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**Comments of Consumer Reports to the
National Highway Traffic Safety Administration on the
Notice of Proposed Rulemaking; Federal Motor Vehicle Safety Standards:
Automatic Emergency Braking Systems for Light Vehicles
Docket No. NHTSA-2023-0021**

Consumer Reports (CR), the independent, nonprofit member organization,¹ welcomes the opportunity to comment on the notice of proposed rulemaking (NPRM) by the U.S. Department of Transportation’s National Highway Traffic Safety Administration (NHTSA) to require automatic emergency braking (AEB) systems, including pedestrian AEB (PAEB), on light vehicles. Given persistently high traffic fatalities on U.S. roads and the proven effectiveness of AEB, NHTSA should act swiftly to publish a strong final rule.

CR has praised NHTSA’s AEB proposal, stating upon its release that the proposed rule “meets the moment” and “would save lives, prevent costly crashes, and dramatically raise the bar for safety on our roads.”² We stand shoulder-to-shoulder with more than 24,000 individual consumers, who signed a CR petition supporting NHTSA’s plans to require AEB and PAEB in all new cars, SUVs, and trucks, and who urged the agency to finalize the strongest possible requirements without delay.³ We also consider it important for NHTSA to substantially shorten its proposed compliance timelines and further strengthen the proposal to protect against the risk of a final rule being outdated at the time its requirements take effect, or soon thereafter.

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 6 million members across the United States.

² CR, “Automatic emergency braking rule would save lives, Consumer Reports says” (May 31, 2023) (online at: advocacy.consumerreports.org/press_release/automatic-emergency-braking-rule-would-save-lives-consumer-reports-says).

³ Please see Appendix A.

In the following sections, we share CR’s comments on information related to AEB that has been requested by the agency. We also offer comments on specific areas where the proposed rule should be strengthened to better serve consumers, including testing scenarios for lead vehicle AEB and PAEB, false activation requirements, prevention of crashes involving bicyclists and motorcyclists, and compliance timelines. AEB is life-saving technology, and in this rulemaking, NHTSA has an unparalleled opportunity to maximize the safety benefits of this feature in all light vehicles. We urge NHTSA to seize this opportunity by moving forward expeditiously and issuing a final rule for AEB that is even stronger than its proposal.

I. Safety on U.S. Roads Demands a Strong Federal AEB Standard

Traffic deaths in the U.S. have soared in recent years. In every year since 2016, an average of more than 100 people a day in the U.S. died from a motor vehicle crash.⁴ In particular, motor vehicle-related fatalities in the U.S. increased significantly in 2020, and hit record numbers in 2021, when nearly 43,000 people died on roadways. This marked a 10.5% increase from 2020 and a 16-year high in fatalities. There was a very slight decline in roadway deaths in 2022 and again in the first three months of 2023, but fatalities still remain stubbornly high.^{5,6} Moreover, according to the Governors Highway Safety Association, pedestrian deaths increased 77% between 2010 and 2021. In 2022, about 7,500 people were killed – making it the deadliest year for pedestrians since 1981.⁷ Bicyclist deaths have also been on the rise in recent years, with 966 killed in 2021 alone, according to NHTSA.^{8,9} The number of fatalities on our roads is unacceptable and makes the U.S. an outlier when compared to other developed countries.¹⁰

Earlier this year, we learned that Americans have become increasingly fearful for their safety as pedestrians. Around one in five Americans said they or a family member had been hit by a car or had a close call as a pedestrian in the past year, and more than half said that pedestrians are more likely to be hit by cars today compared with five years ago, according to a nationally representative survey of 2,088 U.S. adults conducted by Consumer Reports in January

⁴ NHTSA, “Early Estimate of Motor Vehicle Traffic Fatalities in 2022” (Apr. 2023) (online at: [crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813428](https://www.nhtsa.gov/Api/Public/ViewPublication/813428)).

⁵ *Id.*

⁶ NHTSA, “Early Estimate of Motor Vehicle Traffic Fatalities For the First Quarter of 2023” (June 2023) (online at: [crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813482](https://www.nhtsa.gov/Api/Public/ViewPublication/813482)).

