Submission No 12

ELECTRIC AND HYBRID VEHICLE BATTERIES

Organisation: Australasian College of Road Safety

Date Received: 24 November 2023

ACRS Submission – Electric and Hybrid Vehicle Batteries

About the Australasian College of Road Safety

The Australasian College of Road Safety was established in 1988 and is the region's peak organisation for road safety professionals and members of the public who are focused on saving lives and serious injuries on our roads.

The College Patron is His Excellency General the Honourable David John Hurley AC DSC (Retd), Governor-General of the Commonwealth of Australia.

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24 November 2023

Introduction

The Australasian College of Road Safety (ACRS) is the region's peak membership association for road safety with a vision of eliminating death and serious injury on the road. Our members include experts from all areas of road safety including policy makers, health and transport professionals, academics, community organisations, researchers, federal, state and local government agencies, private companies and members of the public. The purpose of the College is to support our members in their efforts to eliminate serious road trauma through knowledge sharing, professional development, networking and advocacy. Our objectives include the promotion of road safety as a critical organisational objective within government, business and the community; the promotion and advocacy of policies and practices that support harm elimination; the improvement of relative safety outcomes for vulnerable demographic and user groups within the community; the promotion of post-crash policies and practices; and the promotion of a collegiate climate amongst all those with responsibilities for and working in road safety.

The College believes that we should prevent all fatal and serious injuries on our roads; the road traffic system must be made safe for all road users; system designers should aim to prevent human error and mitigate its consequences; life and health are not exchangeable for other benefits in society; and that all College policy positions must be evidence based.

In this submission, ACRS states that:

- This Inquiry should make recommendations which align with the NSW Road Safety Plan 2026 targets,
- Fires involving Electric Vehicles (EV's) and Internal Combustion Engine (ICE) vehicles contribute to road trauma and disrupt the traffic network,
- Road authorities and the owners of road-related areas need to consider all aspects relating to the operation of EV's when designing and maintaining their infrastructure.

Electric Vehicle (EV) and Internal Combustion Engine (ICE) Vehicles Fires

Vehicle fires affect road safety and disrupt the safe and free movement of people and traffic. This is regardless as to whether the vehicle involved is an EV or an ICE vehicle. In extreme cases, vehicle fires cost lives. For example, in 2017, three people died when the vehicle they were in crashed, rolled, and ignited at Darling Harbour. Police identified speed as a factor in the crash (1).

The Centre for Road Safety (CRS) and/or the New South Wales Police Force (NSWPF) Traffic and Highway Patrol Command would be able to provide data regarding the number of people killed in crashes where the vehicle has subsequently caught fire.

The task of this Inquiry and this Committee is to make recommendations which align with NSW 2026 Road Safety Action Plan targets to reduce road deaths and serious injury (2). Implementing strategies that reduce road trauma are likely to also reduce instances of vehicles catching fire following a crash.

In other cases, vehicle fires were not caused by a crash, but still result in protracted road closures, danger to vehicle occupants and bystanders, not to mention the environmental impact. The NSW Office of Transport Investigations (OTSI) recently reported on ICE bus fires and thermal incidents from 2013 to 2022 (3):

> *Estimated to have cost NSW $203 million – this includes destruction or significant damage of 52 buses and an average of 30 minutes lost by every onboard bus passenger due to travel delays arising from these incidents… Most bus fires in the last 10 years originated in the engine bay of the bus.*

Bus Fire Safety Report – Bus Fire and Thermal Incidents in NSW from 2013-22, Office of Transport Safety Investigations

Issues relating to the likelihood and characteristics of EV fires and lithium battery fires in general are best raised by other organisations such as the combat agencies.

On 18 October 2023, Fire Rescue NSW Commissioner Jeremy Fewtrell AFSM was interviewed on 2GB radio by Mr Ray Hadley on the subject of battery fires (4). Mr Fewtrell said, “mechanical damage to lithium-ion batteries is something that can cause (fires).”

On 15 September 2023, an EV reportedly caught fire after it struck debris on the road, damaging its battery (5).

Although ACRS cannot independently confirm the cause of this particular fire, the timely identification and removal of debris from roadways will continue to be a priority for road agencies and law enforcement.

NSW has an extensive network of road and road related areas including car parks. Roads are generally owned and/or maintained by state and local governments or toll road operators, but the ownership and maintenance responsibility for car parks involves a multitude of entities.

The following photographs depict a vehicle driving over roll-top kerb which separates the two parts of a carpark in the Macarthur region.

