FCAI Submission to The Queensland Governments Inquiry into Vehicle Safety, Standards and Technology including Engine Immobilisation

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INTRODUCTION

The Federal Chamber of Automotive Industries (FCAI) welcomes the opportunity to provide input into the Queensland Government inquiry into Vehicle Safety, Standards and Technology, including Engine Immobiliser Technology. FCAI commentary will only be specific to certain elements of the inquiry terms of reference as it pertains to light duty motor vehicles (passenger cars and light commercial vehicles) and motorcycles.

The FCAI is the peak Australian industry organisation representing over 50 global automotive brands who design, manufacture, and sell light duty passenger vehicles, light commercial vehicles, and motorcycles around the world.

The automotive industry in general, and the FCAI membership specifically has and continues to make significant contributions towards improved vehicle safety in Australia providing advanced technologies and innovations to market in advance of and exceeding minimum regulatory standards or non-regulatory processes. It is most often this industry driven innovation that provides technologies driving regulation rather than vice versa.

FCAI member organisations are at the cutting edge of innovation, according to Boston Consulting Group 2020 Most Innovative Companies Report[1], 5 vehicle manufacturers are in the Top 50 most innovative companies worldwide. According to the US Auto Alliance, vehicle manufacturers are expending over USD$100 billion annually on research and development. This expenditure is being undertaken to commercialise and introduce the latest technologies with advances that will bring quantum changes to the way in which Australian's access and operate motor vehicles increasingly providing safer and more environmentally friendly vehicles. By comparison in 2018, global R&D expenditure in Aerospace and Defence was reportedly around USD$22 billion[2].

Technology and technological advances can play their part; however, vehicles operate in a complex environment and FCAI strongly supports vehicle safety through a Safe Systems approach. This integrated approach involves all factors including road safety management, road infrastructure, road user behaviour, traffic rules' enforcement, and safer vehicles. Such an approach is essential and must not be contradicted by attempts to single out individual factors in isolation and applies to all users of the road including users such as pedestrians and cyclists.

Education, particularly long-term education programs across the community, have been shown both domestically and internationally to improve road safety outcomes across all user groups.

FCAI welcomes the Queensland inquiry the results of which should be used to inform and drive the National agenda as recommendations relate to vehicle design or operation that will be regulated through the Australian Design Rules; or in the case of SAE Level 3 automation, be regulated through the new In-Service National Regulator as proposed by the National Transport Commission. It is also important to remember that Australia typically retails around 1 million vehicles annually, representing

[1] https://image-src.bcg.com/Images/BCG-Most-Innovative-Companies-2020-Jun-2020-R-4_tcm9-251007.pdf

[2] Alliance for Automotive Innovation

around 1% of global sales and therefore harmonisation with global standards will ensure that Australians have access to advanced vehicle technologies that improve outcomes for all Australians.

The following commentary is provided specifically into the Terms of Reference areas that are relevant to FCAI's members.

OPTIONS TO REDUCE OR PREVENT VEHICLES BEING USED ILLEGALLY OR DANGEROUSLY ON QUEENSLAND ROADS, INCLUDING VEHICLE ENGINE IMMOBILISATION TECHNOLOGY, NON-TECHNOLOGY OPTIONS, OPERATIONAL CONSIDERATIONS OR OTHER MEASURES.

Vehicle theft

The increasing penetration of electronic immobilisers across the Australian fleet has made a major contribution to improving the nation's theft performance. Nationally 9 in 10 vehicles are protected by an engine immobiliser. By law, all new vehicles sold in Australia since 2001 have been fitted with a factory fitted immobiliser that complies with regulated Australian and European security standards. The introduction of the mandatory fitting of engine immobilisers has rendered modern cars almost impossible to steal today without the thief gaining access to the keys. Given that most vehicles operate for approximately 20 years in Australia, there are only a small cohort of vehicles left without mandatory ignition immobilisation.

The relative security of immobiliser technology has seen a distinct shift in offenders' tactics, with residential burglaries to access the keys of secure vehicles now recognised as the most common mode of theft. Despite media reports, incidents of electronic hacking in Australia are very rare events according to the National Motor Vehicle Theft Reduction Council and FCAI members' advice.

Given that immobiliser technology is so effective, measures that can be implemented to reduce theft and burglary of vehicle keys should be the area for attention to reduce the incidence of this type of crime. Additionally, analysing theft methodologies would allow further classifications, with strategies developed to address the issues identified.