⁷ Governors Highway Safety Association, “Pedestrian Traffic Fatalities by State: 2022 Preliminary Data” (June 2023) (online at: www.ghsa.org/resources/Pedestrians23).

⁸ NHTSA, “Traffic Safety Facts 2020 Data – Bicyclists and Other Cyclists” (June 2022) (online at: [crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813322](https://www.nhtsa.gov/Api/Public/ViewPublication/813322)).

⁹ NHTSA, “Traffic Safety Facts – 2021 Data – Bicyclists and Other Cyclists” (June 2023) (online at: [crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813484](https://www.nhtsa.gov/Api/Public/ViewPublication/813484)).

¹⁰ Organisation for Economic Co-operation and Development (OECD), Road Safety Annual Report 2022 (Dec. 23, 2022) (online at: www.oecd.org/publications/road-safety-annual-report-23124571.htm).

2023.¹¹ About two-thirds said they would support a policy requiring pedestrian detection technology in all new vehicles, and nearly three-quarters said that they would prefer to have such technology in their next vehicle.¹² In a separate effort, CR collected stories from members who had been involved in a vehicle-to-pedestrian or vehicle-to-bicyclist collision, or had a close call. Many of these stories outline why these members are supportive of pedestrian detection technology, and contain specific details about the scenarios where they believe the technology would have benefited them or a person outside of their vehicle.¹³

Given the statistics and consumer sentiments outlined above, the safety risk is clear. As a result of the effectiveness of AEB and advancements in the technology, NHTSA has the opportunity to significantly reduce the risk of injury or death on our roads. NHTSA states that rear-end vehicle-to-vehicle crashes were the most prevalent type of crash in 2019 – the latest year of data that was incorporated into this rule – and that AEB could potentially address 8.4% of all roadway fatalities and 5.9% of all roadway injuries. These percentages translate to 3,036 fatalities and 160,309 injuries. Moreover, in a study from 2017, the Insurance Institute for Highway Safety (IIHS) found that vehicles equipped with forward collision warning (FCW) and AEB showed a 50% reduction for frontal collisions.¹⁴

Certain initiatives preceding the current rulemaking have helped create an incentive for automakers to equip new vehicles with AEB. These initiatives include NHTSA’s New Car Assessment Program (NCAP), in which AEB is a recommended technology, international regulations and ratings, and nongovernmental ratings or awards such as those provided by CR and IIHS. In addition, as NHTSA notes in the NPRM: in 2016, 20 automakers voluntarily committed to including city-speed AEB in their vehicles in an agreement brokered by NHTSA and IIHS and monitored by these organizations and Consumer Reports. By 2022, 15 of 20 automakers had met their commitment of including city-speed AEB in 95% of the passenger vehicles they sell in the U.S. that are 8,500 pounds or lighter.¹⁵ While we were pleased to see this commitment from automakers, we agree with NHTSA as to why neither the voluntary agreement nor NCAP has sufficiently addressed the safety problem: the vast majority of fatalities occur at higher speeds, gaps in market penetration will continue to exist for the most effective systems, and the technology is now significantly more mature than it was in the past.

In short, it is far past time for NHTSA to issue strong requirements and performance standards for AEB. We strongly support NHTSA issuing a federal motor vehicle safety standard that demands automakers equip all new vehicles with systems that prevent deaths and reduce

¹¹ CR, Nationally Representative American Experiences Survey of 2,088 U.S. Adults (Jan. 2023) (online at: article.images.consumerreports.org/image/upload/v1674838693/prod/content/dam/surveys/Consumer_Reports_AES_January_2023.pdf).

¹² *Id.*

¹³ Please see Appendix B.

¹⁴ IIHS, “Effectiveness of forward collision warning and autonomous emergency braking systems in reducing front-to-rear crash rates” (Feb. 2017) (online at: www.iihs.org/topics/bibliography/ref/2111).

¹⁵ IIHS, “Three more automakers fulfill pledge to make autobrake nearly universal” (Dec. 8, 2022) (online at: www.iihs.org/news/detail/three-more-automakers-fulfill-pledge-to-make-autobrake-nearly-universal).

injuries to the greatest extent feasible. In the sections that follow, we address specific parts of the rule that can be strengthened and future-proofed to maximize safety benefits for consumers.

