PUBLIC COMMENT ON REQUEST FOR COMMENTS ON THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION'S NEW CAR ASSESSMENT PROGRAM

DOCKET ID: NHTSA-2021-0002-0482

May 26, 2022

Mr. Steven Cliff
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National Highway Traffic Safety Administration
1200 New Jersey Avenue, S.E.
West Building
Washington, DC 20590

Re: Law Professor Public Comment in Response to Request for Comments on NHTSA's New Car Assessment Program

Dear Deputy Administrator Cliff:

Thank you for the opportunity to comment on the New Car Assessment Program (NCAP) administered by the National Highway Traffic Safety Administration (NHTSA) at the U.S. Department of Transportation. I am a law professor at the University of Iowa College of Law, where I study transportation and economic growth.[1] I write here in my personal capacity only, not as a representative of any institution. In a proposed rulemaking,[2] NHTSA has proposed "significant upgrades" to NCAP. While I welcome the effort to modernize NCAP, I have several concerns about the proposed updates (the "Proposed NCAP Updates").

I. THE RISING THREAT TO AMERICAN PEDESTRIANS

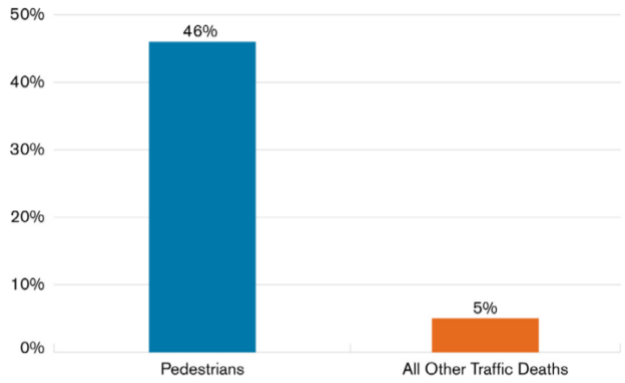
The United States is now in its second decade of a pedestrian safety crisis, and the Proposed NCAP Updates do not adequately address it. The threat to Americans on foot has rarely been graver than it is today and calls out for more forceful intervention from NHTSA.

[1] *See, e.g.,* Sara C. Bronin & Gregory H. Shill, *Rewriting Our Nation's Deadly Traffic Manual*, 135 HARV. L. REV. F. 1 (2021); Gregory H. Shill, *The Future of Law and Transportation*, 106 IOWA L. REV. 2107 (2021); Gregory H. Shill, *Should Law Subsidize Driving?*, 95 N.Y.U. L. REV. 498 (2020) [hereinafter Shill, *Should Law Subsidize Driving?*]; Gregory H. Shill, *Unsafe Streets' New Liability*, 2 VISION ZERO CITIES: INT'L J. TRAFFIC SAFETY INNOVATION 27 (2017).

[2] National Highway Traffic Safety Administration, New Car Assessment Program, Request for Comments (Mar. 8, 2022), https://www.regulations.gov/document/NHTSA-2021-0002-0001; National Highway Traffic Safety Administration, New Car Assessment Program: Extension of Comment Period (May 5, 2022), https://www.regulations.gov/document/NHTSA-2021-0002-0482. N.B. This comment is filed to the latter of the two dockets.

Pedestrian deaths have surged in the United States since 2010,[3] increasing by 46% during the decade preceding the pandemic (between 2010 and 2019, inclusive).[4] In the U.S., the increase in pedestrian deaths outpaces by more than 9:1 the rate at which other road fatalities increased.[5] Figure 1 depicts this disparity.

