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New Car Assessment Program (NCAP)
Request For Comments
87 Federal Register 13452, March 9, 2022

Thank you for the opportunity to comment on the National Highway Traffic Safety Administration's (NHTSA), New Car Assessment Program [Docket No. NHTSA-2021-0002] request for comments (RFC). Kids and Car Safety are filing these comments in response to that request.

I. Introduction

Kids and Car Safety (KACS), a 501 (c)(3) national nonprofit is dedicated to saving the lives of children and pets in and around motor vehicles. KACS is devoted to eliminating vehicle-related risks that were previously unrecognized (nontraffic incidents) through data collection, research and analysis, public education and awareness programs, policy change, product redesign, and supporting families to channel their grief into positive change. These everyday events include being run over (backovers & frontovers), hot car deaths, carbon monoxide poisoning, car theft with children/animals inside, knocking cars into gear, drowning by not being able to exit a submerged vehicle, underage drivers, and power window strangulation, etc. KACS's leadership has been the basis for a number of major successful initiatives to make vehicles safer for children (and others). Examples include rearview cameras, safer power window switches, brake transmission interlock devices, and trunk release mechanisms.

Since the launch of the U.S. New Car Assessment Program (NCAP), it has provided essential vehicle safety performance information to the public as well as motivated the development of safer vehicles by the motor vehicle industry. This program has been emulated all over the world and has helped to inform consumers for decades. NCAP has helped car buyers to better understand the differences between the key safety features of vehicles and what to choose when purchasing a vehicle which can be a key factor in their purchasing decisions. It's not uncommon for people to refer to their vehicle as a '5-Star' choice. Additionally, the program has been an incentive for automakers to improve crashworthiness and place the latest safety technologies into their vehicles.

Now is the time to renew and strengthen the U.S. program that has been neglected for too many years. It needs to be made dynamic, significant, and beneficial. Faced with more choices than ever, consumers need better tools to discriminate between the offerings of various automakers. This system is no longer sufficient to identify vehicles with superior safety performance between the numerous offerings of various automakers.

The NHTSA has recently released data stating 42,915 people were killed in motor vehicle crashes in 2021. This represents a 10.5 percent increase from 2020 and the highest number of deaths since 2005. In addition to these data, the Non-Traffic Surveillance system (NTS), also managed by the NHTSA, reports additional fatalities and injuries that is not currently being considered in the studies, reports, or analysis, etc. used for safety assessments or other areas of concern to the agency. These data need to be added and included in the overall calculations to better set priorities for what safety features should be required for the new NCAP program. An April 2018 NTS report based on 2015 data (DOT HS 812 515), states 39% of fatalities were nonoccupants such as pedestrians and bicyclists. As nonoccupant deaths and injuries continue to trend upwards the NTS data becomes even more valuable to the NCAP priorities. It's critically important to focus on the safety of everyone around the vehicle, not just its occupants.

The failure of our government to act has led to thousands of unnecessary pedestrian deaths, simply because manufacturers continue to market larger and larger vehicles for no reason other than greater profits and appealing to the consumer's ego.

Jessie Singer states in her new book entitled *There Are No Accidents: The Deadly Rise of Injury and Disaster—Who Profits and Who Pays the Price,* "Pedestrian deaths are rising—and rising inverse to the deaths of people in cars—because more people are driving larger, more powerful vehicles, such as SUVs, pickup trucks, and minivans. Average weight of a vehicle involved in a fatal crash rose by more than 390 pounds between 2000 and 2018. At the same time, the share of vehicles on the road that are SUVs has risen around 60 percent. Between 2009 and 2016, there was an 81 percent rise in the number of pedestrians killed by SUVs. One researcher estimated that between 2000 and 2018, if every SUV, pickup, and minivan on the road were instead a sedan, there would be 8,131 people walking around alive today."

In 2020, approximately 14 million new light trucks and automobiles were sold in the U.S. and nearly 40 million used vehicles were sold. Consumers should be confident that the vehicles they purchase are equipped with essential safety technologies that will keep their families safe and help to reduce the number of motor vehicle death and injuries.

