

TRANSCRIPT

ROAD SAFETY COMMITTEE

Inquiry into serious injury

Canberra — 6 August 2013

Members

Mr A. Elsbury

Mr T. Languiller

Mr J. Perera

Mr M. Thompson

Mr B. Tilley

Chair: Mr M. Thompson

Deputy Chair: Mr T. Languiller

Staff

Executive Officer: Ms Y. Simmonds

Research Officer: Mr J. Aliferis

Witnesses

Mr N. Clarke, chief executive officer, and

Ms R. Robson, communications manager, Australasian New Car Assessment Program.

The CHAIR — On behalf of the Victorian Parliament Road Safety Committee I would like to welcome representatives from ANCAP to give evidence to our inquiry in relation to serious injuries. The evidence you give today is protected by parliamentary privilege, and any comments outside the hearing are not afforded such privilege. The transcript will become a matter of the public record. We are in a position to take evidence in camera should there be any comments you would wish to make that would not form part of the public record of our inquiry but might better inform the work of the committee. You will receive a copy of the transcript in due course, and you will be invited to correct any typographical errors or factual errors and return it to us. We have a number of questions we would like to put you. Initially we would like you to speak to us in relation to any formal remarks you would like to make. We thank you for taking the time to speak to us, and I invite Mr Nicholas Clarke to speak to us now.

Mr CLARKE — Thank you very much, Chair. I am Nicholas Clarke, the chief executive officer of ANCAP Australasia Limited. ANCAP is an Australian public company. It is not for profit and limited by guarantee. We have 23 member organisations, which comprise the federal government, all the state and territory governments, all of the motoring clubs, the TAC, NRMA Insurance and the FIA Foundation for the Automobile and Society out of the UK. We also have the New Zealand government and the New Zealand Automobile Association amongst our membership. We are very grateful to receive support from three Victorian organisations: the Victorian government through VicRoads, the Transport Accident Commission and also the RACV. We work very closely with all of our member organisations but particularly in Victoria.

As you may be aware, ANCAP is an independent organisation providing consumers with crash-test information and crash-test ratings on the relative safety of vehicles they might purchase. We run a star-rating system that reveals that a 5-star car is a great car and a 1-star car is a very poor car when it comes to safety. We have the view that, notwithstanding the linear scale of our star rating, the 1, 2 and 3-star cars are all pretty much in the same group — there is not much difference between them — but there is a big jump then to 4-star and an even bigger jump to 5-star. We run extensive campaigns to encourage consumers to buy 5-star vehicles.

In the last few years we have managed to establish a widely respected brand when it comes to vehicle safety, and we are seen as a prominent vehicle safety advocate in the community. ANCAP is also part of a global federation, if you like, through the Global NCAP process. Global NCAP was established under the FIA, based in the United Kingdom, and all of the NCAPs around the world, of which there are nine, are members of that organisation.

The CHAIR — Could you amplify on the FIA being an acronym for — —

Mr CLARKE — Sorry; the Fédération Internationale de l'Automobile in the United Kingdom, and it is a foundation that runs under that broad umbrella.

We come to this inquiry, I suppose, from a slightly different perspective because we are looking at the integrity of the vehicles and technology and so forth that can save lives and reduce serious injuries. I suppose in that context we have to focus more on the last two items in your terms of reference. We do not deal with information in terms of calculating costs and calculating the number of injuries and so forth; we rely on others to do that. We are more on the side of what we can do to provide solutions that will actually limit the opportunity for deaths and injuries to occur.

Over the 20 years that ANCAP has been doing crash-testing we have seen considerable change in the market in terms of the safety of vehicles; vehicles are much better and safer today than they were even 5 or 10 or 15 years ago. Up until perhaps about five years ago it was abundantly clear from our physical testing what made a good crashworthiness car and what made a poor car simply by the way the car responded to our crashes. For a 5-star car, in a physical crash it would maintain its integrity; the crumple zones and so forth would work appropriately. In a 1-star car the whole structure would collapse, and it was abundantly clear for anybody to see. What we are seeing, though, is a subtle change in the differentiation, if you like, between 5 and 1, and 5 and 3, and that is with the introduction of safety assist technologies, of which there are many.

Included in the safety assist technology lists there are technologies that will help the driver as they are driving along. There are technologies that will recognise an imminent risk; there are technologies that will take over the emergency response of the vehicle; there are technologies that will stop a driver leaving a lane or be alert to the

fact that a driver is fatigued and is perhaps going to sleep, and the list goes on and on. Every day we see new technologies coming into motor vehicles.

