

*Before the*

**U.S DEPARTMENT OF TRANSPORTATION  
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION**

*and*

**FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION**

**PETITION FOR RULEMAKING BEFORE NHTSA  
TO AMEND 49 CFR PART 571:**

*TO REQUIRE VEHICLE MANUFACTURERS TO INSTALL SPEED LIMITING  
DEVICES SET AT NO MORE THAN 68 MPH ON NEW TRUCKS WITH A GVWR  
OF GREATER THAN 26,000 POUNDS*

**PETITION FOR RULEMAKING BEFORE FMCSA  
TO AMEND 49 CFR PARTS 393 & 396:**

*TO PROHIBIT THE ADJUSTMENT OF MAXIMUM SPEED ON AN INSTALLED  
SPEED LIMITING DEVICE ON NEW TRUCKS OR  
TRUCK TRACTORS WITH A GVWR OF GREATER THAN 26,000 POUNDS TO  
A LIMIT GREATER THAN 68 MPH*

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## **I. PETITION TO NHTSA**

The American Trucking Associations<sup>1</sup> (ATA), on behalf of its members, petitions the National Highway Traffic Safety Administration (NHTSA), pursuant to 49 CFR §552.3, to initiate a rulemaking to amend the Federal Motor Vehicle Safety Standards (FMVSS), at 49 CFR §571, to require vehicle manufacturers to install a device limiting the speed of trucks with a Gross Vehicle Weight Rating (GVWR) of greater than 26,000 pounds to no more than 68 miles per hour (mph). This new requirement is necessary in order to reduce the number and severity of crashes involving large trucks. ATA believes that this rule should not apply to trucks with a GVWR of 26,000 pounds or less because a substantial number of these vehicles rarely operate on highways that will accommodate such high speeds. The substance of the rule should include the following elements:

- All newly manufactured trucks with a GVWR greater than 26,000 pounds shall be equipped with an electronic control module (ECM) that is capable of limiting the maximum speed of the vehicle.
- The ECM should be set at no more than 68 mph by the manufacturer.
- The ECM should be tamper-resistant, and should be designed in a way that does not allow the speed limiter setting on the ECM to be adjusted to let the vehicle exceed 68 mph.
- Immediately upon the rule taking effect, manufacturers should be prohibited from setting the ECM speed limiter to a maximum speed of greater than 68 mph. However, this requirement should not take effect earlier than the effective date of a Federal Motor Carrier Safety Administration (FMCSA) rule prohibiting vehicle owners or operators from setting the ECM speed limiter at a level greater than 68 mph for newly manufactured trucks.
- The effective date for installation of a tamper-resistant ECM should be established with a period of time that will allow manufacturers to undergo a systems integration process. The change to the engine ECM may affect other devices on the vehicle; therefore, manufacturers need some time to ensure that the vehicle functions properly. ATA encourages NHTSA to seek information from manufacturers to determine the length of time necessary to come into compliance with the rule.

## **II. PETITION TO FMCSA**

ATA also petitions the FMCSA, pursuant to 49 CFR §389.31, to initiate a concurrent rulemaking with NHTSA to prohibit owners and operators from adjusting the ECM in affected vehicles in a way that enables the vehicles to exceed 68 mph. The substance of the rule should include the following elements:

- A requirement that all trucks and truck tractors with a GVWR greater than 26,000 pounds, which are manufactured on or after the date that the NHTSA ECM rule takes effect, are to be equipped and maintained with an ECM that limits the vehicle's speed to no more than 68 mph.

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<sup>1</sup> The American Trucking Associations is the largest national trade association for the trucking industry. Through a federation of other trucking groups, the industry-related conferences and its 50 affiliated state trucking associations, ATA represents more than 37,000 members covering every type of motor carrier in the United States.

- A requirement prohibiting vehicle owners and operators from installing and using a device that is designed to defeat the function of the ECM's speed limiter and which allows the vehicle to operate at greater than 68 mph.

### III. JUSTIFICATION FOR RULEMAKING

ATA believes that reducing speed-related crashes involving trucks is critical to NHTSA's and FMCSA's safety missions. A lack of focus on speed as a causal or significant contributing factor in crashes involving large trucks represents a significant gap in the federal government's truck safety strategy. While much of the federal truck safety budget has focused on ensuring the safe condition of equipment, on driver fatigue, and on prevention of impaired driving, it is clear from the research that speeding is a more significant factor in crashes involving trucks than any of the factors that currently receive the largest proportion of agency attention and resources.

