TARGA REVIEW PANEL

REPORT TO THE BOARD OF MOTORSPORT AUSTRALIA

The Members of this Panel express their sincere and heartfelt condolences to Mrs Seymour, Tony's family and friends, and the broader motorsport family to which we all belong.

We also recognise and acknowledge the efforts of all those involved in the crash scene intervention and members of the organising team and the many others, who have obviously also been impacted by this tragedy.

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INTRODUCTION

2021 Targa Tasmania fatalities

1. On the penultimate and final legs of competition in the 2021 Targa Tasmania tarmac rally, two separate serious accidents occurred.

2. The first involved a competition car, a 1979 Mazda RX7, leaving the road on a special stage at relatively low speed in wet conditions whereupon it slid down an embankment and overturned into a creek adjacent to the road. The driver's side of the car rested next to a large pipe discharging run off water into the creek. The co-driver was able to extricate himself from the vehicle but was unable to assist the driver to do so. While the results of a post-mortem conducted on the driver are not

available to the Panel, the Medical Delegate who attended the incident gave a preliminary opinion that the driver drowned.

3. The second incident involved a late model Porsche 991 GT3 RS colliding with two trees killing both crew members instantly. The car had just negotiated a jump and the driver lost control of the car after it landed.

4. Competition in the 2021 event was cancelled following this second incident.

5. Motorsport Australia subsequently appointed Garry Connelly AM, Matt Selley and Neal Bates to an Investigatory Tribunal to investigate these two incidents and the conduct of the Targa Tasmania event more generally. At the conclusion of that investigation, the Investigatory Tribunal published a comprehensive report on its findings and made 26 recommendations to the Board of Motorsport Australia as to measures to be taken to address shortcomings in the conduct of the 2021 event and to mitigate the risk of serious incidents occurring in tarmac rallies in Australia in future. The Investigatory Tribunal subsequently issued a Supplementary Report. The Tribunal's Primary and Supplementary Reports are annexed as **Attachments A** and **B** respectively.

6. The Board of Motorsport Australia adopted all of the Tribunal's recommendations and resolved that each of them would be implemented before the 2022 Targa Tasmania event.

2022 Incident

7. On the afternoon of 26 April 2022, the first full day of competition in the 2022 Targa Tasmania event, a serious single vehicle incident occurred. A 2013 Lotus Exige competing in the open competition field left the road, went through a roadside wire rope barrier* and collided with a large tree ("**2022 Targa Incident**"). The driver, Tony Seymour, died. His co-driver, his wife, Sandra Seymour, sustained only minor injuries.

**See note at 119*

8. The 2022 Targa Incident was then the third serious incident which had resulted in a fatality within only approximately 100 competitive kilometres of the same event over 2 years.

9. In 2013, the driver of a Porsche Cayman competing in Targa Tasmania passed away after his car struck a tree on the first stage of the event. An inquest was conducted by the Tasmanian Coroner who made a number of adverse findings into the conduct of the event. In light of these findings, changes were made by the Organiser, including that a minimum time be introduced for the first stage of the event to afford crews an opportunity to familiarise with their car and the event without pressure to set a competitive time. Further, the event, and all tarmac rallies, have been required to be run in accordance with the Motorsport Australia Tarmac Rally Standing Regulations

which had been introduced earlier but compliance with them was not previously required for Targa events.

10. Following the 2022 Targa Incident, a joint decision was made by the Organiser, Targa Australia, and Motorsport Australia that competition in the 2022 Targa Tasmania event would cease, and the remaining 4 legs of the event were downgraded to touring only.

11. In light of the 2022 Targa Incident the Board of Motorsport Australia resolved on 13 May 2022 to suspend the issue of permits for any other targa style tarmac rally in Australia pending an investigation by a Review Panel. The members of the 2021 Investigatory Tribunal were appointed by the Board of Motorsport Australia to that Review Panel.

12. The Review Panel's terms of reference require the Panel to attempt to determine the cause of the incident and the fatality and to advise the Board whether it is appropriate for Motorsport Australia to continue to sanction competitive tarmac rallies in Australia and, if so, subject to what conditions. The Terms of Reference are annexed as **Attachment C**.

PREAMBLE

13. The Investigatory Tribunal into the 2021 Targa Tasmania fatalities made the following observations which are repeated below:

"*There is one issue on which the Tribunal wishes to make comment. During its conduct, a (small) number of competitors expressed the view that they are well aware of the dangers of competing in an event such as Targa Tasmania, and that it was up to them, as individuals, to decide the level of risk they will tolerate and expose themselves to. This Tribunal holds a contrary view. It does so not only on a "philosophical" basis but also on a pragmatic one. It believes it has a responsibility to comment on this. The reasons this Tribunal believes that is it not solely the right and responsibility of each individual to decide the level of risk they are willing to be exposed to, are as follows:*

a. *The death or serious injury (including total and permanent incapacity) does not just impact the deceased or injured party. It impacts their immediate family both emotionally and financially. It also impacts their friends, and it impacts others involved in the event, in particular the intervention teams and organisers. The financial demands in the case of a totally and permanently disabled person are extremely high, on family, community and society in general.*
b. *A death or serious injury also impacts the image of motorsport, rallying and this event in particular. The sport relies of support from many external sources, from individuals, local and state governments and corporations. Frequent fatalities or serious injuries have the potential to lead to a loss of support, or worse (as has been seen in other countries, and in New South Wales in 1968) prohibitions and restrictions on the conduct of the sport.*
c. *Of a pragmatic nature, each death or serious injury involves not only financial hardship for the family concerned. It also comes with great cost to the organisation and the governing body. Insurance premiums inevitably rise as a result of claims and this cost is borne, ultimately, by all competitors. In a worst-case scenario, cover may become unobtainable for some events or types of events, which could see their demise.*
d. *Government legislation is applicable to many incidents. An enquiry by a government authority can be extremely time consuming for all parties involved. Around the world, such legislation has developed to a stage where there are potentially severe penalties that could be applied."*

14. This Review Panel acknowledges, reiterates and confirms the above and the obvious fact that motorsport is inherently dangerous and whilst every effort should be made to prevent crashes, inevitably they will occur. However, the Panel agrees with the objectives of the International governing body for motorsport (the FIA) and Motorsport Australia, that such crashes should be survivable, through a system comprising three components:

14.1 Vehicle Safety (including basic design and additional equipment);
14.2 Crew Safety Equipment (apparel), preparation and culture; and
14.3 Track (or competition course) Safety.

15. The 2021 Tribunal made a number of observations in its Report which have direct application to the Panel's Terms of Reference.

16. When discussing the history of Targa Tasmania, we noted:

"The Tribunal heard evidence that there has been a cultural shift within the competitor base with a much higher proportion of competitors are focussed on setting competitive times. Further, the Technical Regulations and the competitive category divisions reveal a preference for modern often expensive sports cars. Accordingly, the profile of many of those who compete could be classified as "wealthy enthusiasts", and many of them are aged over 50 with some over age 65, often lacking in motorsport, particularly rally, experience. Some of them only compete in Targa Tasmania and many of them in only a handful of rallies each year. Few have expertise in car preparation or have an understanding of car set-up, particularly the differences in set-up for a rally compared to a race-track.

Some of the vehicles entered are high-performance sports cars, with potential top speeds in excess of 300 km/h. These vehicles have rapid acceleration rates, and in general, are capable of high cornering speeds.

The route of Targa Tasmania provides many challenges. The Targa Stages are conducted on tarmac public roads, which are closed to the public during the event. These Stages run through forests, farm land and take crews through a variety of terrains from plains, rolling hills, to mountainous areas, visiting some of the most picturesque locations in Australia. Because many of the stages are quite remote from major cities, the roads used do not normally have an abundance of safety fencing such as Armco barriers. On almost every Stage, there are unprotected hazards, such as trees and telegraph poles, many of which are in potential run-off areas."

17. At paragraphs 7.4.1 to 7.4.4 we observed:

"*The 30 years since the inception of Targa Tasmania have seen the development of (especially) GT cars where acceleration and top speeds have increased significantly.*

The Porsche GT3 RS is for all intents and purposes, a circuit racing car. As referred to herein, it, along with many other cars entered in the event, is capable of speeds approaching 300 km/h.

It is noted that for competitions on circuits where such speeds are achieved, and such cars are driven, the world governing body (the FIA) and Australia's relevant governing body Motorsport Australia, require circuits to meet very high safety standards. In particular these include smooth and consistent (level) tarmac surfaces, run off areas often filled with gravel to slow cars down, and safety fences that can absorb the energy of an impact of a car at high speed.

Rallies, by their very nature, provide no such protection."

18. We concluded:

""Risk" is a function of two variables – the "Likelihood" of something happening, and the "Consequence" if it does happen.

Because of the nature of Targa Tasmania (and indeed rallies in general), the consequences of leaving the road at high speed (or even, as in the case of car 602, at low speed) can be serious injury or death.

In evidence to the Tribunal, one expert witness made the following observation:

> *"The consequence of loss of control (in this event) is more severe than other events around the world. If you combine this with a high probability of loss of control, the result is fatal or serious injury."*

The Tribunal therefore concludes that because there is little if anything that can be done to mitigate the consequences of loss of control in many places in Targa Tasmania, it is essential to reduce the likelihood of a loss of control."

19. The 2021 Tribunal made a number of recommendations designed to address the factors which it identified as causative or contributory to the 2021 incidents and their outcomes. The recommendations in this report go far beyond those made in the Report of the 2021 Investigatory Tribunal in light of the very broad Terms of Reference issued by the Board of Motorsport Australia to this Panel.

EXECUTIVE SUMMARY

20. The Review Panel finds, on the evidence available to it, that the cause of the 2022 Targa Seymour crash was likely driver error and that the cause of the fatality was likely asphyxiation as a result of the driver's helmet being pushed and held down to his chest by bars of the safety cage around the driver's head, which had failed and/or distorted after the impact with the tree.

21. The Review Panel further finds that the driver's loss of control of the vehicle was likely contributed to by a number of factors including but not limited to, and not in any order or priority:

    - the speed of the vehicle at the point of loss of control being too high for the prevailing wet conditions and the road;

    - the speed of the vehicle over a cattle grid preceding the braking and turn-in point for the bend which the car failed to negotiate being too high for the conditions;

    - the driver failing to recognise that the position of the cattle grid only a short distance from the bend required him to have reduced speed before the cattle grid which had the potential to unsettle the car and thereby leave little distance before the turn-in point for the bend to wash off sufficient speed to negotiate the bend;

    - the driver applying throttle as the car approached and again after it crossed the cattle grid thereby further reducing the available time and distance to reduce sufficient speed to negotiate the bend;

    - the driver having applied hard braking and at the same time as attempting to turn-in to the bend provoking an understeer event which was irrecoverable in the circumstances;

    - the suspension of the vehicle being unsuited to rally on a bumpy and slippery road;

    - the aspect ratio (sidewall height) of the tyres on the vehicle being too low such that in combination with the chassis and suspension characteristics of the vehicle it was more susceptible to being adversely affected by bumps in the road;

    - the absence of any virtual chicane or other device, prior to the cattle grid, to reduce the speed of the vehicle before the grid and following bend or at the very least caution boards as additional visual warnings to the driver of a hazardous and technically difficult section ahead.

22. The Panel finds further, on the evidence available to it, that the fatality was caused or contributed to by the following factors:

- The posts of the wire rope barrier on the outside of the bend appearing to be not securely embedded when installed (i.e.. only the end posts were embedded in concrete, the majority of posts in what could be seen as soft soil when wet);

- A section of earlier patched repair to the wire of that barrier apparently having slipped through a joining shackle when the car contacted the wire;

- 2 of the barrier posts having become dislodged after contact by at least one other competition vehicle in the event shortly before the 2022 Targa Incident occurred;

- As a result of the above, the barrier having failed to prevent the vehicle from passing through it;

- The steep drop down from the edge of the road;

- The location of a large tree in the direct path of the vehicle as it went through the wire barrier;

- The collision point with that tree being the mid-point of the lateral bar of the safety cage directly adjacent to the driver's head;

- The speed of the vehicle at the time of collision with the tree;

- The failure of couplings joining the lateral bar and roof bars of the safety cage to the main hoop;

- The absence of triangulation in the design of the safety cage to add support to the lateral bar front section of roll cage and the Carlos bar not being continuous to the A pillar;

- A combination of the driver's height in the small cockpit of the vehicle such that his helmet was in close proximity to the roof and lateral and roof bars, the driver's seat in the vehicle not being of the "winged" type with appropriate associated brackets;

- There is also the likelihood that with an appropriate seat, correct FIA approved seat mounting and correctly installed door foam, an impact speed such as that which occurred should have been survivable, all other factors above (especially in relation to the roll cage and the space around the driver's helmet) considered.

23. The Panel finds further that there are major shortcomings in the conduct of tarmac rallies and that, without significant changes, the level of risk to competitors is unacceptably high and the likelihood of further serious incidents is unacceptably high.

24. These shortcomings arise from what the Panel considers to have been a relaxation of controls on vehicle eligibility as the performance capabilities of production cars have evolved over time, and to recognise the inherent dangers of sections of road which have inadequate, and often no, protection to crews in the event they lose control and leave the sealed surface. Moreover, inadequate controls on licensing and insufficient education have meant that some participants in outright competition lack insight into the risks inherent in the discipline and are permitted to compete in often

high-powered vehicles when they do not have, or are not established to have, sufficient experience and skills to maintain control of their vehicles, particularly in difficult conditions. These failings are manifest in the Targa Tasmania event.

25. At the conclusion of this Report, the Panel sets out a number of Recommendations which the Panel considers, if implemented, will address these shortcomings and mitigate the risk of incidents like the 2022 Targa Incident re-occurring.

26. The Panel considers that, were its Recommendations to be adopted by the Board of Motorsport Australia, then, subject to the implementation of those Recommendations, it would not be inappropriate for Motorsport Australia to resume the sanctioning of targa style tarmac rallies.

27. A number of the Recommendations, particularly those with respect to Vehicle Eligibility, will adversely affect a number of current competitors in tarmac rallying in Australia. They will have the consequence of declaring a number of current competition vehicles ineligible for further competition use in Motorsport Australia sanctioned tarmac rallies. Invariably these will be late model ultra-high-performance GT or sports cars in which the owners have made a significant financial investment to enjoy the sport. These vehicles will be either wholly incapable of modification to render them eligible for Motorsport Australia sanctioned events or only at very significant cost. Many other vehicles will be capable of future competition use but only after modification to performance limits and safety standards. No doubt there will be only a small proportion of vehicles currently being used in tarmac rally competition which will not require modification. These consequences are regrettable, and the Panel would not seek to impose them on competitors but for the fact that, in the Panel's assessment, they are a necessary pre-requisite to the resumption of competition. Other options for such vehicles to compete in circuit competition (to which they are arguably better suited in any event) should be investigated.,.

28. However, the Panel notes that these Recommendations are made reflecting the Terms of Reference provided by Motorsport Australia and what, in our opinion, would enable the immediate recommencement of Targa-style rallies in a manner likely to minimise the risk of death or serious injury. Therefore, the Panel has opted on the side of caution and prudence and based its views on global best practices. It may well be that, in the course of time, new safety systems and devices are developed, or new evidence becomes available that may broaden the range of options available, including for vehicle eligibility.

29. Other Recommendations will mean that the course for several tarmac rallies, particularly Targa Tasmania, will need to be radically amended, several stages deleted and most reduced in length, sometimes significantly, to ensure that competition is confined to sections of road which are less hazardous.

30. The Panel considers that nothing less than a "hard reset" of tarmac rallying is required in light of the multiple recent fatalities, serious injuries and a significant number of crashes. In practical terms this will mean that controls over tarmac rallying will more closely reflect the controls which Motorsport Australia has maintained over gravel rallying which in turn reflect measures adopted by the FIA.

31. As discussed below, the Panel also made observations regarding the tour component of the 2022 Targa Tasmania event which in the Panel's view, was inadequately regulated. The 2022 fatality occurred at relatively low speed – below the applicable speed limit had the road been open. The same incident could have occurred within the tour field with the likely outcome that one or both occupants might have perished or been severely injured had the roof of their car struck the tree in a similar position given that tour cars enjoy no safety equipment whatsoever beyond production features.

32. Evidence received by the Panel reveals that some participants in the tour repeatedly breach speed limits without consequence. It is imperative that steps be taken to reduce the opportunities for tour participants to drive at excessive speeds, that the speeds of tour course cars and tour cars are monitored and that breaches result in the imposition of enforceable and enforced penalties including removal from the event.

THE PANEL'S INVESTIGATION

33. The Panel conducted hearings on the following dates:

    - 22 June 2022;
    - 9 August 2022;
    - 21 August 2022;
    - 22 August 2022;
    - 23 August 2022;
    - 30 August 2022;
    - 31 August 2022;
    - 1 September 2022;
    - 14 September 2022;
    - 4 October 2022; and
    - 15 December 2022.

34. Additionally, the Panel visited the site of the 2022 Targa Incident and made observations of the Mt Roland/Cethana stages and several other Targa Tasmania stages in the region on 21 August 2022.

35. The Panel provided a draft of Section B of its Recommendation with respect to Vehicle eligibility to Motorsport Australia's Division Manager – Technical – Mr Scott McGrath for comment and received Mr McGrath's feedback before finalising the same.

THE EVIDENCE

36. The Panel heard from the following witnesses:

— Stephen Sims, Owner, Status Aware Systems (RallySafe);Dr Rik Hagen, Chief Medical Officer, Targa Tasmania;
— Michael Smith, Director of Motorsport and Commercial Operations, Motorsport Australia;
— David Stuart, Division Manager, Safety and Race Operations, Motorsport Australia;
— Tim Malyon, Safety Director, Federation de l'Automobile (**FIA**);
— Marco Petrilli, Head of Research, FIA;
— Shayne Andrews, Firefighter/Responder, Targa Tasmania;
— Stowport Resident Group members;
— Mark Perry, Chief Executive Officer, Targa Australia;
— Hamish Marquis, Clerk of Course, Targa Tasmania;
— Matt Hanson, Chief Operating Officer, Dutton Garage;
— Stuart Benson, Targa competitor and former Clerk of Course, Targa Australia;
— Mark O'Connor, Motorsport Manager, Simply Sports Cars;
— Richard Gibbs, Chief Operating Officer, Lotus Cars Australia & New Zealand;
— Lee Nappatt, Director, Simply Sports Cars;
— Scott McGrath, Division Manager – Technical – Motorsport Australia;
— Ross Ferguson, Permanent Chair, Motorsport Australia Targa Championship Stewards Panel;
— Brenton Taylor, Motorsport Australia Targa Tasmania 2022 Steward;
— Wayne Richards, Motorsport Australia Targa Tasmania 2022 Steward;
— Peter Rullo, Chair Motorsport Australia Tarmac Rally Working Group (**TRWG**);
— Jon Thomson, Chair Motorsport Australia Australian Rally Commission (**ARCom**);
— Lynn Rattray, Motorsport Australia Competition Checker Targa Tasmania 2022;
— Stephen Horobin, Motorsport Australia Event Checker Targa Tasmania 2022;
— Ross Tapper, Event Director, Targa West events;
— Jeromy Moore, Triple Eight Race Engineering Technical Director;
— Members of the Committee of the Tarmac Rally Competitors Association Inc (**TRCAA**):
    - Philippe Etienne (Chair);
    - Samantha Winter (Secretary);
    - Steve Brumby;
    - Ashley Yields;
    - Rob Brydon;
    - Ben Newman;
    - Mark Claire;
    - Geoff Hewitt; and
    - Bernie Webb.

37. The Panel also received and considered the documentary evidence listed in **Attachment D**.

38. Further evidence was sought by the Panel but was not available to it:

    38.1 The Panel extended an invitation to the Co-driver of the vehicle involved in the 2022 Targa Incident, Mrs Sandra Seymour, the wife of the Driver, to meet with

the Panel who hoped to receive an account from her as to what had occurred. The Panel was informed that Mrs Seymour was not ready to meet with the Panel at the time this Report was prepared. The Panel is entirely understanding and respectful of Mrs Seymour's position.

38.2 The office of the Tasmanian Coroner has deferred the Panel's request to inspect the Lotus vehicle involved in the 2022 Targa Incident until Tasmania Police have completed their investigations. It is not known when those investigations will be finished. Although the Panel would have been assisted by an opportunity to inspect that vehicle, the Panel nonetheless considers that it has sufficient evidence available to it in the form of photographs, Motec data extracted from the vehicle, Rallysafe data and the Panel members' own observations of the accident scene to draw confident conclusions as to the factors which likely contributed to the driver's loss of control and the fatal outcome. Despite not having access to the Rallysafe data from the unit on board the Lotus, the Panel was able to examine Rallysafe data which had been transmitted live, in order to better understand the circumstances of the incident.

38.3 Similarly, the office of the Coroner has deferred the Panel's request to view the video footage captured by the in-car camera in the Lotus. This footage would have been of considerable assistance to the Panel because vision of driver inputs immediately prior to the accident would likely confirm inferences the Panel has drawn from Motec data and the intercom audio feed would have enabled the Panel to positively exclude some theoretical contributing factors such as Co-driver error in the delivery or timing of the relevant pace notes. Nonetheless, the Panel is confident that its conclusions with respect to driver inputs drawn from Motec data are reasonable. The inferences the Panel drew from that data have been independently confirmed by an industry expert, Triple Eight Race Engineering's Technical Director, Jeromy Moore, whose assistance is greatly appreciated. As to the possibility of Co-driver error, the Panel has no evidence nor reason to assume that any error was made and, even if it occurred, the potential for such an error arises in any rally and therefore the safety measures the Panel has recommended are required to mitigate the consequences of such an error in any event.

SUBMISSIONS RECEIVED

39. The Panel publicly invited submissions on 6 July 2022 and received individual submissions from 97 respondents. A compilation of these submissions appears as **Attachment E.** A number of consistent themes emerged from these submissions as revealed by the table below:

Design & conduct of events	Driver eligibility	Vehicle eligibility
Withhold immediately available results	Mandate first aid and medical training for competitors	Prohibit GT cars/high powered sports cars or only permit them in speed limited categories
Shorten stage lengths	Mandate training in RallySafe	Introduce power to weight cap
Current competitors should assist with course design	Education modules for beginners to experienced competitors	Only permit FIA/MA rally cars in competition
Qualifications of Competition Checker	Graded licence structure – must have completed speed limited before full comp	Mandate winged seats
Blackspot identification system	Graded licence structure – require "superlicence" for high powered cars	Permit and recommend door foam
Lower base times when stages declared wet or downgrade when wet	Demerit point system for drivers with repeated incidents	Require/recommend removable steering wheels
Competition Checker should be eligible to compete	Introduce 165kph speed limited category	Remove grandfathering of old roll cage approvals
Reverse running order – Competition cars fastest to slowest then Tour	Mandate annual medical assessments, at least for competitors over 50 years of age	Reduce modification freedoms, particularly for classic cars
Restricted Speed Zones should address hazards not speed	Mandate completion of education program before licence issue	Permit ABS in all categories
Minimum time on TS1 too low to allow realistic ease-in	Require co-drivers to complete co-driver education course	Introduce a minimum cockpit space requirement
Remove all Restricted Speed Zones and other virtual chicanes	Organisers to provide testing opportunities	Prohibit convertible/targa roof cars
Remove 200kph speed limit	Require Observed Licence Testing	Introduce minimum tyre aspect ratio
Prohibit sections where 200kph possible	Issue is competitor attitude not experience	Only permit cars with fully welded cages in competition categories
Additional virtual chicanes should not be added close to the event after reconnaissance has been completed	Appoint a Driving Standards Advisor	Mandate oil pressure gauges and warning lights
Maximum permitted speed to be reduced when stage declared wet	Insufficient "seat time" between events	Require competitors to pass an extrication test
Remove reconnaissance mandate	Fitness and fatigue	Tyres should be free as to type and number
Improve/revise caution board signage and require boards for single cautions		Only allow R spec tyres
Mandate reporting of on stage incidents		Only allow road tyres

40. The Panel also received submissions from the following:

- TRWG - **Attachment F**;
- TRCAA - **Attachment G**;
- Targa Australia - **Attachment H.**

41. The TRWG submission made 38 recommendations regarding the following topics:

– Vehicle Safety:

  - Review Safety Cage Structure for bolted cages to assess the suitability of permitted joint types in key areas
  - Amend Regulations to permit the fitment of Rally Door Foam
  - Review seat and seat mount requirements for mandatory application
  - Review occupant space and suitability including self-extrication capabilities
  - Vehicle suitability – performance factors
  - Review “wet” tyre definition
  - Mandate harness cutter and window breaker
  - Develop communication system with crews

- Course Design
  - Targa Rally Base Times for different stages and conditions
  - Create a Course Assessment Committee
  - Improve and enhance speed reduction methods
  - Post event reviews
  - Speed Penalties – demerit points

- Competitor and Culture
  - Mandatory training and assessment
  - Structured licensing requirements and grading of competitors and vehicles
  - Mandatory reconnaissance
  - Certification of Pace note vendors
  - Ensuring consistency between pacenotes and course notes and signage

- Medical
  - Require medical assessment for licence holders

- Other
  - Single set of technical regulations for tarmac rally

- Recording of accidents and incidents

42. A number of these recommendations reflect Recommendations of the Investigatory Tribunal and nearly all of them are reflected in the Panel's Recommendations.