We were at an international conference on road safety in Korea in May, and David Strickland, who is the administrator of the United States National Highway Traffic Safety Administration, made the comment to the assembled audience that in the United States 90 per cent of crashes involve human error and that vehicle automation is the key to reducing that number of crashes. From where we sit we think that we are all human and we all make mistakes and we perhaps all think we are great drivers and we always think it is the other guy who is the bad driver. In reality, we all make mistakes. I think everybody drifts off and everybody is distracted by something or everybody might be absorbed by what is happening on the radio or whatever. I think that those who do not have an accident in that period are, more than anything, just the lucky ones. We think that in terms of the safe system approach to saving lives — roads, cars, better drivers and so forth — cars have a very important role to play, and that comes out through technology. I think the more we can remove the driver from the equation, the safer we will be and we will avoid more accidents.

The committee will be well aware of the statistics on deaths and serious injury rates. The deaths are pretty easy and clear to understand; the data is very good and we have a good handle on how many people are dying on our roads — and we are reducing the numbers of deaths. But 1300 a year is still way too many; there is no question about that. But it is the serious injuries, which no doubt have driven this committee to its inquiry, that seem to be maintaining a very high level, and I think the statistics will show that over the last decade we really have not made much of a dent in either the relative number of injuries or the absolute number of injuries, and it has sat at perhaps 30 000 or 35 000 a year over that extended period.

I am often asked whether safer cars sometimes save people's lives — they are seriously injured when previously they might have died in an accident — and whether safer cars are actually contributing to serious injuries. We do not have the answer to that. We think there is probably some merit in the question, because injuries are not reducing in the way that we might have expected; but deaths certainly are. I do not know why injuries are still at such a high level; we would have expected a different outcome. We think there is some technology that will shift that, and I will explain that in a moment.

ANCAP has had tremendous success in the last five years with increasing the awareness of consumers and fleet buyers and government buyers to the value of having a 5-star car and the safety inherent in a 5-star car. We now have governments right around the country, including the federal government, that require 5-star passenger vehicles in their fleets. We have some very big companies like BHP, Shell and others that require 5-star vehicles in their fleets, and we think that is a terrific thing, particularly when it comes to their occupational health and safety responsibilities. If you are putting a worker in a work vehicle, then that car should be the safest vehicle on the road, and if it is not, then knowing the risks there has to be some liability there.

In 2012, out of the 1.1 million vehicles sold into the Australian market about 750 000 were ANCAP 5-star rated. That is about 73 per cent, which we think is a terrific result. That number is growing higher every year, and in the next four or five years we will see a total of perhaps 5 million new vehicles with an ANCAP 5-star rating, so we will have many safer vehicles on our roads.

In terms of technology, as I mentioned earlier, there is abundant technology that can save lives, and I want to address just one particular technology that has emerged in the last five years, and that is autonomous emergency braking systems, and the committee may well have heard of these. Autonomous emergency braking systems rely on a combination or mix of radar; lidar, which is light detection and ranging; and perhaps stereo video cameras or single video cameras. It is a mix or combination of any or all of those things. That technology scans the road ahead, looking for possible hazards. Those hazards can be vehicles, animals, cyclists, motorcyclists, pedestrians and so forth. The technology will identify the hazard in front generally before the driver will recognise the hazard, and it will start to arm itself, ready for an emergency situation.

If the driver continues on his or her way without actually taking any action for the potential hazard, the risk profile raises for the system and the system will then intervene to alert the driver that there is an imminent risk. That intervention might be a buzzer, a 'dab on the brakes' or some sort of rattling of the steering wheel — some sort of tactile thing — to say that there is an issue here. If the driver then does not respond and the risk has elevated to very serious, then the car will brake autonomously. It will provide maximum braking power to avoid the collision.

Autonomous emergency braking operates at three levels. There is the city level. You may have heard of the Volvo product City Safety, which is coming into Volvo vehicles and has been for a number of years. That works at low speed in an urban environment and perhaps up to 10 or 20 kilometres an hour it will prevent you running into the car in front. Whiplash is, of course, a very costly injury for insurance companies. If a lot more vehicles were fitted with City Safety, we would reduce that cost.

There are also systems that operate at higher speed called interurban systems. They may not stop a collision happening, but they will mitigate the impact of that collision. If you are travelling at 110 kilometres an hour on a freeway and it detects an obstacle and brakes before the driver can brake and brakes with full power, you might still hit the vehicle in front, but with a bit of luck that might be at 40, 50 or 60 kilometres an hour, which is the human tolerance range and you have a good chance of surviving in that ANCAP 5-star car. So the cost of that collision will be lowered and the risk mitigated.