Vehicles used dangerously on Queensland roads

Automotive manufacturers have and continue to introduce a range of measures that assist drivers to operate their vehicles in a safe manner, these are described as Advanced Driver Assistance Systems (ADAS). These systems are typically categorised according to SAE J3016 – Levels of Driving Automation according to the following:

- **SAE Level 0** provides the least assistance. These ADAS systems present warnings and momentary assistance derived from sensors to assist the driver. Examples of these systems are Automated Emergency Braking, Blind Spot Warning or Lane Departure Warnings.
- **SAE Level 1** offers features that provide steering **OR** brake/acceleration support to the driver. Examples of these systems are Lane Centering **OR** Adaptive Cruise Control.
- **SAE Level 2** provides more assistance to the driver through vehicle control, and avoids or mitigates hazards actively, these features provide steering **AND** brake/acceleration support to the driver simultaneously. Examples of these are Lane Centering **AND** Adaptive Cruise Control at the same time.

And of course, manufacturers are progressing to develop vehicle automation features designated SAE levels 3, 4, and 5 which specifies varying levels of automation where the driver is not actively driving the vehicle under certain conditions unless the vehicle issues a take over request.

Dynamic vehicle immobilisation

FCAI understands that Queensland is considering dynamic vehicle immobilisation; that is the ability to immobilise a vehicle that is in transit (such as those engaged in dangerous driving or hoon activity). With the advent of telematics systems, this process is technically possible. However, the use of such a system is extremely problematic and would require a high level of coordination of several parties as well as the capability to correctly identify the intended target vehicle.

If the vehicle is in transit, usually the only method of identification is by registration plate which may or may not be accurate if criminal activity has been involved. Therefore, confirmation of vehicle GPS location will be additionally required. Incorrect identification may result in immobilising an incorrect vehicle that is not under police observation.

If the vehicle to be immobilised can be identified accurately then the process needs to be undertaken safely. Immobilisation will usually require the engine to be turned off in some manner which will have several risks that need to be considered:

1. Vehicle speed – needs to be considered for unintended effects considering the environment.
2. Vehicle position - a vehicle should not become a security risk for other traffic.
3. Human factors – how will drivers or passengers react in a remote shutdown.
4. Stopping technique – given the circumstances, what is the most appropriate method of vehicle shutdown considering the systems that will be rendered inoperative by the shutdown of the engine; Power steering, Braking systems, Safety systems including but not limited to Automated Emergency Braking, Vehicle Stability Control, and others.
5. System Latency - of communication and tracking systems which can significantly affect real time surveillance and remote operation.
6. Loads carried – particularly in the case of commercial vehicles may need to be considered in any remote vehicle shutdown.
7. Security - of communications systems need to be considered, cybersecurity risks are significant factors to be considered and will need to be assessed completely through the communication processes.
8. Authorised access – protocols and verification procedures will need to be developed to ensure that only appropriately authorised personnel that have been correctly trained have access to enable the shutdown systems.
9. Depending on systems and processes utilised there may need to be consideration of disabling systems compliance with ACMA regulations relating to Electromagnetic Compatibility and Radio Communications licencing and management.

Therefore, under most circumstances, police would usually only attempt such an action when the vehicle is at extremely low speed or stopped to minimise any potential risks to the public. Finally, immobilising a vehicle in transit requires the coordination between police, the telematics provider, and the owner from an authorisation perspective. We need to ensure immobilisation can be coordinated in a safe and appropriate manner as well as understanding where the responsibilities lie for when things go wrong during a dynamic immobilisation.

Finally, in our view, the retro fitment of aftermarket devices to vehicles is extraordinarily problematic, the level of design, quality control and interaction with the vehicle introduces substantial risks to the vehicle not having been tested or certified as compliant with the high standards that are essential for the automotive safety environment.

THE COMMONWEALTH'S ROLE IN RELATION TO VEHICLE STANDARDS AND SAFETY

Firstly, it is important to remember that Australia represents around 1% of global vehicle sales, given that, the vehicles that Australians receive are largely a result of the worldwide harmonisation rules that have aligned our Australian Design Rules with United Nations (UN) vehicle regulations enabling Australians to benefit from the development of technologies for international markets. This has had a positive effect on vehicle safety, but it also means that we need to be careful to ensure technological solutions are introduced nationally and in line with the UN-ECE after undertaking a suitability and evidence-based needs analysis for Australia.

