSA found that trucks not using speed-limiting technology had a speed limiter-relevant crash rate almost double that of trucks using a speed-limiting technology.⁷

According to IIHS, as of October 20, 2020, there are 14 states that have maximum speed limits of 75 mph or more, for cars and trucks.

Research shows that limiting the speed of a heavy truck improves safety, even if other vehicles are traveling at higher speeds. The FMCSA concluded “even though limiting heavy vehicles to 65 mph may increase the speed differential between these vehicles and the median travel speed on some roads, 65 mph speed limiting devices may actually reduce the risk of heavy vehicles being involved in a crash on roads with posted speed limits of up to 80 mph (i.e., 15 mph greater than 65 mph).”⁸

DOT proposed a speed limiter rule that was approved by the Office of Management and Budget and ultimately published by DOT for comment on Sept. 7, 2016. However, the agency has taken no further action on the subject.

Public Opinion:

A 2018 national survey of likely voters by McLaughlin and Associates found 79% support legislation requiring heavy vehicle speed limiters across all ethnic groups, geographies and political affiliations. In addition, 82% of respondents support equipping large trucks with AEB.⁹

⁵ See Page 21 in Federal Motor Vehicle Safety Standards; Federal Motor Carrier Safety Regulations; Parts and Accessories Necessary for Safe Operation; Speed Limiting Devices, 49 CFR Part 571, Docket No. NHTSA-2016-0087

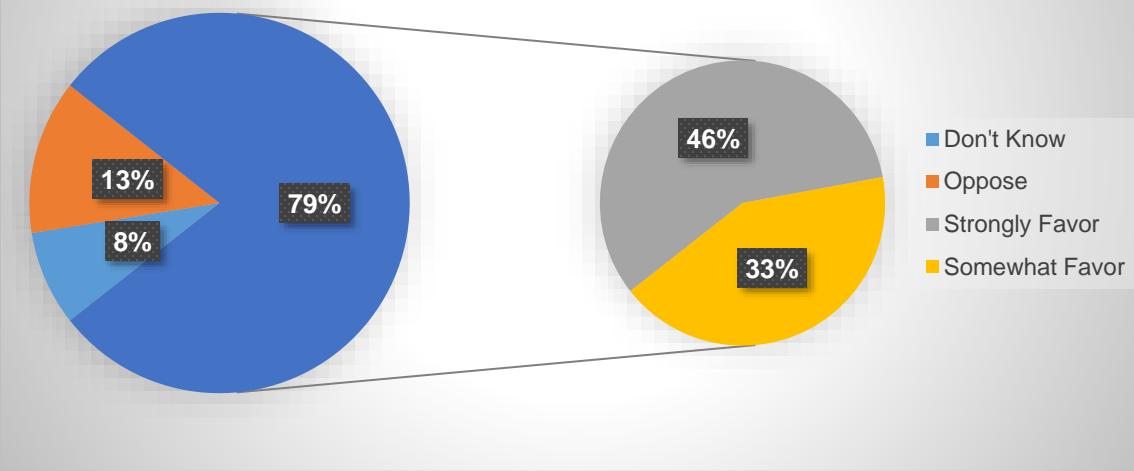
⁶ See Page 77 in Federal Motor Vehicle Safety Standards; Federal Motor Carrier Safety Regulations; Parts and Accessories Necessary for Safe Operation; Speed Limiting Devices, 49 CFR Part 571, Docket No. NHTSA-2016-0087

⁷ Hanowski, R. et al., Research on the Safety Impacts of Speed Limiter Device Installations on Commercial Motor Vehicles: Phase II, FMCSA-RRR-12-006, March 2012, available at <http://ntl.bts.gov/lib/51000/51300/51361/Speed-Limiters.pdf>

⁸ <https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/speed-limiter-pria-082016.pdf>

⁹ <https://roadsafeamerica.org/national-survey-results-2018/>

Support for Legislation Requiring Heavy Vehicle Speed Limiters



Supporters of Road to Zero Coalition Priority Statement on Speed of Large Trucks

Organization	Organization URL

Safety Priority Statement
ADAS and Speed Limiters in Large Trucks

Federal Sources of Data with Links

Large Truck and Bus Crash Facts 2018¹⁰; People Table 29. Drivers of Large Trucks in Fatal Crashes by Driver-Related Factors and Violations Recorded, 2016-2018

-“speeding of any kind” was the top driver-related factor/violation for drivers of large trucks in 2016, and 2017 and 2018.

