

October 20, 2014

The Hon Jamie Briggs MP
Assistant Minister for Infrastructure and Regional Development

MVSAreview@infrastructure.gov.au

To the Honourable Jamie Briggs,

Re: Submission to the 2014 Review of the Motor Vehicle Standards Act 1989

This submission has been prepared in response to the recent Options Discussion Paper on the 2014 Review of the Motor Vehicle Standards Act 1989.

It outlines how reducing the barriers to importing new and used vehicles could adversely impact the deployment of advanced vehicle safety technology in Australia. It is also likely to have some impact on the provision of traveller information to motorists and impact on the method that motorists use to access this information.

ITS Australia

Established in 1992, Intelligent Transport Systems Australia (ITS Australia) is an independent not-for-profit incorporated membership organisation representing ITS suppliers, government authorities, academia and transport businesses and users. Affiliated with peak ITS organisations around the world, ITS Australia is a major contributor to the development of the intelligent transport systems industry. ITS Australia promotes the development and deployment of advanced technologies to deliver safer, more efficient and environmentally sustainable transport across all public and private modes – air, sea, road and rail.

Cooperative ITS

What is Cooperative ITS?

Cooperative Intelligent Transport Systems (C-ITS) are an emerging technology that enable vehicles and surrounding infrastructure to exchange information about the location, speed and direction of other road users and infrastructure also using C-ITS. For example, a C-ITS enabled vehicle approaching an intersection, with no visibility of oncoming traffic, broadcasts its location, speed and direction signal and receives the same signal from another C-ITS enabled vehicle approaching from a different direction. If the vehicles' trajectories indicate an imminent collision, both drivers would receive warnings from their in-vehicle systems. This would allow the drivers to respond to these warnings systems and reduce speed to avoid a collision, even before they can see the other vehicle coming.

C-ITS applications represent an opportunity to significantly reduce road deaths and serious injuries, and also incalculable trauma that goes along with them. A report published by the United States Department of Transportation (US DOT) in August this year highlighted research findings that C-ITS intersection movement assist would avoid 41 – 55% of crashes at intersections, as well as also

reducing crashes that are not completely avoided¹. C-ITS applications are part of an emerging trend of technology seeking to move from helping people to survive crashes to avoiding crashes altogether. C-ITS is one of the very few technologies that are effective at preventing vehicle to vehicle side impacts.

In February this year the US DOT announced that it will begin working on a regulatory proposal that will require V2V (or C-ITS) devices in new vehicles², re-enforcing the significance of this new technology. This action was progressed in August this year when the US DOT released their Advanced Notice of Proposed Rulemaking, announcing that it has commenced public consultation on and drafting of a proposed Federal Motor Vehicle Safety Standard regulation requiring V2V fitment to all light vehicles in the US. This was re-enforced at the recent ITS World Congress in Detroit in October this year where General Motors announced that they would be manufacturing C-ITS equipped vehicles within 2 years. Other manufacturers in the US, Europe, Japan and Korea are also working on vehicle models equipped with C-ITS and these are due for release in a similar time-frame to that of GM. C-ITS equipped vehicles can be expected to be in Australia from about 2016.

C-ITS Challenges for used and parallel imported vehicles

C-ITS operates via wireless communication between vehicles or between devices fitted on infrastructure and vehicles. C-ITS has been allocated to different spectrum bands in different regions around the globe:

- Japan are currently using the 5.8GHz band but has more recently allocated part of the 700MHz band for C-ITS
- USA and Europe are both using the 5.9GHz band but they have different channel allocations within this band
- In Australia, Austroads is currently working with ACMA regarding the allocation of spectrum to support this technology in Australia. It has been proposed to ACMA that Australia harmonise with the European spectrum allocation in the 5.9GHz band.

There are also regional differences in road regulations that need to be reflected in the algorithms of the C-ITS devices, such as left hand driving vs right hand driving.