43. The TRCAA submission made 36 recommendations as summarised below:

- Design and conduct of the event (with respect to participant safety)

    - A "Black Spot" approach to hazard identification
    - Improve tools to make better informed decisions in identifying hazards
    - Use of Crash Tag App
    - Appropriate qualification of Competition Checker
    - Use and position of virtual chicanes
    - Improve caution boards
    - Consider hazard warning system upgrade to RallySafe
    - Consider not running events during cold and wet seasons
    - Enforce no corner-cutting
    - Reporting and penalties for oil dropping
    - Tour vehicles to leave ESC engaged
    - Consider reduced speed limit in wet conditions
    - Better management of 200kph speed limit

- Eligibility of drivers (and co-drivers for the event)(with respect to individual skills, experience, assessment and medical requirements)

    - Introduce Tarmac Rally specific licence
    - Develop mentoring scheme
    - Develop structured and comprehensive training course for competitors
    - Expand drivers' briefings
    - Remove "live" stage times from crews to reduce competitive tension
    - Introduce test days
    - Introduce system to report serious concerns

- Eligibility of vehicles (with respect to types, performance, safety equipment, preparation and setup)

    - Retain 10 tyre limit but remove requirement for "wets" and tyre choice to be free
    - Require full Type 3 RPS for all timed competitions (except TSD – average speed)
    - ABS be allowed for all categories
    - Energy absorbing foam to be permitted and be highly recommended
    - Develop system to ensure vehicle and crew compatibility not grossly mismatched
    - Winged seats or Simpson devices to be required for all timed categories (excepting TSD)
    - Removeable steering wheels to be highly recommended
    - Ensure sufficient space between occupants and body panels/roof

- Improve and expand pre-event scrutiny

44. The Panel was greatly assisted by the TRCAA submissions which are largely reflected in the Panel's conclusions. Many of the Panel's Recommendations are consistent with TRCAA's recommendations. Some of the TRCAA submissions the Panel disagreed with and the TRCAA submissions, despite referencing "vehicle performance" as a topic addressed, did not make any recommendations on that topic.

45. The submission from Targa Australia followed the Panel's hearing with Targa Australia's representatives in Hobart on 22 August 2022 at which the Panel invited comment from Targa Australia representatives on a number of the recommendations made by the TRCAA and the TRWG and on observations made by members of the Panel at that hearing regarding the disparity between controls on the performance capabilities of FIA category rally cars and vehicles currently competing in tarmac rallies in Australia. The Panel had also invited comment from Targa Australia representatives regarding the need for improvement in the safety standards of vehicles. Targa Australia's submission reflects a recognition of most of the concerns of the Panel and a willingness to embrace, in general, the Recommendations made by this Panel. The Panel is appreciative of the support and co-operation it received from Targa Australia.

46. It will be noted that most of the recommendations made by the TRCAA and the TRWG are embraced by Targa Australia and that Targa Australia recognise that the performance capabilities of a number of cars in the outright competition categories, particularly GT Outright, are too high and new limits need to be imposed.

THE 2022 TARGA INCIDENT – DETAILED ANALYSIS

The Crew

47. The late Tony Seymour who died in the incident was first issued a Motorsport Australia National Rally Licence in August 2020 having held a Level 2 Speed Licence since 2017 and a non-speed Licence before that. He was aged 59 years when he passed. He was a tall gentleman, described by witnesses as over 6'.

48. The Co-driver, Mrs Seymour, was first issued a Motorsport Australia National Rally Navigator Licence in 2020, having held a Speed Licence since 2018 and a Non-Speed Licence since 2017.

49. Motorsport Australia records confirm that Mr Seymour's first participation in a rally was in April 2018 in the Tour category in the 2018 Targa Tasmania event. Mrs Seymour was his passenger. The pair participated in their 2013 Lotus Exige – the same vehicle involved in the 2022 Targa Incident.

50. In August/September 2018 Mr and Mrs Seymour competed in their first rally – Targa Great Barrier Reef – in the GT Sports Trophy (130kph speed limited) category. They finished 4th in that category. They competed in the same vehicle.

51. Again in the same vehicle, in November 2018 they competed once again in the GT Sports Trophy category in Targa High Country and finished 5th in that category.

52. In February 2019 Mr and Mrs Seymour competed in the GT Sports Trophy category in Targa North West. Out of 6 cars in the category, they won.

53. In April 2019 they competed in the same category in Targa Tasmania and finished 3rd, in August 2019 they finished 3rd in the same category at Targa Great Barrier Reef and 2nd in the same category at Targa High Country in November 2019.

54. In 2020 only one Targa Australia rally ran due to Covid 19 restrictions – Targa Great Barrier Reef in September. This was the first event in which Mr and Mrs Seymour entered in an outright competition category (ie. not speed limited). They did not finish. Their Lotus crashed on the penultimate stage. In-car video footage was uploaded to Youtube:

    Targa Great Barrier Reef Palmerstone 2020 crash end - YouTube

55. The video records the car having pitched wildly and having skewed to the right of the road into a drainage channel immediately upon hitting what the Co-driver had called as a "huge dip". At 13:38 in the video, Triple Caution signs can also be seen on both sides of the road. The note was called a little late but nonetheless the driver did not slow at all for the hazard. It would appear the suspension of the car reached full compression and bounced the car causing the driver to lose control. (The Panel refers again to the Investigatory Tribunal Report of 2021, and in particular the comments of the Tribunal concerning the cause of the fatal crash of car 902 in the 2021 event).

56. In February 2021 the Seymours successfully completed Targa High Country in the same vehicle in an outright competition category finishing 7th. The following month they competed in the Modern outright category in the Shannons Adelaide Rally finishing 8th. They did not enter Targa Tasmania 2021 but came 4th in their outright class in Targa Great Barrier Reef that year. The Shannons Adelaide Rally was run for a second time in 2021 in November and the Seymours finished 8th in Modern outright competition.

57. In February 2022 the Seymours finished 8th in their outright competition class at Targa High Country. That was their last event before Targa Tasmania 2022.

58. The 2021-2022 Motorsport Australia Targa Championship comprised 3 events – Targa Great Barrier Reef 2021, Targa High Country 2021 (which ran in February 2022) and Targa Tasmania 2022. As noted above, the Seymours had competed in the first two of those three events finishing 4th and 8th respectively in what was termed the "GT Outright" category. However, because their rival competitors at Targa Great Barrier Reef had not all entered Targa High Country or had entered but not finished (and vice versa), the Seymours started Targa Tasmania running 2nd in the Championship.

59. According to witnesses, Mr and Mrs Seymour were competing by reference to Stage Notes (pacenotes) they had purchased from a well-known and, from what the Panel can determine, highly respected provider, Smoothline. They had used notes sold by Smoothline in a number of previous events and were familiar with the format and terminology. We were told that they had conducted their own reconnaissance for Targa Tasmania 2022 prior to the event and completed at least one pass on each stage by reference to the Smoothline notes.

60. The 2022 Targa Incident occurred on the afternoon of the second Leg (day) of the event. The first Leg had featured only 2 stages, a short first stage of less than 4kms which did not count for classifications and for which a maximum base time was imposed to discourage spirited driving on it, the second being the "Georgetown" town stage. The Seymours completed both stages but struck a kerb on the Georgetown stage as a result of one of several understeer events on the stage as seen in the below Youtube video posted by Mr Seymour that evening:

    https://www.facebook.com/100000239370161/videos/pcb.7746638952020674/305355908420674

61. According to Simply Sports Cars personnel who were servicing the Seymour Lotus in the event, the car was carefully inspected after the Georgetown incident and was found not to have sustained any damage. The Panel has no reason to believe that the minor collision with kerb on the Georgetown stage contributed to the fatal incident the following day.

62. Mr & Mrs Seymour successfully completed the first 4 stages on Leg 2. They were 17th in the GT Outright category at the end of the 4th stage for that Leg (TS6 – Nook).

63. The Panel notes that the Seymours had followed a sensible pathway in their tarmac rally participation, commencing in Tour, progressing to the 130kph speed limited

category for several rallies before moving up to outright competition. They had finished every rally except one. Targa Tasmania 2022 was, however, their first attempt at Targa Tasmania in outright competition.

The Vehicle

64. As noted above, throughout their tarmac rally participation the Seymours had exclusively used one car – their 2013 Lotus Exige. The Lotus is a "targa roof" type vehicle in that the section of roof between the leading edge of the windscreen and a cowling above the main hoop is removeable and can be stowed for open roof driving.

Vehicle Performance Specifications

65. The 2013 Lotus Exige was manufactured with a Toyota Aurion 3500cc supercharged engine which in standard production specification produced 258kw (350hp) and 400nm of torque, had a 0-100kph time of 3.8 seconds and weighed 1166kgs. It had weight to power ratio of 3.33kg/hp.

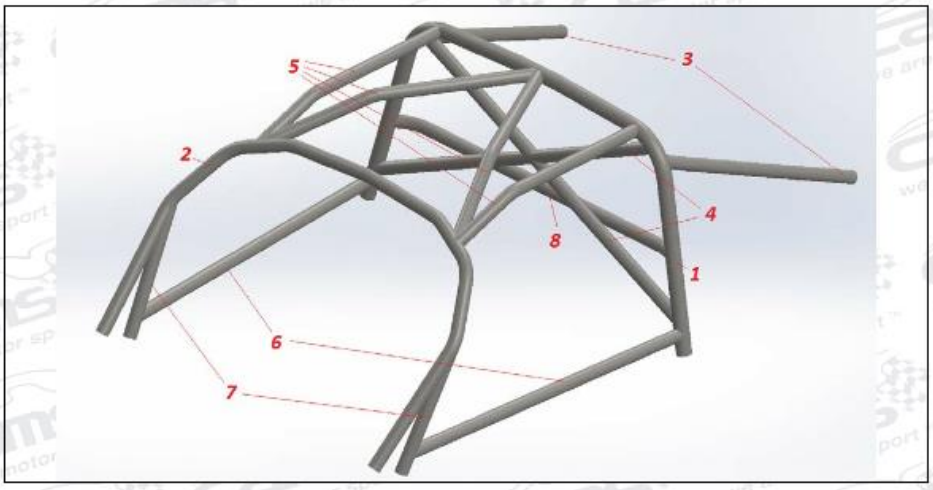
66. The Panel understands that the Seymour Lotus was built by Simply Sports Cars, the factory appointed dealer for Lotus Cars in Australia.

67. According to Simply Sports Cars' website, the company specialises in preparing Lotus cars for race and rally use. The website quotes higher performance specifications for their rally prepared cars than standard production specifications – a weight to power ratio of 2.57kg/hp (although this might refer to a later model Exige than that used by the Seymours).

Safety Cage

68. Simply Sports Cars manufactured the safety cage for the Seymour Lotus. The cage was certified by Motorsport Australia. It was of the "bolt-in" type in that the front legs, main hoop and rear stays were bolted to the chassis. A diagram of the roll cage design appears below:

LABELLED DRAWING OF THE SAFETY CAGE STRUCTURE SHOWING ALL TUBING DIMENSIONS



Note: this diagram suggests that the roof reinforcement members were each separately connected to the main hoop. In fact they were joined into one connecting joint

69. Photographs of the roll cage as installed were included in the application by Simply Sports Cars to Motorsport Australia for certification. Those photographs appear below:

70. It will be noted that in the photographs supplied the connections of the dual roof bars and lateral bars to the main hoop are obscured under a cowling. The type of those connections is not referenced in the roll cage papers.

71. The application for certification was supported by an engineering report authored by Dr Dejan Ninic of Human Impact. It did not make any mention of how the roof and lateral bars were connected to the main hoop. According to that report:

2.2 Analysis

Non-linear static analyses were used in conjunction with beam and plate elements, to model the various loadings on the cage. The use of these methods makes a few basic assumptions on the material performance of the structure.

1) By using beams to model tube structures, the load is applied at the tube centreline as opposed to on the outer surface as would occur in a physical test.
2) By this same fact, the tube is assumed of constant cross-section, with no local deformation occurring at the load application point.
3) Yielding in the material is limited to the bending response, as this is the critical mode of failure in such a structure.
4) Welded joints are not represented exactly, but as a junction between infinitely thin members of the tube bending stiffness.

72. The 2013 Lotus Exige was the subject of an application by Lotus to the FIA for FIA homologation for the R-GT rally category. According to the FIA, provisional homologation was issued for that car but it was shortly thereafter revoked for reasons

not known to the Panel. The now revoked homologation papers for that car have been made available to the Panel. Below is an extract from those papers depicting the homologated roll cage design:

FEDERATION INTERNATIONALE DE L'AUTOMOBILE

Groupe / *Group*

R-GT

Homologation N°

RGT-001

Extension N°

01/01 VO

FICHE D'EXTENSION D'HOMOLOGATION POUR ARMATURE DE SECURITE
HOMOLOGATION EXTENSION FORM FOR SAFETY CAGE

Homologation valable à partir du / ***Homologation valid as from*** **01 JUIL. 2012**

☒ **VO** **Variante Option / *Option-Variant***

101. CONSTRUCTEUR DU VEHICULE / *MANUFACTURER OF THE VEHICLE*

LOTUS CARS LTD.

102. MODÈLE ET TYPE DE VEHICULE / *MODEL AND TYPE OF THE VEHICLE*

a) Modèle et type / *Model and type* EXIGE - S

ARMATURE DE SECURITE / *SAFETY CAGE*

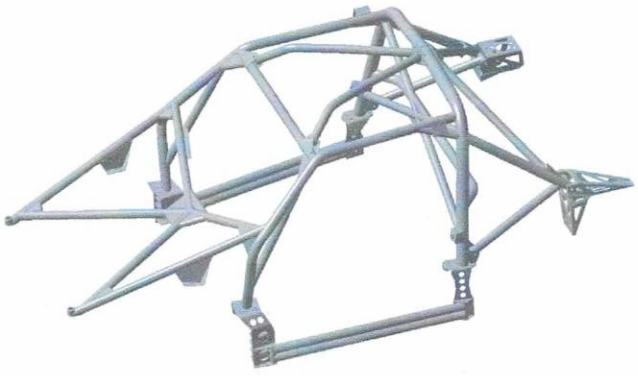
a) Fabricant / *Manufacturer* LOTUS CARS LTD

b) Numéro type d'identification de l'armature / *Typical identification number of the cage* ALS8A0003J

c) Poids total de l'armature (y compris fixations) / *Total weight of the cage (including fastenings)* 54.5 kg

d) Armature soudée à la coque (châssis) / *Cage welded to the bodyshell (chassis)* **Oui / *Yes*** ☐ **Non / *No*** ☒

SC-0) Armature complète vue de 3/4 avant (hors de la voiture) – Position de la plaque d'identification indiquée par la flèche
Complete cage seen from 3/4 front (outside the car) – Position of the identification plate indicated by the arrow



Nous attestons que la présente Armature de Sécurité est conformes au Règlement d'Homologation pour Armatures de Sécurité en vigueur à la date d'homologation

We certifiy that the present Safety Cage complies with the Homologation Regulations for Safety Cages In force at the homologation date

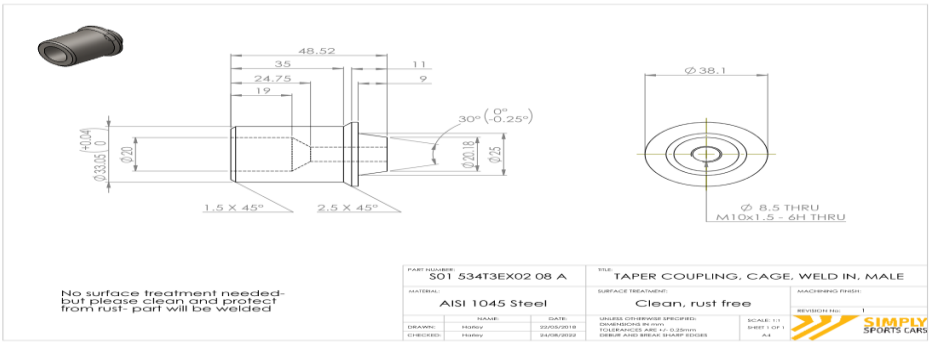
Nom et signature du représentant du Constructeur du véhicule
Name and signature of the car manufacturer representative

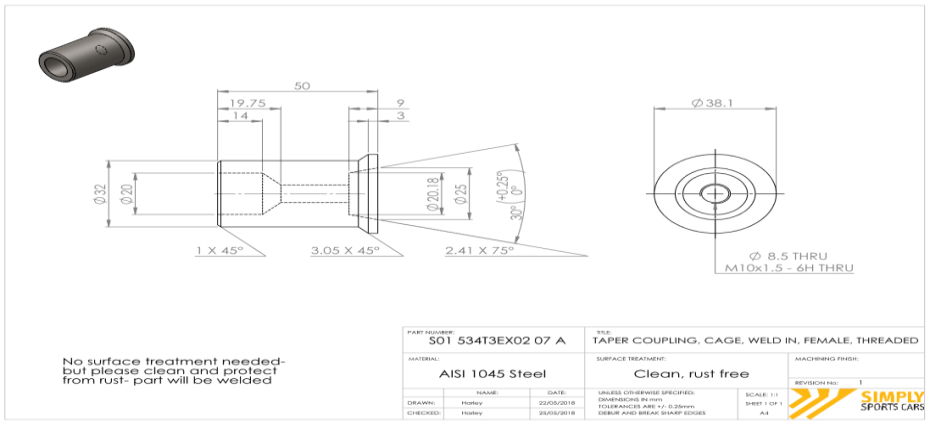
CLAUDIO BERRO

Fédération Internationale de l'Automobile
Chemin de Blandonnet, 2
CH-1216 GENEVE 15
Tél.: 41 22 544 44 00
Fax Sport: 41 22 544 44 [illegible]

VOO – 15.10.201106.05.2012

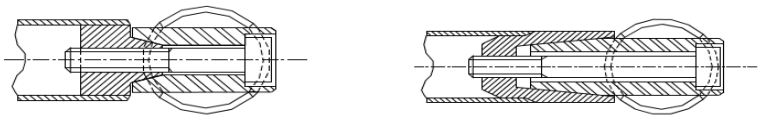
73. The Panel has established that the joints used by Simply Sports Cars to connect the roof and lateral bars to the main hoop were as shown below:



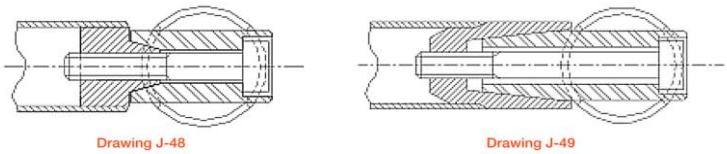


74. The types of joints below are approved by the FIA and by Motorsport Australia:

Annexe J / Appendix J – Article 253-8



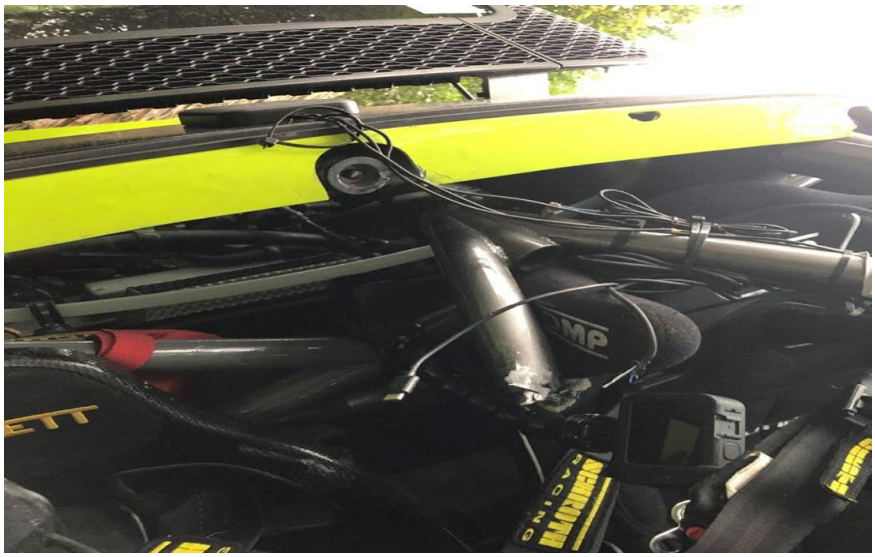
FIA Appendix J



Motorsport Australia Schedule J

75. Upon receiving photographs of the Seymour Lotus taken after the accident the Panel noted that these joints had failed, apparently because in each case the bolt which runs longitudinally through the joint to hold the cup and cone secure had sheared. The below photograph depicts the cone section of the joints for the roof bars and driver's lateral bar remaining in position on the main hoop but the bolt sheared. The joint for the Co-driver's lateral bar has moved suggesting that it too has broken albeit that the bar remains in place:

76. The photographs below shows the driver's side lateral bar and roof bars after they had broken away and been cut by emergency response personnel to attempt to lift the driver's head and then to extricate the driver. The cone section of one of the joints is ringed in the second photograph as is the gross distortion of one of the roll cage members which has folded at over 90 degrees:



77. There are noticeable differences between the safety cage in the Seymour Lotus and the safety cage homologated by the FIA for the Lotus Exige R-GT. While the homologated cage for the R-GT car features bolted members, the joints are of the type below. The “Carlos” bar extends up to the A pillar. There is triangulation supporting the lateral bar to the main hoop and triangulation around the A pillar. Below are images of the joints used to connect the roof and lateral bars to the main hoop in the homologated cage. They are quite different to the “cup and cone” joints used on the Seymour Lotus. The lateral bars have welded connections to the main and front hoops. The roof members have bolted connections:

78. The Panel notes that neither the FIA nor Motorsport Australia have specified any detail for joints of the type referenced in paragraph 75 above. The outer and inner dimensions of these joints is apparently free. The depth of the “cup” and “cone” are apparently free. The dimensions and grade of the securing bolt are also free. All that appears to be required is that the joint “resemble” the diagrams reproduced in paragraph 74 above.

79. Simply Sports Cars provided engineering drawings for the joints of this apparent type used in their construction of the Seymour Lotus roll cage. They told the Panel that

they had the joints manufactured overseas and that they have used the same joints in the construction of a number of Lotus Exige roll cages. Triple Eight Race Engineering generously agreed to assist the Panel by conducting testing using FEA on the specifications for the joints in the Lotus roll cage, to test the load bearing capability of those joints when used to join members to a main hoop, and to compare that load bearing capability to the load bearing capability of welded joints used for the same application. Finite Element Analysis (FEA) is a computer-aided engineering tool used to analyse how a design reacts under real-world conditions.

