



## POLICY & ACTION FROM CONSUMER REPORTS

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Docket Management Facility  
U.S. Department of Transportation  
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Washington, D.C. 20590

Submitted via [www.regulations.gov](http://www.regulations.gov).

**Comments of Consumers Union to the  
National Highway Traffic Safety Administration on the  
Request for Comments: New Car Assessment Program  
Docket No. NHTSA-2015-0119**

Consumers Union, the policy and advocacy arm of Consumer Reports,<sup>1</sup> welcomes the opportunity to comment on plans by the National Highway Traffic Safety Administration (NHTSA) to advance the capabilities and safety outcomes of the New Car Assessment Program (NCAP). NCAP provides comparative information on the safety of new vehicles to assist consumers with vehicle purchasing decisions and encourage motor vehicle manufacturers to make safety improvements.

NHTSA's planned changes to NCAP, as detailed in the request for comments referenced above, are the most significant enhancements to the program since its creation. Consumers Union has long supported NCAP as a tool with the potential to powerfully shape the marketplace and improve safety across the board. However, in recent years, as a high percentage of vehicles received 4 or 5 stars in NCAP's 5-star safety ratings, we expressed concern to NHTSA that the ratings had become not particularly meaningful to consumers and encouraged the agency to make the program more challenging. In essence, the development of auto safety capabilities and technologies had significantly outpaced NCAP updates.

While belated, NHTSA's planned changes to NCAP represent an important step forward. We are pleased that the agency agrees with us in its concern that "a high percentage of vehicles

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<sup>1</sup> Consumers Union is the public policy and advocacy arm of Consumer Reports. Consumers Union is an expert, independent, nonprofit organization whose mission is to work for a fair, just, and safe marketplace for all consumers and to empower consumers to protect themselves. It conducts this work in the areas of telecommunications reform, health reform, food and product safety, financial reform, and other areas. Consumer Reports is the world's largest independent product-testing organization. Using its more than 50 labs, auto test center, and survey research center, the nonprofit organization rates thousands of products and services annually. Founded in 1936, Consumer Reports has over 8 million subscribers to its magazine, website, and other publications.

receiving 4 and 5 stars diminishes the program’s ability to identify for consumers vehicles with exceptional safety performance,” and that “enhancements to NCAP should be dynamic to address emerging vehicle technologies.”<sup>2</sup> If finalized, the planned NCAP updates would ensure that the program better distinguishes the safest vehicles from those that provide an average or lower level of safety. The updates would make NCAP ratings easier to understand for consumers and create a powerful incentive for automakers to make the latest life-saving technologies available on more vehicles more quickly. Overall, NHTSA’s planned NCAP changes would provide a substantial safety benefit to consumers and we commend the agency for developing them.

Consumers Union respectfully submits the following more detailed comments on several aspects of NHTSA’s planned changes to NCAP.

## Overview

In the above-mentioned notice, NHTSA indicates that it “aims to have NCAP continue to serve as a world leader in providing consumers with vehicle safety information generated by the latest available vehicle safety assessment techniques and tools.”<sup>3</sup> For this to be the case, the agency appropriately recognizes that refinements to NCAP are needed “to assure that only vehicles with truly exceptional safety features and performance will receive 4- and 5-star ratings” and that it is important for the program “to provide a continuing incentive for vehicle manufacturers to further improve the safety of the vehicles they manufacture.”<sup>4</sup> NHTSA also appropriately recognizes that it “must continually strive to expand and improve the safety information that is conveyed to consumers and continually increase the effectiveness with which that information is communicated,” and to that end, the agency intends “to implement a new 5-star rating system to convey vehicle safety information.”<sup>5</sup> Consumers Union strongly supports NHTSA’s stated purpose and rationale for issuing the notice, and for developing plans to update NCAP. We agree with NHTSA that the notice not only permits the opportunity for public input, but also gives the auto industry a chance to begin taking the steps necessary to adapt to the enhancements in the planned NCAP upgrade.

