



National Association of
City Transportation Officials

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Dr. Steve Cliff
Deputy Administrator
National Highway Traffic Safety Administration
Department of Transportation
1200 New Jersey Avenue S.E., West Building
Washington, D.C. 20590-0001

Dear Deputy Administrator Cliff,

On behalf of the National Association of City Transportation Officials (NACTO), we are pleased to offer the following comments in response to NHTSA's proposed updates to the New Car Assessment Program (NCAP). NACTO and our 89 member cities and transit agencies have substantial direct experience working to make streets safer for all road users, regardless of mode. City transportation officials have stepped up as leaders in the national vehicle safety dialogue, developing local standards and regulations on vehicle size, safety features, and operations within city limits. NACTO has [published guidance in collaboration with the USDOT Volpe Center](#) on vehicle safety features and regulation in cities. It is critical that NHTSA recognizes vehicle design as a crucial component of street safety in cities, both to occupants of the vehicle and the people around it.

Fatalities and serious injuries among pedestrians and cyclists have skyrocketed by more than 50 percent over the past ten years. As acknowledged by this RFC, deaths among people outside vehicles have outpaced overall roadway fatalities. Current vehicle standards and rating systems have failed to protect people outside of cars, especially in multimodal urban environments. NACTO is encouraged to see NHTSA take this first step towards incorporating safety features that protect people outside of vehicles into NCAP. However, the proposed changes to the Program do not go far enough to reverse the disturbing trends seen on the nation's roadways. The new rating system incorporates several long-overdue technological changes but misses opportunities to address the outsized roles that vehicle speed, size, weight, and visibility from the driver's seat play in determining safety outcomes.

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To help alleviate the national traffic safety crisis, NACTO recommends incorporating the following features into the NCAP rating system. **NHTSA should ensure no vehicle receives a five star rating without scoring highly in the following categories:**

1. ADAS features capable of sensing and protecting people outside vehicles.
2. Intelligent speed assistance systems that automatically limit unsafe speeds.
3. Pedestrian protection and crashworthiness/survivability for people outside the vehicle.
4. Direct visibility from the driver's seat (also known as "direct vision").

NCAP can better support the goals defined in USDOT's *National Roadway Safety Strategy* by taking a more comprehensive approach to protecting pedestrians, cyclists, and all road users outside vehicles, as described in the following comments.

- 1. ADAS features must be evaluated based on their ability to sense and protect people outside the vehicle. Vehicles lacking ADAS features that effectively protect people outside vehicles should not receive 5-star ratings.**

This RFC incorporates long-overdue technologies into the NCAP rating system, including blind spot detection and intervention, lane keeping support, and pedestrian automatic emergency braking. NACTO supports the inclusion of these technologies into NCAP ratings, with credit awarded based on their effectiveness in protecting people outside of vehicles. Tests to award credit should account for the following known shortcomings of ADAS technologies related to pedestrian and cyclist safety:

- **Pedestrian Automatic Emergency Braking (PAEB)** is proven to prevent crashes between vehicles and pedestrians before they happen. However, these systems are limited in their ability to detect pedestrians and bicyclists. While a recent study by the Insurance Institute for Highway Safety (IIHS) found that PAEB was associated with a reduction in crash rates of [up to 33 percent](#) in daylight or otherwise well-lit areas, the same study indicated that PAEB is less effective under dark and inclement weather conditions. NACTO urges NHTSA to incorporate testing procedures that account for these known shortcomings.

Beyond lighting and weather conditions, AEB systems often struggle to detect people with darker skin. A [2019 study](#) conducted by the Georgia Institute of Technology demonstrated that autonomous vehicle technology does not "see" darker skin as well as lighter skin, and calls for additional investigation into this phenomenon. People of color, particularly Black and Indigenous people, are disproportionately killed while walking and are more likely to live in communities with unsafe, inadequate infrastructure for walking and biking. Testing crash avoidance technology on its ability to detect and respond to pedestrians, especially pedestrians of color, is necessary for addressing and eliminating these disparities.

Additionally, AEB systems should be evaluated on their ability to detect and react to stationary and moving pedestrians, groups of pedestrians, and people pushing or carrying objects. Vehicle speed also impacts PAEB performance. [The same IIHS study](#)

reported that PAEB performs best at lower speeds. A 32% reduction in crashes was observed in vehicles traveling 25 mph or lower, while no reduction was associated for vehicles at 50 mph or while turning. These limitations point to the need for multi-layered design features to keep pedestrians safe from vehicles.

Tests to ensure AEB systems can detect cyclists are notably absent from this update. Cyclist AEB is already incorporated into EuroNCAP. NHTSA's proposal to reconsider cyclist AEB in 2025 would put the US nearly a decade behind EuroNCAP, as well as equivalent programs in Japan and Australia. Given the ongoing cyclist safety crisis, NACTO urges faster action by NHTSA to require NCAP to consider cyclist AEB systems.

