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**Vision Australia Submission: Consultation Impact Analysis for Improving Pedestrian Safety – Acoustic Vehicle Alerting Systems for Electric Vehicles**

Submission to: Department of Infrastructure, Transport, Regional Development, Communications and the Arts

Date: 26 May 2023

Submission approved by: Chris Edwards, Director Government Relations and Advocacy, NDIS and Aged Care, Vision Australia

# Introduction

Vision Australia is providing comment to the Consultation Impact Analysis for Improving Pedestrian Safety – Acoustic Vehicle Alerting Systems for Electric Vehicles (the Consultation) because the current and future increase in the number of electric vehicles in Australia is having a serious and potentially catastrophic impact on the safety of people who are blind or have low vision that can only be addressed if the Australian Government takes swift, decisive and comprehensive action. The mandating of Acoustic Vehicle Alerting Systems (AVAS) on all electric/hybrid vehicles available in Australia is an essential component of such action. Other jurisdictions, including the US, UK, EU, Canada, Japan, South Korea, and China, have all acted to protect vulnerable members of the community by mandating AVAS, and Australia must now do likewise without further delays.

In this submission we address key issues from the perspective of people who are blind or have low vision. In doing so, we discuss the results of a recent survey that we conducted in the blind and low vision community. We are aware, of course, that mandating AVAS will have significant benefits for the community in general, but we have restricted our focus in this submission to the blind and low vision community since that is our primary area of expertise.

We are especially appreciative of the comprehensive Regulatory Impact Statement (RIS) produced by the Department to serve as the basis for the consultation. While we do not support certain aspects of the proposal in the RIS relating to the scope and timeframe for an AVAS mandate, we do congratulate the Department for producing an excellent summary of the research and issues, and for ensuring that the complex tables included in the RIS are accessible to people who are blind or have low vision and who use assistive technology such as screen-reading software.

Vision Australia developed a special page on our website that provided detailed information about the consultation and how people could contribute to it. As an Appendix to this submission, we have compiled the letters of support we received through this page, together with a more complete list of comments that were provided by respondents to the survey that we discuss below.

We would be very happy to provide further information about the content of this submission and the Letters of Support in the Appendix if the Department so requests.

## Our Recommendations

Derived from the content in this submission; informed by the strong support we have received from people who are blind or have low vision, their families and supporters; and reflecting the many comments provided by respondents to our recent survey; Vision Australia makes the following recommendations:

1. That the Australian Government implement a mandate for all electric vehicles available in Australia to include an Acoustic Vehicle Alerting System.
2. That in recognition of the need for urgent action to mitigate the serious safety risks posed by non-AVAS electric vehicles to the community in general and people who are blind or have low vision in particular, the timeframe modelled in the Regulatory Impact Statement for the implementation of an AVAS mandate be brought forward by at least one year.
3. That in recognition of the need for consistency and certainty in ensuring the safety of pedestrians, including pedestrians who are blind or have low vision, and the dangers to pedestrian safety of a fragmentary or piecemeal approach, the AVAS mandate be also applicable to heavy electric vehicles such as trucks and buses.
4. That the AVAS mandate be implemented according to a recognised standard that specifies sound characteristics such as volume, pitch, and duration that allow pedestrians to determine the approximate speed of the vehicle as well as its location and direction of travel, and which does not cause undue distraction to the driver of the vehicle.
5. That the AVAS mandate be implemented such that it will not be possible for the driver or owner of the vehicle to change the AVAS sound from the manufacturer’s default, or to modify, remove, temporarily disable, or otherwise interfere with the AVAS sound.
6. That the AVAS mandate be implemented such that it will not be possible for a vehicle to play sounds other than the AVAS sound through the external speaker.

## Background

Vision Australia became aware in early 2008 that a number of organisations were conducting lobbying activities in the US to secure a legislative mandate for the inclusion of AVAS on electric and hybrid vehicles. The potential impact of silent or near-silent vehicles on the blind and low vision community was not in dispute, and organisations such as the National Federation of the Blind and the American Council of the Blind were becoming increasingly concerned that safety risks were proliferating as the number of electric and hybrid vehicles was accelerating.

Vision Australia developed a public policy position that, among other things, called on the Australian Government to engage proactively with the safety implications of electric and hybrid vehicles by coordinating research aimed at identifying the most effective solutions(s).

Notwithstanding the progress that was being made towards the mandating of AVAS in the US, EU and elsewhere, and despite the increase in electric and hybrid vehicles in the local market, Australia did not undertake any investigations, research, or policy development to mitigate the safety implications for the blind and low vision community. It was left to organisations such as Vision Australia to provide leadership in promoting community awareness and advocating for government action.

As the Regulatory Impact Statement notes, Vision Australia commissioned the Monash University Accident Research Centre to conduct research into the impact of electric/hybrid vehicles and bicycles on people who are blind or have low vision. The report, published in October 2018, documented alarming findings, including that 35% of the 246 survey respondents had experienced a collision or near-collision with an electric/hybrid vehicle, and that 74% of respondents felt less confident walking and crossing roads because of the introduction of electric/hybrid vehicles into Australia.

The findings from the Monash University research provided conclusive evidence that the introduction of electric/hybrid vehicles was already causing harm to the blind and low vision community, both in terms of actual collisions but also in the erosion of confidence and independence. The research findings have been instrumental in supporting our systemic advocacy to government and the community about the need for AVAS to be mandated. It is certainly very encouraging that the RIS consultation is now underway, but it is essential that the consultation is followed by expeditious and comprehensive action that reflects the urgency of the issue.

## Vision Australia 2023 Survey

To inform this submission Vision Australia recently conducted a survey to gather data about the current experiences and perceptions of people who are blind or have low vision in relation to electric/hybrid vehicles. The survey was not a replication of the 2018 Monash University research methodology, but, rather, a way of obtaining a general indication of whether the increasing prevalence of electric/hybrid vehicles over the past five years have had a corresponding increased impact on the blind and low vision community.

The survey was made available online for about a month, closing on May 20, 2023. It was widely promoted through our various communication channels, including newsletters, social media, Vision Australia Radio, and email discussion lists. The survey comprised 15 questions to gather demographic information as well as responses specific to electric/hybrid vehicles. There were opportunities for respondents to provide open-ended comments in key questions.

We received 109 completed responses to the survey, as well as a number of incomplete responses whose data has been included where relevant. Approximately 60% of respondents were blind (totally blind or “legally” blind), while 32% had low vision. The remainder were from family members or supporters of people who are blind or have low vision. When asked how long they had been blind or had low vision, 32.5% of respondents said, “since birth”, 45% said “for more than five years”, while the remaining 22.5% said “for less than five years”.

Respondents came from all age groups. The most represented age group was “65 or older” with 41%; 20% were in the 55-64 age group, while just over 18% were in the 45-54 age group. The remaining respondents came from younger age groups.

Responses were received from most states and territories in Australia, with the majority coming from NSW, Victoria, and Queensland, which reflects Vision Australia’s greater presence in these states.

It is significant that 39.5% of respondents indicated that they have additional disabilities. The most common of these additional disabilities is hearing impairment, but others include mobility or balance issues, cerebral palsy, diabetic neuropathy, and hemiplegia as the result of stroke. It is essential to recognise that the blind and low vision community is extremely diverse, and to avoid stereotypes that view the “typical” person who is blind or has low vision as highly mobile, with perfect hearing and acrobat-style balance. This is especially relevant in any discussion of community safety and the impact on people’s confidence and independence of technologies that jeopardise it.

Close to 100% of respondents to the survey said that they support increasing the noise threshold for electric/hybrid vehicles. This is hardly surprising, given that people who are blind or have low vision rely primarily on hearing when crossing roads and navigating in other areas where there is traffic, such as carparks and transport interchanges.

Respondents were invited to provide comment on why they support the mandate of AVAS for electric vehicles. One respondent commented:

“As a dog guide user i enjoy working my dog in various settings, particularly walking my local residential streets. There seems to be a growing number of electric cars in my residential area and i find them almost impossible to hear. They are easily undetectable to hear when there are other loud cars driving near them or particularly on a windy day when they are literally impossible to hear. I have been put in potential danger from electric cars because in the early days of having my dog guide and i accidently found myself in the middle of the road and a electric car was very close behind me. It tooted its horn and also frightened me and it was a very upsetting incident. I always feel nervous and vulnerable when leaving my house with my dog because I am worried that my dog or I may just make a mistake one day on our journey and get seriously hurt. I fully appreciate the environmental benefits of electric vehicles but as a blind person it would be wonderful to be able to hear them too.”

Another respondent noted:

“I believe electric cars will become very popular in the near future particularly if the price is lowered. There are many on the roads now. One of their top features is that they are very environmentally friendly (fuel and noise). I do not have a problem with crossing at the lights - I certainly do at marked pedestrian street crossings as many non-electric cars do not always stop at these crossings. Fortunately, I have good hearing, but a silent car would be very different at these crossings. Crossing any street has its dangers. I would also like to bring up driverless vehicles - cars and trucks. These too are silent and would be in the same category as electric cars. Having a sound device fitted to these vehicles would be highly recommended by me and go a long way to assisting both sighted and low vision/blind people of all ages feeling safer and more confident around traffic. It would be hoped that the device would be loud enough to be heard over all of the other traffic as well.”

The following succinct comment was provided by another respondent:

“Very high support, it’ll save lives!!! What’s more important than that.”

