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# Submission to the Inquiry into the Transition to Electric Vehicles

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## 1. Introduction

### 1.1 About Blind Citizens Australia

Blind Citizens Australia (BCA) is the peak national representative organisation of and for the over 500,000 people in Australia who are blind or vision impaired. For nearly 50 years, BCA has built a strong reputation for empowering Australians who are blind or vision impaired to lead full and active lives and to make meaningful contributions to our communities.

BCA provides peer support and individual advocacy to people who are blind or vision impaired across Australia. Through our campaign work, we address systemic barriers by promoting the full and equal participation in society of people who are blind or vision impaired. Through our policy work, we provide advice to community and governments on issues of importance to people who are blind or vision impaired. As a disability-led organisation, our work is directly informed by lived experience. All directors are full members of BCA and the majority of our volunteers and staff are blind or vision impaired. They are of diverse backgrounds and identities.

### 1.2 About people who are blind or vision impaired

There are currently more than 500,000 people who are blind or vision impaired in Australia with estimates that this will rise to 564,000 by 2030. According to Vision Initiative, around 80 per cent of vision loss in Australia is caused by conditions that become more common as people age.[[1]](#endnote-1)

Australians who are blind or vision impaired can live rich and active lives and make meaningful contributions to their communities: working, volunteering, raising families and engaging in sports and other recreational activities. The extent to which people can actively and independently participate in community life does, however, rely on facilities, services and systems that are available to the public being designed in a way that makes them inclusive of the needs of all – including those who are blind or vision impaired.

## 2. Submission Context

BCA welcomes the opportunity to make a submission to the House of Representatives Standing Committee on Climate Change, Energy, Environment and Water’s inquiry into Australia’s transition to electric vehicles (EVs).

BCA has taken an active interest in matters relating to EVs and automated vehicles (AVs). In 2023, we provided feedback on the National Road Transport Technology Strategy.[[2]](#endnote-2) This built on our response to the Consultation Impact Analysis for Acoustic Vehicle Alerting Systems (AVAS) on EVs.[[3]](#endnote-3)

This submission is based on the following policy frameworks:

* Draft National Road Transport Technology Strategy.
* Draft 2024–27 National Connected and Automated Vehicle (CAV) Action Plan.
* Consultation Impact Analysis for Improving Pedestrian Safety – Acoustic Vehicle Alerting Systems for Electric Vehicles.
* National Electric Vehicle Strategy.
* Disability Standards for Accessible Public Transport 2002 (Transport Standards).
* Australia’s Disability Strategy 2021–2031.
* United Nations Convention on the Rights of Persons with Disabilities (UNCRPD).

This submission welcomes the environmental, economic and social benefits offered by emerging transport technologies. At the same time, BCA reiterates our concerns about the potential exclusion and endangerment of people who are blind or vision impaired.

As a signatory to the UNCRPD, governments in Australia have an obligation to monitor and eliminate safety hazards to ensure the wellbeing of people with disability.

Australia’s Disability Strategy, through which the UNCRPD is operationalised in Australia, requires governments to ensure that ‘the built and natural environment is accessible.’

BCA’s submission is based on extensive consultations with members and other people who are blind or vision impaired, and our ongoing advocacy work in the disability sector.

## 3. Blind Citizens Australia’s Submission

### 3.1 Opportunities for safer and more inclusive transport

#### The surge of EVs and AVs on Australian roads

Electrification and automated vehicle technologies are highly complementary. The advanced sensing and computing hardware on AVs require a lot of power, and all-electric battery packs tend to provide a more stable source of power than traditional petrol- or diesel-powered internal combustion engines (ICEs). As General Motors says on its website, ‘all AVs should be EVs.’[[4]](#endnote-4)

The total life-cycle emissions of EVs are approximately 30 per cent lower than ICE vehicles.[[5]](#endnote-5) The Commonwealth government considers EVs essential for the decarbonisation of Australia’s road transport sector. To that end, the Commonwealth unveiled the National Electric Vehicle Strategy in April 2023.