According to *FMCSA's Large Truck Crash Facts 2004*, driving too fast for conditions or in excess of posted speed limits by the truck driver were factors in 14 percent of single-vehicle crashes and seven percent of multiple-vehicle crashes that resulted in a fatality. By comparison, just 3.2 percent of truck drivers were found to have consumed alcohol and 1.4 percent were drowsy or fatigued.

The joint FMCSA-NHTSA *Large Truck Crash Causation Study*, released in 2006, found that in crashes where trucks were assigned the critical reason for the crash, "Traveling too fast for conditions" was cited as the critical pre-crash event 18 percent of the time (weighted estimate). **This was the single most frequently cited factor in crashes where trucks were assigned a critical reason.**

Kostyniuk (2002) documented the frequency of unsafe truck driver actions in fatal automobile-truck accidents. The top three factors were: (1) failure to yield the right of way (14%), (2) failure to keep within the lane or running off the road (12%), and (3) driving too fast for the road conditions or exceeding the speed limit (11%).<sup>2</sup>

ATA acknowledges that many truck-involved crashes in which speed was cited as a factor do not involve speeds in excess of 68 mph. However, there are a significant number of fatal crashes and many non-fatal crashes where a higher truck speed is a factor. Based on five years of fatal crash data, speeding on the part of the truck driver was cited as the number one driver-related factor in fatal accidents involving a large truck (7.7%).<sup>3</sup> Looking only at higher-speed roads (those with a speed limit of 50 mph or more), speeding remains the most frequently cited driver-related factor at 8.1%.<sup>4</sup> In both cases, this factor topped the second most cited driver-related factor (i.e., run off the road/lane) by a fairly wide margin.

ATA analyzed five years of fatal truck-involved crash data.<sup>5</sup> We found that in 20 percent of truck-involved fatal crashes where speeding on the part of the truck driver was cited as a factor

<sup>2</sup> Kostyniuk, L.P., Streff, F.M. and Zakrajsek, J. (2002). *Identifying Unsafe driver Actions that Lead to Fatal Car-Truck Crashes*, AAA Foundation for Traffic Safety.

<sup>3</sup> Univ. of Michigan. *Truck-Involved Fatal Accidents (TIFA)*, 1999-2003.

<sup>4</sup> Ibid.

<sup>5</sup> NHTSA Fatality Analysis Reporting System, 2001-2005.

in the crash, and the truck's speed was recorded, the speed of the truck exceeded 68 mph. However, because the truck's speed is reported by investigating officers in only about half of truck-involved fatal crashes, it is impossible to determine the actual number of potential crashes that might be avoided by limiting top truck speed to 68 mph. However, reasonable assumptions can be made and ATA believes the number of fatal crashes that could be avoided is significant. ATA also believes that the costs involved in implementing and enforcing the proposed regulation are small relative to the potential benefits associated with fewer highway fatalities, fewer injuries, less property damage and many other crash-related costs. These factors, as well as the potential operating cost savings and associated emissions reductions and other societal benefits that will likely result from implementation of the proposed regulation, should be accounted for in a cost-benefit analysis.

The relationship between vehicle speed and crash severity is also well-documented. According to the Federal Highway Administration's *Synthesis of Safety Research Related to Speed and Speed Limits* (1998), the more kinetic energy to be dissipated in a collision, the greater the potential for injury to vehicle occupants. The kinetic energy of a moving vehicle is a function of its mass and velocity squared. Because kinetic energy is determined by the square of the vehicle's speed, rather than by speed alone, the probability of injury, and the severity of injuries that occur in a crash, increase exponentially with vehicle speed. For example, according to the synthesis, a 30 percent increase in speed results in a 69 percent increase in the kinetic energy of a vehicle. And, since mass is a key element of the equation, ATA's recommended approach is to focus this speed-limiting requirement on the larger trucks with a GVWR greater than 26,000 pounds.

Although it's older research, Solomon (1964) analyzed 10,000 crashes and observed that crash severity increased rapidly at speeds in excess of 60 mph, and that the probability of fatal injuries increased sharply above 70 mph.<sup>6</sup> These conclusions are supported by subsequent research. A Transportation Research Board report summarized the research on crash severity as follows:

*In summary, all of the studies that have investigated the link between vehicle speed and injury severity have found a consistent relationship. As driving speed increases, so does the impact speed of a vehicle in a collision. Increased impact speed, in turn, results in a sharp increase in injury severity because of the power relationship between impact speed and the energy released in a crash.<sup>7</sup>*

Higher crash speeds also reduce the ability of the vehicle, restraint system, and roadway hardware such as guardrails, barriers, and impact attenuators to protect vehicle occupants. This is especially true in crashes involving large trucks.