One respondent said:

“Walking provides easy affordable exercise that I enjoy. As the number of electric vehicles increases in our neighbourhood so has the risk of being struck. I am not able to hear vehicles approaching and drivers do not take sufficient care to ensure my safety. Where possible I walk with a family member to increase my safety but that is not always possible and also has the affect of decreasing my independence. I have in the last 12 months had a number of near misses with drivers reversing out of driveways and failing to stop at stop signs. I’ve noticed I am less relaxed and need to be more attentive/hyper vigilant to ensure my safety. These experiences have impacted on my confidence and enjoyment of walking.”

This respondent commented:

“I can’t see the cars I would at least like to be able to hear if a car is coming so I don’t get hit by one and injured or killed. As a blind person I rely a lot on my hearing.”

Another respondent remarked:

“I have ridden in an electric vehicle several times. I fully support EVs for multiple reasons but mostly for environmental reasons. I noticed the complete lack of engine noise and was not able to detect if the car was running or not when I was getting in and out. And in particular when the car was being driven away from where I was standing that the vehicle was actually moving away. I could not clearly detect when the vehicle was travelling toward me, it deeply worries me as although I have impaired hearing, I depend on my hearing when crossing roads or moving through a shopping centre car park as my hearing is my dependable than my sight. I would feel a lot less safe if vehicles have no sound.”

Finally, the following comment highlights the potentially insidious impact of silent vehicles in the erosion of confidence:

“There was a time when I thought I was getting really bad at road crossings. I had had a few instances of feeling like I had made bad decisions and crossing in front of cars closer than I had estimated. I got my orientation and mobility instructor to come out and assess my road crossing. Everything was still fine. I went and got my hearing tested. That was fine too, in fact, above average. I was forced to conclude the cars must be getting quieter, and this is making me very scared. My vision is not good enough to look to crossroads at all any more. I have to avoid certain uncontrolled roads because there’s just too much risk involved in crossing them given that I can’t see and I’m not hearing them as well either these days. A mandatory sound a learning system should definitely be mandatory for all quieter cars. I find it particularly challenging when they are travelling at slow speeds. For example, if you are crossing a side street and the car is travelling quite slowly. It’s very difficult to hear them.”

Survey respondents were next asked if they had experienced a collision or near-collision with an electric or hybrid vehicle. Over 51% of respondents said that they had experienced at least one collision or near-collision. The following comment is typical of those we received:

“My support worker and i were about to cross the road when an electrical car pulled out of the street corner. I almost stepped out into it and my support worker stopped me. She didn’t hear it either. It was her vision that saw it and was able to prevent me from being hit. I’m not able to hear electric cars other than the tyre noise when they are at speed. When going slow the tyre noise isn’t there.”

It will be recalled that the corresponding figure from the 2018 Monash University research was 35%. Given the increase in the number of electric/hybrid vehicles in Australia during the past five years (in 2022 alone the number almost doubled from 44,000 to more than 83,000), it is not at all surprising that there has been an increase in the number of people who are blind or have low vision experiencing collisions and near-collisions with these near-silent vehicles. It is also worth noting that because electric vehicles are silent at low speeds, it is likely that many people who are blind or have low vision have experienced a near-collision without even knowing it. In other words, the 51% figure is a very conservative estimate.

Changes in the design of pedestrian infrastructure are also likely contributors to the increase in collisions or near-collisions. So-called “blended designs” that eliminate the traditional kerb in favour of a flat footpath/road transition are being used in city CBDs and suburbs as part of a new approach to streetscapes. While the use of Tactile Ground Surface indicators (TGSIs) can assist people who are blind or have low vision to navigate these blended environments, the absence of traffic noise from electric/hybrid vehicles makes it much harder to navigate them safely and without significant levels of stress.

The need for swift action is even more urgent now than it was in 2018, and if nothing is done then there is every reason to suppose that the incidence of collisions and near-collisions with electric/hybrid vehicles will continue to increase.

Respondents who had experienced a collision or near-collision were asked about their location at the time. 15% said that they were crossing the road at an intersection where audible traffic signals were installed, 45% said that they were crossing the road at an intersection without audible traffic signals, and almost 40% said that they were walking along the footpath (for example, crossing a driveway or in a carpark). This finding highlights the importance of audible traffic signals and should lead to renewed effort to ensure that all pedestrian crossings have them installed. It also serves as a timely reminder that electric/hybrid vehicles are not encountered only on roads, but in carparks, driveways, taxi ranks, transport interchanges, and other areas that are open to traffic.

One survey respondent provided a comment that is pertinent to this question:

“I live in a retirement complex. Quite often other residents require taxis to get about. These are frequently electric vehicles. The roads in our Village are shared thoroughfares and quite often these vehicles are not seen or heard until they are virtually on top of you. In these circumstances I feel that it is necessary for some sort of alert system to be on the vehicles. I have seen too many near misses and been in a couple myself.”

The next survey questions asked respondents whether the introduction of electric/hybrid vehicles has reduced their confidence to walk and cross roads. Just over 95% of respondents said that their confidence has been reduced, with 34% saying that their confidence has been reduced “by a large degree”. The fact that almost the entire blind and low vision community now feels less confident to cross roads and walk in the community is deeply disturbing and should be a powerful incentive for the Australian Government to act immediately and decisively.

Not surprisingly, the majority (65%) of respondents who had experienced a collision or near-collision with an electric/hybrid vehicle answered the next survey question by saying that the experience has led to a change in their walking or travel patterns. Almost 63% said that the experience has caused them to leave their house less often. One respondent noted that:

“I no longer go out on my own as I need to be able to hear a vehicle coming before I cross a road.”

Another respondent explained:

“It is so scary when you step off the curb only to be confronted with a vehicle right there in front of you. You become disorientated, confused and your confidence drops dramatically. Not to mention the driver/other passengers are surprised and at times angry that you have run into their car using your long cane which they think may have dented their car.”

The results of our survey paint a stark picture of a blind and low vision community that is experiencing unacceptable and increasing threats to their safety, as well as a significant erosion of confidence leading to a dramatic retreat into isolation and exclusion from the rest of society. People who are blind or have low vision deserve better than this from a nation that makes it unlawful to discriminate on the grounds of disability, has committed to meeting obligations under the UN Convention on the Rights of Persons with Disabilities, and which values inclusion, equality, dignity, and independence.

# Key Issues that Must be Addressed in an AVAS Mandate

## Scope of the Proposed Mandate

During the consultation, we spoke with clients who expressed varying degrees of astonishment, incredulity, disbelief, and anger at the intention to exclude buses and other heavy vehicles from the proposed AVAS mandate.

We received comments such as:

“Do they honestly think that I’ll be safe if I can’t hear an electric bus and step out in front of it?”

And,

“Do they want me to be killed by an electric truck so they can get some data?”

And,

“Even if there are AVAS on electric cars, I still won’t feel safe crossing the road because I’ll never know if there’s a bus or a truck about to wipe me out.”

And,

“If I’m at a transport interchange or a multi-bus stop and there are two buses parking one behind the other there’s every chance that I could step between them and get squashed. Am I supposed to live with the fear of that whenever I travel by myself?”

Our strong view is that any mandate for AVAS on electric/hybrid vehicles must include heavy vehicles such as trucks and buses. The safety of people who are blind or have low vision is of paramount and overarching importance, and there is no justification for treating light and heavy vehicles differently. Failure to require AVAS on all electric/hybrid vehicles would, in both a literal and metaphorical sense, amount to kicking the safety can down the road.

We also have grave concerns that if heavy vehicles are not included in the AVAS mandate the safety risk to people who are blind or have low vision will actually increase. People will instinctively assume that if there is no sound of traffic then there is no traffic – it will not necessarily occur to people that even though there is no AVAS sound there could still be a silent electric bus or truck in their immediate vicinity.

We are very encouraged that bus operators in NSW and Queensland are aware of the importance of AVAS to ensure safety for people who are blind or have low vision and who are consequently developing requirements for incorporating AVAS into electric buses. However, there is no national consistency or imperative. Moreover, as far as we know there is no voluntary attempt to incorporate AVAS into other heavy vehicles such as trucks.

Electric and hybrid vehicles pose an extreme and escalating safety risk for people who are blind or have low vision. That risk cannot be effectively mitigated by mandating AVAS selectively: all electric/hybrid vehicles, regardless of their size, must be fitted with AVAS. The Australian Government must therefore provide an unequivocal commitment to an expedited timeline for mandating AVAS on heavy electric/hybrid vehicles such as buses and trucks.

## Compliance with Standards

It goes without saying that any AVAS mandate must be introduced in compliance with a relevant standard to ensure consistency, predictability and certainty for people who are blind or have low vision and also for vehicle manufacturers and importers. The standard must, as a minimum, specify the volume level of the AVAS and those characteristics of the sound that allow pedestrians to identify the direction of travel of the vehicle, estimate its speed, and determine if it is accelerating or decelerating. The standard must also require that the AVAS sound continue when the vehicle is idling.

We also believe it is important that AVAS cannot be disabled or overridden by the driver. We have received some anecdotal evidence from other jurisdictions that where there is the option to disable the AVAS many drivers do, either because they do not understand the purpose of the AVAS, or because the AVAS sound volume is too high and intrusive, or simply because they can. Pedestrians who are blind or have low vision need to be sure that the AVAS sound will always be audible when there is an electric/hybrid vehicle in their vicinity. If it is made optional, then it will be much less effective in addressing the extreme safety risk that electric/hybrid vehicles pose.