The results of Triple Eight Race Engineering's assessments appear as **Attachment I**.

80. In short, Triple Eight Race Engineering concluded that:

80.1 A coned joint constructed to accurately replicate the diagrams in Appendix J of the FIA International Sporting Code can withstand the same load as a welded joint;

80.2 The dismountable (coned) joint used in the construction of the Seymour Lotus safety cage does not technically match the joints approved by Appendix J. Along the bolt axes, male and female components can come into contact with each other and not the cone, thus compromising the joint. This applies to the joints on the lateral bars as well;

80.3 Most significantly, the 2 roof reinforcing members were connected with only 1 bolted joint giving the strength of those 2 members to be approximately half of what they would have been if they were both welded separately or bolted separately. In the modelling done for homologation of the cage by Human Impact, the joint was treated as two welded joints attached to the cage (see also the diagram in paragraph 69 above).

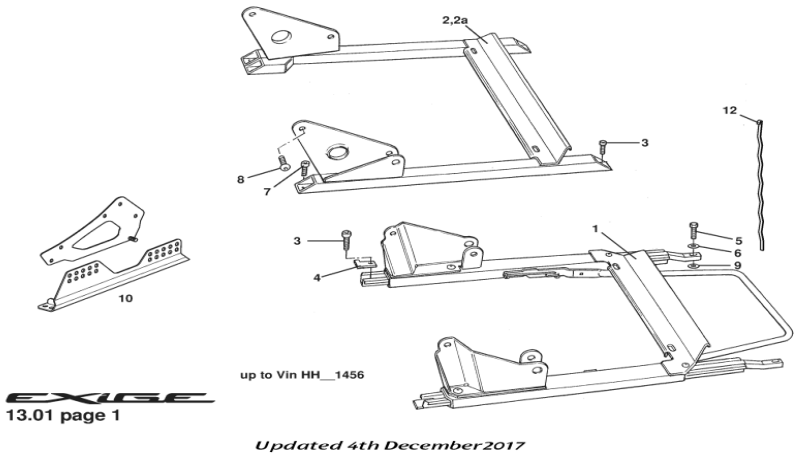
81. Therefore, the Panel concludes that it is possible that had the 2 roof reinforcing members been connected to the main hoop with 2 separate coned joints instead of one, those joints may not have failed. Further, the joints on the top exterior lateral bar (adjacent to each of the crew members' helmets) may well have failed because of the issue raised in 80.2 above.

Driver's seat

82. The first photograph at paragraph 76 above shows the driver's seat in the Seymour Lotus. It is to be compared to the Co-driver's seat which is of the "winged" type apparently complying with FIA 8855-1999. The Panel heard evidence from the Chair of the TRWG (who owns and has competed in another Lotus Exige prepared for tarmac rallying by Simply Sports Cars) that some time before the incident he had noticed that the Seymour Lotus was at that time fitted with standard Lotus factory seats on both the driver's and passenger's side of the car. He showed Mr Seymour his car which is fitted with "winged" seats on each side and recommended to Mr Seymour that he replace the factory seats in the Seymour Lotus with seats of the same type. Subsequently he spoke again with Mr Seymour who told him that he had replaced the Co-driver's seat with a "winged" seat and had test-fitted the same seat

on the driver's side. According to evidence from Mr Mark O'Connor "of Simply Sports Cars, Mr Seymour said he felt "more comfortable" with the non-winged seat. The Panel suspects that this was simply because Mr Seymour was too tall for the winged seat and was therefore forced to retain the standard seat.

83. In the absence of an opportunity to inspect the Seymour Lotus, the Panel is unable to confirm the type of mounts used to mount Mr Seymour's standard production seat in the Seymour Lotus. The sliding standard mount is pictured below:



Foam side protection

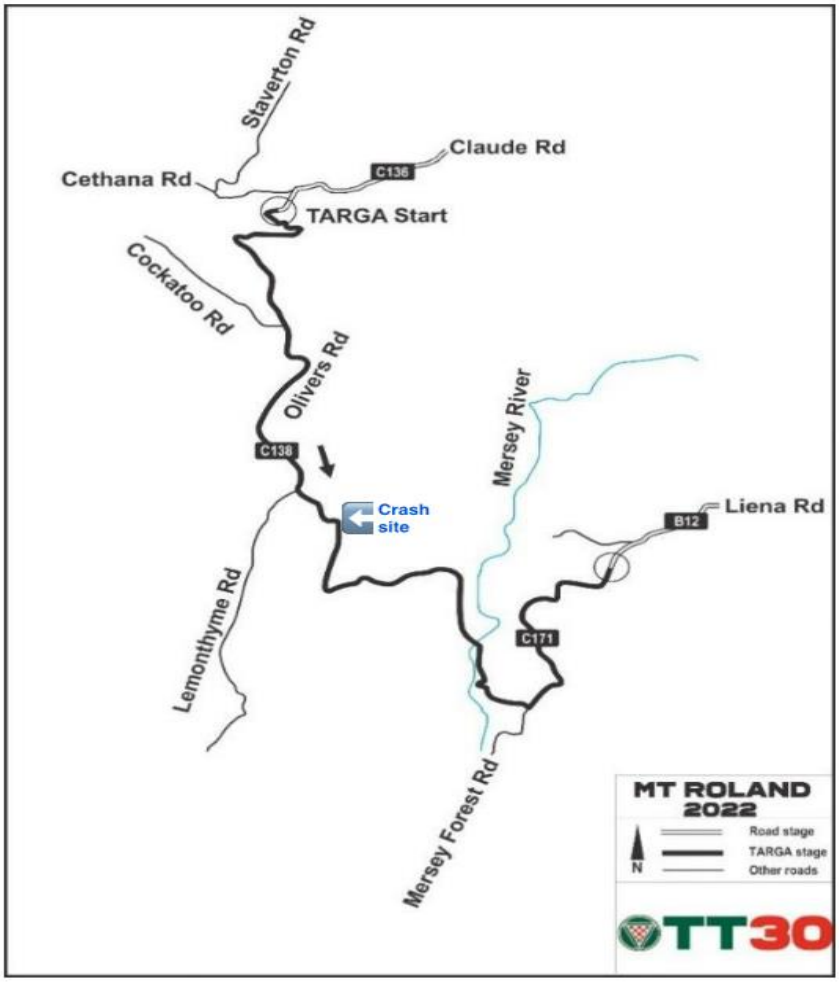
84. The Seymour Lotus was not fitted with foam inside the door cavities nor adjacent to the seat on either side. It would not have been possible to fit foam adjacent to the driver's seat given that it was not of the "winged" type:

> *"2.2. Window Foam 2.2.1 FIA 8866 energy absorbing foam shall fill the entire volume defined by the lateral area of the seat-side-head projected outwards in a transverse direction to the side glazing or B-pillar (Volume C in Figure 1). 2.2.2 Where Volume C occupies space defined by Volume A (as described in Section 2.3), Volume C shall take priority. 2.2.3 Volume C shall be fixed onto the seat-side-head with Velcro only. A FIA-approved 8855-1999 or 8862-2009 seat with seat-side-head shall be used."*[1]

The Road

85. The 2022 Targa Incident occurred approximately 11.4kms into the 26km "Mt Roland" stage. The stage has been used in the Targa Tasmania event for many years. In reverse direction it is known as "Cethana". A map of the Mt Roland stage appears below:

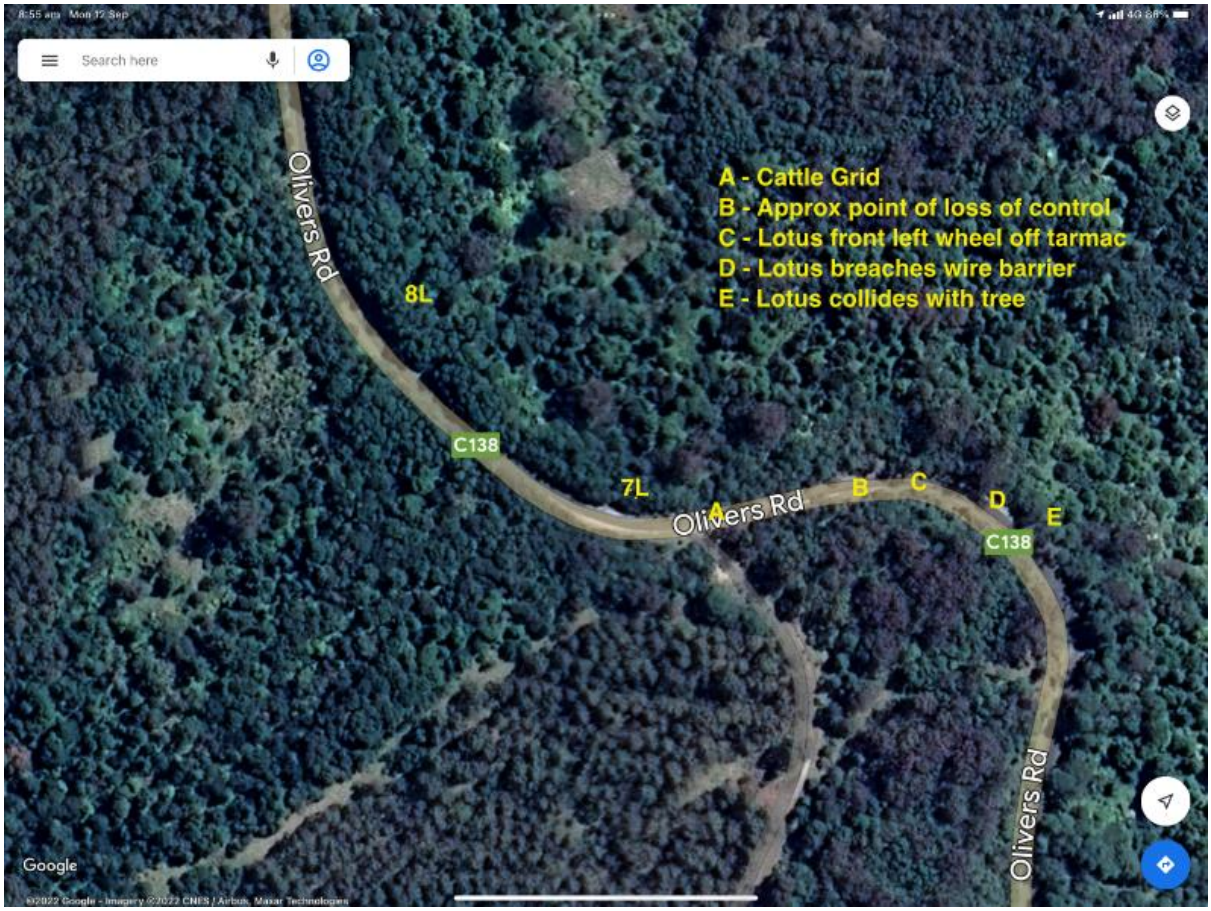
[1] Motorsport Australia ASN Information Note – Rally Door Foam - 1



86. Mt Roland was TS7, the 5th stage for Leg 2, and followed a lunch break at Sheffield in the central north of Tasmania, east of Burnie and west of Launceston. The Mt Roland stage runs in a north-south direction. It starts with a long winding climb to a fast level section at the top of the climb before the road descends. The 2022 Targa Incident occurred on the descent. The approximate position of the incident is marked on the above map.

87. The Mt Roland stage had been declared “wet” and was signposted as such at the start of the stage. According to reports, it had commenced raining in the area an hour or two prior to the incident. At the time of the incident the road was wet but it was not raining. According to Bureau of Meteorology records, the temperature in the nearby town of Sheffield at the time of the incident was 15 degrees Celsius. By all accounts the section of road where the incident occurred was slippery.

88. The incident occurred on a right-hand bend which followed a cattle grid – see satellite image below. The approach to the grid was a relatively fast length left bend downhill which tightened onto the grid which was then followed by a medium length right bend which went downhill over a small brow and then tightened in on itself. It was, in the Panel’s assessment, a technically difficult stretch of road which commanded care, particularly in wet conditions.



89. Below appears the relevant extract from the road book issued to competitors for the event. The grid is noted in Tulip 11 but the difficult tightening right hand bend which follows it was not. This is not consistent with other warning especially considering the number of previous crashes at this site (two at previous Targa Tasmania events).

TARGA STAGE				
STAGE 2.11 TS7	MT ROLAND		TOTAL DISTANCE	26.32
			PAGE	49
			FINISH LINE	25.82
CUMULATIVE KILOMETRES	INTER KMS	DIAGRAM	INSTRUCTION	SIGNPOST
0.00	0.00		Straight On	
0.12	0.12		Road Goes Left and Tightens	
1.00	0.88	!!	!!CAUTION Road Goes Left then Road Goes Hard Right	
2.45	1.45	!!	!!CAUTION Road Goes Left Tightens Over Crest	
6.15	3.70		Road Goes Right Long	
7.86	1.71		Restricted Time Zone Start 20 Seconds	Crews must remain within the Zone for 20 Seconds
8.26	0.40		Restricted Time Zone Finish	
9.08	0.82		Restricted Time Zone Start 20 Seconds	Crews must remain within the Zone for 20 Seconds
9.48	0.40		Restricted Time Zone Finish	
9.95	0.47		Keep Left as Road Goes Left SOS on Left	
11.34	1.39		Keep Left then Grid	
13.00	1.66		Road Goes Left and Tightens	

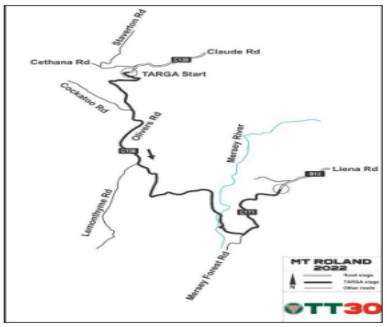
90. The Panel is of the view that the combination of:

- the right bend following the cattle grid (which had the potential to unsettle a car and compromise braking on approach to the bend);
- the length of the bend;
- that it went downhill over a brow and then tightened again;
- that it had a significant drop on the outside (inadequately protected by a wire barrier rather than Armco); plus
- the number of previous crashes at this site,

collectively demanded that double caution markers be erected on course in advance of the bend to warn crews on approach that the bend was hazardous. (Note: this is consistent with Recommendation 7 of the 2021 Investigatory Tribunal).

91. As noted above, the bend was not even the subject of a Tulip in the Road Book. It was not mentioned in the Reconnaissance Notes for the Mt Roland Stage issued by the Organisers which were in the following terms:

TS7 MT ROLAND		ADDED 1 MORE RTZ	
Distance (km)	**Description**	**Location**	**GPS Coordinates**
0.00	TARGA Start	Olivers Rd	S41 28.868, E146 10.628
1.00	**CAUTION!! Road Goes Left then Hairpin Right**	Olivers Rd	
2.45	**CAUTION!! Road Goes Left and Tightens over Crest**	Olivers Rd	
7.86	RTZ Start	Olivers Rd	S41 31.531, E 146 10.503
8.26	RTZ Finish	Olivers Rd	S41 31.727, E 146 10.405
9.08	RTZ Start	Olivers Rd	S41 32.068, E 146 10.778
9.48	RTZ Finish	Olivers Rd	S41 32.242, E 146 10.948
9.95	SOS Point	Left Side	S41 32.476, E146 10.972
15.37	**CAUTION!! Crest then Road Goes Right**	Olivers Rd	
17.61	**CAUTION!! Road Goes Left onto Narrow Bridge**	Olivers Rd	
20.21	SOS Point	Left Side	S41 35.392, E146 14.215
25.82	TARGA Finish	Mersey Forest Rd	S41 33.552, E146 15.393
26.32	Stop Point	Mersey Forest Rd	S41 33.316, E146 15.545



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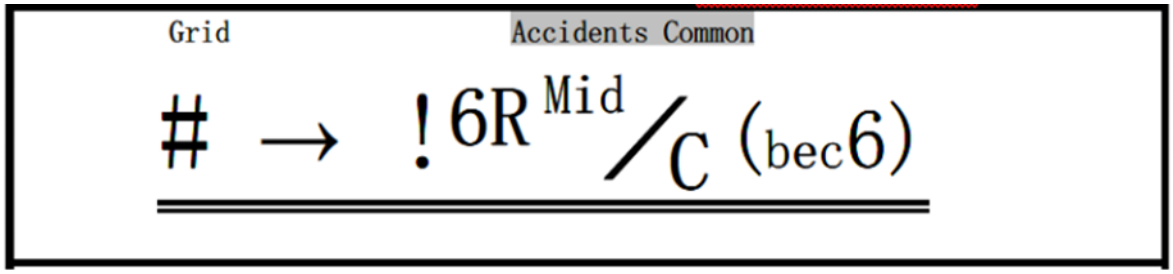
92. Of concern to the Panel is that a report provided by the Clerk of Course at the Panel's request records a number of prior incidents at that precise location on that stage. The Competition Checker told the Panel that he was very familiar with that section of the stage and did not consider it hazardous but had not made any enquiry

of the Clerk of Course before undertaking the Competition Check for historical records of incidents at any location on the course.

93. The Panel's observations as to the hazardous nature of this bend are confirmed by the corresponding pacenote published by Smoothline which was in the following terms:



94. Clearly, by the reference to "ACCIDENTS COMMON" in the chapeaux, the authors of the Smoothline note knew the bend had been the subject of numerous prior incidents. Because Smoothline use their own graduated caution coding ("C", equating to a single caution), the "!" in the note for all intents and purposes corresponds with the meaning of a double caution "!!" in Article 2.2 of the *Motorsport Australia National Rally Standing Regulations (Special Stage Rallies)*, which state:

> 2.2 CAUTIONS
>
> (a) Wherever the word "caution" is used in an instruction, its degree shall be indicated by the use of exclamation marks.
>
> (b) One exclamation mark (!) indicates a hazard where no significant reduction in speed is required but where difficulty might be encountered if Crews were unaware of the hazard. It is not necessary to use the instruction "caution" with this indication. A red triangle sign may be displayed as an alternative to a single exclamation mark.
>
> (c) Two exclamation marks (!!) indicate a situation where damage to a vehicle or Crew could result from negotiating the hazard at speed. This indication shall be used in conjunction with the instruction "caution".
>
> (d) Three exclamation marks (!!!) indicate a severe hazard which cannot be negotiated without a significant reduction in speed. This indication shall be used in conjunction with the instruction "extreme caution".
>
> (e) Whenever exclamation marks are used in a diagram, the instruction must describe the hazard.
>
> (f) Whenever two or three exclamation marks are used in the instructions the hazard must be marked on the course by caution boards displaying the same symbols as red or black exclamation marks on a white background.

95. There are other features of the Smootline note which are important. First, the grid and the bend are all one note to be delivered as one note indicating to the driver that the grid and the bend are connected. Secondly, → following the grid equates to "into" meaning that the turn-in point for the right bend following the grid is less than 50m after the grid. Thirdly, the denotion of the bend as a 6R meant that it was a 3rd or 4th gear bend and the "mid" meant that the length of the bend was longer than usual. Fourthly, the "/C" meant that the bend went over a crest. Finally, the "(bec 6)" meant that after the 6R mid opened slightly it tightened back on itself by becoming another 6R.

96. In the Panel's observation, the Smoothline note was entirely correct. It conveyed a great deal of very important information. An experienced driver hearing that note should have slowed before the cattle grid to prepare for a difficult bend ahead of it which commanded respect.

97. As noted above, the Panel has been informed that Mr & Mrs Seymour were using the Smoothline notes. It follows that had the above note been delivered correctly and sufficiently in advance of the grid, Mr Seymour ought to have been slowing accordingly. In the absence of access to in-car footage from the vehicle the Panel cannot confirm that the note was delivered and delivered in time by the Co-driver. However, having viewed publicly available in-car footage from the Seymour car in other rallies the Panel is satisfied that Mrs Seymour was familiar with Smoothline notes and the timing of delivery. The Panel has no reason to doubt that the note was delivered appropriately in this case.

98. However, the Panel considers that a double caution warning for this bend should have been included in the Reconnaissance Notes and in the Road Book and the lack of double caution warning boards on course prior to the bend were significant oversights. The double caution warning in the Reconnaissance Notes would have caused crews doing reconnaissance to pay additional attention to the bend when traversing the stage prior to the event and add adjusted their notes as they saw fit. A double caution in the Road Book would have been a warning at least to Tour participants using the Road Book during the event that the bend was hazardous. Most importantly, a double caution warning board on the course on approach to the bend would have been a clear visual warning to the driver even if they had not heard the correct note. As discussed below, the Panel is satisfied that the speed of the Lotus on approach to the bend was too high for the conditions and this speed was the predominant factor in the driver's loss of control. A visual warning on course may have prompted the driver to reduce speed, although the Panel does note that this was not the case when the car crashed at Targa Great Barrier Reef in September 2022.

99. As discussed further below, the failure to appropriately caution this bend is an illustration that the Organiser and Competition Checker were unable to identify what the Panel considers to be obvious hazards on numerous Targa Tasmania stages. This may be a result of complacency because these stages have run so many times previously in the same configuration they have not been the subject of recent critical assessment. The Panel considers that the section of the Mt Roland Stage on which this accident occurred is, in its current form, entirely unsuitable for tarmac rallying. It is downhill with unprotected or insufficiently protected drops off the edge of the road and large trees invariably in the predictable run-off areas on the exit of nearly every bend. This situation is not unique to the Mt Roland Stage.

The cattle grid

100. The 2021 Investigatory Tribunal's Recommendation 4 was in the following terms:

"*That without exception, the organisers implement Restricted Time Zones prior to any potential hazard (crest/jump, dip) which could potentially cause a car to reach its suspension limits".*

101. Below appears a photograph of the cattle grid preceding the bend which the Lotus failed to negotiate:

102. The length of the cattle grid is approximately 3m. It is a series of steel bars similar to railway tracks, each approximately 200mm apart. The height of each member of the grid is not uniform and the bitumen at the end of the grid is raised slightly proud of the last member. The grid is bumpy and the rise to the bitumen at the end of the grid causes a suspension decompression. The video below was taken of the Panel members crossing the grid in a road car:

https://youtu.be/shhwYOf0KTg

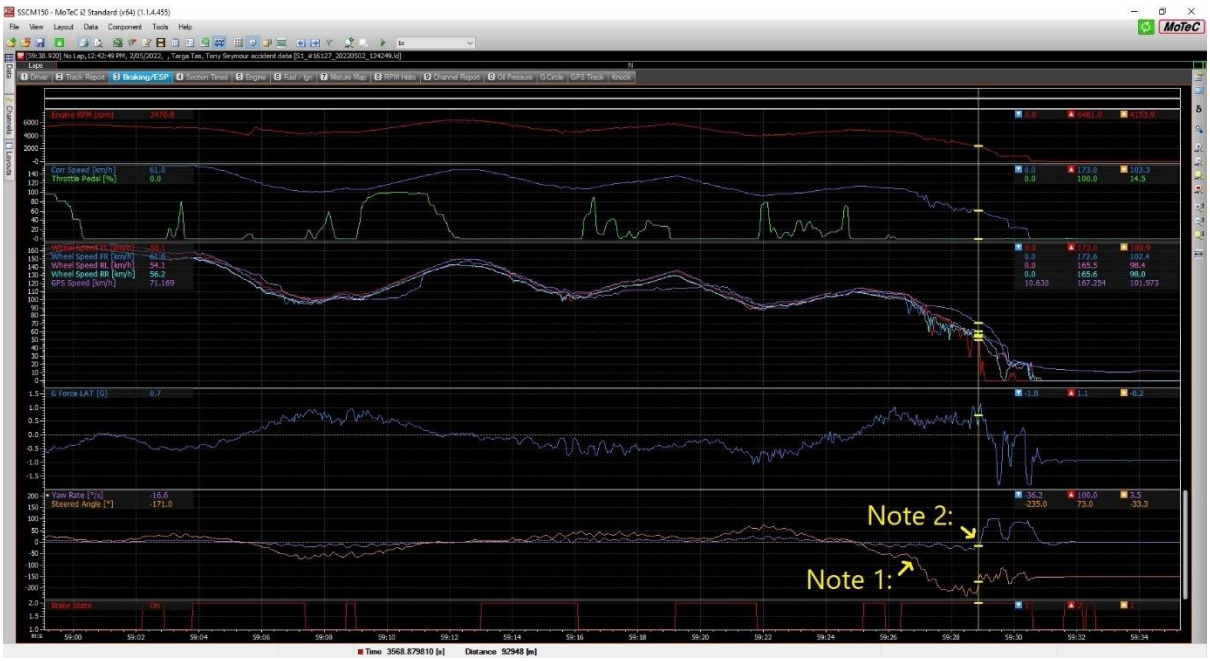
103. The Panel was told in evidence by the Fire and Rescue Coordinator for the event, that he had seen a message on the electronic notice board at the start of the Mt Roland stage before the Seymour Lotus commenced the stage, that the grid was slippery. However, no other measure was used to mitigate the risk that the grid might provoke a loss of control event.

