



Ms Casey Mazzarella
Inquiry Secretary
Joint Select Committee on Road Safety
PO Box 6021
Parliament House
CANBERRA ACT 2600

Dear Ms Mazzarella

ANCAP SAFETY (ANCAP) welcomes the opportunity to provide a submission to the Australian Parliament's Joint Select Committee on Road Safety.

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 220 vehicle models hold a current ANCAP safety rating with 96% of all new light vehicles sold in 2020 covered by an ANCAP safety rating and 92% 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.

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.

Summary of recommendations

ANCAP makes the following recommendations for consideration by the Joint Select Committee on Road Safety:

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 Australian 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. Australia should introduce new Australian Design Rules (ADRs) - adopting the relevant UN Regulations - to mandate new vehicle safety technology including Autonomous Emergency Braking (AEB), Lane Keep Assist (LKA) systems, Cyber Security and Software Safety in the same timeframe as Europe (i.e. from July 2022).

5. The Australian Government 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 Australian Government prioritise the inclusion of eCall in the development of the new generational Triple Zero 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 Australian 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 the Joint Select Committee on Road Safety Inquiry follows.

Yours sincerely

Carla Hoorweg
Chief Executive Officer

23 August 2021



SUBMISSION TO THE JOINT SELECT COMMITTEE ON ROAD SAFETY

AUGUST 2021

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 220 current vehicle models hold an ANCAP safety rating with 96% of all new light vehicles sold in 2020 covered by an ANCAP safety rating and 92% 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 improving 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 eCall as the communications infrastructure for the emergency Triple Zero (000) operator does not currently exist within Australia. The Australian Government should prioritise the inclusion of eCall into the rollout of the new generation of Triple Zero services currently being introduced.

Fleets, businesses and governments purchase more than 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'.

ANCAP's submission addresses the following elements of the Committee's Terms of Reference;

- a) Measures to support the Australian Parliament's ongoing resolve to eliminate road crash fatal and serious injuries with a focus on ways to achieving Vision Zero by 2050.
- b) The effectiveness of existing road safety programs across Australia; opportunities to improve them and encourage broader take-up of effective approaches;
- c) Opportunities for government policy in health, education, industry, transport and other areas to contribute to road trauma eliminate, integrating Safe Systems principles;
- e) Opportunities to reduce road trauma in the workplace, working with Work Health and Safety agencies and employers across Australia.

RECOMMENDATIONS

ANCAP makes the following recommendations for consideration by the Joint Select Committee on Road Safety:

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 Australian Government to ensure its continued influence as new test and assessment protocols are introduced. (Recommendation 2.1)
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. Australia should introduce new Australian Design Rules (ADRs) - adopting the relevant UN Regulations - to mandate new vehicle safety technology including Autonomous Emergency Braking (AEB), Lane Keep Assist (LKA) systems, Cyber Security and Software Safety in the same timeframe as Europe, i.e. from July 2022. (Recommendations 4.1, 4.2, 4.3 and 5.1)
5. The Australian Government 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 Australian Government prioritise the inclusion of eCall in the development of the new generational Triple Zero 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 Australian 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'. (Recommendations 7.1, 7.2 and 7.3)

1. ANCAP'S ROLE AND SUCCESS

ANCAP SAFETY (ANCAP) is Australasia's independent voice on vehicle safety.

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 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 96% of light vehicles sold in Australia in 2020 with 92% of vehicles sold in this period holding a 5 star rating.

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.

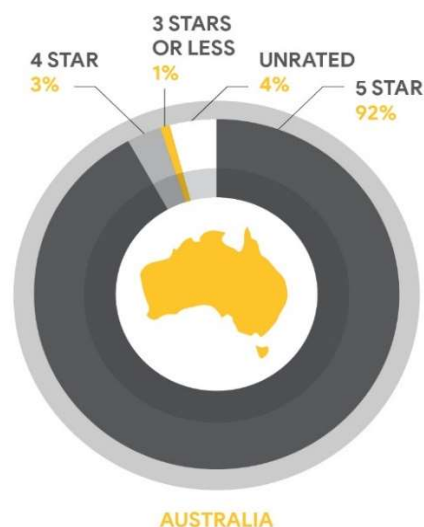


Figure 1 – ANCAP Market Coverage 2020

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 2014-2019 which focused on the age of passenger vehicles (cars and SUVs) involved in fatal crashes where the fatality was an occupant.^{1,2}

From 2014 to 2019, the average age of all registered passenger vehicles increased slightly from 9.8 years to 10.1 years, an increase of 0.3 years. The average age of all registered passenger vehicles involved in fatal crashes over this period was higher, and increased more than the average age of all registered passenger vehicles. The average age of the passenger vehicles involved in fatal crashes in 2014 was 12.5 years (2.7 years higher than the average age) and 13.4 years in 2019 (3.3 years higher than the average age of 10.1 years); an increase of 0.6 years.

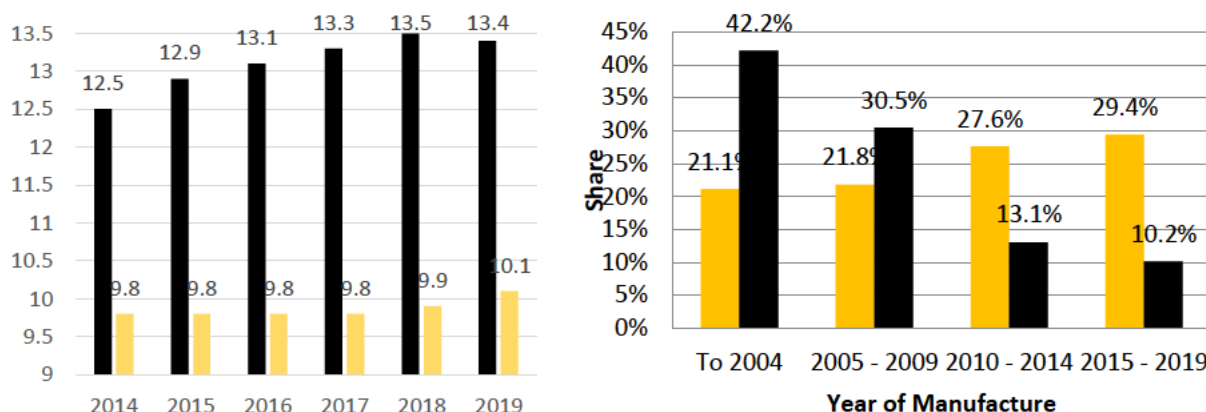


Figure 2 – Fatalities vs. Registered Vehicles

When comparing the age and number of registered vehicles, the 2019 data revealed that the rate of fatal crashes per registered vehicle for the oldest vehicle group (15 years or older or manufactured to 2004) was four times higher than that of the newest vehicles (up to five years old – manufactured between 2015 and 2019).

A separate analysis of 2020 road fatalities undertaken by ANCAP examined road fatalities reported in 2020 across all Australian jurisdictions. The data revealed that 64% of fatalities occurred in 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 3).