II. Proposed Lead Vehicle AEB Requirements Would Raise the Bar for High-Speed Protection, but Testing Should Include Additional Real-World Scenarios

We strongly support the higher speeds for lead vehicle AEB testing that NHTSA has incorporated into this proposed rule, as well as the requirement that vehicles must come to a full stop even when traveling at highway speeds up to 50 miles per hour (mph) when no manual braking is applied, and up to 62 mph when manual braking is applied. We also appreciate the opportunity to provide feedback on improving FCW. However, we urge NHTSA to account for additional scenarios such as those posed by environmental conditions, a curved travel path, and circumstances in which the lead vehicle is revealed suddenly or is not aligned straight when in front of the subject vehicle.

In response to NHTSA’s request for feedback about FCW, CR agrees that two sensory modalities are necessary, and we support the proposal for these to be auditory and visual. CR recommends that both of these modalities should serve as primary means of warning the driver. If a vehicle starts braking and the driver does not know why, they could become confused. Drivers need immediate explanation as to why the car is braking and the use of both a visual and audible signal will be most effective in providing them with the information they need in the quickest manner. A visual warning is also important for those who are hearing impaired, or who are listening to music or are otherwise distracted.

In regard to the type of visual signal that would be best, NHTSA should agree on a word that is used consistently, as different words across different manufacturers may cause driver confusion. This signal should be readily understood by the driver and should be close to the driver’s line of sight, such as in the center of the instrument panel or higher, or in a head-up display. NHTSA should consult CR’s Guide to ADAS Usability for more detail about our consumer research insights in this area.¹⁶ For example, page 38 contains details about driver interaction in the case of an imminent collision. We agree with NHTSA that a haptic FCW signal may cause driver confusion given that haptic steering signals are used by many lane-keeping features. Further, haptic lane departure warnings (LDW) happen frequently in some vehicles and may desensitize drivers to a more critical FCW signal.

There are a couple of additional elements of the FCW component of this NPRM that we support. We agree that there does not need to be an advisory or preliminary alert that would precede the FCW. Moreover, we agree that the FCW presentation does not need to occur prior to the onset of braking in instances that are not tested on the track to accommodate for the complexities of crash situations.

¹⁶ CR, “CR’s Guide to ADAS Usability” (Dec. 2022) (online at: data.consumerreports.org/reports/crs-guide-to-adas-usability); *see also* CR, AAA, JD Power, NSC, SAE, & PAVE. (2022). Clearing the Confusion: Common Naming for Advanced Driver Assistance Technologies (July 2022) (online at: advocacy.consumerreports.org/wp-content/uploads/2022/07/Clearing-the-Confusion-One-Pager-2022.pdf).

In general, CR welcomes NHTSA’s use of the term “automatic emergency braking,” or AEB, as a way of continuing to create a general understanding of what the technology does, and encourages its continued use in consumer-facing contexts. NHTSA should use the terms “crash imminent braking,” or CIB, and “dynamic brake support,” or DBS, only when necessary in technical contexts to refer to these subfunctions of AEB.

There are several AEB testing scenarios that are not included in this rule which could be beneficial, according to insights from CR’s evaluations:

- *Curved travel path.* Currently, the travel path for each proposed test scenario is straight, and none are curved. In addition to the tests already outlined, NHTSA should require tests where the travel paths of the lead and subject vehicles are curved to make the tests more challenging and once again demonstrate global leadership in terms of testing rigor. CR considers this testing feasible on the basis of exposure of our testers to AEB-equipped vehicles and their use in real-world scenarios. Curved roads make it more difficult for camera and sensor-based systems to identify other vehicles with sufficient time and currently this can be considered a challenging scenario. NHTSA choosing to only include a straight travel path would miss a significant opportunity to further promote improvement of the technology over time, and help ensure that the rule does not quickly become outdated.
- *Turning, skewed, or offset lead vehicle.* Other scenarios to consider are ones in which the subject vehicle must avoid a collision with a vehicle that is turning, skewed, or offset. In our evaluations, we have seen a significant degradation in performance under these circumstances, even at low speeds, when a car in front of the subject vehicle was turned 20 degrees or more. We are concerned that NHTSA’s proposal does not account for these scenarios, and they should be incorporated into the final rule.
- *Revealed lead vehicle.* NHTSA should also include a reveal scenario in which one leading vehicle maneuvers out of the lane – for example, to avoid a stopped or slowing vehicle – and another stopped or slowing vehicle is revealed at that time. In this scenario, the subject vehicle will likely have less time to brake and the AEB system will then have less time to activate. CR recommends incorporating this type of test into the final rule to account for another real-world scenario that drivers encounter.