More Australians are buying EVs. In May 2022, EVs accounted for two per cent of new car sales in Australia. By December 2023, EVs made up eight per of new car sales.[[6]](#endnote-6)

Automotive experts anticipate that 90 per cent of Australia’s entire vehicle fleet will be electric by 2050.[[7]](#endnote-7) As such, all drivers and pedestrians will have to grow accustomed to EVs on our roads.

#### Factors in road fatalities

BCA welcomes technologies that would spare people from the immense trauma and grief associated with road traffic crashes. An estimated 60 million people perished on the roads during the 20th century, a figure comparable to the fatalities of the Second World War – the deadliest conflict in history.[[8]](#endnote-8)

According to the World Health Organization, approximately 1.3 million people continue to die on the roads each year. Vulnerable road users – including pedestrians, cyclists and motorcyclists – account for more than half of those deaths.[[9]](#endnote-9)

An additional 20 to 50 million people experience non-fatal road traffic injuries each year, often resulting in disability. For most countries, the costs associated with road traffic crashes are equivalent to three per cent of gross domestic product.[[10]](#endnote-10)

Road fatalities are on the rise in Australia. A total of 1,286 people died in road traffic crashes in the 12-month period ending on 29th February 2024. That marks a 9.9 per cent increase on the previous 12-month period.[[11]](#endnote-11)

Tragically, 110 road deaths were recorded in February 2024. That is a 25 per cent increase in fatalities compared to February 2023.[[12]](#endnote-12)

Human error often plays a key role in crashes, but so do other factors, including:

* **Poorly designed roads.** The majority of roads in regional and rural areas are unsealed. ‘Some of these unsealed roads,’ according to the Australian Rural Road Group, ‘are not even sheeted regularly; effectively they are pathways cut into in the soil, at the mercy of the elements.’[[13]](#endnote-13) As such, people in regional Australia were almost five times more likely to die in road crashes than people living in cities in 2022.[[14]](#endnote-14)
* **Poorly maintained roads.** A report published by the Grattan Institute in November 2023 described the condition of Australia’s local roads, especially in regional and rural areas, as ‘a dangerous disgrace.’ The public policy think tank recommended a $1 billion annual funding injection from the Commonwealth to address the problem.[[15]](#endnote-15)
* **Climate-vulnerable road infrastructure.** The quality of Australia’s roads has fallen even further as a result of devastating natural disasters. The Victorian government, for example, was left with 116,000 potholes to fill after the east coast floods in October 2022.[[16]](#endnote-16) Commonwealth, state, territory and local governments must invest in infrastructure specifically designed for changing climate conditions.
* **Consumers’ growing demand for heavy vehicles.** Sport utility vehicles (SUVs) and light commercial vehicles (mostly four-wheel drive utes) have proliferated in the last decade.[[17]](#endnote-17) SUVs and light commercials made up 78 per cent of all new car sales in Australia last year.[[18]](#endnote-18) In addition to being fuel-thirsty, these vehicles are much heavier than conventional cars and often have blunt front ends, causing them to take longer to stop and strike with more force.[[19]](#endnote-19) American researchers have found that children are eight times more likely to die when struck by an SUV than by a standard car.[[20]](#endnote-20)
* **Inadequate protections for pedestrians.** Pedestrians account for approximately 13 per cent of all road fatalities in Australia.[[21]](#endnote-21) Driver inattention, vehicle speed, a lack of pedestrian facilities (such as footpaths and pedestrian access points at intersections), and inadequate street lighting are often contributing factors. The minimum lighting level for residential streets in Australia is extremely low by international standards, around seven times lower than that in the United Kingdom.[[22]](#endnote-22) International researchers have found that improved street lighting can reduce the number of collisions by around 30 per cent.[[23]](#endnote-23)