These regional differences have a number of impacts for second hand or parallel vehicles imported depending on the eventual model for the implementation of this technology by the auto manufacturers. Some of the possible implications are outlined below:

- Given that Japan will operate on a different spectrum to Australia it is unlikely that devices in vehicles manufactured for Japan will be able to be re-tuned to suit the Australian environment. Rather the device will have to be removed and replaced. There is also a licencing issue in that a Japanese-spec vehicle with either 5.8 GHz or 700 MHz DSRC will currently not be covered by an appropriate radio communications license in Australia, and could cause interference to existing users in those bands. Vehicle import schemes should give appropriate consideration to ensuring vehicles comply with Australian radio communications regulations and licensing conditions.
- If Australia elects to harmonise with Europe as expected there should be no need to re-tune a device in a used or parallel imported vehicle from Europe. However device algorithms would need to be updated to suit the local road laws. The mechanism for applying

¹ <http://www.nhtsa.gov/staticfiles/rulemaking/pdf/V2V/Readiness-of-V2V-Technology-for-Application-812014.pdf>

² <http://www.dot.gov/briefing-room/us-department-transportation-announces-decision-move-forward-vehicle-vehicle>

different regional settings to the local algorithms in new vehicles is yet to be defined. Once this is defined the implications for imported second hand vehicles will be better understood.

- If Australia was to harmonise with Europe then used or parallel imported vehicles from the USA would need to be updated to reflect the correct channels. In theory it is possible to make this adjustment to the C-ITS device. The ability to make this adjustment is dependent on the OEMs making the devices a serviceable item. It seems more likely at this stage that a vehicle's C-ITS device will be a replacement part. In this case the device could not be re-configured but would need to be replaced with one suitable for Australia.

Given these regional differences, used or parallel imported vehicles fitted with C-ITS safety devices by the manufacturer will not have default access to this safety technology when driven on Australian roads. At best the device will need to be adjusted but in many or most cases the device will need to be replaced or an aftermarket device installed. Aftermarket devices are expected to have reduced functionality than those installed by the OEM, given a more limited interface with the engine management system.

Recent reports have suggested that the cost to the OEM of installing a C-ITS device in the vehicle to be in the order of \$340 to \$350³. This compares favourably with other safety devices in vehicles such as front airbags. The cost for replacement parts and aftermarket devices is yet to be defined, as is their functionality, but it is anticipated that a retrofitted C-ITS device will be significantly more expensive than the OEM cost detailed above.

Interference from non-compliant C-ITS devices

In the near future many vehicles will contain C-ITS devices designed to operate in the country where the vehicle is first sold. If these vehicles are subsequently imported into Australia their C-ITS equipment will probably not comply with Australian spectrum allocation policy and regulations. This could cause interference and should be considered for further investigation both for:

- Out of band emission interfering with other parts of the spectrum
- Emission within the C-ITS band but at the wrong channel or inappropriate standards.

For example, the Japanese DRSC systems operate in the 5.8 GHz band. In Australia, this band is used for toll collection and any used (or parallel) Japanese imported vehicle may interfere with Australia's freeway toll collection systems if not turned off. Also, some Japanese V2V systems operate in the 700 MHz band and have potential to interfere with the new services in Australia's "Digital Dividend" bandwidth. The Japanese C-ITS band (715 – 725 MHz) occupies a large part of the band that Telstra just purchased from the Australian government for \$1.3Billion for next gen mobile applications.

The Motor Vehicle Standards Act (MVSA) and the vehicle import schemes should give appropriate consideration to Australia's radio communications regulations and licensing conditions, to ensure that communications equipment fitted to imported vehicles (new and used) are compliant and can operate effectively, and not have a detrimental effect to other licensed communications users.

Reduced benefit to the overall population

C-ITS is a unique safety technology with the beneficiaries being not just the occupants of the vehicle but other travellers in the vicinity (including pedestrians, cyclists and public transport) who are

³ <http://www.nhtsa.gov/staticfiles/rulemaking/pdf/V2V/Readiness-of-V2V-Technology-for-Application-812014.pdf> page 216

assisted in both avoiding accidents and, as the technology matures, travelling efficiently through congested traffic conditions. In its 2012 C-ITS Strategic Plan, Austroads estimated that C-ITS could reduce crashes in Australia by between 25-35% and also provide substantial congestion benefits from both the reduction in crashes and also improved traffic management⁴.

If penetration of this technology through the Australia fleet is hindered via a high portion of non-enabled second hand or parallel imported vehicles, Australia will fail to see the full benefits of this technology in reduced road deaths and trauma when compared with international peers who are already showing a strong commitment to widespread deployment of the technology.

