Submission to the Inquiry into the progress under the National Road Safety Strategy 2011-2020.
Inquiry into Progress under the National Road Safety Strategy 2011-2020
March 2018

1. About ANCAP

The Australasian New Car Assessment Program (ANCAP) is Australasia’s independent vehicle safety authority.

ANCAP’s vision is to eliminate road trauma through the testing and promotion of safer vehicles. 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. Since 1993, ANCAP has published independent safety ratings for thousands of new vehicle makes, models and variants.

ANCAP star ratings indicate the level of safety a vehicle provides for occupants and pedestrians 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, and have become a critical factor in vehicle selection for private and fleet buyers.

ANCAP safety ratings are determined 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 active collision avoidance technologies.

From January 2018, vehicles are evaluated against four key areas:
- Adult Occupant Protection (AOP)
- Child Occupant Protection (COP)
- Pedestrian Protection (PP)
- Safety Assist (SA)

A range of tests and assessments are conducted within each area, with vehicles required to meet minimum score thresholds for each star rating level. The overall star rating of a vehicle is limited by its lowest performing area of assessment.

ANCAP works in partnership with 23 member organisations including the Australian and New Zealand automobile clubs, the Australian Commonwealth, State and Territory governments, the New Zealand Government, the Victorian Transport Accident Commission, the Insurance Australia Group and the FIA Foundation.

The National Road Safety Strategy (NRSS) 2011–2020 sets out a path for national action to reduce fatal and serious injury crashes on Australian roads. The strategy is based around the ‘Safe System’ approach and groups road safety actions into four pillars:
- Safe Roads
- Safe Speeds
- Safe Vehicles
- Safe People
The Safe Vehicles pillar acknowledges that vehicle safety is a critical factor in reducing road trauma, with improvements in recent years resulting in significant community benefits. This submission concentrates on the Safe Vehicles pillar.

2. The importance and value of improving safer vehicles

The NRSS 2011-2020 acknowledges ANCAP in both the overarching strategy and its associated action plans as a key organisation influencing the safety of vehicles in Australia. The Strategy lists the following directions relating to Safe Vehicles that were targeted to be achieved by 2020:

- A regulatory system ensuring that proven safety design features and technologies are mandated in new Australian vehicles as quickly as possible.
- A greater penetration of 5 star ANCAP rated vehicles in the general fleet, with ANCAP star ratings available for all new vehicles.
- A reduction in the average fleet age in Australia.
- Enhanced safety commitment from the commercial sector, including a demand for fleets to be equipped with key safety features such as 5 star ANCAP rated vehicles, ESC, side curtain airbags, alcohol and seatbelt interlocks, and ISA.
- A substantial increase in the proportion of heavy vehicles with advanced braking systems and other safety technologies.
- Significant improvement in the safety of the light commercial vehicle fleet.

Independent economic analysis commissioned by ANCAP in 2018 highlights the community benefits of improving vehicle safety, with the analysis estimating that, during 2015 alone, the increased penetration of electronic stability control (ESC) and head-protecting side airbags, due to ANCAP’s activities, resulted in a reduction of seven fatalities and 196 serious injuries. The value of this influence in enhancing the safety of the Australian fleet is conservatively estimated at $104.7 million per annum1.

The current focus for ANCAP, and hence its area of expertise, is light vehicle safety (passenger vehicles, SUVs and light commercial vehicles). Light vehicle safety is a critical component to reducing road trauma, with 2016 data showing fatalities of light vehicle occupants account for roughly 60% of all road deaths in Australia2. While ANCAP’s scope concentrates on light vehicle safety, all vehicle categories must be considered in efforts to reduce road trauma.

3. Fatal crashes and vehicle age

The Australian registered vehicle fleet consists of approximately 19 million motor vehicles, with roughly 17 million (91%) of those being light vehicles (passenger vehicles, SUVs and light commercial vehicles)3. The average age of all vehicles registered in Australia is 10.1 years, while the average age of passenger vehicles and SUVs is 9.8 years, and that of light commercial vehicles is 10.5 years. These average ages have remained relatively constant over the past decade.