The NHTSA currently values each life lost in a crash at $11.8 million. The crashes, injuries, and fatalities impose a financial burden of well over $800 billion in total costs to society -- $292 billion of which are direct economic costs. This is equivalent to a "crash tax" of $877 on every person living in the U.S. with total costs reaching nearly a trillion dollars annually when adjusted solely for inflation. That said, the U.S. ranks 41st amongst 49 high-income nations in fatalities which we all agree is totally unacceptable

Available safety technologies that have already been proven to have substantial safety benefits should be included in the NCAP ratings to further facilitate their widespread dissemination into new vehicles. Research conducted by the Insurance Institute for Highway Safety (IIHS) has demonstrated that current advanced driver assistance systems (ADAS) such as Automatic Emergency Braking (AEB), Lane Departure Warning (LDW), Blind Sport Detection (BSD), and rear automatic braking have safety benefits by reducing crashes. Moreover, the National Transportation Safety Board (NTSB) has recommended that forward collision avoidance systems such as AEB be included in the NCAP ratings instead of simply informing consumers if the vehicle is equipped with such technologies.

Based on previous comments to the NHTSA to update this program and others, we are concerned with the lack of details provided in this RFC as well as firm commitments missing for immediate action needed on important

upgrades to the program. The value of NCAP is obvious, but the program cannot be an alternative for the NHTSA fulfilling its statutory duty of issuing Federal Motor Vehicle Safety Standards (FMVSS). The FMVSS are also outdated in many respects and need to be upgraded. NCAP can continue temporarily its important role of being a valid incentive to manufacturers to exceed federal safety standards. Thus, the NHTSA must be forward-thinking in renovating the current program to continue that essential role.

Kids and Cars Safety will only comment on the areas where we feel we can contribute. Though we tangentially work on all areas of auto safety we will only remark on those relevant to our core mission.

Blind Spot Warning

Kids and Car Safety is pleased that the NHTSA is proposing to include Blind Spot Warning (BSW) technology in the recommended technologies portion of NCAP. It is also important for the agency to make clear what 'area of the vehicle' or 'type of danger' the technology pertains to.

Advanced Driver Assistance Systems (ADAS) have become increasingly widespread on new vehicles, but the terminology used by automakers to describe them varies widely and so far has concentrated on marketing strategies. "*CLEARING THE CONFUSION: Recommended Common Naming for Advanced Driver Assistance Technologies"* provides guidance about an agreed upon terminology by a few organizations to utilize for these new systems. The NHTSA should consider issuing a similar document.

Additionally, there is much confusion about the words "blind spot," and "blindzone." We would encourage the NHTSA to utilize the proposed definition below and be consistent in the use of these two terms.

With the increase in incidents involving children and motor vehicles that are referred to as 'backovers' and 'frontovers' the need to accurately define the terms used in describing such incidents has become of utmost importance. These tragedies are most often attributed to a lack of visibility or more specifically, the existence of a "blindzone" behind or in front of a vehicle.

Kids and Car Safety is calling for all agencies to formally adopt the use of the term "blindzone" rather than "blind spot" when describing the areas that cannot be seen by a driver when slowly backing up or moving forward in a vehicle.

The BSW detects vehicles in the blind spot while driving and notifies the driver to their presence. Some systems provide an additional warning if the driver activates the turn signal. Consumers can become confused when the area behind or in front of the vehicle is also referred to as a "blind spot" because traditionally that phrase has been associated with the area beside/behind a vehicle that can contribute to crashes when changing lanes.

Safety advocate groups prefer the phrase "blindzone" for several reasons:

- The use of the word "blindzone" differentiates the area behind the vehicle that often contributes to backover incidents, and similarly the area in front of the vehicle that contributes to frontovers, from the area beside a vehicle that lacks visibility when changing lanes.