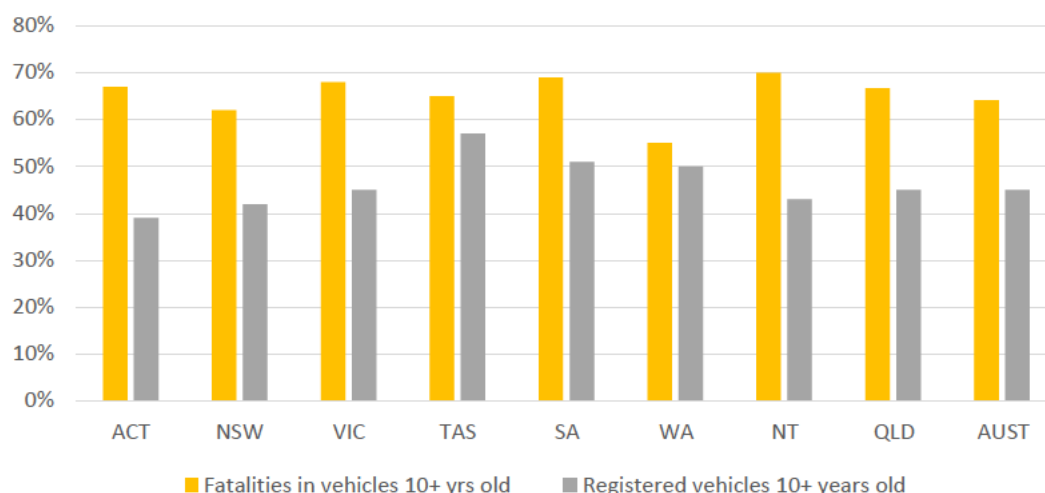


Figure 3 – Fatalities and Registered Vehicles 10+ years old^{3,4}

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

³ Fatality data supplied by State and Territory Governments

⁴ Australian Bureau of Statistics, Motor Vehicle Census, 31 January 2020

RECOMMENDATIONS

ANCAP makes the following recommendations for consideration by the Joint Select Committee on Road Safety:

- 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.

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 in particular the US NCAP (established by the US Government) and Euro NCAP (comprising a number of European governments and motoring clubs).

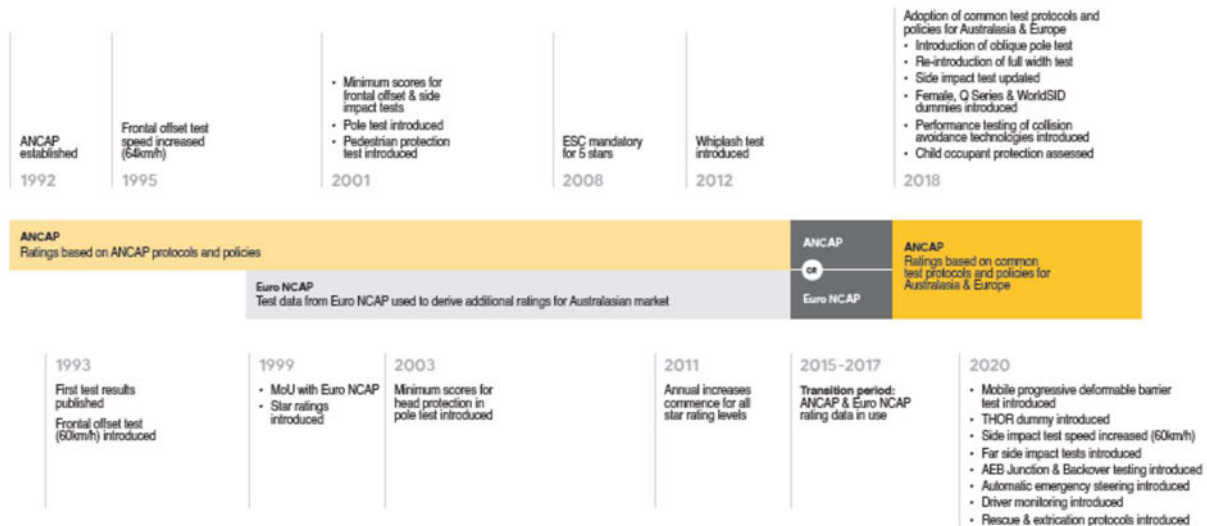


Figure 4 – ANCAP Evolution Timeline

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.

In 2025, ANCAP will again update tests and assessment protocols and 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.

Figure 5 provides a timeline for the implementation of these new tests and assessment protocols.

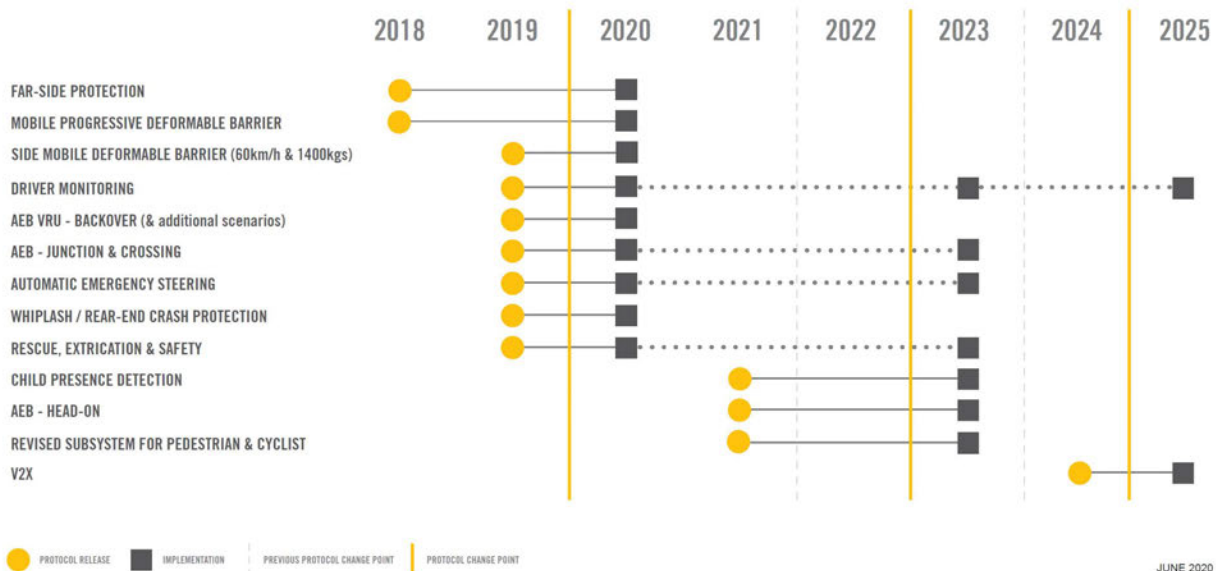


Figure 5 - Implementation timeline for ANCAP testing to 2025

RECOMMENDATIONS

ANCAP makes the following recommendations for consideration by the Joint Select Committee on Road Safety:

- 2.1 ANCAP recommends the Committee note 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.