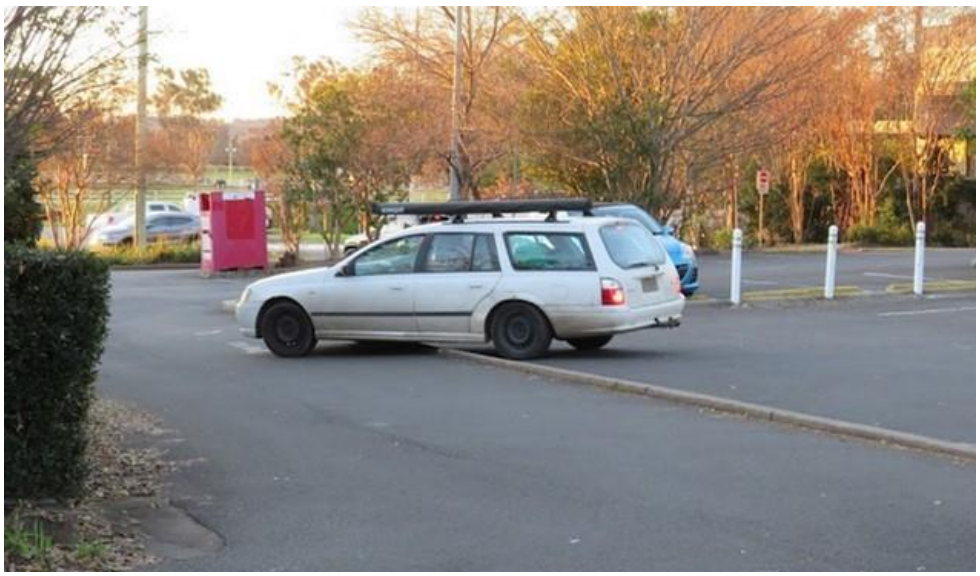

Photo 1: Vehicle travelling over rollover kerbing

There is a drop-off on one side of the car park and the following image depicts evidence of vehicles bottoming-out on the kerbing.

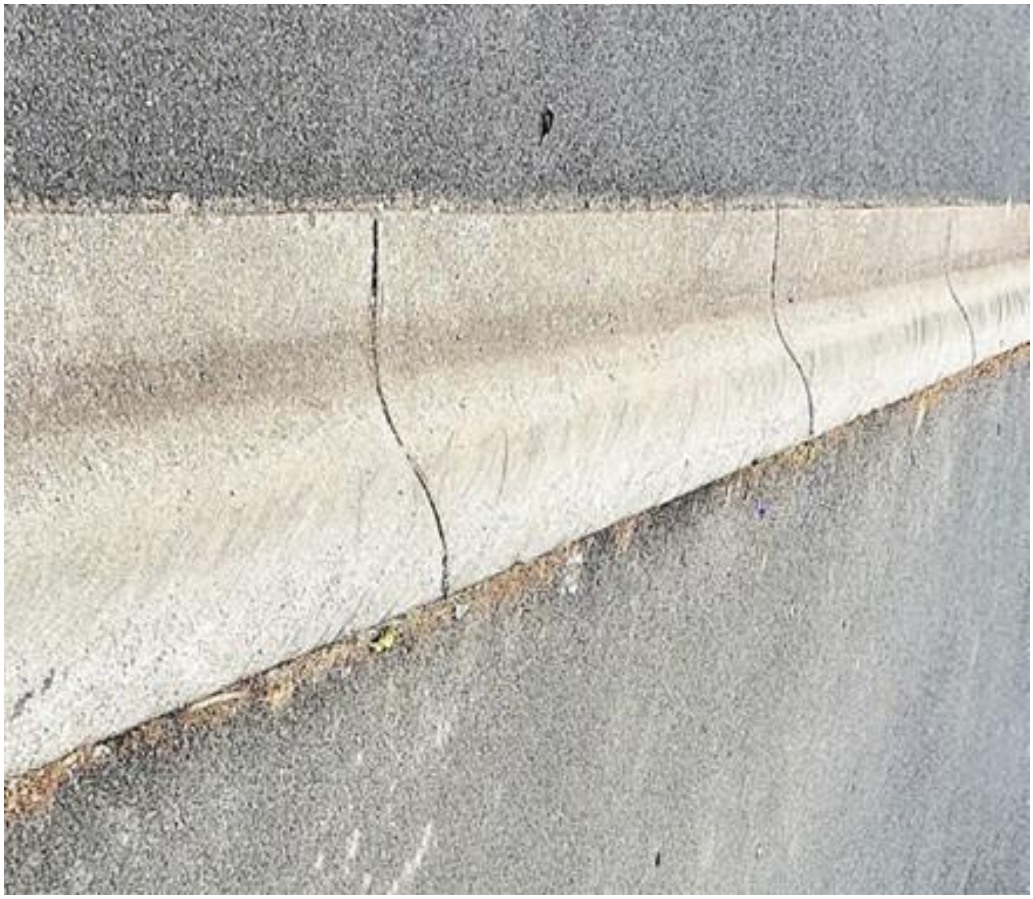

Photo 2: Evidence of vehicles bottoming out on the kerbing

This is an example infrastructure which could lead to type of “mechanical damage to lithium-ion batteries” as described by Commissioner Fewtrell, ultimately resulting in a vehicle fire.

Road authorities and the owners of road-related areas such as carparks to need to consider all aspects relating to the operation of EV’s when designing and maintaining their infrastructure.

Finally, as of 7 November, more than 300 lives have already been lost as a result of road crashes in NSW (6). A recent study from the University of Western Sydney found that with the rate of uptake of electric vehicles and the average frequency of fires, Australia is expected to experience 9 to 10 electric vehicle fire incidents annually in 2030 (7). In that same year, we can expect 571 fatalities if we somehow meet our nationally agreed targets (8), or over 1,000 if current trends continue (9).

ACRS continues to be a friend and supporter of Staysafe and can provide advice on road safety areas of concern for the committee to investigate and report on.

Conclusion and recommendations

The ACRS appreciates the opportunity to make this submission and contribute to improving road safety. We are particularly keen to highlight that:

- This Inquiry should make recommendations which align with the NSW Road Safety Plan 2026 targets,
- Mechanisms for preventing fires involving Electric Vehicles (EV's) and Internal Combustion Engine (ICE) vehicles are likely to also reduce road trauma and minimise disruption to the traffic network,
- Road authorities and the owners of road-related areas need to consider all aspects relating to the operation of EV's when designing and maintaining their infrastructure.

Please do not hesitate to contact us should you need any further information.

Mr Michael Timms
NSW Chapter Co-Chair
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