

February 3, 2023

U.S. Department of Transportation
National Highway Traffic Safety Administration
1200 New Jersey Avenue SE
West Building, Ground Floor
Room W12-140
Washington, DC 20590-0001

I am responding to your February 2, 2023, Request for public comment: Model Minimum Uniform Crash Criteria (MMUCC; 88 FR 7128; Docket DOT-NHTSA-2023-0002). This request relates to the standardization of MMUCC crash data that National Highway Traffic Safety Administration (NHTSA) obtains from the States to support several of NHTSA's efforts such as the Fatality Analysis Reporting System (FARS).

The Fatality Analysis Reporting System (FARS) is a voluntary information collection of fatal motor vehicle traffic crashes maintained by the National Highway Traffic Safety Administration, but utilized by FMCSA, other agencies, and stakeholders. FARS, which became operational in 1975, collects data from all 50 States, the District of Columbia, and Puerto Rico under Cooperative Agreements to report a standard set of data elements on each fatal crash within their jurisdictions. Given the long history of FARS, it is troubling to know that peer-reviewed articles have, for years, collectively substantiated a significant problem of undercounting the number of semitrailer underride crashes and fatalities in FARS. Overall, the Department of Transportation has essentially ignored these data gaps.

I recently examined the prevalence of underreporting of side underride crash fatalities in FARS Case Listing records using Google to locate and confirm 40 articles that reported fatalities resulting from side underride crashes with semitrailers. Photos and/or descriptions from the articles were used to validate that each side underride crash, if accurately recorded, should be coded as an "Underride" in FARS. Thirty-nine of 40 Case Listings for the side underride crashes were located in FARS, which included 58 fatalities. The remaining Case Listing, which resulted in three fatalities, was missing from FARS, and was apparently never recorded. ***Of the 39 Case Listings, every underride data element was inaccurately coded in FARS as "No Underride or Override Noted", clearly demonstrating that FARS significantly undercounts crashes and fatalities that result from side underride crashes with semitrailers.***

As detailed in the attached report, more accurate data collection procedures are needed to improve the ability of States and the Secretary to evaluate future crashes involving commercial motor vehicles and reverse the near universal failure of FARS to accurately record side underride death data including: 1) requiring a mandatory underride data element (i.e., data element V42) on all State police crash reports; 2) establishing a process to correct all known inaccurate underride data element records in FARS using photos or other documentation that demonstrates a crash should have been coded as an underride, including a document retention schedule longer than current 3 years; 3) investigating the accuracy of side underride data in at least the last 10 years of FARS Case Listing records using the same methods as this study; and 4)

accounting for the significant underreporting of side underride crash fatalities, which would improve the accuracy of death data for cost-benefit analyses, research, and determinations required by the USDOT under the IIJA.

A lack of side underride guards on semitrailers is undoubtedly a causal factor in these motor vehicle crash fatalities. Side underride guards are a solid or flexible metal frame or cable/nylon webbing that can be affixed onto the sides of semitrailers to prevent vehicles from going under the semitrailer. Side underride guards would mitigate the main risk factor in underride collisions: a geometric height difference between passenger vehicles and semitrailers. Side underride guards engage a vehicle's airbags, crumple zones, crash avoidance sensors, and other safety features to minimize fatalities and reduce the potential for serious injuries to occur (Brumbelow 2012, Insurance Institute for Highway Safety (IIHS) 2017, Mattos et al. 2021). [Note: All Literature Cited is included in the enclosed report].

The Department of Transportation could easily develop an effective safety improvement policy and program for side underride guards that reduce the current number of annual fatalities from these crashes by about 90 percent (see Brumbelow 2012). In fact, IIHS (2017) crash tests demonstrated that side underride guard technology is a simple solution to the known risk of side underride collisions, preventing almost all underride collisions at a speed differential of 40 mph (note: side underride guards would prevent underride occurrences when the vehicle and semitrailer are travelling at highway speeds, because their speed differential would almost always be less than 40 mph; IIHS 2017). Additional testing and modeling demonstrate that side underride guards are expected to be highly effective and reduce the risk of annual fatalities and serious injuries by up to 89 percent (Brumbelow 2012, Mattos et al. 2021, National Transportation Safety Board (NTSB) 2014). Hein et al. (2022) reported the cumulative 15-year societal benefits of installing side underride guards on new semitrailers would save at least 3,560 lives and prevent 35,598 serious injuries. Therefore, side underride guards offer significant benefits to society by reducing the risks and associated costs of semitrailer and vehicle underride crashes.

I appreciate your consideration of this information.

Sincerely,

Eric Hein

Enclosure: Report on the inaccuracy of side underride crash Case Listings in FARS