With these additional tests, vehicles would be well equipped to protect people in a multitude of real-world scenarios, and NHTSA’s test requirements would be more durable in setting a strong standard well into the future.

III. Proposed Pedestrian AEB Requirements Are Strong Today, but Should Be Stronger in the Final Rule to Address Known Weak Spots and Keep Up with Technology

CR welcomes the incorporation of PAEB into this proposed rule – particularly to require minimum performance in dark conditions and full avoidance of collisions – and urges NHTSA to further enhance the test scenarios to make them more challenging, to address known areas of lower effectiveness, and to make the final rule more durable in the long term.

CR has found that about 90% of the cars on which we collect data are equipped with PAEB at low speeds. IIHS has found that PAEB in a variety of 2017-2020 model-year vehicles from different manufacturers was associated with a 34% reduction in crashes on roads with 30-35 mph speed limits, and the organization added a vehicle-to-pedestrian front crash prevention evaluation to its testing in 2019.¹⁷ IIHS made the pedestrian crash prevention tests more challenging in 2022, and starting in 2023 the organization now requires vehicles to have advanced or superior performance in the nighttime and daytime pedestrian tests in order to be a *Top Safety Pick+*.^{18,19} Given the penetration of the technology that already exists within the vehicle fleet, and presented here as an opportunity for NHTSA to future-proof its testing and demonstrate global safety leadership, the tests incorporated in the final rule should be made more challenging by including higher speeds and a test in dark conditions with a 25% overlap. CR is disappointed that NHTSA is proposing to require only that the 25% overlap test be conducted under daylight conditions. Based on the overrepresentation of nighttime pedestrian crashes among the total, all PAEB test scenarios should include both a daytime and darkness test condition. NHTSA should revise its proposal to also require the 25% overlap test in dark conditions.

A turning scenario for PAEB is notably missing from the current proposal and should be included in a final rule. The technology is not as advanced in this area as others, but it is sufficiently advanced to be included in the final rule, and it is vital for NHTSA to hold manufacturers to a higher standard. A study conducted by AAA found that PAEB failed to prevent collisions with a pedestrian when the vehicle was making a right turn. In this scenario in their research, “all of the test vehicles collided with the adult pedestrian.”²⁰ Euro NCAP already includes a test where the pedestrian crosses a road into which a car is turning, indicating it is feasible to incorporate this requirement into the final rule.²¹

NHTSA has estimated that 490 to 604 equivalent lives could be saved if the turning scenario is incorporated into the final rule, as opposed to 454 to 559 under the current recommendation. This means that, according to the middle of these ranges, incorporating the turning scenario could increase the equivalent lives saved by approximately 8%. Given the lifesaving potential from adding this requirement to the final rule, the demonstrated feasibility of this testing, and the risk of the rule being quickly outdated if it is not included, NHTSA should take action to ensure the turning scenario is a requirement for PAEB tests.

¹⁷ IIHS, “Pedestrian crash avoidance systems cut crashes — but not in the dark” (Feb. 3, 2022) (online at: www.iihs.org/news/detail/pedestrian-crash-avoidance-systems-cut-crashes--but-not-in-the-dark).

¹⁸ IIHS, “Few vehicles excel in new nighttime test of pedestrian autobrake” (Aug. 30, 2022) (online at: www.iihs.org/news/detail/few-vehicles-excel-in-new-nighttime-test-of-pedestrian-autobrake).

¹⁹ IIHS, “IIHS strengthens requirements for TOP SAFETY PICK awards” (Feb. 23, 2023) (online at: www.iihs.org/news/detail/iihs-strengthens-requirements-for-top-safety-pick-awards).