BCA has previously detailed the additional road safety challenges faced by people who are blind or vision impaired. These include the dangers that arise when footpaths lack tactile ground surface indicators (TGSIs) or are blocked by obstacles such as post boxes, telegraph poles, bus stops and outdoor dining facilities.[[24]](#endnote-24)

Shared zones are particularly common in the Australian Capital Territory. They are areas where the road surface is at the same level as the footpath level (with no grade separation). Shared zones were born from an urban design theory that by taking away common elements of road design – such as kerbs, road surface markings, traffic signs and traffic lights – and creating a greater sense of uncertainty, drivers are likely to reduce their speed and be guided by ‘natural human interactions’ such as eye contact, rather than artificial regulations.

However, it is clear that this theory is fundamentally flawed and shows a distinct lack of awareness of the needs of pedestrians who are blind or vision impaired. Shared zones are dangerous to pedestrians who are blind or vision impaired, as they are unable to see and respond to the non-verbal communication between drivers, riders and pedestrians that is central to the shared zone context. Some pedestrians may not even be aware when a footpath becomes part of the road surface.

An influx of EVs and AVs on Australia’s roads will not magically solve the problems mentioned above. These challenges require strategic thinking, intergovernmental cooperation and significant financial investment.

When assessing the readiness of Australian roads for EVs and AVs, the Commonwealth government should consider the following recommendations.

**Recommendations:**

1. Collaborate with state, territory and local governments to improve the design and maintenance of Australia’s roads.
2. Collaborate with state, territory and local governments to invest in infrastructure specifically designed for changing climate conditions.
3. Nudge consumers away from purchasing SUVs by scaling back the tax incentives for such vehicles and working with state, territory and local governments to create more small-car only parking spots.
4. Amend Australia’s public lighting standard, AS/NZS 1158, to increase the brightness of residential streets.

#### Inclusive transport for people with disability

People with disability arguably have the most to gain from AVs. A recent systematic review by American researchers found that over 40 per cent of people with disability rely on others for transportation, and over 70 per cent limit their travel.[[25]](#endnote-25)

In October 2015, Steve Mahan, who is legally blind, became the first non-Google employee to ride alone in the company’s gumdrop-shaped AV in Austin, Texas. He reflected on the significance of this technology: ‘This is a hope of independence. These cars will change the life prospects of people such as myself.’[[26]](#endnote-26)

BCA’s submission to the 2022 Review of the Disability Standards for Accessible Public Transport 2002 (Transport Standards) detailed the discrimination frequently experienced by people who are blind or vision impaired when using public transport. One of the most chilling statistics from that submission is that disability experts believe at best only half of the nation’s public transport infrastructure is accessible today.[[27]](#endnote-27)

AVs could revolutionise the lives of people who are blind or vision impaired. It would allow them to travel independently and eliminate the worry of potentially falling onto the train tracks, having a bus close its doors on them or drop them at the wrong location, or being denied access to a taxi or rideshare when travelling with their dog guide.

### 3.2 The necessity of AVAS for all EVs

#### Issues and concerns with EVs

Historically, the sounds emitted by road traffic has enabled pedestrians who are blind or vision impaired to travel with relative safety and independence when crossing roads and using footpaths. As a study on the built environment from Western Michigan University explains:

Traffic flow can tell a person whether a street is one way or two way, how wide a street is, how close a person is to an intersection, and how close a person is to the street. All of these bits of information, combined with knowledge of how a city is laid out, allows a person to determine approximately where they are and perhaps even what direction they are walking.[[28]](#endnote-28)

This information has been used by people who are blind or vision impaired for decades, with specific knowledge, techniques and skills being developed and taught by orientation and mobility specialists to help take advantage of that traffic flow information.

However, as technology improves and EVs and hybrid vehicles – known collectively as Quiet Road Transport Vehicles (QRTVs) – form a greater proportion of traffic, much of this vital navigational information will be lost and the risks of serious injury or death for people who are blind or vision impaired will continue to rise.