Figure 1: Percentage Increase in Number of Traffic Deaths (U.S.), 2010-19[6]



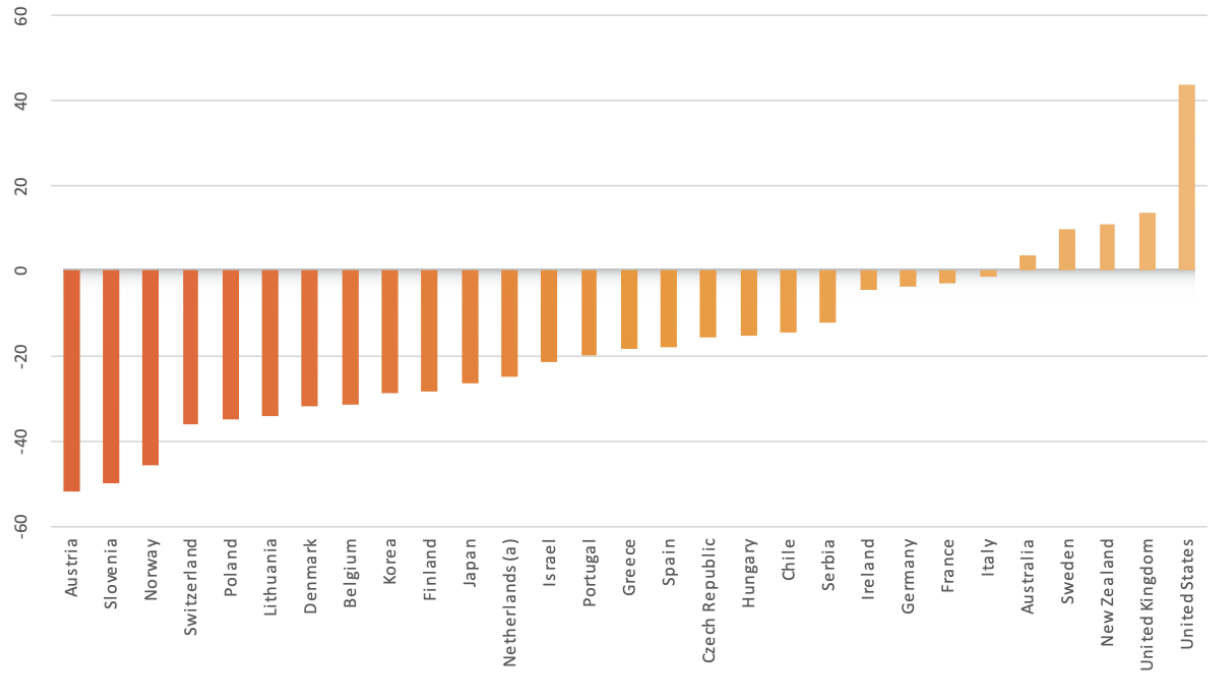
The most recent data show that these trends have worsened since the onset of the pandemic. Pedestrian deaths jumped a further 3.9% in 2020[7] and a *further* 13% in 2021,[8] for a total increase of 54% since 2010.

This change in U.S. pedestrian danger cannot be attributed to increases in either vehicles miles traveled (which rose less than 10% during the 2010s) or population (up 6.12% in the same period).[9] Nor can they be dismissed as part of a global trend; in fact, they are a global outlier: the