## Implementation Timeframe

In her media release issued on 22/05/2023 reminding people of the imminent deadline for receipt of submissions related to the consultation, Senator the Hon. Carol Brown (Assistant Minister for Infrastructure and Transport) noted that:

“More Australians than ever before are driving electric vehicles, with the numbers almost doubling in 2022, from around 44,000 to more than 83,000 EVs on our roads.”

In one year, then, the safety risk posed by electric vehicles to people who are blind or have low vision has increased significantly. There is no reason to expect anything other than an exponential increase in that risk as the market for electric vehicles in Australia continues to expand rapidly.

The absence of an AVAS mandate also means that vehicles that are not compliant with AVAS standards in other jurisdictions are being provided to Australia. For example, in 2022 Tesla was forced to recall almost 595,000 of its vehicles in the US to disable the “boombox” function that allowed non-AVAS sounds to be played through the vehicle’s external speaker, which obscured the AVAS sound required by the US standard. Nevertheless, it is our understanding from monitoring Tesla online forums in Australia that Tesla vehicles are still being delivered to Australia with the boombox function enabled.
The longer the delay in implementing an AVAS mandate in Australia, the greater the number of non-compliant vehicles that will be available, and the greater the cost of any subsequent recall.

We also draw attention to the petition that was received by the US National Highway Transportation Safety Administration (NHTSA) requesting that it investigate whether all hybrid-electric and electric vehicles manufactured since 1997 should be recalled to have external speakers installed to allow AVAs (which the petition refers to as Pedestrian Warning Systems) to be used. The petition claims that lack of AVAS amounts to a “safety defect” in a vehicle. The NHTSA officially opened its investigation on January 27, 2023. If the NHTSA concludes in support of the petition, then around 9.1 million vehicles from multiple manufacturers could be subject to a recall and retrofit at very substantial overall cost. Nevertheless, the petition and the NHTSA’s response to it clearly demonstrates just how significant the safety risks of silent electric vehicles are, and just how seriously they are being viewed and addressed by regulators.

In this environment the need for urgent action to mitigate the escalating safety risks by mandating AVAS on electric vehicles cannot be overstated. We were therefore surprised and very disappointed to find that the only implementation timeframe modelled in the RIS is for AVAS to be applicable to newly approved electric vehicle models from 1 January 2025, and all new electric vehicles from 1 January 2026.

In our strong view, this timeframe amounts to loitering, and offers an unjustified, unnecessary, and probably unwanted concession to vehicle manufacturers at the expense of the safety of the blind and low vision community. We call on the Australian Government to expedite this timeframe by one year at least.

## Expiration of Australian Design Rule

The RIS notes that the Australian Design Rule mandating the use of AVAS would expire in 15 years. It is essential that such expiration be preceded by an evaluation of the effectiveness of the Rule, and how the safety of people who are blind or have low vision would be maintained in the event that the Rule lapsed. It is extremely unlikely that any technology can ever replace the need for people who are blind or have low vision to rely at least to some extent on their hearing when crossing roads and walking in the community. Technologies such as AI-based wayfinding systems may become more practical and useful in the coming decade, but we cannot envisage that they will ever replace natural hearing. At best they will complement natural hearing. In any case, there is never 100% availability of new technologies. For example, despite the increasing prevalence of smartphones there are still many people who are blind or have low vision who do not have one. Basic safety must never be allowed to depend on one’s access to or ability to use expensive or cutting-edge technology that is not universally available.

# About Vision Australia

Vision Australia is the largest national provider of services to people who are blind, deafblind, or have low vision in Australia. We are formed through the merger of several of Australia’s most respected and experienced blindness and low vision agencies, celebrating our 150th year of operation in 2017.

Our vision is that people who are blind, deafblind, or have low vision will increasingly be able to choose to participate fully in every facet of community life. To help realise this goal, we provide high-quality services to the community of people who are blind, have low vision, are deafblind or have a print disability, and their families.

Vision Australia service delivery areas include: registered provider of specialist supports for the NDIS and My Aged Care Aids and Equipment, Assistive/Adaptive Technology training and support, Seeing Eye Dogs, National Library Services, Early childhood and education services, and Feelix Library for 0-7 year olds, employment services, production of alternate formats, Vision Australia Radio network, and national partnership with Radio for the Print Handicapped, Spectacles Program for the NSW Government, Advocacy and Engagement. We also work collaboratively with Government, businesses, and the community to eliminate the barriers our clients face in making life choices and fully exercising rights as Australian citizens.

Vision Australia has unrivalled knowledge and experience through constant interaction with clients and their families, of whom we provide services to more than 30,000 people each year, and also through the direct involvement of people who are blind or have low vision at all levels of our organisation. Vision Australia is well placed to advise governments, business and the community on challenges faced by people who are blind or have low vision fully participating in community life.

We have a vibrant Client Reference Group, with people who are blind or have low vision representing the voice and needs of clients of our organisation to the board and management.

Vision Australia is also a significant employer of people who are blind or have low vision, with 15% of total staff having vision impairment.

**Appendix**

**Statements of support to mandate AVAS in electric cars**

One hundred and thirty community members have expressed their concerns about electric cars without audible detection and support mandating Acoustic Vehicle Alerting in electric vehicles in Australia.

**Sarah Moodie**

As a 66-year-old citizen of Geelong, I walk around my neighbourhood every day to maintain my health and have had 2 close calls with electric vehicles.

I do not have bad eyesight, nor do I listen to music on my walk, but on both occasions, I was crossing a road and did not hear the vehicle approaching. I was horrified at how close I was to being hit by a silent car. Someone with slower reactions or distracted concentration could have been knocked down.

It is ABSOLUTELY VITAL that electric vehicles are equipped with some kind of sound.

Pedestrians rely on all their senses, and the visually impaired MUST be able to hear cars when crossing roads and streets.

I strongly support the proposed introduction of AVAS to electric vehicles.

I walk every day to and from work, for exercise and to appointments and shops.

As a blind person, I completely rely upon my hearing to detect moving vehicles when walking on footpaths across driveways, crossing roads and navigating carparks to keep myself and my guide dog safe. It can be challenging to hear quiet vehicles at the best of times, and it can be very difficult when it is raining, windy or there is a lot of traffic.  And the increasing issue of inattentive drivers distracted by electronic devices adds to the risk.

A couple of years ago, I had a traumatic collision with a quiet car reversing out of a driveway across a footpath where I was waiting for it to pass.  I don’t know if it was an electric or hybrid vehicle, but the point is it was silent when reversing at low speed.  It ran over my toes.  While I fortunately didn’t suffer physical injury, it was mentally traumatic for me.  I couldn’t stop thinking of the worse scenarios that could have happened to me and my guide dog.  Following this event, I now take a longer route to get to the same destination I was going to on that fateful day to avoid the location where it occurred.

On another occasion, I was very surprised when an electric car drove up to my driveway to pull in at the same time I was leaving and crossing the road.  I had no idea it was there until the driver spoke to me. Again it made me fret about what could have happened it the car had kept going and hit me and my guide dog.

As I cannot avoid going out by foot, I have become increasingly nervous when crossing roads and driveways as the number of silent vehicles grows and more and more drivers are distracted by their electronic devices.

It has also become more difficult to detect hybrid or electric taxis when they pull up to collect me or to know if they drive on by and miss me.  Very few drivers get out to assist, so sometimes I struggle to find the car.

I urge the Federal Government to mandate the use of AVAS in all vehicles with any degree of electric motor, be they cars, buses and trucks, but I also believe such audible signals also need to be mandated in electric scooters and bikes which travel on footpaths and can be a danger to pedestrians.

While this issue is significant for blind and vision impaired people who are increasing in number due to the ageing population, having AVS in silent vehicles will benefit many others in the community.

Given AVAS have been in use overseas for years, it is time Australia followed suit to protect its citizens.

**Caroline Smith**

Vision Australia, were keen to move to Hybrid cars for environmental, as well as cost saving reasons, the issue we had with the Hybrid cars, is that they do not have sound when travelling at low speeds.  This was a real issue for our team to resolved as well as for our LT members, due to safety issues not hearing the car approaching.

We worked with our Fleet partner, Toyota, who came up with a way of installing an audible sound, this was tested and agreed to install as a safety issue to our staff, Volunteers and public, in order for them to hear that the Hybrid car was approaching when at low speeds.

The reason we explored this option, was due to the nature of the work we do, providing services to blind and low Vision Clients and we also have staff and volunteers who are blind and/or have low vision, we needed to ensure the safety of everyone that these cars could be heard at low speeds through our car park as well as out in the Community.

We were surprised that the audible sound was not mandated to be installed into Hybrid cars or Electric vehicles in Australia, however has been mandated in other countries.

This is a huge requirement for our Blind and Low Vision population, due to them requiring sound to cross roads, crossing car park areas entrances/exits,  just walking within car parks, which are shared area (pedestrians as well as cars), no sound from the vehicles is not helpful to navigate.

My daughter who is sighted had an incident within a Shopping Centre car park of an electric vehicle coming up behind her, and she did not hear them, however did see them at the last moment to move out of the way.

I am a strong supporter that for, safety reasons in particular, an audible sound must be mandatory in Hybrid and Electric vehicles – to assist all our Community to hear them at low speeds.

**Marilyn Embelton**

Hi,

I am legally blind and frequently need to cross streets and roads in my community that do not have any form of zebra crossing or traffic lights. I use my ears a great deal to supplement my low vision. Having car sounds to give me cues is essential to my independence in my community. Electric vehicles are a risk to me every time I go out and I worry constantly at the possibility of my being hit by one. This further concerns me as I now hope to take my baby grandson out in his pram on Brisbane streets.