In 2018, Monash University Accident Research Centre (MUARC) and Vision Australia conducted research with people who are blind or vision impaired. The findings revealed:

* 75 per cent of participants regularly walk, daily or almost daily. Of these participants, 42 per cent walk outside unassisted and 58 per cent walk outside assisted. Most of those walking outside assisted do so by using a white cane.
* 35 per cent of participants experienced a collision or near collision with QRTVs.
* 74 per cent of participants said their confidence had diminished since the introduction of QRTVs.[[29]](#endnote-29)

For those with partial hearing loss, the issue of hybrid and electric cars being silent is particularly pertinent, and a natural consequence of an ageing population will also be increased prevalence of hearing loss in addition to vision impairment.

QRTVs also pose a significant danger to people who are not disabled. In 2011, the National Highway Traffic Safety Administration (NHTSA) in the United States revealed that EVs and hybrids had a 35 per cent greater likelihood of accidents with pedestrians, and a 50 per cent greater likelihood of accidents with cyclists. The majority of these incidents occurred in carparks and driveways, when a driver was reversing or turning at low speed.[[30]](#endnote-30)

The batteries that power QRTVs make for much heavier – and therefore dangerous – vehicles. The Ford Mustang Mach-E Electric SUV and the Volvo XC40 EV, for example, are both 33 per cent heavier than their petrol-powered equivalents.

In 2011, the National Bureau of Economic Research in the United States published a paper which indicated that being struck by a vehicle with an added 1,000 pounds (454 kilograms) increased the likelihood of death by 47 per cent.[[31]](#endnote-31)

The weight problem is compounded by the fact that EVs are quicker off the mark than traditional ICE vehicles. EVs generate much more torque than diesel- or petrol-powered vehicles. EV motors also eliminate the need for a traditional transmission, allowing the power to go straight to the wheels. Ultimately, this means that EV drivers, who have not been trained to handle such power, can accelerate quickly even in crowded urban areas.[[32]](#endnote-32)

In recognition of the dangers posed by QRTVs, most major vehicle markets – including the European Union, the United Kingdom, the United States, Japan, South Korea and China – already mandate AVAS systems for such vehicles.

**Recommendation:**

1. Fit all electric, hydrogen fuel cell and hybrid vehicles registered in Australia with an Acoustic Vehicle Altering System (AVAS), without a pause function or off-switch.

#### Sounds generated by AVAS when in operation

According to Lex Brown, an urban sounds expert at Griffith University, a QRTV travelling in excess of 30 km/h sounds much the same as a traditional ICE vehicle, as the noise is generated from the tyres vibrating against the road rather than the engine. Below that speed, however, it becomes barely audible.[[33]](#endnote-33)

Other scholars agree that it is at speeds of over 30 km/h where the noise of tyre friction overcomes the noise of a traditional engine.[[34]](#endnote-34)

BCA echoes the concerns of the Royal National Institute of Blind People in the United Kingdom that QRTVs might still be too quiet when travelling at 20 km/h without the sound of an AVAS. The need for AVAS to sound at higher speeds has already been recognised in the United States, where they are required for speeds up to 30 km/h.[[35]](#endnote-35)

BCA believes that AVAS should make a sound when the vehicle is moving forward, reversing, stationary or idling. BCA recommends that Australian regulators take a commonsense approach – that is, a QRTV should sound similar to a traditional ICE vehicle.

In advocating this position, BCA concurs with John Paré, the executive director for advocacy and policy at the National Federation of the Blind in the United States. As Paré explains, QRTVs have to ‘sound to some degree like cars – otherwise, the alerts won’t provide safety. Society has already been trained to know what cars sound like.’[[36]](#endnote-36)

BCA is aware that vehicle manufacturers have already designed proprietary AVAS systems with woodwind instruments, flutes, clarinets, synthesisers and human voices. The sounds produced by the layering of these inputs are ethereal and even beautiful, but they do not sound like those generated by a traditional ICE vehicle.