[3] Governors Highway Safety Association, *Pedestrian Traffic Fatalities by State 2020 Preliminary Data* 3-6 (2021), https://www.ghsa.org/sites/default/files/2021-03/Ped%20Spotlight%202021%20FINAL%203.23.21.pdf [hereinafter, GHSA *Pedestrian Traffic Fatalities 2020 Preliminary Data*].
[4] *Id.* at 5.
[5] *Id.* at 6.
[6] *Id.* There are reasons to believe these figures understate the problem as to both pedestrian and car-occupant fatalities, as they come from NHTSA's Fatality Analysis Reporting System (FARS), which because of its scope and methodology provides a narrower estimate of traffic deaths than, for example, that of the National Safety Council. *See* National Safety Council, *Comparison of NSC and NHTSA Estimates*, https://injuryfacts.nsc.org/motor-vehicle/overview/comparison-of-nsc-and-nhtsa-estimates/ (discussing methodological differences) (last visited May 9, 2022). FARS estimates of traffic deaths are consistently below NSC estimates; in 2020, the most recent full year available, NSC showed 9% more deaths. *Id.*
[7] U.S. Department of Transportation National Highway Traffic Safety Administration, *Overview of Motor Vehicle Crashes in 2020*, DOT HS 813 266, at 7 (March 2022), https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813266.
[8] U.S. Department of Transportation National Highway Traffic Safety Administration, Press Release, *Newly Released Estimates Show Traffic Fatalities Reached a 16-Year High in 2021* (May 17, 2022), https://www.nhtsa.gov/press-releases/early-estimate-2021-traffic-fatalities.
[9] U.S. Department of Transportation National Highway Traffic Safety Administration, *National Statistics - Traffic Safety Facts Annual Report Tables* (May 2021), https://cdan.nhtsa.gov/tsftables/National%20Statistics.pdf [hereinafter NHTSA National Statistics]. These percentages were computed using the data provided in the table by finding the percent change between the years 2010 and 2019 for the respective quantities. *Id.*

dismal state of U.S. pedestrian safety contrasts sharply with a 20% reduction in pedestrian deaths achieved by peer nations during a comparable window.[10] As depicted in Figure 2, American pedestrians are in increasing jeopardy while citizens of other countries enjoy greater security.

Figure 2: Percentage Change in the Number of Pedestrians Killed, 2010-18[11]



Iceland and Luxembourg is not shown because numbers are too small to provide meaningful analysis.
(a) Real data (actual numbers instead of reported numbers by the police).

Even as pedestrian deaths have soared, for those inside the vehicle, car traffic has become relatively safer by some measures.[12] Deaths of vehicle occupants increased by 1.6% in the 2010s, or about a quarter the rate of population growth (and an even smaller share of the increase in vehicle miles traveled).[13] These figures show that innovations in traffic safety are benefiting vehicle occupants, but not pedestrians. In fact, they are consistent with a Peltzman channel[14] of risk compensation, i.e., that gains to vehicle occupants are coming at the expense of pedestrians because the increased sense of safety is inspiring riskier driver behavior. By regulating only for

[10] International Transport Forum, Organisation for Economic Co-operation and Development, *Road Safety Annual Report 2020* 25, https://www.itf-oecd.org/sites/default/files/docs/irtad-road-safety-annual-report-2020_0.pdf [hereinafter ITF-OECD ROAD SAFETY ANNUAL REPORT 2020].
[11] *Id.* at 26.
[12] *See* NHTSA National Statistics; *see also supra* note 8.
[13] *Id.*
[14] *See* Samuel Peltzman, *The Effects of Automobile Safety Regulation*, 83 J. POL. ECON. 677 (1975); Shill, *Should Law Subsidize Driving?* at 563-66.

occupant safety, to the exclusion of non-occupant welfare, NHTSA made this tradeoff zero-sum. It is ultimately a regulatory failure, not a consumer one.

There were 7,342 pedestrian deaths in 2021.[15] The U.S. Department of Transportation (USDOT) has determined the value of a statistical life to be $11.8 million for purposes of cost-benefit analysis in 2021.[16] Using USDOT's own metric, therefore, pedestrian deaths cost the United States over $86 billion ($86,635,600,000) last year alone. This suggests that the agency has considerable latitude to regulate for pedestrian safety. Specifically, given the scale of the social costs of automobile traffic for pedestrians, cost-benefit analysis would justify substantial new regulations if they enhance pedestrian safety.[17]

II. INACTION ON VEHICLE DESIGN IS ENDANGERING AMERICAN LIVES

Vehicle design is an example of a domain where innovation has benefited vehicle occupants without regard—and possibly at some cost—to pedestrian safety.[18] Some of that innovation is driven by regulation, namely the mandates and incentives created by NHTSA and their unintended consequences. The Proposed NCAP Updates must go further to correct this.