Consideration also needs to be given towards the Commonwealths Specialist & Enthusiast Vehicle Scheme (SEVS) which under the new RVS arrangements allows uncapped volume of vehicles (made for another market) to be imported into Australia. These second-hand vehicles have a range of ADR concessions and often deliver an inferior level of safety when compared to new full volume type approval vehicles.

OPTIONS TO IMPROVE VEHICLE STANDARDS AND SAFETY IN QUEENSLAND

FCAI and our members are generally supportive of initiatives to improve vehicle safety as well as initiatives through various policy options to improve the uptake of more modern vehicles with advanced safety features that can provide protection for vehicle passengers as well as vulnerable road users such as pedestrians.

New technologies when first introduced are generally expensive to produce and are initially made available on vehicles where the pricing can accommodate the introduction of these technologies. As acceptance increases, manufacturers cascade down making these technologies across a broader range of vehicles where the benefits of mass production economies of scale permit the adoption on these lower priced vehicles.
Motor vehicle taxes and tariffs applied to Queensland registered vehicles:

- GST
- Federal Luxury Car Tax (LCT) – applied on top of and including GST
- Queensland Stamp Duty rates that increase based on the value of the vehicle and applied on top of and including GST + Federal LCT.

The duty that the Queensland Government is responsible for that considerably increases the taxation on vehicles including the latest safety technologies and more broadly slows down the mass production economies of scale adoption of these vital technologies. Stamp Duty is an anachronistic and unwarranted tax. The Stamp Duty is simply a tax on the technologies that ultimately benefit consumers and lead to better safety and environmental outcomes. The Henry Tax Review identified that Federal LCT fails to meet any of the five underlying taxation principles: equity, efficiency, simplicity,

sustainability, and policy consistency and this would equally apply to the Queensland Stamp Duty which is a tax on a tax on a tax. In the context of improving safety technologies, the Stamp Duty inhibits the entry of technology to the detriment of Queensland consumers.

Queensland's stamp duty regime on top of the Commonwealth's Luxury Car Tax both effectively inhibit consumption (of the latest safety technologies). This means that there is a range of consumers who delay upgrading their vehicles to later, safer vehicles because of this regime. Additionally, there is a consequential flow on to the used vehicle market in time, no doubt contributing to the carparc ageing in Queensland. Plus, it should be noted that aging the carparc generally means lower crashworthiness and higher CO2 that can be achieved with a younger fleet

As a result, the Queensland Government could consider a broad range of policies and incentives to encourage Queensland consumers to update their vehicles to those with newer technologies and the first step would be to set a target for average vehicle age reduction.

Current Australian Design Rules for Vehicles

FCAI supports the Commonwealths role in developing vehicles standards for Australian vehicles in the form of Australian Design Rules (ADRs) that are appropriately harmonised with UN vehicle regulations and are introduced to the Australian market through a Regulatory Impact Statement process to ensure suitability for the Australian environment. FCAI supports States and Territories engagement with the Commonwealth to consider and recommend items for adoption in the Australian market whilst respecting the Commonwealths role in ensuring standardisation across Australia. We do not support States and Territories implementing regulations that are inconsistent with Commonwealth vehicle regulations as defined within the Australian Design Rules.

Inspection Regime for Registered Vehicles

FCAI supports a well thought out, considered and cost-effective inspection regime that aims to remove unroadworthy vehicles from the state's roads. Should a scheme be proposed for Queensland, FCAI would welcome the opportunity to engage in detailed discussions.

Pre-sale Certification Scheme

FCAI is unclear as to what is proposed by this subject. However, most if not all FCAI members' dealers operate used vehicle businesses that operate to the highest standards. We would support government led initiatives to rid the industry of unscrupulous operators.

Management of Written Off Vehicles and re-birthing

FCAI supports the concept of Vehicle End of Life management regardless of whether the vehicle has reached "End of Life" by being written off or disposed of for dismantling or in any other manner. Again, FCAI would be very prepared to engage with the Queensland Government on this issue which would inherently limit re-birthing. Within this process, it will be important to consider how vehicles from other jurisdictions, either from an import or an export perspective, would be handled.