

SPEED LIMITS AND ROAD SAFETY IN REGIONAL NSW

Organisation: Australasian New Car Assessment Program (ANCAP) Safety
Date Received: 3 July 2022

The Chair
Staysafe Committee
Parliament House
Macquarie St
SYDNEY NSW 2000

ANCAP SAFETY (ANCAP) welcomes the opportunity to provide a submission to the Parliament of New South Wales Joint Standing Committee on Road Safety (Staysafe) Inquiry into speed limits and road safety in regional New South Wales.

With its independent safety ratings, ANCAP is Australasia's independent voice on vehicle safety.

ANCAP's role is to encourage vehicle brands to design and build, and consumers to purchase and use, the safest vehicles possible. Our objective is to create an environment where vehicle brands continually strive for the highest level of safety. ANCAP acknowledges brands when their vehicles meet or exceed top performance, whilst bringing awareness to those vehicle models that can improve, in an effort to reduce road trauma.

ANCAP's overarching public message is twofold:

- **For vehicle owners:** *Purchase the safest vehicle you can afford, and one which suits your needs*
- **For vehicle users:** *Travel in the safest vehicle possible*

ANCAP has been at the forefront of encouraging the introduction of new vehicle safety technology into Australia, ahead of regulation, since publication of its first ratings in 1993. ANCAP continues its work to encourage industry development, performance and market supply of these new and emerging vehicle safety features and technologies to increasingly stringent thresholds.

More than 215 vehicle models hold a current ANCAP safety rating with 93% of all new light vehicles sold in 2021 covered by an ANCAP safety rating and 88% holding a 5 star ANCAP safety rating. This high level of market penetration, combined with high levels of consumer awareness, positions ANCAP to hold a unique ability to accelerate the provision and market uptake of new vehicle safety features and technologies.

The New South Wales Government, currently represented by Transport for New South Wales (TfNSW), has been an important member of ANCAP since its inception in 1992.

ANCAP's influence on road safety outcomes

ANCAP complements regulation by encouraging the fitting of new safety features and technologies ahead of any regulatory requirement. ANCAP rewards vehicle brands and educates consumers, encouraging the early adoption of new safety systems that exceed any minimum regulatory standard.

It is important that ANCAP exists in parallel to regulation, as influencing consumer choice to drive market uptake will influence vehicle brands decisions quicker than the regulatory process. Further, as ANCAP is not able to test and rate all new models entering the market, regulation (through the Australian Design Rules) plays an important role in closing the gap to ensure 100% fitting rate of important vehicle safety technology.

While vehicle safety standards and regulations are developed and regulated at a national level, the New South Wales Government is an important partner and plays a significant role in ensuring the safety of Australia's vehicle safety is equal to other major markets.

Newer cars are safer

ANCAP has been a major contributor to improving the safety of light vehicles in Australia for nearly 30 years with continual improvements in ANCAP testing and assessment standards. Analysis conducted by ANCAP clearly shows that this non-regulatory approach has seen the safety of light passenger vehicles improve year-on-year.

Summary of recommendations

While vehicle safety standards and regulations are developed and regulated at a national level, ANCAP considers the New South Wales Government is an important partner and plays a significant role in ensuring the safety of Australia's vehicle safety is equal to other major markets.

ANCAP makes the following recommendations for consideration by the Staysafe Committee:

1. The purchase and use of the newest vehicles with the highest ANCAP rating possible should be encouraged for everyone.
2. ANCAP has been at the forefront of encouraging new vehicle safety features and technologies for three decades and should continue to be well-supported by the New South Wales Government to ensure its continued influence as new test and assessment protocols are introduced.
3. ANCAP is complementary to regulation, and it is important that ANCAP continues to exist in parallel to regulation.
4. The New South Wales Government support and encourage the Australian Government to introduce new Australian Design Rules (ADRs) - adopting the relevant UN or EU Regulations - to mandate new vehicle safety technology including Lane Keep Assist (LKA) systems, Reversing Aids, Cyber Security and Software Safety.
5. The New South Wales Government support and encourage the Australian Government to continue to provide national leadership and coordinate activities and infrastructure investment to facilitate the effective introduction of Connected and Automated Vehicle (CAV) technologies.
6. The New South Wales Australian Government encourage the Australian Government to prioritise the inclusion of eCall in the development of the new generational Triple Zero (000) services for implementation by 2025 and undertake the regulatory process to adopt UN R144 as an ADR (required for basic eCall) by 2025.
7. The New South Wales Government demonstrate leadership and extend the 5 star ANCAP safety rating requirements in its current vehicle fleet purchasing and use policies to the 'grey fleet'.

ANCAP's submission to consultation to the Staysafe Committee follows.

Yours sincerely



Carla Hoorweg
Chief Executive Officer

1 July 2022

SUBMISSION TO THE NSW STAYSAFE COMMITTEE

JULY 2022

SUMMARY

As Australasia's leading independent vehicle safety advocate, ANCAP has been successful in driving improvements in vehicle safety in Australia for close to 30 years. ANCAP's role is to encourage vehicle brands to design and build, and consumers to purchase and use, the safest vehicles possible. Our objective is to create an environment where vehicle brands continually strive for the highest level of safety. ANCAP acknowledges brands when they meet or exceed top performance, whilst bringing awareness to those that can improve, to reduce road trauma through safer vehicles.

More than 215 current vehicle models hold an ANCAP safety rating with 93% of all new light vehicles sold in 2022 covered by an ANCAP safety rating and 88% achieving a 5 star ANCAP safety rating. This high level of market penetration, combined with high levels of consumer awareness, positions ANCAP to hold a unique ability to accelerate the provision and market uptake of new vehicle safety features and technologies.

ANCAP has been a major contributor to improvements in the safety of light vehicles in Australia through independent testing to provide consumers with an independent assessment of vehicle safety and to validate manufacturer claims of functionality and safety performance to established protocols covering both the Australasian and European markets.

ANCAP has been at the forefront of encouraging new vehicle safety technology to be introduced into Australia, ahead of regulation, since publication of its first ratings in 1993. ANCAP continues its work to encourage industry development, performance and market supply of these new and emerging vehicle safety technologies to increasingly stringent thresholds.

ANCAP complements regulation, with the ability to encourage the fitting of new safety features and technologies ahead of any regulatory requirement. Through rewarding vehicle brands and educating consumers, ANCAP is able to encourage the early adoption of new safety systems that exceed any minimum regulatory standard. It is important that ANCAP exists in parallel to regulation, as influencing consumer choice to drive market uptake will influence vehicle brands' decisions quicker than the regulatory process. Also, ANCAP is not able to test and rate all new models entering the market, and regulation (Australian Design Rules, or ADRs) play an important role in closing the gap to ensure 100% fitting rate of important vehicle safety technology.

There are a range of new UN Regulations that the Australian Government needs to consider mandating as ADRs, especially in the area of automated vehicle technologies.

In 2020, ANCAP introduced post-crash safety requirements to improve the survivability and injury outcomes for those involved in a crash by providing emergency services with necessary information to improve their post-crash response. Unfortunately, ANCAP was not able to introduce the assessment of eCall as the communications infrastructure for the emergency Triple Zero (000) operator does not currently exist within Australia. The inclusion of eCall into the rollout of the new generation of Triple Zero (000) services currently being introduced should be prioritised.

Fleets, businesses and governments purchase around 50% of new vehicles and as such have the ability to influence the rate of introduction of new vehicle safety technology through their fleet purchasing and use requirements and many of these organisations have policies of purchasing and using 5 star ANCAP rated vehicles. This requirement should be extended to all vehicles purchased by employees through novated leases and employee use of their private vehicle for work purposes – both comprise the 'grey fleet'.

RECOMMENDATIONS

ANCAP makes the following recommendations for consideration by the Staysafe Committee:

1. The purchase and use of the newest vehicles with the highest ANCAP rating possible should be encouraged for everyone. (Recommendation 1.1)
2. ANCAP has been at the forefront of encouraging new vehicle safety features and technologies for three decades and should continue to be well-supported by the New South Wales Government to ensure its continued influence as new test and assessment protocols are introduced. (Recommendations 2.1 and 2.2)
3. ANCAP is complementary to regulation, and it is important that ANCAP continues to exist in parallel to regulation. (Recommendations 3.1, 3.2, 4.1 and 4.2)
4. The New South Wales Government support and encourage the Australian Government to introduce new Australian Design Rules (ADRs) - adopting the relevant UN or EU Regulations - to mandate new vehicle safety technology including Lane Keep Assist (LKA) systems, Reversing Aids, Cyber Security and Software Safety. (Recommendations 4.1, 4.2 and 5.1)
5. The New South Wales Australian Government encourage and support the Australian Government to continue to provide national leadership and coordinate activities and infrastructure investment to facilitate the effective introduction of Connected and Automated Vehicle (CAV) technologies. (Recommendations 5.1, 5.2, 5.3 and 5.4)
6. The New South Wales Australian government encourage the Australian Government to prioritise the inclusion of eCall in the development of the new generational Triple Zero (000) services for implementation by 2025 and undertake the regulatory process to adopt UN R144 as an ADR (required for basic eCall) by 2025. (Recommendations 6.1 and 6.2)
7. The New South Wales Government demonstrate leadership and maintain the 5 star ANCAP safety rating requirements in its current vehicle fleet purchasing and use policies and extend this to include the 'grey fleet' and EVs eligible for \$3000 subsidy under the NSW Government's Electric Vehicle Strategy. (Recommendations 3.3, 7.1, 7.2 and 7.3)

1. ANCAP'S ROLE AND SUCCESS

ANCAP SAFETY (ANCAP) is Australasia's independent voice on vehicle safety, with its independent testing and assessment of vehicle safety.



Figure 1 – ANCAP Safety Rating

ANCAP safety ratings show the level of safety a vehicle provides for occupants and pedestrians in the event of a crash, as well as its ability to avoid or minimise the effects of a crash. ANCAP safety ratings are published for a range of new light vehicles, including passenger cars, SUVs and light commercial vehicles up to 3.5 tonnes GVM. In 2020, ANCAP expanded its scope and provided information on the safety of vehicles in the “lighter” end of commercial vehicles (up to 8 tonnes GVM) with the evaluation of the availability and performance of collision avoidance technologies on light, medium and heavy commercial vans.

ANCAP complements regulation, with its key focus to eliminate road trauma through independent assessment, market influence and consumer advocacy – empowering consumers with information to make safer vehicle choices and encouraging vehicle brands to improve continually their vehicle designs.

ANCAP Vision

Safer vehicles for all

ANCAP Mission

Work with members and partners to eliminate road trauma through independent assessment, market influence and consumer advocacy.

Since 1993, ANCAP has published independent safety ratings for thousands of new vehicle makes, models and variants. These independent safety ratings are used to compare the relative safety between vehicles of similar size, and have become a critical factor in vehicle selection for private and fleet buyers.

ANCAP MARKET COVERAGE

ANCAP is committed to encouraging improvements in vehicle safety by rating vehicles, providing consumer information and consequently influencing vehicle brands. ANCAP safety ratings are published for a range of new passenger, sports utility (SUV) and light commercial vehicles (LCV) entering the Australian and New Zealand markets, using a rating system of 0 to 5 stars. ANCAP ratings are available for 93% of light vehicles sold in Australia in 2021 with 88% of vehicles sold in this period holding a 5 star rating.