104. The Competition Checker told the Panel that he did not consider that the grid was so rough that it required a Restricted Time Zone before it in accordance with the Tribunal's Recommendation 4. Had the grid been on a short low-mid speed straight and not been followed by a hazardous bend, the Panel might have been inclined to agree. But in this case, it was foreseeable. In the Panel's view, that cars, particularly low rigid chassis sports cars with limited suspension travel and low aspect ratio tyres, might be unsettled by the grid compromising their ability to reduce speed immediately after the grid for the hazardous right bend after it, particularly in wet conditions (which are not unusual in the area at the time of year when Targa Tasmania 2022 was scheduled). The extent to which the grid may have unsettled the Seymour Lotus is unclear without the benefit of in-car vision. The Motec data discussed below does not record data inputs from the car suggestive of a loss of control at the point of the grid.

The loss of control

105. As noted, the in-car footage from the Lotus preceding the accident is not available to the Panel. However, Simply Sports Cars were permitted to extract data

from the Motec system in the Lotus after the accident. A screen shot of that data was produced to the Panel and appears below:



Note 1 is said by Simply Sports Cars to denote the point of loss of control . The Panel concurs.
Note 2 is said to denote the point of collision with the wire barrier. The Panel agrees.

106. That Motec data is an aid to reconstructing the incident. The speed of the Lotus at the point of impact with the wire barrier recorded in the Motec data trace is corroborated by data transmitted by the RallySafe unit in the vehicle.

107. Additionally, the Panel is assisted by photographs taken by Motorsport Australia's Manager – Track Safety – and paramedics who attended the crash scene shortly after it occurred.

108. The photograph below shows the Lotus in its final position after the accident (the rear of the vehicle which has rotated as it passed through the barrier is to the right of the image):

109. The photograph below shows where the wire barrier was breached by the Lotus:

110. The photograph below was taken from the wire barrier looking back up the road towards the cattle grid:

111. The following photograph is of yellow paint markings put on the road by Tasmania Police Major Crash investigators marking the position where the front left wheel of the Lotus first left the bitumen. It will be noted that it was some distance before the barrier:

112. The photograph below is of the Manager – Track Safety – holding a peg marker approximately 50m after the cattle grid. In the assessment of the Panel, the position of this peg corresponds with the position where a car would ordinarily have commenced to turn in for the approaching bend:

113. The cattle grid was preceded by 2 left bends which were connected. The first bend would be denoted an “8L mid” using the Smoothline system “bec 7” meaning that it tightened slightly before opening onto the cattle grid.

114. Below is the Motec screenshot from the Lotus download annotated by the Panel:

115. A key to the annotations appears below:

Note	Comment/observation
1	Point of loss of control suggested by Simply Sports Cars
2	Collision with wire barrier
3	8 Left mid
4	7 Left onto grid
5	Braking and then brake released
6	Re-application of brake – continuous until collision with tree
7	Firm throttle application prior to apex of 7 Left then modulated
8	Firm throttle application after cattle grid
9	Speed at start of understeer event - 100Kph
10	Understeer event commences
11	Start of attempted turn-in for 6 Right mid

116. The annotations in the above key have been independently confirmed by Triple Eight Racing's Technical Director as a correct interpretation of the Motec data.

117. The absence of an opportunity to view the onboard footage from the car hampers the ability of the Panel to know precisely what occurred. However, the Motec data does permit a reconstruction. On the evidence available to it, the Panel concludes that the likely sequence of events in the lead up to the collision with the tree were as follows:

- Mr Seymour applies firm throttle between the 8L which became the 7L onto the cattle grid;

- Immediately after the car crosses the cattle grid Mr Seymour again makes a firm throttle application. The speed of the Lotus increases to approximately 110Kph

- After that throttle application Mr Seymour applies brake briefly and applies slight steering to the right but a short distance later he lifts off brake and applies slight throttle;

- A few metres further on Mr Seymour applies hard brake and attempts to wind-on more and more right steering but the car is understeering towards the left side of the road. The ABS system on the Lotus is retarding the speed of the car;

- The front left wheel of the Lotus leaves the bitumen onto the gravel verge and the ABS system cannot stop the front left wheel locking at that point;

- The Lotus then starts to rotate anticlockwise and goes through the barrier. The speed of the Lotus when it strikes that barrier is 61kph;

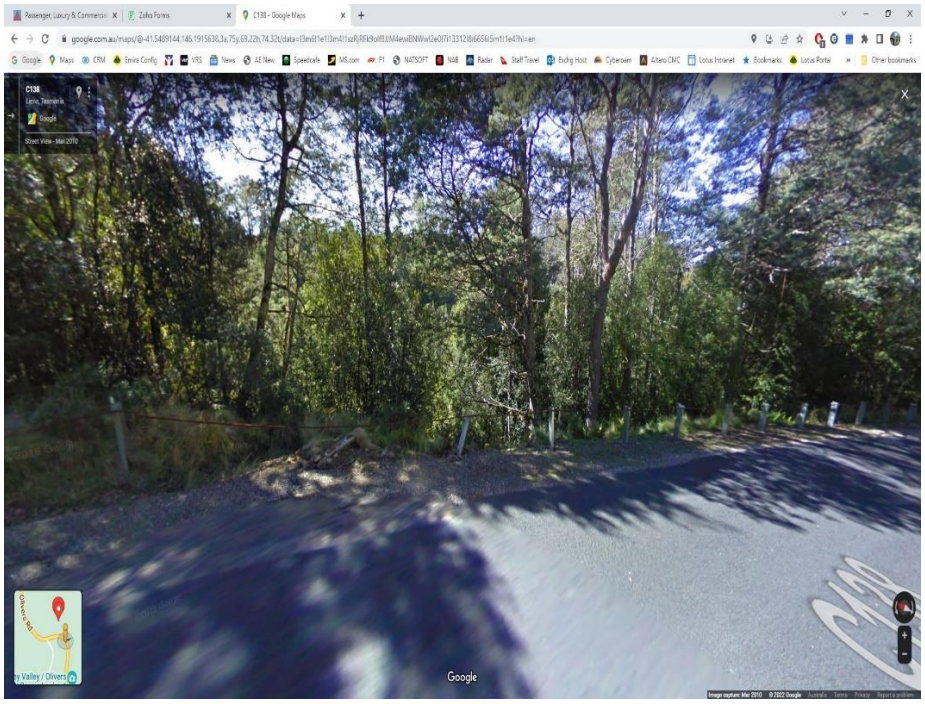
- The barrier is unable to take the force of the Lotus and it falls down the sharp and rocky embankment on the other side and collides with the tree. The RallySafe unit in the car recorded the impact force at 11.2G. The point of collision is approximately the mid-point on the lateral bar between the A and B pillars immediately adjacent to Mr Seymour's helmet. The car comes to a complete and sudden stop. The speed of the car at the point of collision cannot be accurately determined from the available data but, despite the drop from the barrier of approximately 5 metres and despite the barrier failing, the barrier nonetheless is likely to have retarded the speed of the Lotus to some extent.

118. When producing the Motec screenshot Simply Sports Cars suggested that the point at which the driver lost control of the Lotus was approximately 90 metres after the cattle grid. No evidence to support that suggestion was produced. The Panel considers that suggestion to be highly unlikely. The road marking indicating when the front left wheel of the Lotus left the bitumen is in the Panel's assessment approximately 70 metres after the grid.

The wire barrier

119. The Tasmanian Road Authority's specifications for the wire barrier are not known to the Panel.
**The Panel notes the representations of Targa Australia that the roadside wire was not a "barrier" but a "delineation" device, based on an email from the Tasmanian Department of State Growth. The Panel spent considerable time researching this matter and could not find any evidence to support that representation. "Delineators" typically were posts usually with reflectors attached, with no wire rope. Conversely, the Panel could find no examples of "Safety Barriers" which comprised only a single wire rope. For want of a better term, we have continued in this report to refer to this installation as a "barrier"*.

120. In the Panel's assessment, the barrier as constructed was incapable of preventing a car from leaving the road. Below is a GoogleEarth image of the barrier dating to 2010 showing it to have been damaged. It is not known if that damage had resulted from a previous Targa Tasmania incident:



121. The photograph below is of the wire barrier after it was re-erected following the accident:

122. The following photograph taken before the repairs above, show multiple steel uprights forming part of the barrier having been completely pulled out of the ground without any distortion when the Lotus breached the barrier demonstrating that they were not cemented in when installed:

123. The following photograph shows the wire cable having separated from the barrier:

124. The following photograph shows where the wire cable slipped through a joining shackle, possibly upon the force of the Lotus striking the barrier:

125. The Panel received evidence that revealed that at least one other car in the competition field had struck the barrier before it was struck by the Lotus and that at least two of the uprights had become partially dislodged as a result. Below is a link to video footage of a competition car further ahead in the field losing control on the same bend and the rear of the car colliding with the barrier. That car continued notwithstanding that the rear bumper of the car had been pulled off in the collision and remained lying on the roadway:

https://www.dropbox.com/s/nwecicn8ymsfi0g/TT30%20Mt%20Roland%20Stage%20Car%20%23955%20Extract.mp4?dl=0

126. The available evidence suggests that at the time the Lotus approached the bend there were two rear bumpers of other cars on the roadway resulting from contact with the barrier:

127. The screenshot from video footage below shows the dislodged uprights of the barrier when passed by another competition car ahead of the Lotus:

128. It occurred to the Panel that one possible cause or contribution to Mr Seymour losing control of the Lotus is that he saw one or more bumpers on the road and attempted to take evasive action to avoid striking them and in so doing lost control. However, the Panel is confident that Mr Seymour lost control of the Lotus before the bumper bars left by other cars would have been visible to him.

The collision with the tree

129. Having rotated counter-clockwise as it went through the wire barrier the Lotus dropped down a steep rocky embankment and came to rest against the trunk of a large tree. The tree stopped the car from falling further down the gully.

130. The Lotus came to a complete and sudden stop as it hit the tree. There was only one point of collision – approximately the mid-point of the lateral bar joining the main hoop to the front hoop of the roll cage. According to the MIV crew members, when they arrived the targa roof of the Lotus was detached from the car, no doubt dislodged in the collision. Mrs Seymour was still in the car. While not trapped by any deformation of the car, the car was leaning against the tree on a steep angle and it was not possible for Mrs Seymour to extricate herself through her passenger door. She was assisted out of the car by MIV crew members.

131. MIV crew told the Panel that Mr Seymour was still alive when they arrived on the scene. His helmet was pushed down by roll cage members into his chest and his breathing was shallow. It was not possible to raise Mr Seymour's helmet to open up his airway because of the distorted roll bars pressing down on it. The MIV crew then cut bars of the roll cage to free Mr Seymour's helmet but by the time this was done, Mr Seymour had passed.

132. There were no photographs taken of the roll cage after the collision but before bars were cut to attempt to free Mr Seymour. Photographs taken after the cutting of the roll cage show gross distortion on at least one bar and the broken couplings to the main hoop mentioned above.

133. Other photographs taken at the same time show Mr Seymour's helmet freed and resting against the trunk of the tree. While the helmet appears undamaged in these photographs, it is unknown if his helmet had made contact with the tree in the collision.

The response

134. Mr Sims confirmed that Mrs Seymour had activated a manual SOS alarm on the Rallysafe unit in the Lotus shortly after the incident occurred. Two competition vehicles following noticed the SOS alarm and stopped at the accident location but an MIV following the field was already on stage and a mid-point MIV had already entered the stage. Both MIV's arrived at the accident scene at approximately the same time and within a few minutes of the crash.

135. The MIV crew assessed the scene and immediately recognised that the resting position of the Lotus was precarious and any attempt at rescue of the crew might cause the car to fall down the gully. Their first move was to secure the Lotus in position using a rachet strap up the embankment to the tow bar of a response vehicle. They could not reach Mr Seymour until Mrs Seymour was assisted from the car. Their valiant but unsuccessful attempts to rescue Mr Seymour are described above and need no further explanation.

136. Shortly after the MIV crews arrived, two of the Stewards who were also following the field arrived. The MIV crew members and the Stewards confirmed that radio and mobile phone communications were not possible from the crash location. The absence of any means of communication with Rally Control was not a contributing factor in this fatality but the Panel is concerned that had circumstances been different and communication would have been a critical tool in the provision of requisite assistance, it would have been impossible from this location.

137. Having learned of the accident, the Event Checker and his passenger, the Motorsport Australia Manager – Track Safety, travelled to the crash site. When they arrived representatives of Tasmania Police were on the scene and took control of the site.

138. The Panel wishes to express its appreciation for the efforts of all who attended the accident site. It is clear from the photographs taken at the time that it was damp and cold and a number of personnel were occupied assisting in the

recovery of the car for several hours. Conditions were extraordinarily difficult given the position of the car.

139. Despite the harrowing experience they encountered, every one of these people were most generous in making time to be interviewed by the Panel and their evidence was of great assistance. Their work is essential and they go largely unrecognised.

THE PANEL'S CONCLUSIONS ON THE 2022 TARGA INCIDENT

140. As noted at the outset of this Report, the Panel is satisfied that the cause of the crash was driver error. The Smoothline Pacenotes for this stretch of road used by the crew were correct. They warned of the grid and the tightening right hand bend which followed it. They warned that crashes were common at that location. Without access to the in-car video from the Lotus, the Panel does not know if the notes were delivered correctly and within time but it is plain from the Motec data extracted from the car that the car was carrying too much speed after the cattle grid to enable Mr Seymour to slow sufficiently to make the right-hand bend. The damp and cold down-hill road and short distance from the cattle gird to the turn-in point for the right-hand bend meant that any hard braking after the cattle grid was likely to provoke a loss of control. In this case the application of throttle before the cattle grid and following it resulted in an inevitable loss of control when Mr Seymour attempted to brake and turn at the same time on a slippery road.

141. The speed at which the Lotus struck the wire barrier (61kph) was not high. The Panel expects that despite the shortcomings in that barrier, it would have retarded the speed of the Lotus to some degree. While the car may then have re-gathered some speed as it fell down the embankment, the speed at the point of collision (which is not recorded in any available data) is most likely to have been less than 60kph.

142. Most rally crashes involve roll overs or collisions with objects which rotate the car. Speed is progressively retarded in these instances. The Seymour accident was not of that type. It involved one collision with a large stationary object causing the car to come to an immediate and complete stop. The point of collision was in one of the worst conceivable positions on the car – adjacent to a crew member's helmet.

143. Nonetheless, in the Panel's view a collision of that type at less than 60kph ought to be survivable. Sadly, in this case it was not. While the evidence available to the Panel does not allow a definitive conclusion, the Panel is nonetheless confident that the prospects of Mr Seymour surviving this accident would have been significantly enhanced had:

- The joints of the lateral bars and roof bars to the main hoop of the safety cage complied with Schedule J of Appendix J;

- The lateral bar been supported by triangulation from the main hoop and a Carlos bar extending up to the A pillar roll cage joint;

- Mr Seymour been using an FIA homologated winged seat with associated homologated mount;

- Foam been installed between the outside wing of that seat and the B pillar; and

- There been more space between Mr Seymour's helmet and the roll cage members and roof.

144. The Panel also considers that the loss of control might not have occurred had "Double Caution" boards and/or some kind of "Black Spot" warning board (noting that this bend had been the location of a number of crashes in previous events) been erected, if not before, then immediately following the cattle grid to warn the driver of the difficult bend ahead. There was a line of sight to where such boards would have been positioned from the point where Mr Seymour accelerated on approach to the cattle grid. Had he seen such boards he might not have accelerated before the grid and certainly not after it such that he would have been approaching the turn-in point for the right-hand bend at a manageable speed.

145. Moreover, the Panel considers that the vehicle involved in this incident, even putting to one side any shortcomings in its roll cage design and absence of a winged seat on the driver's side, is not suitable for tarmac rallying. The weight to power ratio of the Lotus Exige exceeds that of a Rally 1 (formerly known as "WRC") car. The vehicle is overpowered for tarmac rally application even in the hands of the most experienced drivers. Like many sports or GT cars which have become the vehicle of choice for many competitors as outright contending cars in tarmac rallies in Australia, the Lotus is designed for circuit use. Its suspension geometry is such that it enjoys very limited suspension travel – critical for rallying on rough/bumpy roads. (Refer comments of 2021 Investigatory Tribunal). The cockpit space is cramped to a degree that even crew of average height and build are positioned very close to roll cage members. Moreover, the detachable roof has no structural integrity. The Lotus is so light and high powered that a small application of throttle will increase speed rapidly. This crash occurred after two throttle applications shortly before the loss of control – throttle applications which were, in the Panel's view, ill-judged in the circumstances given that the road was downhill, wet and crossed over a cattle grid.

146. Above all, the Panel considers that this tragic crash would not have occurred and would certainly not have had this outcome had the section of road where it happened not been used at all for a tarmac rally stage. This section was, in the Panel's assessment, unsuitable for competition and inherently dangerous even in dry conditions. The section is downhill with countless trees on the exit of bends, steep drop-offs and, to the extent that some bends feature wire barriers of the kind seen on this bend, as demonstrated in this case they were not able to keep a vehicle on the roadway, unlike a rated Armco barrier.

147. As noted above, despite their relative inexperience in outright competition in Targa events, and notwithstanding that the best result they had ever had in an outright competition category was 4th (in an event with a small outright field, next best, 8th), Mr & Mrs Seymour were in 2nd position in the 2022 Motorsport Australia Targa Championship when Targa Tasmania 2022 commenced. It is not known whether the pressure to maintain or better their standing in the Championship from a result in the Targa Tasmania 2022 event, an event they had never entered in an outright category before, had any influence on Mr Seymour's approach to the Mt Roland Stage.

148. The in-car footage from the Georgetown stage the day before (see paragraph 61 above) does show apparent over-driving with sub-optimal road positioning, unnecessarily late braking and unnecessarily aggressive turn-in provoking understeer which ultimately causes a collision with a kerb. Without in-car footage from the car leading up to the fatal crash, whether that manner of driving was illustrative of Mr Seymour's driving skills generally or is explained by nerves on the first day of competition which may well have been overcome before the Mt Roland Stage was commenced, can only be conjecture.

PANEL'S OBSERVATIONS MORE GENERALLY

Course Design

149. Recommendations 16 of the 2021 Investigatory Tribunal was in the following terms:

"*That Motorsport Australia, on advice from the Australian Rally Commission, restructure the process for pre-event checking of each tarmac rally, with a division of responsibilities between and Administrative Checker and a Safety Assessor [Competition Checker]. The Administrative Checker would be responsible for most of the activities currently performed by the Event Checker. The [Competition Checker] would be an experienced tarmac rally driver, who, well in advance of the release of the route each year, drive every stage and assess suitability of a stage from a speed, hazard and safety of crews, officials and general public perspective. Risk mitigation procedures or initiatives would be determined by the [Competition Checker. Both the Administrative Checker and [Competition Checker] would be responsible to Motorsport Australia and not to the Organisers. A position description including roles and responsibilities should be drafted for each of the above.*"

150. This recommendation followed from the Tribunal's findings that course hazards (a water course and trees) featured in both the 2021 Targa Tasmania fatal incidents.

151. Despite the 2022 incident occurring on a bend where previous accidents had occurred, no-one involved in the approval of the course appears to have taken note of that fact when assessing the risk presented by this section of road.

152. In conducting its investigations, the Panel took the opportunity to traverse a number of the targa stages in northern Tasmania used in the 2022 Targa Tasmania event. Every one of these stages have been used in prior Targa Tasmania events, most of them regularly. Without exception these stages feature roadside hazards, typically trees in run-off areas, steep drops off the edge of the road, unprotected ends of Armco barriers, power and/or telegraph poles, and, on occasions, houses. They are typically a mix of tight, technical sections opening into very fast straight sections returning to tighter sections.

153. According to the Competition Checker for the 2022 Targa Tasmania event, Lyn Rattray, he was not provided with a formal Position Description for that role and he did not liaise with the Event Checker, Stephen Horrobin, regarding the course. The course was set well before he did his check a few weeks prior to the event and he did not recommend any changes.

154. The 2021 Tribunal's Recommendation 2 was as follows:

"*That artificial speed reduction methods such as chicanes (physical and virtual) and Restricted Time or Restricted Speed Zones, <u>not</u> be used <u>solely</u> as a means of artificially reducing the average speed of a Targa Stage*."

155. There were 34 Restricted Speed Zones used in the 2022 Targa Tasmania event. There were 44 "Double" or "Triple (Danger)" cautions noted on the course. Of the total number of Restricted Speed Zones, none were positioned on these cautions. 4 ended within 500m before a caution and therefore appear to have been placed to reduce the speed of cars before a hazard. Many were apparently positioned on straights where they served no purpose other than to reduce the average speed of the stage.

156. The Mt Roland stage is a clear example. It featured two Restricted Speed Zones, both on very fast straight sections at the top of a climb before the road descended. As noted above, there was no Restricted Speed Zone in the vicinity of the Seymour crash location despite the cattle grid followed by a difficult inadequately protected bend which was apparently a notorious accident location.

157. The Mt Roland stage stretching some 26kms is a well-known stage in Targa Tasmania. It is also run in reverse and in that direction is known as "Cethana". In the Mt Roland direction it features a challenging climb for approximately 8kms whereupon the road plateaus. At the top the road is nearly straight for several kilometres before the road descends and is tree-lined, windy and technical in parts. As noted above, the descent is marked by unprotected or inadequately protected drops off the side of the road, typically on the outside of bends, with large trees on the outside of bends, commonly where cars might be expected to leave the road in the event of a loss of control. This descent is, without doubt, a potentially treacherous stretch of road with such a large number of roadside hazards that they are impossible to protect for competition by the use, for example, of hay bales.

158. There appears to be a mindset that because roads such as these are popular and well-known Targa stages which have been run for decades, they should remain and remain without modification.

159. The Panel is acutely conscious of the history of the Targa Tasmania event as a marathon tarmac rally presenting challenges in a range of conditions. However, as noted in our 2021 Tribunal Report, Targa Tasmania commenced 30 years ago as an event which, although it featured competition, attracted entrants who were principally motivated to participate just to be part of a large assembly of select vehicles, not to win the competition. The profile of entrants has changed markedly over time such that now many entrants (other than Tour participants) enter to compete to vie for a podium, if not outright then in a class, rather than to gain a Targa Plate.

160. Further, and importantly, there is a staggering differential between the performance capabilities of the outright winning cars in Targa Tasmania 30 years ago compared to today. In the past 10 years in particular the performance capabilities of production sports cars (some could be termed "super cars") have increased significantly and it is these cars which have become the vehicle of choice for those aspiring for outright honours.

161. The problems with sections of the Targa Tasmania course identified by the Panel may not have been so acute when the performance capabilities of outright cars were much lower and those vying for outright honours were typically professional drivers. They are also problems of a kind which, in only more recent times, sanctioning bodies, in particular the FIA, have identified as hazardous for rally competition.

162. They are problems which, when viewed dispassionately away from the history of the event, by a skilled and experienced rally competitor concerned with safety, are obvious and which must be addressed.

