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Docket Management Facility
U.S. Department of Transportation
1200 New Jersey Avenue S.E.
Washington, D.C. 20590

Submitted via *regulations.gov*

**Comments of Consumer Reports to the
National Highway Traffic Safety Administration on the
Notice of Proposed Rulemaking; Federal Motor Vehicle Safety Standards:
Pedestrian Head Protection, Global Technical Regulation No. 9;
Docket No. NHTSA-2024-0057**

Consumer Reports (CR), the independent, nonprofit, and nonpartisan member organization,¹ welcomes the opportunity to provide comments on the Notice of Proposed Rulemaking (NPRM) by the U.S. Department of Transportation’s National Highway Traffic Safety Administration (NHTSA) regarding its intention to create Federal Motor Vehicle Safety Standard (FMVSS) No. 228, *Pedestrian head protection*. CR supports NHTSA’s ongoing efforts to enhance vehicle safety for vulnerable road users, recognizing the critical need to reduce serious and fatal head injuries among pedestrians during collisions with passenger vehicles.

The surge in pedestrian fatalities in the United States is a public health crisis, with an increase of 83% since 2009. In 2022 alone, over 7,500 pedestrians lost their lives – the highest number ever recorded.² This alarming trend underscores the urgent need for NHTSA to adopt measures that require automakers to more substantially incorporate pedestrian safety into vehicle design. The proposed rule, a component of NHTSA’s National Roadway Safety Strategy (NRSS), seeks to promote pedestrian-friendly design changes in vehicles by requiring them to meet certain head-to-hood impact criteria to reduce fatal head injuries during pedestrian collisions. By focusing on improving the safety of vehicle design, this rule should work in tandem with ongoing efforts to enhance crash avoidance technology and improve roadway design, all with the shared goal of reducing traffic-related injuries and fatalities.

¹ Founded in 1936, Consumer Reports (CR) is an independent, nonprofit and nonpartisan organization that works with consumers to create a fair and just marketplace. Known for its rigorous testing and ratings of products, CR advocates for laws and company practices that put consumers first. CR is dedicated to amplifying the voices of consumers to promote safety, digital rights, financial fairness, and sustainability. The organization surveys millions of Americans every year, reports extensively on the challenges and opportunities for today’s consumers, and provides ad-free content and tools to more than 5 million members across the United States.

² IIHS, “Fatality Facts 2022 – Pedestrians” (June 2024) (online at: www.iihs.org/topics/fatality-statistics/detail/pedestrians).

CR views this proposed standard as a targeted, yet essential step toward realizing the NHTSA's objectives alongside other safety initiatives – such as making automatic emergency braking (AEB) and pedestrian automatic emergency braking (PAEB) standard features in all new vehicles and incorporating advanced crash avoidance and pedestrian crashworthiness measures into NHTSA's New Car Assessment Program (NCAP) and ultimately the five-star safety ratings. CR applauds the agency for finalizing the AEB standards and updates to NCAP.

Equally important is addressing the dangers posed by increasingly large and heavy vehicles in the consumer marketplace, whose front-end designs can exacerbate risks to pedestrians. In 2015, during NHTSA's first effort to add pedestrian safety scores to its five-star safety ratings, the agency acknowledged research showing that SUVs and pickups are two to three times more likely than other passenger vehicle body styles to kill pedestrians in a collision.³ Recent research from the Insurance Institute for Highway Safety (IIHS) also shows that specific design characteristics of large pickups and SUVs, such as higher and more vertical front ends, are associated with increased risks to pedestrians.⁴ Compounding this issue is the fact that drivers of these vehicles often struggle to see objects directly in front of them due to their large front blind zones. These blind zones significantly increase risks in scenarios involving pedestrians and other vulnerable road users, particularly children. Visibility standards and enhancements must be prioritized alongside efforts to make front-end designs less dangerous.

The voices of everyday consumers paint a picture of public concern about the safety risks posed by large trucks and SUVs to pedestrians. According to a November 2024 CR nationally representative survey of 2,108 U.S. adults, 75% of Americans would support new vehicle regulations to improve pedestrian safety and save lives in the event of a collision even if they led to design or styling changes on the front of all new large pickup trucks and SUVs sold in the United States.⁵ In addition, more than 26,000 individuals have signed a CR petition citing the concerning trends in vehicle size and pedestrian fatalities and urging the agency to finalize the proposed pedestrian head protection standards without delay.⁶

By working to finalize this standard expeditiously, NHTSA can accelerate the development of safer vehicle designs and help create a safer transportation system for all users. CR strongly urges the agency to adopt this rule as a step toward creating a transportation system that safeguards all road users.

Outlined below are some technical recommendations for NHTSA to consider as it moves through the rulemaking process:

³ NHTSA, "New Car Assessment Program - Request for Comments." (Dec. 16, 2015) (online at: www.federalregister.gov/documents/2015/12/16/2015-31323/new-car-assessment-program).

⁴ IIHS, "Vehicles with higher, more vertical front ends pose greater risk to pedestrians." (Nov. 14, 2023) (online at: www.iihs.org/news/detail/vehicles-with-higher-more-vertical-front-ends-pose-greater-risk-to-pedestrians).

⁵ Consumer Reports, nationally representative American Experiences Survey of 2,108 U.S. Adults (Nov. 2024) (online at: article.images.consumerreports.org/image/upload/v1734120809/prod/content/dam/surveys/Consumer_Reports_AES_November_2024.pdf).

⁶ Consumer Reports, "Whether You Walk or Ride, Let's Not Die!" (Oct. 31, 2024) (online at: action.consumerreports.org/nb-20241031-nhtsapedsafety).

