

22 February 2023



Tēnā koe 

I refer to your email dated 25 January 2024, requesting under the Official Information Act 1982 (the Act) information on acoustic vehicle alerting systems (AVAS) for electric vehicles.

On 29 January 2024, part of your request for information was transferred to the New Zealand Transport Agency (NZTA) for answer. This is because the necessary statistical analysis of the Crash Analysis System and Motor Vehicle Register to address your request was more closely connected with their functions.

This decision letter relates to the remainder of your request, which included:

1. *“What action, if any, has the Ministry of Transport taken to minimise the risk to pedestrians of electric cars?”*
2. *“What work has the Ministry done to follow other countries such as UK, Europe Japan and some states in the United States who have introduced regulations that require electric vehicles to emit a sound at low speeds?”*
3. *“What international agreements is New Zealand a signatory of which oblige some action to be taken to improve safety for pedestrians particularly for those pedestrians who are visual impaired?”*

My decision on parts 1 and 2 of your request

I have interpreted the above request for information to be about recent information on our activities relating to AVAS. Within this scope, I am releasing an updated excerpt of the Vehicle Standards Map 2016 to you, in Appendix 1. The Map identified forthcoming vehicle technologies that might improve safety or efficiency—highlighting relevant research, regulation, and international standards—and it included summary of information we held about AVAS. Although the Vehicle Standards Map has been publicly released in the past, I do not propose to release the full document because the statistics it includes are from 2016 and are no longer current. Appendix 1 includes the relevant, current statistics and analysis. Our understanding of AVAS technology and regulatory readiness has evolved since 2016, as outlined in this letter. We have not identified other relevant documents in scope.

Officials maintain a watching brief on the activity of foreign regulatory agencies. AVAS performance requirements are set out in [United Nations Regulation 138](#), which sets out “uniform provisions concerning the approval of quiet road transport vehicles with regard to their reduced audibility”. While most major vehicle markets appear to have mandated fitment of AVAS complying with United Nations Regulation 138 or equivalent standards, Australia has not yet done so. However, the Australian Government has recently [sought public comment](#) on its [“Consultation Impact Analysis”](#) regarding mandating AVAS. This consultation closed in mid-2023.

We are monitoring the progress of Australia's work as it will inform any approach New Zealand takes in the future about this matter. This is because around 80 percent of New Zealand-new light vehicles are manufactured to Australian Design Rules, and it would be difficult to justify the economic costs of regulation ahead of Australia taking regulatory steps.

The used vehicle market primarily imports models manufactured for the Japanese domestic market. Japan has required AVAS in vehicles manufactured since 2018, and these vehicles are likely to be imported into New Zealand in greater numbers over the medium term.

My decision on part 3 of your request

I have interpreted the above request for information to be about international agreements which require New Zealand to regulate for improved vehicle safety features that would benefit pedestrians (such as AVAS). I am declining your request in part 3 under section 18(d) of the Act as the information requested is publicly available.

New Zealand's obligations in respect of vehicle standards are primarily contained in two United Nations Agreements relating to vehicles and their parts:

- The [1958 Agreement](#), meaning the "Agreement concerning the Adoption of Harmonized Technical United Nations Regulations for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these United Nations Regulations"; and
- The [1998 Agreement](#), meaning the "Agreement concerning the Establishing of Global Technical Regulations for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles".

Some trade agreements, such as the [New Zealand-European Union free trade agreement](#) (in the [Motor Vehicle Annex](#)), include commitments relating to the UN Agreements and general international trade law and practice—for example, we are generally expected to apply "good regulatory practices" and avoid "technical barriers to trade" when regulating for vehicle features. However, we are not aware of any substantive obligation in trade law, trade agreements, or under the United Nations Agreements themselves which require us to mandate AVAS or any other specific vehicle feature.

We have not identified other relevant documents in scope.

You have the right to seek a review of this response

You have the right to seek an investigation and review of this response by the Ombudsman, in accordance with section 28(3) of the Act. The relevant details can be found on the Ombudsman's website www.ombudsman.parliament.nz.

The Ministry publishes our Official Information Act responses and the information contained in our reply to you may be published on the Ministry website. Before publishing we will remove any personal or identifiable information.

I trust this response is of assistance.

Nāku noa, nā



Joanna Heard
Manager, Safety

Appendix 1 – Information about Acoustic Vehicle Alerting Systems, updated from information included in the Vehicle Standards Map 2016

Also known as ectunes, enhanced vehicle acoustics (EVA), electric vehicle electronic engine sound system (EVEESS), electric vehicle warning sounds (EVWS), virtual engine sound system (VESS), vehicle proximity notification system (VPNS), vehicle sound for pedestrians (VSP) and others.

Electric and hybrid electric vehicles tend to be much quieter than other vehicles and so may not be noticed by other road users, such as cyclists or visually impaired pedestrians. Acoustic vehicle alerting systems produce a sound to alert other road users, particularly when vehicles are travelling at low speed where road noise is also likely to be quiet. A variety of sounds are available, including humming or whooshing, or even a synthesised petrol engine sound.

Crash types addressed

AVAS are primarily intended to prevent collisions with pedestrians, particularly those with impaired vision, who may not be able to hear quieter electric vehicles. Such systems might also help prevent collisions with e.g. cyclists, as well as pedestrians who may be distracted. Effects are likely to be limited to crashes in low speed (<20km/h) conditions.

Evidence of effectiveness

Requiring a vehicle to emit a noise should improve safety. Australian consultation documents indicate that mandatory fitment in Australia is modelled to save 65 lives and avoid more than 5,000 injuries (limited to pedestrian trauma only) over a 35-year analysis period. Around 37 percent of pedestrian crashes occur in low-speed situations. Around 17 percent of crashes involving electric vehicles at low speed could be avoided in Australia if full fitment was attained—this figure considers the effectiveness of automatic braking technology. Overall, this implies an approximately 6.5 percent overall effectiveness.

Extent of regulation

Many international markets base regulations on [United Nations Regulation 138](#), which applies to electrified M (passenger) and N (goods) class. The Regulation requires minimum sound requirements under a range of expected low-speed conditions.

Europe accepts compliance with EU Regulation 540/2014 (since 2014) and UN R138 since 2017. The mandatory requirements apply from 2019, with the EU Regulations permitting a pause function (UN R138.01 prohibits a pause function).

United States requires AVAS fitment (100 percent fitment) from September 2020.

Japanese regulations require compulsory fitment of AVAS (with pause function prohibited) since 2018. These requirements are practically identical to UN R138.01.

Australia has not yet required AVAS, but has sought consultation on AVAS mandates entering into force from 1 January 2025 in new vehicle models and 1 January 2026 for all new vehicles.

Extent of fitment

Requires modelling – as of end 2023, there are around 106,000 registered electric vehicles (76,500 battery electric vehicles, 30,400 plug-in hybrid vehicles) comprising just over 2 percent of the national fleet. Hybrids recently sold in Japan have AVAS, but rate of fitment in models imported used to New Zealand needs analysis. Similarly, new European vehicles are likely to have AVAS fitted. ANCAP testing does not appear to test for AVAS fitment.

Is it able to be retrofitted?

Yes.