163. As the Recommendations which follow make clear, the Panel is firmly of the view that if Targa Tasmania is to continue to be sanctioned by Motorsport Australia, it will require wholesale revision of the course to remove unreasonably hazardous sections. Change of the magnitude required will no doubt disappoint many regular competitors who have enjoyed competing on these stages for many years, without incident in their case. However, with 4 fatalities within only 100 competitive kilometres, each involving an unprotected roadside hazard, the status quo cannot be maintained. This same approach applies to all tarmac rallies, however it is noted that other tarmac rallies do not have the same number of recorded incidents as this event.

Vehicle Eligibility

164. The Panel does not have access to the Technical Regulations which applied to Targa Tasmania event when it was first held some 30 years ago nor over the initial years which followed. However, the Panel received evidence that the performance capabilities of competition vehicles were tightly controlled in that period through a combination of a very selective “invitation only” process and regulations which limited the range of permitted modifications to classic cars, restricted modifications to modern cars and effectively de-tuned then current production cars by requiring the fitment of inlet restrictors to even 4 cylinder naturally aspirated vehicles.

165. Most people in the rally community are aware that in 1986 the FIA was forced to introduce measures to restrict the performance of rally cars competing in the World Rally Championship after a series of fatal incidents involving competitors and spectators involving Group B cars – low volume lightweight rally specials built by manufacturers including Audi, Lancia, Opel, MG and Ford, typically very high powered 4wd and turbo-charged.

166. The FIA banned Group B cars in all competition and introduced a new Group A category which required all turbo 4wd vehicles to be fitted with a 34mm turbo inlet restrictor limiting power to approximately 300hp, prohibiting low volume special cars by mandating that a Group A car be based on a high-volume production car and, by the use of strict homologation requirements, limiting modifications and effectively capping top speed capability to in the order of 200kph.

167. In 1997 the FIA introduced the “WRC” car which permitted greater freedoms than Group A but still required turbo restrictors for 4wd turbocharged cars and power

was limited to approximately 330hp. The use of WRC cars in Australia is currently prohibited other than in World Rally Championship events. A production category, Group N, was introduced in the late 1980s. Group N homologations effectively prohibited any modifications to standard production cars beyond brakes, suspension and exhaust and, indeed, de-tuned turbo 4wd production cars by mandating the use of a smaller turbo restrictor than used in Group A or WRC cars.

168. For decades now the Motorsport Australia (formerly CAMS) Technical Regulations for cars competing in gravel rallies in Australia have reflected FIA International requirements for rally cars below WRC level. Save for a brief period early last decade, for well over 30 years all turbo 4wd rally cars competing in gravel rallies in Australia have been required to use an inlet restrictor equivalent to FIA Group A requirements. Modifications to improve the performance capabilities of any gravel rally car, whether 4wd, 2wd, turbo, supercharged or naturally aspirated and whatever engine capacity, have been strictly controlled by the Motorsport Australia PRC and Classic Rally Car Regulations which have been regularly reviewed by the Australian Rally Commission appointed by Motorsport Australia (ARCom).

169. Safety requirements for gravel rally cars are reflected in the same Regulations which mirror FIA standards for rally cars save for minor variances approved only after a risk assessment process has been completed.

170. In more recent years ARCom has approved Technical Regulations which have permitted the use of a 4wd driveline in a 2wd production chassis but with strict limitations to ensure that the performance capabilities of such cars cannot exceed that of non-WRC FIA specification rally cars (Group N(P), G4, AP4). All of these cars are required to use a turbo restrictor which, by limiting the volume of air available to the engine, reduces power and reduces terminal speed because the engine is unable to generate any additional power at high engine revolutions.

171. By these carefully considered regulations, developed with a close eye on FIA counterparts, Motorsport Australia has been able to achieve relative parity within National and State gravel rally fields and relative parity with FIA rally specifications for the principle sub-WRC car category – R5 (now known as Rally 2).

172. The progressive changes in technical regulations in tarmac rallying in Australia have been less controlled.

173. Since 2011, when Octagon Australia, the then-owner of the Targa events, returned to what was then CAMS for the sanctioning of its events after a period of years with AASA, the approval of technical regulations for Targa events was removed from ARCom.

174. In the 1990s and early 2000s there had been similarities between the control of performance and safety standards of gravel and tarmac rally cars in then CAMS sanctioned events. However, thereafter a gaping chasm between the two progressively emerged to the point where nearly every car entered in the only category recognised for outright podium recognition, GT Sports, has a weight to power ratio exceeding that of a 2022 World Rally Car (now known as “Rally 1”), some by a significant margin (some lower than a Group B car), many with safety equipment

of a lower standard than a gravel car, and all being used by non-professional drivers on inherently dangerous roads in inherently dangerous conditions.

175. Under the current Motorsport Australia Technical Regulations for tarmac rally cars and the Targa Australia Technical Regulations, turbo or supercharger restrictors are not required and have not been required for some years and many competition cars are fitted with bolt-in or bolt-together type roll cages. In all but recent model sports cars, performance-gaining component modifications are typically free. It is noted that Targa Tasmania did not run under the Motorsport Australia Technical Regulations in recent years. The Panel, in referring to those regulations here and below, draws attention to the need for those regulations to be updated and for Targa events to be conducted in accordance with them.

176. Freedoms have been progressively relaxed even in classic categories to permit much wider and taller wheels than came as standard to allow the fitment of larger brakes and greater speed in a straight line and when cornering. Engine substitutions are permitted which allow the fitment of high-powered later model V8 engines to replace period engines.

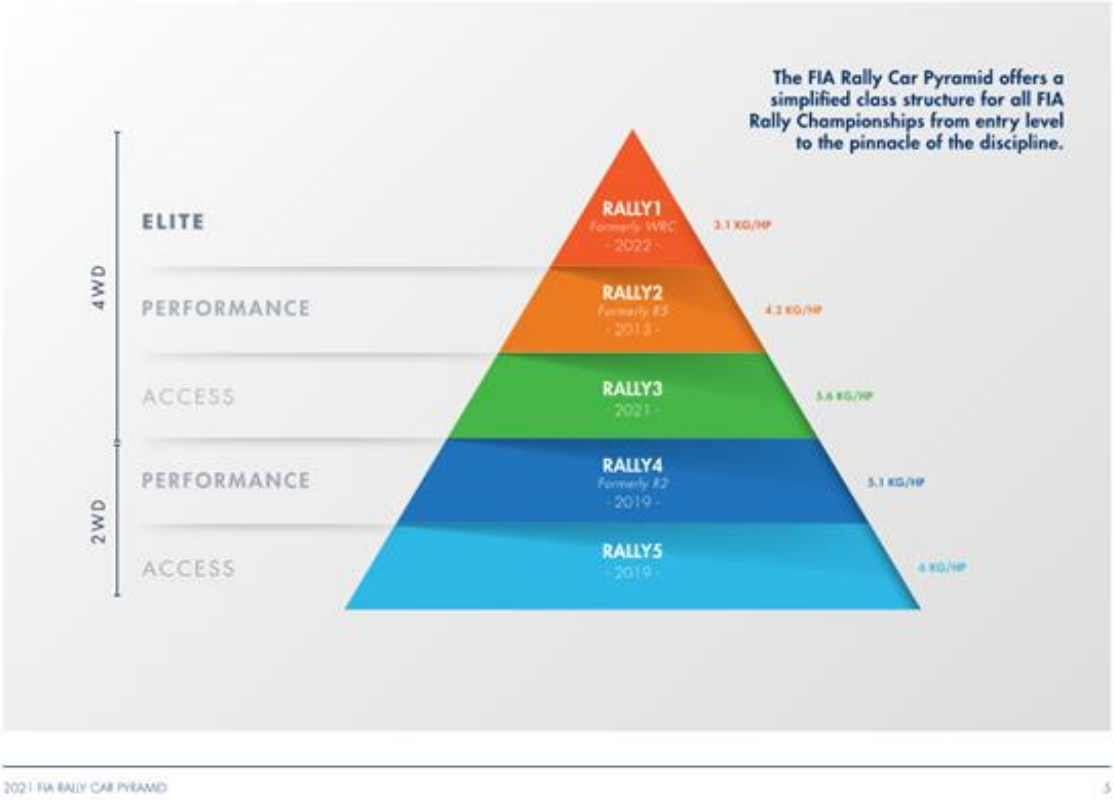
177. While it appears that most competitors with classic cars built to the extreme limits allowed by the technical regulations take the initiative to instal optimal safety equipment, by definition (with a cut-off manufacture date of 31 December 1989) all of these cars are at least 32 years old. Those that were built as rally cars some years ago when roll cage standards were much lower are permitted to undergo performance modification without any upgrade to the safety cage which may have no or inadequate side intrusion bars, no Carlos bar, no roof bars and no double-cross through the main hoop or across the back-stays.

178. Winged seats remain optional and only recommended in all tarmac categories. While all PRC gravel cars must be fitted with an FIA approved plumbed-in fire suppression system, this is not even recommended in the tarmac technical regulations. The fitment of door and side protection foam is highly recommended in the gravel technical regulations. It is positively prohibited in the tarmac regulations.

179. The stark inconsistencies between FIA/Motorsport Australia gravel regulations and Motorsport Australia tarmac rally technical regulations are to be seen in a context where advancements in engineering and vehicle development have meant that modern production sports cars are capable of extraordinary speed and acceleration – exponentially improved from what was observed when Targa Tasmania first commenced. These are very expensive cars typically sold to wealthy enthusiasts looking for something they can drive on the road and occasionally take to the track. Examples include Porsche GT2 RS, Porsche GT3 RS and the Lotus Exige. Importers or dealers offer kits to add a removable front section of roll cage to cars sold with half cages or offer a finished tarmac rally car to customers. Typically, these roll cages are of the bolt-in and/or bolt-together type and they give the owner the flexibility to remove the front section of roll cage and return the car to a daily drive car or sell it in that format. The welding in of a full cage integrated to the front suspension towers as is typical in a gravel rally car or circuit racing car would deprive this flexibility. These types of cars or other sports cars with similar performance eg Dodge Viper ACR Extreme, Nissan GTR R35, Mercedes GTR, Camaro ZL1, Ultima and the Daytona Coupe have become the vehicle of choice for those competitors in tarmac

rallies with ambitions for outright contention. Indeed, by the development of technical regulations designed to favour these cars and only recognise them for outright honours, the use of such vehicles over less powerful cars has been actively encouraged by Targa Australia.

180. The FIA Rally Car Pyramid below depicts the FIA's suggested pathway through the FIA International rally categories from entry level to the pinnacle of rally competition, the World Rally Championship, separating each division by a weight to power limit, the lowest (and therefore highest performance) reserved for Rally 1 (WRC cars) crewed by a small number of professional drivers and co-drivers recognised as the best in the world. Importantly, this Pyramid applies to both gravel and tarmac surface competitions.

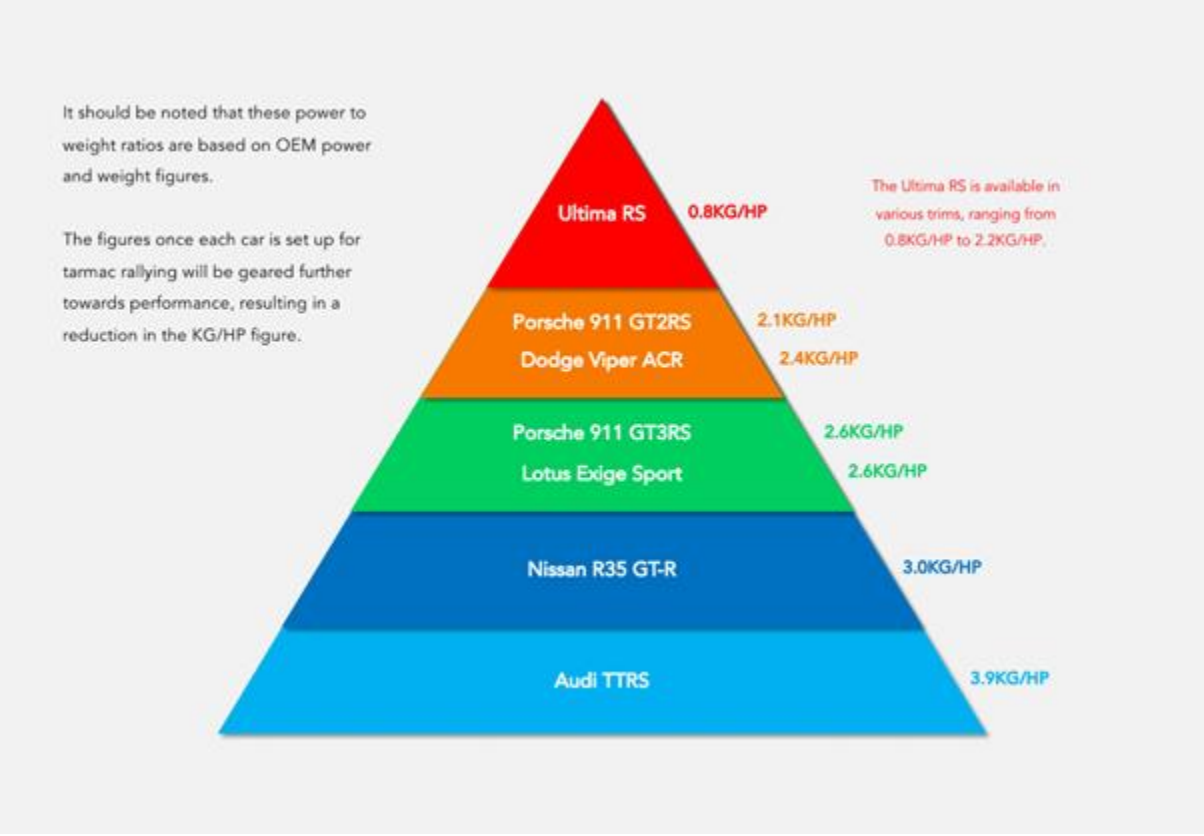


181. Not mentioned in the above Pyramid is the FIA R-GT category introduced in 2011 for GT Cars. Only a small number of cars have been homologated by the FIA for R-GT. They include the Alpine 110, Abarth 124 and Porsche 997 GT3. The weight to power limit of R-GT cars is 3.4kg/hp – slightly higher than Rally 2 but less than Rally 1 – but in practice their performance is lower than a Rally 2 car. As noted above, the Lotus Exige was provisionally homologated for R-GT some years ago but that homologation has since been revoked. FIA R-GT Regulations restrict the internal volume of the intake system to 20dm3 for naturally aspirated cars and 30dm3 for supercharged/turbocharged vehicles (including intercooler).

182. There are significant differences between the Porsche 997 GT3 Cup Car as homologated for circuit use, the GT3 production car and the R-GT car, in the main to restrict the car's power and speed. The engine in the R-GT car is required to be fitted with a restrictor plate and the gear ratios are low with the result that the car's top speed is reduced to in the order of 200kph. Like the Cup Car, the R-GT car is required to use an 18" wheel whereas the wheel diameter of the road GT3 is 21" and it therefore uses a much lower profile tyre.

183. Rally 1 Cars (and former WRC cars) are prohibited in gravel rally competition in Australia other than in a World Rally Championship round held here and then only to be driven by an FIA internationally graded driver. Rally 2 (formerly R5, equal or comparable to Motorsport Australia National Categories AP4 and G4) reflects the benchmark of the highest level or performance permitted in a gravel rally in Australia, the technical regulations for gravel cars designed to ensure that the overall performance capabilities of a Rally 2 car cannot be exceeded by a car in any other category. The "bar" in gravel rallying in Australia is thereby set at a weight to power ratio of 4.2kg/hp as per the diagram above.

184. The diagram below shows the weight to power ratios of the most common GT Sports category vehicles used until now in tarmac rallies in Australia in factory trim without having any modifications permitted by the technical regulations applied and without adjustment for weight saving by the removal of heavy production trim or for the addition of a roll cage. All but one, the Audi TTRS, boasts a weight to power ratio which exceeds that of a Rally 1 car and the weight to power ratio of the Audi exceeds that of a Rally 2 car.



Note: The Ultima RS currently approved for Targa use is understood to be a mid-range version

185. Furthermore, by the use of homologated gear and final drive ratios, Rally 1 cars have a top speed of approximately 195kph and Rally 2 cars, approximately 180kph. The reported top speed of the Ultima RS is 371kph, the Porsche GT2 RS, 342kph, and the Porsche GT3 RS, 348kph

186. The Panel is conscious that weight to power is just one measure of performance and that a Rally 1 car, while having a higher weight to power ratio than most of the cars in the table above, will have 0-100 acceleration rate faster than that of several cars in the diagram.

187. However, it is important to remember that a Rally 1 car enjoys the highest possible level of safety of any rally car – a safety level which cannot be replicated in any production car given that a Rally 1 car is space frame and features a floor and tunnel design to shift crew seating rearwards and inwards to give the crew more protection from sitting next to and under the main hoop.

188. The acceleration rate of a Rally 2 car is 0-100kph in 3.6 seconds.

189. The Panel is of the view that, because the FIA have stipulated a cap for the performance capability of the equivalent of a National Rally car on gravel and tarmac of 4.2kg/hp or 0-100hph in 3.6 seconds, and given that Motorsport Australia has effectively applied the same cap for gravel rallying in Australia, Motorsport Australia should not allow a different cap for tarmac rallying in Australia absent compelling evidence to suggest that tarmac rallying has a significantly lower risk profile than gravel rallying. Given the multiple recent tragic accidents in tarmac rallying in Australia, the Panel respectfully submits that the evidence all points the other way.

190. The Panel is also of the view that the Motorsport Australia Tarmac Technical Regulations are so far removed from acceptable limits that, at least for the time being, any car competing in any Motorsport Australia sanctioned tarmac rally in an outright competition category should be required to comply with one of the Motorsport Australia gravel rally categories or an FIA rally category, that is, any one of FIA Rally 2, FIA Rally 3, FIA Rally 4, FIA Rally 5, FIA R-GT, AP4, G4, G2, PRC, S2000, Grp N(p), Classic Rally Car or Club Rally Car AND not have a weight to power ratio (in competition spec) lower than 4.2kg/hp AND a 0-100 acceleration time of less than 3.6 seconds. For example, one of the aforementioned cars will be eligible if its weight to power ratio is less than 4.2kg/hp provided that its 0-100 acceleration time is more than 3.6 seconds. PRC, Classic Rally Car and Club Rally Car regulations already permit a significant number of freedoms which should mean that most vehicles currently competing in tarmac rallies in Australia will fall, or will fall with some modification, into one of those categories.

191. Importantly, it will follow should the Board accept this recommendation that every turbocharged or supercharged 4wd vehicle currently competing in a tarmac rally in Australia will have to be fitted with a 34 or 36mm restrictor (depending on the fuel type chosen). This will significantly reduce the power and terminal speed of these cars, so much so that invariably they will not fall foul of the additional 4.2kg/hp and 3.6sec 0-100kph restrictions.

192. Turbocharged or supercharged 2wd cars and naturally aspirated cars may require different consideration. 2wd turbo or supercharged cars are not required to be fitted with a restrictor in gravel competition if they are using the turbo charger originally fitted to the vehicle, principally because their performance on a gravel surface is restricted by less traction than a 4wd car. Under the PRC regulations, if a turbo charger with a compressor inlet larger than that of the original turbocharger is used, a restrictor must be fitted. The traction handicap of a 2wd car on gravel has less application on a tarmac surface. Some modern 2wd turbo charged cars have considerable performance capabilities. The Panel therefore suggests that the PRC regulations be followed for 2wd turbo or supercharged cars (that is, they need not use a restrictor if they are running the original turbo or supercharger) unless they have a weight to power ratio less than 4.2kg/hp and a 0-100kph time of under 3.6 seconds or, in the opinion of the Motorsport Australia Technical Department, the fitment of a turbo restrictor is required to ensure parity with turbo 4wd cars/naturally aspirated cars on sealed surfaces. The panel notes that this may be a very costly exercise for certain types of modern vehicles.

193. This leaves high powered naturally aspirated vehicles which may comply with PRC or Classic or Club Rally Car Regulations but nonetheless have too low a weight to power ratio and 0-100 time. The Panel takes the view that it should be for the entrant to establish to the satisfaction of Motorsport Australia that their vehicle falls within these limits. A vehicle can be weighed on approved scales without difficulty. Proving power output when dynamometers readings typically vary from unit to unit will be difficult as will 0-100kph times. Unfortunately, there may be some vehicles the future for which will be uncertain until the TRWG and ARCom determine a process for resolution, but the adoption of the gravel technical regulations is suggested to be the quickest logical means of permitting tarmac rally competition to resume in the near future.

194. Without discounting that course selection, prevailing conditions, crew inexperience or crew attitude all played a part in these crashes, there is a common theme to all. The Mansell 2013 fatality and all of the 2021 and 2022 fatalities involved small cockpit vehicles and all but the 2021 Mazda RX7 incident involved a late model sports car.

195. In the Panel’s assessment, the failure of the roll cage in the Seymour Lotus contributed to the fatal outcome, as did the proximity of Mr Seymour’s head to roll cage members.

196. The increased probability of side impact in a tarmac rally was well established by the 2016 AIMSS Review of Rally Safety in Australia. Notwithstanding, the use of winged seats, suitable mounts, door and side foam, or the upgrading of grandfathered roll cage approvals has still not been mandated.

197. While the Panel cannot exclude the possibility that the outcome of the Seymour Lotus collision with the tree might have been the same regardless, the Panel is confident that the prospects of the outcome having not been fatal would have been significantly enhanced had there been sufficient space around the helmet of Mr Seymoue, had he been using an FIA homologated seat (2009 or 2021) with

homologated seat mounts, had the roll cage not failed and had the car been equipped with door foam.

198. It is of concern to the Panel that there may be a number of Lotus Exige cars log-booked by Motorsport Australia which feature a roll cage of the same specifications as that which was installed in the Seymour Lotus. In view of the report from Triple Eight Engineering regarding the single coned connection joint for both roof reinforcement members to the main hoop, it is strongly recommended that Motorsport Australia re-visit the homologation of those cages.

199. In the Panel's view, while cone and cup type joints of the type shown in J-48 or J-49 are not necessarily weaker than welded joints, their integrity turns on how they are constructed. If the cone and cup are too shallow, or the shape of the cone and cup is such that load is transferred to the bolt, they are potentially problematic. Similar joints are used to join the front section of roll cage to the main hoop in the production Porsche GT3RS. Those joints failed in the Leigh Munday/Dennis Nagle fatal accident in Targa Tasmania 2021 (although in all likelihood fully welded joints may have failed in that accident and in any event the failure of the joints in that case had no apparent contribution to the outcome). It is suggested that the Motorsport Australia's Technical Department conduct further investigation into this type of joint.

200. Moreover, the indefinite and unqualified grandfathering of roll cages in log-booked cars needs review, at least in tarmac rallying where the risk of injury to occupants is greater due to higher corner speed.

201. The Panel considers that every car entered in any competition category (that is, 130kph, 165kph and 200kph speed limited, (excepting TSD (average speed)) should be fitted with a full Type 3 safety cage as defined in Schedule J and, additionally:

- Roof members complying with any of drawings J-14, J-15 or J-16 are mandatory for any competition category other than TSD or 130kph speed limited but will be mandatory for the latter category from 1 January 2024.

- Door bars complying with any of drawings J-11, J-12 or J-13 are mandatory for any competition category other than TSD or 130kph speed limited but will be mandatory for the latter category from 1 January 2024.

- Double diagonal reinforcement of the main roll car in conformity with drawing J-7 is mandatory for any competition category other than TSD or 130kph speed limited but will be mandatory for the latter category from 1 January 2024.

- Windscreen pillar reinforcement conforming with drawing J-17 is mandatory for any competition category other than TSD or 130kph speed limited but will be mandatory for the latter category from 1 January 2024.

Competitor Licensing

202. Until approximately 2005 CAMS did not issue National Rally Licences to first time applicants until they had completed Observed Licence Tests whereby their aptitude would be assessed by an approved assessor.