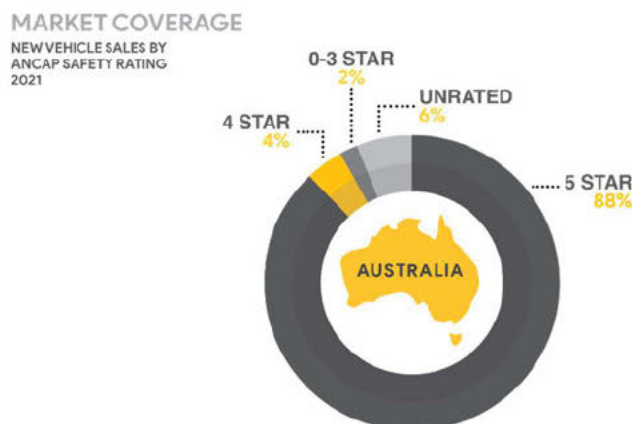


Figure 2 – ANCAP Market Coverage 2021

ANCAP star ratings indicate the level of safety a vehicle provides for occupants, pedestrians and cyclists in the event of a crash, as well as its ability — through technology — to avoid or minimise the effects of a crash. These independent safety ratings are used to compare the relative safety between vehicles of similar size in the same market category, and have become a critical factor in vehicle selection for private consumers and business fleet buyers and operators.

ANCAP's safety rating criteria influence vehicle design and specification, and ANCAP has a key role in educating the community, and in particular vehicle fleet managers about new and emerging vehicle technologies; promoting the benefits of new safety technologies; and building confidence and demand.

ANCAP safety ratings are based on a series of internationally recognised, independent crash tests and safety assessments – involving a range of destructive physical crash tests, an assessment of on-board safety features and equipment, and performance testing of automated collision avoidance technologies. ANCAP continuously updates its safety rating criteria to influence and promote new and emerging vehicle safety features as well as to target new and emerging aspects of vehicle safety.

NEWER CARS ARE SAFER

ANCAP has been a major contributor to improving the safety of light vehicles in Australia for nearly 30 years with continual improvements in ANCAP testing and assessment standards. Analysis conducted by ANCAP clearly shows that this non-regulatory approach has seen the safety of light passenger vehicles improve year-on-year.

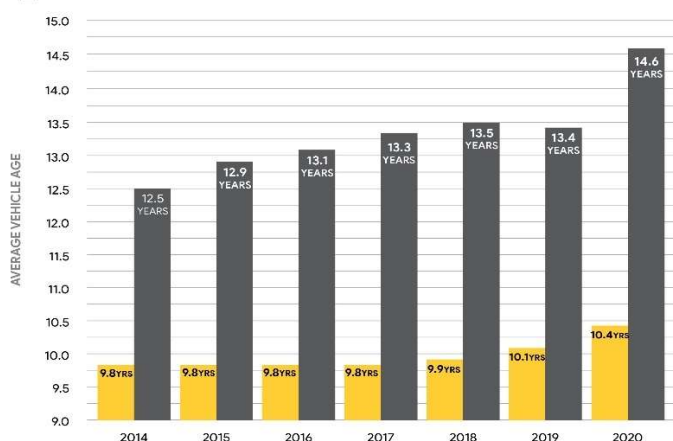
ANCAP has analysed detailed Australian fatal crash data over the period 2014-2020 which focused on the age of passenger vehicles (cars and SUVs) involved in fatal crashes where the fatality was an occupant (**Figure 3**).^{1,2}

From 2014 to 2020, the average age of all registered passenger cars and SUVs increased from 9.8 years to 10.4 years, an increase of 0.6 years. The average age of the passenger cars and SUVs involved in fatal crashes in 2014 was 12.5 years (2.7 years higher than the average age) and 14.6 years in 2020 (4.2 years higher than the average age).

FATALITIES vs. REGISTERED VEHICLES AUSTRALIAN PASSENGER CARS & SUVs

TOTAL VEHICLES = 14.85 MILLION

REGISTERED LIGHT VEHICLES
VEHICLES INVOLVED IN FATAL CRASHES



SOURCE:
1. ABS Motor Vehicle Census (2021)
2. G11IC: Vehicle Occupant Fatalities (2020)



OCCUPANT FATALITY CRASHES 2020

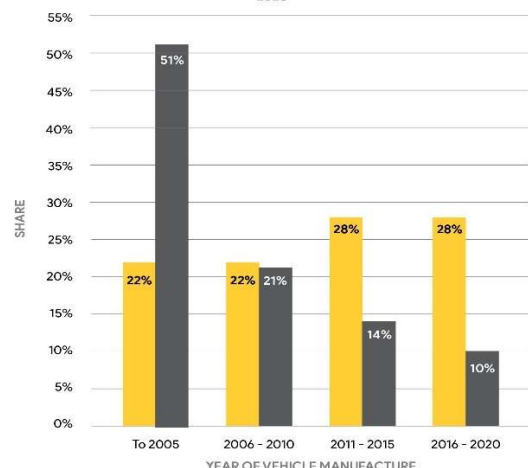


Figure 3 – Fatalities vs. Registered Vehicles

When comparing the age and number of registered vehicles, the 2020 data revealed that older vehicles were over-represented in fatal crashes, with rate of fatal crashes per registered vehicle for the oldest vehicle group (15 years or older or manufactured to 2005) five times higher than that of the newest vehicles (up to five years old – manufactured between 2016 and 2020).

A separate analysis of 2021 road fatalities undertaken by ANCAP examined road fatalities in light vehicles (passenger cars, SUVs and light commercial vehicles) reported in 2021 across all Australian jurisdictions. The data revealed that 67% of fatalities occurred in light vehicles aged 10 years or older while only 45% of registered vehicles were aged 10 years or older. This is a consistent picture across all Australian jurisdictions (**Figure 4**).

This analysis highlighted that 64% of light vehicle fatalities in NSW are in vehicles 10 years or older while 56% of registered light vehicles were 10 years or older. While NSW has one of the youngest in-service vehicle fleets of any Australian State

¹ Australian Government, Bureau of Infrastructure and Transport Economics, National Crash Database, 2019 Vehicle Occupant Fatalities

² Australian Bureau of Statistics, Motor Vehicle Census, 31 January 2020

or Territory, at 9.9 years compared to the national average age of 10.6 years³, any action to reduce the average age of the New South Wales in-service fleet will have a positive impact on road safety.

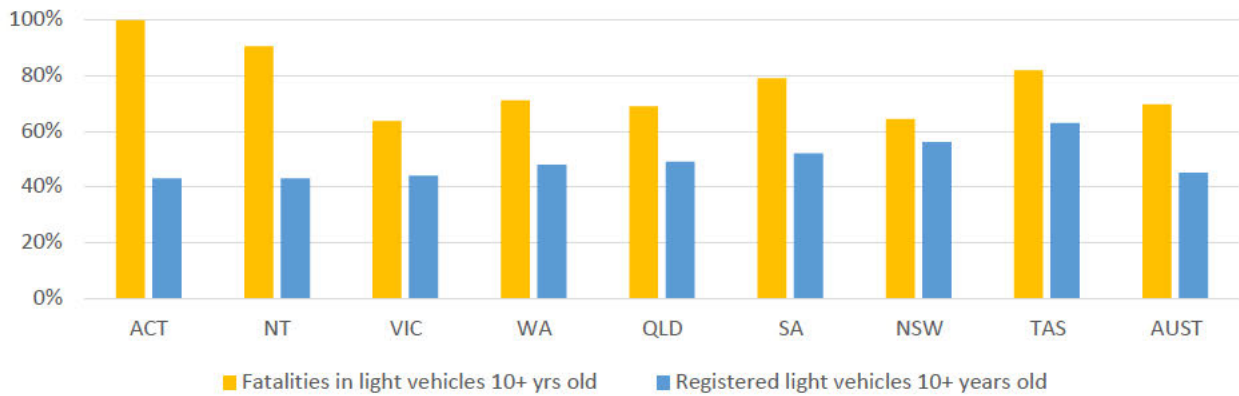


Figure 4 – Fatalities and Registered Vehicles 10+ years old^{4,5}

RECOMMENDATIONS

ANCAP makes the following recommendations for consideration by the Staysafe Committee:

- 1.1 ANCAP recommends the purchase and use of the newest vehicles with the highest ANCAP safety rating possible, and calls on key industry stakeholders (governments, insurers, financiers, dealers, vehicle brands) to implement initiatives and offer incentives to assist with the purchase and use of newer, safer vehicles.

³ Australian Bureau of Statistics, Motor Vehicle Census, 31 January 2021

⁴ Fatality data supplied by State and Territory Governments, 2022

⁵ Australian Bureau of Statistics, Motor Vehicle Census, 31 January 2020

2. ANCAP EVOLUTION

ANCAP has been at the forefront of encouraging new vehicle safety technology to be introduced in Australia since publication of its first ratings in 1993.

ANCAP's testing and assessment criteria have consistently been in advance of regulation. ANCAP has always used test methods that have been internationally recognised and used by other global NCAP partners. Initially ANCAP used test methods adopted by US NCAP (established by the US Government) and since 1999 ANCAP has used the test methods used by Euro NCAP (comprising a number of European governments and motoring clubs).

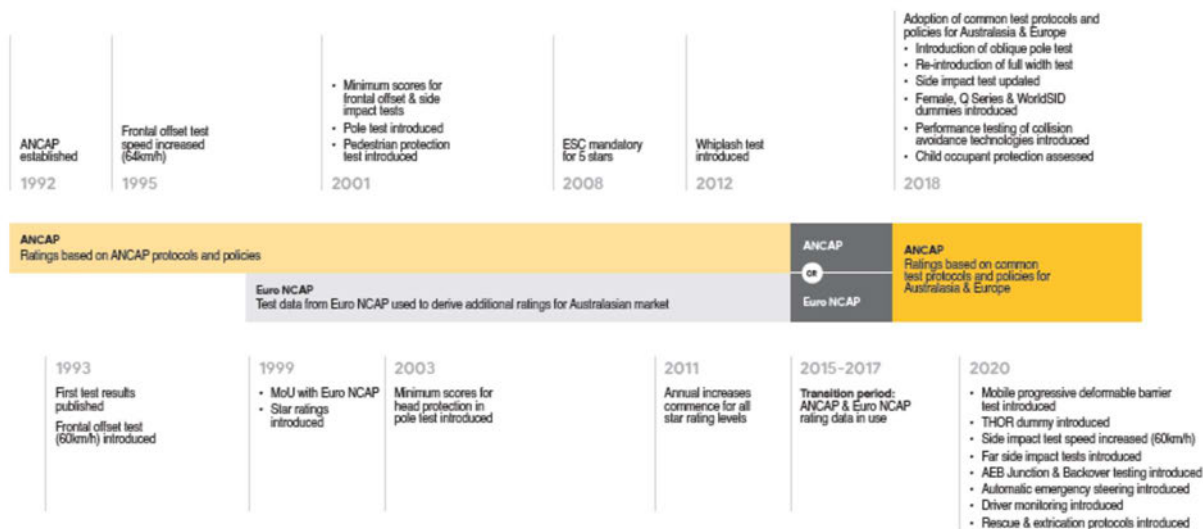


Figure 5 – ANCAP Evolution Timeline

ANCAP's testing and assessment protocols are regularly reviewed and updated as new vehicle safety technology is developed and introduced. Since 2018, ANCAP has adopted common test and assessment protocols with its European counterpart organisation, Euro NCAP.