NHTSA regulations barely address vehicle weight and height (and usually do so indirectly), but both dimensions play a critical role in pedestrian safety and road safety in general and merit stronger rules.

Average vehicle weight has increased dramatically. In the 1981 model year, vehicles sold in the United States weighed 3,200 pounds on average.[19] By the 2019 model year, the average vehicle weighed 4,156 pounds, an increase of over 30%. During the same period, vehicles also became far taller. Because NHTSA has failed to adopt any compensating regulations, for example concerning the material or angle of the hood, this change, too, has generated an occupant-pedestrian tradeoff: without offsetting mitigation measures, vehicles that have higher front-ends are more likely to cause a collided non-occupant to be thrown under the car rather than over it.[20] A vehicle with a higher bumper is also more likely to cause more serious injury to critical parts of the body—the torso and internal organs rather than the legs, for example.[21] This danger is

[15] Dan Zukowski, *Traffic Fatalities Hit 16-Year High in 2021, with Pedestrian Deaths Up 13%*, SMART CITIES DIVE (May 18, 2022), https://www.smartcitiesdive.com/news/traffic-pedestrian-deaths-soar-2021/623913.
[16] U.S. Department of Transportation, *Departmental Guidance on Valuation of a Statistical Life in Economic Analysis*, https://www.transportation.gov/office-policy/transportation-policy/revised-departmental-guidance-on-valuation-of-a-statistical-life-in-economic-analysis (last visited May 26, 2022).
[17] *See* Executive Order 12866, Regulatory Planning and Review (September 1993).
[18] Sara C. Bronin, *Rules of the Road: The Struggle for Safety & the Unmet Promise of Federalism*, 106 IOWA L. REV. 2153, 2156-57 (2021); Shill, *Should Law Subsidize Driving?* at 563-66.
[19] U.S. Environmental Protection Agency, *The 2020 EPA Automotive Trends Report: Greenhouse Gas Emissions, Fuel Economy, and Technology Since 1975*, EPA-420-R-21-003 (Jan. 2021) at 18, https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1010U68.pdf.
[20] Shill, *Should Law Subsidize Driving?* at 566.
[21] *Id.*; ANGIE SCHMITT, RIGHT OF WAY 84 (2020) [hereinafter, SCHMITT, RIGHT OF WAY].

amplified for collisions with children. A higher bumper is more likely to strike a child in the head.[22] Children are also vulnerable to the front-end blind spot problem that characterizes taller vehicles.[23] Heavier, taller vehicles like pickup trucks and SUVs appear to play an important role in the pedestrian safety crisis.[24]

As you know, NHTSA proposed in 2015 to incorporate pedestrian crashworthiness in its safety standards but that effort languished. Currently, Federal Motor Vehicle Safety Standards[25] only regulate vehicle design for the benefit of pedestrians in minor ways,[26] leaving unaddressed the growing threat pedestrians face from increasingly tall, heavy vehicles. The Proposed NCAP Updates are an opportunity to close that gap.

Of course, pedestrians are not the only ones placed at risk by NHTSA inaction. A recent study of NHTSA policy concluded that NHTSA had failed to meaningfully regulate for the benefit of either pedestrians or occupants of smaller vehicles, such as traditional sedans.[27] Far from being a new problem, NHTSA's failures on pedestrian safety have a long history.[28] The Proposed NCAP Updates provide a good opportunity for the agency to demonstrate necessary reforms.

III. INACTION IS CAUSING THE UNITED STATES TO FALL BEHIND

Over the past decade, the European Union (EU) has outperformed the United States significantly on pedestrian safety. Between 2010 and 2018, while U.S. pedestrian deaths surged, the number of EU pedestrians killed annually dropped by 19%.[29] This improvement was generated by choices across a number of policy domains, many of which were in vehicle safety regulation.