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 time constraints introduced by 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 Australian Government, represented by the Department of Infrastructure, Transport Regional Development and Communications (DITRDC) has been an important member of ANCAP since 2010. During this time, the Australian Government's support has assisted ANCAP to achieve and maintain coverage of at least 90% of the new car market each year.

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, while ANCAP has encouraged voluntary fitting of AEB of almost 80% of the market, an ADR (harmonised with the UN Regulation) to mandate fitting of AEB is required to deliver 100% fitting rate of AEB. The following graph shows how an ADR could result in AEB fitted on all on new vehicles in the same timeframe as in Europe, i.e. 2024 (**Figure 6**),

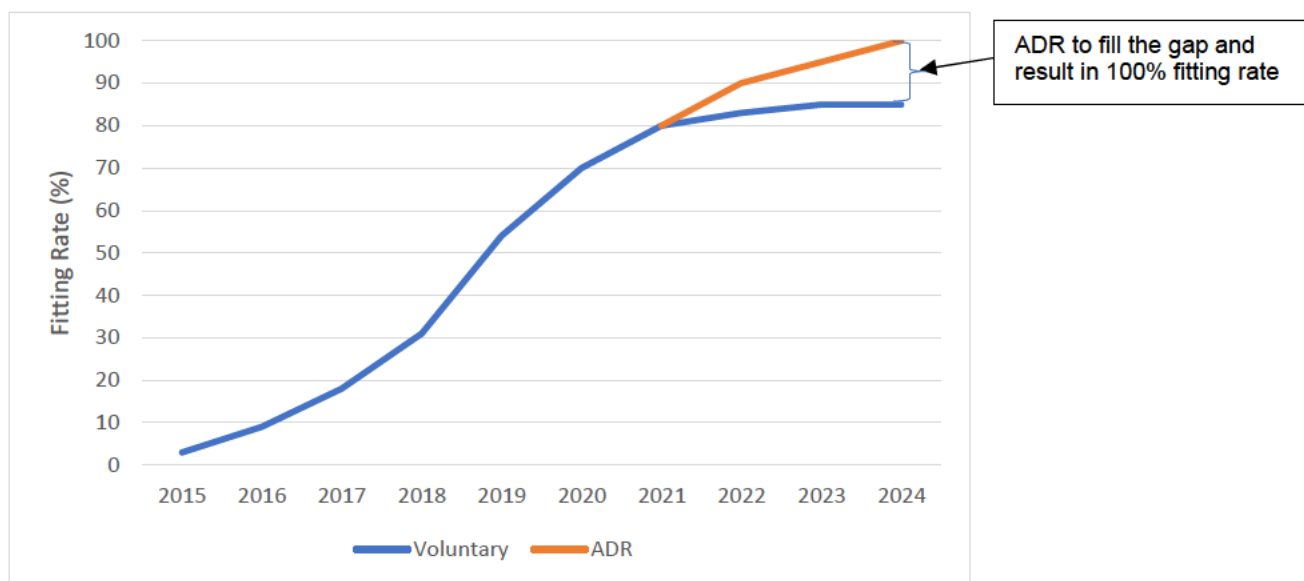


Figure 6 - AEB with mandatory fitting under an ADR⁵

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 assisted the Australian Government 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.

Table 1 – Introduction Timing of Crash Tests

⁵ 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.

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) they are intended to deliver the same benefit of 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 the emerging safety technology. Again, ANCAP introduced the requirements ahead of regulation with the introduction of electronic stability control (ESC) required for 5 stars in 2008, again assisting the Government to mandate ESC from 2011.

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

- autonomous emergency breaking (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; and
- 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.

ELECTRIC AND HYBRID VEHICLE SAFETY

ANCAP regularly tests a range of models that are pure electric vehicles (EVs) or have electric and hybrid variants.

ANCAP has published safety ratings for 39 current models that have achieved 5 star ANCAP safety ratings including most recently the:

- Toyota Kluger (hybrid and gasoline variants)
- Mazda MX-30 (electric and hybrid variants)
- Mercedes-Benz EQA (EV)



Figure 7 – Electric and Hybrid Vehicle ANCAP Ratings⁶

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 in line with the requirements of existing crash test regulations (UN R94, R95, R135 and R137 – corresponding to ADRs 72, 73, 85 and 69).

RECOMMENDATIONS

ANCAP makes the following recommendations for consideration by the Joint Select Committee on Road Safety:

- 3.1 The Committee note that ANCAP is complementary to regulation.
- 3.2 The Committee note that ANCAP regularly tests EVs and hybrid new vehicles.

⁶ANCAP SAFETY, www.ancap.com.au.

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 passenger car, SUV or LCV to achieve a 5 star ANCAP safety rating without an effective AEB and LSS system.

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%.⁷ 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 crashes⁸
- 38% reduction in real world rear end crashes⁹
- 54-57% risk reduction of real-world rear-end crashes in metro areas (35-41% risk reduction in all areas)¹⁰
- An estimated 46% reduction in rear-end striking crashes¹¹

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 8 - AEB Scenarios: Car-to-Car rear, Car-to-Cyclist and Car-to-Pedestrian

ANCAP has been advocating the fast uptake of new automated 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 more than 88% of the Australian new car market in June 2021) with 74% of vehicles now fitted with AEB as standard (**Figure 9**).

⁷ Monash University Accident Research Centre (MUARC) Report on the effectiveness of crash reductions associated with light vehicle AEB

⁸ Insurance Institute for Highway Safety (IIHS) & Highway Loss Data Institute (HLDI), USA, 2018

⁹ ANCAP, Euro NCAP, DoIRD research by B. Fildes, 2015

¹⁰ ICROBI study by M. Rizzi, A. Kullgren, C. Tingvall, 2014

¹¹ UMTRI and GM, A. Leslie, R. Kiefer, M. Meitzner, C. Flannagan, 2019

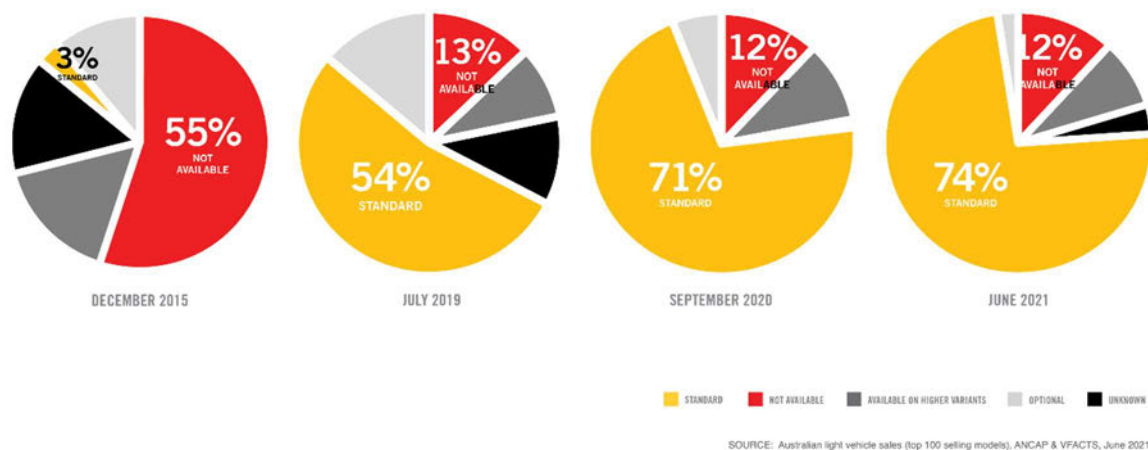


Figure 9 - Availability of AEB Australia (June 2021)