²⁰ AAA, “AAA Warns Pedestrian Detection Systems Don’t Work When Needed Most” (Oct. 3, 2019) (online at: newsroom.aaa.com/2019/10/aaa-warns-pedestrian-detection-systems-dont-work-when-needed-most).

²¹ Euro NCAP, “AEB Pedestrian” (2023) (online at: www.euroncap.com/en/vehicle-safety/the-ratings-explained/vulnerable-road-user-vru-protection/aeb-pedestrian).

Based on the current state of available test devices, CR supports NHTSA’s proposal to use a pedestrian test mannequin representing a 50th-percentile adult male and one representing a six-to-seven-year-old child. It is critical to use both mannequins in PAEB testing in order to account for a range of human proportions, and it is especially important to use the child mannequin in order to provide adequate protection for children and other shorter individuals, particularly from impacts involving larger vehicles that have tall hoods or that otherwise have limited frontal visibility. Generally, the consideration of which mannequins to use for PAEB testing underscores the urgent need for the development of additional biofidelic dummies that better represent all people and pedestrians, including women and older adults.

IV. It Is Essential to Test for Proper AEB Function in Various Environmental Conditions and to Test to Protect Against False Activation

CR urges NHTSA to require testing of both lead vehicle AEB and PAEB in various environmental conditions. NHTSA notes that it is not proposing tests in periods of precipitation, as “the presence of precipitation could influence the outcome of the tests” and “it is more difficult to reproduce a friction level with good precision” in periods of precipitation than in dry conditions. However, the variation of AEB performance in different conditions is exactly why this additional testing is needed. We previously called for this type of testing in CR’s 2022 NCAP comments, and it is important that AEB functions properly in a variety of common environmental conditions such as precipitation, glare, and fog/smoke.²² In particular, on the basis of our extensive experience evaluating vehicles’ wet-road braking performance, CR considers it eminently feasible to establish objective test procedures today for conditions in which the ground is wet. We also consider it feasible, with the benefit of insights from a range of experts, for NHTSA to establish objective test procedures to simulate conditions of active precipitation, glare, and fog/smoke, with a reasonable degree of precision and reproducibility, that would help these systems achieve their full potential faster.

Importantly, NHTSA should not view weather conditions as a cause of malfunction. Instead, these types of conditions may lead to limited functionality. If NHTSA attributes accumulated snow or fog to a malfunction as is specified in the proposed rule, the agency runs the risk of allowing AEB to perform unreasonably poorly in more difficult yet relatively commonplace conditions when it is imperative for the technology to function properly.

Another important consideration is the false activation of AEB, which at best can be a nuisance and cause confusion for drivers, and at worst lead to dangerous situations. CR discusses the importance of the proper function of FCW and AEB in our Guide to ADAS Usability:

All efforts should be made to use effective and reliable components for this vital safety system to ensure traffic safety benefits are realized. The risk of using

²² CR, “CR comments to NHTSA on NCAP Request for Comments” (June 8, 2022) (online at: advocacy.consumerreports.org/research/cr-comments-to-nhtsa-on-ncap-request-for-comments).

inadequate hardware and/or software not only reduces the potential benefits, but also causes frustration and dissatisfaction among owners.²³

In order to maximize safety and consumer acceptance, false activations must be limited as much as possible through test procedures included in the final rule. We are pleased to see NHTSA including both the test with a steel plate on the ground as well as the pass-through test. However, the 0.25g threshold in addition to any manual brake application is not rigorous enough. A 0.25g braking event is noticeable by passengers and could confuse or distract the driver. NHTSA should remove any tolerance for false braking in these scenarios, or at the very least lower the threshold.

It is important for NHTSA to account fully, in all test scenarios, for weaknesses in today's poorer-performing systems, which – according to CR's evaluations – are likelier to be camera-only systems. In particular, NHTSA should try to mitigate the false activations of these systems, which tend to falsely activate in certain scenarios such as shadows from overpasses, rain, and glare from the sun. In its NPRM for AEB in heavy vehicles, NHTSA points out that radar-based sensors tend to be relatively unaffected by time of day, precipitation, and fog, among other weather conditions.²⁴ In addition to these strengths, we recognize that radar-based sensors also have their limitations, and NHTSA must account for those as well.