The third type is the type I mentioned in passing, which identifies some of the vulnerable road users — pedestrians, animals and so forth. The sophisticated systems can distinguish between pedestrians simply walking harmlessly along the side of the road or pedestrians who are posing an imminent risk to the vehicle. We think that that is an outstanding technology.

Autonomous emergency braking has been in some European cars for the best part of 10 years. I think 2005 saw Mercedes Benz with some of the more sophisticated technology. BMW and some of the other German brands followed. BMW was fitting a very sophisticated system in its BMWs from about 2009. So the technology has been around. There is a degree of refinement to the technology, but the research is showing that real-world performance data could suggest that autonomous emergency braking systems could reduce accidents by up to 27 per cent. That is based on European experience.

In the United States the year before last, the Insurance Institute for Highway Safety undertook a study on Volvo vehicles fitted with their City Safety system. There was a quite dramatic drop, with a 14 per cent reduction in insurance claims on those vehicles, compared to vehicles without it. More recently, Mercedes Benz have reported that in their vehicles that have this system, compared to those that do not, there has been a 22 per cent reduction in the sale of spare parts to repair crashed vehicles. The University of Adelaide, through the Centre for Automotive Safety Research, undertook some research which showed that potentially deaths and injuries could be reduced by somewhere between 20 and 35 per cent. We think that is a great result.

From ANCAP's perspective, we are a non-regulatory body and we would like to move as quickly as we can to see autonomous emergency braking included in new vehicles. We are working with industry on that, but obviously at the moment industry have major concerns about the world markets and their own viability, particularly in this market here. But I think, if we start now on encouraging fleet buyers and consumers — government buyers — to think about autonomous emergency braking, we can create the demand necessary for manufacturers to actually include it in their vehicles. I think that is everybody's responsibility — government, fleet, corporate, media. Everybody we can think of should be looking for non-regulatory ways to actually reduce the cost of road trauma on our roads.

I think pretty much that is all I had to say by way of opening, Chair, and I would be happy to take any questions you might have.

The CHAIR — Thank you very much, Mr Clarke, for a comprehensive introduction to your work. I invite Mr Tilley to lead off with the first few questions.

Mr TILLEY — Nicholas, if you do not mind, just firstly in lead-up, I am very interested in your contribution about automatic emergency braking systems. You mentioned some original manufacturers, specifically Volvo, Mercedes Benz and BMW. Are you aware of any other original manufacturers?

Mr CLARKE — Yes, those were just the ones that went for it first. Our sister organisation, Euro NCAP, undertook a study. The results were released last year. There were 15 major brands that had some form of autonomous emergency braking — one of the three streams I mentioned — and more than 90 vehicle models, of which something like 50 are available here. We have autonomous emergency braking fitted to the little VW Up!, which is a \$15 000 car here in Australia — which is incredible — and we have it emerging in some of the other brands.

One of the issues we are facing, though, is that because we are a fairly small market we often get not quite the safest cars that are available on the market elsewhere and we do see some despecification of vehicles coming to this market. The manufacturers and importers claim that is to meet very sensitive price points, which is probably the legitimate reason. We would like to see that despecing stop, and I think a previous Victorian parliamentary committee looked at this some years ago and came to the same view. We do have circumstances where common cars that are available in Europe have AEB — autonomous emergency braking — standard across the range. That is not available here, either not at all on any of their variants or only on the most expensive — and you pay a premium for that.

Mr TILLEY — So, in that case, is there any Australian-manufactured motor vehicle that has any of that as an option currently?

Mr CLARKE — No. The VF Commodore, which was publicly released by Holden just recently, has a forward collision warning system which does monitor the road in front, but it just alerts the driver; it does not take action.

Mr TILLEY — Before I go on to the main questions, from your opening address — understanding that it is a public, not-for-profit organisation and has state jurisdictions and federal jurisdictions and others — does ANCAP have any subscriptions or membership from original manufacturers as well?

Mr CLARKE — No, we do not have any membership from the industry because we think we need to maintain our independence. I think when it goes to the credibility of our ratings it is better that we do not include them. We do work very closely with them, obviously, because we are testing their cars and providing a rating for their vehicles, so we do work closely, but the integrity of what we do is most important, and independence is very important.

Mr TILLEY — Yes, okay. These are earlier prepared questions that we have for you. I will just read from the notes I have in front of me. Firstly, Nicholas, is: how do we increase the development of safer vehicles? Do you think it is a matter of educating consumers, introducing tougher ADRs or developing incentives that promote safer vehicles?

Mr CLARKE — If I can just take your first one about consumers, we do a lot of work in that space. I think where ANCAP stands today in consumer land, compared to where it was perhaps 5 or 10 years ago, is that consumers are very aware of vehicle safety. Having said that, it has proven very difficult — and the committee will be well aware of this — to change driver behaviour. You might understand about vehicle safety. You might understand about safe driving. You might understand about all of those things, but you might still not put your seatbelt on or you might drive with alcohol in your system. Shifting that behaviour is very difficult.