If these experimental sounds are permitted under a national AVAS framework, it is incumbent on the Commonwealth government to fund and collaborate with state and territory road safety commissions, along with disability representative organisations, on an extensive awareness campaign. AVAS can only be truly effective if pedestrians know what moving vehicles sound like in the modern era.

BCA reminds the Commonwealth that Tesla had to recall nearly 579,000 vehicles in the United States in 2022 because of the ‘Boombox’ function that played sounds over an external speaker and obscured audible warnings for pedestrians.[[37]](#endnote-37) The United States has since banned customisable sounds, and Australia should do likewise.

**Recommendations:**

1. AVAS be operational at travelling speeds of 0 km/h to 30 km/h, as well as when the vehicle is reversing, stationary or idling.
2. AVAS produce sounds similar to those of a vehicle with an internal combustion engine.
3. Collaborate with state and territory road safety commissions and disability representative organisations on an extensive awareness campaign if non-traditional AVAS sounds are permitted.
4. Prohibit external speakers and customisable sounds capable of obscuring audible warnings for pedestrians.

#### AVAS for electrified heavy vehicles

Despite making up just four per cent of the national vehicle fleet, heavy vehicles are responsible for 25 per cent of all vehicle emissions in Australia.[[38]](#endnote-38) Electrifying heavy vehicles is thus a priority for the Commonwealth government and Australian industry.

BCA believes that all electrified heavy vehicles must be fitted with AVAS. When AVAS has been mandated for heavy vehicles overseas, vehicle manufacturers have embraced the challenge of developing new acoustic systems.[[39]](#endnote-39)

Furthermore, public transport operators are starting to decarbonise traditional bus services. BCA strongly reiterates its support for the installation of AVAS on electric buses.[[40]](#endnote-40)

BCA has been made aware that the e-buses recently announced by the New South Wales government are equipped with an AVAS that operates at speeds of up to 20 km/h.[[41]](#endnote-41) Whilst the inclusion of an AVAS is encouraging, we again note that they should be required for speeds of up to 30 km/h.

**Recommendation:**

1. Fit all electric trucks and buses registered in Australia with an AVAS, without a pause function or off-switch.

#### AVAS for Personal Mobility Devices

In recent years there has been rapid and significant growth in the popularity and availability of e-scooters and other Personal Mobility Devices (PMDs), whilst legislation and regulation has struggled to keep up. PMDs or ‘e-ridables’ are broad terms that can refer to a wide range of electric-powered devices, including
e-scooters, electric unicycles, electric skateboards, ‘hoverboards’ and Segways.

BCA recognises the ongoing role PMDs are likely to play as a way of providing a practical, ecological and economical alternative to city traffic, and as ‘last-mile’ transportation to help bridge connections within public transport networks.

However, these devices can pose significant risks to people who are blind or vision impaired. The foremost of those concerns is the difficulty detecting e-scooters approaching as they run almost silently and are capable of speeds of at least
25 km/h, with some on the market reportedly reaching speeds of up to 90 km/h.

International research has indicated that e-scooters could be three times more dangerous than cycling, with riders engaging in anti-social behaviour including using devices on footpaths, travelling too fast, racing other riders and performing dangerous stunts.[[42]](#endnote-42)

Additionally, use of e-scooters under the influence of alcohol has increased safety concerns given the dangers to both pedestrians and riders themselves.[[43]](#endnote-43) We believe steps must be taken to reduce the risk of the near silent operation of PMDs by extending the mandatory installation of AVAS to all PMDs.

**Recommendation:**

1. Fit all e-scooters and other Personal Mobility Devices (PMDs) sold in Australia with an AVAS, without a pause function or off-switch.

### 3.3 Protections for people who are blind or vision impaired

#### Protections for taxi, rideshare and public transport passengers with disability

The draft National Road Transport Technology Strategy recognises that the accessibility of AV taxi and rideshare services for people with disability will ‘depend on the design and operation of these future services, including the human-machine interface.’