We would strongly oppose NHTSA removing false activation tests completely, and in their place requiring a documentation process or certain type of data storage. False activations pose serious risks to consumer acceptance of the technology and even can put people at risk directly. Testing to protect against false activations is vitally important, particularly given the recalls that have occurred in recent years for AEB false activations,²⁵ and documentation/data storage requirements should not be considered to be implemented in lieu of testing, but rather in addition to it, to assist with verifying compliance.

NHTSA seeks comment on the permissibility of deactivation and situations where it should be permitted. CR recommends that AEB systems should be able to be manually deactivated in certain very specific circumstances, such as when a snowplow is attached to a vehicle, but in our Guide to ADAS Usability we note that:

... doing so should require a deliberate action by the driver. When turning the system off, there should be a confirmation message and driver acknowledgment. Ideally, the option to turn the system back on again should remain displayed for

²³ CR, "CR's Guide to ADAS Usability" (Dec. 2022) (online at: data.consumerreports.org/reports/crs-guide-to-adidas-usability).

²⁴ Federal Register, "Heavy Vehicle Automatic Emergency Braking; AEB Test Devices" (July 6, 2023) (online at: www.govinfo.gov/content/pkg/FR-2023-07-06/pdf/2023-13622.pdf).

²⁵ CR, "Mazda3 Recalled for Sudden, Unexpected Emergency Braking" (Dec. 27, 2019) (online at: www.consumerreports.org/car-recalls-defects/mazda3-recall-sudden-unexpected-emergency-braking).

easy access, or require another step to dismiss the screen. As with all safety systems, it should default on again after an ignition or power cycle.²⁶

With respect to the use of headlamps during PAEB testing, we note that the NHTSA proposal would involve testing with both lower and upper beam headlamps. There does not appear to be a significant advantage of testing with the high beams if the system already meets the requirements with the lowest beam, and, regardless, there is no guarantee that drivers will use the high beam. Further, we anticipate an increasing number of vehicles will be coming with adaptive driving beam technology that can be used rather than low beam and high beam settings. NHTSA's AEB tests should account for this technological advancement. Therefore, CR recommends that the lower and upper beam language should be replaced with language referring to the "lowest level of active illumination," or similar,²⁷ and require that the system passes the test at this level of lighting.

V. NHTSA Should Include Bicyclist and Motorcyclist AEB in This Rulemaking, and Immediately Launch a Rulemaking to Help Prevent Frontover Incidents

Testing requirements for AEB to prevent collisions with bicyclists and motorcyclists are notably missing from the proposed rule. This is disappointing, especially considering that car-to-bicyclist and car-to-motorcyclist test scenarios already exist as a part of Euro NCAP.²⁸ We urge NHTSA to change course and include such requirements in its final rule. The safety problem is clear: there were 966 pedalcyclist fatalities in 2021, marking a 32% increase from 2012.²⁹ In addition, there were 5,932 motorcyclist fatalities in 2021, which comprised 14% of all traffic fatalities and is the greatest number of motorcyclist fatalities since at least 1975.³⁰

CR has found that an increasing number of vehicles for the model year 2024 already claim the ability to detect bicyclists, which demonstrates that automakers are aware of the need for cyclist AEB. The agency should prioritize and bring to completion its current research into bicyclist and motorcyclist AEB as expeditiously as possible, and make clear to automakers that it will be including test requirements for detection of these road users in its final rule for AEB. Generally, we encourage NHTSA to align with Euro NCAP in cases such as this where doing so would serve safety and potentially help the agency issue strong standards more quickly.

CR recognizes and understands the technical reasons for the lower-speed bound being set at 10 kilometers per hour (km/h), or 6.2 mph. However, given that bound, this rule will largely not address the issue of frontover incidents. There were 526 fatalities in non-traffic crashes with

²⁶ CR, "CR's Guide to ADAS Usability" (Dec. 2022) (online at: data.consumerreports.org/reports/crs-guide-to-adas-usability).

²⁷ In other words, the lowest level of illumination when the headlamps are on, excluding parking lights, fog lights, or similar lighting that is not intended to be used as the primary form of roadway illumination.