We also generally support NHTSA’s decision to address the topics it describes as areas under consideration for inclusion in or advancement of NCAP: frontal crashworthiness, side crashworthiness, crashworthiness pedestrian protection, crash avoidance technologies, and pedestrian crash avoidance systems. NHTSA appropriately groups these topics into three major areas: crashworthiness, crash avoidance, and pedestrian protection. We support NHTSA’s decision to take a new approach to determining a vehicle’s overall 5-star rating and particularly commend the agency on, for the first time, incorporating advanced crash avoidance technology features into ratings. We understand that respondents to an April 5, 2013, notice requesting

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<sup>2</sup> National Highway Traffic Safety Administration, Department of Transportation, *Request for Comments: New Car Assessment Program*, 80 Fed. Reg. 78522 et seq. (Dec. 16, 2015) (online at [federalregister.gov/a/2015-31323](http://federalregister.gov/a/2015-31323)) (Docket No. NHTSA-2015-0119) (hereinafter “RFC”) at 78524.

<sup>3</sup> RFC at 78526.

<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

comment on NCAP, including Consumers Union,<sup>6</sup> raised numerous topics that the agency has decided not to address in the current, December 2015 notice. We recommend to NHTSA that once it implements the planned upgrades outlined in the current notice, NCAP could be further expanded to include other aspects of an enhanced NCAP that we have suggested, such as a silver car rating for older occupants, comparative barrier testing for a frontal crash rating, advanced child dummies, use of the Hybrid III 95th percentile dummy, a family star rating (complete with performance to an upgraded CRS ease-of-use criteria), carry back ratings, and adjustments to the baseline injury risk.

## **Crashworthiness**

Consumers Union is pleased that NHTSA has undertaken a new data analysis related to frontal crashes, and supports the agency's intention to continue the full frontal rigid barrier crash test and add a new frontal oblique crash test. We recognize that fully frontal crashes are less frequent than crashes with a partial overlap condition, making the addition of the new frontal oblique test important for providing consumers with an enhanced understanding of a vehicle's frontal crashworthiness. We support NHTSA's decision to develop the planned frontal oblique test, instead of simply using or mirroring the IIHS small overlap test, because the frontal oblique test would provide added value to consumers in the form of insight into a slightly different crash-test scenario. To ensure automakers design vehicles to protect all occupants – not just the driver – we urge NHTSA to include in its NCAP update a provision that would allow, or require, a spot-check of right-side front oblique performance. Similarly, we support NHTSA's intention to have its side impact tests cover either the left or the right side, instead of always only the left. We agree with the agency that this step should help ensure that the side impact rating includes information about the protection offered to the occupants on both sides of a vehicle. Because only one crash test will be performed per vehicle and per crash type, we encourage NHTSA to keep confidential the side of a vehicle that will receive impact until after the test has occurred.

Consumers Union also supports NHTSA's stated intention to use crash-test dummies that contain advanced instrumentation and more biofidelic properties, such as using a THOR 50th percentile male dummy in the two frontal tests and replacing the 50th percentile ES-2re male dummy with WorldSID-50M in side impact crash testing. This is particularly important when testing requires an assessment of forces and injury in new orientations and directions. For example, the WorldSID dummy likely provides a better assessment of lateral biofidelity in side impacts than other dummy types.

We are pleased to learn that NHTSA is taking steps toward evaluating rear-seat crashworthiness in NCAP. We have long argued that using the rear seat to gain insight for crash tests would benefit consumers, and NHTSA's plans for research and testing offer a chance to do that. With recent data indicating that the rear seat safety benefit relative to front seat performance does not have the differential it once had, it is now more important than ever to devote additional effort to rear seat safety improvements. We support NHTSA's intention to conduct research tests with a HIII-5F dummy in the rear seat of full frontal tests, in order to

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<sup>6</sup> Comments of Consumers Union to the National Highway Traffic Safety Administration, *New Car Assessment Program (NCAP)*" (July 3, 2013) (online at [www.regulations.gov/#!documentDetail;D=NHTSA-2012-0180-0032](http://www.regulations.gov/#!documentDetail;D=NHTSA-2012-0180-0032)) (Docket No. NHTSA-2012-0180).

determine whether or not to permanently include this dummy in the rear seat of full frontal NCAP tests. We also agree with the agency that it is appropriate to procure and evaluate 5th percentile female versions of the THOR dummy, given that its biofidelity and kinematics are likely to be an improvement compared to the HIII-5F dummy. Overall, we urge the agency to incorporate rear seat testing into NCAP as broadly and as expeditiously as possible.

