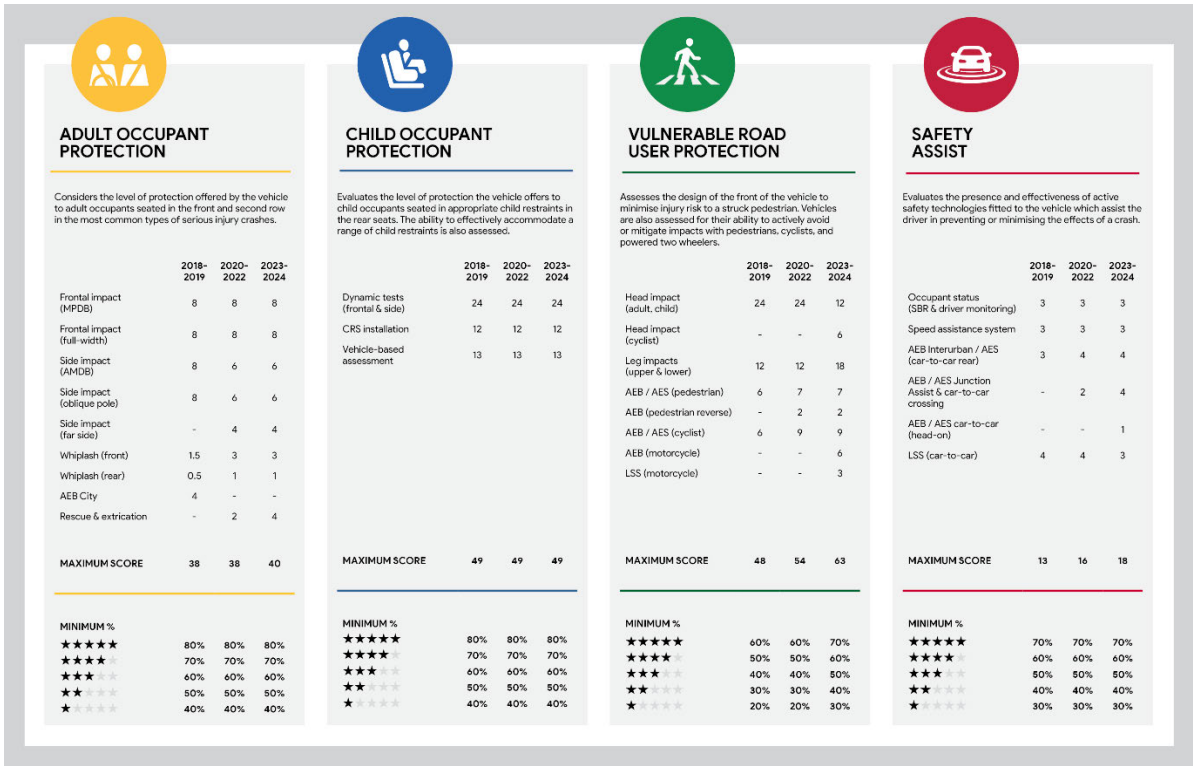
Question 1 - What type of new safety vehicle technology warrants a five star base ANCAP safety rating for the vehicle and what is the highest speed that a vehicle with a five star ANCAP rating can be driven safely?

The approach that the ANCAP protocol takes for star ratings is not necessarily to mandate specific technologies, but an assessment of a broad level of vehicle safety, based on those crash scenarios that lead to high levels of injury and fatality.

ANCAP's assessment is across four broad safety pillars (Adult Occupant Protection, Child Occupant Protection, Vulnerable Road User Protection and Safety Assist) with the rating being determined by the lowest scoring pillar. In order to receive a 5 star rating, therefore, a manufacturer must address safety performance across all four pillars. Within each pillar there are a range of tests, with points allocated to each test.



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	2023-2024
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	2023-2024
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	2023-2024
Head impact (adult, child)	24	24	12
Head impact (cyclist)	-	-	6
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 (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	2023-2024
Occupant status (SBR & driver monitoring)	3	3	3
Speed assistance system	3	3	3
AEB Interurban / AES (car-to-car rear)	3	4	4
AEB / AES Junction Assist & 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%

While it may in some cases be possible to achieve a good rating without some features – it becomes difficult or impossible to achieve 5 stars without good crash protection in frontal and side impact (therefore requiring frontal and side-curtain airbags), good protection to impacted pedestrians, and systems to avoid collisions with pedestrians, cyclists and other vehicles. It is not possible to achieve 5 stars without at least some level of Lane Support Systems (Lane Keep Assist and/or Emergency Lane Keeping). There is a strong emphasis on avoiding crashes, or mitigation through automatic braking to reduce impact speeds.

ANCAP crash tests are conducted at 50km/h for frontal crashes, 60km/h for the intersection-type Side Impact and 32 km/h for the Oblique Pole test. These speeds may seem low, but these are very severe crashes, and are representative of a large proportion of serious and fatal crashes.

ANCAP also encourages systems that assist the driver in managing speed without undue distraction – especially intelligent speed limiters and Intelligent Adaptive Cruise Control.

To complete the full test program ANCAP undertakes over 200 active safety tests across 40 scenarios, plus four fully destructive crash tests (after which the vehicle is destroyed) and 20 smaller 'sub-system' tests.

Question 2 - So how do we roll out these new technologies to ensure that people living in those remoter country areas can have that same safety wrapped around them that the new technologies provide. How do we do that with—given that we do not have these roads that are the same standard as they are in the city with a centre line and edge marking and do we have any technology, for example, it coming out, that can actually determine or identify the width of a road and to keep a driver within a lane even if it is undefined?

ANCAP recommends the Committee speak to Ford and Tesla to seek further information about these technologies and their time to market in Australia.

Question 3 – Electric Vehicles

ANCAP's Safe and Green guide lists safety ratings for 43 alternate-powered vehicles including 18 battery electric and 2 hydrogen powered vehicles.

The guide is available here: https://www.ancap.com.au/safeandgreen