²⁸ Euro NCAP, "European New Car Assessment Programme (Euro NCAP) – Test Protocol – AEB/LSS VRU systems" (June 2023) (online at: cdn.euroncap.com/media/77299/euro-ncap-aeb-lss-vru-test-protocol-v44.pdf).

²⁹ NHTSA, "Traffic Safety Facts – 2021 Data – Bicyclists and Other Cyclists" (June 2023) (online at: crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813484).

³⁰ NHTSA, "Motorcycle safety" (online at: www.nhtsa.gov/road-safety/motorcycles).

forward-moving vehicles in 2020, marking a 38% increase from 2019 and a staggering 119% increase from 2016.³¹ The growing size of vehicles and the increasing market share of larger vehicles continues to lead to increased blind zone areas around such vehicles and a greater risk of frontover deaths and injuries, especially for children. CR has supported federal legislation in the form of the STOP Frontovers Act³² and urges NHTSA to launch a rulemaking to adopt requirements for new vehicles that will help prevent frontovers. CR is particularly concerned about addressing frontover incidents in situations when vehicles have shifted from Park to Drive, and are moving at slower speeds below the 6.2 mph lower bound in this rule.

VI. Compliance Timelines Should Be Shortened to Speed Up Safety Benefits

CR strongly opposes the lengthy compliance timelines proposed by NHTSA for this rule. In part because of the voluntary agreement in place for AEB, as well as other incentives mentioned above, manufacturers have already adopted city-speed AEB systems on nearly all of their models, and have already adopted highway-speed AEB systems on the majority of their models. Given this widespread adoption – effectively a head start in complying with a mandatory NHTSA standard – it would be entirely appropriate for the agency to substantially shorten compliance timelines laid out in this proposal. The time simply is not needed for automakers, and the safety issue is urgent.

In particular, the three-year timeline for all testing conducted in daylight should be much shorter. CR’s evaluations of vehicles and communications with automakers indicate that many vehicles are already equipped with the technology to pass these tests. For 2023 models on which CR collected data, 89% claimed city-speed AEB capability, 70% claimed highway-speed AEB capability, and 88% claimed PAEB capability.³³ Therefore, the proposed schedule should be significantly accelerated as many vehicles will likely already meet the requirements. For all of NHTSA’s proposed requirements other than the darkness pedestrian avoidance requirements, NHTSA should set an effective date of no later than one year after issuance of the final rule. This would align with the timeline for implementing standards envisioned under section 30111(d) of NHTSA’s primary statute, barring a public interest finding otherwise. In this case, for the reasons outlined, we think the public interest demands implementation no later than one year after the final rule.

For the darkness pedestrian avoidance requirements, we urge NHTSA to recognize that many automakers are already working expeditiously to respond to similar testing conducted by IIHS, launched in 2022, as well as to account for Euro NCAP. NHTSA’s requirements are relatively more challenging than those currently conducted by IIHS, which we commend, but they are not so much more stringent that they would require such a lengthy additional amount of time for automakers to come into compliance. If NHTSA were to require compliance with darkness pedestrian avoidance requirements for vehicles manufactured on or after the first

³¹ NHTSA, “Non-Traffic Surveillance: Fatality and Injury Statistics in Non-Traffic Crashes, 2016 to 2020 (Revised)” (Feb. 2023) (online at: crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813363).

³² S. 5080, 117th Cong.

³³ These percentages refer to the portion of 2023 U.S. vehicle models on which CR collected data where the system existed on all trims as standard equipment.

September 1st four years after publication of a final rule, we estimate that the first vehicles required to comply would be manufactured on September 1, 2028 – six years after IIHS released its first ratings of nighttime performance for PAEB systems. It would be consistent with the public interest and likely feasible for manufacturers to be required to comply with the proposed darkness pedestrian avoidance requirements much sooner. We recommend a two-year compliance timeline, at most.

The only new AEB requirements for which a three- or four-year timeline might be appropriate are those that may be added to the rule and were not included as proposed requirements in this NPRM, and also are significantly out of alignment with currently existing test protocols. If NHTSA newly incorporates a test requirement into the final rule that already exists internationally, such as a part of European regulations or Euro NCAP, we recommend a two-year compliance timeline, at most.

