

# Chapter 2

## Vehicle design and technology

2.1 The terms of reference for this inquiry note that Australia's vehicle manufacturing industry is winding down. The committee has heard that this presents an opportunity for the Australian vehicle fleet to increasingly adopt world-class safety features, without the limitations of domestic manufacturing.<sup>1</sup> Accordingly, the committee in this inquiry has turned its attention to how design standards and safety assessments allow Australia to access the safest imported vehicles.

### Benefits of new technology

2.2 The desirability of incorporating new technology into vehicles to improve safety was frequently expressed in evidence and submissions to the committee. As the Transport Accident Commission of Victoria articulated, incorporating new technology can have a longer-term impact on road safety than improving driver behaviour, explaining:

Behavioural change—asking people to change their behaviour—is not sustainable, because people make mistakes, but once technology is in a car it is there forever.<sup>2</sup>

2.3 The return for investment in new technology in terms of reducing road trauma was highlighted by other witnesses. For example, Mr Nicholas Clarke of the Australasian New Car Assessment Program (ANCAP) stated that:

Right at the moment, with technology moving so rapidly in the car space, there is a huge opportunity to reduce road trauma by investing small amounts in cars.<sup>3</sup>

2.4 The importance of timeliness in adopting new technology was highlighted by Dr Jeremy Woolley of the Centre for Automotive Safety Research at the University of Adelaide who drew attention to the benefits for vulnerable drivers:

- 
- 1 Mr Nicholas Clarke, Chief Executive Officer, ANCAP Australasia Ltd, *Committee Hansard*, 14 August 2015, pp 26–27; Mr Michael Cornish, General Manager, Road Safety and Strategic Communications, Motor Accident Commission, South Australia, *Committee Hansard*, 18 February 2016, p. 2; Mr Mark Jackman, Regional President, Chassis Systems Control, Robert Bosch Australia, *Committee Hansard*, 3 July 2015, p. 4; RAC, *Submission 59*, Attachment 3, *Australian Automobile Association Submission to the Review of the Motor Vehicle Standards Act 1989*, October 2014, p. 10.
  - 2 Ms Samantha Cockfield, Senior Manager, Road Safety, Transport Accident Commission of Victoria, *Committee Hansard*, 3 July 2015, p. 44. See also Motoring Advisory Council, *Submission 47*, p. 4.
  - 3 Mr Nicholas Clarke, Chief Executive Officer, ANCAP Australasia Ltd, *Committee Hansard*, 14 August 2015, p. 20.

Every year of delay in adopting that technology means that there is a knock-on effect further down the track and less people will benefit from that technology in a timely manner. One of the great challenges we have is that the people who most need the technology—those most at risk, namely young drivers—tend to get the oldest cars and the most unsafe vehicles on our roads. So there is a lag associated with bringing in new safety features, and it is therefore important that we try to get the newest, safest vehicles into the fleet and out there as soon as possible.<sup>4</sup>

## **Barriers to new technology**

2.5 The committee accepts the important role that new vehicle technology can perform in increasing road safety. However, witnesses and submitters told the committee of at least four primary barriers to incorporating new technology.

### ***Removal before market***

2.6 The practise of 'de-speccing' vehicles was raised by witnesses as a key obstacle to consumers accessing vehicle technology that improves road safety. By way of explanation, the committee heard that in many cases, imported vehicles sold in Australia are not equipped with new technology that would be a standard feature if the same vehicles were sold elsewhere (for example, in Europe).<sup>5</sup> Mr Mark Jackman of Robert Bosch Australia explained that manufacturers attribute this to supply and demand:

There are models being sold in Australia whose equivalent models in other parts of the world have a feature that is not even available here. Manufacturers will tell you that it is about supply and demand: if we have the demand, we would then be able to increase the value of the car or show that it is worth while adding that in.<sup>6</sup>

2.7 Australia's Road Vehicle Certification System allows vehicle manufacturers to electronically certify that the vehicles they sell to the Australian market comply with the ADRs.<sup>7</sup> It is the manufacturers who undertake certification testing. To obtain compliance plates, test results are submitted to the Vehicle Safety Standards Branch of the Department of Infrastructure and Regional Development (the department).<sup>8</sup>

---

4 Dr Jeremy Woolley, Centre for Automotive Safety Research, University of Adelaide, *Committee Hansard*, 26 October 2015, p. 2.

5 Mr Mark Jackman, Regional President, Chassis Systems Control, Robert Bosch Australia, *Committee Hansard*, 3 July 2015, p. 4; Mr William Golsby, General Manager, Corporate Affairs, RAC WA, *Committee Hansard*, 18 February 2016, p. 45.

6 Mr Mark Jackman, Regional President, Chassis Systems Control, Robert Bosch Australia, *Committee Hansard*, 3 July 2015, p. 3.

7 Department of Infrastructure and Regional Development, *RVCS: General information*, <http://rvcs-prodweb.dot.gov.au/> (accessed 22 June 2015).

8 Department of Infrastructure and Regional Development, *RVCS: Vehicle certification in Australia*, <http://rvcs-prodweb.dot.gov.au/> (accessed 22 June 2015).

2.8 Even where imported vehicles are sold as containing certain safety features, the committee heard doubt as to whether the features are fitted. As a solution, ARRB Group proposed that 'imported cars should be tested in Australia to ensure that the correct model is being sold to the market'.<sup>9</sup> To a large extent this testing would occur through the Australasian New Car Assessment Program (ANCAP), discussed further below.

