HELPING FAMILIES OVER 30 YEARS
TRUCK SAFETY COALITION
SAVING LIVES

Large Truck AEB Efficacy Facts & Figures

- NHTSA reports 5,788 truck crash deaths in 2021, which would represent an 71% increase since 2009, there were nearly 155,000 injuries.[1]
- The cost to society from crashes involving large trucks and buses was estimated to be $143 billion in 2020, the latest year for which data is available.[2] This figure amounts to over $166 billion when adjusted solely for inflation.[3]
- The total value of societal harm from ALL motor vehicle crashes in 2019 was nearly $1.4 trillion. Public revenues paid for roughly 9 percent of all motor vehicle crash costs, costing taxpayers $30 billion in 2019, equal to $230 in added taxes for every household in the United States.[4] [5]
- If required on ALL CMVs, researchers estimate AEB could prevent or drastically reduce crash severity of 41% of heavy-duty truck and 56% of medium-duty truck front-to-rear crashes[6] [7]
- In 2017, NHTSA estimated that if AEB was on all heavy trucks, every year it could: prevent 10,000+ crashes -prevent 7,000+ injuries -prevent 170+ fatalities[8]
- In 60% of fatal large truck crashes, the initial impact is the front of the truck, by far the most common type of crash.[9] AEB can have an outsized impact in preventing or reducing the severity of these all-too-frequent crashes.
- The European Union has required AEB since 2013[10]
- The National Transportation Safety Board supports AEB in large trucks as far back as 2015 and continues to list it on its Most Wanted List of Safety Improvement.[11]
- Based on data from the Fatality Analysis Reporting System the percentage of medium trucks involved in fatal crashes doubled from 2015 to 2019.[12]
- The costs of AEBs are minimal relative to the costs of buying a new truck. The U.S. Department of Transportation (DOT) determined that the cost per vehicle of adding AEB to a new truck would add an incremental non-retail cost of $270 - $290 per truck.[13]

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[1] Overview of Motor Vehicle Traffic Crashes in 2021, NHTSA, Apr. 2023, DOT HS 813 435.

[2] 2022 Pocket Guide to Large Truck and Bus Statistics, FMCSA, Dec. 2022, RRA-22-007.

[3] CPI Inflation Calculator, BLS, Jan. 2020 to Jan. 2023, available at <https://www.bls.gov/data/inflation_calculator.htm>

[4] NHTSA, The Economic and Societal Impact of Motor Vehicle Crashes, 2019 (Revised), February 2023, DOT HS 813 403

[5] UN ECE Regulation No. 131.

[6] IIHS, Effectiveness of front crash prevention systems in reducing large truck crash rates, September 2020, Available at: https://www.iihs.org/topics/bibliography/ref/2211.

[7] NHTSA, Medium-Truck Special Study, September 2022. DOT HS 813 371.

[8] NHTSA, A Target Population for Automatic Emergency Braking in Heavy Vehicles, July 2017. DOT HS 812 390.

[9] FMCSA, Large Truck and Bus Crash Facts 2020, Table 12, Sep. 2022, FMCSA-RRA-22-055.

[10] UN ECE Regulation No. 131.

[11] National Transportation Safety Board, 2015. The Use of Forward Collision Avoidance Systems to Prevent and Mitigate Rear-End Crashes. Special Investigation Report NTSB/SIR-15-01. Washington, DC.

[12] NHTSA, Medium-Truck Special Study, September 2022. DOT HS 813 371.

[13] Virginia Tech Transportation Institute, Camden et. al, "Leveraging Large Truck Technology and Engineering to Realize Safety Gains: Automatic Emergency Braking Systems." September 2017.

- Based on new truck sales data, limiting the installation of AEB to Class 7 and 8 trucks will potentially exclude approximately half a million Class 3-6 trucks every year. New sales of Class 3-6 trucks surged by 29 percent between 2016 and 2020.[14]
- Class 3-6 trucks travel on local streets and through residential neighborhoods and communities daily. Equipping these trucks with AEB will make neighborhood streets safer for pedestrians, pets, bicyclists, children, older adults, and other vulnerable road users.
- Unlike Class 7 and 8 commercial motor vehicles (CMVs), there is no federal requirement for Class 3-6 truck operators to possess a commercial driver's license (CDL). Therefore, drivers are behind the wheel of these trucks without having to meet any training or benchmarks to demonstrate they can operate them safely. The additional protections afforded by Automatic Emergency Braking (AEBs) would help mitigate this danger.
    - Case in point, Driver-related Critical Reasons for medium-truck drivers in the Medium Truck Special Study was higher (91%) compared to those for truck drivers (87%) in the Large Truck Crash Causation Study.[15]
- Roughly 11 percent of cyclist fatalities are accounted for by the 4 percent of vehicles on the road that are trucks.[16]
- The DOT National Roadway Safety Strategy declares that "Key to our strategy is recognizing **that people make mistakes**, and, as good stewards of the transportation system, **we should put in place safeguards to prevent those mistakes from being lethal**. Zero is the only acceptable number of deaths and serious injuries on our roadways, and that is our ultimate goal." Equipping AEB on all CMVs supports this acknowledges human fallibility and supports the Vision Zero goal.[17]
- The DOT National Roadway Safety Strategy Safe Systems Approach Principle #5 states: "Safety is Proactive. Proactive tools should be used to identify and address safety issues in the transportation system**, rather than waiting for crashes to occur and reacting afterwards**."[18] Equipping all CMVs with AEB is an ideal application of this sentiment.

Bottom Line: AEB on ALL CMVs can drastically reduce truck crash deaths and injuries as it significantly addresses several crash causal factors: Speeding, Distraction, Fatigue, and truck drivers driving under the influence of illegal substances. Robust rulemaking requiring AEB on all CMVs is required to ensure maximum benefits accrue to the public interest as DOT pursues zero roadway deaths in America. The technology is mature, well-studied, and proven to deliver incredible life-safety and injury-prevention gains. The final AEB rule must be issued by May 2024, or it risks intolerable further delay that will result in thousands of lives lost.

[14] Transportation Energy Data Book Edition 40, U.S. Department of Energy, Jun. 2022, ORNL/TM-2022/2376.

[15] NHTSA, Medium-Truck Special Study, September 2022. DOT HS 813 371.

[16] https://usa.streetsblog.org/2016/10/31/why-american-trucks-are-so-deadly-for-pedestrians-and-cyclists/

[17] US Department of Transportation, 2023 Progress Report on the National Roadway Safety Strategy, February 2023

[18] US Department of Transportation, National Roadway Safety Strategy v.1.1, January 2022