I also hate the mobility scooters so many older people in my community (Buderim, Sunshine Coast, Qld) use on the footpaths. So footpaths are not safe either. These mobility scooters are silent and the drivers speed. I’d like them to have to have a license to drive one, slow down to walking pace and have sounds on the scooter to alert me. The local conversation around the drivers of these mobility scooters is that they no longer are allowed to drive a car but can drive on footpaths in scooters.

**Mark Higgo**

I have long looked forward to the widespread adoption and uptake of electric vehicles to eliminate the shocking noise made by petrol engines!

Such noise from petrol and diesel moto cars amounts to shocking noise pollution and is a source of constant annoyance

V8 engines and motorbikes ridden by outlaw motorcycle gangs are the worst offenders

Their noise pollution can enrage me

So I’m opposing your call for electric vehicles to emit noise because I want to live in a quieter world with less noise pollution not more noise pollution

I suggest you educate your members to be more tuned to their guide dogs who with far better hearing than humans can hear electric vehicles!

**Ada Chow**

Dear Sirs,

I would like to support Acoustic Vehicle Alerting Systems (AVAS) to electric vehicles.

As working at Vision Australia, I learn how important to assist vision impaired people in their daily life. Mainly vision impaired people especially people completely blind, who rely on their hearing to alert them what happens around them, especially important on the road. However once people getting older, part of their hearing will be getting weaker or lost. So this AVAS system is not only helping vision impaired people, also it’s helping elderly or hearing impaired people.

So AVAS to electric vehicles will support the community on the whole to reduce more daily life risk hence to have a healthier community life and the government departments less expenditures in medical & assistances concerned.

**Holly Day**

Dear Sir/madam,

I would like to have my opinion added to the safety of electric cars please.

 We have a 9 year old son who is vision impaired and autistic. He is currently learning road safety with his cane, orientation and mobility teacher this includes school crossing, traffic lights crossing. What vehicles sounds are going pass and slowing down. In carparks as well.

I agree that electric cars need to be fitted AVAS to assist the blind/vision impaired and hard of hearing.

Kind regards,

Holly Day

**Brendan Watchirs**

To whom it may concern

My name is Brendan and I am an Employment Consultant with Vision Australia in the Canberra region.

I write to you today to voice my concerns and opinions on what should be done to make electric/hybrid vehicles safer for people in the blind community.

I myself am someone who is sighted so by my own admission I cannot rightfully speak from the perspective of someone with blindness and low vision. But I feel even without this lived experience the issues these vehicles will cause is plain to see. I truly believe it isn’t a case of if a fatality/accident will occur it’s a case of when it will happen.

The risks of not being able to hear a car at an intersection, when a car is leaving a drive way, or anytime a vehicle is driving low speeds would be disastrous for people with vision issues, and the community as a whole.

We are encouraged to always drive with as much visibility as possible, why would we strip away a feature that makes cars visible for those with no visibility?

In the UK it has been mandatory to have sound generators in all new EV since 2021 and It would be the best interest of public safety if we were to follow suit.

Thank you

Brendan Watchirs

**Pelayia Bow**

Please make AVAS mandatory for all electric vehicles in Australia. We all rely on hearing cars coming towards us. It will increase road hazards if there are silent or very quiet cars on the road, especially for those who have low vision or who are blind.

**Jason Morgan**

In 2018, Vision Australia decided to switch from petrol-powered vehicles to Hybrid vehicles to reduce our vehicle fleet’s output of CO2. In the process of the switch, we realised early on that an AVAS system was not mandated in Australia for Electric Vehicles.

We decided to cooperate with our Fleet Management Partner, Toyota, to implement what we call an “audible sensor” in our Hybrid Vehicle Fleet, which created an audible sound for all speeds up to 21kmph.

Since implementing the system on our vehicles, we have received numerous comments from not only our staff and our low-vision and blind clients but also the general community on our implementation.

I believe it’s a vital system that should be placed on all-new electric vehicles, as I have seen firsthand how the presence of such a system has alerted not only a person with low vision to the presence of a hybrid car but persons in the community being thankful, they were made aware of its presence.

**Carly Sheddon**

As an owner of an electric vehicle, I support mandating an Acoustic Vehicle Alerting System (AVAS) in electric vehicles.

Based on my personal experience, the quiet nature of electric vehicles, particularly in busy car parks and areas of high pedestrian foot traffic, is concerning. An AVAS would improve safety for pedestrians and other vulnerable road users such as cyclists, potentially saving lives and preventing thousands of injuries.

Furthermore, as many parts of the world have already mandated AVAS, it makes sense for Australia to have the same high standards as other countries.

**Matt Collins**

I think it's incredibly important that the government mandates the inclusion of AVAS on electric vehicles, simply because it's one less thing for people, pedestrians, whether they're fully cited or not to worry about. And while pedestrians that are fully cited are able to see cars coming, uh, that's a liberty that myself and other people that are blind or low vision simply don't have, we're reliant on our hearing and other sensors to get around. That extra inclusion of having a, a loud, audible, uh, alert that a car is coming would just be incredibly beneficial. Being able to travel independently as a pedestrian is how important because due to my vision loss, I'm unable to drive. So either getting around on public transport or walking around as a pedestrian is my primary means of transport. Uh, so to be able to do that in a safe manner is, yeah, incredibly important to me.

If the government mandated auditory warning is mandated within Australia, I think that would be amazing. Simply as someone who walks around a lot due to my eyesight is one listen thing to worry about. Especially as someone who's about to become a father in a few months, my child won't be cognizant of what various sounds mean, what, whether that means the car's approaching, they won't be cognizant of that. So for me to have that extra helping hand to be able to know, oh, there is a car coming and I can take appropriate action to make sure my child is safe while we're on our journeys out and about, you know, that's just such a huge relief for someone like me.

**Anushka Singh**

Hello, my name is Anka. And today I just wanna express my, I would say compulsion of having the audible alerting system installed in electric cars because I feel it's quite essential, like personally for myself when I'm just getting out and about in the community after a hectic day, it's always good to have that sort of at ease and not having that sort of a constant pressure on relying on the visual cue. So when I am out, going out for walks, going to the gym, I would prefer, prefer just relying on that sort of an audible cue. And specifically during the night time, it just gives me the ease and after all, whenever we get out and about, it's always to have that sort of a pleasant experience. It should be a compulsion to have the audible feature installed. Thank you.

**Conrad Browne**

I fully support the mandating of Acoustic Vehicle Alerting Systems for Electric vehicles to protect vulnerable road users, including pedestrians, cyclists and those with blindness and low vision. As a staff member at Vision Australia, I am aware of the challenges for my blind and low vision colleagues and our clients that electric vehicles present in allowing them to live the life they choose and feel safe as pedestrians in Australia. With electric vehicles predicted to make up 90 per cent of Australia’s vehicle fleet by 2050, this outcome is significant for everyone and one that we should all support to ensure these near-silent cars do not pose a risk to Australians who rely on hearing vehicles to avoid them.

**Helen Velissaris**

The government really needs to consider giving electric vehicles a distinct sound because, even when I'm crossing the road, I might be looking at my phone. I know I shouldn't be, but I might be.

 I might be listening to music. It's something that you expect to, to hear.

And so if we don't have that already, I'm surprised we don't have it already, to be honest. It really needs to be I implemented it'll, it'll save, it really will.

**Wendy Cheung**

As a mother and an aunt to a niece who was born with vision impaired; I can't stress the importance of mandating the use of the Acoustic vehicle alerting system (AVAS) as a required accessory for EV & hybrid vehicles to improve safety of vulnerable pedestrians, cyclists and children around the world. This is on top of the danger we road users are already facing everyday with the more and more commonly used, electric scooters which can travel quietly and deadly up to 60km/hr.

Although some EV cars are already equipped with VAS system when reversing, more is needed to be done to make this a standardised practise across all EV & hybrid vehicles. The same should be imposed on the vehicles moving forward especially in low speed ie. 20km/hr or lower. Sound is an important contributor to road safety for road users; and it can save thousands of lives and prevents unnecessary injuries for everyone both with or without vision, hearing disabilities and our little children.

**Petalyn Walker**

As a driver of a hybrid car it can be unnerving when the car is completely silent and moving. Pedestrians are often distracted and don’t hear you as you drive across driveways or exit laneways. As a mum its also concerning as the kids will be on a mission and not be cautious as they, like adults, associate cars with sound. I do believe it should be like the rest of the world and cars make sound making the world safer for all.

**Bree Hargreaves**

Good afternoon,

In the interest of improving public safety and reducing preventable injuries and deaths, I believe that it should be mandatory for noise emitting devices to be fitted to all electric vehicles within Australia.

Electric vehicles currently pose a major risk to many pedestrians due to their lack of noise when operating. As an Occupational Therapist currently working with individuals who are blind or have low vision I am significantly concerned about the potential for injury and death. I work in a regional area where controlled crossings are limited outside of major roads. Many of my clients rely on a combination of vehicle noise and their hearing to safely cross roads. I have already personally heard many stories of near misses with these vehicles and am concerned that the risk of injury will only increase, along with the increase in the uptake of electric vehicles.

Age-related declines in vision and hearing also commonly affect many individuals. These vehicles do not only pose a risk to the blind and low vision community, but also pose a risk to the elderly and others, such as children who are currently taught to ‘look and listen’ when approaching a road. As a mother of 3 young children who regularly accesses many community locations frequented by children, I have concerns for the safety of all children around electric vehicles.

