National Transportation Safety Board

Office of the Chair

Washington, DC 20594

June 13, 2022

Docket Management Facility
US Department of Transportation
1200 New Jersey Avenue SE
West Building, Ground Level
Room W12-140
Washington, DC 20590-0001

Attention: Docket No. FMCSA-2022-0004

Dear Sir or Madam:

The National Transportation Safety Board (NTSB) has reviewed the Federal Motor Carrier Safety Administration (FMCSA) advance notice of supplemental proposed rulemaking titled "Parts and Accessories Necessary for Safe Operations; Speed Limiting Devices," published at 87 *Federal Register* 86 on May 4, 2022. In the notice, the FMCSA announces its intent to proceed with rulemaking that will require motor carriers operating commercial motor vehicles (CMVs) that are equipped with an electronic engine control unit (ECU) capable of governing vehicle speed to limit the CMV to a speed to be determined by the rulemaking.[1] The FMCSA is considering making the rule applicable only to CMVs with a gross vehicle weight rating (GVWR) of 26,001 pounds or more that are engaged in interstate commerce.

This proposed rulemaking is a follow-up to the National Highway Traffic Safety Administration's (NHTSA's) and FMCSA's jointly issued September 7, 2016, notice of proposed rulemaking (NPRM) on speed limiting devices.[2] The NTSB supported this earlier effort but emphasized that we view a requirement for ECU-based speed limiters as an interim step, complementary to an eventual NHTSA requirement that all newly manufactured heavy CMVs be equipped with advanced speed limiting

[1] The ECU monitors an engine's rpm (from which the vehicle speed can be calculated) and controls the supply of fuel to the engine. CMVs with ECUs generally have the capability to electronically govern speed to prevent engine or other damage to the vehicle.

[2] Refer to 81 *Federal Register* 61942 (Sept. 7, 2016). Dockets concerning the proposed rulemaking can be accessed at www.regulations.gov (docket no. NHTSA-2016-0087 and docket no. FMCSA-2014-0083).

technology, such as variable speed limiters and intelligent speed adaptation devices.[3] Because we believe our comments on the 2016 NPRM are directly relevant to the FMCSA's current actions, our previously submitted comments on this topic are attached to this response.

The NTSB supports the FMCSA's efforts to reduce the number of crashes, fatalities, and injuries involving heavy CMVs (those weighing more than 10,000 pounds) operating at high speeds. Fatal crashes involving large trucks and buses have been steadily increasing over the past decade.[4] Between 2009 and 2019, fatal crashes involving these heavier vehicles increased by 47 percent. In 2019, there were 4,696 fatal crashes involving large trucks and buses, resulting in 5,244 fatalities, which was 1,625 more deaths per year compared to the 2009 data. Additionally in 2019, an estimated 182,000 people were injured in large truck and bus crashes.[5] Speeding was the causal driver-related factor most frequently cited for large truck drivers in fatal crashes in 2019.

Unfortunately, a decade after the NTSB first issued recommendations to NHTSA to require speed limiting technology on all heavy vehicles, and more than 5 years after the FMCSA and NHTSA initiated rulemaking on speed limiting devices, little progress has been made to implement this proven lifesaving technology.[6] The NTSB recommendations from 2012 remain classified "Open—Unacceptable Response." Based on this inaction, it appears that the US Department of Transportation (DOT) does not consider CMV speed limiting technology a priority. The DOT's National Roadway Safety Strategy identified "Safer Speeds" as a key objective; however, speed limiting technology was not included as a proposed strategy to reduce speeds.[7] Additionally, according to the Fall 2021 Unified Agenda of Regulatory and Deregulatory Actions, the DOT has classified development of speed limiter rules as a long-term action.[8]

---

[3] SAE International standard RP J2728 addresses and defines the protocols for heavy vehicle network communication and ECU system management. *Heavy vehicles*, as defined by J2728, are heavy-duty, ground-wheeled vehicles over 10,000 pounds, commonly referred to as vehicle classes 3–8.