203. For reasons not known to the Panel, the requirement for such an Observed Licence Test was removed such that ever since any person seeking a National Rally Licence need only complete a written application and pay a fee. The application requires disclosure of pre-existing medical conditions but does not require a medical assessment to be undertaken.

204. Because it was an FIA International Event, in the early years of Targa Tasmania every competitor was required to hold an International Rally Licence. An application for such a licence required and still requires an annual medical assessment by an approved general medical practitioner, including an ECG stress test.

205. Until recently there has been no restriction on a new National Rally licence holder as to what type of competition they can enter or what type of vehicle they can use. A complete novice driver with a novice co-driver could enter a Porsche GT2 RS in the outright competition field of a tarmac rally.

206. In 2022 following the Tribunal's report on the 2021 fatalities, Targa introduced for the first time a restriction that prohibited first time entrants in Targa Tasmania from competing other than in the 130kph speed limited category.

207. While this change is to be commended, there remains no requirement for novice or less experienced competitors to undertake driver training as a pre-requisite to competition. Given that the Seymour incident occurred well below the maximum speed limit of 130kph, inexperienced competitors in the 130kph speed limited category are exposed to similar risks. Indeed, the risk is potentially higher because the 130kph speed limit means that it is difficult to make up time on straight sections of road and therefore the entry level category is encouraging high corner speed for those competitors who choose to attempt to set competitive times.

208. The Tribunal's Recommendation 11 was in the following terms:

"*That the Organisers and Motorsport Australia, through the Australian Rally Commission, develop a tiered licencing system for Tarmac Rallying, that takes into account the very high-performance vehicles that are eligible to compete in such rallies and which considers and assesses a driver's experience, ability to drive such a car, and physical state to manage the demands of driving such a vehicle in tarmac rally competition."*

209. Recommendation 14 was in the following terms:

"*That the Organisers in conjunction with Motorsport Australia, prepare a series of short video educational tools, with the ability to track who has watched them, to assist in the preparation for, and awareness of the risk of competing in Tarmac*

Rallies. These videos should come in modules focused on the challenges of events like Targa Tasmania, personal and vehicle preparation, writing and interpreting pace notes, operation of the RallySafe System, seeking assistance after a crash."

210. The Tribunal understands that neither of these Recommendations is yet to be implemented. They are both, in the Panel's view, of critical importance.

211. The Panel has noted with concern that, despite the Tribunal's Recommendation 20 that reconnaissance of the course be mandatory for tarmac rallies which was adopted by the Board and Targa such that every competitor in the 2022 Targa Tasmania event was required to sign a declaration that they had competed reconnaissance, the Panel heard evidence that during the competitors' briefing for the event some competitors were overheard by others to admit that they had not done any reconnaissance and had thereby made false declarations. In evidence Mr Perry stated "about two thirds did not do recce" and Mr Benson stated "many crews did not do recce in 2022".

212. Although the completion of reconnaissance can now be monitored and confirmed via a new RallySafe Lite phone App which will mean that this type of flagrant breach of rules should not be repeated, the fact that some competitors elected to attempt the event without having undertaken reconnaissance in the knowledge of its importance for their own safety is disturbing and reveals something about the culture and mindset of what is (hopefully) only a very small group of participants. The Panel notes that Targa Australia has reservations about the use of the RallySafe Lite phone App citing the possibility of using one car to carry multiple devices. The Panel urges the organisers to work with RallySafe to investigate a method of monitoring or controlling this.

213. The TRCAA advocated for mentoring scheme designed to ensure that new competitors would be paired with an experienced crew who would assist them to understand preparation for events and how to approach competition. The Panel considered the suggestion to have merit but thought that it would be difficult to introduce in a regulated way. The TRCAA reflected on and embraced the Panel's suggestion that the Tribunal's Recommendation 14 be implemented and that any mentoring arrangements be informal between competitors. The Panel was greatly assisted by the TRCAA compiling a list of topics to be covered in education programs of the type Recommendation 14 contemplated. The Panel adopts that list without qualification. It appears as **Attachment J** to this Report.

214. The Panel is firmly of the view that it is incumbent on Motorsport Australia and Organisers to devise a driver training program specifically directed to tarmac rallying and a co-driver training program which all new licence applicants should be required to complete as a precondition to competing even in a speed restricted category in a tarmac rally.

215. Further the Panel recommends a tarmac rallying license grading system be introduced to prohibit inexperienced competitors from competing in outright competition categories without first having competed in a number of speed limited events. The system should have a demerit scheme such that competitors who fail to demonstrate suitable skills will be relegated to a lower category.

216. The Panel's recommendations in this regard are set out later in this Report.

Regulation of the Tour

217. Every Targa Australia event features a Tour category. That category has significantly grown in popularity to the point where in Targa Tasmania the number of participating vehicles numbers well over 100. Several non-Targa Australia tarmac rallies also feature a Tour category.

218. The Tour is non-competitive. Cars traverse the course ahead of the competition categories. Historically they are permitted to travel at speeds up to 120 km/h, with certain restrictions in some areas.

219. The Tour is an important offering for Organisers. A number of manufacturers reach commercial agreements with the Organisers whereby they are given the opportunity to offer to their customers the opportunity to participate. Porsche, Mercedes, Audi and others have Tour groups of cars all of their own make. There is also generally a Tour offered to independent groups of enthusiasts and individuals.

220. The Tour field is divided into "packets" of cars which may number up to approximately 30 cars. They enter each Targa stage in close procession (one or 2 seconds between each car) following a packet lead car typically driven by a professional race driver affiliated with a manufacturer. At the end of the packet is a Packet Follower course car.

221. The Tour cars are not timed. Crew members do not wear helmets or motorsport apparel. The cars are not equipped with any safety devices. The Tour is intended as an offering for enthusiasts to drive the closed Targa stages at a modest and safe speed.

222. While the Supplementary Regulations for Targa Tasmania 2022 referenced the Tour, there were no articles in those regulations which governed how it would be conducted or how the behaviour of participants would be regulated, for example, if they were observed to have breached the speed limit on a transit or Targa stage. (The panel does note however that Targa Australia did issue a separate set of "regulations" for the Tour – it is simply the case that these had no formal regulatory role as they were not part of the approved event regulations).

223. The Targa Australia Sporting Regulations and Technical Regulations refer only to competitive categories.

224. As previously noted, after the 2022 Targa Incident occurred on the second Leg of the event, the rest of the event was downgraded to a touring event only. Entrants in the competition category were offered to continue the event by joining the Tour. Several competitions elected to do so.

225. The downgrading of the competition elements of the event to a tour represented a significant change to the event, yet no Bulletin was issued directing

what rules would apply for the balance of the event. It was noted however that an SMS message was sent to all competitors due to the late decision to downgrade.

226. Enquiries of the Organisers revealed that the regulation of the Tour has been informal with guidelines issued to Tour promoters. According to the Permanent Steward Chair for Targa events, he had raised previously with the Organisers that a set of regulations for the Tour ought to be included in the event Supplementary Regulations but this suggestion had not been taken up.

227. After the 2022 Targa Incident, but while the Tour continued, an incident occurred involving a Tour car which left the road and rolled injuring both crew members who were taken to hospital. The circumstances of that crash have not been reviewed by the Panel because they are not considered to fall directly within the Panel's Terms of Reference.

228. The Stewards dossier for the event does not record the Stewards having imposed any speeding Penalties on any Tour car despite the Panel hearing evidence that speeding breaches within the Tour field at these events are notorious, both by Tour participants and Packet Lead cars.

229. According to Mr Sims, every Tour car is fitted with a RallySafe unit and data is available to Rally Headquarters as to the speeds recorded by every Tour car and every Tour course car. Examples of this data were made available to the Panel. The data records numerous breaches by numerous Tour cars and (even more concerningly) Tour course cars of the applicable speed limit on Targa stages. It also records repeated and sometimes gross breaches of speed limits by particular cars, some by as much as 40kph.

230. The Panel enquired of the Stewards whether they had seen the Tour car speed data and they told the Panel that this data was not shared with them.

231. The Panel has noted a post-event report from the Safety Delegate which references a number of Tour competitors having been excluded from further participation in the event after the Safety Delegate became aware that they had committed speeding breaches. However, the examples of speed reports for Tour cars the Panel received from Ms Sims refers to a number of other vehicle numbers which were not mentioned in the Safety Delegate's report. The data considered by the Panel concerned one of the largest Tour groups, the Porsche Tour. It would appear that this data was not shared with the Safety Delegate during the event.

232. The Panel enquired of the Organisers how such gross speed breaches could occur if the Packet Leader (in the respective Tour course car) is adhering to the speed limit and all cars in a packet behind are following in procession. The Panel was told that some Tour participants are known to "stall for time" at the start of a Targa stage rather than immediately following the car ahead as required to create a buffer in which they can speed to catch the car in front. Others deliberately slow during a Targa stage to build such a gap. Because this type of behaviour is not prohibited by any enforceable Regulation, it is not satisfactorily addressed.

233. The Panel is of the view that the failure to take steps to intervene to address recorded speeding breaches by Tour cars and Tour course cars is a serious omission and leaves the event exposed to significant risk in the event of an incident involving one of these cars.

234. In the absence of any Motorsport Australia issued regulation governing the Tour field and conferring jurisdiction on the Stewards to address breaches, the Stewards technically have no power to intervene. Because Tour participants and course cars are not competing, time penalties for speeding breaches are of no utility. The logical sanctions for speeding breaches to discourage speeding is fiscal penalties and, ultimately, disqualification for gross inexplicable breaches or repeated breaches. It is imperative that:

- The Supplementary Regulations for every tarmac rally involving a Tour include regulations for the Tour, prescribe appropriate penalties for speeding and not following in a required sequence without reasonable excuse and confer power in the Stewards to impose them;

- Because the Tour packet leaders (and followers) are performing official functions in the event, the crews ought to hold Motorsport Australia officials (or competition, if applicable) licences and should be subject to disciplinary action in accordance with the NCRs for inappropriate behaviour.

- Speed data captured by RallySafe from Tour cars and Tour course cars is monitored in real time by Rally Headquarters. No doubt the Clerk of Course is occupied dealing with the competition field but a Deputy or Assistant should be tasked with this role and given delegated authority to refer breaches to the Stewards;

- A speed data report for all Tour cars and Tour course cars should be issued to the Stewards at the lunch break for each Leg and at the end of each Leg or more frequently if possible;

- Given the risk to participants using often high-powered vehicles with no safety equipment, breaches of speed limits by Tour participants and Tour course car crews must be strictly policed and done so without hesitation.

Insurance

235 The Panel notes with concern, the current global insurance market, and also the specific details advised to it, of Motorsport Australia's renewal terms for its Public Liability and Personal Accident insurance policies. It is our understanding that there has been a 43.8% increase in premium (following on from a 31% increase in 2021), and that for rally and off-road events (not just tarmac rallies) an excess of $250,000 per claim was proposed, due to the manner in which the insurers are viewing recent incidents in Targa Tasmania, and the Finke and Rainbow off-road events. It is

understood the alternative to such a prohibitive claims excess is a higher premium. This clearly demonstrates how incidents in one (or a few) event(s) can have major implications for all events, and hence all competitors across the sport. Should insurance become unobtainable in the future, the result would most likely be the cessation of the sport as we know it.

THE PANEL'S RECOMMENDATIONS

Note: The Review Panel has been tasked with making recommendations to the Board of Motorsport Australia regarding the conditions under which it believes that Targa-style events could be conducted in a manner that minimises the risk of a fatality or serious injury. Accordingly, the recommendations below are made in good faith by the Panel based on the evidence that is before it at the time of the writing of this report.

However, the Panel acknowledges that, with the passage of time, the development of new safety systems and devices, plus further information that may become available, it may be possible to "open up" some of the restrictions contained in the recommendations below.

The Panel also notes that a number of its initial recommendations have been modified as a result of a consultation process involving numerous stakeholders in tarmac rallying namely:

The Tarmac Rally Competitors Association

Targa Australia

Targa West

Massive Events Corp (trading as Adelaide Rally)

Motorsport Australia

This process involved each of the parties receiving a copy of the Panel's interim report, then submitting comments and suggestions to the Panel followed by a face-to-face meeting attended by representative of all the above stakeholders, conducted in Melbourne on December 15, 2022. The Panel's final Recommendations below, have taken into account the constructive comments received from the Stakeholders in this process and the Panel thanks them for their significant contribution.

The Panel also notes that some of its recommendations require modifications to vehicles or the fitment of new safety equipment. Whilst the Panel has made reasonable enquiries as to availability, should supply chain delays prevent compliance with any adopted recommendation, then obviously implementation would correspondingly need to be delayed.

The Panel notes that many of the recommendations made by the 2021 Targa Investigatory Tribunal including, for example, that a 200kph terminal speed limit be imposed for all outright competition vehicles, were implemented immediately after the Tribunal's recommendations were adopted by the Board of Motorsport Australia. The recommendations which follow intend that the Tribunal's recommendations implemented before Targa Tasmania 2022 was held will be maintained.

PART A - COURSE

Road Selection

1. Avoid the future competitive use of sections of road which:

   - Feature significant un-protectable roadside objects in identified likely run off areas, particularly on downhill sections, which, in the reasonable assessment of the organiser (as reviewed by the Competition Checker), present a significant risk to competitors including but not limited to trees, poles, unprotected drops, and unprotected water-bodies;

   - Feature long straights or long sections of sweeping slight bends, particularly on wide roads, which add little to the challenge of the stage, unless the sections are “interrupted” by some artificial slowing device, either physical or virtual.

   - Note – calculated corner speed should be one factor considered when assessing the level of risk.

2. With all hazard-protection measures in place, a stage with an average speed above 132kph, is not acceptable. Ideally, a lower average speed maximum of 120 kph is suggested, this being the recommendation of the FIA.

Grading of Stages

3. A set of criteria and guidelines be developed to grade special stages which are considered suitable into “A” and “B” categories.:

   3.1 Only those special stages graded “A” will be permitted to have a base time which is impossible or unlikely to be beaten by any competitors in dry conditions. Therefore only an A stage may be considered a “competition” stage.

   3.2 Category “A” stages are to be limited to sections of road:

   - which do not feature sections on which a terminal speed of 200kph is likely to be achieved and maintained for 1km or more, noting that this can be mitigated in certain circumstances by the introduction of a physical or virtual device to slow vehicles (noting that a lower terminal speed is more desirable);

   - which do not include prolonged downhill sections containing significant unprotected roadside objects which could be reasonably expected to cause death or serious injury if impacted by a competing car;

   - where the outside of bends where it can reasonably be anticipated that a vehicle might leave the road at a speed likely to result in serious injury or which feature steep drops, are protected by Armco or similar vehicle retaining barriers, earth banks or rock walls, or the risk of the vehicle leaving the road is mitigated by the use of a virtual or physical chicane or other appropriate speed reduction measure;

   - on which immoveable solid roadside objects in the direct predictable path of vehicles in run-off zones, such as trees or poles, or steep drops off the edge of the road, which are reasonably foreseeable as likely to cause serious

injury in the event of a collision, can and will be protected by hay bales, water barriers or tyre bundles, or the risk of collision is mitigated by the use of a virtual or physical chicane or other appropriate speed reduction measure.

3.3 In the discretion of the Clerk of Course, Category “A” stages can be downgraded to a Category “B” stage in wet conditions.

3.4 Category “B” stages may feature some unprotected roadside objects or drop off edges in predictable run-off zones provided that they are appropriately cautioned and may feature mid length straights (less than 1km) or a series of slight sweeping bends.

3.5 The Targa base time must be set for a Category B stage and must be more than the time reasonably anticipated that the fastest competition vehicle can complete the stage.

3.6 Under no circumstances may the dry Targa base time for a Category B stage equate to a time which is greater than an average speed of 120kph. This reflects that a Category B stage will feature some hazards.

3.7 If a car completes a Category B stage by going under the Targa base time by more than 10% it will incur penalties for each second under that 10%[2].

3.8 If a car completes a Category B stage in a time which exceeds the Targa base time by less than 10%, no penalties are accrued.

3.9 The Targa base time will be different for each class with the cars in the fastest class subject to the shorter times.

3.10 The Targa base time will be lowered by an appropriate amount in the event the stage is declared wet.

3.11 If a Category “A” stage has been downgraded to a Category “B” stage, the times of all cars which completed the stage before it was downgraded will be substituted for the wet Targa base time to ensure that all competitors in a class are classified equitably. However, in that case, only penalties appropriate to the Category A status will apply to those completing the stage before downgrading

3.12 If an average speed in excess of 132kph is achieved by any car on a Category “A” stage, the stage may not be used without amendment in future and the fact of that exceedance is to be reported to ARCom.

3.13 The use of “neutral zones” should be considered where there are for example, two separated "technical” competition sections separated by a section of very fast road.

3.14 The organiser is responsible for the selection of competition stages and is expected to use reasonable judgement in selection, taking into account safety considerations. However, it should be noted that these events, like all rallies, are not conducted on dedicated racing circuits and therefore it is acknowledged that not all roadside risks can be completely mitigated.

[2] Repeated and/or gross instances of beating the base time on Category B stages should be referred to the Stewards to consider the imposition of additional penalties up to and including Disqualification.

Competition Checker

4. The role of the Competition Checker is to be clearly defined:

4.1 The Competition Checker must be a highly experienced tarmac rally driver with consistent proven outright results.

4.2 The Competition Checker for any event is to be appointed by Motorsport Australia based on a list approved by ARCom after consultation with the TRWG.

4.3 They must hold a Motorsport Australia Official's License and must have completed a Rally Checker course.

4.4 The Competition Checker is to be remunerated at a reasonable rate, for their services, by Motorsport Australia. Their travel and out of pocket expenses must be met by the Event Organisers.

4.5 Their role commences with course setting.

4.6 They are to traverse the proposed course with the Clerk of Course and confirm that sections chosen by the organiser meet the criteria for a Category "A" or Category "B" stage or are not suitable for either. This must be done prior to details of the course being released to competitors or being made public in any form.

4.7 They are to check and approve (or otherwise), the Targa base time for each class for each stage.

4.8 They are to check that any potentially significant hazardous corner or section of road is appropriately cautioned, arranged to be protected appropriately or avoided.

4.9 If a hazard has been assessed by the organiser as protected by an existing barrier, they must confirm that the organiser has used a reasonable basis for such assessment.

4.10 The Competition Checker will prepare and submit to Motorsport Australia a written report on their initial review of the proposed course. This report will be made available to ARCom and its TRWG.

4.11 The Competition Checker is to approve the Reconnaissance Notes before they are issued.

4.12 The Competition Checker is to check that virtual chicanes are planned to be positioned to manage identified hazards, for example, a jump or depression likely to unsettle cars, a tight corner after a straight, a deceptive corner or a difficult unsighted corner.

4.13 The Competition Checker must liaise closely with the Event Checker prior to the event and ideally will complete a second check of the course with the Event Checker after the Road Book has been prepared for review and approval.

4.14 The Competition Checker must submit a written report to Motorsport Australia after completion of their second check. This report will be made available to ARCom and its TRWG.

4.15 The current prohibition on the Competition Checker competing in an event checked by them is not necessary and should be revoked.

4.16 The TRCAA and TRWG should be requested to nominate a pool of potential Competition Checkers for approval by ARCom and licensing by Motorsport Australia (preferably following an online training and assessment programme).

4.17 The Competition Checker must check that the Clerk of Course has appropriately identified all Black Spots on the event and that they are appropriately referenced as per below.

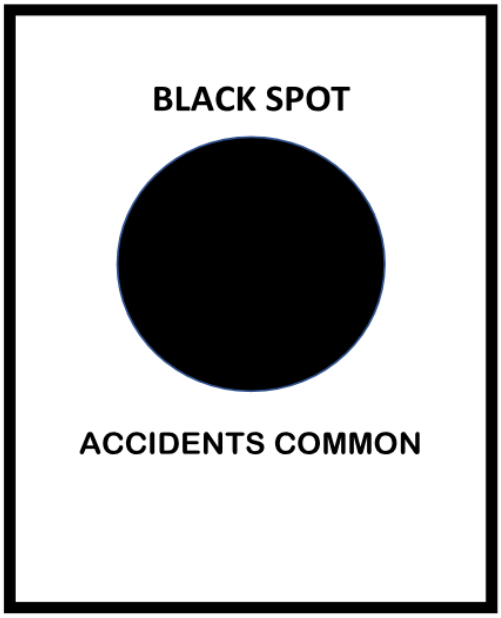
4.18 In order to facilitate the work involved in the above (and following) recommendations, the structure of ARCom should be reformed. Whilst retaining the same total membership, two commissioners should come from the tarmac rallying community. One of these should ideally be the Chairman of the TRWG. (It is noted that there are some drivers and codrivers who compete in both gravel and tarmac rallies and their inclusion in the commission should be considered.)

4.19 The TRWG should also be reformed in view of the additional responsibilities involved in these recommendations and should be a small group of no more that 6 or 7 members and include representatives of the TRCAA.

Cautions and Black Spots

5. Single cautions, in addition to double and triple cautions, must be noted in the Reconnaissance Notes and the Road Book and must be signposted on the course. The single and double caution signboards are to be black exclamation marks on a white background. The triple caution or danger signboard is to be 3 red exclamation marks on a white background. Caution boards are to be erected at least 50m (or for example, 4 seconds of competition driving time) before the hazard and at the hazard the board below will be erected:

6. Any location on a stage which has been the subject of any prior serious crash is to be identified in the Road Book, the Reconnaissance Notes and signposted on the course as a "Black Spot". The Black Spot board shall be erected at least 100m before the hazard:



Road Books and Reconnaissance Notes

7. The Road Book for the Competition Stages must be issued to competitors at the same time the Reconnaissance Notes are published. Reconnaissance notes may be included as part of the Road Book (i.e. they may be incorporated within the Road Book). The Road Book need not be printed and may be distributed electronically by the Organisers. ARCom, upon advice from the TRWG, will specify a permitted time window for the release of the Road Book to all competitors.

8. Any provider of Safety or Pace Notes to be used in the event must be approved by Motorsport Australia on the advice of ARCom. They must provide a copy of the notes to be distributed to their customers for any event to the Competition Checker for approval before they are distributed. They must also provide a list of their customers to the Organisers. Commercially available Safety or Pace Notes must feature cautions and Black Spot warnings which conform with the Reconnaissance Notes however may contain additional information (for example, as currently provided).

Course Cars

9. In events featuring Tour categories which traverse the course ahead of competition categories, the crew in an additional course car marked ”Safety Checker” are to inspect each stage after the Tour field has completed the stage and before any competition category commences. Their role is to ensure that spectators are in safe positions and to report any changed conditions on the course which require notification to competition crews at the start control. They must also ensure that all the requirements prescribed by the Competition Checker have been implemented. It will not be necessary for the Competition Checker to have any formal role during the running of the event.

10. Each official Course Car (e.g. zero cars, sweep cars) must be fitted with an in-car camera which must be operational at all times on special stages.

Communications

11. The use of any section of road where communication to Rally Headquarters is not possible at every point of the stage is prohibited. In practice this is likely to necessitate the use of air-borne radio repeaters for certain events. The Panel refers to Recommendation 21 of the Investigatory Tribunal into the 2021 Targa Tasmania and notes that this Recommendation was not implemented for the 2022 event. It is recommended that Motorsport Australia require that the Event Checker for all future tarmac rallies check that this Recommendation is implemented prior to the issuing of any permit.

Order of running

12. That in the interests of avoiding excessive overtaking moves, consideration be given, where the road closure windows permit, to running vehicles in competition classes in seeded order from fastest to slowest and that for events where the organiser considers it appropriate, time penalties may be applied for early and/or late book-in.

Speed-limited category mandatory

13. An outright competition category is not to be approved unless the event also features a 130kph speed limited category and, ideally, an additional 165kph speed limited category (although this speed limit may be lowered for the entire event or a specific stage in the discretion of the Competition Checker).