Cairns Regional Council recently commissioned and received a fleet of electric buses. Feedback from clients and others in the community including my mother, who relies on buses for transport, are that these buses are no longer able to be heard. How long will it take before a distracted tourist or pedestrian meets their untimely death due to one of these silent, heavy vehicles?

I strongly urge you to consider the safety of all Australians and support the introduction of mandatory noise sound requirements for electric vehicles.

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**Belinda Wilson**

As a vision impaired person, I worry every day about getting hit by a vehicle. I live in a busy area with a lot of construction, and cannot hear the cars due to the constant noise. This has resulted by me almost being hit by trucks multiple times. This would be similar to being around silent vehicles- I would not be able to hear the vehicles approaching, which would put me in danger. Although I have concerns for myself and for those who are blind or vision impaired, but my largest fear is for my 4 year old niece. As a child, she is not fully aware of the dangers of vehicles, and loves to run and explore. If electric vehicles are not mandated to be equipped with an Acoustic Vehicle Alerting System (AVAS), it will raise the number of injuries and deaths from vehicles. This is a mandate that will benefit everyone.

**Alison Gibson**

 “I work face to face with older adults who have lost vision. This loss can impact their confidence and sense of independence. Some clients choose to stay home rather than worry about whether they are safe when walking around.

Silent electric cars will have a significant impact on older adults as they attempt to build confidence and learn to use their other senses to move around safely.”

**Janene Sadhu**

I can’t see cars on the road as I am a person who is blind, but can hear them unless they are silent.

Road deaths and injuries among people who are blind or have low vision, and anybody who can’t see a car coming up behind them as we don’t have eyes in the back of our heads, is a high price to pay for introducing silent vehicles in Australia.

Please, can common sense prevail then we can all remain alive, stay much safer and pain free, as pedestrians not hit by a silent vehicle.

**Yadeta Mossisa**

By Mandating an Acoustic Vehicle Alerting System (AVAS) on all electric and hybrid vehicles. We can significantly reduce the risk of pedestrian accidents, while also promoting accessibility and safety for individuals with disabilities.

This is particularly important for blind and low-vision individuals who rely heavily on auditory cues to navigate their surroundings.

**Scott Jacobs**

I’m currently looking for an electric car, and I want it to have an acoustic alert. This should be considered a mandatory safety feature in the same way as seatbelts and airbags. Both for my friends and community members who are blind or have low vision, and for children or others in my area – in many places there aren’t footpaths and we share the road with people walking – not being able to hear the car is incredibly dangerous.

**Stephen Hales**

Dear Vision Australia,

It was great to read about your campaign for AVAS which I fully support, not only for blind and low vision needs; cyclists also rely on hearing vehicles approaching from behind, pedestrians who are non-disabled do as well. At low speeds these vehicles are silent. If it is a quiet time of day they can be heard at higher speeds by the tyre sound but I have doubts this would be the case in noisy situations, even cicadas would be louder than an electric vehicle.

Thanks for your advocacy.

**Marie Tayler**

I am not a vision impaired person, however I strongly object to silent electric vehicles on the road, both as a pedestrian & a driver of a family car.

I heard your article on the radio this morning on Vision Australia radio & would like to add my vote to seek mandatory government approval for the installation of an AVAS system that would make electric cars heard as well as seen.

Seeing them may be too late, we need to hear them first. Silent can be deadly.

**Dave Brown**

I was once hit by a hybrid Taxi in a shared pedestrian zone in Canberra. My guide dog tried to stop me, but it was too late. The vehicle came from behind me and I don't think the driver knew that I could not hear it. I was lucky not to be injured as it was only the mirror that hit me. These vehicles and scooters etc are abn absolute danger to anyone who has vision loss.  There are some very easy solutions such as those in place in the EU. Time for vehicle manufacturers to stop dumping dangerous vehicles in Australia.

**Ashleigh Guy**

I’m writing to strongly encourage mandating AVAS in electric vehicles.

I strongly agree with the proposed policy by Vision Australia to mandate AVAS in electric vehicles to provide a safer community to people who don’t have vision.

I’m passionate about this as I’d like to provide the added safety for my son growing up as well as all pedestrians vision impaired. Having electric vehicles without AVAS is an added danger to the well-being of many people. People with no or little vision need the added safety to reassure them when mobilising independently in the community. We need to reduce barriers not add more.

Thank you for your time and I hope you’re understanding.

**Sally Montalto** [extract]

As someone who drives a hybrid car, I think it should be compulsory for all electric cars to have acoustic vehicle alerting systems or AVAs fitted. This is an important issue, and I can tell you there have been times when I've been driving at low speeds in a car park where the person in front of me couldn't hear my car coming. I wasn't stalking for their car park. Well, not always anyway. I don't want sound my car horn and scare them, but at the same time, I don't want to accidentally hit them because they don't know I'm there. Do you see the problem? Now, imagine driving on the road with your electric cars silently, gliding along. It would be a disaster if a pedestrian stepped out in front of you because they didn't hear anything. And this is especially dangerous for people who are blind or have low vision.

Research has shown that people with vision impairments feel less safe as pedestrians and less confident to leave their homes because they're afraid of getting injured or killed by an electric car. This is a real problem and it's one we can fix. Many countries around the world have already mandated AVAs for electric cars, and I think Australia should do the same. We need to make sure that everyone feels safe when crossing the road, and that includes people with disabilities.

[extract]

Hello, I am Bruce.

I have personally experienced near misses in car parks with Electric vehicles.  Only today I get to realize Vision Australia were also well aware! Fantastic someone notices? Disturbingly, only as a tender type process to AU Government? Yikes, politics.

**Fay Rohrlach**

Electric cars, I agree totally with you [Vision Australia], that [AVAS] must be made mandatory, in order to maintain safety for the benefit of our people, this goes for ALL Australians who are blind or vision impaired, as well as for everyone else at the end of the day.

**Statements of support from the 2023 Vision Australia electric cars survey. Participant feedback is anonymous.**

Being blind, I completely rely on my hearing to detect moving vehicles when crossing roads and over driveways on footpaths to keep myself and my guide dog safe. I walk every day to get to and from work, for exercise and to go to appointments and shops. It can often be difficult to hear quiet moving vehicles and even more so when it is raining, windy or there is a lot of traffic. It is virtually impossible to hear electric vehicles in these conditions. A couple of years ago I had a traumatic experience when a quiet car which was reversing out of a driveway ran over my toes as I waited where I thought the driveway edge was. I don't know if it was an electric car but even if it had been, the same scenario would have played out. I didn't hear the vehicle because it was silent at low speed, there was a wall obscuring the driver's rear view, and there was background traffic noise. I have encountered an electric car pulling up at my home driveway and had no idea it was there until the driver spoke to me. With the increasing number of electric vehicles, I am becoming more nervous and less confident with venturing out on foot across the suburbs. I totally support the mandating of AVAS on all electric vehicles (cars, buses, trucks) but also feel they should also be implemented on electric scooters and bikes which travel on footpaths.

Because I have been trained and do, rely on the sound of traffic to determine which part of an intersection is able to move and which should be stopped. Not only do I need to hear the parallel traffic as it moves off but also need to hear cars crossing the pedestrian area illegally when I am on it to be potentially hit. Further, as someone with hearing impairment I find it extremely stressful travelling around, due to the level of concentration required, so the more useful sound cues I can receive the less stressful. it would be extremely confusing to not have the sound compulsory and have the possibility of being able to hear some and not others and thereby being constantly nervous that at any time you could fail to hear a vehicle when it is life critical. Furthermore, given if I am waiting for a taxi, I want to be able to hear a vehicle slowing down to pull up in front of me.

I am an active blind person who uses a Guide dog to get out and about in my community. I haven't heard an vehicle backing out of their drive, crossing roads and when vehicles are stationery at a corner. It does knock my confidence when crossing a road. I don't take risked and if there are more of these vehicles getting about I am sure I will change where and how I cross roads. Hoping there would be a solution for all i.e. a sound that doesn't impact too much, cost on the vehicle and a sound that can indicate there is a vehicle nearby for blind/low vision pedestrian.

Many cars are grey or black and it is difficult to see them against bitumen, many do not have the lights on ,so sound is important to me as my confidence in my safety in crossing roadways is low. The silent "appearance" of a vehicle is a shock- even if it has stopped. This goes for bicycles too.

I realise that the young and the sighted have no concept of these difficulties. This includes our lawmakers. Trucks etc already have backing noise so it should not be a big cost to the manufacturers to fit noise making devices to all vehicles travelling under 20 kph. Maybe Insurance Companies should consider potential law suits. NOISE PLEASE.

I recently moved to Australia from Europe, I was surprised that some of the electrical cars do not make noise as back home I always was able to detect them, I am bit afraid to go outside alone as I am not sure if I am safe while crossing a street.

I am a confident pedestrian, relying on the sound emitted by motor vehicles to know when to cross roads safely. Electric vehicles, currently being silent, vastly erode this confidence I have acquired over years of pedestrian travel as a blind person. There is currently no way to hear whether they are in my proximity nor predict their behaviour. I don't feel confident in their drivers' alertness to or regard for my presence as a pedestrian.

To ensure I feel safe and confident walking around the streets safely.

As a fully sighted pedestrian thinking the drivers of vehicles around you are either able to see you or do see you is a fatal mistake. As a fully sighted pedestrian knowing where the vehicles are around you is a vital part of insuring your safety.