I understand that Dr Richard Tooth spoke to the committee yesterday, from Sapere Research, and he might have talked about some success they have had in the UK about shifting driver behaviour through the use of telematics and linked to lower insurance premiums. I think that is a very promising field.

In terms of the ADRs there is definitely a role for legislation in this field, but, to be frank, it takes a long while to develop a regulation for a motor vehicle — often many years. I just think that, given that the technology is driving the market forward so rapidly, we fall behind very quickly. We may already be behind if we wait for regulation. Clearly I am a big fan of non-regulatory bodies; obviously that is what we do. Sometimes the manufacturers get a little bit wild with us, but I think in the end they are keen on saving lives as well. Their product is one that is used ubiquitously, but we are still killing and injuring many thousands of people. Yes, there is a role for the ADRs, perhaps at a base level, but I think there is a greater role for non-regulatory bodies, and I would like to see much more on that basis.

In terms of safer cars — I think that was your third point — I think in terms of the structure of vehicles today, we have great structures in vehicles today. They have improved dramatically from 5 or 10 or certainly 20 years ago. We had largely common cars we drove in the 1990s, like Commodores and Falcons and other — I am not singling those two out — garden-variety cars like Toyotas and Mazdas and Nissans and so forth. They collapsed like a house of cards in a very low-speed accident, and you were going to either die or be very seriously injured. These days all of those vehicles perform beautifully structure wise; the cabin stays intact, the airbags and the restraint system and the pre-tensioners on the seat belts and all that work beautifully to the millisecond to minimise the risk of death or injury.

As I mentioned, though, in my opening remarks, with the technology shifting so quickly the safety in cars is going to be driven by technology, and that is where I want to see the bulk of the effort go. Let me put this another way. Just in terms of priorities, we do spend a lot of money on roads, and we have to spend a lot; roads are very important. If we are looking for rapid change and rapid reduction in the road toll in terms of deaths and serious injuries, then that is a good part of it, but I think safer cars are a better part. I think with a very small or modest investment in safer cars you can travel a lot of territory very quickly, and I think you can make a bigger impact on the road toll more quickly than you can with developing roads, just by virtue of the fact that roads take forever to build. I am not saying we neglect the roads — they are very important. We still have to train the drivers, we still have to educate them, there is still some degree of enforcement required and all of that, but if we are looking for the quickest, perhaps the cheapest and a more effective way of doing it in the next, say, 5 or 10 years, I think cars are the key.

ANCAP will be promoting autonomous emergency braking very heavily, and I would look, as I said in my opening address, to everybody to push that. We will be working with media. We will be working with fleets. If we can generate the demand, manufacturers will come to the party, and it will be helpful for them.

Mr TILLEY — Yes. I suppose one part of this technology that has come in particularly is ABS braking, which is an earlier add-on. We are now seeing it in Australian manufacturers. Principally ABS braking was invented for aircraft, but with some of the education and some of the things that have gone out, taking away how we have EBS and other add-ons and things like that, as a stand-alone it is probably a first in the braking system. Regarding the benefits in relation to ABS, have there been any studies particularly isolating that, because educating drivers is knowing that to place your foot on the pedal and hold it there is the only way to make the ABS braking system work?

I will indulge a little bit. I have seen a lot of ordinary motor vehicles on the road. I have seen some very poor driving skills over the years, having spent a number of years in Victoria Police and the highway patrol. Some of these innovations are — absolutely yes — technologies and things coming on. Does ANCAP — the back room — follow up with research about the results of what these technologies are producing?

Mr CLARKE — You are looking at the front room, and the other two are the back room. No, we just do not have the resources. We have a very modest budget, and we raise all our money from the 23 member organisations that very willingly support ANCAP activities. Just in terms of ABS particularly, we saw the first edition, if you like, of ABS back in the late 1980s or early 1990s. It was an okay technology, but it certainly was not as good as ABS in the 2000s and ABS now. Now, of course, ABS and traction control and electronic stability control are all included in one package.

I have seen some testing, just comparative testing, done on vehicles that were built in the 1990s and their stopping distance is much longer. The wheels did not lock and their stopping distance was much longer than that of cars that are built today. We also have things such as electronic brake force distribution, which maximises the braking power, depending on where the most resistance amongst the wheels can be found. We also have emergency brake assist. As soon as the car detects that there is an emergency situation, it will apply a maximum force on the brakes. So if you are an elderly person, perhaps, or someone without great foot strength, you do not have to apply the brakes as you might have in the 1990s and you will not feel the huge shudder and think, ‘Oh, God, this is terrible’. The technology will do that for you. So my mum, who is 87, can hit the brakes the same as any of us, because of the emergency brake assist package.