VII. NHTSA’s Cost-Benefit Analysis Likely Underestimates Safety Benefits

This proposed rule, NHTSA’s preferred option among the identified regulatory alternatives, is already highly cost-effective. However, we consider the safety benefits to be underestimated for a few reasons. First, the target crash population does not include multiple-vehicle rear-end crashes, and excludes rear-end crashes where the struck vehicle is a heavy vehicle or motorcycle. As noted above, bicyclists are also not included in any of the required AEB testing. These are scenarios where AEB is likely to be effective, and NHTSA’s consideration of them would likely increase the benefit estimates. We urge NHTSA to revise its estimates to account for these scenarios.

Moreover, crash data from 2020 and 2021 was excluded from the analysis, as NHTSA says those years may be atypical. CR pushes back on the idea that the crashes, fatalities, and injuries in those years should be discounted in some way. As we have noted earlier in these comments, there was a very slight decline in roadway deaths in 2022 and again in the first three months of 2023, but these fatalities still remain unacceptably high.^{34,35} Further to the point, pedestrian deaths hit a 40-year high in 2022. These trends are incredibly alarming, and CR urges NHTSA to re-estimate the potential for lives saved and injuries prevented using more recent data.

Finally, as CR has recommended that NHTSA include a turning scenario for the PAEB test, we advise NHTSA to choose option four of the regulatory alternatives as its new baseline, and then exceed it in a manner consistent with our comments. This alternative is still highly cost-effective, with net benefits greater than \$4 billion at both the 3% and 7% discount rates. In this scenario, the cost per equivalent life saved in either discount scenario – \$3.1 million at 3% or \$3.9 million at 7% – is still a fraction of the \$11.6 million value of a statistical life (VSL). Our overall recommendation would be for NHTSA to maximize the lives saved and injuries

³⁴ NHTSA, “Early Estimate of Motor Vehicle Traffic Fatalities in 2022” (Apr. 2023) (online at: crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813428).

³⁵ NHTSA, “Early Estimate of Motor Vehicle Traffic Fatalities For the First Quarter of 2023” (June 2023) (online at: crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813482).

prevented as long as these safety benefits bear a reasonable relationship to the rule's costs, and in the case of option four, it is clear that they easily meet this standard.

VIII. Conclusion

CR is pleased to see NHTSA taking action to ensure AEB is required on all light vehicles, and we urge NHTSA and the Department of Transportation to make the final rule as ambitious as possible in order to save lives and prevent injuries on our roads. We urge the agency to strengthen its rulemaking by accounting for our comments in the areas of testing scenarios for lead vehicle AEB and PAEB, environmental conditions and false activation, bicyclist and motorcyclist AEB, compliance timelines, and the cost-benefit analysis.

It is critical for this rule to be durable over time and not prove outdated as soon as it is published, or soon thereafter. In line with this goal, CR looks forward to seeing a strong final rule as expeditiously as possible, and we stand ready to assist NHTSA however we can to help make our roads safer for all.

Respectfully submitted,

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Appendix A

Please see CR's petition language below, and the attached additional document containing the names of 24,371 consumers who signed in support of the plans by the National Highway Traffic Safety Administration (NHTSA) to require automatic emergency braking (AEB) and pedestrian automatic emergency braking (PAEB) in all new cars, SUVs, and trucks, and who urged the agency to finalize the strongest possible requirements without delay.

*Taking a walk shouldn't be deadly!
Lifesaving automatic braking should be on all new vehicles.*

I write in support of NHTSA's plans to require automatic emergency braking (AEB) features, including pedestrian (PAEB), in all new cars, SUVs, and trucks. It's crucial for our safety watchdog to make our roads safer for everyone and reduce the number of Americans killed and injured in car crashes.

NHTSA needs to hold automakers to the highest possible standards of AEB. These systems should be able to detect everyone on the road – regardless of whether it's day or night – and respond effectively to stop a collision with them, or at least make it much less severe. The technology is proven, it saves lives, and it's already required in other countries around the world. NHTSA should finalize the strongest possible requirements without delay.

Appendix B

CR collected stories from members who had been involved in a vehicle-to-pedestrian or vehicle-to-bicyclist collision, or had a close call. Please reference our additional attachment which contains a selection of quotations from these member stories.