In 2009, the EU adopted the Pedestrian Safety Regulation, requiring vehicle manufacturers to include pedestrian focused safety technology in new vehicles.[30] This technology included front bumpers and brake assist systems that are designed with pedestrians in mind, "to reduce the number and severity of their injuries."[31] In 2019, the EU augmented the Pedestrian Safety

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[22] SCHMITT, RIGHT OF WAY at 85 (noting that the NHTSA estimates that children are almost four times as likely to die being stuck by an SUV than a car).
[23] *Id.* at 82.
[24] For example, between 2010 and 2019, there was a 69% increase in pedestrian deaths caused by traffic collisions involving an SUV. GHSA *Pedestrian Traffic Fatalities 2020 Preliminary Data* at 4.
[25] 49 C.F.R. § 571 (2022).
[26] *See, e.g., id.* at § 571.111, S5.2.2 & S5.3 (stating that side mirrors must not have sharp edges that could harm pedestrians).
[27] *See* John Saylor, Note, *The Road to Transportation Justice: Reframing Auto Safety in the SUV Age*, 170 U. PA. L. REV. 487 (2022) [hereinafter Saylor, *The Road to Transportation Justice*].
[28] *See, e.g.,* JERRY L. MASHAW & DAVID L. HARFST, THE STRUGGLE FOR AUTO SAFETY (1990).
[29] European Transport Safety Council, *How Safe Is Walking and Cycling in Europe?*, PIN Flash Report 38, at 12 (Jan. 2020), https://etsc.eu/wp-content/uploads/PIN-Flash-38_FINAL.pdf [hereinafter ETSC, *How Safe Is Walking and Cycling in Europe?*].
[30] Nikolina Šajn, *General Safety of Vehicles and Protection of Vulnerable Road Users*, European Parliamentary Research Service 3 (2020), https://www.europarl.europa.eu/RegData/etudes/BRIE/2018/625192/EPRS_BRI(2018)625192_EN.pdf [hereinafter Sajn, *General Safety of Vehicles*].
[31] *Id.*

Regulation with new rules requiring manufacturers to modernize their products for pedestrians safety further.[32] The new rules include requirements for automated speed regulation, automatic emergency braking, and vulnerable road user detection, among others.[33] Down the line, the regulations will also require new vehicles to be equipped with driver drowsiness and attention warning system and driver distraction warning system.[34] The EU is far from the only non-U.S. entity taking pedestrian safety seriously. As early as 2015, 44 countries around the world adopted a safety standard for pedestrians. As noted above, NHTSA abandoned that effort in the U.S.

While there have been some positive indications of renewed energy at NHTSA since 2021, at this time there are no comparable rules safeguarding U.S. pedestrians in effect. This has left Americans relatively unprotected, and the long life of vehicles—the average car in the U.S. is now on the road for about 12 years—means it will be a long time until change will be felt. Meanwhile, with the EU regulation now over a dozen years old, citizens there are reaping increasing returns on safety and stand to gain more from new rules.

IV. RECOMMENDATIONS

NHTSA first considered pedestrian safety regulations in the 1970s, but took no action.[35] Hundreds of thousands of American pedestrians have been killed since that time. The Proposed NCAP Updates must do more than merely revive or update the 2015 proposal. Instead, in the Proposed NCAP Updates NHTSA should adopt four types of changes: changes to the universe of people for whose benefit it regulates, to vehicle design, to vehicle technology, and to its evaluation methods.

First, the Proposed NCAP Updates must consider the safety of pedestrians a priority. By definition, pedestrians cannot benefit from measures that only safeguard vehicle occupants. The market for vehicles cannot be expected to protect the interests of people who aren't buying them. Rather than depending on the charity of the car companies, it is up to NHTSA to hold them to account. Each NCAP regulation must consider the impact on non-occupants, including pedestrians.