In 2020, ANCAP (and Euro NCAP) introduced new tests and assessments including:

- **Primary (active) safety (crash avoidance):**
 - Driver monitoring – to address driver impairment through fatigue.
 - Autonomous Emergency Steering – in-lane steering support.
 - AEB - Further developments in AEB to include crash scenarios for some turning and reversing scenarios.
- **Secondary (passive) safety:**
 - New mobile progressive deformable barrier (MPDB) test introduced to improve occupant protection and test vehicle to vehicle compatibility in frontal crashes.
 - New assessment of protection in far-side impact crashes (where the vehicle is struck on the opposite side to the occupant).
- **Tertiary safety:**
 - Rescue information – the availability of standardised rescue sheets to assist emergency services.
 - Multi-collision braking – the vehicle applies brakes after a collision, to minimise the risk of a second collision.

ANCAP test and assessments continue to evolve, with the next updates to be introduced from the beginning of 2023 which will include:

- **Primary (active) safety (crash avoidance):**
 - Direct driver monitoring – to address driver distraction and impairment through alcohol, fatigue and medical incidents.
 - AEB – new developments to include car to car crash scenarios in intersections and head-on accidents.
 - AEB and LSS – introduce car-to-motorcycle scenarios,
 - AEB – introduce additional pedestrian and cyclists' scenarios.

- Child presence detection – where a vehicle can detect a child left alone in a car and alert the driver and/or emergency services or where the vehicle can automatically take action such as opening windows or activating air conditioning.
- Secondary (passive) safety:
 - New injury criteria in crash tests to reduce occupant injury risk.
 - Pedestrian protection – new test tools to yield more realistic test results.
- Tertiary safety:
 - Rescue information – the availability of standardised rescue sheets to assist emergency services has been extended to “back-fill” data with rescue sheets required for all new models introduced since 2020.
 - Submergence assessment – assessment of whether vehicle doors can be opened without battery power, and electric window operability after the vehicle is submerged.

Figure 6 provides a timeline for the implementation of tests and assessment protocols from 2018 to 2025.

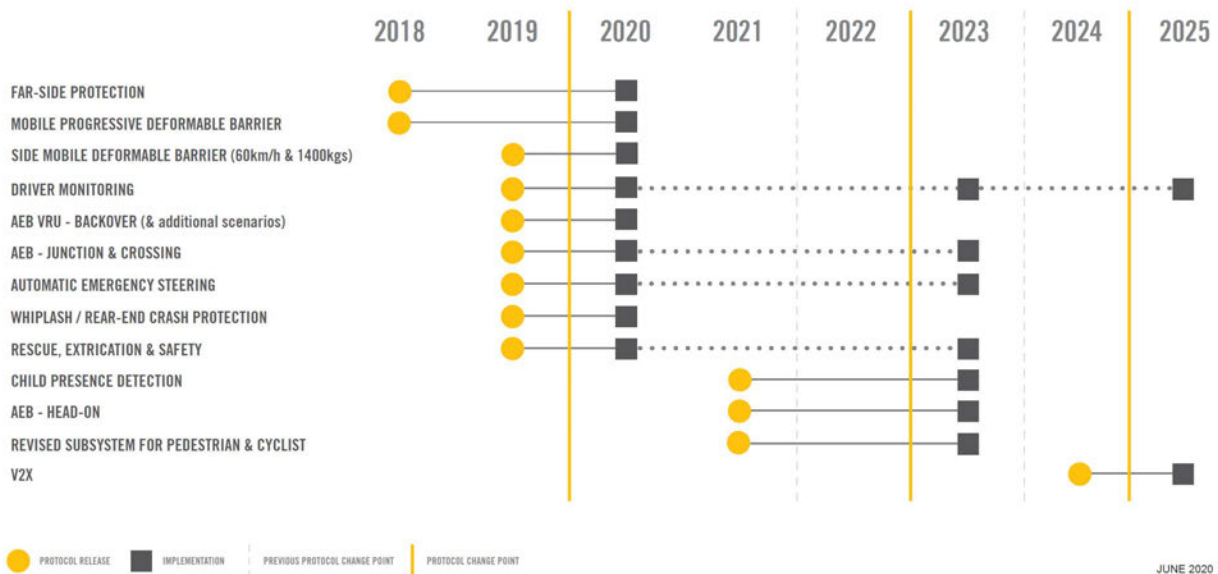


Figure 6 - Implementation timeline for ANCAP testing to 2025

2025-2030 ROADMAP

In 2025, ANCAP will again update tests and assessment protocols and are likely to begin assessing automated and connected vehicle technology aimed at encouraging new vehicles to be fitted with Vehicle-to-Other (V2X) technology. In 2025, ANCAP is likely to encourage fitting of systems that comply with the international United Nations Regulations and the European standards that form the “building blocks” for connected and automated vehicles such as:

- UN R155 for cyber security,
- UN R156 for software updates, and
- European standard for driver distraction.

ANCAP is working with our European colleagues in Euro NCAP to develop a roadmap for testing out to 2030 to continue to encourage improvements in vehicle safety. The next generation of vehicle safety technology likely to be assessed by ANCAP from 2025 to 2030 includes:

- Assisted driving for both highway and urban environments.
- Further enhancements in active safety aimed at protecting vulnerable road users
- In-cabin monitoring for driver detection and drowsiness warnings
- Post-crash safety.

RECOMMENDATIONS

ANCAP makes the following recommendations for consideration by the Staysafe Committee:

- 2.1 Recognise that ANCAP has been at the forefront of encouraging new vehicle safety and will continue to undertake this role with the introduction of new test and assessment protocols.
- 2.2 The New South Wales Government continue its membership and financial support of ANCAP.

3. ANCAP COMPLEMENTS REGULATION

One of ANCAP's key advantages is the flexibility to introduce comparative testing and assessment of vehicle safety features and technologies ahead of development and implementation of a regulation. ANCAP (and our European counterpart organisation, Euro NCAP) are able to use early research to identify and encourage technologies that are potentially beneficial without the necessary time constraints of the regulatory processes.

ANCAP works in partnership with 22 member organisations including the Australian Government, Australian automobile clubs, State and Territory governments, the New Zealand Government, the Victorian Transport Accident Commission, Insurance Australia Group and the FIA Foundation.

The New South Wales Government, currently represented by Transport for New South Wales (TfNSW), was one of ANCAP's founding members in 1992. TfNSW continues to be an important member of ANCAP and provides two important test facilities used by ANCAP. ANCAP conducts dynamic crash tests at Crashlab and undertakes active safety testing at the Future Mobility Test and Research Centre (FMTRC).

ANCAP acts as a key conduit between ANCAP members and governments on policy development, community engagement and advocacy activities relating to the safety of light passenger vehicles.

ANCAP is not able to test and rate all new models entering the market, and consequently, there will always be a gap in voluntary fitting of new safety technology. Regulation (i.e. Australian Design Rules) plays an important role in closing the gap to a 100% fitting rate across the market. ANCAP's non-regulatory program exists in parallel and complementary to the Australian Government's regulatory vehicle standards, the ADRs. See **Attachment A**.

For example, with ANCAP non-regulatory influence the voluntary fitting of autonomous emergency braking (AEB) is now more than 80% of the market. The new ADR 98/01 (harmonised with the UN Regulation) to mandate fitting of AEB will enable 100% fitting by 2026 (**Figure 7**).

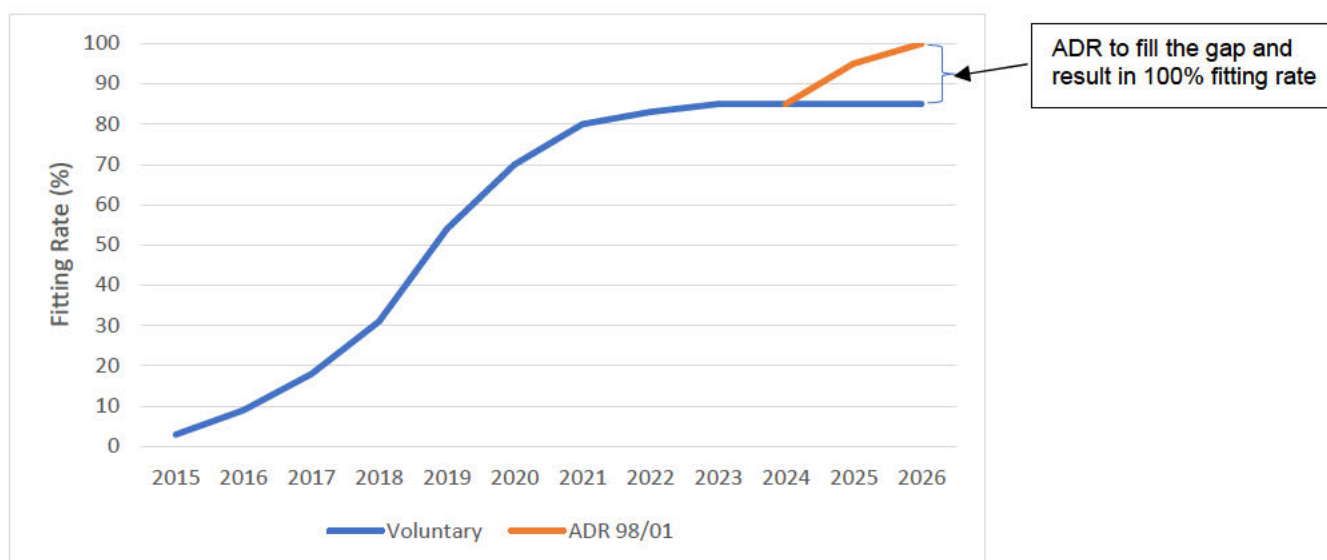


Figure 7 - AEB with mandatory fitting under an ADR⁶

ANCAP TESTING

In 1993, ANCAP began by assessing the level of occupant protection offered in the event of a crash by testing vehicles to the 'state of the art' crash test standards available at that time – adopting the frontal crash test used by the US NCAP. Throughout the 1990s ANCAP's test program evolved and introduced new crash tests as the tests were developed and shown to address fatal and serious injury crashes. These tests were introduced ahead of regulation and in some cases supported the Australian Government process to mandate these protection measures via the ADRs.

Table 1 (following) shows the timetable for when the tests were introduced and when the corresponding ADR was also introduced.

⁶ Voluntary fitting rates for 2015-2020 based on ANCAP estimates of AEB fitting, and 2021-2024 based on fitting rates of ESC prior to mandating via an ADR. Mandatory fitting rates via an ADR based on EU proposed mandated timing.

Table 1 – Introduction Timing of Crash Tests

Crash test	ANCAP introduction	Regulation
Frontal crash test	1993	ADR 69 – introduced from 1995
Offset frontal crash test	1993	ADR 73 – introduced from 2000
Side impact crash test	1999	ADR 72 – introduced from 1999
Pole side impact crash test	2001	ADR 85 – introduced from 2017

Note: The ANCAP crash tests and regulations are different in certain areas, (e.g. test speed), however they are both intended to deliver improved occupant protection in high severity crashes.

In the mid-2000s active vehicle safety technology, systems that could help avoid or minimise the effects of a crash, evolved and ANCAP's testing and rating regime expanded to include these emerging safety technology. ANCAP introduced the technologies into the rating scheme ahead of regulation, such as the introduction of electronic stability control (ESC) required for 5 stars in 2008, again supporting the Australian Government to mandate ESC from 2011.

With the adoption of common protocols with Euro NCAP in 2018 ANCAP's testing and rating regime expanded further into active safety technology including:

- autonomous emergency braking (AEB) — where the vehicle can apply braking if the driver doesn't respond to certain potential crash scenarios;
- lane support systems (LSS) — where the vehicle warns of impending lane departure, or supports the driver to maintain the current lane, avoiding potential impacts with oncoming traffic or roadside objects;
- speed assistance systems (SAS) — through intelligent speed sign recognition or GPS mapping to assist with maintaining the correct vehicle speed to ensure the safety of motorists and other road users; and
- reversing (back over) aids – where an adult pedestrian dummy is both stationary and moving across the vehicle path when the vehicle is reversing.

