

Bharat NCAP 2.0: How the new rules could impact vehicle and pedestrian safety

While many safety standards apply to a car before it is allowed on the road, Bharat NCAP is unique because it focuses on 'crashworthiness', a step beyond the basic 'roadworthiness' requirements. Here's what it evaluates.

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In Bharat NCAP of 2023, vehicles are assessed under three overarching verticals: Adult Occupant Protection, Child Occupant Protection, and Safety Assists Technologies. (Photo for representation: Freepik)

The Ministry of Road Transport and Highways (MoRTH) has released a revised draft of Bharat New Car Assessment Program or [Bharat NCAP for the assessment of crash safety performance](#) of cars. The programme was first implemented in October 2023, which laid

down the detailed procedure for vehicle manufacturers or importers to get their vehicles tested as per Automotive Industry Standard (AIS)-197 and get a star rating based on the crashworthiness of the car.

While the Bharat NCAP of 2023 is valid till September 30, 2027, the new draft expands the scope of safety assessments, introduces new mandatory tests, updates test verticals, and revises the scoring structure. For the first time, the new draft standards propose to test the vehicles on the basis of its vulnerable road user protection features. Pedestrians are one of the most vulnerable road users, accounting for over 20 percent of the total fatalities in road accidents.

What is Bharat NCAP?

Bharat New Car Assessment Programme (Bharat NCAP) provides safety ratings for vehicles based on crash testing and evaluation criteria. The vehicles that perform the best get the maximum five-star rating. These guidelines are mainly for manufacturers who want to display Bharat NCAP's rating on their cars and in marketing campaigns to establish their safety features in the retail market.

While many safety standards apply to a car before it is allowed on the road, Bharat NCAP is unique because it focuses on “crashworthiness”, a step beyond the basic “roadworthiness” requirements.

While there are other similar safety standards in different parts of the world, such as the ones conducted by Global NCAP across geographies, the Bharat NCAP was designed to provide India-specific safety certificates and make adoption of technological advancement easier in vehicular safety. The programme is voluntary in nature. Central Institute of Road Transport (CIRT) in [Pune](#) is the designated agency for issuing the Bharat NCAP ratings.

What are the changes proposed in Bharat NCAP 2.0?

In Bharat NCAP of 2023, vehicles are assessed under three overarching verticals: Adult Occupant Protection (AOP), Child Occupant Protection (COP) and Safety Assists Technologies (SAT). To check these, tests are performed on the vehicles at 64 km/h for frontal impact test and 50 km/h for side impact test and 29 km/h for oblique side impact test. The vehicles are deliberately crashed at these speeds under controlled conditions to evaluate safety.

In the 2025 draft programme or Bharat NCAP 2.0, the scope of both verticals and crash tests have been expanded. Now, the overall rating of the vehicle will be composed of five

assessment areas: Safe Driving (10%), Accident Avoidance (10%), Crash Protection (55%), Vulnerable Road User Protection (20%) and Post-Crash Safety (5%).

Similarly, the number of mandatory crash tests required under the crash protection vertical has been expanded from three to five: 64 km/h frontal impact test against deformable barrier, 50 km/h lateral impact against a mobile deformable barrier, 32 km/h oblique side impact against rigid pole, 50 km/h frontal impact against full width rigid barrier and 50 km/h rear impact against a mobile rigid barrier. An assessment of potential injuries to adult occupants and driver, passenger and rear seat and child occupants are carried out during these tests using Anthropomorphic Test Devices (ATDs).

How will it ensure vulnerable road users safety?

The 2025 draft introduces three completely new assessment areas that were not structurally covered in the 2023 document (which only used SAT as a general qualifier) and one of them is Vulnerable Road User Protection Vertical with 20 percent weightage.

The assessment covers mandatory impact tests and technologies designed to protect vulnerable road users. The mandatory tests include Pedestrian Legform Impacts against the bumper, as well as Adult headform impacts and Child headform impacts against the engine hood area and windshield. It also includes optional assessments of the Autonomous Emergency Braking System (AEBS) concerning Child pedestrians, Adult pedestrians, and Car-to-Motorcyclist rear-end moving scenarios.

The document states that the autonomous technologies such as AEBS may not be able to avoid 100% accidents and are assessed for performance only in the standard test conditions.

Similarly, another assessment area, Accident Avoidance, focuses on technologies that aid the driver in avoiding imminent accidents autonomously. Electronic Stability Control (ESC) System will be mandatory technology for eligibility to the star rating program. Vehicle manufacturers can choose to offer AEBS voluntarily.

The post-crash safety vertical focuses on mitigating post-crash consequences with mandatory assessment of Energy Management for Fire and Electrical Hazards (i.e verifying electrical shock protection) and Occupant Extrication, meaning door opening forces and buckle release.

Has the star rating also changed?

Yes, the 2025 document has increased the weightage for 4-star and 5-star ratings to 65 and 80 points respectively, up from 60 and 70 points in 2023. For 1-star, 2-star and 3-star, the

weightage point is 30, 40 and 50 respectively.

Along with this, for achieving 3-star and above ratings in Bharat NCAP 2.0, the Adult Occupant Protection (AOP) score must be at least 55% of the total Crash Protection Vertical score. Failure to meet this requirement results in a 1-star penalty. Also, a 5-star rated vehicle cannot have any single assessment vertical result in a 'zero' score. If that happens, the rating will be restricted to 4 stars.

It also says that a 5-star rated vehicle cannot have any injury values in the 'red' color zone for the adult and child used across respective crash tests before the modifiers are applied.

As of now, many cars such as [Tata](#) Harrier, Tata Safari, [Tata Nexon](#), [Mahindra](#) XUV 3XO, Citroen Aircross, [Maruti Suzuki](#) Invicto, [Toyota](#) Innova Hycross, [Hyundai](#) Tucson etc. have received a 5-star rating from Bharat NCAP.

The last date for comment on revised rules is December 20, 2025.

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