- **Lane Keeping Support (LKS)** systems have been proven effective at reducing lane-drift crashes and enhancing the safety benefits of lane departure warnings. In addition to the proposals described in this RFC to test lane-keeping systems at different speeds and where lane markings may be present, NACTO recommends testing under conditions where vehicles are sharing street space with cyclists and pedestrians. There are concerning [reports](#) of lane-keeping systems encouraging unsafe, close passes of bicyclists by interfering when a motorist attempts to change lanes to provide a safe passing distance. In its assessment of safe passing distances, NHTSA should ensure LKS systems provide cyclists with at least three feet of space - as required by law in 36 states and the District of Columbia
- **Blind spot warning and intervention** systems are associated with a reduction in fatal crashes and serious injuries of 14% and 23% respectively. In addition to the testing procedures described, NACTO recommends evaluating BSI and BSW systems based on their ability to detect pedestrians, cyclists, scooter users, and other road users outside vehicles. This is especially important given that fatal pedestrian crashes are three to four-times more likely when vehicles are turning, given the blind spots created in that scenario. Vehicle size is closely related to the size of and danger posed by blind spots. Section 4 of these comments discussed the relationship between vehicle size and visibility in greater detail.

ADAS technologies are capable of significantly reducing crashes and serious injuries, and vehicles lacking these features should not receive a five-star NCAP rating. However, ADAS features on their own cannot reliably make vehicles safe for people around them. In the interest of maximizing safety for these road users, NHTSA should consider a number of vehicle design features in addition to ADAS when assigning star ratings.

2. **Intelligent speed assistance should be incorporated into NCAP, with full credit only awarded to systems that automatically lower a vehicle's speed when it exceeds the posted speed limit.**

Vehicle speed plays a critical role in determining the likelihood and severity of traffic crashes, injuries, and fatalities. Crashes are more likely to occur as a driver's speed increases, as does the likelihood of a crash being fatal. As this RFC acknowledges, many

vehicles involved in crashes are traveling well above a street's posted speed limit. This is true even in incidents where crash reports do not list speed as a factor, implying speed-related crashes are very likely underreported. Intelligent speed assistance (ISA) is a tool proven to reduce dangerous speeding and associated with major reductions in crashes and fatalities. Already widely deployed in Europe, NHTSA should move quickly to implement this important technology domestically.

[A 2014 study](#) conducted by the Norwegian Institute of Transport Economics and Research suggested widespread adoption of ISA could cut collisions by 30 percent and deaths by 20 percent. These benefits are more closely linked to systems that actively limit vehicle speeds to the posted speed limit than those that simply issue alerts to drivers. In 2019, the EU's European Transport Safety Council (ETSC) made an overridable version of ISA universal. As of 2022, ISA is mandatory on all new vehicles sold in the EU.

Euro NCAP's rating system provides a [model](#) for NHTSA to follow in considering ISA. The European Transport Safety Council (ETSC) awards extra credit to ISA-equipped vehicles and full credit to systems that limit engine power to prevent vehicles from accelerating once they exceed the posted speed limit. This RFC is requesting feedback about whether ISA should be included in NCAP but does not commit to adopting it. NACTO strongly recommends using NCAP scores as an incentive for automakers to make ISA standard in all vehicles, by reserving full credit only where it is available.

3. NCAP ratings should include measures of pedestrian protection and crashworthiness/survivability for people outside the vehicle, with testing protocols built around smaller, more vulnerable road users. Vehicles that score poorly on pedestrian protection should be ineligible for 5-star ratings.

Since 2010, NHTSA has documented that large high-front vehicles present increased risks to people walking and biking. Large passenger vehicles are directly related to the increase in pedestrian fatalities. A [2015 NHTSA report](#) noted that pedestrians are two to three times more likely to die when struck by an SUV or pickup truck than by a sedan, based on data collected in 2006. Since then, SUVs and trucks have only grown in size as has the share of new vehicle sales made up by large cars. Modern passenger trucks are 24% heavier than they were in 1990 and hood heights are an average of 11 inches taller. This combination of heavier vehicles and larger blind spots has been deadly for people walking and biking. With pedestrian and cyclist deaths reaching disturbing new highs each year, an update to NCAP reflecting the relationship between vehicle size and safety is long overdue.