Table 2 (following) shows the timetable for when the requirements and tests for active safety technology were introduced and when a corresponding ADR was also introduced.

Table 2 – Introduction Timing of Active Safety Requirements and Tests

Crash test	ANCAP introduction	Regulation
ESC	2008	ADR 31 – introduced from 2011
AEB test	2018	ADR 98/01 – introduced from 2024
LSS test	2018	(draft) ADR 107 – introduced from 2024*

Note: In 2022, the Australian Government issued a Regulation Impact Statement to mandate LSS from 2024 (see Section 5 following).

ELECTRIC AND HYBRID VEHICLE SAFETY

ANCAP provides ratings for a range of models that are pure electric vehicles (EVs) or have electric and hybrid variants and has published safety ratings for 45 current models that have achieved 5 star ANCAP safety ratings. Some of the models with ANCAP 5 star ratings include (**Figure 8a & 8b**):

- Kia EV6 (EV)
- Mitsubishi Outlander (plug-in hybrid and gasoline variants)
- Polestar 2 (EV)
- Toyota Kluger (hybrid and gasoline variants)
- Mercedes-Benz EQA (EV)
- Tesla 3 (EV)



Figure 8a – Electric and Hybrid Vehicle ANCAP Ratings

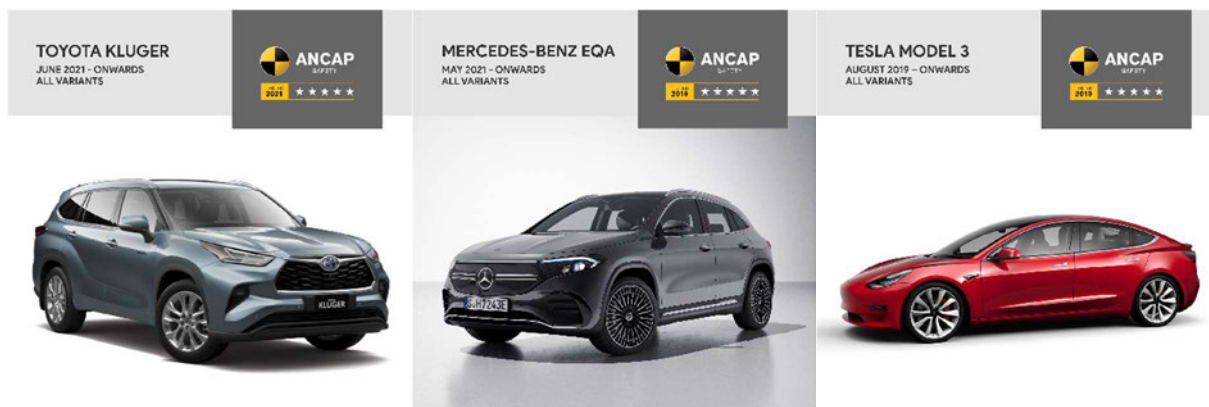


Figure 8b – Electric and Hybrid Vehicle ANCAP Ratings⁷

In addition to the normal assessment processes, during the post-crash assessment of electric and hybrid variants, ANCAP assesses the vehicle for protection against electrical shock from high voltage batteries.

NSW ELECTRIC VEHICLE STRATEGY

In 2021 the NSW Government introduced an Electric Vehicle Strategy⁸ that aims to drive sales of EVs to more than 50% of new car sales by 2030-31. Among the range of policies and investments, the NSW Government has introduced a \$3000 subsidy for new EVs, up to a cost of \$68,750, for private buyers and small businesses with less than 10 vehicles. However, the policy does not include any safety requirements such as a 5 star ANCAP rating.

ANCAP considers there should be no relaxation on safety for the environmental benefit from EVs, as there are many current EVs with 5 star ANCAP safety ratings that fall within the NSW Government's price cap including:

- Hyundai Kona EV
- Kia EV6
- Mazda MX-30
- MG ZS EV
- Nissan Leaf
- Polestar 2
- Tesla Model 3

There are a number of new EV models that are planned to be introduced in the second half of 2022 or in 2023 that ANCAP expects to have a 5 star ANCAP safety rating, as the models released in Europe hold a 5 star Euro NCAP safety rating, including:

- Skoda Enyaq iV
- Volkswagen ID.4
- Volkswagen ID.5

RECOMMENDATIONS

ANCAP makes the following recommendations for consideration by the Staysafe Committee:

- 3.1 The New South Wales Government continue to support ANCAP role of being complementary to regulation.
- 3.2 The New South Wales Government continue to support ANCAP to rate new EVs and hybrid vehicles.
- 3.3 The New South Wales Government introduce a requirement for a 5 star ANCAP safety rating for a vehicle to be eligible for the \$3000 EV subsidy.

⁷ANCAP SAFETY, www.ancap.com.au.

⁸ [NSW Government's Electric Vehicle Strategy | NSW Government](#) [Accessed 8 June 2022]

4. ANCAP ACTIVE SAFETY TESTING

As part of the ANCAP safety rating process, vehicles are assessed for the presence and effectiveness of active safety systems that can help avoid or reduce the effects of a crash. The active safety technologies currently assessed include autonomous emergency braking (AEB), lane support systems (LSS), automatic emergency steering (AES) and speed assistance systems (SAS).

Since 2020 it has not been possible for a new passenger car, SUV or LCV to achieve a 5 star ANCAP safety rating without at least an effective AEB or LSS system (or both). From 2020 good performing AEB and LSS are needed to achieve 5 stars.

AUTONOMOUS EMERGENCY BRAKING (AEB) – LIGHT VEHICLES

AEB systems use camera, radar and/or lidar technology to detect the speed and distance of objects in the vehicle's path and automatically brake, if the driver does not respond, to avoid or minimise the severity of a crash.

Analysis conducted for the Australian Government concluded that AEB will reduce vehicle occupant trauma in Australia by 28%.⁹ This is consistent with many international studies that also show a substantial reduction in crashes in light vehicles fitted with AEB systems:

- 55% reduction in police-reported crashes¹⁰
- 38% reduction in real world rear end crashes¹¹
- 54-57% risk reduction of real-world rear-end crashes in metro areas (35-41% risk reduction in all areas)¹²
- An estimated 46% reduction in rear-end striking crashes¹³

ANCAP has been testing and evaluating AEB systems for light vehicles in a broad range of daytime and night-time scenarios since 2018 to assess the vehicle's ability to autonomously brake at city and highway speeds to avoid collisions with stationary vehicles, moving vehicles (braking), pedestrians and cyclists. The test scenarios from 2020 include:

- Car to car rear with stationary, moving and braking target car.
- Car to car (approaching head-on) with test car turning across target car path (i.e. a typical right hand turn across approaching traffic on a two-lane road).
- Car to adult pedestrian crossing vehicle path.
- Car to child pedestrian crossing vehicle path.
- Car to adult pedestrian walking away from the car (i.e. to replicate pedestrian walking along the side of the road where there is no separated footpath).
- Car to adult pedestrian where the car is turning at an intersection and a pedestrian is crossing the road
- Reversing car to pedestrian.
- Car to bicyclist (cyclists crossing and travelling along the road).



Figure 9 - AEB Scenarios: Car-to-Car rear, Car-to-Cyclist and Car-to-Pedestrian

ANCAP has been advocating the fast uptake of new active vehicle safety technology, such as AEB, for a number of years. ANCAP's encouragement of AEB has resulted in the availability of AEB increasing very quickly (from approx. 35% in 2015 to approx. 88% of the Australian new car market in June 2021) with 76% of vehicles now fitted with AEB as standard (Figure 10).

⁹ Monash University Accident Research Centre (MUARC) Report on the effectiveness of crash reductions associated with light vehicle AEB

¹⁰ Insurance Institute for Highway Safety (IIHS) & Highway Loss Data Institute (HLDI), USA, 2018

¹¹ ANCAP, Euro NCAP, DoIRD research by B. Fildes, 2015

¹² ICROBI study by M. Rizzi, A. Kullgren, C. Tingvall, 2014

¹³ UMTRI and GM, A. Leslie, R. Kiefer, M. Meitzner, C. Flannagan, 2019

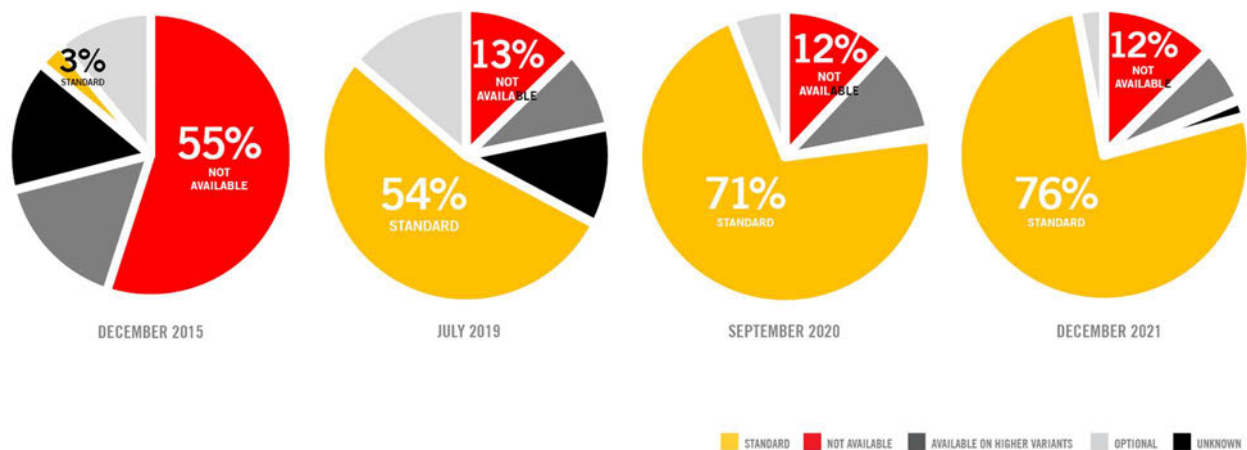


Figure 10 - Availability of AEB Australia (December 2021)

The new ADR 98/01 will ensure 100% fitting of AEB in passenger cars, SUVs and light commercial vehicles by 2026.

LANE SUPPORT SYSTEMS (LSS) – LIGHT VEHICLES

Lane support systems (LSS) such as lane departure warning (LDW), lane keep assist (LKA) and emergency lane keeping (ELK) recognise lane markings and alert the driver through audible, visual or haptic warnings if the vehicle is leaving the lane without indicating. Some systems have the ability to autonomously hold the vehicle within its intended lane if the driver fails to respond.

LSS are assessed on an outdoor test track with the vehicle intentionally and unintentionally leaving the lane in order to determine how the vehicle's systems react and activate to prevent a collision with an adjacent vehicle or obstacle, or a resulting run-off-road crash (**Figure 11**). The vehicle's capability to 'read' solid and broken lane markings as well as non-marked road edges is assessed. Advanced systems can also detect a vehicle overtaking in the adjacent lane, and prevent collisions, even when the change of lane is intended (i.e. when the direction indicator is activated).

ANCAP has been independently testing and evaluating the performance of LSS for light vehicles in a broad range of day and night-time scenarios since 2018.