As a blind or a vision impaired pedestrian the thought of not being able to detect the vehicles around me is terrifying and surely a lethal outcome to my safety. When traveling using either my white cane or seeing eye dog I have had many many near misses due to inattentive drivers, and the only thing that has saved me from being seriously injured or killed on many many occasions is the fact that I could hear the vehicle and got myself out of the way of them. It beggar’s belief that there needs to be a conversation as to if an electric vehicle should be fitted with a sounding device for people to be able to hear them.

We really need noise level increased. The day walking with my cane. I almost got run down by electric cab. Where the driver didn't see me. Having the noise added is great way and better safety.

As someone who cannot see electric vehicles, I rely on the sound to alert me to the vehicles approach. Without sound I do not have any indication of the vehicle and could easily begin crossing a road when there is a car imminently approaching.

I do not go out on my own as I worry about traffic especially EV/Hybrid as I can not hear them and I am not able to see them moving.

I have lost all confidence crossing roads. I stand and listen for cars for a long time before I go ahead crossing roads with my SED. I live in the centre of town and have to cross some busy roads when I go out. I feel stressed crossing roads without lights as some cars are already very quiet and hard to hear. I already had a close call, not hearing an oncoming car. It was a frightening experience. If electric cars have no noise level, it will take my independence and quality of life away, as I won't be going out without a sighted companion. It is very important for my mental health to do things independently.

My low vision, in combination with sensory challenges triggered by my environment greatly reduces my ability to recognise and manage other dangers. With reduced ability to visually manage my environment, electric vehicles trigger sudden and unexpected shocks which then cause me to shutdown. This means I have difficulty taking evasive action, or may even step into the path of a vehicle.

I recently was crossing a road when an electric vehicle turned the corner and nearly hit me. A very scary and upsetting experience. I had absolutely no idea the vehicle was in the vicinity.

Know when it is safe to proceed. The knowledge that the number of electric vehicles is increasing has increased my level of anxiety in making these crossing decisions. In general, it means that I am waiting longer at each road, but even so, I cannot be absolutely confident that there is not an electric vehicle approaching when I step out to cross the road. It is also crucial to be able to hear vehicles coming out of driveways and parking spaces.

As a totally blind person who travels independently throughout my community, the increase in electric vehicles, particularly if they were not required to emit a sound so that I could detect them, is of great concern for me. Within the last six months I have had the opportunity to be close to an EV belonging to a family member, and I was dismayed to discover that even knowing that the vehicle was parked only a few metres from me, I did not detect it starting up and moving away. I have to make many decisions every day about when it is safe to cross a road, and not all of these are at traffic lights. I rely completely on being able to hear vehicles to.

I use sound as a guide to navigate my surroundings.

Very high support, it’ll save lives!!! What’s more important than that.

Walking provides easy affordable exercise that I enjoy. As the number of electric vehicles increases in our neighbourhood so has the risk of being struck. I am not able to hear vehicles approaching and drivers do not take sufficient care to ensure my safety. Where possible I walk with a family member to increase my safety but that is not always possible and also has the affect of decreasing my independence. I have in the last 12 months had a number of near misses with drivers reversing out of driveways and failing to stop at stop signs. I’ve noticed I am less relaxed and need to be more attentive/ hyper vigilant to ensure my safety. These experiences have the impacted on my confidence and enjoyment of walking.

As a dog guide user, I enjoy working my dog in various settings, particularly walking my local residential streets. There seems to be a growing number of electric cars in my residential area and I find them almost impossible to hear. They are easily undetectable to hear when there are other loud cars driving near them or particularly on a windy day when they are literally impossible to hear. I have been put in potential danger from electric cars because in the early days of having my dog guide and I accidently found myself in the middle of the road and an electric car was very close behind me. It tooted its horn and also frightened me and it was a very upsetting incident.

I always feel nervous and vulnerable when leaving my house with my dog because I am worried that my dog or I may just make a mistake one day on our journey and get seriously hurt. I fully appreciate the environmental benefits of electric vehicles but as a blind person it would be wonderful to be able to hear them too.

I believe electric cars will become very popular in the near future particularly if the price is lowered. There are many on the roads now. One of their top features is that they are very environmentally friendly (fuel and noise). I do not have a problem with crossing at the lights - I certainly do at marked pedestrian street crossings as many non-electric cars do not always stop at these crossings. Fortunately, I have good hearing, but a silent car would be very different at these crossings.

Crossing any street has its dangers. I would also like to bring up driverless vehicles - cars and trucks. These too are silent and would be in the same category as electric cars. Having a sound device fitted to these vehicles would be highly recommended by me and go a long way to assisting both sighted and low vision/blind people of all ages feeling safer and more confident around traffic. It would be hoped that the device would be loud enough to be heard over all of the other traffic as well.

At times it can be difficult to hear non electric vehicles, so as the number of electric cars on the roads increase, it will almost be definite that I (& other vision impaired citizens) will not be able to safely manage our way out and about independently!

I cannot see them so I would need to hear them approaching.

As a pedestrian I have had many close calls with electric vehicles and quieter vehicles. Each of these have been near misses. I feel incredibly unsafe crossing roads and especially in car parks.

Electric cars pose a danger due to if I cannot hear the vehicle then I am unaware that it is there.

I am told even fully sighted people get surprised by them when crossing roads.

I had a near miss.

All though electric vehicles aren’t very common in my local community, but I have come across them occasionally. When they are there, they make crossing the road with low vision dangerous, as they are very difficult; to detect both in a visual and auditory sense.

I generally rely on my ability to hear oncoming vehicles to keep myself safe when walking around town and riding my bike. I have often been spooked by silent electric vehicles that I didn't know where there until the last second. With increasing numbers of electric vehicles on the road, I am worried about the rising risk of injury or death to myself and others due to being unable to hear such vehicles approaching.

Safety

As a vision impaired person, I am often a pedestrian. it is vital that I have auditory feedback when navigating my surroundings. From what I understand, electric vehicles have very little sound so I have had a lot less confidence crossing roads. If sound was added to these vehicles, it's important that the sound is very similar to normal vehicles so people can tell how far away and how quickly the vehicle is traveling. If not this would make it very difficult for people who are blind or vision impaired.

I feel it is extremely dangerous if there is no sound device put in an electric car as I am totally blind. When I cross roads I am unable to hear the car coming and I could cross the road at the wrong time and get hit by the electric car also when I am walking along the footpath and an electric car is backing out of the driveway and I don't hear it I could also be hit. It isn't safe for visually impaired people to cross roads with a soundless car coming along they should have some sort of sound.

So I do not get run over, so I can safely, independently and confidently still travel around the community.

As Electric Cars are to hear it would be beneficial for safety reasons for Me to be able to hear a Car coming when crossing a Road. It would be beneficial also for My confidence & well being.

There are not many traffic lights in my city. When I need to cross a road alone, I do it solely by sound. My ability to see an oncoming vehicle is not reliable - I feel much safer to decide to cross based on what I can or cannot hear. If I couldn't rely on the sound of cars to know there's traffic, then I would no longer be safe to walk by myself for pleasure or for transport.

I can’t see the cars I would at least like to be able to hear if a car is coming so I don’t get hit by one and injured or killed. As a blind person I rely a lot on my hearing.

I love the move to electric and sustainable motor options, but I rely on being able to hear traffic in order to cross a road, I often can’t hear electric cars at all, unless they are right on top of me, same with any other type of electrical vehicle. scooters, etc. It’s a deaf waiting to happen. Doesn’t need to be a loud noise just distinctive enough to tell a vehicle is coming. Also, this isn’t a minority issue, the entire society whereas headphones and is glued to their smart phone all the time, so it’s an issue for the entire population, not just blind people. No noise means removing one more indicator to a human being that something is going on in their environment. That’s not safety.

This is important not only for blind or low vision pedestrians, but for every pedestrian who: - walk, run or jog on footpaths across driveways - crosses roads while on their phones or ear pods - elderly who are facing deteriorating vision as well as mobility issues - children crossing roads and driveways on way to school, park or activities Simply put - cars are fast and at the moment we can hear them, but if they are silent, pedestrians - of whatever visual ability will not be fast enough to avoid impact.

As I have had near misses with electric vehicles and bikes.

It just makes sense.

There was a time when I thought I was getting really bad at road crossings. I had had a few instances of feeling like I had made bad decisions and crossing in front of cars closer than I had estimated. I got my orientation and mobility instructor to come out and assess my road crossing. Everything was still fine. I went and got my hearing tested. That was fine too, in fact, above average. I was forced to conclude the cars must be getting quieter, and this is making me very scared.

My vision is not good enough to look to crossroads at all any more. I have to avoid certain uncontrolled roads because there’s just too much risk involved in crossing them given that I can’t see and I’m not hearing them as well either these days. A mandatory sound a learning system should definitely be mandatory for all quieter cars. I find it particularly challenging when they are travelling at slow speeds. For example, if you are crossing a side street and the car is travelling quite slowly. It’s very difficult to hear them.

As a pedestrian with limited sight and mobility.

I can't see fast moving objects. Anything above walking speed is a concern.

I think it is essential to pedestrian safety that all electric vehicles are fitted with an Acoustic Vehicle Alerting System. As a mobility and vision impaired pedestrian who cannot drive and relies on walking in combination with buses and trains to get me anywhere I need to go, I rely heavily on my hearing to safely navigate road crossings and other environments that I share with vehicles for example when crossing driveways, navigating a shopping centre car park, or on shared roadways such as those located in Brisbane at Southbank Parklands (adjacent to the Shipp Inn), QUT Kelvin Grove campus (intersection of Musk Avenue and Victoria Park Road) and parts of the Queen Street Mall.

