



ANCAP'S TESTING OF ACTIVE SAFETY FEATURES

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WHAT IS ANCAP?



ANCAP is an **independent, non-regulatory, consumer information** organisation which:

- undertakes crash and performance testing of passive and active safety features and technologies.
- publishes and promotes vehicle safety ratings (star ratings) to assist consumers.
- encourages vehicle brands to include a higher level of safety in their vehicles.

Established in 1992, our focus for the past 30 years has been on **passenger cars, SUVs** and **LCVs**.

Vehicles are tested & awarded an ANCAP safety rating between 0 to 5 stars.

The Australian Government's Australian Design Rules (ADRs) specify minimum **regulatory** requirements. ANCAP requirements are **higher** than ADRs.

ANCAP is complementary to regulation.

7 PHYSICAL
CRASH TESTS

400+ ACTIVE SAFETY
TESTS



PILLARS OF ASSESSMENT

THE OVERALL STAR RATING OF A VEHICLE IS LIMITED BY ITS LOWEST PERFORMING AREA OF ASSESSMENT



ADULT OCCUPANT PROTECTION

Considers the level of protection offered by the vehicle to adult occupants seated in the front and second row in the most common types of serious injury crashes.

	2018-2019	2020-2022	2023-2025
Frontal impact (MPDB)	8	8	8
Frontal impact (full-width)	8	8	8
Side impact (AMDB)	8	6	6
Side impact (oblique pole)	8	6	6
Side impact (far side)	-	4	4
Whiplash (front)	1.5	3	3
Whiplash (rear)	0.5	1	1
AEB City	4	-	-
Rescue & extrication	-	2	4
MAXIMUM SCORE	38	38	40

MINIMUM %			
★★★★★	80%	80%	80%
★★★★☆	70%	70%	70%
★★★☆☆	60%	60%	60%
★★☆☆☆	50%	50%	50%
★☆☆☆☆	40%	40%	40%



CHILD OCCUPANT PROTECTION

Evaluates the level of protection the vehicle offers to child occupants seated in appropriate child restraints in the rear seats. The ability to effectively accommodate a range of child restraints is also assessed.

	2018-2019	2020-2022	2023-2025
Dynamic tests (frontal & side)	24	24	24
CRS installation	12	12	12
Vehicle-based assessment	13	13	13
MAXIMUM SCORE	49	49	49

MINIMUM %			
★★★★★	80%	80%	80%
★★★★☆	70%	70%	70%
★★★☆☆	60%	60%	60%
★★☆☆☆	50%	50%	50%
★☆☆☆☆	40%	40%	40%



VULNERABLE ROAD USER PROTECTION

Assesses the design of the front of the vehicle to minimise injury risk to a struck pedestrian. Vehicles are also assessed for their ability to actively avoid or mitigate impacts with pedestrians, cyclists, and powered two wheelers.

	2018-2019	2020-2022	2023-2025
Head impact (adult, child & cyclist)	24	24	18
Leg impacts (upper & lower)	12	12	18
AEB / AES (pedestrian)	6	7	7
AEB (pedestrian reverse)	-	2	2
AEB / AES (cyclist)	6	9	9
AEB / FCW (motorcycle)	-	-	6
LSS (motorcycle)	-	-	3
MAXIMUM SCORE	48	54	63

MINIMUM %			
★★★★★	60%	60%	70%
★★★★☆	50%	50%	60%
★★★☆☆	40%	40%	50%
★★☆☆☆	30%	30%	40%
★☆☆☆☆	20%	20%	30%



SAFETY ASSIST

Evaluates the presence and effectiveness of active safety technologies fitted to the vehicle which assist the driver in preventing or minimising the effects of a crash.

	2018-2019	2020-2022	2023-2025
Occupant status (SBR & driver monitoring)	3	3	3
Speed assistance system	3	3	3
AEB Interurban / AES (car-to-car front-to-rear)	3	4	4
AEB / AES Junction & car-to-car crossing	-	2	4
AEB / AES car-to-car (head-on)	-	-	1
LSS (car-to-car)	4	4	3
MAXIMUM SCORE	13	16	18

MINIMUM %			
★★★★★	70%	70%	70%
★★★★☆	60%	60%	60%
★★★☆☆	50%	50%	50%
★★☆☆☆	40%	40%	40%
★☆☆☆☆	30%	30%	30%

REGIONAL AND REMOTE ROAD SAFETY

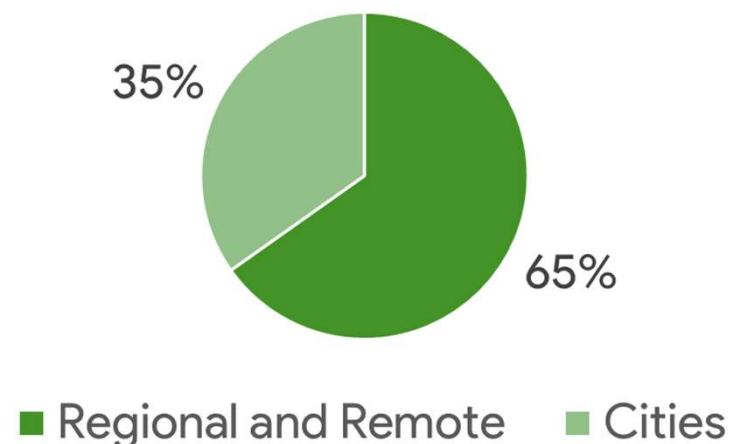
770 of 1185 road deaths occurred in regional or remote areas in 2022.

- 375 of those were single vehicle accidents.

This trend is mostly unchanged over the last decade.

The National Road Safety Strategy Framework outlines a range of potential contributing factors.