Texas A&M Transportation Institute, Cost and Risk in At-Fault CMV Crashes

<https://static.tti.tamu.edu/tti.tamu.edu/documents/tti-cmv-crashes.pdf>

-Texas A&M Transportation Institute (TTI) looked at nearly 2,800 CMV crashes in 20 counties across the state of Texas and found that “speeding” was one of the driving behaviors that “had the most impact on CMV-at fault crashes.”

-This in-depth and informative report also concluded that when speeding was a contributing factor, estimated crash costs were 20 percent higher than crashes where speeding was not a contributing factor,” which is not entirely surprising considering TTI also concluded that “crashes with speed citations had a 170 percent greater injury/fatality risk per crash.

US Department of Transportation (2012), Research on the Safety Impacts of Speed Limiter Device Installations on Commercial Motor Vehicles: Phase II

-A speed limiter mandate would not impose an unreasonable burden on small carriers and owner operators:

-As the FMCSA noted in the NPRM, speed-limiting devices have been built into most big rigs since the 1990s. Thus there would be no capital expense required to include them on trucks with this technology already equipped in their engine control units.

-The agency also recognizes that trucking companies who do not yet limit their trucks can derive a financial benefit that has already been realized by companies that do limit their trucks: a “likely, [drastic reduction in] the amount of speeding citations received by heavy vehicle operators on roads with posted speed limits of 65 mph and greater.”¹¹

-This is in addition to the fact that the “rulemaking is expected to result in large fuel savings to the trucking industry as a whole... [with the agency estimating that] 30 percent of the fuel savings resulting from the proposed rule would be realized by small trucking companies.”¹²

-In short, there is not any clear evidence that speed limiters impact small owner-operators and trucking companies’ top lines, but there is overwhelming evidence that using speed limiters positively affects their bottom lines.

National Transportation Safety Board Most Wanted List

-Implement a Comprehensive Strategy to Reduce Speeding-Related Crashes

-Increase Implementation of Collision Avoidance Systems in All New Highway Vehicles

Safety Priority Statement ADAS and Speed Limiters in Large Trucks

¹⁰ https://www.fmcsa.dot.gov/sites/fmcsa.dot.gov/files/2020-09/LTBCF%202018-v5_FINAL-09-15-2020.pdf

¹¹ <https://www.govinfo.gov/content/pkg/FR-2016-09-07/pdf/2016-20934.pdf>

¹² <https://www.govinfo.gov/content/pkg/FR-2016-09-07/pdf/2016-20934.pdf>

The following strategies are being pursued by selected members of the Coalition:

Strategy #1: Require all large trucks and buses to use speed limiters set at a safe maximum speed that will reduce crashes as demonstrated by objective, independent research.

Goal #1: Support legislative and regulatory actions to implement this strategy

Using data and resources referenced in this priority statement, supporters can draft letters to legislators and regulators supporting speed limiters.

Member Actions: Members of the RTZ Coalition can take the following actions:

- Sign onto the Advanced Driver Assistance Systems (ADAS) and Speed Limiters in Large Trucks Priority Statement
- Contact additional stakeholders to urge them to support legislative and regulatory actions that implement this strategy.

The following strategies are being pursued by selected members of the Coalition:

Strategy #2: Require ADAS in new large trucks

Goal #1: Support legislative and regulatory actions to implement this technology

Using data and resources referenced in this priority statement, supporters can draft letters to legislators and regulators supporting ADAS.

Member Actions: Members of the RTZ Coalition can take the following actions:

- Sign onto the Advanced Driver Assistance Systems (ADAS) and Speed Limiters in Large Trucks Priority Statement
- Contact additional stakeholders to urge them to support legislative and regulatory actions that implement this strategy.