Mr TILLEY — Just while we are on the other stuff, particularly with industry and ANCAP bringing in the stuff, all to reduce severe injury and fatalities on our roads, what about fail-safes on some of this stuff? With the introduction of the technology that you have presented, what fail-safes are there? It is based on electronics and on the owner of a motor vehicle maintaining the vehicle in a roadworthy condition.

Mr CLARKE — That is a very good point. I think you would need to talk to the industry and the developers of the technology about their fail-safe systems, but if I could make just one or two broader points. Cars today already have a huge amount of technology, from the remote start to your alarm system, remote doors or perhaps remote starting of the vehicles, so technology in vehicles is nothing new and it does stop from time to time. There have been stories about autonomous emergency braking systems recognising obstacles that are not there. Those stories were coming more from the early days of the technology but this technology has now been in the

market for probably 8 or 10 years and it has probably been under development for a lot longer. I do not know when it started, but I suspect it was many years before it hit the market.

I think you have to look then at what are the benefits of having the technology over the prospect of some sort of error occurring. Again, I would suggest that that would be a question asked by the researchers and the manufacturers. I think there is enough evidence for ANCAP to say, 'Yes, this is technology that should be in place'. In 2008 ANCAP made electronic stability control a requirement to achieve a 5-star car, and cars with electronic stability control today have demonstrated that they do avoid accidents. Electronic stability control in 2008 was nothing compared to the electronic stability control that is available today, a bit like the ABS experience. Technology develops and develops.

I still think we should move down the technology line, because it will happen anyway. Cars being built in Europe, the United States and so forth generally are built to a more sophisticated technology level than cars built here, and I think we will fall behind if we do not embrace these sorts of technology moves.

Mr TILLEY — ANCAP looks at the passenger vehicle fleet only; it does not go into the heavy vehicle fleet at all?

Mr CLARKE — Not heavy. We are light vehicles, if you like. So light commercial vehicles and passenger vehicles — SUVs, the sports utility vehicles — nothing over 3.5 tonnes.

Mr TILLEY — A number of questions so far have been about the compatibility of our motor vehicle fleet in state jurisdictions and the nation. Do the technologies minimise the gap in the compatibility of motor vehicles?

Mr CLARKE — The short answer is yes. The more complex or detailed answer I suppose is that there have been quite a few studies on the compatibility of motor vehicles, particularly with smaller vehicles and the larger SUVs, the sports utility vehicles, and light commercial vehicles. I think what the research is finding is that the mass difference mitigated by the technology is actually reducing the risk when a bigger car hits a smaller car. These days smaller car structures are fantastic and they can take a lot of punishment. If they are well designed — and they have to be, for ANCAP 5-star rating — the energy that is created in the vehicle will dissipate through the right channels, so it will go over and underneath the passenger compartment.

To put it in perspective, we often get calls whether I should stick with my great big ute — and I can tell you that even some of the modern utes are very poor performers when it comes to crashworthiness — or should I buy a medium or small passenger car? Off the top of my head, I think about 45 per cent of fatal accidents in Australia are single vehicle accidents. If you are in a big, heavy car that extra mass of course means there is more energy to dissipate in a crash and that will work against you. In that context, I think the mass differential issue becomes less and less of a problem.

Mr TILLEY — Do you live in a city?

Mr CLARKE — I live in Canberra.

Mr TILLEY — I was just wondering, being a rural boy, whether one day city folk driving those big Toorak tractors might leave us country folk alone and let us use the vehicles that are more conducive, with our environment. That is a passing comment. Just going on, given the purchase cost of a new vehicle with a high ANCAP star rating, do you agree with the argument that safer vehicles are not a cost-effective countermeasure?

Mr CLARKE — No, I do not, because I think that the basic premise was incorrect. There is no issue in relation to costs for an ANCAP 5-star rating; we have ANCAP 5-star ratings right across the spectrum. You can buy a \$12 000 Mitsubishi Mirage which has a 5-star rating. You can buy a VW Up!, which is \$15 000. We have 5-star ratings right across the spectrum; there is no market category that has advantage when it comes to ANCAP 5-star ratings, so you can buy a good quality new vehicle at a modest price.