[4] See Large Truck and Bus Crash Facts 2019, FMCSA, October 2021.

[5] See Large Truck and Bus Crash Facts 2019 (Trends Table 1/Trends Table 2), FMCSA, October 2021.

[6] See Safety Recommendations H-12-20 and -21 issued in the NTSB report *Motorcoach Run-Off-the-Road and Collision with Vertical Highway Signpost, Interstate 95 Southbound, New York City, New York, March 12, 2011*. Highway Accident Report NTSB/HAR-12/01 (Washington, DC: NTSB 2012).

[7] US Department of Transportation. January 2022. National Roadway Safety Strategy. https://www.transportation.gov/sites/dot.gov/files/2022-02/USDOT-National-Roadway-Safety-Strategy.pdf.

[8] A *long-term action* is regulatory activity that is not anticipated to be completed for at least 12 months. Refer to reginfo.gov for additional details.

The NTSB is pleased that the FMCSA has decided to move forward with this separate rulemaking that would require motor carriers to implement speed limiting technology using existing technology. Because the FMCSA is just beginning this supplemental rulemaking process, and no new regulatory language is being proposed, our comments will be brief. Within the FMCSA's notice of intent, the agency is specifically requesting comments on technical issues pertaining to the setting, adjustment, and maintenance of ECUs. Information received will be used to help develop a future supplemental notice of proposed rulemaking (SNPRM). Although the NTSB will not be providing responses to the general technical questions on the programming or adjustment of ECUs, we would like to comment on question 12, concerning whether the FMCSA should include CMV vehicle classes 3–6 (10,001–26,000 pounds GVWR) in the forthcoming SNPRM.

The NTSB believes that the FMCSA should include all CMVs over 10,000 pounds, if equipped with an ECU capable of governing speed, in future rulemaking. Motor carriers are responsible for ensuring the safe operation of all CMVs, not just those weighing over 26,000 pounds. Increased travel speed of heavy vehicles is associated with increased crash severity. At higher speeds, these vehicles become more difficult to maneuver—especially on corners, curves, or other locations where evasive action is required. These heavy vehicles also have greater propensity to roll over, due to their high centers of gravity and reduced braking efficiency. Speed limiting devices can reduce crash severity and improve controllability in certain circumstances, which is why the NTSB supports this approach as an interim step to an eventual rulemaking to equip these vehicles with advanced speed limiting technology.

In summary, the NTSB remains extremely concerned about the increasing number of fatal and injury crashes involving heavy CMVs. There is clear and convincing evidence that speeding is a significant causal factor in many of these tragedies. To address this safety issue, we have included the implementation of a comprehensive strategy to eliminate speeding-related crashes on the NTSB Most Wanted List of Transportation Safety Improvements.[9] A critical component of our Most Wanted List advocacy efforts has been our outreach to DOT agencies to urge regulators to initiate rulemaking requiring speed limiters on heavy CMVs. We are pleased that the FMCSA has decided to move forward with a motor carrier-based speed limiter rulemaking. We urge the FMCSA to include all CMVs over 10,000 pounds GVWR in the SNPRM. Finally, the NTSB repeats that we consider this proposed rulemaking an interim step toward an eventual requirement that all newly manufactured heavy vehicles be equipped with advanced speed limiting technology.

[9] See 2021–2022 NTSB Most Wanted List of Transportation Safety Improvements.

Sincerely,

Jennifer Homendy
Chair

Attachment: NTSB Response to 2016 NHTSA/FMCSA NPRM

Attachment: NTSB Response to 2016 NHTSA/FMCSA NPRM

National Transportation Safety Board
Washington, DC 20594

Office of the Chairman

November 2, 2016

Docket Management Facility
US Department of Transportation
West Building Ground Floor
Room W12-140
1200 New Jersey Avenue, SE
Washington, DC 20590-0001

Attention: Docket No. NHTSA-2016-0087 and Docket No. FMCSA-2014-0083

Dear Sir or Madam:

The National Transportation Safety Board (NTSB) has reviewed the National Highway Traffic Safety Administration (NHTSA) and the Federal Motor Carrier Safety Administration (FMCSA) joint Notice of Proposed Rulemaking (NPRM), "Federal Motor Vehicle Safety Standards; Federal Motor Carrier Safety Regulations; Parts and Accessories Necessary for Safe Operation; Speed Limiting Devices," which was published at 81 *Federal Register* 61942 on September 7, 2016. The notice proposes a new Federal Motor Vehicle Safety Standard (FMVSS) requiring that each new multipurpose passenger vehicle, truck, bus, and school bus with a gross vehicle weight rating of more than 26,000 pounds be equipped with a speed limiting device. The proposed FMVSS would also require each vehicle, as manufactured and sold, to have its device set to a speed not greater than a specified speed and to be equipped with means of reading the vehicle's current speed setting and the two previous settings through its On-Board Diagnostic connection. The FMCSA is proposing a complementary Federal Motor Carrier Safety Regulation to require devices meeting the requirements of the proposed FMVSS. Motor carriers operating such vehicles in interstate commerce would be required to maintain the speed limiting devices for the service life of the vehicle.

The NTSB supports NHTSA's and the FMCSA's efforts to reduce the number of crashes, fatalities, and injuries involving heavy commercial vehicles operating at high speed. The NPRM provides evidence to show that increased travel speed is associated with increased crash severity. Furthermore, speed is the leading driver-related factor in large truck crashes. Between 2012 and 2014, speeding was identified as a factor in 21 to 24 percent of fatal truck crashes in which a driver-related factor was recorded.[1] Moreover, speeding violations accounted for over 32 percent of the more than 398,000 traffic enforcement violations issued to drivers of large trucks and buses during calendar year 2015.[2] NHTSA and the FMCSA estimate that by requiring heavy

[1] Large Truck and Bus Crash Facts 2014 (People Table 29, page 103), FMCSA, March 2016.

[2] Traffic Enforcement Violation Summary (2015), FMCSA, Analysis and Information Online, accessible at https://ai.fmcsa.dot.gov/SafetyProgram/spRptTraffic.aspx?rpt=TEBC. Note: Approximately 29 percent of the speeding violations were for speeding 11 mph over the posted speed limit.

vehicles to be equipped with a speed limiting device set at 65 mph, 63 to 214 lives would be saved annually, 70 to 236 serious injuries would be prevented, and 1,299 to 4,535 minor injuries would be prevented.[3]

Although the NTSB generally supports the proposed rule, we view this effort as an interim step toward an eventual requirement that all newly manufactured heavy vehicles be equipped with advanced speed limiting technology, such as variable speed limiters and intelligent speed adaption (ISA) devices. Although electronic engine control unit (ECU)-based speed limiters prevent vehicles from exceeding a set maximum speed, they do not (1) prevent speeding in locations where the speed limit is lower than the governed speed, or (2) stop vehicles from exceeding the governed speed when traveling downhill. Furthermore, the majority of speeding-related heavy vehicle crashes involve heavy vehicles traveling at unsafe speeds for conditions (for example, speed-restricted areas, traffic-congested areas, poor weather conditions, etc.) rather than crashes involving trucks and buses traveling at high rates of speed above 65 mph.[4]

The following comments provide a background on NTSB speed-related crash investigations and our recommendations for advanced speed limiting technology. Additional remarks are provided regarding NTSB support for limiting the top speeds of heavy commercial vehicles.

NTSB Investigations of Speed-Related Crashes

The NPRM understates the NTSB's crash investigation history by describing only one motorcoach crash in which excessive vehicle speed was cited as a major safety risk. In addition to the high-speed, nine-fatality motorcoach crash in Mexican Hat, Utah, referenced in the NPRM,[5] the NTSB investigated other crashes in which speed was found to be a contributing factor.