- Referring to the area that lacks visibility behind or in front of a vehicle as a "spot" grossly understates the size of the area and magnitude of the danger. A rear blindzone measures approximately 7-8 feet wide and up to 50 feet long while a front blindzone can be up to 15 feet long. Areas of those dimensions are certainly not a "spot" and is therefore more accurately described as a "zone."

While it is difficult to establish uniform terminology, Kids and Car Safety urges the government, automotive industry, public relations firms, media and other safety advocacy organizations to adopt the use of consistent terminology for the sake of accuracy and to prevent consumer confusion. General Motor's "Side Blind Zone Alert Technology" is one example of a company who is referring to their system differently. Most automakers refer to that type of safety system as a Blind Spot Warning (BSW).

Pedestrian AEB

Kids and Car Safety supports the NHTSA proposing the inclusion of pedestrian automatic emergency braking (PAEB) technology in the recommended technologies portion of the NCAP. Though backover incidents are decreasing, this is of particular interest to KACS as the number of frontover fatalities and injuries continue to increase. As the market continues to shift to larger SUVs and pickup trucks, that have grown and continue to grow exponentially in size and weight, this growth has been directly correlated with an increase in pedestrian and cyclist fatalities. These 'over-sized,' gas-guzzling, killing machines are particularly dangerous to society's most vulnerable road users, our children. Europe, Japan, and Australia have been providing protections for pedestrian for years. The NHTSA must move more quickly on proven safety technologies if we are to save lives both inside and outside the vehicle.

Has there been any thought about limiting vehicle size, weight, hood height, and bumper designs to decrease the severity of injury and probability of death when driving these larger vehicles?

This update is a huge step forward and we commend you on it. However, it needs to go further and address pedestrian protections and vehicle size. Specifically, we're concerned about the lack of a crashworthiness pedestrian protection testing program, and the lack of attention to vehicle size. Larger vehicles are two to three times more likely to kill a pedestrian than smaller vehicles, and it's important to do what we can to reverse the trend of ever-larger SUVs and trucks.

KACS is concerned that bicyclists or turning vehicle incidents are not included, both of which are tested and rated as part of Euro NCAP. The NHTSA should continually evaluate the current state of technology as advancements are constantly being made and should continue to move forward with the best available systems on the market to be acknowledged by the program.

NCAP must include robust requirements to drive innovation which will incentivize the implementation of safety technologies.

Responses to Specific Numbered Questions

42) The NHTSA should include these recommended technologies as part of the rating system. By doing so, this enables the agency to significantly impact the purchasing decision of consumers as well as the speed up the adoption and improvement of these technologies by manufacturers. This would also allow the agency to establish a minimum performance level and receive credit and provide additional credit for performance above and beyond the minimum requirements which is optimal. By only recommending a technology instead of including it in the NCAP rating, the NHTSA is limited in its capability to distinguish between the performance of different vehicles.

45) NCAP as well as all regulations promulgated by the NHTSA should continuously advance to address the on-road experience. The NHTSA must undertake robust research, testing, analysis and evaluation to ensure that advances in one issue do not undermine the safety benefits in others and place additional concern to avoid the significant problem of unintended consequences.

(77) Yes, KACS believes that credit should be given for including interlock systems in NCAP.

VI. Establishing a Roadmap for NCAP

Providing a roadmap of future actions to enhance NCAP is essential. If the document provides specific details, it provides the ability for all stakeholders to plan for future. This approach seems to work well for Euro NCAP. As a requirement contained in the Infrastructure Investment and Jobs Act (IIJA), the NHTSA is directed to develop a roadmap for NCAP. However, the lack of specifics in the roadmap issued in the RFC is of concern. Unfortunately, the NHTSA's constant failure to meet statutory deadlines and its own dates for action included in previous significant rulemaking reports and regulatory agendas is very troubling. The NCAP roadmap report must be a detailed document containing the dates and actions the NHTSA will complete and then execute the plan on a timely basis.

2021-2022
KACS supports NCAP developing a pedestrian crashworthiness rating as it is already part of Euro NCAP. We urge the agency to make such action a priority in order to meet the timeframe provided in the roadmap.