Stage Noticeboard and Reporting Incidents

14. An electronic noticeboard is to be positioned at the start of every special stage within clear view of crews approaching the start line on which is to be displayed the following information:

- Stage declared “wet/dry/intermediate”
- Cars stopped on stage – car no. distance, closest tulip reference in road book, whether car on or off the road and which side of the road
- The precise location of any damaged infrastructure or oil or fluid spill or other hazardous object on or near the road and whether on the racing line.

15. If any vehicle has struck and caused material damage to a barrier which may have compromised its integrity or dropped oil or other fluids or noticed an unforeseen hazard on a special stage which is likely to present a risk to following cars, and that vehicle remains stopped at the scene, the crew must erect triangles to warn following vehicles. The crew must convey information about the incident to the Organisers as soon as possible or at the end of the stage. The information is then to be added and displayed on the Stage Noticeboard. The Panel notes the recommendation of the TRCAA that such matters be advised to following competitors via RallySafe during the running of the stage. The Panel has reservations in relation to the potential distraction this will cause to codrivers in a stage however agrees the idea has merit and accordingly recommends this matter be taken up by ARCom in liaison with RallySafe and the TRWG.

16. Any car which fails to report a hazard of their making of which they can reasonably be assumed to have knowledge, may be deemed in breach of the regulations and appropriately penalised by the Stewards. In the case where an SOS board is displayed or there is an obviously serious crash involving potential serious injury, the following 2 cars must stop to render assistance and provide information to the organiser. A derived time for those cars may be allocated by the organisers.

Road closures

17. Road closure windows must be adhered to. Organisers must secure from authorities sufficient road closure time windows to ensure set up crews have sufficient time to set up and check each stage anticipating potential delays in completing the set-up of earlier stages on that leg. Set up crews are not to enter the stage until the road is closed to normal traffic.

18. The Panel notes the comments of the Residents of Stowport in relation to road closure windows. If a closure is to start at a particular time, it is not appropriate that local residents be prevented from accessing a road prior to that specified and published time, even if this means that the road is not fully closed until a later time. For example a 10km stage may take 20 minutes to completely close by officials. It is highly inconvenient and disrespectful of local residents to stop them accessing a road that is due to be closed at a certain published time, some 20 minutes earlier in order to enable officials to put in place the necessary road closure. The published road closure time should be the time that public traffic is stopped from accessing the road, NOT the time that officials start to prepare the road for closure. This has many implications including preventing children getting to school, farmers accessing their stock and misunderstandings that can lead to a potential collision on stage between an official setting the course and local farm traffic.

19. Organisers must take steps to ensure that Tour and competition vehicles do not obstruct or hinder residents and other road users outside of the road closure area. This includes educating crews not to stop outside a stage to service or remove helmets unless their vehicle is completely off the roadway in a safe area. Moreover, organisers

must anticipate queuing of cars at the start of stages and ensure that other road users on the open road are not affected. This is likely to require organisers to make contingency arrangements to re-group cars in a holding area remote from the stage start from where they can be released at intervals. The location of starts should be carefully considered by Organisers to ensure that queuing around corners onto main roads, will not occur especially if there is a delay or suspension in the stage start.

Although not within our Terms of Reference the Panel feels obliged to comment on the relationship between the organisers of Targa Tasmania and the Stowport residents and is concerned that if this is representative of the relationship with other communities through which the event is conducted, it does not auger well for the future necessary cooperation and goodwill required when an event has both a potentially positive and negative impact on such a community. The Panel found the representatives of Stowport at our Hearing to be thoughtful, constructive, safety-focused and concerned about their local area and the wellbeing of those residing in it. Therefore, the Panel strongly recommends all organisers of all rallies appoint community liaison officers to reach out to the communities through which road events are conducted and ensure that those communities have a voice which can feed into the event organisation. Likewise in the weeks leading up to an event, and during it, there should be a help line available into which residents can make enquiries and receive prompt, accurate responses.

The Panel notes the response of Targa Australia to the above and accepts its representations that the vast majority of the communities through which Targa Tasmania runs, are welcoming to the event and happy with it. However, the Panel still holds the view that a better relationship with all communities will benefit all parties involved.

FIA IDR

20. The FIA have developed a low-cost impact data recorder ("**IDR**"). The Panel recommends that all competition vehicles be fitted with such a unit:

    FIA Impact Data Recorder IDR | IMPACT DETECT

The Panel notes the view of Motorsport Australia that the FIA IDR in isolation will not provide "value" to Motorsport Australia, however the Panel is of the view that the data obtained is of significant importance to global motorsport safety research and that Motorsport Australia, as part of the FIA global community, can facilitate this research by the adoption of this device. It is noted that with additional data from RallySafe and Crashtag, the IDR could provide Motorsport Australia with the information it believes it requires.

Sporting Regulations

21. The Sporting Regulations and any Supplementary Regulations for any tarmac rally competition must be approved by Motorsport Australia administration. The Sporting Regulations must be checked by ARCom in consultation with the TRWG.

Tarmac Rally Championships or Series prohibited

22. Until otherwise determined, no national tarmac rally championship or series in which crew members accrue points in multiple events over a period is permitted. Trophies and awards for tarmac rallies may only be issued for a single event. It is noted that a state-based series or championship would be acceptable.

Safety Plan and Safety Plan Roadbook

23. Each organiser must develop a properly documented Safety Plan which conforms generally to the requirements prescribed by the FIA for Rally Safety Plans. This should include a Safety Plan Roadbook to enable Course Cars and Checkers to easily fulfil their respective roles.

Warm up stages

24. A number of “warm up” stages should be used. These stages should be designed by the organiser to phase in a driver to the competition regime. They should be Category B stages and the Base time should not require unrealistically slow driving and should be relevant to the upcoming competition stages. These warm up stages should accommodate progressively increasing pace.

Judicial Cameras

25. Each competing car must be fitted with a forward-facing on-board camera. The Competitor is responsible for ensuring that this camera is recording on each competition stage, and that no recording is deleted until midnight of the day of recording. The recording must be made available to the Clerk of Course or Stewards upon demand.

PART B - COMPETITION VEHICLES

Vehicle Eligibility – cars with performance capabilities exceeding FIA R5 prohibited

1. Cars with a weight to power ratio of less than 4.2kg/hp and which are capable of a 0-100kph time less than 3.6 seconds are prohibited other than in Tour categories[3]. For the avoidance of doubt, a car with a weight to power ratio of less than 4.2kg/hp will not be ineligible unless it is also capable of a 0-100kph time of less than 3.6 seconds. The 0-100kph time is of the car as intended to be used in competition, not the manufacturer's reported 0-100kph time of the model concerned[4]. Motorsport Australia should appoint a small Eligibility Committee comprised of experts in the field, to compile a list of Approved Vehicles which at the Committee's discretion and sole determination, comply with the above criteria.

2. Cars which comply with any of FIA Rally 2 (R5), FIA Rally 3, FIA Rally 4, FIA Rally 5, FIA R-GT, FIA Group N, FIA Group R, FIA S2000, FIA Super 1600, FIA Historic and Motorsport Australia Categories AP4, G4, G2, PRC, Historic, Classic and Club Rally Cars (manufactured prior to 31 December 1985 and fitted with engines manufactured no later than 31 December 1995) are permitted in any competition category. Until otherwise determined by ARCom in consultation with the TRWG, no other cars may be entered in any competition category in any tarmac rally other than TSD. Specifically, PRC and Club Rally Cars must also comply with point 1 above.

3. Any "commercial fuel" as defined in Schedule G is permitted to be used unless an Organiser stipulates that pump fuel only may be used. This may require the Organisers to prescribe controlled refueling zones/points or a dedicated refueling tanker. (This may entail on-charging of costs to the relevant competitors).

Convertible, open and targa-roofed cars prohibited

4. "Targa", convertible and open roof vehicles are prohibited in any competition category other than TSD, unless otherwise specifically approved in writing, by Motorsport Australia.

Safety Cages

5. Every vehicle in any competition category (excepting TSD), that is, in any of 130kph, 165kph or 200kph speed limited categories, must be fitted with a full Type 3 safety cage as defined in Schedule J or relevant FIA Homologated safety cage. Additionally but subject to any exemption granted by Motorsport Australia's Technical Department:

    5.1 Roof members complying with any of drawings J-14, J-15 or J-16 are mandatory for any competition category other than 130kph speed limited (i.e.. 165kph and 200kph) but will be mandatory for that category too from 1 January 2024.

    5.2 Door bars complying with any of drawings J-11, J-12 or J-13 are mandatory for any competition category other than 130kph speed limited but will be mandatory for that category too from 1 January 2024.

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[3] In practice this will mean that all turbo or supercharged 4wd cars will need to be fitted with a restrictor as will 2wd cars which have been fitted with a non-standard turbo or supercharger with a larger compressor inlet than standard

[4] RallySafe data should be available for cars which have been competing which will record the standing start 0-100kph time on a straight flat section

5.3 Double diagonal reinforcement of the main roll car in conformity with drawings J-7 is mandatory for any competition category other than 130kph speed limited but will be mandatory for that category too from 1 January 2024.

5.4 Windscreen pillar reinforcement conforming with drawing J-17 is mandatory for any competition category other than 130kph speed limited but will be mandatory for that category too from 1 January 2024.

Side protection foam

6. Any regulation prohibiting the installation of FIA approved door and side protection foam is deleted and the installation of such foam is highly recommended and will be mandatory for any competition category (other than TSD and 130kph speed limited) from 1 January 2024 – see Article 4.4 of the National Rally Standing Regulations Vehicles General.

Winged seats

7. Every vehicle in any competition category other than TSD must be fitted with a winged seat for each crew member, and from 1 January, 2024, each such seat must comply with FIA 8862-2009 or FIA 8855-1999. It is noted that the FIA homologations also provide for FAI 8855-2021 which although a more expensive seat, provides significantly more protection and is hence highly recommended. 8855-1999 seats, although approved and homologated, are discouraged in high performance cars in favour of 8862-2009 or 8855-2021[5].

8. However, it is strongly recommended that the FIA homologated seat mounts of the 8862-2009 and 8855-2021 be used. These mounts have the ability to flex sideways on impact and are designed to work in conjunction with the FIA homologated door foam, which is a reduced value unless used in conjunction with the aforementioned seats and homologated mounts.

Minimum head space

9. Under no circumstance may any part of a crew member's helmet be less than 50mm below a line drawn between the highest point of the main hoop and the highest part of the front roll bar or less than 50mm from any roof bar lateral member ignoring any foam padding.

Plumbed in fire suppression

10. From 1 January 2024, and strongly recommended in the interim, every car in any outright category must be fitted with an approved plumbed-in fire suppression system in addition to the required hand-held extinguishers. From 1 January 2026 any car in any speed limited category in excess of 130kph must be fitted with such a system.

[5] Note that seats complying with FIA 8855-1999 or FIA 8862-2009 are only homologated for use within 5 years of manufacture. Seats complying with FIA 8855-2021 have a 10-year life. In practice this will mean that the commonly used 8855-1999 seats as fitted in many cars will be expired and will have to be replaced because no risk assessment has been completed which would allow the extension of seat life. We suggest that the use of expired 8855-1999 seats be permitted until 31 December 2023 to afford competitors an opportunity to replace them with 8855-2021 seats which are new to the market in Australia and not in abundant supply.

ABS can be retrofitted

11. The fitment and use of ABS is permitted on any vehicle.

Technical Regulations

12. The Targa Technical Regulations are to be revoked and Motorsport Australia is to re-draw the Modern and Classic Tarmac Rally Technical Regulations in accordance with these recommendations and in consultation with ARCom which in turn must consult with the TRWG. The Motorsport Australia Modern and Classic Tarmac Rally Technical Regulations will be the ONLY technical regulations approved by Motorsport Australia for Targa type and any other tarmac rallies in Australia.

Tyres

13. It is recommended that Motorsport Australia immediately commence liaison with the relevant authorities to permit the use in tarmac rallies, of FIA approved wet weather tarmac tyres (DOT approval required).

PART C – COMPETITORS

Tarmac Rally Safety Course

1. Motorsport Australia in consultation with ARCom and through it, the TRWG must develop as a matter of urgency an on-line tarmac rally safety course which requires interactive responses from participants to demonstrate their understanding of the information conveyed. The course is to emphasize car and crew preparation, minimum safety standards for vehicles, reconnaissance protocols, pace-note preparation and interpretation, caution interpretation, responsible attitude to tarmac rally competition and accident procedures. The course should be relevant to both drivers and codrivers. *The Panel notes the consensus view of Stakeholders that this is achievable during Q1, 2023 using existing and available experts and content.*

A new tarmac rally licensing regime

2. An International License will be required for drivers and co-drivers of competition vehicles including 165 category. TSD and 130 category will require a National Rally License for drivers and co-drivers.

    2.1 Medical assessments will be as required for an International license.

    2.2 The minimum endorsement required for each crew member in TSD and 130kph speed limited category is a Grade C

    2.3 The minimum endorsement required for each crew member in the 165kph speed limited category is a Grade B.

    2.4 Both crew members in the outright competition category must hold a Grade A endorsement.

    2.5 No person is eligible to start any tarmac rally unless they have first satisfactorily completed the tarmac rally safety course.

    2.6 ARCom, in consultation with the TRWG, should establish criteria for qualification for Grade A, B and C endorsements..

    2.7 A Grade A endorsement should only be issued for a license holder who has demonstrated considerable experience as a Driver or Co-driver as the case may be in Motorsport Australia sanctioned tarmac rallies with no history of repeated serious incidents.

    2.8 A person over the age of 70 years should not be eligible for a Grade A endorsement save in the discretion of Motorsport Australia based on a set of criteria to be developed in conjunction with ARCom and rally medical experts.

    2.9 A demerit point system will be developed by ARCom in consultation with the TRWG. Demerit points will be incurred for multiple or excessive speed limit breaches and for crashes. Once a driver or co-driver have accrued more than a number of demerit points to be determined, their endorsement will be downgraded by one grade.

Crew extrication test

3. A crew member must demonstrate that they can extricate through an open door on both the same and the opposite sides of the car from a belted position in full apparel within a specified time to be confirmed by ARCom but recommended by the Panel to be the driving suit “burn time” plus 5 seconds. Such an extrication test must be undertaken at least once annually at a Motorsport Australia event and a declaration must be signed by each crew member before the start of each other event that there has been no material change to their medical and physical condition since their last extrication test which might prevent them from extricating from their vehicle in the case of an emergency.

Safety Levy

4. Event organisers should be encouraged to introduce a Safety Levy to cover the cost of additional safety items such as the Competition Checker and improved communications (including airborne radio repeaters if required) and to provide funding for the production of appropriate safety training videos (e.g. vehicle set-up, driver and codriver education etc). This levy may be disclosed by the organisers as an addition to the entry fee or simply included in it.

Mentors

5. ARCom should work with the TRWG and the TRCAA to implement an informal mentoring system for new drivers and codrivers in tarmac rallying.

PART D – TOUR CATEGORIES

1. The rules and regulations for all Tour entrants must form part of the Event Supplementary Regulations.

2. The Supplementary Regulations must empower the Stewards to impose Fines or other penalties in accordance with the National Competition Rules including the power to disqualify any Tour participant from the Event should the participant be found to have exceeded the applicable speed limit on any transit or special stage by more than a margin or to have committed 3 or more speeding infringements in each in excess of a smaller margin above the applicable speed limit. In this regard RallySafe shall be a Judge of Fact. The Stewards will also have the power to disqualify any Tour participant found to have disobeyed the instructions of an official or to have engaged in reckless driving or any breach of the NCRs.

3. All Tour cars and Tour Leader cars must be fitted with an organiser-approved speed monitoring and location device.

4. Tour packets shall be limited to 15cars.

5. The speed limit for Tour cars on closed road sections shall not exceed 110kph[6].

6. Each Tour car must pass through the stage start within 5 seconds of the packet leader if immediately behind the leader, or within 5 seconds of the Tour car immediately ahead of them in the packet.

7. Erratic driving or slowing down during a stage to gain space is strictly prohibited.

8. The Stewards must at all times have live access to the Tour car speed data recorded by the approved speed monitoring device. The Clerk of Course or their delegate must provide printed copies of speed reports for all Tour leaders and each Tour category to the Stewards at the end of each leg.

[6] The default speed limit in non-built-up areas in most Australian States and Territories is 100kph (excepting West Australia and Northern Territory where it is 110kph). In States and Territories where the default speed limit is 100kph, speeds of 110kph are permitted on divided roads. The Panel is of the view that a speed limit of 110kph on closed road sections for Tour cars is appropriate and reasonable in circumstances where there will be no on-coming traffic, cars can use both sides of the road and therefore corner radii are maximized and cars must traverse the closed road sections in convoy behind an official Tour Leader vehicle which will slow the field in the event of an observed hazard.

TARGA TASMANIA 2021 INVESTIGATORY TRIBUNAL

REPORT AND FINDINGS

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This Tribunal wishes to express its condolences to the families and friends of Shane Navin, Leigh Mundy and Dennis Neagle. The members of the Tribunal are all part of the motorsport "family" and understand that whilst everyone in it recognises there are inherent dangers that exist in the sport, it is no less distressing and saddening when we lose members of that broad family.

1. BACKGROUND

1.1. Targa Overview

1.1.1 Targa Australia Pty Ltd (ACN 092438992) has been the promoter and organiser of tarmac rally events and driving experiences across Australia since 1992. Each such event includes both a competition field comprising modern and classic vehicles and a non-competitive touring field, sanctioned by Australia's peak motor racing authority Motorsport Australia.

1.1.2 A "Targa" is a tarmac rally motorsport event where purpose-built rally cars compete on sealed road sections closed for competition. These are called "stages".

1.1.3 The organisers prescribe a "base time" for each stage. Meeting or bettering the prescribed base time for a stage incurs no penalties, exceeding the base time will incur penalty time. Starting at 30-second intervals, cars race against the clock with the winner being the car with the lowest total penalty time over all stages.

1.1.4 Each Targa event makes up the Motorsport Australia Targa Championship where over 250 different cars take part. These events take place in Victoria's High Country, Cairns in Far North Queensland and the longest and most challenging tarmac rally in the world, in Tasmania.

1.2. Targa Tasmania 2021

1.1.5 The 2021 Targa Tasmania event commenced on 19 April running until 24 April 2021. This event travels over 2,000kms across six days. The original itinerary contemplated 37 Targa stages. Rain prevailed, at times heavily on Legs 2 to 5 inclusive.

1.1.6 On Friday 23 April, at 10.02am, a single competitor, Shane Navin, aged 68 was fatally injured while competing in the fifth day of the event at Targa stage 26 – a long well-known stage named "Mt Arrowsmith" east of Strahan. He was driving Car Number 602, a 1979 Mazda RX-7 which left the wet road to the inside of a right-hand bend, where the vehicle rolled over, coming to rest upside down into a running creek. His co-driver Glenn Evans, aged 60, survived the incident with only minor injuries.

1.1.7 On the following day, 24 April, at approximately 11.40am, a double fatality also occurred during the event. Driver Leigh Mundy, aged 68, and Co-Driver Dennis Neagle, aged 59, were in Car Number 902, a Porsche 911 GT3 RS which lost control on Targa stage 33 “Cygnet” south of Hobart after negotiating a jump on what was a dry Targa stage, and crashed into large trees on the right-hand side of the road. Both passed away at the scene. Following this incident, the Targa stage 33 was cancelled as were the remaining 4 Targa stages scheduled to run that day.

2. APPOINTMENT OF TRIBUNAL, TERMS OF REFERENCE AND CONDUCT OF PROCEEDINGS

2.1. Investigatory Tribunal Appointment and Members

2.1.1. Following the aforementioned fatalities, Motorsport Australia through its CEO Eugene Arocca, established a special Investigatory Tribunal. Under Motorsport Australia's National Competition Rules (NCRs), the CEO has the authority to establish the Tribunal, which is purposed with investigating all aspects of the incidents and provide recommendations to the Motorsport Australia Board.

2.1.2. On the 30 April 2021, Garry Connelly AM, Motorsport Australia's Federation Internationale de l'Automobile (FIA) Delegate and Chair of the Australian Institute of Motor Sport Safety (AIMSS) was appointed as Chair of the Tribunal. Matthew Selley and Neal Bates were also appointed to the Tribunal with Motorsport Australia's General Manager of People and Culture, Tamara Joy, being appointed as the Tribunal's Executive Officer. Following her departure from Motorsport Australia, Ms Joy was replaced as Executive Officer by Curtis Deboy.

2.2. Terms of Reference

2.2.1. Terms of Reference were provided to the Tribunal by Motorsport Australia's CEO. The Tribunal held its first meeting on 3 May and reviewed and accepted the Terms of Reference proposed by Motorsport Australia, which are outlined below:

2.2.2. *The* Tribunal *is to conduct itself in accordance with the relevant procedures in Judicial Procedures,* Investigatory *Tribunals, of the Judicial Appendix of the Motorsport Australia Manual. The Tribunal shall:*

Consider information and submissions from various sources concerning the Incidents

Appoint experts to assist with investigation of the Incidents (involving cars 602 and 902 in the 2021 Targa Tasmania)

Call witnesses to provide evidence in accordance with Judicial Procedures

Consider and review any other incidents at the Event that the Tribunal deems appropriate

Make recommendations to the Motorsport Australia Board in relation to the Incidents and the conduct of Tarmac rallies generally

In addition, the Tribunal discussed additional information required and requested:

A number of *documents and other records and information from the Event Organisers*

Other information from third parties

Staff from Motorsport Australia to prepare an 'Expert Report' on the fatal crashes of cars 602 and 902 and provide that report (or an interim version) to the Tribunal by Friday May 14, 2021

The Event Organisers to make a submission on the two incidents and other incidents involving hospitalisation of drivers or co-drivers in this year's event.

2.3. **Method of conduct of Hearings**

The Tribunal conducted its investigations and hearings in accordance with the Judicial Appendix to the 2021 Motorsport Australia Manual and the guidelines therein.

Due to Covid 19 Restrictions, all hearings were conducted via video conferencing.

3. LIST OF HEARING DATES, WITNESSES CALLED, SUBMISSIONS RECEIVED AND EVIDENCE PRESENTED

3.1. Dates of Hearings

Hearings were held on:

- 23 June 2021
- 7 July 2021
- 15 July 2021
- 30 July 2021
- 6 August 2021
- 12 August 2021

3.2. List of Witnesses

The Tribunal met with and interviewed the following key stakeholders:

- Stephen Sims (RallySafe)
- Graham Malcolm (Course checker)
- Mark Perry and Hamish Marquis (Targa)
- Dr Rik Hagen (CMO) and Peter Rumball (Dr Hagen also made a written submission)
- Jason White (Competitor)
- Crew of the car behind 902 (Michael Minshall and Julie Winton-Monet). Another crew comprising of Stephen Thatcher and Phillip Parker were also invited to the hearing however didn't attend.
- Ross Tapper (Rally Organiser)
- Scott McGrath (Motorsport Australia) (Mr McGrath prepared a number of reports for the Tribunal on behalf of Motorsport Australia)
- Greg Crick (Experienced competitor and previous winner of Targa Tasmania)
- Ronda Matthews (Co-founder Targa Tasmania)
- [redacted]

The Tribunal also interviewed a number of international safety experts.

3.3. **List of Submissions and Reports Received**

Written submissions were received by:

Adam Spence	Allan Hines	Barry Smith
[redacted]	David Vervaart	Eddie Maguire
[redacted]	[redacted]	Jack Waldron
[redacted]	Jarrod Leonard	John Ireland
[redacted]	[redacted]	Michael Kyle
[redacted]	Peter Hellwig	Peter Marshall
Peter Rullo	Peter William Ullrich	Ronda Matthews
Robert Bryden	[redacted]	[redacted]

Some of these submissions were marked "Public" and some were marked "Confidential". The redacted names in the above table or in this document are of individuals who requested confidentiality.

