

WHAT'S NEW FROM 2023?

MOTORCYCLE-DETECTING AEB & LSS

ANCAP has been testing autonomous emergency braking systems (AEB) since 2018 – AEB systems that can detect and respond to other cars, pedestrians and cyclists across a range of scenarios. From 2023, AEB systems that detect and respond to motorcycles are also being assessed. This aspect of testing is referred to as *AEB Powered-Two-Wheeler*. Test vehicles will need to be fitted with an AEB system capable of braking for a motorcycle in intersection turning scenarios, and where a vehicle is approaching a stationary or moving motorcycle from behind. Vehicles will also be tested for their ability to detect and prevent side-swipe-type crashes with a motorcycle through more sophisticated active lane support systems.

PEDESTRIAN & CYCLIST PROTECTION

Pedestrians and cyclists make up around 15 per cent of all road-related fatalities. While this has been trending downward slightly in recent years, pedestrians and cyclists remain some of our most vulnerable road users. ANCAP's pedestrian protection tests – where the vehicle is assessed for its 'pedestrian-friendly' design – have been in place for more than 20 years and progressively updated. From 2023 they have been further enhanced through the introduction of a new, more sophisticated leg form impactor. This new piece of test equipment more closely represents a full adult leg with upper body mass, and provides a better insight into the injury risks presented to pedestrians and cyclists by today's new vehicles.

Collision avoidance testing - assessing the ability of the vehicle to actively avoid a crash with pedestrians and cyclists - has also broadened significantly from 2023. New test scenarios include:

- **AEB Backover** – assessing auto-braking in reverse with a child pedestrian;
- **AEB Junction (Cyclist)** – where a cyclist crosses the path of a vehicle turning into a side-street; and
- **Cyclist Dooring** – where a vehicle must alert the occupants of a cyclist approaching from behind, or prevent or delay opening of the door.

AEB HEAD-ON AND JUNCTION CROSSING

As the names suggests, vehicles are now also assessed for their ability to prevent head-on crashes with oncoming vehicles, and with vehicles that may cross paths at an intersection. Head-on crashes are difficult to prevent because a high approach speed (or what we refer to as a closing speed) means that the technology in vehicles must detect and react to an oncoming vehicle from a longer distance. Car-to-car crossing scenarios have also been introduced to test a vehicle's ability to autonomously brake where vehicles may be on course to collide at a T-intersection or cross-road. This requires sensors with a wide field of view. Performance testing of *AEB Head-On* and *Junction* systems will encourage enhancements to vehicle systems to allow oncoming vehicles – approaching directly or at right-angles – to be detected, and autonomous braking applied to avoid or mitigate a crash.

CHILD PRESENCE DETECTION

Vehicles will be assessed for their ability to notify the driver or emergency services if a child has inadvertently been left in a locked car. Child Presence Detection (CPD) systems monitor the rear seats and/or doors and provide a visual or audible warning through the vehicle's infotainment system upon exiting, a honk of the car horn, a notification or alert to an app on the driver's mobile phone, or an 'eCall' alert to emergency services. More advanced systems may also have the ability to automatically open the windows of the vehicle or activate the vehicle's air-conditioning system.

VEHICLE SUBMERGENCE

Powered windows and electric door handles may seem like a luxury, but in an emergency, they can be an obstacle. Vehicles trapped in flood waters or those that come to rest in a lake, river or other body of water are a danger to their occupants and present difficulties for first responders. From 2023, vehicle manufacturers will be required to demonstrate how their new vehicles can allow occupants to more easily escape a submerged vehicle, or rescuers to access trapped occupants. ANCAP will assess whether car doors are able to be opened without battery power and electric windows remain functional and able to be opened, for up to two minutes after submergence.