My vision impairment includes Visual Neglect, a condition which makes it impossible for me to pay attention to objects in my peripheral vision, and my mobility impairment means that if I turn my head to look for traffic, the accompanying weight shift from one leg to another puts me at high risk of falling. Relying on my hearing, I have had a few instances where I have stepped in front slow-moving electric cars when crossing side streets because at low speeds they make insufficient noise to alert me to their presence. This risk is heightened when the cars are a low-contrast colour to their surroundings, for example grey or silver. Thankfully I have not been hit by a car yet but it is very frightening to have near misses. I am particularly worried that when the new 'Tram' rolls out in South Brisbane it will present a high risk to me as I frequent that area including the public transport stations and dread the possibility of having a collision with such a large electric vehicle.

I think it absolutely compulsory for all quiet vehicles to have an audible noise as I've nearly been hit by a very quiet non electric car so as electric cars have very minimum sound it should be compulsory.

I have poor peripheral vision and do not always see approaching vehicles until they are very close. Motorists do not always lookout for pedestrians especially when going round corners. They also sometimes forget to signal a change in direction.

I cannot see oncoming vehicles and am totally dependent on wife or other person to even cross the road to attend medical appointments. Have no confidence anymore walking outdoors particularly near a road.

I find it very difficult to go out because I am finding there are many cars that are very silent Even when I walking on the footpath I am concerned that I cannot hear cars backing out of the garage or driveway. Even when I crossing the road I am scared to cross the road because I cannot hear the electric cars.

Yes they should have to be fitted with a noise admitting device. Not only so that the blind person can hear but also that a sighted person can ( multi deck car parks).

I would not know they are around unless I am with someone else to let me know that it is around they are very quiet. This is accident ready to happen. Safety for everyone most important!

I walk daily and need to cross roads to do this. I need to use my hearing to detect vehicles and those rest are near silent are near impossible to now they are coming. If we have compulsory noise emitters om EVs and similar would make my walk safer for both myself and drivers. To give an example currently cars with an engine stop feature when stopped cause in certainty for me as they go silent, now make 50 per cent of vehicles EVs and the risk crossing roads becomes enormous.

My hearing is my the sense I rely on most when out walking anywhere. I live in a small town where there are not many traffic lights crossing. Therefore I have to rely a lot on my hearing to judge if a car is approaching when crossing the road. I have often worried about the onset of electric vehicles becoming more prevalent for this reason, and that I run the high risk to my personal safety just by walking independently along or crossing a road. I think it would be a great idea to have some sort of acoustic vehicle alerting system.

I have ridden in an electric vehicle several times. I fully support EVs for multiple reasons but mostly for environmental reasons. I noticed the complete lack of engine noise and was not able to detect if the car was running or not when I was getting in and out. And in particular when the car was being driven away from where I was standing that the vehicle was actually moving away. I could not clearly detect when the vehicle was travelling toward me, it deeply worries me as although I have impaired hearing, I depend on my hearing when crossing roads or moving through a shopping centre car park as my hearing is my dependable than my sight. I would feel a lot less safe if vehicles have no sound.

My vision is so poor that the only means by which I can attempt to cross a road at other than a controlled crossing or zebra crossing is to listen for the sound of oncoming vehicles. I can't see a vehicle, even a bus, until it is right upon me. But I can hear the approach of fossil fuel vehicles. If electric vehicles are not fitted with Acoustic Vehicle Alerting Systems, then many vision impaired and blind citizens, who number several hundred thousand, will be put at serious risk of injury.

Our current mobility and ability to move amongst our communities will be severely curtailed, as we will be afraid to cross any roads independently any more. Please help us to maintain what quality of life and independence we have and legislate for Acoustic Vehicle Alerting Systems to be installed in electric vehicles in Australia.

The more electric vehicles are on our roads, without some sort of sound device, the less confidant I feel at being able to cross the road safely and independently. I have little useable vision and walk very slowly, so if electric vehicles have no sound, in the future I will be less likely to independently cross a road.

[It is] needed is for an timely warning from this hazard particularly in shaded areas / low visibility days. regrettably these cars seem to be of darker coloring that blends with terrain. perhaps a better solution is for electric cars be required to be a lighter standout color. Alternatively automatic lights to indicate vehicle is under way ahead or more dangerously in reverse at home or shops.

I have been hit with a scooter. I have near misses with petrol cars. I've had to be dragged away from road crossings because I didn't know that they were not going to stop. So, it doesn't matter either way. Walking around was always frightening anyway. Whether you are able to hear them or not. Also how would I hear an electric bus! There is already one on my bus route. No electric vehicles. There will be no freedom anymore.

Last night coming back from supermarket almost run over by an EV. Very shaken up. I hate loads of traffic noise, but last night, if not for the intervention of a bystander, I would have been run over. AND… that was on a road with no other traffic - a way back to where I live that takes longer to walk. There is virtually no traffic there and what cars are around, I can hear. Until last night. It is terrifying - if I can’t hear an EV on a quiet road - what hope do I have crossing a road when other noisy cars around?? I know the answer - NONE!!! As someone with low vision - that is I am not blind, and as someone who is not totally deaf, I am in a better position than many other people. Unless some changes are made, there will be far more pedestrian fatalities. Yes some genius will come up with a cane or a hearing aid that detects these machines but, this situation requires a fail safe response - direct and independent of the child or adult who is crossing a road, regardless of known disabilities. It has only been 18 months, since my hearing impairment diagnosed. Some people can manage for years not even aware of their disability. It has been decades since I’ve heard the noise that leaves make when wind blows.

Many others are likely to be the same - not even aware of the impediments in their sight and hearing. It is vital that EVs do not become the inadvertent killing machines of this century. Until last night I had no idea this could be such an issue.

Just frightened of them.

Walking through shopping centre carparks I have been bumped by electric cars reversing.

One day I stepped off the kerb at a corner and an electric scooter came around the corner and nearly hit me. I could see the road to my right before I went to cross and it wasn't there when I looked, but came along quickly and with no sound at all I couldn't hear it. It is going to be very scary when my vision deteriorates further.

As someone with a vision impairment, I heavily rely on my hearing and on audio cues to determine my surroundings. Due to my vision impairment, I cannot drive, so I am often a pedestrian. It is stressful to cross roads as I usually listen to hear if cars are coming, but electric cars are so quiet that I can't tell if there is one approaching, how fast it is going or how close it is to me. It is a safety hazard and if electric car drivers use an AVAS, it would greatly mitigate the danger for visually impaired pedestrians. I also think that this rule should apply to any electric vehicle drivers (electric scooters, electric motorbikes, etc) as they often pose more of a threat than cars, because they are faster and smaller.

As a blind person I use my hearing in significant ways to manage my life and not the least of these is to detect a moving car/vehicle. This vehicle detection is necessary when crossing roads, but also when navigating around car parks at any venue, such as sporting grounds or recreation reserves. Also, when accessing other events, such as concerts or medical appointments it can often be necessary to know whether a vehicle is present. At this stage I haven't had an incident where an electric car has nearly hit me, but this could be because the numbers of electric cars in the community is currently low; because I live in rural Victoria where there are less electric cars; or that I had a near miss and didn't even realise it.

Who knows, but I believe it would become much more challenging as a blind person if cars were moving around in increased numbers that were almost impossible to detect via hearing. If this did occur it could significant impact on my ability to move in my community with confidence and thus could limit my independence. Therefore, please legislate to have an audible device attached to such vehicles.

I live in a retirement complex. Quite often other residents require taxis to get about. These are frequently electric vehicles. The roads in our Village are shared thoroughfares and quite often these vehicles are not seen or heard until they are virtually on top of you. In these circumstances I feel that it is necessary for some sort of alert system to be on the vehicles. I have seen too many near misses and been in a couple myself.

I live in a Retirement Village with shared roads, and I walk a lot for my health, and I would resent being run over because I couldn't hear the vehicle. Ditto for when I am on public roads.

Being able to detect a car is life, death or a very anxious day at the absolute minimum. I rely on all my senses to cross roads, most of the time I am teaching my two children road safety at the same time. But traffic noise is a sensory overload for usually more than one of us. As we've adapted and built the pedestrian safety skills, we've come to manage everything well. While I am impacted heavily by climate change as a disabled person dependant on our village, silent EVs are trading one problem and offsetting it with another. An adjustable, not too loud, situational vehicle alert in every electric motor would be better. After all, we are in this together.

If there are silent cars how will I be able to hear them and confidently and safely cross a road. Noise allows me to know when there is traffic to wait before crossing. also when crossings roads and knowing there are silent cars how can I feel safe or confident to cross when I feel I am able to without worrying about being hit by a silent electric car.

I strongly support the use of noise put on electric cars. The silence of electric cars are very dangerous for people who have low vision or are blind. Crossing a road or an electric car is coming close. The noise of a car is very important as this is what we rely on to keep us safe. Many Uber vehicles are hybrid which is very difficult and unsafe when coming near you.

I think that by being able to hear EVs I will have greater confidence walking in the city where I work.

I believe that it is very important for all electric cars to be fitted with a vehicle alarming system for the protection of ALL pedestrians and especially for vision impaired and blind people. I was hit by a car outside my Office on a dangerous crossing around 10 years ago and was lucky that my injury was only sever bruising.. I also think that every pedestrian is vulnerable if they do not hear an approaching car especially the elderly and hearing impaired.

I have heard of people walking in front of the new postal electric bikes and have seen pedestrians getting hit by electric scooters because they didn’t see them.

As a pedestrian, hearing oncoming traffic is a vital aspect of my day to day commute and feel it would be detrimental, and dangerous, to not be able to hear oncoming traffic.