On top of that, we have been rating 5-star vehicles for the past decade. Particularly since 2008 we have had a lot more 5-star vehicles. We recommend to parents to get their kids into the latest model 5-star vehicle they can. If you buy a 2008 or 2009 vehicle that has an ANCAP 5-star rating, it will have electronic stability control, which is very important, but it will also have all the good technology that at that time made it a 5-star car, which

included a great structure, good airbags and all the rest of it. Those late-model second-hand vehicles are even cheaper still. Certainly you can pick up a vehicle for under \$10 000. We certainly think that there is great value in buying ANCAP 5-star-rated cars.

Mr PERERA — Thank you very much for your interesting presentation. The committee has been told that, although safer vehicles have impressive trauma-reducing attributes, the average age of the vehicle fleet and the time it takes to update it mean that most vehicles in Victoria lack recent safety improvements such as curtain airbags. In your view, how might an older vehicle fleet affect our road safety objectives?

Mr CLARKE — The committee no doubt is aware of the statistics on the age of the car park in Australia, with the mean generally hovering around I think 10 years. It varies a little bit from state to state. I understand, though, that the median age is somewhat less, something more like a 8½ years, so half the vehicles are under eight years old and the other half are over eight years old, which intuitively makes sense. Certainly you have a greater risk of being killed or seriously injured if you are driving an older car without those features, without a full suite of airbags, including curtain airbags, seatbelt pre-tensioners and all those things and electronic stability control and other technologies that are available today.

I think what we have lacked in the past 10 or 20 years are significant positive initiatives to encourage people to get into safer cars. We are seeing that more and more these days, compared to perhaps 10 or 20 years ago, by fleets buying 5-star vehicles, and of course they are turned over quite quickly and mums and dads can buy at a very modest price a second-hand government or fleet car that will be a 5-star car. So I think there needs to be some positive action to try to encourage people into later model cars.

The flip side of that, as I mentioned in my opening brief, is that each year we are putting on the road 700 000 or 800 000 new vehicles that have 5-star ratings, and that will grow. I think that is 71 or 72 per cent of the market by sales volume. Another 20 per cent, so up to about 90 per cent, are 4-star, and quite a few of those will get to 5-star very quickly. Perhaps next year or the year after, or perhaps in two or three years we will have perhaps 90 per cent or more of the new vehicle fleet as 5-star vehicles. If we are going to be putting 800 000 vehicles or more into the market each year over the next four or five years, very quickly we will have 4, 5, 6 or 8 million new vehicles, and that is a pretty good start in terms of turning over the fleet.

I think you will always have a rump of people who perhaps cannot afford a car, and they are the people who perhaps are still driving the car they had when they were 19. It may be a 1971 Holden or a 1968 Mazda or something, and I think we should be looking to those people and trying to give them some incentive, encouragement or support to get them into safer cars. It does not necessarily have to be a brand-new car, but if it is a near-new car I think that would be terrific.

It is a thorny question, but the answer is that we need some more drive, more incentive and more encouragement to get people into safer cars, and we need to keep pushing the development of this new technology so we can deliver it to the market as quickly as we can.

Mr PERERA — An area of increasing interest for the committee is the use of intelligent transport system, ITS, technologies to reduce road trauma. What new ITS technologies, if any, are appearing on vehicles ANCAP has tested? To what extent could these technologies reduce trauma?

Mr CLARKE — I have mentioned in passing a whole host of technologies that are available. I think any technology that can help to avoid a collision is great technology, so the autonomous emergency braking forward collision warning things are terrific even if they just mitigate the collision so that the injury risk is lower. In terms of intelligent transport systems, intelligent speed assist is another technology, and that can come in a number of ways — through heads-up display, showing what the speed limit is in a particular location. That technology is available today; you can buy it in the little GPS product you buy at Dick Smith or Harvey Norman or wherever. The more advanced systems of those will actually measure and perhaps even control your speed, and I think they are the technologies that will come in the years to come. I know people are reluctant to give up their right to drive and control a car, but they have given it up on trains and buses and trucks and aeroplanes. The young kids coming through do not want to drive a car; they just want the iPod or the iPad or whatever it might be to get them to where they are going.

There are lots of good technologies. I think autonomous emergency braking is the key, but there are a whole lot of others that are already appearing in cars. We have park assist and we have technology that will beep for blind

spot monitoring. That is in vehicles today, so if someone comes up in your blind spot and you go to move it will say, 'Sorry, there is someone there', and hopefully that will prevent or mitigate that risk. In terms of lane-keeping assist, we have technologies available in cars today which will follow the route for you and will detect when you are moving away from the defined road and it will correct the steering for you. If you drift off to sleep and you start to drift, the technology can keep you on the road. If there is no driver response, if you have drifted off to sleep, the car can stop you. Those sorts of technologies are fantastic technologies, and most of them are here and in operation, in small numbers, today. They are the technologies that, if we can see them included in the next 5 or 10 years, which we will anyway, will have dramatic effects on the road toll.