### ***Unique Australian requirements***

2.9 Tailoring new technology in imported vehicles to the Australian driver experience was raised in some submissions and evidence to the committee.<sup>10</sup> Describing as 'obvious' that Australia should have only the safest vehicles, Professor William Young of the ARRB Group provided the caveat that:

...developing the characteristics of the vehicle for the Australian environment, for Australian infrastructure and things like that, means we have to have some different characteristics within the system.<sup>11</sup>

2.10 Similarly, Dr Woolley of the Centre for Automotive Safety Research at the University of Adelaide noted that while vehicle manufacturing would no longer be undertaken domestically, automotive expertise would continue to be required, stating:

...there is certainly a need for monitoring and for in-house capability in Australia to look at the performance of vehicles and to know, in Australian conditions, what their safety features are delivering for us in terms of real-world outcomes.<sup>12</sup>

### ***Cost***

2.11 The committee heard concerns that the cost of new technology could make safe vehicles unaffordable. The Motoring Advisory Council cautioned that:

The car is the second most significant purchase made by most families Australia wide. Any road safety legislation that places undue pressure on families to upgrade beyond their budgetary means would only put additional downward pressure on an already fragile economy.<sup>13</sup>

2.12 However, evidence suggested that the cost of new safety technology was low, and likely to be outweighed by the benefits, both to individual drivers and in reducing

---

9 ARRB Group, *Submission 26*, p. 4.

10 Austroads, *Submission 69*, p. 10; Monash University Accident Research Centre, *Submission 67*, p. 24; Toll Group, *Submission 33*, p. 2.

11 Professor William Young, Chief Scientific Advisor, ARRB Group *Committee Hansard*, 3 July 2015, p. 4.

12 Dr Jeremy Woolley, Acting Director, Centre for Automotive Safety Research, University of Adelaide, *Committee Hansard*, 26 October 2015, p. 6.

13 Motoring Advisory Council, *Submission 47*, p. 3.

the social and economic cost of road trauma. In any event, the Monash University Accident Research Centre provided evidence to the committee that the cost of new technology reduces over time:

Where safety features have required the inclusion of additional components e.g. airbags or seat belt retractors, the assurance of a continued large volume market has resulted in progressive reductions in the cost of the components, as large volume production and associated design improvements have been implemented.<sup>14</sup>

2.13 In many cases, it would not cost the manufacturer any more to have new safety technology included as a standard feature on vehicles, as automotive supplier Robert Bosch Australia confirmed in evidence.<sup>15</sup> Regional President of Chassis Systems Control Mr Mark Jackman told the committee that in many cases 'the hardware cost is zero, because you are talking about using what is existing in the vehicle', meaning that incorporating new technology only requires 'developing a software algorithm'. For example, existing technology could be used to monitor and mitigate fatigue:

When talking about fatigue, for example: how long has the car been running; has the driver changed the radio or moved the air conditioning or changed the windows... We measure those fatigue incidents and we now say that we now officially think the driver is fatigued, and then we tell the car that it is fatigued. What the car does then is up to the car company. It can buzz the steering wheel, vibrate it, move the seat, give a warning, or all of the above, and potentially even pull the car over to the side of the road.<sup>16</sup>

### ***Training and research required***

2.14 The committee heard that further work is required to ensure that new safety technology is properly implemented, including training drivers in the appropriate use of safety features to maximise their benefits.<sup>17</sup> Further, the Motoring Advisory Council warned that to some degree, technology that makes driving easier could actually increase driver inattention and fatigue, as:

...today's cars have become so easy to drive that some crash risks have actually increased. In today's time poor society with mobile communications providing 24 / 7 accessibility at the press of a button, the car has become a mobile office. Mobile phone use while driving is a disturbing trend associated with drivers who are by comparison bored

---

14 Monash University Accident Research Centre, *Submission 67*, p. 23.

15 Mr Mark Jackman, Regional President, Chassis Systems Control, Robert Bosch Australia, *Committee Hansard*, 3 July 2015, p. 11.

16 Mr Mark Jackman, Regional President, Chassis Systems Control, Robert Bosch Australia, *Committee Hansard*, 3 July 2015, p. 10.

17 ARRB Group, *Submission 26*, p. 5; Motoring Advisory Council, *Submission 47*, p. 4.

---

behind the wheel. Fatigue is another crash statistic that has potential to increase as cars become significantly easier to drive.<sup>18</sup>

2.15 On balance, the committee is persuaded that incorporating new technology would reduce, not increase, driver inattention and fatigue. First, evidence before the committee suggests that features 'such as lane departure warning and fatigue monitoring' are directly targeted at 'reducing fatigue related crashes'.<sup>19</sup> Second, the broader benefits of new technology to prevent drivers from becoming fatigued or distracted from 'overtasking' are apparent. By way of example, Robert Bosch Australia explained the positive impact of new technology in allowing drivers to 'save [their] energy for the real tasks of driving':

A fatigued driver is less able to make critical decisions when they are necessary. So if you can avoid fatigue by making sure that the relatively simple tasks of maintaining the distance to the car in front of you, plus or minus metres, can be undertaken by the technology, it then comes down to you paying attention to the cow, kangaroo or whatever that has just run on the road.<sup>20</sup>

### **Increasing access to new technology**

2.16 The committee heard different views on the best way for Australia to overcome the practise of 'de-speccing' and to maximise the safety of its imported vehicle fleet, while also ensuring that the new technology in imported vehicles suits the Australian driving experience.

### ***Competition***

2.17 The committee heard from the Federal Chamber of Automotive Industries (FCAI) that supply and demand will gradually increase the availability of imported vehicles equipped with safety technology. In their view, 'competition in the market drives safety because this is what consumers demand'.<sup>21</sup> This view was reinforced by evidence from ANCAP Australasia that:

Consumers flock to the five-star cars. The manufacturer then runs the risk: if they do not get a five-star rating for their car, consumers may not buy that car.<sup>22</sup>

---

18 Motoring Advisory Council, *Submission 47*, p. 4.

19 Centre for Automotive Safety Research, University of Adelaide, *Submission 40*, p. 4.

20 Mr Mark Jackman, Regional President, Chassis Systems Control, Robert Bosch Australia, *Committee Hansard*, 3 July 2015, p. 5.

