

REAR UNDERRIDE CRASH





Underride: Rear/Front/Side Guards

The federal government should require all trucks and trailers to be equipped with energy-absorbing rear impact guards mounted lower to the ground, with vertical supports spaced farther apart to effectively protect car occupants from death and injury in rear impact crashes. This safety technology is proven and well known. Actions must be taken immediately to improve the current rear guard regulation and to include side panel and front underride guard requirements.

The National Highway Traffic Safety Administration (NHTSA) reported that large truck rear impacts comprised 21 percent of fatal two - vehicle collisions between large trucks and passenger vehicles during 2014.ⁱ Insurance Institute for Highway Safety (IIHS) crash tests demonstrated that the rear underride guards mandated for trailers by NHTSA in 1998 performed poorly, and that there are available underride guards that far exceed the proposed force requirement by up to 70 percent.ⁱⁱ In their 2011 petition to NHTSA to upgrade underride guard standards, IIHS noted, “The occupant compartment intrusion resulting from guard failures exposes occupants to risks of severe head, neck, and other injuries in crashes that otherwise would be easily survivable.”ⁱⁱⁱ

NHTSA has reported that large truck side impacts comprised 18 percent of fatal two - vehicle collisions between large trucks and passenger vehicles during 2014.^{iv} One reason why collisions with the sides of tractor - trailers are hazardous is that there is a large area of the trailer where underride may occur during these collisions. Side underride collisions are an important safety problem because, as with rear underride collisions, they defeat crumple zones and prevent air bag deployment, both vital safety advances in improving protection of passenger vehicle occupants during crashes. In addition, bicyclists and pedestrians are particularly vulnerable to side underride interactions because of their size and the lack of protection. As the length of a truck increases so does the size of the blind spot area. These interactions can occur when a truck is turning, and the cab or trailer obstructs the driver’s view.

The National Transportation Safety Board (NTSB) has issued multiple recommendations for improved rear underride guards, for side underride protection systems, and front underride guards. In addition, NTSB identified the need for improved data collection, including vehicle identification numbers to better evaluate trailer design and the impact on safety.^v On July 10, 2014, NHTSA announced it would grant the petition brought by Truck Safety Coalition (TSC) and the Karth family to issue a Notice of Proposed Rulemaking (NPRM) for rear underride guards on trailers. Additionally, NHTSA has started an Advanced Notice of Proposed Rulemaking (ANPRM) for rear guards for single unit trucks, and will continue to evaluate side and front guards.

The Truck Safety Coalition urges DOT to take action to:

- Immediately release the NPRM for improved rear underride guards for trailers that are lower, wider, more energy absorbing;
- Accelerate the process for research and rulemaking for side underride protection systems, and for front override guards, and issue an ANPRM for side and front guards; and,
- Require improved data collection to better evaluate trailer design and its impact on safety.

ⁱ National Highway Traffic Safety Administration. (2016, May). “Traffic Safety Facts: Large Trucks, 2014.” Washington, DC: US Department of Transportation. Retrieved from <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812279>

ⁱⁱ Insurance Institute for Highway Safety (IIHS). (2011). “Potential Benefits of Underride Guards in Large Truck Side Crashes.” By Matthew L. Brumelow. Received from <http://www-nrd.nhtsa.dot.gov/pdf/esv/esv22/22ESV-000074.pdf>.

ⁱⁱⁱ Zubay, David S., and Matthew L. Brumelow. "Petition for Rulemaking; 49 CFR Part 571 Federal Motor Vehicle Safety Standards; Rear Impact Guards; Rear Impact Protection." *IIHS Regulatory Documents*. Insurance Institute For Highway Safety, 28 Feb. 2011.

^{iv} National Highway Traffic Safety Administration. (2016, May). “Traffic Safety Facts: Large Trucks, 2014.” Washington, DC: US Department of Transportation. Retrieved from <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812279>

^v National Transportation Safety Board. (2014, April 3). “Safety Recommendations.” By Deborah A.P. Hersman. Retrieved from <http://www.nts.gov/doclib/reclatters/2014/H-14-001-007.pdf>.