VII. Adding Emerging Vehicle Technologies for Safe Driving Choices

KACS supports the NHTSA expanding NCAP beyond crashworthiness systems to advanced safety technologies that can prevent a crash as well as protections for not only vehicle occupants but also other road users such as pedestrians and pedalcyclists. However, taking such action cannot be a substitute for requiring proven safety technologies as standard equipment in all vehicles through the promulgation of a Federal Motor Vehicle Safety Standard (FMVSS), especially when Congress has explicitly directed such action.

KACS has always championed proven vehicle safety technologies because of their ability to save countless lives. The NHTSA has estimated that between 1960 and 2012, over 600,000 lives were saved by motor vehicle safety technologies. Our continued support for proven lifesaving technologies as standard equipment in new vehicles in other federal legislation and regulatory proposals has been resolute. These efforts include: internal trunk releases, safer power window switches, rear safety belt reminder systems; brake transmission interlocks; and rear-view cameras.

Driver Monitoring Systems
Based on recent research and data, driver monitoring systems for passenger motor vehicles can help to prevent or mitigate crashes caused by a number of dangerous driving behaviors including impairment, fatigue, distraction, driver disengagement, automation complacency, and the foreseeable misuse of automated driving systems. IIHS has indicated that it will include whether a vehicle is equipped with a driver monitoring system in its ratings program which evaluates the safeguards that vehicles with partial automation employ to help drivers stay focused on the road. In addition, Consumer Reports grants additional credit to a vehicle's rating if the vehicle includes a driver monitoring system as part of the "active driver assistance package." KACS supports the inclusion of evaluation of driver monitoring systems in NCAP which have appropriate privacy safeguards in place to prevent misuse of data. Furthermore, Euro NCAP has started evaluating driver monitoring systems which can help "mitigate the very significant problems of driver distraction and impairment through alcohol, fatigue, etc." in its rating program. Lastly, KACS urge the NHTSA to conduct research on the safety benefits of requiring driver monitoring systems as standard equipment on new passenger motor vehicles.

Seat Belt Reminders

There is no denying the fact that seat belts save lives. Rear seat reminder systems can both remind the driver and rear seat occupants to buckle up and alert the driver when a passenger unbuckles while the vehicle is moving.

An IIHS study stated that persistent reminders to buckle up and speed-limiting interlocks can help increase belt use in vehicles, saving nearly 1,500 lives if the technology was more available. With 90% of people in the front seat currently using seat belts in the U.S. while at the same time statistics showing about 50% of fatalities include someone was who was not wearing a seat belt, more needs to be done to increase use. KACS strongly supports requirements for all passengers in all seating positions to be buckled and supports effective reminders for all seating positions to be included in NCAP.

The NHTSA has known for years that seat belt reminder systems can dramatically improve safety on public roads and for years has needlessly delayed regulatory action. Public Citizen and Advocates petitioned the NHTSA for a safety standard requiring rear seat belt reminder technology but the NHTSA refused to act. In the 2012 surface transportation authorization bill the Moving Ahead for Progress in the 21st Century (MAP-21) Act (Pub. L. 112-141), Kids and Car Safety along with other advocacy groups got a requirement for issuance of a federal rule by October 2015. The agency did not act, so the groups sued DOT in 2017, and in 2018, the U.S. Court of Appeals demurred based on the NHTSA's promise to issue a rule. In September 2019, the agency issued an advance notice of proposed rulemaking. It's eight years after the law was passed and the NHTSA still has done nothing more.

Kids and Car Safety implores the agency to complete this rulemaking without any further delay. Currently, only 20 states and the District of Columbia have primary enforcement rear seat belt laws. Requiring rear seat belt reminders, similar to the European Union which made reminders mandatory in 2019, will increase seat belt use and save lives that are lost each year due to occupants failing to buckle up.

The number one priority for the NHTSA is to complete the long overdue rulemaking to require rear seat belt reminder systems in all seating positions. Seat belt reminders are proven to be effective in saving lives by increasing seat belt use in an equitable manner. We do not object to NHTSA beginning to looking at prototypes of seat belt interlock systems and related technologies, but, not until the rear seat belt reminder rule is issued.