21 Mr Tony Weber, Chief Executive, Federal Chamber of Automotive Industries, *Committee Hansard*, 14 August 2015, p. 58.

22 Mr Nicholas Clarke, Chief Executive Officer, ANCAP Australasia Ltd, *Committee Hansard*, 14 August 2015, p. 22.

2.18 On the other hand, the committee heard that Australian consumers often rely on incomplete or second-hand sources to learn about new technologies, which suggests that market forces may not improve vehicle safety without some intervention. Mr Jackman from Robert Bosch Australia hypothesised that:

I think we as a consumer group in Australia do not understand the technologies. And when we do not understand them we are very reliant on the contacts that we have with the sales people, with the internet reports and hopefully with the road safety agencies. They are the ones from whom we get this educational information.<sup>23</sup>

### ***Australian Design Rules (ADRs)***

2.19 Rather than rely on competition to increase access to safer imported vehicles, the committee heard calls for federal regulatory oversight.<sup>24</sup> A number of witnesses and submitters proposed that the Australian Design Rules (ADRs) were the best mechanism for ensuring that Australians had access to the safest new technology.<sup>25</sup>

2.20 Vehicles manufactured in or imported into Australia must be certified as meeting the ADRs, a set of national design and performance standards operating beneath the *Motor Vehicle Standards Act 1989* and the *Motor Vehicle Standards Regulations 1989*.<sup>26</sup>

2.21 The *Motor Vehicle Standards Act 1989* prescribes uniform standards for Australian manufactured vehicles and imported vehicles. The ADRs include requirements for 'vehicle safety, environmental performance and anti-theft protection'.<sup>27</sup> Indeed, it is an offence under the *Crimes Act 1914* to import vehicles that do not comply with the ADRs.<sup>28</sup>

2.22 As well to reflect community expectations of vehicle safety, the ADRs are updated to remain consistent with internationally based United Nations (UN) vehicle regulations which consider vehicle components and systems including 'braking, lighting, tyres, seatbelts [and] durability'.<sup>29</sup> The committee heard support for Australia

---

23 Mr Mark Jackman, Regional President, Chassis Systems Control, Robert Bosch Australia, *Committee Hansard*, 3 July 2015, p. 3.

24 Professor Daniel Cass, Road Trauma Advisory Subcommittee, Royal Australasian College of Surgeons, *Committee Hansard*, 3 July 2015, p. 42; Ms Samantha Cockfield, Senior Manager, Road Safety, Transport Accident Commission of Victoria, *Committee Hansard*, 3 July 2015, p. 44.

25 Department of Infrastructure and Regional Development, *Submission 51*, p. 7.

26 Department of Infrastructure and Regional Development, *Importing Vehicles into Australia*, [www.infrastructure.gov.au/vehicles/imports/](http://www.infrastructure.gov.au/vehicles/imports/) (accessed 27 April 2016).

27 Department of Infrastructure and Regional Development, *Submission 51*, p. 6.

28 Department of Infrastructure and Regional Development, *Import options*, [www.infrastructure.gov.au/vehicles/imports/import\\_options/](http://www.infrastructure.gov.au/vehicles/imports/import_options/) (accessed 27 April 2016).

29 Department of Infrastructure and Regional Development, *Submission 51*, p. 10.

to maintain consistency with international standards.<sup>30</sup> The department elaborated, explaining that:

Harmonisation ensures that vehicles built to the most recent safety, environmental and anti-theft standards are supplied to the Australian market at the least cost and that Australia has access to the latest vehicle technologies.<sup>31</sup>

2.23 Australia has harmonised approximately 45 of 62 ADRs with the UN regulations, a process that has been ongoing 'since the mid-1980s'.<sup>32</sup> The committee heard that in recent years, the 'Government has accelerated the process,' which has led to:

Electronic Stability Control (ESC) mandated for light commercial vehicles (complementing the earlier mandating of ESC for passenger cars) and Brake Assist Systems mandated for light commercial and passenger vehicles, as well as commencement of a new programme to 'apply' UN regulations.<sup>33</sup>

2.24 Supporting its work to harmonise the ADRs, Australia is party to two international agreements relevant to road safety and participates in a working party on the development of the UN Regulations.<sup>34</sup> The committee heard that the role Australia plays internationally is 'to ensure that Australian perspectives and issues are taken into account'.<sup>35</sup> The committee understands this advocacy is particularly valuable in areas where 'Australian standards are higher' than UN standards, or where Australian conditions demand a unique approach such as in heavy vehicle design.<sup>36</sup>

2.25 The committee heard that the international collaboration is the most efficient way for Australia to develop and mandate new vehicle safety measures, especially since vehicle manufacturing no longer occurs locally. The department explained that it is more cost effective to seek 'support from other countries for development of a UN Regulation' than it is to develop 'a new Australian requirement... relating to a particular crash type'. Australia's work leading development of UN regulations mandating pole side impact protection standards for new vehicles is described as a

---

30 Federal Chamber of Automotive Industries, *Submission 72*, p. 3.

31 Department of Infrastructure and Regional Development, *Submission 51*, p. 7.

32 Department of Infrastructure of Regional Development, *Submission 51*, p. 7 and Attachment 2, p. 2.

33 Department of Infrastructure and Regional Development, *Submission 51*, p. 7.

34 *Agreement concerning the Adoption of Uniform Conditions of Approval and Reciprocal Recognition of Approval for Motor Vehicle Equipment and Parts*, (1958) (Australia signed in 2010) and *Agreement concerning the Establishing of Global Technical Regulations for Wheeled Vehicles, Equipment and Parts which can be fitted and/or be used on Wheeled Vehicles* (1988) (Australia signed in 2008).