NACTO applauds NHTSA's proposal to include a crashworthiness pedestrian protection testing program in NCAP in 2022 and encourages NHTSA to think critically about its test criteria to ensure safety for the widest possible range of people. Specifically, NACTO encourages NHTSA to follow the [example of Transport For London](#) and select, as their default "test case," a significantly smaller than average person, to ensure that all people are properly considered in the crashworthiness testing. In simplest terms, the test considering "upper leg-to-hood leading edge" will produce radically different results if the test-person is a 6' adult or a 4' tall child because an impact to the upper leg for the adult would hit the child

at the highly-likely-to-be-fatal mid-body or head. It is no accident that car crashes have been the leading cause of death for children in the US for decades. Designing test criteria built around the smaller-than-average person will result in increased safety for everyone. In updating NCAP, NHTSA must ensure that vehicles that do not provide protection for people outside the vehicle, including children, are not awarded 5-star ratings.

With very large SUVs and light trucks making up an ever-increasing share of vehicular traffic and driving a large share of fatalities and serious injuries among pedestrians and cyclists, federal action is long overdue. NHTSA must take this opportunity to directly address the dangers posed by increasing vehicle size and front-end height.

- 4. NCAP ratings should include direct visibility from the driver's seat (also known as “direct vision”), ensuring that increases in vehicle size and hood-height do not impede the driver’s ability to see what is in front or around them. Cameras, mirrors, sensors and other ADAS features cannot replace the need for direct sight. Vehicles with low direct visibility from the driver’s seat should be ineligible for 5-star ratings.**

Large vehicles, such as SUVs, light trucks, and heavy trucks, have large blind spots and visibility problems, which are directly connected to decreased safety and increases in fatalities. A recent [IIHS study](#) found that pick-up trucks are 4 times more likely, and SUVs are 3 times more likely, to cause a fatal crash when making a left turn because of limited visibility from the driver’s seat. Right turns are also dangerous, with crashes 63% or 89% more likely when pick-ups or SUVs are involved. Similarly, data from the USDOT Volpe Center shows that when drivers are operating trucks with low visibility from the driver's seat they are able to detect pedestrians in a crosswalk in front of them only 13% of the time, versus 100% in vehicles that offer better visibility from the driver's seat. These risks are attributable to large blind spots created by the design and placement of the A-pillar and the overall vehicle size and hood height. However, neither the current nor proposed NCAP ratings require automakers to account for these safety impacts.

Updating NCAP to include “direct vision/visibility from the driver’s seat” is essential to reducing traffic fatalities in the US. While ADAS features can mitigate some risk, a large body of data shows that drivers react up to 50% faster to things they can see directly versus information they receive from cameras, sensors, or mirrors. [Research from Transport for London](#) even suggests that a distracted driver in a direct-vision truck will outperform a driver who is paying attention in a standard truck. Ensuring that vehicle design does not impede a driver’s basic ability to see the road in front of them and around them is a core aspect of any vehicle safety assessment and must be added to NCAP.

Several tools are already available to help NHTSA and automakers to evaluate and address the safety impacts of blind spots on large vehicles.

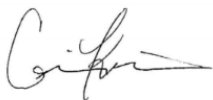
- **USDOT’s own [blind zone calculator](#)** provides visibility scores for different vehicle models and assesses safety impacts on different types of vulnerable road users, from children to people using wheelchairs. NACTO strongly recommends incorporating this calculator, or an equivalent tool, into issuing NCAP ratings.

- **Direct vision standards for trucks are in place internationally.** Transport for London (TfL) introduced a first-of-its-kind standard in 2019, requiring trucks to demonstrate a minimum level of visibility to operate on city streets. [TfL's direct vision standards](#) assign vehicles with a star rating between one and five, based on how much a driver can see from the vehicle without the assistance of mirrors or cameras. By 2024, only vehicles with a rating of three stars or higher will be allowed to drive within city limits. In 2021, the UN Economic Commission for Europe (UNECE) adopted [direct vision standards](#) for trucks based on those developed by TfL. While these standards apply exclusively to heavy trucks in Europe, light trucks and larger passenger vehicles sold in the US are growing in size and increasingly resembling freight vehicles. NACTO strongly recommends NHTSA use these standards as a model for addressing the known visibility and safety problems associated with SUVs, light-trucks, and other large vehicles.

USDOT's recently released National Roadway Safety Strategy calls for redundancy in safety interventions to end the growing number of fatalities happening on the nation's roadways. Incorporating the safety of people traveling outside personal vehicles into NCAP is a key piece of this strategy. To fulfill the intent of this mandate, NACTO urges NHTSA to take advantage of this opportunity to substantially improve vehicle safety and consider size, speed, and weight when assigning NCAP ratings.

NACTO greatly appreciates NHTSA's consideration of these comments. Along with our members, we welcome further opportunities to guide the continued development of the NCAP program.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Corinne', with a stylized flourish extending to the right.

Corinne Kisner
Executive Director, NACTO