Seat belt reminders are well established all over the world and have been widely promoted by NCAP programs.

(84) Rear Seat Child Reminder Assist

SPECIAL NOTE: "Rear Seat Child Reminder Assist" is the designation stated in the RFC document, but it's important to note that any technology added to vehicles to prevent these unthinkable hot car deaths must be able to monitor the entire passenger compartment. It is not uncommon for children to be found in the front seat or on the floor boards of vehicles. Thus, any monitoring system must provide coverage for all of those areas. (Euro NCAP refers to this technology as "Child Presence Detection")

Door logic solutions are not sufficient, and the NCAP program should always work towards advocating for the most advanced, affordable, and available safety systems instead of only rewarding the most basic function.

In the mid-late 1990s, children in the U.S. began dying in hot cars at alarming rates, as an unintended consequence of moving child passengers to the back seat to avoid the risk of overpowered airbags in front seat. Today, an average of 38 children die trapped in hot cars every year, but this doesn't have to happen. Over 1000 children have died in hot cars since 1990. Child vehicular heatstroke is the leading cause of non-crash, vehicle-related deaths in children under 14 years old.

Child hot car deaths and injuries are largely misunderstood by the general public. It can be very difficult for individuals to accept the important information about hot car dangers because people don't think these messages apply to them. The majority of parents and caregivers are misinformed and would like to believe that they could never "forget" their child in a vehicle which is a very dangerous mistake for a parent or caregiver to make. In over half of hot car deaths, (56%) the person responsible for the child's death unknowingly left them in the vehicle. In most situations this happens to the most loving, caring and protective parents. Another 26 percent of children perish in hot cars after gaining access on their own and then are not able to get out of the vehicle. KACS has a massive amount of data about the hot car issue and can be found on our website. An in depth look at the specific circumstances surrounding these deaths is available in the report - *U.S. Child Hot Car Death Data Analysis, from the Kids and Car Safety National Database (1990-2021)*

Kids and Car Safety believes the solution to these preventable tragedies is a combination of detection and alert technology in all vehicles along with education. Technology can alert the driver, bystanders, emergency contacts and even authorities if a child is in danger, trapped inside a vehicle. This technology is readily available and affordable and should be included in all vehicles.

Scientific studies and memory research have shown that even the best of parents or caregivers can unknowingly leave a child in a vehicle. However, these tragedies can be prevented by robust detection systems.

KACS has influenced the passage of laws in dozens of states to raise awareness about the dangers of hot cars and make it illegal to leave children alone in vehicles. Unfortunately, because this tends to be a 'memory' issue, a law is not able to deter this unintentional behavior. Additional laws have been passed recently to protect citizens from liability (Good Samaritan laws) if they rescue a child, pet or adult in distress inside a vehicle. These new laws have proved to be effective based on the number of 'rescues' reported by the media and others.

Very basic approaches using the rear door switch logic to trigger a simple "check the rear seat" reminder at the end of the journey was introduced years ago. These types of systems do not 'detect' anything except that a rear door was opened prior to turning on your vehicle. The auto industry has voluntarily agreed to install these less-effective, non-detection systems to remind drivers to check the back seat when they turn off their vehicle. Door logic systems provide many false alerts causing drivers to tune out the warning and then many times disabling the system. Additionally, they would not protect children who get into vehicles on their own and become trapped, nor would they work in a number of other common scenarios. A detection and alert safety standard is necessary to ensure the technology being used is effective and comprehensive and can be tested for compliance. In addition, voluntary agreements are useless in achieving effective solutions because they are not enforceable, usually are weak, and any company can withdraw at any time with no consequences.

Below is a chart that compares the differences between what is needed (occupant detection) and what the hot car provision passed as part of the IIJA requires (rear seat reminder). Without a doubt, the occupant detection system is the only way to ensure children do not perish in hot cars.