35 Department of Infrastructure and Regional Development, *Submission 51*, p. 8.

36 Department of Infrastructure of Regional Development, *Submission 51*, Attachment 2, p. 2.

successful example of this approach.<sup>37</sup> After the UN World Forum agreed the Global Technical Regulation on Pole Side Impact in December 2013, Australia introduced a new ADR in December 2015.<sup>38</sup>

2.26 To improve vehicle standards further, the committee heard that the government is working 'on a programme to remove Australian specific requirements from the ADRs, where they are no longer relevant and cannot be justified'.<sup>39</sup>

### *Effectiveness*

2.27 The value of the ADRs to road safety was illustrated by Dr Bruce Logan of the Monash University Accident Research Centre, who told the committee that:

...the Australian design rules have been very successful over the last 45 years in ensuring adequate minimum levels of vehicle safety. We believe the ADR process should continue to remain important in protecting Australian road users in a timely manner, wherever possible, in the face of rapid technological advancement and without stifling innovation.<sup>40</sup>

2.28 Likewise, the department submitted that without domestic oversight, imported vehicle standards could slip:

If Australia did not set design and performance standards in domestic law, vehicles could and would be exported to Australia, or be manufactured in Australia, that fall well below current standards for safety, environmental performance and anti-theft protection.<sup>41</sup>

2.29 The committee heard that there are some limitations to the ability of the ADRs to improve road safety. The ADRs do not cover all classes of vehicles, which can lead to time lag across classes as features are progressively adopted. ANCAP Australasia highlighted that the ADRs do not apply automatically to light commercial and sports utility vehicles (SUVs), which 'comprised nearly 50% of total new vehicle sales in 2014'.<sup>42</sup> The introduction of electronic stability control (ESC) through multiple regulatory processes appears to highlight this. Where ESC was mandated for new light passenger vehicles in 2011 (and 2013 for all light passenger vehicles), it was

---

37 Department of Infrastructure and Regional Development, *Submission 51*, p. 8. See also Federal Chamber of Automotive Industries, *Submission 72*, p. 7.

38 United Nations Economic Commission for Europe (2013). Global technical regulation on pole side impact; *Vehicle Standard (Australian Design Rule 85/00 – Pole Side Impact Performance) 2015*, [www.legislation.gov.au/Details/F2015L02109](http://www.legislation.gov.au/Details/F2015L02109) (accessed 11 April 2016); National Road Safety Strategy, *Current projects*, <http://roadsafety.gov.au/projects/current-projects.aspx> (accessed 11 April 2016).

39 Department of Infrastructure and Regional Development, *Submission 51*, p. 7.

40 Dr Bruce Logan, Senior Research Fellow, Monash University Accident Research Centre, *Committee Hansard*, 3 July 2015, p. 52.

41 Department of Infrastructure and Regional Development, *Submission 51*, p. 9.

42 ANCAP Australasia Ltd, *Submission 31*, p. 7.



not mandated for new light commercial vehicles until 2015 (and 2017 for all light commercial vehicles).<sup>43</sup>

2.30 The time lag between the development of new technology and updates to the ADRs was frequently raised in submissions and evidence before the committee.<sup>44</sup> A recent example was Australia's work towards the UN Global Technical Regulation on Pole Side Impact which led to its completion in December 2013. The related ADR was introduced two years later in December 2015. It will be a further two years until the ADR for pole side impact performance applies to light passenger vehicles—from November 2017—and even longer until it applies to light commercial vehicles—from July 2018.<sup>45</sup>

2.31 Witnesses and submitters called for timely introduction of ADRs in line with the pace of international developments. Professor William Young of ARRB Group emphasised that the slow legislative progress 'is not satisfactory; we should be expecting higher standards in Australia for the particular conditions in Australia'.<sup>46</sup> The ARRB Group's submission called for exploration of 'methods to get ADRs introduced in a timely fashion to ensure quick take-up of new safety technology'.<sup>47</sup>

### **ANCAP**

2.32 The committee heard support for the Australasian New Car Assessment Program (ANCAP) as an alternative or additional method of increasing safety technology in new imported vehicles.<sup>48</sup> ANCAP Australasia explained its role in providing safety ratings for passenger and light commercial vehicles, covering up to 90 per cent of new car sales:

Vehicles are awarded an ANCAP safety rating of between 1 to 5 stars indicating the level of safety they provide in the event of a crash. The more stars, the better the vehicle performed in ANCAP tests. To achieve the maximum 5 star ANCAP safety rating, a vehicle must achieve the highest standards in all tests and feature advanced safety assist technologies.<sup>49</sup>

---

43 *Vehicle Standard (Australian Design Rule 31/03 – Brake Systems for Passenger Cars) 2013; Vehicle Standard (Australian Design Rule 35/05 – Commercial Vehicle Brake Systems) 2013.*

44 See for example Monash University Accident Research Centre, *Submission 67*, p. 24.

45 National Road Safety Strategy, *Current projects*, <http://roadsafety.gov.au/projects/current-projects.aspx> (accessed 11 April 2016).

46 Mr Mark Jackman, Regional President, Chassis Systems Control, Robert Bosch Australia, *Committee Hansard*, 3 July 2015, p. 4.

47 ARRB Group, *Submission 26*, p. 4.

48 ARRB Group, *Submission 26*, p. 4; Mr Michael Cornish, General Manager, Road Safety and Strategic Communications, Motor Accident Commission, South Australia, *Committee Hansard*, 18 February 2016, p. 6.

49 ANCAP Australasia Ltd, *Submission 31*, p. 2.

2.33 Chief Executive Mr Nicholas Clarke summarised ANCAP's achievements in over two decades of operation, stating 'we have managed to convince the manufacturers that it is very worthwhile to focus on safety and... driven a lot of improvements in vehicle safety,' while noting that 'there is much more for us to do'. Among this work is a 'return to alignment with Euro [New Car Assessment Program] NCAP', a transition the committee heard ANCAP will complete at the end of 2017.<sup>50</sup>

2.34 ANCAP explained their current approach, which is to take the European vehicle safety ratings 'at face value'. This would have a positive effect on the Australian market, given the 'higher fitment levels of technology seen in the European market':

We think that allowing that to happen will put pressure on the other makers in the market and we will see better and safer cars in the market. By 2018, the hurdle to achieve a five-star rating will be very high, but it will not be beyond the reach of the major manufacturers and it will continue to sort the wheat from the chaff.<sup>51</sup>

2.35 Emphasising the beneficial role of local ANCAP testing even where vehicles are manufactured offshore, ARRB Group submitted that:

Supporting the Australasian New Car Assessment Program (ANCAP) to maintain a strong program of local testing and rating of vehicles will be essential to ensure Australia receives the benefits of new technologies as fully and quickly as possible.<sup>52</sup>