I could go into more detail about other technologies, but I think you get the understanding that there are plenty of good technologies.

Mr ELSBURY — I have to say I was a little bit scared by the idea of Apple actually making a car, as was suggested just then — downloading an app. I think I know the answer to this next question — but we need it on the record — having watched *Top Gear* and *Mythbusters*, although that does not give me any qualifications whatsoever. Your testing regime uses crash-test dummies, and we are interested to find out whether this testing mechanism can discern between a fatal or a severe injury when the dummies go through their paces.

Mr CLARKE — We cannot draw a line between the two.

Mr ELSBURY — You cannot?

Mr CLARKE — No. But what we can say is that when we extract the data from the dummy and analyse it we can determine what risk category it puts the individual in.

Mr ELSBURY — Okay.

Mr CLARKE — And by necessity those categories are reasonably broad. I think there are something like 90 channels of data collection in each dummy, and that is becoming more sophisticated. There is a new dummy coming out shortly which will be even more sophisticated with more channels and be more biofidelic. We can say there is a very high risk of death or serious injury. If you are a younger person who is fit, athletic and perhaps a 20-something male, you might survive a much — —

Mr ELSBURY — A bit like me then.

Mr CLARKE — Yes, I was thinking that.

The CHAIR — He means us.

Mr ELSBURY — All of us!

Mr CLARKE — I will exempt myself from that. You are going to have a greater chance of surviving in a fairly heavy accident, and we do see that from time to time — 'My God! How did he get out of that sort of vehicle?'. If you are my mum, you are probably not, perhaps not even in a 5-star car, because she is old; she is 87 and she is a bit frail and so forth. We use averages a lot in terms of the average dummy size, and we have to think of the best fit and the best information across the spectrum of drivers. We think what we have got is pretty good. Could it be better? Absolutely, it could be much better. Again, it is just accounting for some of the variables, and there are an infinite number.

Mr ELSBURY — The ANCAP testing regime also includes tests for pedestrian accidents. Do you have any other tests that you take part in for other vulnerable road users, such as motorcyclists and cyclists?

Mr CLARKE — To address your first point in terms of pedestrian testing, yes, the Centre for Automotive Safety Research at the University of Adelaide undertakes pedestrian testing for it using a series of impactors to strike the front of a vehicle to simulate an adult and a child being hit by a car at 40 kilometres an hour. They evaluate a whole range of points on the front of the car and on the bonnet and the windscreen and so forth, and design does make a difference. What we have seen in more recent years is a much more pedestrian-friendly design in terms of the sloping front of the vehicle. The idea is that you pick the pedestrian up onto the bonnet and that bonnet has no hard surfaces underneath, and it acts like a nice decelerator. It slows the speed down and limits the force on the person.

In Europe, Volvo has just released a pedestrian airbag. Their bonnets come up from the windscreen this way, to the front, and the pedestrian airbag explodes out up the A-pillars on both sides of the vehicle and where the bonnet intersects with the bottom of the windscreen. The idea is that, if you are an adult, that will catch the head of the person you are striking. Those tests do not cater for cyclists or for motorcyclists, and I am not sure that we can do tests or construct reliable repeatable tests for those vulnerable road users, but it is the technology that will save those, as I said before. If you have a system on board that can detect a motorcyclist or a pedestrian or animal, which they can now, then the prospect of hitting that obstruction is lowered, or the risk is lowered, and with the good design of the vehicle and perhaps an airbag if you do hit them there is perhaps a better outcome for them.

Again, there are so many variables in that. New technology also includes cross-traffic collision warnings. That is a relatively new technology, but the idea is that, if you are driving in an urban centre with buildings everywhere and there are maybe even traffic lights and a vehicle of some sort or something is coming from the right or the left, it will actually be able to identify the speed of the vehicle and the size of the vehicle around the corner that you cannot see and it will say, 'You're on a collision path', and the autonomous emergency braking will come in.

That is not yet a part of the technology that is available in the market today when it comes to autonomous emergency braking, but it is certainly looming and will be the next generation. That also ties into things like vehicle-to-vehicle communications and vehicle-to-infrastructure communications, which you may have heard some things about, but I firmly believe that the technology will reduce the impact on vulnerable road users.

The CHAIR — Thank you.

Mr TILLEY — Just one quick one, and it is time for hypotheticals, if you could indulge us: just say that tomorrow all new vehicles in Australia had to be a minimum of a 4-star rating, a rating which would be mandated and legislated. What safety outcomes could we expect to see?