On March 12, 2011, a 56-passenger motorcoach was traveling southbound on Interstate 95 in New York, New York, in an area with a posted speed limit of 50 mph.[6] The fatigued bus driver allowed the motorcoach to depart from the travel lanes to the right. The bus subsequently struck a guardrail, overturned 90 degrees onto the guardrail, and collided with a signpost. The impact resulted in the roof panel being torn from the bus body for almost the entire

---

[3] NHTSA and the FMCSA did not provide a specific set speed for the proposed speed limiting device. In addition to estimating the lives saved and injuries to be prevented if the device were set at 65 mph, estimates were also provided for set speeds of 60 mph and 68 mph.

[4] There were 225 heavy vehicles (>26,000 lbs. gross vehicle weight rating) identified in speed-related crashes in NHTSA 2014 Fatality Analysis Reporting System (FARS) data. Of these, 67 percent were coded as traveling "too fast for conditions." Among those vehicles with valid traveling speed estimates, 75 percent were traveling slower than 60 mph.

[5] *Motorcoach Run Off the Road and Rollover US Route 163, Mexican Hat, Utah, January 6, 2008.* Highway Accident Report NTSB/HAR-09/01 (Washington, DC: NTSB 2009).

[6] *Motorcoach Run-Off-the-Road and Collision with Vertical Highway Signpost, Interstate 95 Southbound, New York City, New York, March 12, 2011.* Highway Accident Report NTSB/HAR-12/01 (Washington, DC: NTSB 2012).

length of the motorcoach. As a result of the crash, 15 passengers were killed and 17 passengers received serious to minor injuries. The bus ECU was governed to limit the vehicle's maximum road speed to 78 mph. Data from the ECU indicated that vehicle speeds ranged from 61 to 78 mph during the 60 seconds leading up to the crash, and the motorcoach was traveling at least 64 mph prior to impacting the guardrail. The NTSB investigation indicated that had the bus driver been operating the motorcoach at or below the posted 50 mph speed limit, the rollover and subsequent collision with the vertical highway signpost would most likely have been prevented. As a result of the New York motorcoach crash investigation, the NTSB issued Safety Recommendations H-12-020 and -021 recommending that NHTSA –

> Develop performance standards for advanced speed limiting technology, such as variable speed limiters and intelligent speed adaptation devices, for heavy vehicles, including trucks, buses, and motorcoaches. (H-12-020) (Open—Acceptable Response)
>
> After establishing performance standards for advanced speed limiting technology for heavy commercial vehicles, require that all newly manufactured heavy vehicles be equipped with such devices. (H-12-021) (Open—Acceptable Response)

Further highlighting the need for advanced speed limiting technology were heavy vehicle truck crashes in Chesterfield and Cranbury, New Jersey. The Chesterfield crash occurred on February 16, 2012, and involved an intersection crash between a fully loaded dump truck transporting a load of construction debris and a school bus transporting elementary school students.[7] One bus occupant was killed and 15 others were injured. The NTSB investigation determined that the speed of the truck contributed to the severity of the crash.[8]

The Cranbury crash occurred on June 7, 2014, on Interstate 95 (New Jersey Turnpike).[9] A truck-tractor semitrailer was traveling northbound at 65 mph in a work zone that had a posted speed limit of 45 mph. The truck struck the rear of a slowly moving limo van, which led to a series of impacts with other vehicles in the area. The limo van overturned and came to rest on its side. One limo van occupant was killed and four others were seriously injured. A technical reconstruction determined that, had the truck been traveling at 45 mph, it could have stopped before it struck the limo van. Because ISA technology can provide a much needed countermeasure to excessive heavy vehicle speed in speed-restricted zones, the NTSB reiterated Safety Recommendations H-12-020 and -021 to NHTSA.

Advanced Speed Limiting Technology

Advanced speed limiting technology, such as ISA devices, can help prevent drivers from exceeding speed limits by using information about the vehicle's position—taking into account

---

[7] *School Bus and Truck Collision at Intersection Near Chesterfield, New Jersey; February 16, 2012.* Highway Accident Report NTSB/HAR-13/01 (Washington, DC: NTSB 2013).

[8] NTSB investigators determined the speed of the truck leading up to the crash was 53-58 mph in an area with a 45 mph speed limit.