More than 7.2 million registered passenger vehicles, SUVs and light commercial vehicles are greater than 10 years old. These vehicles are unlikely to be fitted with safety features such as electronic stability control (ESC) or side curtain airbags, which are proven safety features that we expect from new vehicles.

ANCAP has analysed Australian fatal crash data over the period 2014 to 2016 as supplied by the Bureau of Infrastructure, Transport and Regional Economics (BITRE) National Crash Database. The analysis focuses on the age of passenger vehicles and SUVs involved in fatal crashes where the fatality was an occupant of the vehicle.

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1 Economic Connections Report on ANCAP’s Role to Reduce Road Trauma (February 2018).
2 National Crash Database, Bureau of Infrastructure, Transport and Regional Economics (BITRE).
Key findings of this analysis into the age of vehicles involved in fatalities were:

- Older vehicles are consistently over-represented in fatal crashes, with vehicles aged 15 years or older representing the smallest portion of the passenger vehicle fleet, but involved in the most fatalities.
- Newer vehicles (five years old or less) represent the largest portion of the fleet, yet are involved in fewer fatalities.
- The rate of fatal crashes per registered vehicle for vehicles aged 15 years or older is four times higher than that of vehicles aged five years old or less.
- The average age of vehicles involved in fatal crashes increased over the period analysed, while the average age of the registered fleet remains constant.

Figure 1 shows that in 2016, vehicles 15 years or older represented 20% of the registered passenger vehicle and SUV fleet, yet were involved in 36% of fatalities. In contrast, vehicles aged five years or less represented 31% of the registered fleet, yet were involved in 12% of fatalities.

Over the period 2014 to 2016, the average age of the passenger vehicle fleet remained constant at 9.8 years, yet the average age of passenger vehicles involved in occupant fatality crashes increased consistently from 12.5 years in 2014, to 12.9 years in 2015 and 13.1 years in 2016.

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4 ANCAP analysis of Australian road fatalities by vehicle age (January 2018).
In reviewing the involvement of older vehicles in fatal crashes, the 2016 data showed that vehicles built over the period 1998 to 2002 represented the worst age group, accounting for just over a quarter of passenger vehicle and SUV occupant fatalities during that year. Significantly older vehicles, such as 'classic cars', were not identified as an issue, with vehicles built prior to 1990 accounting for less than 3% of occupant fatalities.

4. Effectiveness of the National Road Safety Strategy

Of the directions listed by the National Road Safety Strategy 2011-2020 targeting the Safe Vehicles pillar, the following directions are those which ANCAP has direct influence:

- A greater penetration of 5 star ANCAP rated vehicles in the general fleet, with ANCAP star ratings available for all new vehicles.
- A reduction in the average fleet age in Australia.
- Enhanced safety commitment from the commercial sector, including a demand for fleets to be equipped with key safety features such as five-star ANCAP rated vehicles, ESC, side curtain airbags, alcohol and seatbelt interlocks, and ISA.
- Significant improvement in the safety of the light commercial vehicle fleet.

The progress and achievements made with respect to those directions are summarised below.

4.1. Penetration of 5 star vehicles

Greater penetration of 5 star ANCAP rated vehicles in the general fleet is one of the key directions in the NRSS. The period from 2011 to present has seen a major shift, both in the fleet coverage of ANCAP ratings, and in the percentage of vehicles that hold a 5 star rating.

ANCAP’s market analysis shows that the share of new light vehicle sales that hold a 5 star ANCAP safety rating has increased from 76% in 2013, to 91% in 2017. Approximately 5% of new light vehicle sales are models which do not hold an ANCAP safety rating.

Through this increased coverage, coupled with the incremental changes in stringency to ANCAP’s rating requirements, the penetration of a number of proven vehicle safety features has been dramatically enhanced. Life-saving technologies such as electronic stability control, side curtain airbags, pedestrian-friendly vehicle front structures and improved occupant protection structures are now ubiquitous in all light vehicles at all price points. Similar trends are being seen for the technologies that are part of ANCAP’s more recent requirements.