2.36 Drawing a link to road trauma, Western Australian third party insurer RAC highlighted a direct relationship between ANCAP ratings and fatalities and injuries, stating that people 'are twice as likely to be killed or seriously injured in a one-star car versus a five-star car'.<sup>53</sup>

2.37 The committee heard that ANCAP ratings would have even greater consumer impact if displayed on vehicles at point of sale.<sup>54</sup> RAC told the committee that:

ANCAP currently publishes star safety ratings online. However, vehicles safety ratings are not always visible on cars at the point of sale, and as such,

---

50 Mr Nicholas Clarke, Chief Executive Officer, ANCAP Australasia Ltd, *Committee Hansard*, 14 August 2015, p. 20.

51 Mr Nicholas Clarke, Chief Executive Officer, ANCAP Australasia Ltd, *Committee Hansard*, 14 August 2015, p. 20.

52 Centre for Automotive Safety Research, University of Adelaide, *Submission 40*, p. 2.

53 Mr William Golsby, General Manager, Corporate Affairs, RAC WA, *Committee Hansard*, 18 February 2016, p. 46.

54 RAC, *Submission 59*, p. 6; Royal Australasian College of Surgeons, *Submission 11*, Appendix 2, p. 3

consumers do not have easy access to vital safety information when purchasing their new car.<sup>55</sup>

### *Comparing ANCAP and the ADRs*

2.38 A number of witnesses compared the effectiveness of the ANCAP and the ADRs in terms of introducing new safety technology to the Australian market. For example, it was the view of Robert Bosch Australia that ahead of the 'relatively slow legislative process' of the ADRs, ANCAP can be used to market additional features to Australian consumers.<sup>56</sup> Mr Nicholas Clarke of ANCAP Australasia advocated introducing new technology before it become mandatory to deliver outcomes faster:

We believe that if we can get that sort of technology into cars quickly, without the need for regulation, then we can reduce road trauma faster than we might otherwise.<sup>57</sup>

2.39 On the other hand, the limitations of ANCAP were outlined by the department, who submitted that the program was 'not subject to assessment through RIS [regulation impact statement] processes' and 'not designed in a way to ensure that all vehicles entering the Australian market meet adequate minimum standards'.<sup>58</sup> Monash University Accident Research Centre told the committee that ANCAP does not adequately cover all vehicle classes, stating that:

It is necessary to have safety regulations that cover ALL portions of the vehicle fleet, including trucks, buses, and motorcycles, to which NCAP has no relevance.<sup>59</sup>

2.40 Many witnesses noted the 'complementary' way in which the ADRs and ANCAP currently operate.<sup>60</sup> For example, development of an ADR for ESC was described as 'a tremendous regulatory success,' but submitters acknowledge that ANCAP also played a role.<sup>61</sup> Monash University Accident Research Centre argued that while ANCAP had 'a role in shifting the market', 'fitment rates remained poor for

---

55 RAC, *Submission 59*, p. 6.

56 Mr Mark Jackman, Regional President, Chassis Systems Control, Robert Bosch Australia, *Committee Hansard*, 3 July 2015, p. 4.

57 Mr Nicholas Clarke, Chief Executive Officer, ANCAP Australasia Ltd, *Committee Hansard*, 14 August 2015, p. 20.

58 Department of Infrastructure and Regional Development, *Submission 51*, p. 9.

59 Monash University Accident Research Centre, *Submission 67*, p. 6. See also Dr Bruce Logan, Senior Research Fellow, Monash University Accident Research Centre, *Committee Hansard*, 3 July 2015, p. 52.

60 Department of Infrastructure and Regional Development, *Submission 51*, p. 10; Australian Automobile Association, *Submission 54*, p. 7.

61 *Vehicle Standard (Australian Design Rule 35/03 – Commercial Vehicle Brake Systems) 2009*; Monash University Accident Research Centre, *Submission 67*, p. 21.

some vehicle categories until moves were made to regulate'.<sup>62</sup> Insurance Australia Group put forward a stronger view, stating that 'ANCAP's requirement of mandatory electronic stability control pushed the federal government into making it a mandatory requirement'.<sup>63</sup>

### *ANCAP funding and scope*

2.41 The future funding and scope of ANCAP was frequently discussed in submissions and evidence. ANCAP told the committee that it has a continuing role in assessing imported vehicles, even where those vehicles meet or exceed the ADRs:

The wind down of local manufacturing will have little impact on ANCAP's activities and the maintenance of design standards. The majority of cars tested by ANCAP are imported and in the main are built to design standards in excess of those specified by regulation.<sup>64</sup>

2.42 The government in the 2014–15 Budget committed \$1.1 million to support ANCAP in each of 2014–15 and 2015–16, but the committee notes that funding is not guaranteed for the following financial year.<sup>65</sup>

2.43 A number of submitters argued that the performance record of ANCAP justified its ongoing funding.<sup>66</sup> Australian Automobile Association (AAA) submitted that:

Analysis of the ANCAP Safety Ratings for new cars sold in Australia shows that of the one million new light vehicles sold in 2014, 82 per cent had a 5-Star ANCAP Safety Rating. With a proven track record, there is strong justification for continuing funding for the Australasian New Car Assessment Program and promoting the purchase of vehicles based on safety ratings.<sup>67</sup>

2.44 AAA called for \$8 million over four years from 2016–17 to allow ANCAP 'to continue to release about 45 safety ratings per year and undertake 22 local assessments'.<sup>68</sup>

---

62 Monash University Accident Research Centre, *Submission 67*, p. 21.

63 Mr Robert McDonald, Senior Manager, Research Centre, Insurance Australia Group, *Committee Hansard*, 2 July 2015, p. 1.

64 ANCAP Australasia, *Submission 31*, p. 9.

65 Bicycle Network, *Submission 32*, p. 4.

66 Bicycle Network, *Submission 32*, p. 4; Australian Automobile Association, *Submission 54*, p. 7; RAC, *Submission 59*, p. 6.