In calculating a total crashworthiness rating, we encourage NHTSA to approach weighting of different crash and injury modes from a risk level. Those that have the highest risk in terms of occurrence rate, occupant risk, or areas of the body most prone to injury should carry higher weight in determining overall scores.

## **Crash Avoidance**

As previously stated, Consumers Union commends NHTSA on its intention to incorporate advanced crash avoidance technologies into a rating. We have previously urged the agency to take this action because ratings, if structured correctly, are clearest to consumers and have the greatest potential to shape marketplace demand and automaker response. NHTSA indicates that it plans to include in the crash avoidance rating the following technologies: forward collision warning, crash imminent braking, dynamic brake support, lower beam headlighting performance, semi-automatic headlamp beam switching, amber rear turn signal lamps, lane departure warning, rollover resistance, and blind spot detection. It also indicates that intersection movement assist, lane keeping support, advanced automatic crash notification, driver alcohol detection system, and driver distraction guidelines will not be included in the rating at this time, while NHTSA undertakes further research on these technologies. We believe that the list of technologies NHTSA intends to include in the crash avoidance rating is appropriate at this time. To preserve flexibility, we urge NHTSA to ensure that the rating methodology established in the current upgrade allows the agency to add or change technologies over time, as frequently as each year.

We support NHTSA's overall approach toward the new 5-star rating system for crash avoidance, including using a 100-point scale, where the point value of each individual technology is based on both its potential safety benefit and its performance against either pass-fail or stratified-level criteria. However, to provide the greatest incentive for manufacturers to add crash avoidance technologies at all price points, we urge NHTSA to only award points for technologies that are standard equipment. Awarding credits for optional equipment would dilute the rating and would be inconsistent with NHTSA's stated goal of having "NCAP continue to serve as a world leader."<sup>7</sup> We note that Euro NCAP generally requires its test variant vehicles to have safety equipment fitted as standard in order for that equipment to be evaluated. Moreover, while we understand it will be subject to a not-yet-determined minimum "take rate," we are concerned that the proposed credits for "optional" equipment could apply very broadly – "optional" could mean the technology comes on many cars, or on only a low-volume trim line. If NHTSA goes forward with a plan to award credits for optional safety equipment – which, again, we do not recommend – we urge the agency to: (1) ensure that the minimum "take rate" it ultimately requires is high enough so that half-credit for optional technologies does not

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<sup>7</sup> RFC at 78526.

overestimate the technologies' real-world safety benefit; and (2) include a sunset provision whereby optional equipment can receive points for a short period of time (such as two years), but then at the end of the period, points can be awarded only to vehicles in which the relevant performing technology is standard equipment.

In the notice of planned NCAP updates, NHTSA indicates several changes to how it will disseminate information about crash avoidance technologies. With regard to the agency's plans for *Safercar.gov*, we support NHTSA's intention to discontinue its practice of recommending advanced technologies upon adoption of the new planned rating. We understand that NHTSA may begin listing technologies in the Safety Features box on the second page of each vehicle rating on *Safercar.gov* if the technology is available but has not yet achieved the NCAP level of performance. We encourage NHTSA not to include a technology in this box if a set of minimum performance criteria exists for the technology and the technology has not met that minimum.

With regard to NHTSA's proposal on the VIN (vehicle identification number) – in which it hopes to collaborate with the manufacturers to code specific crash avoidance technologies and combinations into the VIN, which would be associated to the make, model, trim, and model year levels – we would support this effort for two reasons. First, such an effort would eventually allow used car buyers, including buyers of the vehicles many years from now, to decipher which safety equipment is on the vehicle. Second, should insurers begin to provide premium adjustments for such technologies, as we imagine they would, they will need some way to identify which cars are equipped with which systems. A recoded VIN would benefit consumers in both of these respects.