[9] *Multivehicle Work Zone Crash on Interstate 95, Cranbury, New Jersey, June 7, 2014.* Highway Accident Report NTSB/HAR-15/02 (Washington, DC: NTSB 2015).

speed limits known for the position—and by interpreting road features such as signs. ISA systems are designed to detect and alert a driver when a vehicle has entered a new speed zone or when different speed limits are in force. Moreover, many ISA systems can also provide information about driving hazards (for example, school zones, highway-railroad crossings, and high pedestrian movement areas.)

Within the NPRM, NHTSA asserts that advanced speed limiting technology would not be feasible or cost effective at this time. The NTSB urges NHTSA to research this technology further and to conduct outreach to trucking and bus fleets currently using ISA technology. Furthermore, the safety benefits and driver acceptance of ISA devices have been researched and tested in Europe and Australia. NHTSA should review published ISA research and engage in discussions with its international safety counterparts before dismissing advanced speed limiting technology as a regulatory alternative.

Support for Proposed Speed Limiting Devices

Although the NTSB preference would be for NHTSA to develop rulemaking requiring that all newly manufactured heavy vehicles be equipped with advanced speed limiting technology, we support the proposed rulemaking as an interim measure. The NPRM clearly describes how the severity of a heavy vehicle crash increases with travel speed and outlines the safety benefits of ECU-based speed limiters.

Beyond affecting crash severity, excessive speed can influence driver performance. As vehicle speed increases, so does the distance traveled while the driver's brain is processing roadway information. Consequently, the rate at which a driver must process information about the highway and its environment increases directly with increasing travel speed. Once the information processing demands exceed the processing capabilities of the driver, a crash is likely to occur.[10]

Additionally, at higher speeds, large trucks and buses become more difficult to maneuver—especially on corners, curves, or where evasive action is required. Compared to passenger vehicles, commercial trucks and buses have reduced maneuverability, greater propensity to rollover, due to higher centers of mass; and reduced braking efficiency. The NTSB has investigated numerous large truck and bus crashes in which the initiating event was a mechanical deficiency (for example, tire or brake failure). Drivers are less likely to regain control of a heavy vehicle after experiencing a mechanical failure when operating at higher speeds.

Managing the top speed of heavy vehicles is also necessary to ensure compatibility with the roadway environment and infrastructure. In several investigations, the NTSB has found that roadside barriers, such as median barriers, were unable to retain or redirect heavy vehicles involved in run-off-road crashes. Barriers are evaluated through crash testing to meet minimum performance standards, and state highway departments select barriers based on various factors, including the roadway geometric configuration, volume of vehicle traffic, speed limit of the

[10] D. Shinar, *Psychology on the Road: The Human Factors in Traffic Safety*. (New York: Wiley 1978).

roadway, and rate of crashes in the region.[11] For example, a Test Level 5 barrier is designed to withstand a 79,300-pound tractor-trailer van striking the barrier at a 15-degree angle at 50 mph. Since such performance limitations exist, it seems reasonable and practical to limit the speed of heavy vehicles so that operating parameters do not exceed the capacities of our infrastructure and lead to catastrophic results in a crash.

Summary

The NTSB is pleased that NHTSA and the FMCSA are working together to develop regulations to limit the speed of heavy vehicles as a means of reducing the severity of crashes and the resulting fatalities and injuries. The NTSB supports the proposed rulemaking as an interim step toward an eventual requirement that all newly manufactured heavy vehicles be equipped with advanced speed limiting technology, such as variable speed limiters and ISA devices. We appreciate the opportunity to comment on this proposed rulemaking and look forward to working with your agencies toward our shared goal of reducing crashes, injuries, and fatalities on our nation's highways.

Sincerely,

Christopher A. Hart
Chairman
Approved for Electronic Transmittal
No Hard Copy Will Follow

[11] *Manual for Assessing Safety Hardware (MASH)*, American Association of State Highway and Transportation Officials, Washington, DC, 2009.