I have mac degeneration and balance issues, its very frighting when was nearly runover by a EV as l did not see it coming or hear it. because l have low vision it makes it harder. l wear a badge saying have low vision so others know to help me.

I cant rely on my vision alone for my safety when crossing the roads. If cars are silent, that's a huge risk for me and would greatly reduce my ability to commute anywhere independently without considerable fear.

As a legally blind person I depend on being able to judge the speed of traffic approaching me by hearing them as I wait to cross the road.

Majority of electric vehicles cannot be detected irrespective of location. Near misses have occurred - when stepping from a kerb (electric vehicle suddenly turned into road from a side-street; and parked electric vehicle moved off suddenly), - shopping car parks (electric vehicle in adjacent parking bay moved off suddenly; and electric vehicle turned into vacant parking bay) - distracted by conversation or looking for street signage while walking and stepping off kerb without hearing electric vehicle.

Aggravation encountered from the driver of an electric vehicle when walking on roadway of shopping car park and not hearing vehicle approaching from behind. The vehicle had the right, but no opportunity to hear vehicle to move off roadway.

Making electric cars of any sort have an audible sound is a no brainer in my opinion. As a cane user I need to hear vehicles as I walk along the street, navigate crossings and roundabouts. And it is not just the blind community that needs sounds to assist them, for what about children and other elderly people who may not see very well. I live in a climate where we experience most of the year in a climate of drizzly, mist and fog.

Sounds will help me in every way as I am out and about in all kids of weather in my local community. I had a friend pick me up once at my home. I went to the mailbox while waiting for them to arrive. I had no mail so turned around to return to my front door. With that I walked straight into my friend's car who had pulled up in my driveway which I had not seen or heard. If this can happen in my own driveway, what is the level of risk to me and others as I get out in my community on a regular basis. It is a no brainer.

Not many footpaths in Portarlington so necessary to walk on road.

In 2013 I was reversed into as I walked to a car, breaking my hip I had to have a total hip transplant. I think all cars should a reversing sound like trucks have.

To exit my apartment complex I am required to walk through the garage basement. I have on occasion had electric vehicles surprise me as they come up behind me. Clearly they can see me, but I can’t hear them and I find that very unsettling.

I am not able to walk alone in the streets anymore because I have had a few near misses from cars that are silent - but suddenly switch on and drive. I don't have time to orientate where the car is coming from.

Regardless of eyesight, electric vehicles are pretty much imperceptible unless they are within direct line of sight. A device that announces their presence without them being seen will stop people walking in front, stepping sideways or backward into what can be a devastating incident.

I became legally blind in 2020 at age 56. It took a long time to adjust and my confidence about leaving the house and walking was severely affected. I slowly learned to adjust and with some help and with some practice using a white mobility cane I gradually gained enough confidence to go out for a walk by myself. The very first time I walked out of my driveway I began to cross the road (a very quiet street) and I was almost run over by a Tesla which was travelling quickly and making no noise.

I immediately went back inside and did some serious reflection about how close I had come to being run over by a car that I couldn't see and I didn't hear. Since that day I never leave the house by myself and am always accompanied by another person. I fully support some sort of acoustic device being attached to electric cars so that other people like me will be able to detect them more easily.

I ride a mobility scooter as I no longer see well enough to drive a car. As such, I am classified as a pedestrian, and must stay on footpaths wherever possible Obviously I need to cross roads at times and traffic lights aren't always on the spot. There are times when I have to cross a road without the safety of traffic lights, as do pedestrians.

I use my hearing to back up my reduced vision to help me know when it's safe to cross. Electric cars, "silent" cars take this back-up away from me, which has considerably reduced my confidence in feeling safe, using the only independent means of transport I have.

Having the acoustic device would be a benefit not only for people who are blind:/low vision it would benefit the deaf community as well. Having to live with low vision we depend on acoustics to guide us as to where cars are. We NEED that device for our SAFETY if the acoustics device is not installed there are going to be many people who will be injured and the government will have to bear the medical costs. The government is all about inclusivity don’t exclude the sight impaired or hearing impaired by NOT including the acoustic device in the electric cars.

INCLUDE the acoustic device and prove that the government is hearing us to keep us safe from motorists who have no idea they put low vision and deaf community in danger on a daily basis.

As a Vision impaired person, I need to be able to use my hearing more now, to detect any type of vehicle around me when I am out and about I mean. It's a no brainer, seriously!! We have so many challenges already with our disability concerning safety.

I support any measure that will increase EVs on Aussie roads. I want the next car my family owns to be an EV. I want the future of private vehicle transport to be sustainable and electric. But for that to happen, I need AVAs to be mandatory in EVs I live in western Sydney, on Windsor Rd between the M2 and James Ruse Drive. It's a very busy stretch of road and - I've been told - a very challenging road to navigate.

Having 35 years of practice navigating with little-to-no sight, I don't find it so. This is because I've learned to listen to the flow of traffic to tell when it's safe to cross driveways or side streets. A line of engines idling means the traffic is gridlocked, and it's safe for me to cross. A lull in traffic noise means lights up or down the road have changed, holding back the traffic, and it's safe to cross. I've learned to listen for the sounds of cars turning out.

Most importantly, I've learned to listen for engines in the far lane that are waiting to turn across me when the traffic breaks. None of these auditory signals exist with EVs. I walk around my neighbourhood with my toddler to local shops, libraries, cafes, the pool and doctors. In a few years I'll be responsible for walking her to school. I need AVAs in electric vehicles if they're going to become more common on our roads. No pedestrian wants to be the cause of an accident. No driver wants to be responsible for hitting a mum or her baby while they're walking to the shop. AVAs will help everyone to continue using the roads and footpaths safely.

It’s a frightening thought that a silent vehicle could hit me without warning when I’m crossing the road. Hearing vehicles approaching is my only defence at the moment. It’s bad enough sharing the footpath with bicycles and electric scooters, EV’s take the danger to the next level. Not only for the vision impaired, it’s dangerous for all pedestrians.

I would feel safer crossing the road.

Well I know a lot of the time I have to look much more to my right when crossing roads and the lights and don’t talk about shopping centres I’m just saying they [electric cars] are very quiet.

Back in the 60's I was usually passed by an electric vehicle (description old grand ma Ducks vehicle - Rockdale NSW). I was able to hear in those days but not this vehicle until it had passed me. This warning is a must if not fitted will result in many accidents.

It is so scary when you step off the curb only to be confronted with a vehicle right there in front of you. You become disorientated, confused and your confidence drops dramatically. Not to mention the driver/other passengers are surprised and at times angry that you have run into their car using your long cane which they think may have dented their car.

My son is visually impaired and I have been teaching him to listen for cars all of the time. Crossings, carparks, walking on foot path and going through driveways... I would welcome Electric cars having an AVAS to be much safer on the day to day and for children to become more independent and not always relying on an accompanying adult to identify possible dangers. I believe that adults will also become safer when out and about and it will embrace independence.

Kind regards, Ana Foix Sallo

Being mostly blind and mostly deaf to be able to keep/improve my independence it is an essential requirement for my and others safety and there is no possible argument to contradict that fact! Thankyou

I no longer go out on my own as I need to be able to hear a vehicle coming before I cross a road.

Not hearing a car coming around a corner when I think it is safe to cross the road would be a major problem to me. It would impact on my confidence and independence.

I want to cross the road safely and if there’s no footpath you’ve gotta be able to hear cars behind you.

My support worker and I were about to cross the road when an electric car pulled out of the street corner. I almost stepped out into it and my support worker stopped me. She didn’t hear it either. It was her vision that saw it and was able to prevent me from being hit. I’m not able to hear electric cars other than the tyre noise when they are at speed. When going slow the tyre noise isn’t there.

As a person who has low vision & functional blindness, I strongly believe that electric cars need to be more audible. It is extremely difficult to hear these on the road. I rely on my hearing to judge a distance from a car. These cars are difficult to detect and judge & acoustically they sound much further away than they actually are. I am concerned that I could have an accident or near miss one day because the noise - or lack of noise they make is quite deceiving for a person with low vision or blindness. I strongly believe that making it compulsory for electric cars to have an Acoustic Vehicle Alerting System would make a huge difference to the safety and wellbeing of people with low vision or blindness, and even for children & young people who may not hear them & therefore step out onto the road.

Being legally blind in one eye and reduced vision in the other, it can already be difficult to navigate crossing the road as it can difficult to see vehicles, particularly grey in colour. Over on numerous occasions. Undoubtedly, the ability to hear a car has saved me from being hit. Though those of us with low vision may suffer impediments I strongly believe it will assist the entire community as it can only take a moment of distraction for a pedestrian to place themselves in a precarious position.

I already find it nerve wracking to cross a road, I really have to concentrate and listen to hear if a car is coming. I wait until the road is quiet and close to silent before stepping into the road. With electric vehicles being silent I can no longer trust that a silent road is clear to cross. Even at pedestrian crossing beeper lights I still listen to make sure that cars are slowing and stopping like they are supposed to do at a red light. A couple of times over the years the pedestrian crossing beeper has started so it’s time to walk across, but I can hear a car revving up or just not slowing down, so I know they are going to run the red light, which they do. With a silent electric vehicle I wouldn’t get that audio information so I could potentially step into the path of a red light runner. Electric vehicles as they are now take away my ability to protect myself from injury or death.

I have had a very near miss when walking with my seeing eye dog across a driveway. An EV reversed down the drive into our pathway and neither my dog nor me heard it. A VERY near miss!!