More specifically, we have several comments related to individual crash avoidance technologies. First, we strongly support the inclusion of forward collision warning (FCW), crash imminent braking (CIB), and dynamic brake support (DBS) in the crash avoidance rating, as we had suggested. CIB and DBS are commonly referenced in tandem as automatic emergency braking (AEB) technologies. FCW and AEB technologies have a demonstrated safety benefit. Put simply, they save lives – and to Consumers Union and Consumer Reports, they represent the greatest safety advancement since the introduction of electronic stability control (ESC) over two decades ago. We have called for all automakers to make FCW and AEB technologies standard on all their vehicles as quickly as possible, and we strongly support the efforts of NHTSA, IIHS, and others to speed up adoption. We believe inclusion of these technologies in the new crash avoidance rating is a positive step. We reiterate, though, that credit should not be awarded to models that have these features as optional equipment, rather than as standard equipment. In the case of these technologies, where NHTSA has diligently pushed for automakers to make the features standard on all vehicles, it would strike us as particularly unfortunate if NHTSA were to award credit for optional equipment – truly a missed opportunity to incentivize adoption across vehicle fleets as rapidly as possible. We note, also, that in our own Ratings of vehicles, we award bonus points (and thus a higher overall Ratings score) to vehicles that offer FCW, low-speed AEB, or high-speed AEB standard across all trim levels.

NHTSA requests comment on whether it should only award credit for FCW systems if the subject vehicle is equipped with haptic FCW. While data suggest that haptic alerts are more effective, we do not believe that audible and visual warnings are without value. To that end, we

would suggest that perhaps the most appropriate approach for NHTSA to take would be to award points for any alert meeting performance criteria, but award additional points for haptic alerts in order to encourage their implementation going forward.

NHTSA indicates that as it incorporates CIB into a crash avoidance rating, it encourages manufacturers to include detection of objects other than cars (such as animals or road obstructions) in their CIB algorithms. We support this encouragement by NHTSA, and urge the agency to ensure that the current NCAP upgrade allows enough flexibility so that in the future the agency can evaluate such detection capability against performance measures.

Second, we generally support the inclusion of semi-automatic headlamp beam switching in the crash avoidance rating. We are aware that many drivers do not choose to take advantage of the added visibility of high beams as often as they should, and believe that if this technology were standard equipment on vehicles, significant nighttime visibility improvements and glare reduction would result. With regard to NHTSA's plans to include lower beam headlight performance measures and amber rear turn signal lamps in NCAP, we appreciate the research and consideration that has gone into evaluating these technologies, and encourage NHTSA to continue its work to determine if they warrant inclusion in the final NCAP plan.

Third, NHTSA intends to include lane departure warning (LDW) in its crash avoidance rating for this NCAP upgrade, but also intends to re-define the LDW performance criteria in order to minimize the risk of consumers disabling the LDW system because they receive too many alerts and to avoid confusion that may occur from too many overlapping alerts. We support some means of addressing systems that are prone to false alerts. The new, planned lateral position requirements should decrease the false alerts somewhat, but we believe that secondary roads where many false alerts occur may not be addressed by this change, as it is likely that vehicles not only approach the center lines within one foot but may also cross. We suggest that LDW false alert conditions could also be subject to speed limitations or GPS based position sensors, to avoid "over activation" on secondary or curved roads. We also suggest – similar to our comments on haptic feedback for FCW – that perhaps the most appropriate approach for NHTSA to take toward LDW technologies would be to award points for any alert that meets performance criteria, but award additional points for haptic alerts in order to encourage their implementation going forward.

Fourth, it seems logical to us for rollover results and the Static Stability Factor (SSF) to be included as part of the crash avoidance rating. Any weighting of this technology – as suggested in Table 12 of the notice – should be based on the anticipated prevalence of rollover crashes for vehicles with ESC, as all vehicles subject to this revised ratings system will have it. Accordingly, we also support finally updating the SSF risk curve to account for newer ESC-equipped vehicles that are less likely to be involved in rollover crashes. We believe adjusting the risk curve as proposed in the notice would make it appropriately more difficult for a vehicle to achieve a high rating for rollover resistance.

Fifth, we strongly support the inclusion of blind spot detection (BSD) in the new crash avoidance rating. BSD is a favorite safety technology of both Consumer Reports testers and our readers, and we believe the technology is appropriately mature to warrant inclusion in NCAP.

With regard to the planned test procedure, NCAP tests for BSD would be conducted under dry conditions with ambient temperatures above 32 °F (0 °C) and below 90 °F (32 °C), and under lighting conditions that minimize shadows and sunlight at sunrise and sunset, in an effort to reduce false-positive alerts. We understand that this step is necessary because testing BSD in adverse weather conditions would be too variable. However, we also know from our own testing that blind-spot detection can sometimes be rendered inoperable in poor weather or when radar or cameras are blocked. Therefore, we would suggest that in addition to the proposed test procedure, NHTSA could include some form of definition or points system for those BSD systems that provide a clear indication to the driver that the system is not operating. NHTSA could perhaps accomplish this by covering or blocking the radar or camera and ensuring that the resulting message is clear and prominent to the driver. With regard to detection of motorcycles, pedalcycles, humans, animals, or other objects, we would once again encourage an NCAP testing system that leaves room for growth and improvements. Certainly BSD systems that identify any of those, especially motorcycles, would be beneficial to safety. As the technology improves, the ratings system should improve with it.