It is also noteworthy that after years of trending downward in the 1980s, the proportion of speeding as a truck driver factor in crashes, as well as the number of fatalities in truck-involved

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<sup>6</sup> Solomon D. (1964). *Accidents on Main Rural Highways Related to Speed, Driver and Vehicle*. Washington, DC: US Department of Commerce & Bureau of Public Roads.

<sup>7</sup> Transportation Research Board Special Report 254 (1998). *Managing Speed: Review of Current Practice for Setting and Enforcing Speed Limits*, p. 66.

crashes where speeding is a factor, seems to have leveled off since 1992.<sup>8</sup> ATA believes that without a major change in truck speed policy at the national level, this trend is likely to continue.

#### IV. COSTS AND BENEFITS

ATA also believes that a cost-benefit analysis of the proposed regulation will show a clear justification for this truck speed limiting proposal. We urge the agencies to consider the following factors:

##### Costs

- *Cost to manufacturers to install ECMs with a speed limiting capability.* Since, to the best of our knowledge, all manufacturers of the vehicles affected by this petition already install the device as a standard feature, there is likely to be little or no additional cost associated with this requirement.
- *Initial cost to manufacturers to set the ECM at a speed no higher than 68 mph.* Because manufacturers already set the ECM at a speed specified by the customer prior to vehicle delivery in many cases, there should be little or no additional costs associated with this requirement.
- *Cost to manufacturers to develop and install a tamper-resistant ECM.* Additional input from manufacturers is needed to determine these costs. However, our initial discussions with engine manufacturers suggest that the development costs may be minimal.
- *Cost to carriers due to productivity loss.* Because average truck speeds for some fleets might be reduced by the proposed regulation, there is the potential for a loss of revenue-miles and therefore a loss of income. However, these costs are likely to be partially or fully offset by reduced fuel consumption, fewer accidents, and less equipment wear.<sup>9</sup> These offsets are more fully explained in the Benefits discussion below.
- *Cost to truck drivers due to loss of income.* Since a practice in some sectors of the trucking industry is to pay drivers according to the number of miles they drive, limiting a vehicle's speed may, in a small way, negatively impact some drivers' wages. ATA believes that due to a current and projected long-term shortage of qualified drivers in the sector most likely to be impacted by the proposed regulation (i.e. the long-haul truckload sector),<sup>10</sup> employers will likely compensate drivers for some small loss of income.
- *Cost to law enforcement agencies due to additional enforcement requirements*  
In order to minimize enforcement costs while ensuring adequate compliance, ATA recommends that FMCSA, along with its state partners, should adopt the following enforcement regime:

1) Use the SAFESTAT system, along with other data received from state licensing agencies, to create red flags in the SAFESTAT system to identify potential violators. This could be done by setting up a system that would red flag companies that receive two or more speeding tickets for exceeding the 68 mph limit, either in the same truck or in multiple trucks. If a

<sup>8</sup> NHTSA. Fatality Analysis Reporting System 1992-2004.

<sup>9</sup> Johnson, Steven L. and Naveen Pawar. *Cost-Benefit Evaluation of Large Truck-Automobile Speed Limit Differentials on Rural Interstate Highways*, Nov. 2005.

<sup>10</sup> Global Insight, Inc. *The U.S. Truck Driver Shortage: Analysis and Forecasts*, May 2005.

driver and/or company has multiple violations it would be a good indicator of tampering with the device(s).

Based on our current knowledge, under the new approach that FMCSA is considering as part of its Comprehensive Safety Analysis (CSA) 2010, a red flag would target a company for a visit from FMCSA or a MCSAP partner agency for a focused compliance review (CR) of their fleet and the settings on the ECMs. This could also be used as a flag in the roadside system to have the company's vehicles inspected at inspection locations for properly functioning ECMs.

- 2) During a CR and the New Entrant Safety Audit, ensure that a maintenance system is set up and the company understands the penalties for tampering with the ECM device.
- 3) Require that a functioning device set at no more than the legal speed should be a part of the vehicle's annual inspection under 49 CFR 396.
- 4) Set the penalties high for tampering with the device (changing the mandatory speed or disabling the device), or for the company failing to take corrective action when notified by a driver of a malfunctioning device.
- 5) Require drivers to report to the company any problems with the ECM in their post-trip vehicle inspection report. This might include any information a driver has which would indicate the vehicle was exceeding 68 mph (not just a citation). This puts the company on notice of the problem and requires the company to take immediate corrective action. This also helps create red flags during the CR process for investigators.