Figure 3: New light vehicle sales by ANCAP safety rating

5 ANCAP analysis of Australian new vehicle sales by ANCAP safety rating (January 2018).
In 2015, ANCAP reviewed the top 100 selling new models in Australia, which accounted for 85% of new light vehicle sales, and found that just six of those models offered AEB as standard equipment while 67 models were not offered with AEB at all. This exercise was repeated in mid-2017, finding that the number of models offering AEB standard had increased to 21 while the number of models without AEB at all had decreased to 45.

From 2018, ANCAP introduced significant increases in the stringency of its rating system, with a greater focus on autonomous vehicle safety technologies. This has already seen a large increase in the percentage of vehicles fitted with crash avoidance features such as Autonomous Emergency Braking (AEB), Lane Departure Warning (LDW) and Lane Keep Assist (LKA) and ANCAP expects the availability of such features within the market to continue to increase.

4.2. Reducing the fleet age

It is important, when considering the penetration of new safety features on vehicles entering the fleet, to note that there is a considerable delay between the introduction of new safety features and the point at which this has a measurable effect on fatality and serious injury statistics. Analysis reported in Section 3 shows that the average age of a passenger vehicle involved in a occupant fatality crash is 13.1 years, with an overall age profile that is skewed towards the older vehicles. The inclusion of improved safety features in new vehicles (in most vehicle categories) is significant and can be expected to deliver real savings of lives and injury – but much of this saving will be realised in years following the term of the current national road safety strategy. Nevertheless, the better levels of safety built into new vehicles over recent years is already being realised.

The examples in Section 3 show that the average age of passenger vehicles involved in fatal crashes increased from 12.5 years in 2014 to 13.1 years in 2016, which can be substantially attributed to the reduced number of newer vehicles involved in fatalities. The average age of the Australian vehicle fleet has, however, remained static. The NRSS Implementation Status Report (November 2017)\(^6\) notes that there has been no specific action aimed at reducing the fleet age and no reduction target has been set. Without measures that remove older, less safe vehicles from the fleet, there will continue to be a sizable delay in realising the benefits of new safety technologies and the associated reduction in fatality and injury rates.

4.3. Safety commitment from the commercial sector and improved safety of the light commercial vehicle fleet

Commitment from the commercial sector to incorporate minimum 5 star fleet purchasing policies is a mechanism which has assisted with the increased penetration of safer vehicles across the Australian fleet.

More than half of all new light vehicles sold in Australia each year are purchased by business or corporate fleets (595,000 vehicles)\(^7\). Across the breadth of government, non-government and commercial fleets in 2017, approximately 85% of fleet vehicles currently hold a 5 star ANCAP safety rating\(^8\). This represents a significant improvement since commencement of the strategy when very few corporate fleets considered ANCAP safety ratings at all.

The consideration of safety and ANCAP safety ratings by corporate fleets has further built community expectations of safety levels in new vehicles and has been particularly effective in supporting ANCAP’s efforts in improving the safety of the light commercial vehicle fleet.

ANCAP ratings requirements do not differentiate between passenger vehicles and light commercial vehicles. This makes the complementary relationship between ANCAP requirements and regulatory requirements even more significant for these vehicles, which have longer model cycles, and for which justification of regulatory intervention can be difficult.

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\(^7\) Federal Chamber of Automotive Industries (FCAI) VFACTS 2017 Australian New Vehicle Sales Report (January 2018).
\(^8\) National Road Safety Partnership Program partner fleet data (August 2017).
Vehicle brands offering light commercial vehicles have generally responded to the challenges set by ANCAP, with light commercial vehicles now found with safety performance and specifications equivalent to passenger cars. ANCAP market analysis supports this, showing that the share of light commercial vehicle (LCV) models sold holding a 5 star ANCAP safety rating has increased significantly from 33% in 2013 to 85% in 2017.

With the two highest-selling models in Australia during 2017 being light commercial vehicles, improvements in safety for this segment have a significant impact on the Australian vehicle fleet.

5. Issues and priorities for future strategies and short-term actions

ANCAP has a vital role to play in driving future improvements in vehicle safety, and in capitalising on the benefits that current and future technologies have to offer. In particular, ANCAP’s influence will be maintained and enhanced through:

- **Advocacy activities** – Consumer education encouraging fleet turnover and a reduction in vehicle fleet age.