## **Pedestrian Protection**

In its 2013 comments, Consumers Union encouraged NHTSA to include both pedestrian crashworthiness and pedestrian detection and braking requirements in NCAP.<sup>8</sup> We support and appreciate NHTSA's intention to do so. We also support and appreciate NHTSA's intention to add both of these to a new, joint pedestrian protection category with a single pedestrian protection score. Such a category will be useful to consumers given that this element of safety, as a purchase criterion, may be of particular interest to city-dwelling consumers.

With regard to crashworthiness pedestrian testing, where NCAP will measure the extent to which vehicles are designed to minimize injuries and fatalities to pedestrians struck by vehicles, it would be preferable for NHTSA to develop its own test procedures and scoring schemes rather than mirroring those used by Euro NCAP. The variation in tests (such as among IIHS, NCAP, and Euro NCAP) helps lead to the development of technologies to address a spectrum of real-world circumstances, not just the circumstances presented in one test. With regard to the two pedestrian detection and braking technologies – pedestrian AEB and rear automatic braking – we support the research efforts NHTSA has commenced and continues to carry out to quantify safety benefits and develop appropriate test procedures.

## **New Rating System**

In the current planned NCAP upgrade, NHTSA intends to provide an overall star rating, and individual star ratings for crashworthiness, crash avoidance, and pedestrian protection categories. Consumers Union supports the overall structure of the ratings and agrees with the decision to combine attributes into a comprehensive overall score. Consumers are often looking for one rating that draws on multiple attributes – as the planned overall score would do and

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<sup>8</sup> Comments of Consumers Union to the National Highway Traffic Safety Administration, *New Car Assessment Program (NCAP)* (July 3, 2013) (online at [www.regulations.gov/#!documentDetail;D=NHTSA-2012-0180-0032](http://www.regulations.gov/#!documentDetail;D=NHTSA-2012-0180-0032)) (Docket No. NHTSA-2012-0180).



similar to the way our own auto test ratings have changed recently. Presenting too many attributes can contribute to confusion, especially when the attributes are counter to one another.

While we generally support the decision to break out the overall score into the three categories (crashworthiness, crash avoidance, and pedestrian protection) instead of into test-based star ratings (as is done currently), we urge NHTSA to keep the test-based crashworthiness ratings publicly available. We suggest that NHTSA consider keeping this information as nested data that may not be featured prominently, but would allow the deeper researcher access to individual test results.

For the overall score, we support maintaining the full star ratings, as they will be more readily identifiable and straightforward for consumers to understand than half-star ratings. However, to provide greater resolution, we do support the use of half stars at the category level.

### **Communications Efforts**

We are pleased to hear that NHTSA has planned extensive efforts to communicate NCAP changes to the public. We agree that such communication will be critical to ensure that consumers understand how the program will help them make informed choices and incentivize improvements in vehicle safety. We particularly support NHTSA's plans to enhance and restructure *Safecar.gov* to make its NCAP portions more useful and accessible for consumers, and to create engaging digital materials and materials that can be distributed at the point of sale. We also agree that partnerships will help extend the agency's reach and we look forward to working with the agency on these efforts.

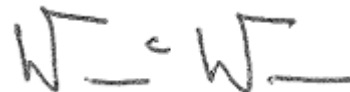
### **Conclusion**

NHTSA's planned upgrades to NCAP are the most significant revisions to the program in its history. As a tool with nearly unparalleled potential to move the auto marketplace toward greater safety, NCAP must be kept up to date with changing vehicle capabilities and technologies, and therefore should be flexible enough to be changed as needed. We commend NHTSA for proposing these upgrades and encourage the agency to issue a final decision notice that is as strong as possible in providing consumers meaningful safety information and incentivizing the adoption of life-saving features across vehicle fleets. We understand that this is the beginning of a process – and we look forward to working with the agency to help put this plan into action.

Respectfully submitted,



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