I. Technical Guidance for Compliance

By establishing specific performance requirements for head protection, the proposal would encourage vehicle designs that can lessen the severity of head impacts when they occur. However, achieving compliance may present challenges for certain vehicle types, particularly large pickup trucks and SUVs with elevated and more rigid front ends. Compliance with the proposed thresholds may necessitate use of technology, such as active hood systems that create additional clearance upon impact, or the incorporation of energy absorbing materials into the hood's structure to better distribute forces.

To ensure consistent safety outcomes across a diverse range of vehicle designs, CR recommends that NHTSA provide clear technical guidance and best practices for achieving compliance. Doing so would help manufacturers address potential design constraints while meeting the proposed safety thresholds.

II. Aligning Testing Protocols with Real-World Conditions

The proposed FMVSS No. 228 marks an important step toward aligning pedestrian safety with global standards, but certain refinements could help to enhance its applicability to real-world crash scenarios.

Pedestrian collisions often occur at higher speeds and at more varied angles of contact than those used in current standardized tests. Crash data from the USDOT's Fatality Analysis Reporting System (FARS) highlights a concerning trend: many fatal pedestrian crashes occur at speeds well above the proposed testing speed of ~22 mph (35 km/h), particularly in suburban and rural environments where speed limits are higher. In 2022, 78% of all pedestrian fatalities occurred on roads with speed limits of 35 mph or higher and nearly half took place on roads with speed limits of 45 mph or higher.⁷ Although the NPRM aligns with international standards by testing at lower speeds, incorporating a test speed above 35 km/h (22 mph) might better capture the circumstances under which numerous vehicle collisions involving pedestrians occur.

In addition, vehicle height and front-end design play a critical role in pedestrian injury outcomes, particularly with larger vehicles like large SUVs and pickup trucks. Crashes involving these vehicles often produce higher impact points for pedestrians,⁸ increasing the risk of severe injury. While the proposed rule focuses testing on the hood area, it is important to consider that real-world pedestrian collisions can also involve contact with other forward-facing structures, such as grilles and A-pillars, especially with the very high, boxy front-end designs that are often found on these large vehicles. Expanding the testable area to include these structures, or at minimum assessing their role within specified impact scenarios, could enhance the comprehensiveness of these, or future, standards. NHTSA acknowledges in the proposed rule situations where the Lower Edge Reference Line (LERL) may include the grille, and Euro

⁷ *Supra* note 2.

⁸ Samuel S. Monfort, Wen Hu, and Becky C. Mueller of the Insurance Institute for Highway Safety, "Vehicle front-end geometry and in-depth pedestrian injury outcomes" Traffic Injury Prevention. (Apr. 5, 2024) (online at: pubmed.ncbi.nlm.nih.gov/38578254/).

NCAP, for instance, evaluates pedestrian head protection not only on the hood but also on areas such as windshields and A-pillars.⁹

At the same time, CR supports requiring the entire hood top to meet specified head injury criteria (HIC) thresholds as an alternative to the GTR-based approach, which only mandates certain zones of compliance. While expanding testing beyond the hood area would further enhance pedestrian safety outcomes, it is also essential to ensure that the entire hood provides consistent head protection. Requiring the entirety of the hood top to meet safety thresholds ensures that all potential impact zones, including those above structural hard points, are accounted for.

Pedestrian collisions can also involve complex dynamics with impacts sometimes occurring at oblique angles rather than the perpendicular trajectories under these proposed standards. Variations in impact angles are influenced by a multitude of factors including vehicle height, front-end stiffness, and pedestrian posture. To capture a wider range of potential outcomes, NHTSA should include tests that evaluate headform impacts at multiple angles, alongside the standard perpendicular impacts.

III. Vehicles with Unconventional Front Ends

The proposed exclusion of multipurpose passenger vehicles (MPVs), trucks (aside from pickups), and buses with short front ends raises important considerations about how evolving vehicle designs – particularly those associated with certain electric and automated vehicles – can affect pedestrian safety. Some modern designs feature shorter or less conventional front-end configurations, which can affect the dynamics of pedestrian collisions by shifting the points and severity of contact.

We strongly urge NHTSA not to exclude these vehicle types from FMVSS No. 228 testing, because doing so could risk creating a gap in pedestrian protection standards, particularly as vehicle designs continue to diversify with advancements in automation and electrification. NHTSA’s own testing, detailed in the NPRM, shows that some short front-end vehicles can still undergo WAD-based headform tests.

The proposed rule acknowledges that MPVs, trucks, and buses with shorter front ends may present unique challenges in applying existing test procedures, particularly when determining reference lines and zones for headform testing. While this is an important consideration, unconventional front-end designs still can pose significant risks for severe pedestrian head injuries involving contact with harder, less forgiving structures.

CR recommends that NHTSA include passenger vehicles with unconventional designs under FMVSS No. 228, given the evolving market, and explore any necessary future changes to test procedures that address these types of configurations. Expanding testable areas beyond the hood, as noted earlier, could help mitigate the potential risks posed by these designs.

⁹ Euro NCAP, “European New Car Assessment Programme (Euro NCAP) – Test Protocol – Vulnerable Road User.” (Dec. 2023) (online at: www.euroncap.com/media/79878/euro-ncap-vru-testing-protocol-v91.pdf).

IV. Conclusion

The new FMVSS No. 228 proposal is a significant step toward advancing pedestrian safety in this country, addressing a longstanding need to align with global standards in mitigating severe head injuries and fatalities. With pedestrian fatalities at crisis levels, a holistic approach to safety has never been more urgent.

We are pleased to see NHTSA take action to better protect pedestrians. This proposal is a step forward, even as it remains critical for NHTSA to continue its work to make pedestrian safety a top priority for automakers and those who design our highways and streets. We look forward to the Department and NHTSA's next steps.

Respectfully submitted,

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