- **Rating of vehicles** – Maintaining a high level of market coverage, and therefore driving consumer expectations for safer vehicles, and ensuring vehicle manufacturers continue to provide vehicles with the latest and best safety specification to the Australian market.

- **Building confidence in new technologies** – In particular in semi-autonomous and autonomous technologies. At present these technologies are offered in new vehicles to support the driver and minimise the effect of human error. These technologies, form the building blocks for the autonomous vehicles of the future. ANCAP’s independent testing of these technologies will provide consumers with assurance that semi-autonomous and autonomous systems can safely assist with steering, accelerating and braking the vehicle according to road and traffic conditions. Promoting these technologies and maximising their penetration are immediate priorities for ANCAP.

- **Providing increased confidence for technologies where regulation is primarily through self-assurance or self-certification** – Objective, independent testing of autonomous functions will support this regulatory approach without unduly limiting new technologies or stifling innovation.

- **Complementing regulation** - New safety technologies can be shown to be cost-beneficial in reducing road trauma, at which point the case for regulation becomes strong. The contribution of a rating and promotion program such as ANCAP, prior to this point,
is two-fold. First, through consumer promotion of safety features and subsequent early adoption by the market, ANCAP brings the fitment of technologies forward, with fitment to a proportion (typically between 10% and 80%) of new vehicles occurring and reducing trauma effects in advance of regulation. Second, this early market adoption provides a basis for early measurement of the effectiveness of the safety features in real world applications, thus providing the basis for ultimate regulatory action.

5.1. Reducing the fleet age

The National Road Safety Strategy 2011-2020 acknowledges the fleet age as a factor in vehicle safety and targets a reduction in the fleet age by 2020, however unfortunately the national average fleet age is now slightly greater than the baseline average of 10.0 years\(^9\). The National Road Safety Strategy Implementation Status Report (November 2017) states that no specific action has been undertaken aimed at reducing fleet age, beyond the promotion of safer vehicles\(^9\).

Research from the Australian Automobile Association (AAA) highlighted the influence of fleet age on vehicle safety, finding that a reduction of a single year in the average age of the light vehicle fleet would yield a 5.4 per cent reduction in road crashes saving more than 1,300 lives over the next 20 years\(^10\).

ANCAP’s analysis of crash data presented in Section 3 highlights the relationship between older vehicles and road trauma, with observed increases in the average age of vehicles involved in occupant fatalities presenting a concern.

The 2015-2017 NRSS Action Plan identified four actions targeted at improving vehicle safety, with each of these actions targeted new vehicles. In maintaining a holistic approach to vehicle safety, there needs to be a renewed focus on improving the safety of the whole vehicle fleet.

As a first step towards reducing the average age of the vehicle fleet, ANCAP considers that age reduction targets should be set.

**RECOMMENDATION 1:**

**Targets be set for the reduction in age of the Australian vehicle fleet.**

The fleet age can be reduced to some extent by encouraging the purchase of new vehicles, which will ultimately displace older vehicles from the fleet. Options to promote the purchase of new vehicles may be exposed through a review of Australian Government taxes and charges that can reduce the cost of new vehicles, such as the tariffs applied to imported vehicles and the Luxury Car Tax (LCT), as well as considering insurance premium reductions and financial incentives applicable to newer, safer vehicles.

In addition, consideration should be given to activities that will accelerate the retirement of older vehicles. There are a range of programs that encourage vehicle buyers to choose newer, safer vehicles, however the overall effect of this will be limited if older, less safe vehicles continue to be in service in high numbers. Where older vehicles do remain in service, these typically end up being driven by younger drivers and older drivers – both groups that have been found to have an increased crash risk\(^11\).

In 2017, ANCAP undertook a car-to-car demonstration crash test as part of UN Road Safety Week. The demonstration served to further increase consumer engagement and physically demonstrate the benefits of newer and safer cars. This key advocacy initiative drew unprecedented national and international coverage achieving a 403 per cent increase in traffic to the ANCAP website and a combined 1.4 million video views\(^12\).

Similar advocacy activities demonstrating the safety deficiencies of older vehicles; independent safety assessments of older vehicles; and policy positions supporting owners of older cars opting

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\(^10\) Benefits of reducing the age of Australia’s light vehicle fleet, Australian Automobile Association (July 2017).