Figure 11 - LSS Testing Scenario

The current ANCAP test scenarios for LSS include:

- Emergency Lane Keeping (ELK) with road edge, solid lane marking, oncoming vehicles and an overtaking vehicle.
- Lane Keep Assist tests (LKA) with both dashed and solid lane marking.
- Lane Departure Warning (LDW) tests for both dashed and solid lane marking (often performed as part of the LKA tests).

It is not possible for a passenger car, SUV or LCV to achieve a 5 star ANCAP safety rating without an effective LSS.

ANCAP advocacy activities have helped increase the voluntary fitting rates of LSS in new vehicles to the point where approximately 83% of all new light vehicles sold in June 2021 had LSS available. However, LSS was fitted as standard on a lower 66% of light vehicles sold (**Figure 12**).

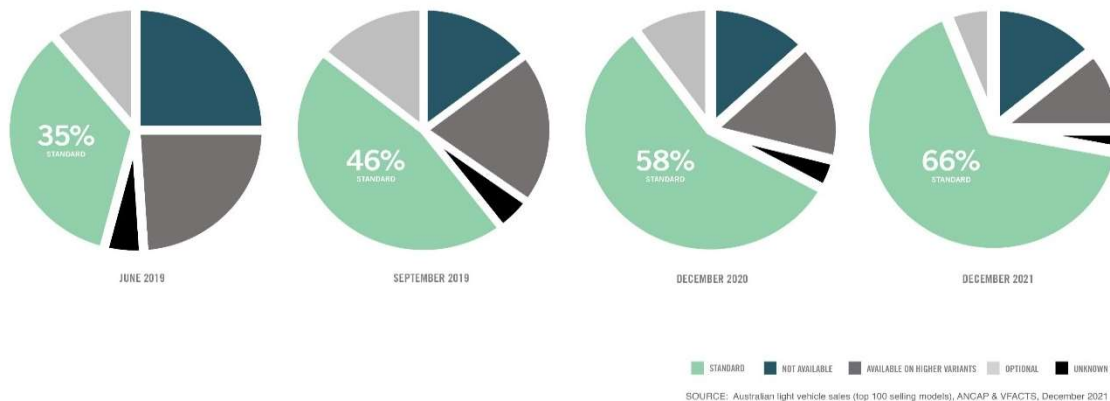


Figure 12 - Availability of LSS in Australia (December 2021)

ANCAP expects that vehicle brands will continue to respond to ANCAP's non-regulatory influence and fit this important safety feature, with the introduction of new models. However regulatory action, via an ADR, will be required to ensure 100% fitting of LSS on all new light vehicles entering the market, as has been the experience with a range of other vehicle safety technology including side-curtain airbags, electronic stability control (ESC) and Advanced Emergency Braking (AEB) systems.

In 2022, the Australian Government released a Regulation Impact Statement (RIS) that proposes to mandate LKS on all light vehicles (passenger cars, SUVs and Light Commercial Vehicles) by introducing a new Australian Design Rule 107/00 (ADR 107) that is based on the relevant UN regulation, *UN R79 – Uniform provisions concerning the approval of vehicles with regard to steering equipment* and the European regulation, *EU 2021/646 – Emergency Lane Keeping System*.

The RIS advises the introduction timing needs to be finalised in consultation with industry, and has proposed implementation timing of:

- 1 March 2024 for new models.
- 1 March 2026 for all new vehicles.

ANCAP supports the Australian Government's proposal and timeline for introduction.

REVERSING AIDS

Since 2020, AEB reversing (back over) tests have been included in ANCAP's protocols using an adult pedestrian dummy; with the dummy both stationary behind the vehicle and moving across the vehicle path with the vehicle reversing at both 4km/hr and 8 km/hr (**Figure 13**). From 2023, ANCAP will expand this test to include a child dummy in the same reversing (back over) test scenarios.



Figure 13 – Reversing (back over) Testing

ANCAP's advocacy activities, and test and rating protocols, have helped increase the voluntary fitting rates of reversing aids in new light vehicles to the point where approximately 97% of all new light vehicles sold in March 2022 had reversing aids available. However, reversing aids were fitted as 'standard' on a lower number - 83% of light vehicles sold (**Figure 14**). The reversing aids available on current light vehicle models include both rear cameras and sensors with a

range of performance. ANCAP expects that vehicle brands will continue to respond to ANCAP's non-regulatory influence and fit active reversing collision avoidance, as new models are introduced.

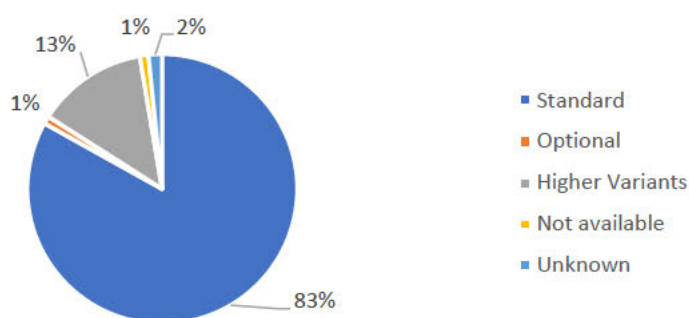


Figure 14 - Availability of Reversing Aids in Australia (March 2022)

In 2022, the Australian Government released a Regulation Impact Statement (RIS) proposing to mandate reversing aids on all passenger vehicles (cars and SUVs), buses, and all goods vehicles (light, medium and heavy duty goods vehicles) by introducing a new Australian Design Rule 108/00 aligned with the international United Nations Regulation 158 (UN R158).

The RIS advises the introduction timing needs to be finalised in consultation with industry, and has proposed implementation timing of:

- 1 March 2024 for new models.
- 1 March 2026 for all new vehicles.

The RIS recognises that voluntary fitting rates of reversing aids have rapidly increased. However, many of the models without reversing aids, either 'available' or 'standard' on all variants, are older models that have been in the market for several years.

ANCAP supports the Australian Government's proposal and timeline for introduction.

RECOMMENDATIONS

ANCAP makes the following recommendations for consideration by the Staysafe Committee:

- 4.1 Recognise that ANCAP's non-regulatory encouragement of active safety technologies, including AEB, LSS and reversing aids resulted in rapid increase of light vehicles (passenger cars, SUVs and light commercial vehicles with these systems fitted. To achieve 100% fitting across the market, an ADR is required.
- 4.2 The New South Wales Government support and encourage the Australian Government to:
 - Complete the regulatory process to mandate LSS on light vehicles by introducing ADR 107 from 2024.
 - Complete the regulatory process to mandate reversing aids on all vehicles by introducing ADR 108 from 2024.

5. CONNECTED & AUTOMATED VEHICLES (CAV)

Vehicle technology is at the beginning of a significant change with the introduction of Connected and Automated Vehicle (CAV) technologies.

There are automated vehicle technologies already available in new model vehicles being delivered to the market that assist with some of the driving tasks such as Speed Assist Systems (SAS), Adaptive Cruise Control (ACC) and Lane Keep Assist (LKA). These systems are defined as SAE Level 1 or 2 automated systems.¹⁴ It is expected that vehicles with even more automated systems will be delivered to the market out to the 2030s and beyond.

It is important to recognise that the automated technologies fitted to today's vehicles are not designed to replace the driver. These technologies are designed to **assist** the driver with the driving task, to reduce the risk of a crash and, in the event of a crash, to reduce the severity of the crash.

Figure 15 below provides an overview of the different SAE levels for automated driving systems and the timeframe for expected introduction to market in mainstream vehicle models.

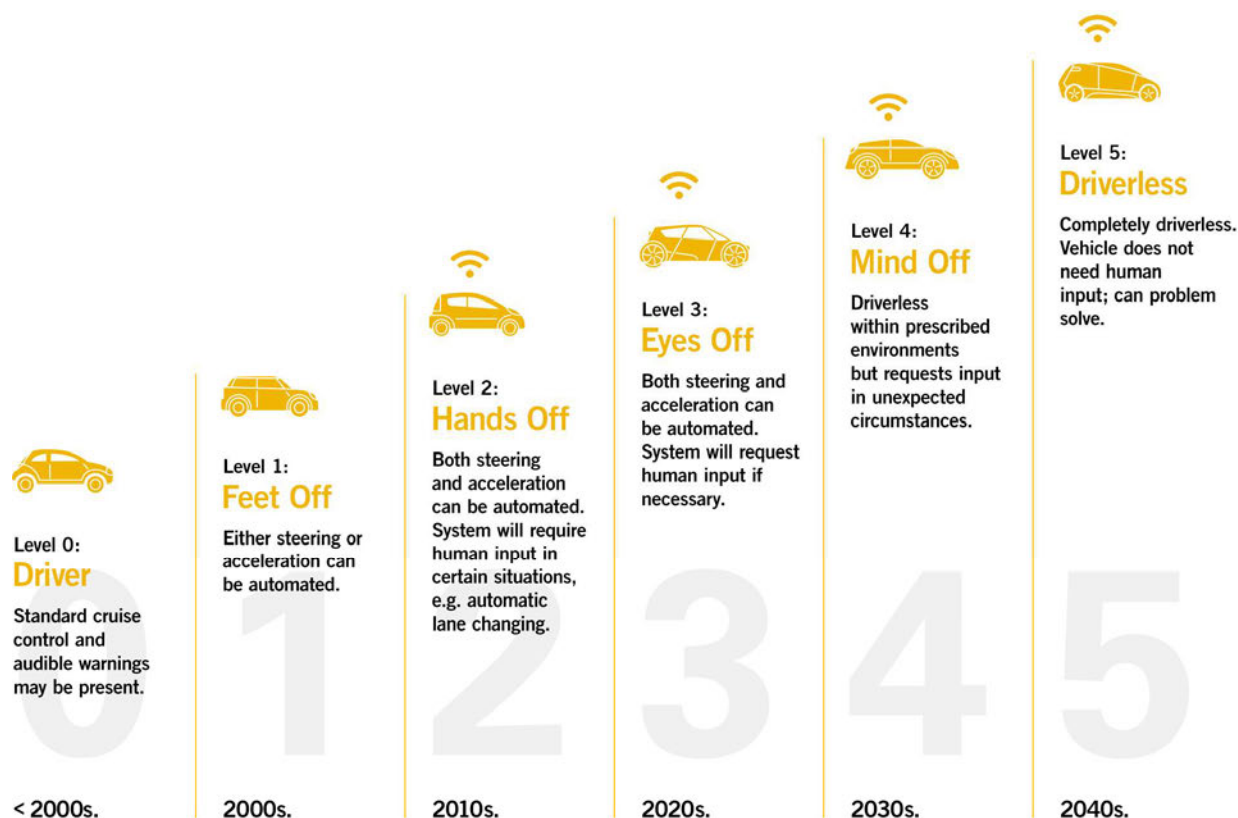


Figure 15 – SAE Automated Driving Levels and Expected Implementation Timeframes)

Along with increasing levels of automation, vehicles are becoming more connected. There will be many highly automated driving systems (SAE Levels 3, 4 or 5) that will require vehicle-to-vehicle (V2V), vehicle-to-infrastructure (V2I) and/or vehicle-to-other (V2X) communications to deliver the full safety, environmental and community benefits.

A study on the safety benefit of CAV technology for Austroads estimated that with 100% fitting of V2X technology across the in-service vehicle fleet, CAV collision avoidance systems have the potential to reduce serious injury crashes in Australia;¹⁵

- Cooperative Forward Collision Warning (V2V) – reduce same direction crashes by 20-30%
- Curve Speed Warning (V2I) – could reduce run-off-road and head-on crashes by 20-30%.
- Intersection Movement Assist (V2V) – could reduce adjacent direction crashes by 35-50%.
- Right Turn Assist (V2) – could reduce right turn against crashes by 25-40%.