67 Australian Automobile Association, *Submission 54*, p. 7.

68 Australian Automobile Association, *2016–17 Pre-Budget Submission*, pp. 13, 19. [www.aaa.asn.au/storage/aaa-pre-budget-submission-2016.pdf](http://www.aaa.asn.au/storage/aaa-pre-budget-submission-2016.pdf) (accessed 13 April 2016).

## Recommendation 5

**2.45 The committee recommends that the Commonwealth Government commit increased financial support to Australasian New Car Assessment Program (ANCAP) over the forward estimates.**

## Recommendation 6

**2.46 The committee recommends that the Commonwealth Government work with state and territory governments to ensure that display of Australasian New Car Assessment Program (ANCAP) safety ratings becomes mandatory at point of sale.**

### *Used Car Safety Ratings*

2.47 In addition to ANCAP for new vehicles, the committee heard support for the ongoing funding of the Used Car Safety Rating program, which collates real world crash data to determine annual crashworthiness ratings for used vehicles in the Australian fleet.<sup>69</sup> The program, run by the Monash University Accident Research Centre, is hosted online at [www.howsafeisyourcar.com.au](http://www.howsafeisyourcar.com.au). The program offers consumers two distinct safety ratings based on driver protection and protection for other road users.<sup>70</sup>

2.48 Commonwealth funding to the program is supplemented by state and territory governments, motoring clubs and some third party insurers, as well as their New Zealand equivalents.<sup>71</sup>

## Recommendation 7

**2.49 The committee recommends that the Commonwealth Government continues to fund Monash University Accident Research Centre to produce the Used Car Safety Ratings.**

### **Upcoming new technology**

2.50 Witnesses told the committee that new technology available in some imported vehicles exceeds the amount mandated by the ADRs.<sup>72</sup> The FCAI provided examples, stating that:

---

69 Australian Automobile Association, *Submission 54*, p. 7; Mr William Golsby, General Manager, Corporate Affairs, RAC WA, *Committee Hansard*, 18 February 2016, p. 46; Monash University Accident Research Centre, *Submission 67*, p. 16.

70 Used Car Safety Ratings, 'What is UCSR', [www.howsafeisyourcar.com.au/Rating-Process/What-is-UCSR/](http://www.howsafeisyourcar.com.au/Rating-Process/What-is-UCSR/) (accessed 13 April 2016).

71 Australian Automobile Association, *Submission 54*, p. 7.

72 Mr Nicholas Clarke, Chief Executive Officer, ANCAP Australasia Ltd, *Committee Hansard*, 14 August 2015, p. 20. See also Ms Anne Still, Senior Manager, Policy and Research, RAC WA, *Committee Hansard*, 18 February 2016, p. 47.

...systems that are currently being delivered to the market in Australia include autonomous emergency braking, blind spot monitoring, adaptive cruise control, following-distance warning, lane-keep assist, lane-departure warning, self-parking, adaptive headlights, fatigue warning, and traffic jam assist.<sup>73</sup>

2.51 One example is considered by the committee in this report: automatic emergency braking, which at the time writing had been described as the new technology having the 'most potential' to prevent road fatalities (up to 30 per cent) and injuries (up to 40 per cent).<sup>74</sup>

### ***Autonomous emergency braking (AEB)***

2.52 Submitters and witnesses described the potential for autonomous emergency braking (AEB) in new passenger vehicles to reduce road trauma in Australia.<sup>75</sup> Robert Bosch Australia recommended that Australia keep up with international best practice, and noted that 'auto emergency braking is now mandatory' for a five star rating under the European New Car Assessment Program.<sup>76</sup>

2.53 The committee heard from FCAI that 'AEB is associated with a significant reduction in low-speed rear-end crashes'. They explained that AEB systems would:

...alert the driver to an imminent crash and can help use the maximum braking capacity of the car and can also apply the brakes independently of the driver if the situation becomes critical. The most basic form of AEB, and the most common, can detect other vehicles at low speeds only, typically in a range from about five kilometres per hour up to between 30 and 50 kilometres per hour.<sup>77</sup>

2.54 Submitters highlighted the results of a 2015 study finding a 38 per cent overall reduction in rear-end crashes for vehicles fitted with 'low speed' AEB

---

73 Mr Tony Weber, Chief Executive, Federal Chamber of Automotive Industries, *Committee Hansard*, 14 August 2015, p. 58.

74 University of Adelaide Centre for Automotive Safety Research, *Submission 40*, p. 2. See also Robert Bosch Australia, *Submission 44*, p. 3.

75 Australian Automobile Association, *Submission 54*, p. 8; Victoria Walks Inc, *Submission 61*, p. 9.

76 Mr Mark Jackman, Regional President, Chassis Systems Control, Robert Bosch Australia, *Committee Hansard*, 3 July 2015, p. 4.

77 Mr Tony Weber, Chief Executive, Federal Chamber of Automotive Industries, *Committee Hansard*, 14 August 2015, p. 58.

compared to those without.<sup>78</sup> The department funded the international study alongside the Euro NCAP.<sup>79</sup>

2.55 Further development before mandating AEB through the ADRs was recommended by some witnesses.<sup>80</sup> AEB is described as a 'developing technology', with only some systems able to 'detect pedestrians or other vulnerable road users, such as cyclists'.<sup>81</sup> However, the committee notes that international precedents exist, including UN uniform provisions which the European Union has incorporated into regulations to take effect from November 2016 and November 2018.<sup>82</sup>

2.56 In Australia, AEB seems to be another example of where 'the industry has taken the lead, in the absence of any regulation'.<sup>83</sup> The FCAI advised that '[t]hirty per cent of passenger motor vehicles delivered in 2015 have AEB, up from 14 per cent' in 2014, comparable to fitment rates in Europe.<sup>84</sup>

2.57 By 2018, AEB will be a five-star requirement for ANCAP. ANCAP Australasia told the committee that future proofing the technology is impossible, noting that 'you have to start, a bit like we did with [anti-locking braking systems] 20 or more years ago and electronic stability control some years later'.<sup>85</sup>

2.58 The committee notes that the Bureau of Infrastructure, Transport and Regional Economics (BITRE) modelled the impact of AEB on light vehicles in Australia, reporting in 2014. If current adoption rates for AEB continue, 'the technology is expected to save 1 200 lives and prevent 54 000 hospitalised injuries

---

78 Brian Fildes *et al*, 'Effectiveness of low speed autonomous emergency braking in real-world rear-end crashes,' *Accident Analysis and Prevention*, Volume 81 (2015), pp. 24-29; see also Monash University Accident Research Centre, *Submission 67*, p. 22; Federal Chamber of Automotive Industries, *Submission 72*, p. 25.