\(^12\) ANCAP YouTube and ANCAP Facebook views to 31 December 2017.
for newer, safer choices are all examples of initiatives targeting the safety of older vehicles in the Australian fleet.

ANCAP plans to continue its advocacy activities in supporting its member organisations to achieve their vehicle safety objectives and would support organisations with initiatives targeting the lower safety of older vehicles.

**RECOMMENDATION 2:**
Review options to encourage fleet renewal including a review of Australian Government tariffs and charges to reduce the cost of new vehicles.

### 5.2. Autonomous and Future Vehicles

The future of improving vehicle safety lies with autonomous technologies, with human error believed to be a factor in over 90 per cent of road crashes\(^\text{13}\).

While the reality of ‘driverless’ cars is some way off, vehicles with autonomous features are already on our roads and their rollout will have a major impact on improving road safety. Increasing the injection of these technologies should be targeted and ANCAP stands in a strong position to contribute to the development and consumer uptake of these advanced safety features.

ANCAP’s test protocols from 2018 include a range of performance tests that evaluate the fundamental building blocks for a vehicle with any level of automation. Further, the laboratory facilities that are needed for this first stage of testing are the same or similar to those that will be required to evaluate a fully autonomous vehicle.

It is anticipated that over time the need for independent testing of passive safety performance, albeit still critical, will diminish and the focus on driver assist and then autonomous driving functionality will increase. As autonomous driving systems become commercially available, ANCAP’s role as an independent consumer information organisation will become even more critical, should the proposed regulatory approach to autonomous vehicle safety be adopted – being a safety assurance scheme that would carry a strong element of self-assessment.

ANCAP is well positioned to be a key participant in this transition and while ANCAP’s focus is to encourage the development and consumer uptake of advanced safety features, we must also be mindful that the roads will be used by a mixed fleet of vehicles with differing levels of automation and safety. For this reason, ANCAP will continue to advocate for sound levels of passive safety across the fleet.

Acceptance of autonomous technologies sits at the core of market supply motivation and consumer uptake, with ANCAP taking an active role in independently testing and promoting these features to build vehicle brand, regulatory and ultimately consumer confidence.

Building regulatory confidence is also a key aspect, with appropriate regulation and jurisdictional infrastructure, such as signage and line-markings, required to support the effective functioning of the technology.

With the introduction of testing and evaluation of autonomous technologies, ANCAP will continue to reinforce links between vehicle design and manufacture and infrastructure providers. As experience develops with these systems, for example with speed sign recognition, ANCAP will engage with key participants to ensure that the connection between vehicle technologies and road infrastructure requirements is maintained. Results from ANCAP’s performance testing

of these technologies will be made available to jurisdictional members to improve supporting infrastructure.

**RECOMMENDATION 3:**  
Increase efforts targeting the promotion of, and building confidence in, new and emerging vehicle safety technologies.

5.3. Enhanced safety commitment from the commercial sector

Further enhancing the safety commitment from the commercial sector by encouraging commercial fleet vehicles to be equipped with key safety features such as AEB, lane support and speed assist systems will further build community demand for improved safety and increase the rate of penetration of these technologies into the Australian vehicle fleet.

ANCAP has been advocating commercial fleets to implement a component into their purchasing policies which encourages the purchase of vehicles that not only hold a 5 star ANCAP safety rating, but that the datestamp of the rating is as recent as possible. Such a policy would encourage the purchase of vehicles with the latest safety technology, tested against the latest criteria.

**RECOMMENDATION 4:**  
Review fleet purchasing practices to support the inclusion of advanced safety technologies.

5.4. Vehicle safety advertising

In recent years, vehicle safety improvements have developed at a rapid pace, and in parallel, consumer demand for safety has increased. Independent, comparable vehicle safety information is available for consumers with 95 per cent of the new light vehicle market now covered by an ANCAP safety rating.

The availability of independent comparable safety ratings presents an opportunity for vehicle brands and motor vehicle dealers to leverage sales. ANCAP safety ratings are promoted as an important aspect of vehicle performance and there is significant consumer demand for ANCAP safety ratings (nine in ten new car buyers) to be presented at the point-of-sale – an important consideration given 68 per cent of vehicle owners are not aware of the safety rating of their car, and further, 39 per cent of those who have just purchased also not aware. There is no regulation however requiring or governing the display of vehicle safety ratings at the point-of-sale or in advertising.