Second, the Proposed NCAP Updates must incorporate commonsense safety protections like those adopted by dozens of our peer nations. No country that has improved pedestrian safety has done so by relying on software and cameras alone. Rather, NHTSA must require manufacturers to make their vehicles safe for people outside of them. This will require the use of protective materials, like hoods that crumple upon impact, as well as attention to the height and weight of vehicles. Some of these solutions may involve advanced technology, such as pedestrian airbags[36]

[32] ETSC, *How Safe Is Walking and Cycling in Europe?* at 47.
[33] *Id.*
[34] Sajn, *General Safety of Vehicles* at 9.
[35] Saylor, *The Road to Transportation Justice* at 505-06.
[36] Volvo Cars, Press Release, *Volvo Car Corporation's Pedestrian Airbag: Here's How It Works* (May 23, 2012), https://www.media.volvocars.com/global/en-gb/media/pressreleases/43844.

or front-facing cameras coupled with automatic emergency braking (discussed shortly). But these will add considerable expense to the vehicle. Manufacturers should be able to comply by adopting less expensive technology, such as by lowering the front end or bumper of the vehicle, so long as they prove safe. Generally, regulations should explicitly address pedestrian safety impacts of NHTSA's weight, ride height, bumper height, and bumper design rules—rules that were established primarily for the benefit of other car occupants, not pedestrians.

Third, the Proposed NCAP Updates must toughen its rules regarding automatic emergency braking (AEB) and intelligent speed assistance (ISA). The Insurance Institute for Highway Safety (IIHS) recently began evaluating the effectiveness of AEB systems that recognize pedestrians.[37] While this step suggests that the safety of third parties may be growing in salience to vehicle purchasers, the rapid increase in pedestrian fatalities calls for a commensurately rapid and effective regulatory response. To its prior rules and negotiated agreements concerning AEB,[38] in its new NCAP program NHTSA must add clear, strong protections.

These AEB protections must take account common fatal pedestrian crash characteristics. These include the most dangerous conditions and the most vulnerable populations. For example, 76% of all fatal pedestrian collisions occur during "dark" light conditions and a further 4% at dusk or dawn, meaning fully four out of five occur outside of daylight.[39] The surge in pedestrian deaths during the 2010s largely occurred in dark conditions: between 2010 and 2019, pedestrian fatalities rose by 54%, more than three times the rate of daytime deaths (up 16%).[40] The safety goals of the Proposed NCAP Updates cannot be achieved without including nighttime AEB trials that test their ability to protect pedestrians under common fatal crash conditions. At a minimum, the NCAP tests should include tests designed with no outside light sources other than the test vehicle's headlights. This will better replicate a common road characteristic: pedestrians are often killed walking on roads without street lights.[41]

In addition, the Proposed NCAP Updates should require ISA on cars sold in the United States. There are different formulations of ISA; the EU will soon require that cars sold in the EU come equipped with a version that sounds an alarm when the vehicle has exceeded a certain

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[37] Insurance Institute for Highway Safety, *About our Tests*, https://www.iihs.org/ratings/about-our-tests (last visited May 26, 2022). These tests include three basic scenarios: an adult walking across the road perpendicular to the vehicle, a child walking across the road perpendicular to the vehicle, and an adult walking parallel, in the same direction, to the vehicle on the edge of the roadway. *Id.* The perpendicular tests are performed at 12 and 25 mph and the parallel test is performed at 25 and 37 mph. *Id.*

[38] *See, e.g.,* U.S. Department of Transportation National Highway Traffic Safety Administration, 49 CFR Part 571, Docket No. NHTSA-2021-0003, *Final Rule: Occupant Protection for Vehicles with Automated Driving Systems*, https://www.nhtsa.gov/sites/nhtsa.gov/files/2022-03/Final-Rule-Occupant-Protection-Amendment-Automated-Vehicles.pdf.