In addition to the level of fitting within the in-service fleet, CAV technology is heavily dependent on supporting infrastructure. ANCAP testing has shown the importance of the physical road infrastructure – signs and lines – to the

¹⁴ Society of Automotive Engineers J3016, Taxonomy and Definitions for Terms Related to On-Road Motor Vehicle Automated Driving Systems

¹⁵ Austroads Research Report AP-R551-17, Safety Benefits of Cooperative ITS and Automated Driving in Australia and New Zealand, October 2017

successful operation of current active safety systems such as SAS with traffic sign recognition and intelligent speed assistance. The emerging V2X technology will be reliant on digital infrastructure to deliver the full benefits.

ANCAP ASSESSMENT OF AUTOMATED VEHICLE TECHNOLOGY

ANCAP began testing and assessing automated vehicle technology through testing of AEB and LSS from 2018 and plans to continue to expand with new protocols in 2023 and 2025 as outlined earlier.

ANCAP recognises that public (and government) interest in automated driving is high, however, the understanding of automated driver technology is low and often misunderstood. This includes a lack of information on the automated driving systems currently available - their operational capabilities and limitations.¹⁶

ANCAP is working closely with our Euro NCAP counterpart to develop the plan to include assessment of assisted (or automated) driving systems into our overall star rating, likely from 2025.

Assisted Driving program

During 2020, Euro NCAP introduced an '**Assisted Driving**' program that tested a range of vehicles fitted with 'Highway Assist' systems, technologies designed to make motorway/highway driving safer by reducing fatigue and encouraging safe driving. Highway Assist systems help the driver to maintain a steady speed, to keep a safe distance from the car in front and to keep the vehicle in the centre of the lane by combining (intelligent) Adaptive Cruise Control (ACC) with Lane Centering (LC).

The Assisted Driving program assess the balance between "Assistance Competence" (made up of Driver Engagement and Vehicle Assistance) and "Safety Backup." (Figure 16).

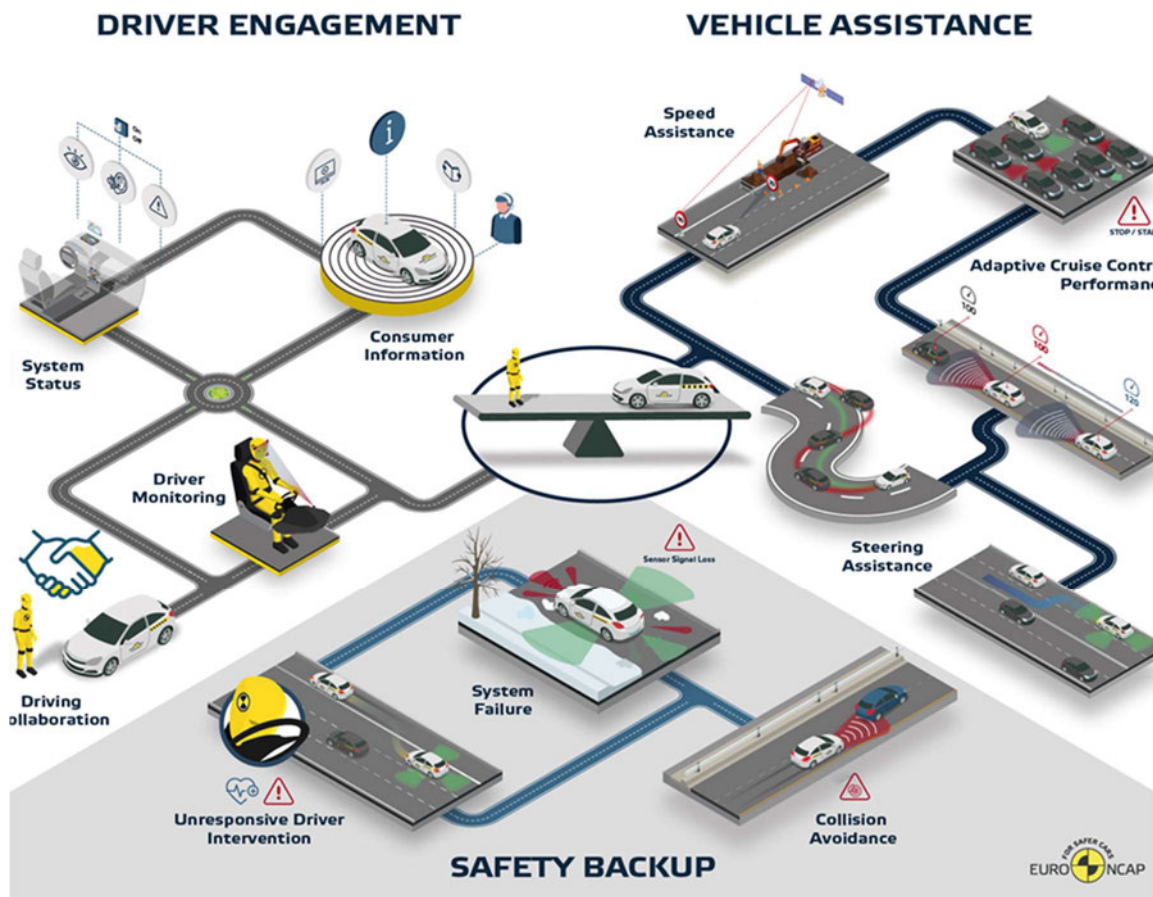


Figure 16 –Assisted Driving Program

¹⁶ There is also significant regulatory work in Australia, at the UN, within the EU and in the US to develop standards and administrative systems for automated driving systems.

- Assistance Competence assesses the level of assistance provided by the vehicle and how it is matched by the perception of the driver and the ability of the system to keep the driver engaged in the driving task. Assistance Competence comprises:
 - Driver Engagement: The protocols consider how well the manufacturer explains to consumers how the system works, makes clear its limitations and ensures that there is a clear communication so that the driver and the system can cooperate to control the vehicle safely.
 - Vehicle Assistance: This part of the assessment looks at how well the AD system controls the vehicle when it is engaged: whether or not it reacts properly to the huge variety of speed control limitations that may be encountered, for example, or the amount of steering support in highway type curves.
- Safety Backup: The extent to which the system fail-safe is assessed, in cases where the driver has failed to react to a critical event, and how it responds in emergency situations.

In 2022, ANCAP commenced a similar Assisted Driving Program at the two Australian active safety test facilities used by ANCAP, including Transport for NSW's (TfNSW) Future Mobility Test and Research Centre (FMTRC). The project will allow ANCAP, the Australian test facilities and vehicle industry to develop the necessary expertise to undertake the tests as well providing information on the performance and limitations of assisted driving systems currently available in new vehicles, to consumers and policy makers. ANCAP expects to introduce Assisted Driving into its star rating from 2025.

Community Education Activities

As part of its community education and advocacy role, ANCAP conducts regular community engagement activities to promote and explain the availability, function, benefits and limitations of automated driving systems currently available on new vehicles.

'Safety Experience' drive days have been conducted in South Australia and regional NSW to provide general consumers, fleet operators and the media with a first-hand opportunity to safely experience AEB and LSS. Public displays and media events have also been held in Perth, Sydney, Brisbane, Adelaide and Canberra demonstrating the availability of this technology across a broad range of vehicle price points, brands and market segments.

In addition, a national community awareness advertising campaign was produced and rolled out by ANCAP in 2020-21 highlighting the benefits of AEB and LSS and encouraging consumer purchases of vehicles with these technologies.

NEXT STEPS

Vehicles

Three international UN Regulations have been implemented during 2020 that will lay the foundations for future automated vehicle standards and regulations:

- UN Regulation 157 (UN R155) Cyber Security;
- UN Regulation 156 (UN R156) Software Safety; and.
- UN regulation 157 (UN R157) for Automated Lane Keeping Systems (this is the first regulation for a Level 3 automated driving system).

These regulations are being introduced into Europe from 2022 as part of the new EU General Safety Regulation¹⁷ (known as GSR2).

As part of GSR2, the EU will introduce a regulatory standard for Advanced distraction warning systems, which is necessary for the successful operation of connected and automated vehicles, from July 2022. The standard will assess the driver's alertness through vehicle systems analysis and warn the driver if needed.

Infrastructure

Infrastructure owners, including the New South Wales government, and funders need to plan for the assessment, maintenance and upgrade (where necessary) of Australia's physical and digital road infrastructure to facilitate effective operation of CAV.

National Leadership

The Australian Government has established the Office of Future Transport Technology within the Department of Infrastructure, Transport, Regional Development and Communications whose role is to coordinate the Australian Government's work to prepare for CAV.¹⁸

- Having the necessary national regulatory arrangements in place by 2026.
- Understanding the impacts and prepare for the opportunities to maximise the benefits.
- Protecting Australians in relation to cyber security, data security, consumer rights and personal privacy.
- Ensuring the supporting digital and physical infrastructure needed are in place and working.

¹⁷ Regulation (EU) 2019/2144 of The European Parliament and the Council of 27 November 2019.

¹⁸ The Office of Future Transport Technology, www.infrastructure.gov.au [accessed 10 June 2022].

RECOMMENDATIONS

ANCAP makes the following recommendations for consideration by the Staysafe Committee:

- 5.1 The New South Wales Government encourage the Australian Government to undertake the regulatory process to consider adopting UN Regulations for Cyber Security, Software Safety and Emergency Lane Keeping Systems (UN R155, R156 & R157) as ADRs and introduce in a similar timeframe to Europe.
- 5.2 The New South Wales Government encourage the Australian Government to consider adopting the European GRS2 regulatory standard for Advanced driver distraction warning systems.
- 5.3 The New South Wales Government encourage the Australian Government to continue to provide national leadership and coordinate activities of the various government (both state and federal) agencies in relation to CAV.
- 5.4 The New South Wales Government allocate funding to upgrade road physical road and digital infrastructure to facilitate the introduction of CAV.

6. POST-CRASH SAFETY

In the new tests and assessments introduced in 2020, ANCAP (and Euro NCAP) included a new aspect focussing on post-crash safety to improve the survivability and injury outcomes for those involved in a crash by providing emergency services with necessary information to improve their post-crash response. This includes:

- Rescue information – the availability of standardised rescue sheets to assist emergency services.
- Multi-collision braking – the vehicle applies brakes after a collision, to minimise the risk of a second collision.

Euro NCAP were also able to introduce eCall (also commonly called Automatic Crash Notification) from 2020 as the communications infrastructure existed in Europe.

RESCUE SHEETS

Extending beyond ANCAP's traditional crash protection and prevention focus, the most recent ANCAP protocol updates implemented from January 2020 introduced a new aspect known as Rescue, Extrication & Post-Crash Safety. This assessment area was introduced to enhance post-crash response and improve the survivability and injury outcomes for those involved in a crash.

To assist Australian and New Zealand first responders with the safe rescue and extrication of occupants involved in vehicle crashes, ANCAP developed and successfully launched a new digital app called 'ANCAP RESCUE'. With assistance from many vehicle brands, the app contains standardised vehicle safety information in the form of PDF rescue sheets for more than 1,000 vehicle models manufactured over the last 15 years. These rescue sheets highlight the location of potential in-vehicle hazards including fuel tanks, high voltage batteries (for electric and hybrid vehicles), airbag inflators and high-strength steel.

From 2020, ANCAP awards points in its rating process for vehicle models that provide a rescue sheet which meets ISO Standard No. ISO 17840-1.