The example in Figure 5 promotes a number of variants within the Isuzu D-Max and MU-X range. The D-Max has been rated by ANCAP and, depending on the variant / specification, some hold a 4 star rating and others a 5 star rating. This print advertisement clearly promotes the ANCAP safety rating alongside variants which hold the maximum 5 star ANCAP safety rating, however it omits use of the ANCAP safety rating for models which hold the lower, less appealing, 4 star rating.

To provide consumers with accurate and comparable information on the relative safety of new vehicles, ANCAP is calling on the Australian Government to direct the Australian Competition & Consumer Commission (ACCC) to develop a new advertising guideline for the portrayal and display of vehicle safety information. The new guideline would strengthen the Competition and Consumer Act 2010, meaning statements about vehicle safety made by vehicle brands, either at the point-of-sale or in general advertising, would need to reference the independent ANCAP safety rating.

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14 ANCAP Brand Tracking Consumer Awareness Survey (2016).
15 RAC WA eNews poll (June 2016).
RECOMMENDATION 5:
The Australian Competition & Consumer Commission (ACCC) to develop a new advertising guideline for the portrayal and display of vehicle safety information.

5.5. Continued support for ANCAP

Vehicle safety is an integral element of the ‘Safe System’ approach to road safety as established under the National Road Safety Strategy 2011-2020 and its associated Action Plans. The functions undertaken by, and the influence of ANCAP fulfil many of the national objectives of this pillar.

Technology is advancing at a rapid pace and the ANCAP safety rating program is evolving to match. In addition to the safety rating program, ANCAP is also well positioned to complement regulation and improve consumer confidence in relation to the future of autonomous mobility. The evolution of ANCAP and its encouragement of safer vehicles will accelerate road safety benefits for all Australians.

The economic road trauma cost saving as a result of ANCAP-encouraged accelerated uptake of electronic stability control and side head-protecting curtain airbags is conservatively estimated at $104.7 million\(^{16}\). This represents a benefit-to-cost ratio of 20:1.

To assist ANCAP in continuing its vital independent, trusted and broadening vehicle safety test, assessment and advocacy functions – in addition to its members’ ongoing financial support – ANCAP has sought a continued, longer-term, commitment from the Australian Government.

\(^{16}\) Economic Connections Report on ANCAP’s Role to Reduce Road Trauma (February 2018).
ANCAP has been extremely successful in effectively utilising its limited resources and maximising the effect of funding received from all members. A continuing commitment will ensure the acceleration of road safety benefits for all Australians while continuing to complement regulation.

Certainty of ongoing support will assist with future program planning and development in the rapidly changing automotive environment – in particular, enhancing independent assessment of automated vehicle safety technologies.

ANCAP will continue to work to maintain and improve support for the organisation, leveraging existing and exploring new support streams.

The benefit of continued support to the Australian community will be the saving of millions of dollars in unnecessary road trauma costs as a result of the decline in the fatality and injury rates on the nation’s roads through improved vehicle safety.

**RECOMMENDATION 6:** Long-term funding support of ANCAP from the Australian Government and other member organisations.

### 6. Summary of Recommendations

The Australasian New Car Assessment Program presents the following summary recommendations for consideration in the development of a post-2020 national road safety strategy:

**RECOMMENDATION 1:** Targets be set for the reduction in age of the Australian vehicle fleet.

**RECOMMENDATION 2:** Review options to encourage fleet renewal including a review of Australian Government tariffs and charges to reduce the cost of new vehicles.

**RECOMMENDATION 3:** Increase efforts targeting the promotion of new and emerging vehicle safety technologies.

**RECOMMENDATION 4:** Review fleet purchasing practices to support the inclusion of advanced safety technologies.

**RECOMMENDATION 5:** The Australian Competition & Consumer Commission (ACCC) to develop a new advertising guideline for the portrayal and display of vehicle safety information.

**RECOMMENDATION 6:** Long-term funding support of ANCAP from the Australian Government and other member organisations.