## **Benefits**

- *Reduced crash costs.* It is apparent from the available research that, in general, slower speeds are likely to reduce both the number and severity of crashes involving large trucks, particularly high speed fatal and serious injury crashes. The vast majority of vehicles likely to be affected by this rule are tractor-semitrailers. According to one study, total costs per crash involving these trucks, was \$72,459 (in 2000 dollars).<sup>11</sup>
- *Reduced fuel consumption.* According to research conducted by ATA's Maintenance Council, and which has been confirmed by vehicle manufacturers, each increase in vehicle speed of 1 mph reduced the fuel efficiency of a heavy truck by 0.1 miles per gallon.<sup>12</sup>
- *Reduced congestion costs.* Fewer crashes as a result of lower truck speeds will also have an effect on congestion costs. According to a study conducted for FMCSA and the Federal Highway Administration, costs due to lost productivity from delays as a result of large truck-involved crashes averaged \$4,800 (in 2000 dollars).<sup>13</sup> Another study by NHTSA found that

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<sup>11</sup> Zaloshnja, Eduard and Ted Miller, Pacific Institute. Revised Costs of Large Truck- and Bus-Involved Crashes, Nov. 18, 2002, p. 24.

<sup>12</sup> The Maintenance Council. *55 vs. 65+, An Equipment Operating Costs Comparison*, 1996.

<sup>13</sup> Zaloshnja, Eduard and Ted Miller, Pacific Institute. Revised Costs of Large Truck- and Bus-Involved Crashes, Nov. 18, 2002, p. 24.

a fatal heavy vehicle crash caused an average 7,835 hours of delay on a rural Interstate Highway and 21,749 hours of delay on an urban Interstate Highway.<sup>14</sup>

- *Reduced vehicle emissions.* The research in this area is somewhat dated, and the effect of reducing the speed of large trucks on emissions is somewhat unclear. In addition, the Environmental Protection Agency's models do not predict changes in emissions for large trucks above 65 mph. However, based on the upward curve in emissions – particularly oxides of nitrogen (NO<sub>x</sub>) – that occurs as speed increases, it is likely that reducing the average speed of trucks will also reduce overall emissions.<sup>15</sup> ATA encourages NHTSA and FMCSA to work with EPA to improve and update EPA's MOBILE emissions model in order to determine the potential effects of the proposed rule on air quality.
- *Reduced tire costs.* According to at least one tire manufacturer, for every 1 mph increase in operating speed over 55 mph, there is a reduction of 1% in tread mileage. Another manufacturer states that higher speeds reduce tire life by 10-30%.<sup>16</sup>
- *Reduced vehicle maintenance costs.* According to a 1996 report by ATA's Maintenance Council, an increase in operating speed from 55 mph to 65 mph produced a 10-15% decrease in miles-to-engine overhaul; increased oil consumption by 15%; shortened mileage between preventive maintenance intervals; decreased tire life; and reduced brake lining life by up to 15%.<sup>17</sup>
- *Reduced highway patrol traffic and speed enforcement costs.* As time progresses following implementation of these proposed rules, there will be fewer and fewer trucks operating at speeds in excess of posted speed limits. The regulatory regime proposed allows law enforcement to specifically target the excessive speeders, and focus on company wide practices rather than on many individual vehicles. Additionally, through a proper educational and awareness campaign, citizen involvement could be solicited to help identify large trucks that may be violating the 68 mph limit through use of the FMCSA safety hotline.

## V. CONCLUSION

ATA urges NHTSA to accept and act expeditiously on this industry petition to require that manufacturers set the ECM on new trucks to no more than 68 mph, for trucks with a GVWR in excess of 26,000 pounds, and to require the installation of tamper-resistant devices after a period of time to be determined by the agency.

ATA also urges FMCSA to accept and act expeditiously on this petition, in coordination with NHTSA, to prohibit owners and operators of the affected trucks from adjusting the ECM on these vehicles in a way that allows the vehicle to exceed 68 mph.

Thank you in advance for considering this petition and we look forward to your favorable reply and action.

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<sup>14</sup> NHTSA. *The Economic Impact of Motor Vehicle Crashes 2000*. p. 79.

<sup>15</sup> U.S. Environmental Protection Agency. *Final Facility Speed Correction Factors*, Nov. 2001.

<sup>16</sup> The Maintenance Council. *55 vs. 65+, An Equipment Operating Costs Comparison*, 1996.

<sup>17</sup> *Ibid.*