Action 4 in the *National Road Safety Action Plan 2018-2020* calls for increased fitting of AEB on both heavy and light vehicles through the development and implementation of new standards (i.e. ADRs) and also increasing the voluntary uptake through fleet purchasing and consumer information via ANCAP.¹²

A new UN Regulation (No. 152) for light vehicle AEB was agreed at the November 2019 meeting of the international forum on vehicle regulations (UN Working Party 29). UN Regulation No. 152 has a scope that includes “to avoid or mitigate the severity of an impact with a pedestrian” and includes a test requirement for a pedestrian crossing in front of the vehicle.

In 2019, the European Union (EU) released its new General Safety Regulation that mandated various vehicle safety technology including AEB on light vehicles in two stages (see **Attachment B**):¹³

- For AEB capable of detecting moving vehicles and stationary objects (from 6 July 2022 for new approvals and from 7 July 2024 for all new registrations).
- For AEB capable of detecting pedestrians and cyclists (from 7 July 2024 for new approvals and from 7 July 2026 for all new registrations).

In July 2020, the Australian Government released a Regulation Impact Statement proposing to mandate AEB (by adopting UN Regulation 152 as an ADR) on all passenger cars, off-road passenger cars and light goods vehicles (ADR categories MA, MB, MC, NA1 & NA2) in a similar timeframe to the European Union General Safety Regulation:

- 1 July 2022 for new models.
- 1 July 2024 for all new vehicles.

ANCAP supported the Australian Government’s proposal and timeline for introduction. One year after the release of the RIS, the regulatory process has not been completed and an ADR is yet to be finalised and published.

ANCAP recommends that the Australian Government complete the regulatory process and mandate AEB by adopting UN Regulation 152 as an ADR.

LANE SUPPORT SYSTEMS (LSS) – LIGHT VEHICLES

Lane support systems 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.

Lane support systems 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. 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).

¹² Transport and Infrastructure Council, National Road Safety Action Plan 2018-2020, www.roadsafety.gov.au [accessed 17 January 2020].

¹³ Regulation (EU) 2019/2144 of the European Parliament and Council of 27 November 2019.

Analysis conducted for Austroads, found that with 100% fitting, lane support systems could reduce run-off-road and head-on crashes in Australia by at least 25%.¹⁴ This is consistent with US studies that also show potential substantial reduction in crashes in light vehicles:

- 11% reduction in single vehicle side-swipe crashes and 21% of single vehicle side-swipe crashes that cause injury.¹⁵
- 20% reduction in lane departure crashes.¹⁶

ANCAP advocacy activities have helped increase the voluntary fitting rates of LSS in new vehicles to the point where approximately 80% of all new light vehicles sold in June 2021 had LSS available. However, LSS was fitted as standard on a lower 63% of light vehicles sold (**Figure 10**).

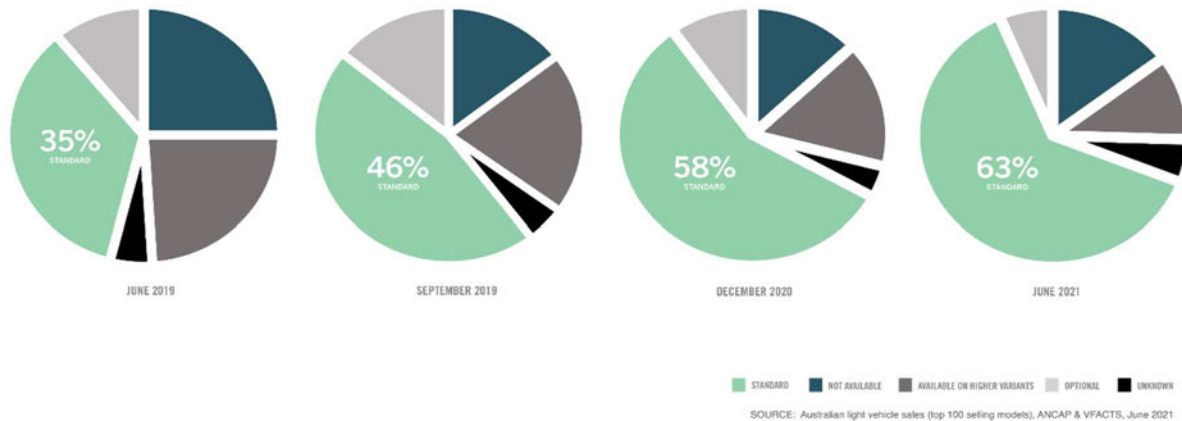


Figure 10 - Availability of LSS in Australia (June 2021)

Even though 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, regulatory action is required to ensure 100% fitting on all new light vehicles entering the market.

In May 2021, a new UN Regulation No. 157 (R157) on Emergency Lane Keeping Systems (ELKS) was published. ELKS will be a combination of two separate systems:

- Lane departure warning system (LDW) which warns the driver when a potential lane departure is detected; and
- Corrective Directional Control Function which automatically adjusts the vehicle's trajectory to correct an inadvertent lane departure.

ELKS will be mandatory in Europe (as part of the EU General Safety Regulation) from July 2022.

ANCAP recommends that the Australian Government undertake the regulatory process to consider mandating ELKS by adopting UN Regulation 157 as an ADR with an introduction timing the same as Europe.

RECOMMENDATIONS

ANCAP makes the following recommendations for consideration by the Joint Select Committee on Road Safety:

- 4.1 The Committee note that ANCAP's non-regulatory encouragement of AEB has resulted in the availability of AEB increasing very quickly, with AEB now offered on 88% of all new light vehicles (passenger cars, SUVs and light commercial vehicles) sold in June 2021. Unfortunately, there is not universal voluntary fitting of AEB across all new light vehicles. To reach 100% fitting rate across the market, an ADR is required to close the gap.
- 4.2 The Committee note that ANCAP's non-regulatory encouragement of LSS has resulted in a rapid increase of vehicles with LSS available. To achieve 100% fitting rate, an ADR is required.
- 4.3 The Australian Government:
 - Complete the regulatory process to mandate AEB on light vehicles by adopting UN Regulation 152 as an ADR; and
 - Undertake the regulatory process to mandate LSS on light vehicles by adopting UN Regulation 157 as an ADR.

