

Bharat NCAP 2.0: New Safety Rules, Crash Tests & Stricter Star Ratings Explained

November 29, 2025 • vajiramandravi.com



Bharat NCAP 2.0 Latest News

- The Ministry of Road Transport and Highways has released a revised draft of the **Bharat New Car Assessment Programme (Bharat NCAP)**, updating the 2023 version that is valid until September 2027.
- The new draft significantly broadens the programme's scope by adding new mandatory crash tests, revised scoring criteria, and expanded assessment verticals.
- A major shift in the draft is the inclusion of vulnerable road user (VRU) protection tests, especially for pedestrians, who make up over 20% of road accident fatalities in India.
- For the first time, vehicles will be evaluated on **pedestrian safety** features such as impact protection, braking systems, and design elements that reduce injury risks.
- Overall, the revised Bharat NCAP aims to enhance road safety by encouraging manufacturers to produce vehicles with higher crashworthiness and better protection for both occupants and pedestrians.

Bharat NCAP: India's Vehicle Crashworthiness Rating System

- Bharat New Car Assessment Programme (Bharat NCAP) is a voluntary vehicle safety rating system that evaluates cars based on **crashworthiness**, going beyond basic roadworthiness requirements.
- Cars are tested using India-specific crash protocols, and those performing best receive a five-star safety rating.
- Designed to give Indian consumers clearer safety information, Bharat NCAP aligns with global NCAP models but adapts them to Indian conditions and technologies.
- Manufacturers can voluntarily submit vehicles for testing and use the ratings in marketing.
- The **Central Institute of Road Transport (CIRT)**, Pune, is the authorised agency for issuing Bharat NCAP ratings.

Key Changes Proposed in Bharat NCAP 2.0

- Bharat NCAP 2025 broadens its evaluation method.
- Instead of the earlier three verticals — AOP (Adult Occupant Protection), COP (Child Occupant Protection), and SAT (Safety Assist Technologies) — the new programme rates vehicles across five assessment areas:
 - Safe Driving – 10%
 - Accident Avoidance – 10%
 - Crash Protection – 55%
 - Vulnerable Road User Protection – 20%
 - Post-Crash Safety – 5%
- This gives a more holistic picture of a vehicle's overall safety performance.

More Comprehensive Crash Tests

- The earlier version required three crash tests.
- Bharat NCAP 2.0 increases this to five mandatory crash tests:
 - 64 km/h frontal impact against a deformable barrier
 - 50 km/h lateral impact with a mobile deformable barrier
 - 32 km/h oblique side impact against a rigid pole
 - 50 km/h frontal impact against a full-width rigid barrier
 - 50 km/h rear impact against a mobile rigid barrier
- These tests help assess injury risk in real-world crash scenarios.

Enhanced Injury Assessment

- Using Anthropomorphic Test Devices (ATDs) (crash-test dummies), the new draft evaluates injury risk for:
 - Adult occupants
 - Driver, front passenger and rear-seat occupants
 - Child occupants
- This ensures a more precise measurement of protection across all seating positions.

Protection for Vulnerable Road Users

- For the first time, Bharat NCAP incorporates tests to assess:
 - Pedestrian injury risk
 - Cyclist safety measures
- This addresses India's high share of pedestrian fatalities.

Vulnerable Road User Protection: Key Safety Measures in Bharat NCAP 2.0

- Bharat NCAP 2025 introduces a dedicated Vulnerable Road User Protection vertical with 20% weightage, assessing how well vehicles protect pedestrians, cyclists, and motorcyclists during crashes.

Mandatory Impact Tests

- Pedestrian legform impact on the vehicle bumper
- Adult headform impact on the bonnet/windshield
- Child headform impact on the bonnet/windshield
- These tests evaluate how vehicle design minimizes injury during collisions.

Optional AEBS Assessments

- Performance of Autonomous Emergency Braking Systems (AEBS) is assessed for:
 - Child pedestrian detection
 - Adult pedestrian detection
 - Car-to-motorcyclist rear-end scenarios

Accident-Avoidance Technologies

- This new vertical focuses on driver-assist technologies that help prevent crashes before they occur.
- **Key Requirements**
 - **Electronic Stability Control (ESC):** Mandatory for eligibility under Bharat NCAP 2.0
 - ESC helps maintain vehicle stability, especially during skids or sudden manoeuvres.
 - **AEBS:** Optional but encouraged to enhance star ratings

Post-Crash Safety Measures

- A new vertical ensures vehicles help protect occupants after a crash.
 - **Mandatory Evaluations**
 - Energy Management for Fire & Electrical Hazards – Ensures protection from electric shocks, especially in EVs
 - Occupant Extrication Assessment – Checks ease of door opening; Evaluates seatbelt buckle release after collision.
- These measures ensure emergency responders can rescue occupants quickly.

Revised Star Rating System Under Bharat NCAP 2.0

- Bharat NCAP 2.0 introduces a stricter star-rating structure to enhance vehicle safety standards.
- The thresholds for 4-star and 5-star ratings have been raised to 65 and 80 points, up from 60 and 70 in the 2023 framework.
 - The thresholds for 1-star, 2-star, and 3-star ratings are fixed at 30, 40, and 50 points, respectively.
- A minimum Adult Occupant Protection (AOP) score of 55% within the Crash Protection vertical is mandatory to qualify for 3 stars or above. Falling short results in a 1-star penalty.

Additional safeguards include

- A 5-star vehicle cannot score zero in any assessment vertical; otherwise, its rating is capped at 4 stars.
- No injury values in the red zone for adult or child ATDs (Anthropomorphic Test Device — commonly known as a crash test dummy) are permitted in a 5-star rating before modifiers are applied.

Source: [IE](#) | [NDTV](#)

Source: <https://vajiramandravi.com/current-affairs/bharat-ncap-2-0/>

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