79 National Road Safety Strategy, *Completed projects*, <http://roadsafety.gov.au/projects/completed-projects.aspx> (accessed 13 April 2016).

80 Mr Tony Weber, Chief Executive, Federal Chamber of Automotive Industries, *Committee Hansard*, 14 August 2015, p. 59; Robert Bosch Australia, *Submission 44*, p. 5.

81 Mr Tony Weber, Chief Executive, Federal Chamber of Automotive Industries, *Committee Hansard*, 14 August 2015, p. 59.

82 UN Regulation 131, Uniform provisions concerning the approval of motor vehicles with regard to the Advanced Emergency Braking Systems (AEBS), 7 August 2013; Commission Regulation (EU) No 347/2012, *Official Journal of the European Union*, 21 April 2012, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:109:0001:0017:en:PDF>, (accessed 13 April 2016).

83 Federal Chamber of Automotive Industries, *Submission 72*, p. 25.

84 Mr Tony Weber, Chief Executive, Federal Chamber of Automotive Industries, *Committee Hansard*, 14 August 2015, p. 58; Federal Chamber of Automotive Industries, *Submission 72*, p. 25.

85 Mr Nicholas Clarke, ANCAP Australasia Ltd, *Committee Hansard*, 14 August 2015, p. 27.

by 2033'. Persuasively, mandating AEB over the same period led to 'an additional saving of 597 deaths and 24 100 hospitalised injuries'.<sup>86</sup>

2.59 Illustrating the low additional cost of new safety technology, BITRE reported that 'the cost to manufacturers could be less than \$200 to include AEB as a feature in a vehicle'.<sup>87</sup>

#### *Committee view*

2.60 The committee is of the view that AEB has proven positive impact at domestic and international levels, and as a matter of priority, should be incorporated as a legislative requirement for all new vehicles sold in Australia.

### **Recommendation 8**

**2.61 The committee recommends that the Australian Design Rules be immediately amended to require all new light vehicles sold in Australia from 1 June 2017 be fitted with automatic emergency braking technology.**

### **Reform of the *Motor Vehicle Standards Act 1989***

2.62 Following the review of the *Motor Vehicles Standards Act 1989*, the government announced in February 2016 that it would undertake to reform the Act. The overview brochure for the reforms states that:

In addition to continuing the harmonisation of Australia's vehicle standards with international best-practice, the Australian Government is proposing to introduce a number of changes to the Act and associated administrative processes. These include:

- allowing individuals to import new vehicles from selected right hand drive countries with comparable vehicle standards to Australia;
- improving consumer access to imported specialist and enthusiast vehicles;
- simplifying the process for importing vehicles through the Registered Automotive Workshop Scheme while improving the quality of those vehicles;
- simplifying the pathways for importing vehicles granted concessions against the Act;
- streamlining the supply of mainstream (full volume) new vehicles; and

---

86 Bureau of Infrastructure, Transport and Regional Economics (BITRE), *Impact of road trauma and measures to improve outcomes*, Report 140, December 2014, p. 59.

87 Bureau of Infrastructure, Transport and Regional Economics (BITRE), *Impact of road trauma and measures to improve outcomes*, Report 140, December 2014, p. 56, [http://bitre.gov.au/publications/2014/files/report\\_140.pdf](http://bitre.gov.au/publications/2014/files/report_140.pdf) (accessed 13 April 2016).



- clarifying suppliers' recall responsibilities for all vehicles.<sup>88</sup>

2.63 The Government stated that reforms to the Motor Vehicles Standards Act would be further refined, with legislation to be introduced 'as soon as possible'.<sup>89</sup> Accordingly, the committee has not considered each proposal in this interim report, and only outlines issues raised in relation to the personal importation of vehicles, including second-hand vehicles.

2.64 The committee awaits with interest future policy announcements by the Government, and will continue to monitor legislative proposals as they are released.

### ***Personal importation and second-hand vehicles***

2.65 The committee heard considerable apprehension in relation to the proposed 'softening' of regulations for the personal importation of vehicles, including second-hand vehicles.<sup>90</sup>

2.66 In 2015, the Government did not support a Competition Policy (Harper) Review recommendation to remove parallel import restrictions from second-hand vehicles, stating:

Following consultation as part of the review of the *Motor Vehicles Standards Act 1989* and having regard to consumer protection and community safety concerns, the Government has decided not to proceed with reducing parallel import restrictions on second-hand cars at this time.<sup>91</sup>

2.67 Despite this, the changes announced in February 2016 would simplify the importation and certification arrangements for vehicles. The Minister for Major Projects, Territories and Local Government the Hon Paul Fletcher MP announced that legislation to implement the changes would follow the announcement in 2016.<sup>92</sup>

---

88 Department of Infrastructure and Regional Development, *Motor Vehicle Standards Act Reform*, February 2016, p. 2, [https://infrastructure.gov.au/vehicles/mv\\_standards\\_act/files/MVSA\\_Overview\\_Brochure.pdf](https://infrastructure.gov.au/vehicles/mv_standards_act/files/MVSA_Overview_Brochure.pdf) (accessed 14 April 2016).

89 Department of Infrastructure and Regional Development, *Motor Vehicle Standards Act Reform*, February 2016, p. 2.

90 Mr Robert McDonald, Senior Manager, Research Centre, Insurance Australia Group, *Committee Hansard*, 2 July 2015, p. 4; Federal Chamber of Automotive Industries, *Submission 72*, p. 3; Robert Bosch Australia Pty Ltd, *Submission 44*, p. 2.