¹⁴ Austroads Research Report AP-R551-17, Safety Benefits of Cooperative ITS and Automated Driving in Australia and New Zealand, October 2017

¹⁵ US Insurance Institute for Highway Safety, Real-world benefits of crash avoidance technologies, December 2020

¹⁶ University of Michigan Transportation Research Institute (UMTRI), General Motors (GM), Analysis of the Field Effectiveness of General Motors Production Active Safety Systems and Advanced Headlighting Systems, UMTRI-2019-6, September 2019

The Australian Government introduce these ADRs as soon as practical noting that these technologies will be mandated in Europe from:

- 1 July 2022 for new models.
- 1 July 2024 for all new vehicles.

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 (**Figure 11**).¹⁷ It is expected that vehicles with even more automated systems will be delivered to the market out to the 2030s and beyond.

Figure 11 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.

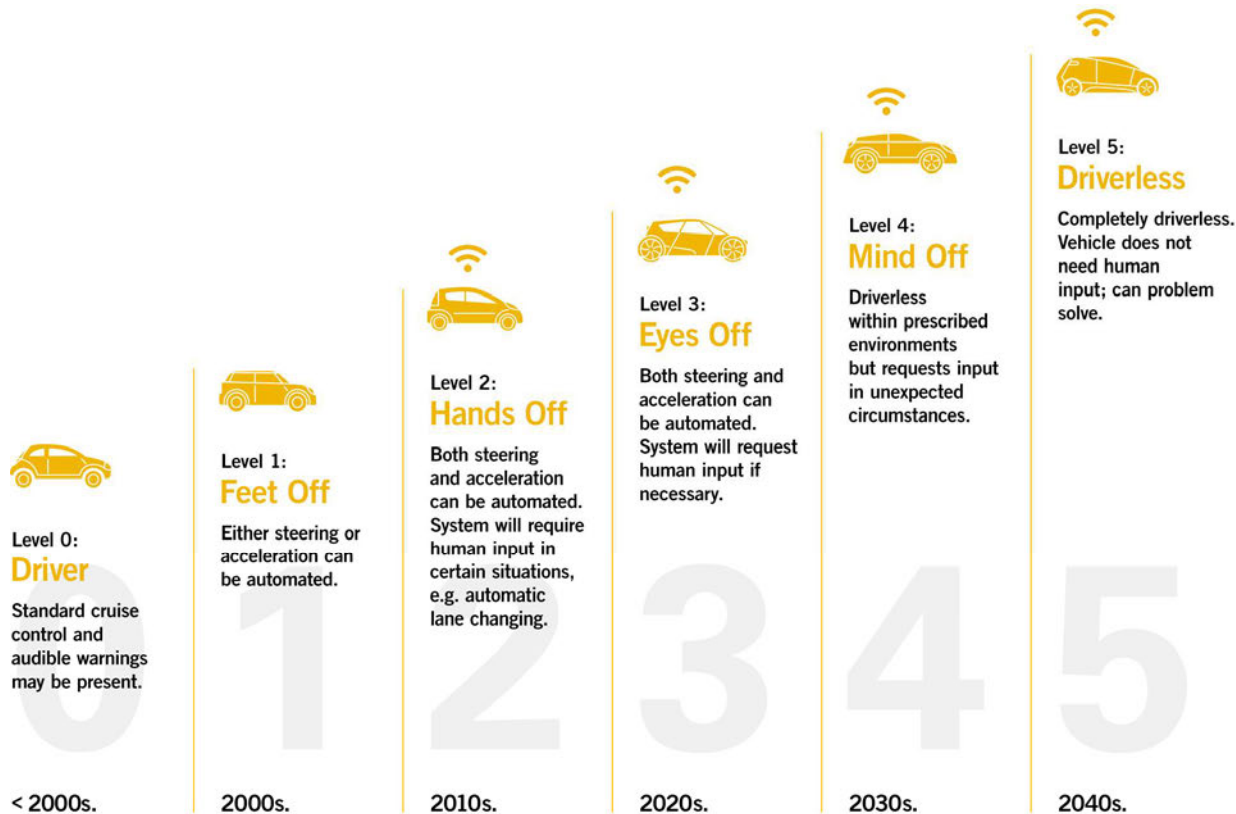


Figure 11 – SAE Automated Driving Levels and Expected Implementation Timeframes)

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 communications, vehicle-to-vehicle (V2V), vehicle-to-infrastructure (V2I) and/or vehicle-to-other (V2X) communications to deliver the full safety, environmental or community benefit.

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;¹⁸

- 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 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 safety benefits.

¹⁷ Society of Automotive Engineers J3016, Taxonomy and Definitions for Terms Related to On-Road Motor Vehicle Automated Driving Systems

¹⁸ Austroads Research Report AP-R551-17, Safety Benefits of Cooperative ITS and Automated Driving in Australia and New Zealand, October 2017

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.¹⁹

ANCAP is working closely with our Euro NCAP counterpart to determine when to include assessment of assisted (or automated) driving systems into our overall star rating.

Assisted Driving program

In 2018, Euro NCAP conducted a program of testing 'Automated Driving' systems (Adaptive Cruise Control and Lane Centering) to provide information about the systems available and the design strategy taken by the car manufacturer, within the context of what is legally allowed according to European regulations.

During 2020, Euro NCAP conducted another '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).