Since its launch in 2020, ANCAP has continued to update the ANCAP RESCUE app with rescue sheets of newly released vehicles, and emergency services across Australia and New Zealand have downloaded and used the app in their operational motor vehicle crash responses and training activities. The app is provided in all NSW, ACT, QLD, TAS and New Zealand fire trucks and data from the ANCAP RESCUE app is utilised by the NSW, QLD and TAS State Emergency Service (SES).

eCALL (AUTOMATIC CRASH NOTIFICATION)

eCall (or Automatic Crash Notification) is a system fitted to a vehicle that sends an automatic message to an emergency call centre in case of a crash of the vehicle.

Europe

The European Union (EU) introduced legislation in 2015 for the deployment of interoperable eCall with Member States having the necessary emergency communications infrastructure deployed by 1 October 2017 and eCall has been mandated on all new light vehicles sold in Europe, since April 2018. The EU has adopted the United Nations Regulation 144 (UN R144) requirements for eCall.

UN R144 requires that in the event of a triggering signal (such as an airbag deployment), the vehicle's eCall system will establish a voice connection with an emergency call centre and send a minimum set of data (MSD).¹⁹ The MSD includes:

- Time stamp of generation of data.
- Position (determined by GPS signal).
- Vehicle direction of travel.
- Vehicle details including type and propulsion type (e.g. gasoline, diesel, EV, etc).

Euro NCAP introduced eCall in its rating scheme from 2020. In addition to the minimum legislative requirements in UN R144, Euro NCAP encourages additional information to be sent on the number of occupants in the vehicle and two recent vehicle locations (before the triggering signal).

From 2023, Euro NCAP will include additional scoring provisions for eCall+ to include:

- Direction of impact, e.g. frontal, lateral driver's side, lateral passenger's side, rear or rollover.
- Change in velocity of vehicle starting from crash time and ending at 0.25 seconds after crash.
- Third Party Service eCall (TPS eCall) shall be free of charge and available for at least first 6 years.

¹⁹ Referred to as a PSAP; Public/private Safety Answering Point in the UN Regulation and defined as "the physical location where emergency calls are first received and can be either a public authority or private organisation recognised by the government or responsible authority."

Australia

Australia does not have any regulatory requirement for vehicles to be fitted with an eCall system. However, under the National Road Safety Action Plan 2021-25, the Australian Government will consider if eCall should be mandated on all new light vehicles via an Australian Design Rule (ADR).

The Australian Government's National Land Transport Technology 2016-2019 Action Plan investigated the costs, benefits and possible deployment models for eCall. The National Land Transport Technology 2020-2023 Action Plan noted this action had been completed and the work will inform possible future deployment arrangements.

The National Emergency Communications Working Group (NECWG)²⁰ have released national guidelines for autonomous contact with Triple Zero (000), which included a protocol for autonomous vehicle alert escalation:

- National Guidelines for Autonomous Contact with Triple Zero (000).
- National Protocol for Autonomous Vehicle Alert Escalation contact with Triple Zero (000) Services (a supplementary protocol document to the National Guidelines).

Both NECWG documents require an 'autonomous contact' (i.e. eCall) to go via an 'intermediary or third-party monitoring facility'.

Note: Third party suppliers are operating in Australia with some brands including eCall in their vehicles²¹. For example see [Itellimatics ASURE](#) product.

ANCAP Introduction of eCall

ANCAP was not able to introduce assessment of eCall or eCall+ as part of its protocols in 2020. The technology, in the form envisaged in the protocol, cannot be supported in Australia currently due to a lack of supporting telecommunications infrastructure. At that time, ANCAP was informed that the existing Triple Zero (000) Operator's systems could not handle automatic crash notifications (eCall), digital location information or other information that would be transmitted following a crash. Similarly, ANCAP has not introduced the eCall requirements in the upcoming 2023 protocols.

ANCAP has engaged with the NECWG and also Telstra - the providers of Australia's Triple Zero (000) Operator - in relation to a suitable timetable to introduce eCall within ANCAP protocols. After consultations with Telstra and the vehicle industry, ANCAP considers that eCall could be introduced into Australia by 2025 as part of the new generation Triple Zero (000) services currently being developed and rolled out.

ANCAP are working to include eCall provisions in the ANCAP star rating from 2025.

RECOMMENDATION

ANCAP makes the following recommendations for consideration by the Staysafe Committee:

- 6.1 The New South Wales Government encourage the Australian Government to prioritise the inclusion of eCall in the development of the new generational Triple Zero services (000) to be implemented by 2025.
- 6.2 The New South Wales Government encourage the Australian Government to undertake the regulatory process to adopt UN R144 as an ADR (required for basic eCall) with an introduction timing of not later than 2025.

²⁰ The [NECWG-A/NZ](#) consists of Australia and New Zealand representatives from: Emergency Service Organisations (ESO); Public Safety Organisations (PSO); the Emergency Call Persons (ECP) and Carrier representatives.

²¹ eCall is being offered on vehicle models from both premium brands such as Audi, Mercedes-Benz, BMW, Land Rover and Lexus, as well as mainstream brands such as Toyota and Ford.

7. VEHICLE OWNERSHIP AND USE PATTERNS ARE CHANGING

The introduction and growth of mobility services including car-share and ride-share, along with changes in vehicle ownership and use, such as declining vehicle ownership among young people, will see ongoing change in vehicle ownership and use.

In the development of their *Advice on Automated and Zero Emissions Vehicles Infrastructure*²², Infrastructure Victoria concluded there would be a mix of ownership models. While ride-share and car-share would continue to grow, the current ownership models of private owners and business/commercial fleets would continue.

SAFE VEHICLE CHOICES FOR BUSINESS AND FLEETS

In 2021, 46% of all new light vehicles were purchased by businesses, governments or rental fleets. As such, business, commercial and government fleet purchases have a significant influence on vehicle safety.

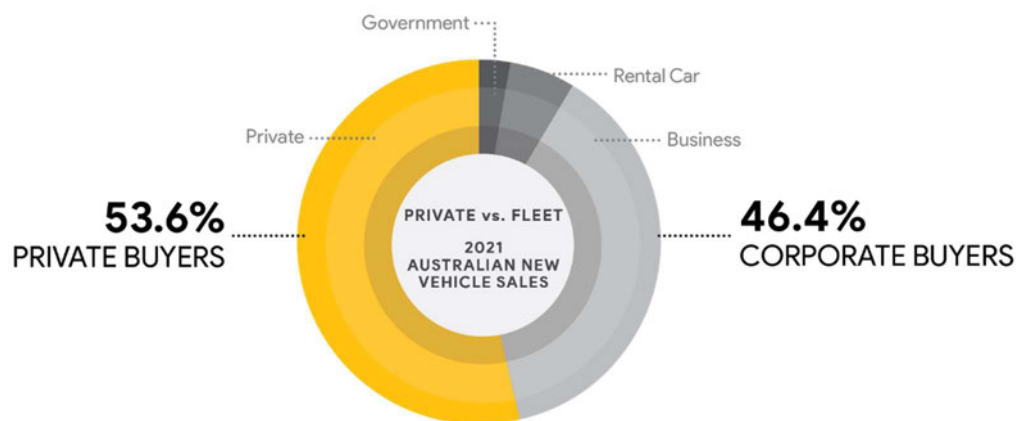


Figure 17 – Vehicle Sales by Buyer Type (2021)²³

In 2020, the Australasian Fleet Management Association (AFMA) reported that 460,000 business have fleets, and of these, 21,000 have fleets of 20 or more vehicles, and 1,000 businesses have fleets of more than 250 vehicles. There was a total of 3.8 million vehicles operated by Corporate Fleets a 5 star ANCAP rating is an important consideration in purchasing vehicles.²⁴

Vehicle use is a significant contributor to work-related injury with around 30% of all work-related injuries involving a vehicle. This is the number one contributor to work related injuries.²⁵

GOVERNMENT FLEET VEHICLE SELECTION POLICY

Governments are significant fleet operators and have a leadership role in introducing safer vehicles. ANCAP recognises that many Government fleet policies, including the NSW Government, have a requirement for a 5 star ANCAP rating. ANCAP recognises the importance of fleet policies and regularly consults with many fleets to provide information on models currently rated by ANCAP and to understand the new models that fleets are considering to provide input into ANCAP's future program.

New South Wales Government Fleet Vehicle Policy

The New South Wales Government's Motor Vehicle Operational Guidelines²⁶ specifies minimum safety requirements, including having a 5 star ANCAP safety rating for light vehicles that are part of the Government fleet.

The NSW Government has a target of all passenger vehicles to be EVs by 2030, with an interim target of 50% by 2026. As many current EVs achieve 5 star ANCAP safety ratings (see Section 3 above) ANCAP considers there is no need to relax the current safety requirements in the NSW Government's guidelines.

²² Infrastructure Victoria, *Advice on Automated and Zero Emissions Vehicles Infrastructure*, October 2018.

²³ Vfacts National Report December 2021.

²⁴ Australian Fleet Management Association (AFMA), *Corporate Fleet Insights* October 2020.

²⁵ Austroads, *Vehicles as a Workplace: Work Health and Safety Guide*, March 2019.

²⁶ Tasmanian Government, Department of Treasury and Finance, *Tasmanian Government Motor Vehicle Allocation and Use Policy*, www.purchasing.tas.gov.au [accessed 23 August 2021].

GREY FLEET

The term 'grey fleet' refers to privately-owned vehicles that are used for business travel. This includes those used through novated leases, or where the company reimburses the employee for work-related vehicle expenses, or where the employee uses their car and claim work-related costs as deductions for income tax purposes. Research by the Australian Fleet Managers Association (AFMA) showed that 71% of business have employees who use their personal vehicle on company business.²⁷

ANCAP member organisation, the NRMA advises that a vehicle is treated as a 'place of work' when driven for work purposes, regardless of who owns it under various Australian Workplace Health & Safety-related Acts (see following extract from the *Commonwealth Work Health and Safety Act 2011*), and this places a duty on organisations to ensure that vehicles used for work, whether supplied by the company or privately owned are safe.²⁸

Commonwealth Work Health and Safety Act 2011,

8 Meaning of workplace

(1) A workplace is a place where work is carried out for a business or undertaking and includes any place where a worker goes, or is likely to be, while at work.

(2) In this section, place includes:

(a) a vehicle, vessel, aircraft or other mobile structure; and

(b) any waters and any installation on land, on the bed of any waters or floating on any waters.

There should be no distinction between safety for company-supplied vehicles and the grey fleet.

SAFE VEHICLE CHOICES FOR UBER AND OTHER RIDE-SHARE OPERATORS

From 1 October 2019, Uber introduced a policy that requires all drivers who sign up to the Uber Australia ride-share platform to drive a vehicle with a 5 star ANCAP safety rating. This policy is likely to see significant safety benefits both for Uber drivers, their passengers and other road users.

Other ride-share operators have safe driving policies and promote safe and responsible driving by their operators. However, to date, Uber are the only ride-share company that have adopted a 5 star ANCAP safety rating requirement. Other similar platforms should be encouraged to adopt similar use policies.

ANCAP RECOMMENDATIONS FOR FLEET PURCHASING AND USE

To assist businesses, commercial and government fleets, ANCAP has developed a guide on choosing a safe vehicle. ANCAP recommends that fleets and commercial buyers choose vehicles that hold a maximum 5 star ANCAP safety rating with a datestamp of no more than three (3) years old. This will ensure vehicle purchases dynamically include the most up-to-date safety features as assessed under ANCAP's independent rating program.