91 The Treasury, *Government response to the Competition Policy Review*, p. 13.

92 The Hon Paul Fletcher MP, Minister for Major Projects, Territories and Local Government, 'More choice for car buyers and less red tape for the car industry under planned Government reforms to motor vehicle laws', Media release PF017/2016, 10 February 2016, [http://minister.infrastructure.gov.au/pf/releases/2016/February/pf017\\_2016.aspx](http://minister.infrastructure.gov.au/pf/releases/2016/February/pf017_2016.aspx) (accessed 14 April 2016).

2.68 While details of proposed legislative change remain unclear, key concerns heard by this inquiry related to proposed changes to personal new imports, which are 'expected to be introduced in 2018'.<sup>93</sup> The committee heard concerns that:

- older vehicles have proven links to 'increased injury severity' and higher 'death rates in rural and remote areas';<sup>94</sup>
- vehicles made overseas may be in poorer condition, including due to rust and corrosion from salt use on roads;<sup>95</sup>
- vehicles made overseas are not always designed to operate in Australia's environmental conditions;<sup>96</sup>
- vehicles made overseas may be technologically incompatible in a way that would prevent Australia from having a fleet of 'connected cars';<sup>97</sup>
- vehicles made overseas are difficult to service, as software will not be widely available to repairers; and<sup>98</sup>
- concessional schemes that facilitate the personal importation of vehicles carry high levels of consumer risk.<sup>99</sup>

#### *Committee view*

2.69 Based on the lack of specificity in the government's policy announcement, the committee declines to make a recommendation in relation to proposed changes to personal importation laws. The committee urges caution, however, in altering policy settings that have such a strong connection to the safety of Australia's vehicle fleet. At this stage, the risks appear considerable and the benefits unclear.

### **Heavy vehicles**

2.70 The committee notes evidence from witnesses that a small percentage of the Australian heavy vehicle fleet continues to be manufactured domestically.<sup>100</sup> By way of explanation, Toll Group provided evidence that the Australian freight task demands

---

93 Department of Infrastructure and Regional Development, *Motor Vehicle Standards Act Reform*, February 2016, p. 2.

94 ARRB Group, *Submission 26*, p. 4.

95 Mr Robert McDonald, Senior Manager, Research Centre, Insurance Australia Group, *Committee Hansard*, 2 July 2015, p. 4.

96 Federal Chamber of Automotive Industries, *Submission 72*, p. 3.

97 Mr Tony Weber, Chief Executive, Federal Chamber of Automotive Industries, *Committee Hansard*, 14 August 2015, p. 58.

98 Robert Bosch Australia Pty Ltd, *Submission 44*, p. 2; Mr Robert McDonald, Senior Manager, Research Centre, Insurance Australia Group, *Committee Hansard*, 2 July 2015, p. 4.

99 Federal Chamber of Automotive Industries, *Submission 72*, p. 22.

100 Mr Bill McKinley, National Manager, Government Relations and Policy, Australian Trucking Association, *Committee Hansard*, 14 August 2015, p. 12; Toll Group, *Submission 33*, pp 6–7.

a 'unique' and 'customised approach'.<sup>101</sup> This means that this report's discussion about the future importation of vehicles applies to a lesser extent to heavy vehicles.

2.71 On balance, the committee heard evidence in support of maintaining the existing ADRs for manufacturing heavy vehicles domestically,<sup>102</sup> which takes into account the unique vehicle combinations and driving conditions in Australia.<sup>103</sup> Accordingly, the committee encourages ongoing updates to ensure that Australia continues as a world leader in harnessing new technology that ensures the safety of heavy vehicle drivers and other road users.

2.72 The committee encourages national and state governments to work together on heavy vehicle regulation to encourage innovation in vehicle design and to overcome the 'inflexibility of the regulatory process',<sup>104</sup> particularly to allow innovation in the design of safer vehicles, including high productivity vehicles which have a superior safety record.<sup>105</sup> The committee heard that for high productivity vehicles, 'designs need to be approved by a panel convened by the national heavy vehicle regulator (NHVR) and are permitted only on restricted networks'.<sup>106</sup>

2.73 Toll Group submitted that the approvals process should be modified so that high productivity vehicles, having a superior safety record, can be used more often, as:

...innovative technologies and vehicle designs can deliver significant safety benefits. High productivity vehicles (HPVs) have demonstrably better safety outcomes than conventional vehicles, but are under-utilised because of conservative permitting and access regimes and the need for greater education on how light and heavy vehicle drivers can successfully 'share the road'.<sup>107</sup>

2.74 The department stated that work is ongoing to improve heavy vehicle design:

Work also continues on further developing the Australian Design Rules to ensure that vehicles newly supplied to the Australian market support improved road safety outcomes.<sup>108</sup>

2.75 Issues for the heavy vehicle industry are discussed further in Chapter 4.

---

101 Toll Group, *Submission 33*, p 7.

102 Australian Trucking Association, *Submission 38*, p. 5; Victorian Transport Association, *Submission 65*, p. 6.

103 Mr Bill McKinley, National Manager, Government Relations and Policy, Australian Trucking Association, *Committee Hansard*, 22 March 2016, p. 37.

104 Mr John Mitchell, Chief Executive Officer, Mitchell's Livestock Transport and Innovex Solutions, *Committee Hansard*, 18 February 2016, p. 12.

105 Toll Group, *Submission 33*, p. 2.

106 Department of Infrastructure and Regional Development, *Submission 51*, p. 7.

107 Toll Group, *Submission 33*, p. 2.

108 Department of Infrastructure and Regional Development, *Submission 51*, p. 23.

## **Conclusion**

2.76 As this chapter has outlined, vehicle design and technology have a large influence on road safety. However, where you drive can be as big a determinant of safety outcomes as the vehicle you drive. The next chapter considers the impact that geography can have on road safety.