- Higher speed limits
- Poorer road conditions
- Fatigue and journey times
- **Increased roadside hazards (animals and environmental)**
- Geographical disadvantages (emergency response times, transport options, etc.)
- Driver behaviour (including not driving to the conditions)

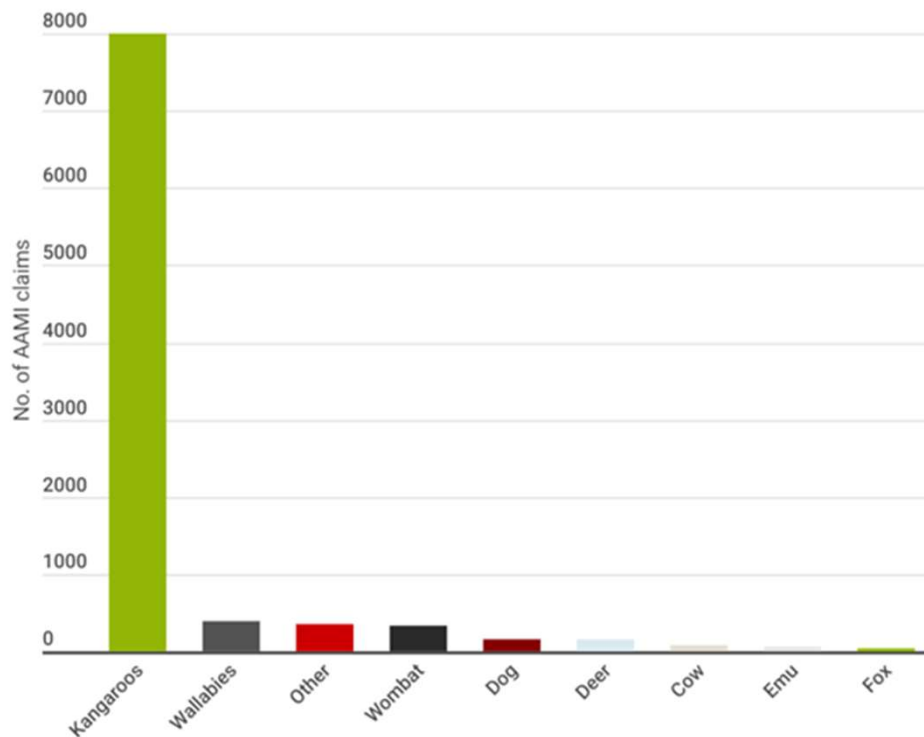


Source:

<https://www.roadsafety.gov.au/sites/default/files/documents/National-Road-Safety-Strategy-2021-30.pdf>

Bureau of Infrastructure and Transport Research Economics (BITRE) – National Crash Dashboard

AUSTRALIAN WILDLIFE COLLISIONS



“It is estimated that 10million animals die on Australian roads every year.”

- IAG Group

Kangaroos account for the vast majority of reported vehicle to animal collision partners.

- 83% - 2018 [AAMI]
- 85% - 2023 [NRMA]

ANCAP TESTING & TEST TARGETS



Our testing is designed to encourage safety performance in a range of everyday scenarios, with current protocols including tests to recognise and react to the “collision partners” below.

- Car
- Motorcyclist
- Bicyclist
- Adult Pedestrian
- Child Pedestrian

To ensure the safety benefits encouraged in ANCAP testing transfer to everyday driving, the targets must have physical characteristics and behaviour that appears realistic to the vehicle sensors.

Research based design and rigorous validation process is required prior to targets being accepted for testing.

TARGET REALISM



Global Vehicle Target – GVT

- Vinyl and Foam panels, held together with Velcro
- Mounted on GPS controlled robotic platform

Imitates a small hatchback:

- Visually – printed with windows, interior silhouette and design lines. Reflective material selected for lamp imitations.
- Infrared – each panel / design section will reflect infrared similar to the material it aims to replicate.
- Radar – thin metallic film sewn between vinyl and foam layers in order to match radar reference measurements and design tolerances for all approach angles.



TARGET REALISM

Adult Bicyclist – EBTa and Powered Two-Wheeler – PTW

- 50th Percentile (Average) Adult Rider
- PTW Mounted on GPS controlled robotic platform
- EBTa mounted on a platform, either GPS controlled, or belt driven.

Representative for a motorcyclists and bicyclist:

- Visually – panels match specific colours, and the surface finish represents how the material would look normally.
- Infrared – every component (wheels, rider, fairings, frame, etc.) must meet the infrared reflectivity tolerances prescribed for the material it aims to replicate.
- Radar – made to replicate a range of PTW or bicycles, matching reference measurements and design tolerances for all approach angles and speeds.



TARGET REALISM



Adult and Child Pedestrians – EPTa and EPTc

- 50th Percentile (Average) Adult or 7yo Child
- Mounted on a platform, either GPS controlled, or belt driven

Imitates human pedestrian:

- Visually – physical proportions and posture are based on the largest global database of human measurements. Video analysis of people walking determined the average gait, step timing, knee and ankle speed.
- Infrared – along with surfaces being controlled to match skin, hair and clothes over a determined wavelength range. Analysis of movement prescribed fluctuation tolerances for infrared reflectivity.
- Radar – Similar to infrared, the dummies are designed to match measured radar reflectivity criteria, both when static and while moving.

AUSTRALIAN MARSUPIALS - CHALLENGES AND GAPS

Australian marsupials are:

- All shapes and sizes
- Typically nocturnal
- Colouring blends into their environment
- Fast
- Agile and Unpredictable movement



All of which, and more, make them incredibly hard to detect and reliably react to for the common vehicle safety systems of today.

BUT IT IS NOT IMPOSSIBLE

OPPORTUNITY



THANK YOU