ANCAP recommends that all commercial users, governments and business develop and implement policies that cover traditional employer-owned fleets as well as the grey fleet.

ANCAP recommends fleets and commercial users purchase vehicles which hold a maximum 5 star ANCAP safety rating with a "TESTED" datestamp of no more than three (3) years old. The datestamp is a key element of each vehicle rated by ANCAP as it identifies the year requirements against which a model was tested. Purchasing 5 star vehicles with the most current datestamp possible will ensure vehicles have the most up-to-date safety features assessed by ANCAP.

Many businesses keep their vehicles for three (3) years (and up to six years for LCVs fitted with specialist equipment) while a private owner may keep their vehicle for up to five (5) years. There needs to be a balance between providing the latest vehicle safety technology against ensuring a return on the cost of a new vehicle. Therefore, ANCAP recommends that any vehicle used for work purposes (company owned/leased, or privately owned/leased) should hold a 5 star ANCAP rating with a datestamp of no more than six (6) years old.

²⁷ Australian Fleet Management Association (AFMA), Corporate Fleet Insights April 2018.

²⁸ NRMA, Grey Fleets, www.mynrma.com.au/business/news/grey-fleets [accessed 17 January 2020].

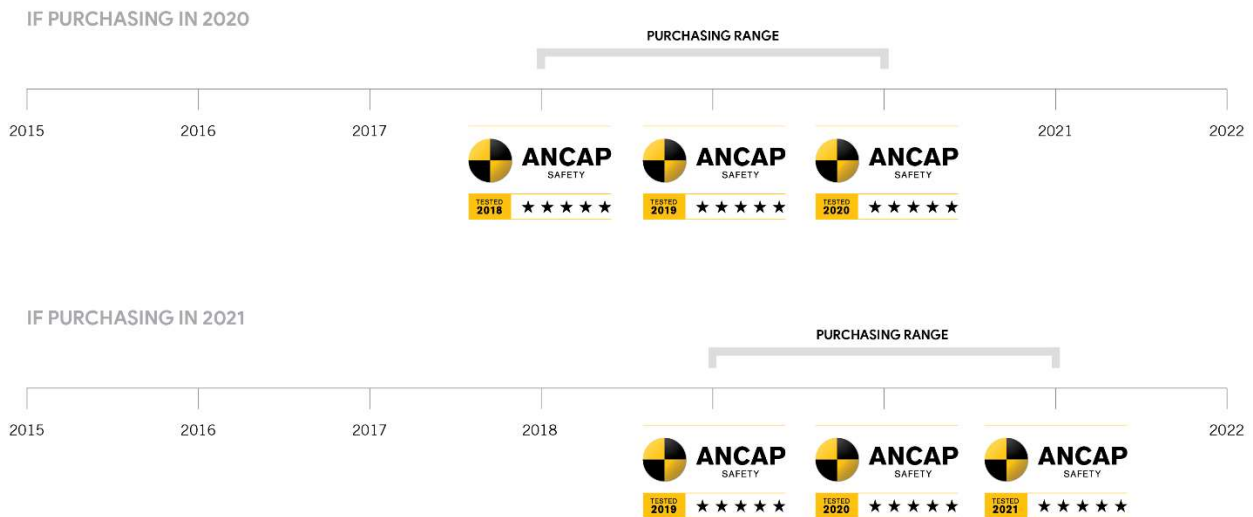


Figure 18 - ANCAP Vehicle Purchasing Guide

RECOMMENDATIONS

ANCAP makes the following recommendations for consideration by the Staysafe Committee:

- 7.1 The New South Wales Government maintain its vehicle fleet policy to purchase light vehicles, including EVs, with a 5 star ANCAP rating and introduce a 3 year datestamp requirement that applies to both New South Wales Government supplied vehicles, including both Government owned (and plated) vehicles and private plate vehicles provided as part of remuneration packages.
- 7.2 In addition to the current fleet purchasing policy, the New South Wales Government demonstrate leadership in the area of 'grey fleets' and extend the policy to include privately owned vehicles used for work-related purposes must have a 5 star ANCAP safety rating with a datestamp no older than six (6) years.
- 7.3 Ride-share and car-share organisations be encouraged to introduce policies that require all their operators to drive a vehicle with a 5 star ANCAP safety rating with a datestamp no older than six (6) years.

ATTACHMENTS

- ATTACHMENT A:** ANCAP and ADRs – Why both are needed
ATTACHMENT B: Summary of European Union General Safety Regulation



ANCAP and ADRs: Why both are needed

July 2022

1

ANCAP

Safety only

Relative measure: 0 to 5 stars

Measures how far above the minimum (regulation) standard

Alignment with Euro NCAP

Agile & flexible: able to keep pushing safety and introduce test before ADR

Cannot cover all vehicles (models & variants)

ADR

Safety, environmental and theft

Pass/fail criteria

Sets minimum standard

Harmonised with international (UN) Regs (and accept EU, US, Japan Regs)

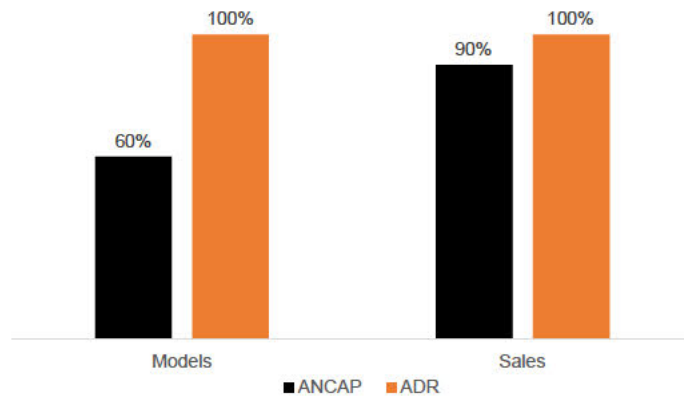
Government regulation constraints (i.e. BCR requirements)

All vehicles (models & variants) must comply



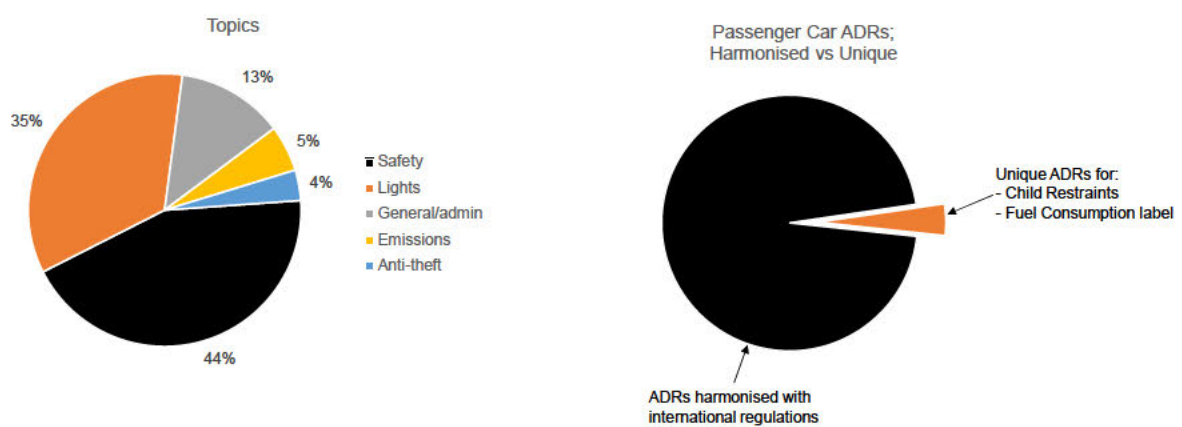
2

Coverage of light vehicles (indicative)



3

ADRs – light vehicles



4

Coverage – vehicle types



Vehicle type	ANCAP	ADR
Motorcycles	✗	✓
Passenger cars	✓	✓
SUVs	✓	✓
LCVs	✓	✓
Buses	✗	✓
Trucks (goods vehicles)	✗	✓
Trailers	✗	✓

ATTACHMENT B

SUMMARY OF EUROPEAN UNION GENERAL SAFETY REGULATION

The following table provides a summary of the updated European Union General Safety Regulation (EU GSR2) as it applies to passenger cars, SUVs and light commercial vehicles (LCVs)¹ along with the status of similar technologies in both ANCAP assessments and in Australian Regulation (e.g. if mandated via an ADR).

EU GSR		ANCAP STATUS	AUSTRALIAN REGULATION/ADR STATUS
Mandated from: 6 July 2022 (new approvals) 7 July 2024 (all registrations)	AEBS (UN R152) capable of detecting moving vehicles and stationary objects	Included in ANCAP AEB ratings from 2018	UN R152 mandated as ADR 98/00 from: • 1 March 2023 (new models) • 1 March 2025 (all vehicles)
	Full width barrier test (UN R137)	Included in ANCAP ratings from 2018	Accepted as alternative to ADR 69/00.
	Pole side impact (UN R135)	Included in ANCAP ratings from 2018	Mandated as ADR 85/00 from: • 1 Nov 2017 (new models) • 1 Nov 2021 (all vehicles)
	Emergency lane keeping	Lane Support Systems included in ANCAP ratings from 2018	Regulatory process underway with proposal to mandate as ADR 107/00 from: • 1 March 2024 (new models) • 1 March 2026 (all vehicles).
	Intelligent speed assistance (ISA) systems (advisory system)	Speed Limit Information Function (SLIF) (advisory system) and Speed Control Function (SCF) included in ANCAP ratings from 2018.	UNKNOWN
	Alcohol interlock installation facilitation (for fitting of aftermarket alcohol interlock device)	NOT ASSESSED	UNKNOWN
	Driver drowsiness and attention warning	Driver monitoring included in ANCAP ratings from 2020.	Identified in NRSS 2021-30 within Vehicle Safety priority area.
	Event data recorders	NOT ASSESSED	UNKNOWN
	Reversing Detection	Reversing aids included in ANCAP assessments from 2020.	Regulatory process underway with proposal to mandate UN R158 as ADR 108/00 from: • 1 March 2024 (new models) • 1 March 2026 (all vehicles).
	Protection against cyber attacks	Standards and regulation development being monitored by ANCAP and Euro NCAP.	Australian government participating in relevant WP. 29 working groups. Not included in NTC automated vehicle program.

¹ Regulation (EU) 2019/2144 of the European Parliament and Council of 27 November 2019.

EU GSR		ANCAP STATUS	AUSTRALIAN REGULATION/ADR STATUS
Mandated from: 7 July 2024 (new approvals) 7 July 2026 (all registrations)	Enlarged pedestrian protection head impact zone (UN R127)	Included in ANCAP ratings from 2008	Australian Government does not plan to propose mandating pedestrian protection (i.e. mandating UN R127 as an ADR).
	AEBS capable of detecting pedestrians and cyclists	Included in ANCAP ratings from 2018 and expanded in 2020.	AEBS with pedestrian detection (UN R152/01) mandated as ADR 98/01 from: <ul style="list-style-type: none"> 1 August 2024 (new models) 1 August 2026 (all vehicles)
	Advanced driver distraction recognition systems	To be included in ANCAP ratings from 2023	Identified in NRSS 2021-30 within Vehicle Safety priority area.

Note: GSR2 provides for future standards for Automated Vehicles in relation to:

- Systems to replace the drivers control of the vehicle, including signalling, steering, accelerating and braking.
- Systems to provide the vehicle with real-time information on the state of the vehicle and the surrounding area.
- Driver availability monitoring systems.
- Event data recorders for automated vehicles.
- Harmonised format for the exchange of data for vehicle platooning.
- Systems to provide safety information to other road users.