[39] NHTSA's National Center for Statistics and Analysis, *Traffic Safety Facts, 2019 Data*, DOT HS 813 079 at 6 (May 2021), https://crashstats.nhtsa.dot.gov/Api/Public/Publication/813079. These data are for 2019. *Id.*

[40] GHSA *Pedestrian Traffic Fatalities 2020 Preliminary Data* at 4.

[41] SCHMITT, RIGHT OF WAY at 37.

threshold of speed.[42] The EU's mandated ISA can be overridden by the driver.[43] At a minimum, the Proposed NCAP Updates should mandate the same, low-intervention form of ISA.

Fourth, NCAP tests must modernize its use of crash-test mannequins so they better represent the range of Americans who are endangered by car crashes. This would benefit all road users, not only pedestrians, but especially for pedestrians, the tested mannequins and conditions should not merely assume an adult of average size and walking speed. Doing so will underprotect the most vulnerable members of our population, who die in car crashes (especially as pedestrians) at a far higher rate.

Seniors, who number in the tens of millions, are more likely to move at a slower pace and be less able to recover from injuries sustained in a collision.[44] Those over 65 are 35% more likely to be killed as pedestrians.[45]

Wheelchair users are also at greatly elevated risk of death from motor vehicles. As pedestrians, they have a 36% higher chance of being killed by motorists than the overall population, and for male wheelchair users 50 to 64 the figure is 75%.[46] Thus, the NCAP testing criteria must also include a mannequin in a wheelchair—and AEB tests must be rated on their ability to recognize such road users.

Finally, the NCAP testing procedure should test pedestrian safety technology with child-sized mannequins. Car crashes are one of the leading causes of death for children.[47] Children are particularly vulnerable to vehicle collision, and the front blind spots that are common on large, high-riding vehicles place them at even higher risk. A recent test found that a driver of a Cadillac Escalade could not see a dozen schoolchildren sitting in a line in front of the vehicle, and other large vehicles performed only a little less poorly.[48] Thus, it is not enough that AEB detect children (though it must); NCAP testing procedures must also test the other types of pedestrian safety technology mentioned above against a mannequin representing a child. In conducting these tests, NHTSA should not assume that children—whose brains are still forming—will use the same judgment or possess the same perceptual capacity as adults. There is good evidence that children

[42] *See* European Transport Safety Council, *Intelligent Speed Assistance (ISA)*, https://etsc.eu/intelligent-speed-assistance-isa/ (last visited May 26, 2022).
[43] *Id.*
[44] SCHMITT, RIGHT OF WAY at 41.
[45] *Id.* at 40.
[46] Shill, *Should Law Subsidize Driving?* at 527.
[47] Rebecca M. Cunningham et al., *The Major Causes of Death in Children and Adolescents in the United States*, 379 NEW ENG. J. MED.. 2468, 2468 (2018) ("Motor vehicle crashes were the leading cause of death for children and adolescents . . .").
[48] Bob Segall, *13 Investigates: Millions of Vehicles Have Unexpected, Dangerous Front Blind Zone*, 13 WTHR (Apr. 25, 2019), https://www.wthr.com/article/news/investigations/13-investigates/13-investigates-millions-vehicles-have-unexpected-dangerous-front-blind-zone/531-9521c471-3bc1-4b55-b860-3363f0954b3b.

under 14 in particular behave differently around cars than adults do,[49] and this evidence must be incorporated into NCAP.

* * *

Thank you for taking these comments into consideration. I would be glad to discuss the matter further if helpful.

Sincerely,

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[49] *See, e.g.,* Elizabeth E. O'Neal et al., *Changes in Perception-Action Tuning Over Long Time Scales: How Children and Adults Perceive and Act on Dynamic Affordances When Crossing Roads*, 44 JOURNAL OF EXPERIMENTAL PSYCHOLOGY: HUMAN PERCEPTION AND PERFORMANCE 18 (2018).