Australia’s dependence on foreign vehicle manufacturers may mean that the unique needs of Australian consumers are not met. It may mean that some AVs are simply incompatible with Australian driving conditions. Zoox, a self-driving car company owned by Amazon, could be an example of this.

Zoox robotaxis are designed without a steering wheel, pedals or other manual controls. They travel bi-directionally and have seats that face each other (picture a horse-drawn carriage without the horse).[[44]](#endnote-44) Such vehicles will need sensors to determine where passengers are seated and how they can most safely exit in Australian conditions.

Imagine that a Zoox passenger’s destination is a building on the righthand side of a busy road. In California, where Zoox robotaxis are currently being trialled, opening the door on the righthand side of the vehicle would be safe for a person who is blind or vision impaired as they would be close to the curb. Exiting to the right in Australia, however, would imperil a person who is blind or vision impaired by exposing them to traffic from both directions.

As outlined in ‘Australia’s Disability Standards for Accessible Public Transport and Connected and Automated Vehicles – Main Report’ from August 2021, people with disability have many other practical considerations that must be addressed before AV taxi, rideshare and public transport services can safely commence operations in Australia.[[45]](#endnote-45)

The Commonwealth government must amend the Transport Standards to provide appropriate regulation of AV taxi, rideshare and public transport services. These amendments must be co-designed with people with disability and disability representative organisations.

**Recommendation:**

1. Amend the Transport Standards to provide appropriate regulation of AV taxi, rideshare and public transport services. These amendments must be co-designed with people with disability and disability representative organisations.

#### Protections for pedestrians with disability

There is currently a lack of disability representation in the datasets used to train and test AVs. People with disability are treated as ‘edge cases’, meaning that they are not seen as typical people and so may require special handling in AV program algorithms.

International researchers have found that people who are blind or vision impaired do not turn their heads as often as fully sighted pedestrians before crossing the road. This poses a problem for pedestrians who are blind or vision impaired because AVs use head movements to predict pedestrians’ intentions to cross the road.[[46]](#endnote-46)

Another researcher travelling in an AV realised it was unable to recognise a friend crossing the road in a wheelchair. Were it not for the researcher’s manual intervention, the vehicle would have proceeded through the intersection and collided with the individual in the wheelchair.[[47]](#endnote-47)

The Commonwealth government must ensure that people with disability are included in the datasets used to train and test AVs. It must include such a provision in the Australian Design Rule (ADR 90/01), the mechanism that provides an initial pathway to supply AVs to the Australian market.

**Recommendation:**

1. Include in the Australian Design Rule (ADR 90/01) a provision that vehicle manufacturers must include people with disability in the datasets used to train and test AVs.

#### Protections for all road users

As part of the research for this submission, BCA staff viewed the videos posted to YouTube by John Bernal, formerly an advanced driver assistance systems test operator at Tesla. He lost his job for showing how the company’s Full Self-Driving (FSD) Beta system worked in different locations around Silicon Valley, California. We encourage all members of the Committee to do the same.

In one video, Bernal’s 2021 Tesla Model 3 experienced ‘phantom braking’, drove itself in a ‘Bus Only’ lane, repeatedly drove along the tracks of an operational light railway, stopped in the middle of an intersection, and drove up and over curbs.[[48]](#endnote-48) In another video, the FSD Beta system prompted the vehicle to run a red light on six separate occasions.[[49]](#endnote-49)

Using a private road, Bernal chose not to intervene when the FSD Beta system allowed the car to crash into the full-body mannequin a five-year-old child, the mannequin of a black Labrador Retriever (which has particular salience for dog guide users), and both mannequins together. After striking the mannequins, the vehicle usually continued down the road in a hit-and-run fashion. The presence of road closure signs and police caution tape across the road had no effect on the vehicle.[[50]](#endnote-50)