Kids and Car Safety
Love them ♥ Protect them

Occupant Detection vs. Rear Seat Reminder Technology

	Occupant Detection: Uses motion, radar, lidar, carbon dioxide, etc. sensing to detect the presence of a living being inside a vehicle	**Hot cars provision passed in the Infrastructure bill (rear seat reminder only):** audio & visual reminder to check the back seat
Ability to detect the presence of an occupant inside a vehicle	✓	✗
Can tell the difference between a child and an inanimate object	✓	✗
Detects the presence of life anywhere in the passenger cabin, including the floorboard and 3rd row seats	✓	✗
System cannot be disabled, rewritten, overridden or recalibrated	✓	✗
Accounts for children who gain access to vehicles and become trapped inside (26% of hot car deaths)	✓	✗
Accounts for children who are both unknowingly (56% of hot car deaths) and knowingly left (15%)	✓	✗
Does not give parents a false sense of security	✓	✗
Minimizes false alarms	✓	✗
Comprehensive solution	✓	✗

For more information visit www.KidsAndCars.org or email@kidsandcars.org

Systems capable to detect the presence of a sleeping infant are available on the market and can hence easily be considered in the NCAP roadmap.

Occupant detection systems allow the vehicle to provide escalating warning steps depending upon the automaker specifications. Occupant detection can also help to protect children from being knowingly left in vehicles. If the driver leaves the child in the car and ignores the first warning step, escalation alerts can gain the attention of someone passing by or other types of warnings can be sent to family members or EMS, etc.
Occupant detection systems are capable of determining if a vehicle is empty or if there is still an occupant inside. As the industry moves towards autonomous vehicles, this type of sensing device will be mandatory.
Occupant detection systems can also replace seat belt reminder systems and other vehicle features and can thus be considered a cost neutral or cost savings for automakers.

Below is a bit of anecdotal information we have been gotten from the field.
Kids and Car Safety is contacted regularly by consumers who have purchased or rented vehicles with a rear seat reminder system that is triggered by door logic. These consumers believe that this system is detecting an occupant in the rear seat of the vehicle, when in fact the system is only detecting that a rear door was opened prior to driving. They believe that this is providing them with security to protect their child when actually, it is not. KACS spends a tremendous amount of time explaining to journalists and others that these systems do not actually detect a child inside the vehicle. Our organization monitors media reports and provides corrections to reporters who do

not understand the abilities and limitations of rear seat reminders vs. occupant detection systems and works to get these articles updated. KACS has spoken with many seasoned professionals in the child vehicle safety field that believe that the rear seat reminder alert can detect children in the rear seat. These are highly educated individuals who have been following the hot car issue for many years. If they're confused and misled, imagine how much confusion there must be among the average consumer. Additionally, during many meetings on Capitol Hill with Congressional staff, we had to continuously explain that the rear seat reminder systems available in GM, Nissan, Ford, etc. vehicles today do NOT detect occupants.

We also are working with the family of a child who died in his father truck last year. The Dad absolutely believed that this technology would let him know if his child was unknowingly left in his vehicle. (like those described above) Unfortunately his vehicle was equipped with a door sequencing system which does not detect a living being in a vehicle. The day his son died, he drove his car three times and never heard an alert to save his life.

(85) Suppliers of the occupant detection systems have conducted thorough testing and they might be willing to share their results. GM has prepared an outline that describes many of the deficiencies of a door logic system.

(86) Euro NCAP has published a Child Presence Detection protocol in 2021 which would be a good place to start.

X. Conclusion

Thousands of lives are ruined or lost needlessly every day on American roads and highways. We hope the NHTSA will take this opportunity to update NCAP and use every tool at your disposal to prioritize safety for all road users - inside and outside of vehicles. Please follow the example of other countries who have reduced their injury and fatality rates far below ours.

Please move immediately to update NCAP so consumers can take advantage of the live-saving improvements to vehicle design and prevent the heartaches and hardships brought about by vehicle related tragedies.

Janette Fennell
President and Founder
Kids and Car Safety