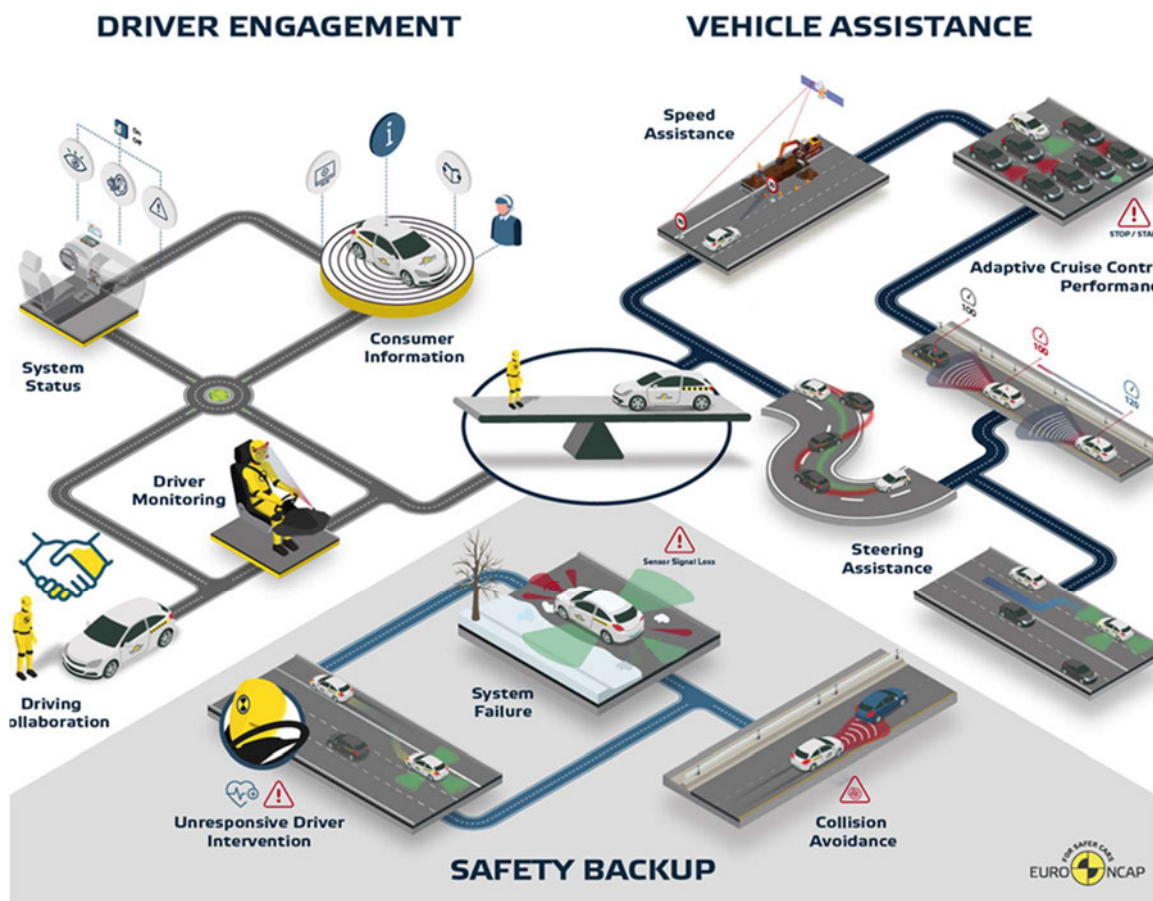


Figure 12 – Euro NCAP Assisted Driving Program

The Euro NCAP Assisted Driving Program assess the balance between “Assistance Competence” (made up of Driver Engagement and Vehicle Assistance) and “Safety Backup.” (Figure 12).

- 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:

¹⁹ 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.

- 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.

ANCAP plans to undertake a similar Assisted Driving Program in 2022 at the two Australian active safety test facilities used by ANCAP. 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.

Community Education Activities

As part of its community education and advocacy role, ANCAP has conducted a number of 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, with additional events scheduled for regional Victoria, regional NSW and Queensland to provide fleet operators and the media with a first-hand opportunity to safely experience autonomous emergency braking and lane support systems. 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, ANCAP developed a national community awareness campaign, focussing on the benefits of AEB and LSS, that was rolled out across all Australian jurisdictions in late 2020 and early 2021.

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

These regulations are being introduced into Europe from 2022.

Additionally, the EU are developing a regulation for Driver Drowsiness and Attention Warning:

- The standard will assess the driver's alertness through vehicle systems analysis and warn the driver if needed.
- This Regulation is being developed in Europe ahead of being mandated from July 2022.
- Also important for the successful operation of connected and automated vehicles.

Infrastructure

Infrastructure owners 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.

The Australian Government has developed a National Policy Framework that outlines the following roles for Government:²⁰

- Policy leadership – providing a clear, nationally coordinated approach across different levels of government, being responsive to changes in the technological environment
- Enabling – ensuring that the private sector is able to bring beneficial new technology to market
- Supportive regulatory environment – ensuring that community expectations of safety, security and privacy are appropriately considered in new technology deployments
- Investment – investing in research, development and real-world trials that benefit the entire transport network customer base or provide a sound basis for government decision-making (including collaboration with the private sector).

²⁰ The Office of Future Transport Technology, www.infrastructure.gov.au [accessed 17 January 2020].

RECOMMENDATIONS

ANCAP makes the following recommendations for consideration by the Joint Select Committee on Road Safety:

- 5.1 The Australian Government 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 Australian Government consider adopting the European standard for Driver Distraction and Attention Warning when finalised.
- 5.3 The Australian Government continue to provide national leadership and coordinate activities of the various government (both state and federal) agencies in relation to CAV.
- 5.4 Funding be specifically allocated 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 European counterpart organisation, 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'. The app contains standardised vehicle safety information for more than 1,162 vehicle models in the form of PDF rescue sheets. 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.

All new vehicle models rated to 2020 or later protocols are required to provide a rescue sheet which meets ISO Standard No. ISO 17840-1 as part of the ANCAP rating process. Rescue sheets have also been retrospectively sought from vehicle brands for a wide range of current and superseded vehicle models where available.

Since its launch, 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 utilised by the NSW, QLD and TAS State Emergency Service (SES).

eCALL (AUTOMATIC CRASH NOTIFICATION)

Europe

The European Union (EU) introduced legislation in 2015 for the deployment of interoperable eCall with Member States having the necessary eCall and PSAP 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 a PSAP (Public/private Safety Answering Point)²¹ and send a minimum set of data (MSD) to the PSAP. 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 (see below), 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

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).

²¹ The PSAP is 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.

The Australian Government's National Land Transport Technology 2016-2019 Action Plan investigated the costs, benefits and possible deployment models for eCall (or Automatic Crash Notification). 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)²² have released national guidelines for autonomous contact with Triple Zero, which also included a protocol for autonomous vehicle alert escalation contact:

- 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 vehicles²³. For example see [Itellimatics ASURE](#) product.

ANCAP Introduction of eCall

ANCAP was not able to introduce the requirements for fitment 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. 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 services currently being developed and rolled out.

RECOMMENDATION

ANCAP makes the following recommendations for consideration by the Joint Select Committee on Road Safety:

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

²² 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.

²³ 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*²⁴, 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 2020, 51% of all new light vehicles were purchased by businesses, governments or rental fleets.²⁵ As such, business, commercial and government fleet purchases have a significant influence on vehicle safety.

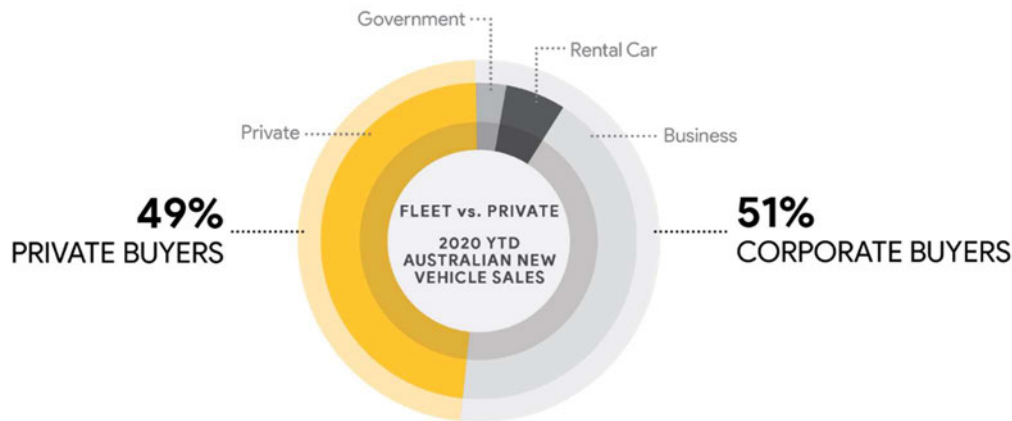


Figure 13 – Vehicle Sales by Buyer Type (Jan-Jun 2020)