Most troublingly, Bernal demonstrated how easy it is to evade Tesla’s Driver Monitoring System. A giant teddy bear, a giant stuffed unicorn, and a giant Champagne balloon were all deemed sufficiently ‘human’ by the system to sit behind the wheel of a moving Tesla. On each occasion, the vehicle carried out a hit-and-run strike on the child mannequin.[[51]](#endnote-51)

To underscore the system’s ineptitude, Bernal left the driver’s seat completely empty. His Tesla proceeded to drive through road closure signs and police caution tape and execute a hit-and-run strike on the child and dog mannequins. Tesla’s Autopilot software failed to record any ‘improper use’ of the vehicle during any of these tests.[[52]](#endnote-52)

Approximately 400,000 North American Tesla drivers have access to the FSD Beta system.[[53]](#endnote-53) In May 2023, it was reported that the software had been made available for purchase in Australia for the first time.[[54]](#endnote-54)

The Dawn Project has recorded 1,108 crashes and 34 fatalities brought about by Tesla’s self-driving software. This includes 16 separate crashes into emergency vehicles and trucks with warning signs, causing 15 injuries and one fatality.[[55]](#endnote-55)

The Dawn Project’s founder, Dan O’Dowd, was nearly killed himself when the FSD Beta system swerved his Tesla into the path of an oncoming vehicle, giving him less than a second to react.[[56]](#endnote-56)

Tesla has acknowledged some of its technical deficiencies. In December 2023, the company recalled more than two million cars in the United States to fix the vehicles’ Autopilot software.[[57]](#endnote-57) A few weeks later, Tesla recalled 1.6 million cars in China for the same reason.[[58]](#endnote-58)

In its present state, Tesla’s FSD Beta system is not fit for purpose. The system failures described above could result in horrific accidental collisions, or even be used to carry out terrorist attacks and hit-and-run homicides.

The Commonwealth government cannot allow this system onto Australian roads until Tesla completely fixes the software. This must be reflected in the Australian Design Rule (ADR 90/01).

**Recommendation:**

1. Include in the Australian Design Rule (ADR 90/01) a provision that all vehicles with driver monitoring systems are rigorously tested for pedestrian and other road users’ safety before being allowed onto Australian roads.

### 3.4 Additional safety and ethical considerations

#### The problem of puffery

The Australian Competition and Consumer Commission (ACCC) defines puffery as ‘wildly exaggerated and vague claims about a product or service that no one could treat seriously. For example, a restaurant claims they have the “best steaks on earth.”’[[59]](#endnote-59)

Elon Musk, the chief executive officer of Tesla, often makes exaggerated claims about the safety features of his company’s vehicles.[[60]](#endnote-60) In trumpeting Tesla’s advanced airbags, Musk said:

I think we might have come full circle and no longer need seat belts if you have advanced airbags… Unbelted child sitting in a bad position – probably still fine. The seat belt is like – if you wear the seat belt – that’s nice. The airbag is doing the work. Airbag technology is crazy good.[[61]](#endnote-61)

Similarly, advertisements for General Motors’ Super Cruise system have focused on the technology’s hands-free capabilities.[[62]](#endnote-62)

Many people view these claims and advertisements as a genuine representation of the products and not as mere puffery. For example, a recent survey of 1,008 people by the sleep website Sleep Junkie found that 12.7 per cent of respondents were willing to sleep behind the wheel of a moving semi-autonomous vehicle.[[63]](#endnote-63)

The Commonwealth government must recognise that many customers take these claims and advertisements seriously, and are likely to use their EVs and AVs in inappropriate and dangerous ways. The Commonwealth must work with its state and territory counterparts to clearly articulate the legal responsibilities of EV and AV drivers, regardless of the claims made by vehicle manufacturers.

**Recommendations:**

1. Recognise that many customers take the advertisements and claims made by vehicle manufacturers literally. This causes them to use their EVs and AVs in inappropriate and dangerous ways.
2. Work with state and territory governments to clearly articulate the legal responsibilities of EV and AV drivers, regardless of the claims made by vehicle manufacturers.