Traveller information

Motorists increasingly have access to traffic and traveller information streamed directly to the dashboard of their car. This might be to assist with navigation, traffic conditions, local speed restrictions, variable message sign data, to locate a suitable refuelling stations or more serious threats and emergency situations. This information is inherently regional and local in content.

The technology used to get this information to the dash board of the car is various and evolving and differs by region. For example, in Australia live traffic information is transmitted to vehicles using the RDS-TMC standard via the FM radio Broadcast. Japan has a different standard and Korea has a similar but different version of this standard. In New Zealand we see many imported second hand vehicles displaying on their dashboard maps of Japan with all information presented in Japanese text and audio.

Widespread penetration of second hand or parallel imported vehicles without access to traveller information via their car will be forced to use other mobile devices that may not be well suited to in-car use or they will manage without this information, with the impact that:

- Australian travellers have potentially reduced access to traffic and travel related information versus their international peers. This leads to less optimal decisions on travel choices such as route and time of travel, leading to lower economical productivity versus our international peers.
- Australian road authorities have a reduced opportunity to communicate directly with drivers via their vehicle dashboard. In the Netherlands the decision has already been taken to avoid the installation of new variable message signs in preference to direct communication with the driver in the cabin. Australian road authorities may then be facing a much higher cost to communicate with their road users than their international counterparts.

Advanced Driver Assistance Systems

New vehicles have an increasing range of Advanced Driver Assistance Systems (ADAS) that assist with vehicle safety and driver comfort. This includes features such as Lane Keeping Assist, Autonomous Emergency Braking and Electronic Brake Assist. The vehicle manufacturers are careful to make sure that vehicles destined for Australia are sensitive to the local environment. For example, manufacturers verify information such as lane widths and lane markings to ensure that lane keeping technology operates correctly in Australia. No such precautions are possible for second hand or parallel imported vehicles coming to Australia.

⁴ <https://www.onlinepublications.austroads.com.au/items/AP-R413-12>

A number of emerging vehicle safety applications use augmented satellite positioning (such as EGNOS in Europe and WAAS in the US). Augmented satellite positioning complements the positioning signal from the satellite to provide a much more precise position. Australia does not currently have access to an augmented satellite positioning service, so the positioning requirements for these safety applications may not be achievable in Australia. This could detrimentally affect the safety performance of these applications with potential for unpredictable outcomes if these safety features are not turned off prior to these vehicles being driven in Australia.

In contrast Australian consumers could find that allowing second hand or parallel imported vehicles into Australia reduces the size of the new vehicle market and reduces the incentive for car manufacturers to customise to Australian needs in a shrinking market. ANCAP and others constantly lobby the manufacturers to encourage them to ensure that vehicles destined for Australia have advanced safety features consistent with our peers overseas.

The MVSA and the vehicle import schemes should consider compliance with technical standards other than those referenced in UNECE regulations or ADRs. Many C-ITS standards are unlikely to be referenced in UNECE regs in the foreseeable future, yet they will be critical to enabling C-ITS equipment from different manufacturers to be interoperable and thus optimise road safety and mobility benefits.

Consumer protection

Emerging vehicle safety technology is new and evolving rapidly. It may be that many consumers will not fully appreciate the features that they are missing out on when they purchase a vehicle that was not manufactured with the Australian situation in mind. When included at time of manufacture the cost of these various technologies that provide enhanced safety and mobility features is modest. However the cost of adding them to a second hand or parallel imported vehicle as an aftermarket device is likely to be more expensive with reduced functionality.

In conclusion

Reducing the barriers to used and parallel imported vehicles could have the unintended consequence: creating a class of vehicles in Australia that is poorly placed to benefit from emerging safety technology; imported vehicle safety applications behaving in an adverse way because they have been calibrated to a much higher positioning accuracy than is available in Australia; and potentially adverse impacts on other industries who rely on Australia's radio communications regulations and licensing conditions. ITS Australia urges careful consideration regarding the changing role of technology, its role in preventing accidents and the significance of regional variations for these technologies as changes to the Motor Vehicle Standards Act 1989 are considered.

Yours sincerely,



Susan Harris
Chief Executive Officer

Address: Suite 23, 574 Plummer Street
Port Melbourne VIC 3207
Telephone: +61(0)3 9646 6466
Fax: +61 (0)3 9646 5066
Email: admin@its-australia.com.au
Website: www.its-australia.com.au
ABN: 24 09 235 493