Mr CLARKE — I think we are almost there now, aren't we, in terms of the minimum ratings for vehicles? If you look at 5-star and 4-star vehicles today in that vehicle range excluding heavy vehicles, 90-odd per cent are already 4 and 5-star. In the 3, 2 and 1-star category, which I said before we have bundled together with 3-star, basically the cabin is just about to collapse. With one shift in variable it will become a 1-star. Last year, off the top of my head, I think 15 000 or 20 000 vehicles sold in that 3-star, 2-star and 1-star category which, in the context of the overall market, is very small but we would like to see them removed completely.

Without the technology that I have described, if we did it tomorrow I do not think we would see much of a change. We have continued to trickle down the death toll as newer cars become safer and the fleet becomes safer overall. If you put autonomous emergency braking in those vehicles from tomorrow, I think in a couple of years you would be expecting some result. I cannot quantify that. I can take a lead from the figures I spoke of before, but, yes, I think newer cars do most of the kilometres on our roads and so you would expect a decent fall in a couple of years.

The CHAIR — Thank you.

Mr CLARKE — I have been on record before, too, to say that I think if we get the technology in quickly we can actually cut our road trauma by 50 per cent, by the year 2020, rather than 30 per cent, and 50 per cent is the target that is set in Europe and other places. I sound like a bit of a marketing agent for technology, but it really is as good as it sounds, and the quicker we can get that technology, the quicker we can stop drunk drivers, speeders and a whole lot of people who would otherwise consciously or subconsciously break the law.

If I can just divert for a second, and particularly with your background in the police force, Mr Tilley, I think it is abominable that we have police out in the middle of the night, standing by the road, putting alcometers in drunk drivers' mouths. I think that is a really unfair job for anybody to do, and if we have technology that could mean that that person could be doing other duties or be at home with their family, we should use it I think. That would be my view.

Mr TILLEY — Any comment in relation to interlocks?

Mr CLARKE — I would have to check them, but I think the figure is something like in 20 or 25 per cent of fatalities the driver is under the influence, and a similar figure for unseatbelted — 20 or 25 per cent do not have their seatbelts on. There is probably some crossover between those two. Given the cost to the community — and you will have heard the figures of \$27 billion on a willingness-to-pay basis and so forth each year — why should we not have alcohol interlocks on all cars? Why should we not have seatbelt interlocks on all cars? It is a right to drive and it is a privilege to drive, but if you get that licence to drive you should be expected to meet societal norms. If you do not then there should be ways that stop you from doing that.

I know that some jurisdictions including Victoria look to alcohollocks for recidivists, and I think that is a great idea. I think all cars should have these technologies. You should never be able to get into a vehicle under the influence of anything, even if you think you are fine, or without putting your seatbelt on and engaging all of the things that will save your life and perhaps others.

Mr TILLEY — If I can expand on that, when you talk about having anything in your system you are specifically talking about interlocks. Jurisdictions in recent times have implemented legislation in relation to illegal substances, but no doubt unfortunately they do not pick up any pharmaceutical substances, but there is an effect on drivers in relation to substances, putting aside just alcohol alone. You are absolutely right; being a police officer on a night shift at this time of the year in country Victoria is bloody cold, but are we ever going to be able to legislate against absolute stupidity?

Mr CLARKE — No, but technology might mitigate that, and again I refer to Richard Tooth's evidence yesterday about the use of telematics and so forth to constrain drivers' behaviour.

The CHAIR — Just one final question: in my own constituency we have a high volume of cyclists. They are fair-minded local constituents who have backgrounds in computer science and engineering or road safety advocacy and are concerned about the incidence of the dooring of cyclists. It seems in this day and age unfortunate that vehicles do not have a technology that is implemented on all cars that gives alerts and covers that blind spot on a vehicle, when people are about to alight from a car, to check for an approaching cyclist. What is your understanding of the best relevant technology that might redress the issue of the dooring of cyclists?

Mr CLARKE — To be honest, I do not know. I am not sure there is a technology that deals with that. That is not to say that there is not a technology, given what we know today about other technologies that could deal with it. I know this issue is tied up a lot in arguments over access rights to the roads, separation of bicycles and other tour vehicles from road traffic.

The CHAIR — Thank you. If you could just take that on notice and, when you get the transcript and read through this point, if there is a call you could make that might provide some more detailed information, noting your international linkages, it would be helpful to cover off on one particular point in which I have a personal interest.

Mr CLARKE — Sure.

The CHAIR — Mr Clarke, thank you very much for giving your time today. You will receive a copy of the transcript. You are welcome to correct typographical errors and also any factual errors and return it to us. It is envisaged that it will then be placed on our website. We thank you for your attendance here today.

Mr CLARKE — Thank you, also.

Witnesses withdrew.