In 2018, the Australasian Fleet Management Association (AFMA) reported that 419,000 business have fleets, and of these, 19,000 have fleets of 20 or more vehicles, and 1,000 businesses have fleets of more than 250 vehicles.²⁶

Of the 20,000 fleets with 20+ vehicles (including those with >250 vehicles):

- 58% of vehicles are passenger cars and SUVs – compared to 78% of annual sales
- 31% are light commercial vehicles (utes, vans and small buses) – compared to 22% of annual sales
- 10% are heavy commercial vehicles (>4.5 tonnes GVM, i.e. from small 2-axle urban delivery style trucks, through to larger rigid trucks (e.g. 3-axle delivery and 4-axle quarry/tippers), line-haul prime movers and large buses) – compared to <1% of annual sales.

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.²⁷

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.

²⁴ Infrastructure Victoria, *Advice on Automated and Zero Emissions Vehicles Infrastructure*, October 2018.

²⁵ VFACTS National Report June 2020.

²⁶ Australian Fleet Management Association (AFMA), *Corporate Fleet Insights* April 2018.

²⁷ Austroads, *Vehicles as a Workplace: Work Health and Safety Guide*, March 2019.

AUSTRALIAN GOVERNMENT FLEET VEHICLE SELECTION POLICY

The Australian Government's Department of Finance Fleet Vehicle Selection Policy²⁸ includes:

When selecting vehicles within the Australian Government Fleet, procurement officials must ensure that the vehicle:

- 1. Has a five star ANCAP rating;*
- 2. Meets the minimum fit for purpose requirements;*
- 3. Provides value for money; and*
- 4. Addresses environmental considerations.*

ANCAP welcomes the inclusion of the 5 star ANCAP rating requirement within this and other vehicle purchasing and use policies. However, ANCAP recommends that these policies are updated to include "with a datestamp of no more than three (3) years old" to ensure vehicles with the most recent safety features assessed by ANCAP are included.

The Australian Government provides vehicles to its senior executives via the Executive Vehicle Scheme and also to Members of Parliament and Senators. The Fleet Vehicle Selection Policy does not currently apply to these vehicles.

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. The AFMA research showed that 71% of business have employees who use their personal vehicle on company business.²⁹

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.³⁰

*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

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.

²⁸ Australian Government, Department of Finance, Fleet Vehicle Selection Policy (Updated 10 March 2020), www.finance.gov.au [accessed 19 August 2021].

²⁹ Australian Fleet Management Association (AFMA), Corporate Fleet Insights April 2018.

³⁰ NRMA, Grey Fleets, www.mynrma.com.au/business/news/grey-fleets [accessed 17 January 2020].

Many businesses keep their vehicles for three (3) years 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.

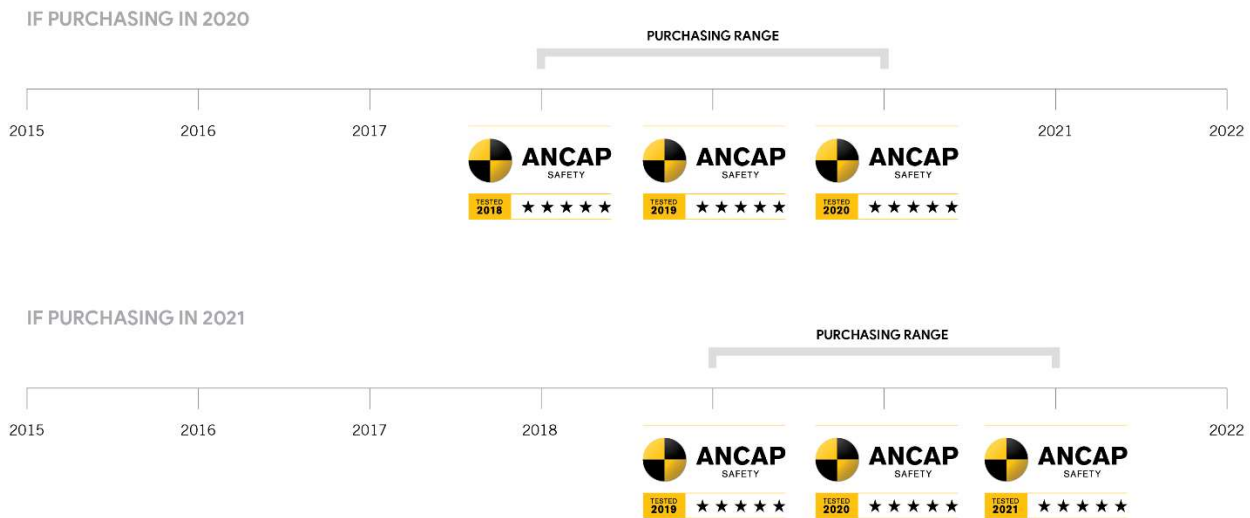


Figure 14 - ANCAP Vehicle Purchasing Guide

NEXT STEPS

Many businesses and governments either provide vehicles directly to employees as part of their salary package or allow employees to purchase a vehicle through a novated lease and salary sacrifice arrangement. Both of these avenues allow employees access to modern vehicles at a lower cost than a direct purchase.

These vehicles are often used by employees for work purposes (i.e. grey fleet) and therefore the employer has a workplace health and safety obligation.

Leadership by governments (Commonwealth, State and Territory) is required to introduce and establish vehicle purchasing and use policies.

RECOMMENDATIONS

ANCAP makes the following recommendations for consideration by the Joint Select Committee on Road Safety:

- 7.1 That the Australian Government maintains its current fleet purchasing policy and continues to purchase light vehicles with a 5 star ANCAP rating.
- 7.2 The Australian Government demonstrate leadership in the area of 'grey fleets' and introduce a purchase and use policy that aligns with their policy for fleet purchasing:
 - Vehicles purchased under a salary sacrifice arrangement must have a 5 star ANCAP rating with a datestamp no older than three (3) years.
 - 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