#### The paradox of automation

The more automatic systems improve, the more human operators come to rely on them. When something goes wrong and manual takeover becomes necessary, human operators often lack the skills to cope.

A tragic example of this was Air France Flight 447 on 1st June 2009. After encountering a thunderstorm and icing conditions, the pilots inadvertently stalled their Airbus A330. Unused to flying without the help of computers, the pilots were unable to recover the plane from its stall and so crashed into the Atlantic Ocean. All 228 passengers and crew were killed.[[64]](#endnote-64)

Younger drivers may be particularly susceptible to the paradox of automation. By their very nature, these drivers do not have much experience and so may not know what to do when confronted with a dangerous situation.

In March 2022, for example, a 23-year-old Melbourne driver claimed her Tesla Model 3 was on Autopilot when it struck a nurse crossing the road to board a tram, causing life-threatening injuries. The P-plate driver reportedly told detectives she thought she had more time to stop than she actually did.[[65]](#endnote-65)

A recent study of 600 General Motors, Tesla and Nissan drivers in the United States found that 53 per cent of Super Cruise, 42 per cent of Autopilot and 12 per cent of ProPILOT Assist owners were comfortable treating their vehicles as fully self-driving. As such, they were comfortable eating and texting whilst driving.[[66]](#endnote-66) These drivers were evidently not prepared for a life-and-death moment when they would need to assume manual control.

To reiterate Recommendation 16, the Commonwealth government must work with its state and territory counterparts to clearly articulate the legal responsibilities of EV and AV drivers – both here and now, and in the future.

## 4. Summary of Recommendations

In this submission to the House of Representatives Standing Committee on Climate Change, Energy, Environment and Water’s inquiry into Australia’s transition to electric vehicles (EVs), BCA makes the following recommendations to the Commonwealth government:

1. Collaborate with state, territory and local governments to improve the design and maintenance of Australia’s roads.
2. Collaborate with state, territory and local governments to invest in infrastructure specifically designed for changing climate conditions.
3. Nudge consumers away from purchasing SUVs by scaling back the tax incentives for such vehicles and working with state, territory and local governments to create more small-car only parking spots.
4. Amend Australia’s public lighting standard, AS/NZS 1158, to increase the brightness of residential streets.
5. Fit all electric, hydrogen fuel cell and hybrid vehicles registered in Australia with an Acoustic Vehicle Altering System (AVAS), without a pause function or off-switch.
6. AVAS be operational at travelling speeds of 0 km/h to 30 km/h, as well as when the vehicle is reversing, stationary or idling.
7. AVAS produce sounds similar to those of a vehicle with an internal combustion engine.
8. Collaborate with state and territory road safety commissions and disability representative organisations on an extensive awareness campaign if non-traditional AVAS sounds are permitted.
9. Prohibit external speakers and customisable sounds capable of obscuring audible warnings for pedestrians.
10. Fit all electric trucks and buses registered in Australia with an AVAS, without a pause function or off-switch.
11. Fit all e-scooters and other Personal Mobility Devices (PMDs) sold in Australia with an AVAS, without a pause function or off-switch.
12. Amend the Transport Standards to provide appropriate regulation of AV taxi, rideshare and public transport services. These amendments must be co-designed with people with disability and disability representative organisations.
13. Include in the Australian Design Rule (ADR 90/01) a provision that vehicle manufacturers must include people with disability in the datasets used to train and test AVs.
14. Include in the Australian Design Rule (ADR 90/01) a provision that all vehicles with driver monitoring systems are rigorously tested for pedestrian and other road users’ safety before being allowed onto Australian roads.
15. Recognise that many customers take the advertisements and claims made by vehicle manufacturers literally. This causes them to use their EVs and AVs in inappropriate and dangerous ways.
16. Work with state and territory governments to clearly articulate the legal responsibilities of EV and AV drivers, regardless of the claims made by vehicle manufacturers.
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