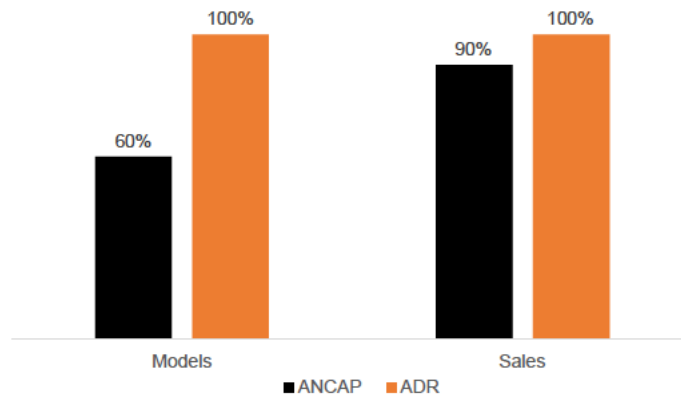
CANBERRA
19 November 2019

1

ANCAP	ADR
Safety only	Safety, environmental and theft
Relative measure: 0 to 5 stars	Pass/fail criteria
Measures how far above the minimum (regulation) standard	Sets minimum standard
Alignment with Euro NCAP	Harmonised with international (UN) Regs (and accept EU, US, Japan Regs)
Agile & flexible: able to keep pushing safety and introduce test before ADR	Government regulation constraints (i.e. BCR requirements)
Cannot cover all vehicles (models & variants)	All vehicles must comply

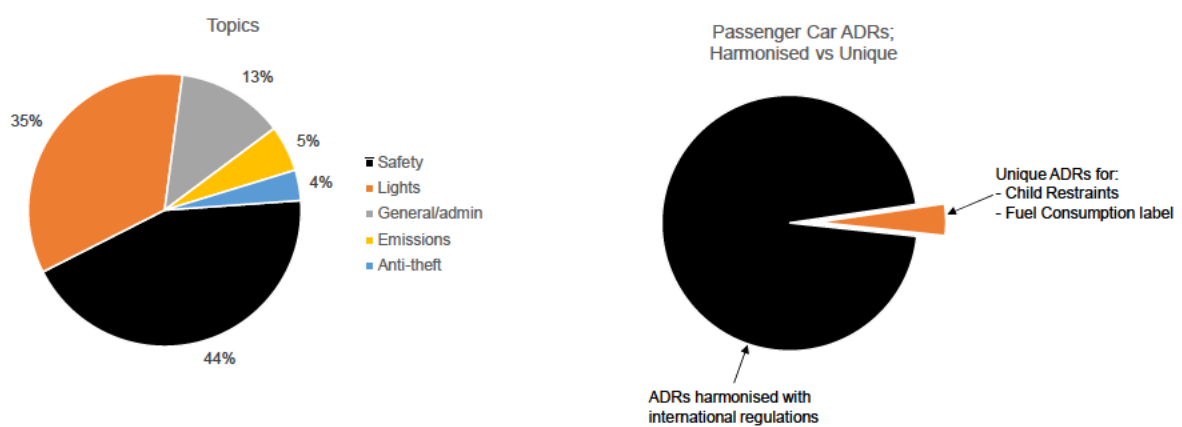
2

Coverage of light vehicles



3

ADRs – light vehicles



4

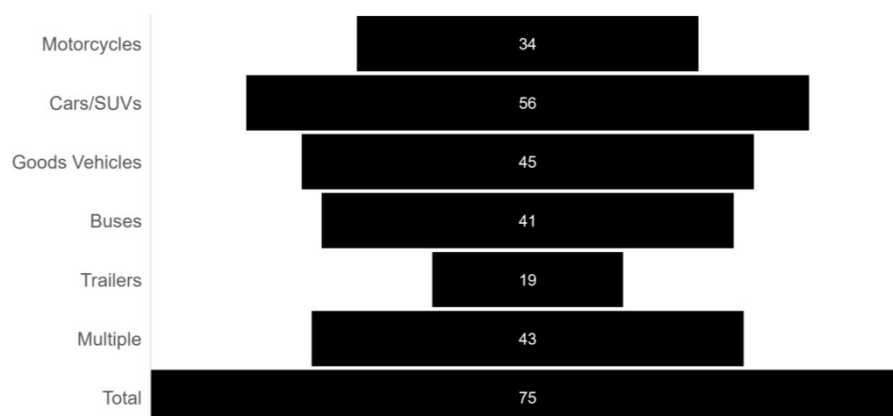
Coverage – vehicle types



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

5

ADRs – total number

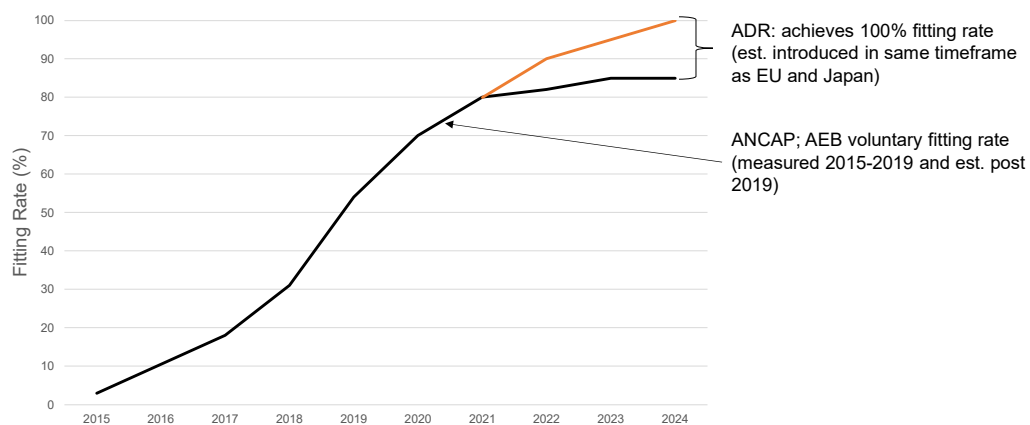


6

Case Study: AEB



ANCAP and ADR working together to achieve 100% fitting rate



ATTACHMENT B

SUMMARY OF EUROPEAN UNION GENERAL SAFETY REGULATION

The following table provides a summary of the recent European Union General Safety Regulation (EU GSR) 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	Consideration for mandating AEB included in National Road Safety Action Plan 2018-2020. RIS process for light vehicles yet to start.
	Full width barrier test (UN R137)	Included in ANCAP ratings from 2018	Accepted as alternative to ADR 69/00. Consideration to mandate (to replace ADR 69/00) included in 2018-2020 National Road Safety Action Plan.
	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	National Road Safety Action Plan 2018-2020 action to "Influence industry to apply" new safety technologies.
	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	National Road Safety Action Plan 2018-2020 action to "Influence industry to apply" new safety technologies.
	Alcohol interlocks	NOT ASSESSED	UNKNOWN
	Driver drowsiness and attention detection systems	Driver monitoring included in ANCAP ratings from 2020	NTC and Qld TMR projects to address driver distraction.
	Event data recorders	NOT ASSESSED	UNKNOWN
	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.
	Systems for automated vehicles	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.
Mandated from: 7 July 2024 (new approvals) 7 July 2026 (all registrations)	Enlarged pedestrian protection head impact zone	Included in ANCAP ratings from 2008	Australian Government does not plan to propose mandating pedestrian protection (including current UN R127).
	AEBS capable of detecting pedestrians and cyclists	Included in ANCAP ratings from 2018	Australian Government participating in relevant WP. 29 working groups.
	Advanced driver distraction recognition systems	Under consideration by ANCAP and Euro NCAP for inclusion in post 2022	UNKNOWN

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