The Tribunal also received a report from a highly respected professor in the field of Psychiatry, who assisted the Tribunal in understanding the potential behavioural effects of medications disclosed to the Event Organiser prior to the Event by crew members.

In addition, the Tribunal decided, as a courtesy, to advise Targa Australia ("Targa") of its proposed recommendations and to seek comment on those recommendations prior to the submission of this Report to Motorsport Australia.

The Tribunal met with Targa representatives on August 18 to discuss the proposed recommendations and on August 30 the Tribunal received, via Motorsport Australia, Targa's comments on the Recommendations. Those comments have been taken into account in this final version of the Report and the Tribunal includes additional commentary as a result, herein.

3.4. **Evidence presented (Reports, Documents, Photos, Videos, Data etc)**

The Tribunal received a number of reports, videos, photographs and data. A complete list of the evidence appears in Appendix A to this report.

4. REGULATORY REGIME UNDER WHICH THE EVENT WAS CONDUCTED

4.1. Regulatory Overview

Targa Tasmania 2021 was an invitational National Targa Rally sanctioned by Motorsport Australia and held under the FIA International Sporting Code including Appendices, the National Competition Rules of Motorsport Australia, the Motorsport Australia Tarmac Rally Standing Regulations (**Standing Regulations**), the TARGA Australia Technical Regulations 2020 to 2023 Version 1A (**Technical Regulations**), the Motorsport Australia TARGA Championship Sporting Regulations Version 1 (**Sporting Regulations**) and the Event Supplementary Regulations (**Supplementary Regulations**) and Bulletins. The Event was the subject of Motorsport Australia Permit No. 821/2404/01.

4.2. Licensing and Medical Requirements

4.2.1. The Sporting Regulations require each Driver and Co-driver in outright competitive categories to hold a "licence acceptable to Motorsport Australia". The General Appendix to the Motorsport Australia 2021 Manual (**the Manual**) specifies the licence requirements for a Rally event to be a "National Competition Rally Licence" for each Driver and the same for a Co-driver who, if they are not driving the competition, may have a "navigator only" endorsement.

4.2.2. Competitors in lesser "Restricted Competitions" forming part of the Event including average speed and speed limited categories are required to hold at least a Motorsport Australia Speed Licence.

4.2.3. The Tribunal was satisfied that each of the competitors involved in the fatal incidents held the appropriate Competition Licence.

4.2.4. The Motorsport Australia licensing regime for rallies does not require each applicant to undergo a medical assessment by a recognised medical professional prior to each renewal and to submit a report on that assessment to Motorsport Australia. Disclosure of pre-existing medical conditions of identified types, including mental health conditions, is required from applicants and renewing licence holders and in the event of such a disclosure Motorsport Australia licences assessors may request further information or require a medical assessment to be undertaken complying with the Motorsport Australia Medical Standards. Absent such disclosure and the requirement for a medical assessment in the discretion of the licence assessor, a medical assessment is not required.

4.2.5. The Tribunal notes that a medical assessment is required for International Licences in any discipline and is compulsory for National Circuit Licence applicants and at each renewal for such licence holders aged 45 years or over, irrespective of whether a disclosure of a pre-existing condition has been made. A significant proportion of competitors in tarmac rallies are aged 45 years or more.

4.2.6. The Tribunal received evidence that, independent of the Motorsport Australia licence application and renewal requirements, the Event Organiser requires each competitor in the Event to disclose any prescribed medications.

4.3. **Technical and Safety Regulations**

4.3.1. The Technical Regulations prescribe the eligibility requirements for vehicles in Competition and Restricted Competitions which include both safety equipment and the extent of modifications from a standard production car. Relevantly, the Technical Regulations mandate the fitment of a safety cage structure complying with Schedule J in the Technical Appendix in the Manual and safety harnesses complying with required standards. The Technical Regulations mandate the use of seats from a recognised motor sport seat manufacture. The fitment of "winged" seats in compliance with FIA Standards 8855-1999 or FIA 8862-2009 is highly recommended but not mandatory.

4.3.2. The Technical Regulations also mandate the use of tyres approved for road use in Australia with a minimum tread depth of 1.5mm. The Sporting Regulations prescribe a tyre limit of 6 tyres for each Event in the Targa Championship, including Targa Tasmania. A penalty of at least 10 minutes is imposed in the event an additional tyre is fitted to the car during the Event.

4.3.3. The Tribunal heard evidence that the majority of vehicles in the competition field use "R-compound" semi-slick tyres. Until recently, the only available tyres of this type approved for road use in Australia are intended for dry or, at worst, damp conditions. They feature a minimalist tread pattern to maximise contact with the road and are designed such that they require heat to engender grip. They generally wear quicker than a typical road tyre and their effectiveness will decline with multiple heat cycles. Now, a "full wet" road legal R compound tyre is available in the market in Australia. They feature a real tread pattern with voids designed to evacuate water.

4.3.4. The Tribunal also heard evidence that the R-compound tyres are not manufactured in sizes suitable for late model high-performance vehicles used in Targa events which use large diameter wheels exceeding 19 inches, such as the Nissan GTR35, Dodge Viper and Corvette. These cars use an ultra-high performance road tyre in Targa events, such as a Michelin Pilot Sport Cup. While not an R-compound tyre, they are similar to the dry version in that they have minimal tread.

4.3.5. As the longest tarmac rally in Australia, run over 6 days, managing tyre wear to avoid incurring time penalties is a critical strategy for competitors. Currently there is no opportunity for crews to fit a set of alternative tyres more appropriate for use when conditions are wet.

4.3.6. The evidence received from the Motorsport Australia Division Manager – Technical (Scott McGrath) confirmed that both vehicles involved in the fatal incidents complied with the Technical Regulations. The tyres on both cars complied with the Technical Regulations and had complying remaining tread depth. Cars 602 and 902 were both running dry R-compound tyres.

4.3.7. Car 902 was not fitted with "winged" seats. Further, the safety cage structure in Car 902, while complying with Schedule J, was of the "bolt-in" type. Photographs taken of Car 902 after its collision with trees revealed the seats to have distorted and a number of the front members of the safety cage structure to have distorted. However, the Tribunal is satisfied on the evidence that the speed and force of Car 902's impact with the trees was such that the fitment of winged seats and of a safety cage structure welded to the body would have been unlikely to have resulted in non-fatal injuries for both crew members.

4.3.8. The safety apparel requirements for competitors are prescribed by the Standing Regulations which cross-reference Schedule D in the Technical Appendix to the Manual. The Schedule mandates the wearing of a helmet, frontal head restraint, flame retardant overalls, socks and gloves (for Drivers only) complying with specified standards.

4.3.9. The Tribunal was satisfied that each of the competitors involved in the fatal incidents were wearing the requisite apparel.

4.4. **Tarmac Rally Standing Regulations**

4.4.1. The Standing Regulations set out in detail the safety protocols required for any Motorsport Australia sanctioned tarmac rally. They mandate that each crew be given the opportunity to reconnoitre the course in order to prepare and check their notes. They stipulate safety planning requirements for a tarmac rally including the preparation of a Safety Plan addressing compliance with medical service requirements, adequate Medical Intervention Vehicle/Ambulance coverage, and appropriate location of SOS points, spectator safety and crew safety. The Standing Regulations mandate course set-up requirements and road closure standards.

4.4.2. They stipulate that "*Course design should take into account the principle that no stage on a tarmac rally should exceed 132km/h in average speed*" and that "*on roads which will likely result in higher average speeds, measures can be taken to reduce average speeds. These ideally should be located in such a way so as to reduce top speeds, reduce entry speeds into corners which would otherwise have high-speed braking beforehand, and/or have some other feature which may deem the corner 'difficult'*". The Standing Regulations set out a number of approved methods of speed reduction on a Special or Targa Stage which are to be discussed

with and approved by a Tarmac Rally Safety Assessor appointed by Motorsport Australia to the event, in consultation with the appointed Event Checker, and include "virtual chicanes" or "restricted speed or restricted time zones" or a "maximum speed limit".

4.4.3. The Standing Regulations provide that the Event Checker is appointed by Motorsport Australia. They perform an important safety role. Not only is it their duty to be satisfied that the event can be conducted in accordance with the National Competition Rules, the Standing Regulations, the Sporting Regulations and the Supplementary Regulations, they must also be satisfied that the event complies with the Motorsport Australia Public Safety and Control Procedures Manual. The Event Checker's duties are set out in detail in the Motorsport Australia Checker's Manual.

4.4.4. That Manual mandates that the Checker must ensure that the proposed route instructions defined the intended route unambiguously and that the event is safe for the General Public, Spectators, Officials and Competitors. The Manual provides that the Checker must traverse the intended route and should not attempt to course check an event "sight unseen". They are required to submit a written pre-event and post-event report to Motorsport Australia. The Standing Regulations recommend that the Event Checker be changed periodically after having performed the role at an event a number of times.

4.5. **Glossary of Certain Terms Used**

4.5.1. A "virtual chicane" is a section of a Special or Targa stage of a pre-determined length at some point in which each competition must have reduced their speed to a prescribed limit set by the organisers. Once that speed has been achieved, the car may accelerate.

4.5.2. A "restricted speed zone", also known as a "restricted time zone", (the latter description being more appropriate) describes a section of a Special or Targa stage of a pre-determined length for which a maximum average speed is set by the organisers which is converted into a minimum time allowed for a competition vehicle to pass through the zone.

4.5.3. Targa typically uses the "restricted time zone" as its preferred form of speed reduction measure. An analysis of the course details for Targa Tasmania 2021 reveals that "restricted time zones" were incorporated into a number of Targa stages in the Event and in some instances, multiple zones on the one stage. Targa does not use a "maximum speed limit" as a speed reduction measure with the consequence that the terminal speeds achieved by competition vehicles is unlimited other than by the nature of the course. High terminal speeds are reached on straight or near straight sections within a Targa stage which do not feature a "restricted time zone". The Tribunal received evidence that during the

2021 Targa Tasmania a number of competition vehicles reached speeds on Targa stages in excess of 200km/h at times.

4.6. **RallySafe**

4.6.1. For a number of years Targa events, along with organisers of other Motorsport Australia sanctioned tarmac and gravel rallies, have used the world renowned “RallySafe” system, now used in the FIA World Rally Championship. This system was again employed for the 2021 Targa Tasmania and each competition vehicle in the field was fitted with a RallySafe unit which transmitted GPS data to the Event Rally Headquarters as to the precise location of the vehicle at any point in time displayed on a map.

4.6.2. The RallySafe system, providing the unit in the car is operating correctly and is receiving and transmitting a reliable GPS signal, and providing the entire RallySafe network for the Event as monitored in Rally Headquarters is operating correctly, allows the Clerk of the Course and his team of officials to know the precise location of every car in the field at any time. The system will show all cars on a Targa stage at any point in time, their positions relative to each other and SOS points and, if any car is stopped in a Targa stage, the exact position of that car.

4.6.3. The data received at Rally Headquarters includes the time elapsed since that car stopped and if it came to a sudden stop, the G-Force recorded (which might suggest a heavy impact likely to have resulted in injuries) or if the vehicle has rolled. Therefore, the RallySafe system provides “real time” tracking with extraordinarily precise detail. Provided it is functioning correctly it provides information to the Clerk of Course which is more accurate and reliable than a manual tracking system and does so much quicker than any manual tracking system could hope to achieve. However, because is it not infallible, a manual tracking system is used. This is an important tool to verify RallySafe tracking.

5. HISTORY AND "CULTURE" OF TARGA TASMANIA

5.1. The event was the creation of the former CAMS President, the late John Large, and renowned motorsport journalist Max Stahl, who in 1991 planned an event to replicate Italy's famous Targa Florio rally. Targa Tasmania was first conducted in 1992 and has been conducted every year since save for 2020 when it was cancelled due to COVID 19.

5.2. In 1992 Large and Stahl established a list of "Principles" for the event. These Principles are shown below:

1. To organise and conduct a unique, world standard and seriously challenging international motorsport competition on bitumen roads in the Australia state of Tasmania.
2. *To bring together an exclusive field of Sports Cars, Grand Touring Cars and other cars of distinction, representing the evolution of the sporting automotive from 1900 to the present.*
3. To use the competition as a focal point for a festival of functions, entertainment and associated activities to create an overall event attractive to all audiences.
4. *To develop the events into a high prestige occasion recognised throughout the world of automobile competition. as an essential annual activity for owners and serious collectors of sporting automobiles.*
5. To increase national and international awareness of Tasmania and in particular, to enhance Tasmania's status as a quality tourist destination.
6. *To ensure the continuing enthusiasm and support for the event from the Tasmanian community.*
7. To generate sufficient revenue to meet the expenditure needed to stage the event in accordance with these principles, and sufficient accumulated surplus to secure its long-term viability.
8. *To ensure that all involved in staging the event derive optimum satisfaction and enjoyment from their involvement.*

Source: Australian Rally History, Tom Snooks.

5.3. Ronda Matthews gave evidence that in the early years of the event, the focus was in attracting a range of distinctive classic and modern sports cars and a number of celebrity drivers. Entries were by invitation only with the organisers rejecting vehicles which were not considered representative of the exclusive spectacle they envisioned and rejected multiple entries of the same make and model. The breadth of modifications permitted to production vehicles was limited. While the event remains invitational, provided cars comply with the Technical Regulations, they are permitted. The Technical Regulations now permit more freedoms than were permitted historically. Further, there have been significant advancements in vehicle technology since the event first started. Modern production cars of choice for competitors are capable of significantly higher terminal and corner speeds than were even the most desirable GT or sports cars of the 1990s.

5.4. The event attracts a range of drivers with varying experience and skill levels. At one end of the spectrum are very skilled and experienced drivers whilst at the other are very inexperienced drivers who do not necessarily possess the skill levels desirable for an event of this type and the driving challenges it presents. Ms Matthews gave evidence that competitors in Targa Tasmania in the first 10 years or so of the event were obliged to provide evidence of sufficient motorsport experience, the organisers recognising that the event presented risks, particularly for novice drivers. She also explained that, in her observation, the only ambition of the vast majority of competitors in the field in those times was to win a Targa Trophy.

5.5. Such a Trophy was then, and continues to be, awarded to the driver and co-driver who complete each and every Targa stage in the event within the trophy time specified in the road book for their vehicle class. These times are easily achievable by amateur crews and remain so. The target times for a Targa Trophy are more generous if a Targa stage is declared "wet". Competitors seeking no more than a Targa Trophy are focussed on finishing the event, not setting competitive times.

5.6. The Tribunal heard evidence that there has been a cultural shift within the competitor base with a much higher proportion of competitors who are focussed on setting competitive times. Further, the Technical Regulations and the competitive category divisions reveal a preference for modern and often expensive sports cars. Accordingly, the profile of many of those who compete could be classified as "wealthy enthusiasts", and many of them are aged over 50 with some over age 65, often lacking in motorsport, particularly rally, experience. Some of them only compete in Targa Tasmania and many of them in only a handful of rallies each year. Few have expertise in car preparation or have an understanding of car set-up, particularly the differences in set-up for a rally compared to a racetrack.

5.7. Some of the vehicles entered are high-performance sports cars, with potential top speeds in excess of 300 km/h. These vehicles have rapid acceleration rates, and in general, are capable of high cornering speeds.

5.8. The route of Targa Tasmania provides many challenges. The Targa Stages are conducted on tarmac public roads, which are closed to the public during the event. These Stages run through forests, farmland and take crews through a variety of terrains from plains, rolling hills, to mountainous areas, visiting some of the most picturesque locations in Australia. Because many of the stages are quite remote from major cities, the roads used do not normally have an abundance of safety fencing such as Armco barriers. On almost every Stage, there are unprotected hazards, such as trees and telegraph poles, many of which are in potential run-off areas.

5.9. The Tribunal notes that unlike events conducted as part of the FIA World Rally Championship, where many of these hazards are identified and are required to be protected (with for example straw bales or tyre barriers), the number of such hazards present in Targa Tasmania's current route would make this logistically and financially challenging, if not impossible.

5.10. Combined with this, the weather at the time of year when the event is conducted, frequently includes rain and cold conditions.

6. INCIDENT INVOLVING CAR 602

6.1. The Incident

6.1.1. Car 602 left the road during the running of the Mt Arrowsmith Targa Stage, a 53.13 km stage conducted in wet conditions on April 23, as the 26th stage of the event. The incident occurred 35.5 km into the stage, at 10.02am, in the area of Double Barrel Creek.

6.1.2. Car 602 entered a long right-hand bend of approximately 180 degrees, with a tightening radius towards the exit. Approaching that tightening radius, the driver lost control and the car went off the road and rolled approximately 6 metres down into the creek, landing upside down. The driver's window was completely immersed in water whilst the co-driver's side of the car rested on the bank of the creek.

6.2. Driver Experience and Skills

6.2.1. Car 602 was a 1979 Mazda RX-7, entered and driven by Shane Navin (deceased), co-driven by Glenn Evans. Evidence presented by Scott McGrath of Motorsport Australia shows that both Messrs Navin and Evans had a history of competing in Targa events including Targa Tasmania since 2016. Mr Navin was aged 68, Mr Evans aged 60. What information is available to the Tribunal of their recent competition activities suggests that they had not competed in any Motorsport Australia sanctioned tarmac rally in 2020 or 2021 prior to the 2021 Targa Tasmania. In February 2019 they had successfully completed in another Targa event, Targa North West, but in a different vehicle – a Porsche 944 Turbo. Apparently that vehicle was stolen and they next competed in April 2019 in the same vehicle they used in the 2021 Event – the Mazda RX7. That appears to have been the last rally they competed in before Targa Tasmania 2021. According to the results of the 2019 event, they did not finish, having left the road on Leg 3. The Tribunal has no evidence of the circumstances of that incident.

6.2.2. On-board video evidence from Car 602 in the 2021 event indicates that the crew was using "Safety Notes" provided by an external supplier.

6.2.3. On-board video from Car 602 clearly shows the circumstances of the incident. This has been described by Scott McGrath as follows:

> "*The car exits the preceding left-hand corner in a middle of road position at approximately 85km/h. From this midpoint of the road the car then takes an early line to the very inside of the approaching right-hand corner, with the car positioned on the right-hand side of the road as early as the gravel area well prior to what would be defined as the apex of the corner.*

The right-hand wheels of the car would appear to be on the very right of the road surface at this gravel area point and then, as the gravel area passes, the car hits a bump on this inside line on the verge of the road at approximately 91km/h. This bump instigates an understeer event, whereby the car proceeds to prescribe a straight-ahead line despite the applied steering input being to the right.

The car continues in this understeer event with the driver applying at least another full rotation of the steering wheel to the right. The speed of the car is reduced in this moment, and it is assumed (by the lack of engine acceleration noise) that this was a result of the driver releasing the throttle input. There is no confirmation of whether or not the driver applied the brakes. The car continues in understeer on a path towards the very outside (left) of the corner, whereby the speed reduces to approximately 60km/h, and at this time the car turns to the right abruptly changing course back towards the right-hand side of the road. The driver attempts to reduce the steering input to the right, with steering input now moving to the left by more than a full rotation of the steering wheel.

Despite the efforts of the driver the car proceeds across the road to the right where it now leaves the road at a slight angle to the road surface at a speed of approximately 50km/h. With the car now off the road it slides down the bank making forward impact with the embankment, created by the road construction and the watercourse below, rolling over to the right and coming to rest on its roof."

6.2.4. The Tribunal accepts the above as an accurate description of the incident, as confirmed by the video evidence.

6.2.5. Evidence from Greg Crick, an experienced winning driver from Targa Tasmania with many years of experience not only as a driver but as a driving standards officer for CAMS/Motorsport Australia, and a person whom the Tribunal regards as an "Expert Witness", indicated that the driver of car 602 appeared to make some fundamental driving errors in his throttle management and his handling of the car. Of particular note was the amount of right lock that was applied, which meant that when the car's speed reduced to around 60 km/h and traction for the front tyres was regained, the car made its abrupt turn to the right, ultimately causing it to leave the road. He also explained that the position of the car when it lost control was wrong – it was on the right side of the road when it should have been on the left in preparation for the turn-in for the tightening radius right. Consequently, when the bend tightened, the driver was faced with an even tighter turn than it needed to be.

6.2.6. The on-board footage in the lead up to the incident reveals the car to have been very unsettled with suspension settings unsuited to the wet conditions. As Mr McGrath observed, it was the bump on the inside line at the mid-point in the long bend that contributed to the car experiencing an understeer event.

6.2.7. It is the Tribunal's conclusion that the driver's driving ability and poor suspension set up were contributing causes of the incident.

6.3. **Pacenotes (or "Stage Notes") and Reconnaissance**

6.3.1. In gravel rallies in Australia and World Rally Championship events on both gravel and tarmac, these notes are prepared by the crew of a competing car during a reconnaissance of the route during a fixed window of time shortly prior to the start of the event with the aid of a road book issued by the organisers to the crews. Reconnaissance at any other time is strictly prohibited. They describe in great detail the route of a competition stage and are normally written by the co-driver based on input from the driver. When a car is competing on a stage, the notes are read back to the driver by the co-driver.

6.3.2. In tarmac rallies conducted in Australia, it is commonplace for crews to purchase notes prepared earlier by experienced commercial note providers rather than prepare their own. Usually, crews who purchase such notes will nonetheless undertake at least one pass of each stage in the event with the aid of these notes and make such adjustments as they consider appropriate, for example, to include cautions when having seen the road, they anticipate that a bend may be more challenging than another given the known characteristics of their vehicle and the driver's experience and ability to process the detail in the commercial notes.

6.3.3. Further, because tarmac rallies are conducted on what are otherwise open public roads, it is impossible to limit reconnaissance to a fixed window of time prior to the event because it is not possible to police access to the roads by competitors in the weeks and months prior to it. Therefore, reconnaissance is at the crew's leisure.

6.3.4. In Australian tarmac rallies the road book is not issued to crews until they complete documentation shortly before the commencement of the rally, by which time they will have already completed their reconnaissance. Because crews complete reconnaissance without the aid of a road book, the organisers will issue "Reconnaissance Notes" weeks prior to the start of the event as an aid for crews when undertaking their reconnaissance.

6.3.5. These Reconnaissance Notes provide the GPS co-ordinates for the start and finish of each Targa Stage, the precise distance from the start to the finish and stop point and, importantly, the precise locations of any

restricted time/speed zones and any "cautions" which might include crests which are followed by unseen bends or jumps which might unsettle a car. Identification of "cautions" in the Reconnaissance Notes is important because it means the crews know to look for them when undertaking recce, make a judgment about their severity and highlight them in their own notes. Reconnaissance notes were published by the Organisers for Targa Tasmania 2021 some months ahead of the event.

6.3.6. In this case, the crew of car 602 did not prepare their own notes, instead purchasing a set of notes prepared by experienced competitors Steve Glenney and Bernie Webb, operating under the name "Smoothline". Information provided by Scott McGrath suggests that they did not undertake any reconnaissance of the Mt Arrowsmith stage, but they had competed on that stage in previous years, last in 2018 apparently.

6.3.7. In the case of car 602 the on-board video evidence suggests that the co-driver, Mr Evans, was clearly communicating the notes to the driver during the Mt Arrowsmith stage and that Mr Navin was not experiencing any problem in hearing and understanding them. The particular note in relation to the corner where the incident occurred was, in the opinion of the Tribunal, correctly read to the driver, at the appropriate time prior to entry to the corner. Mr Evans can be heard to say:

"*Hug for a 7 Left, 7 Left coming up*

then care 7 Right long, is bumpy and tightens to a 6

6 opens ……"

6.3.8. The numerals above refer to the angle of the corner with a "10" being almost straight on, and a "1" being a very sharp hairpin. In the above, the driver is being told that after a medium left turn he should exercise caution as there will be a long medium right corner (the "7 Right Long"), which is bumpy and which tightens into a smaller radius turn (the 6).

6.3.9. The Tribunal considers the notes to accurately reflect the reality of the route at this point.

6.3.10. As discussed above, the on-board footage from Car 602 reveals it to have been in the wrong position on the road when the driver lost control. An experienced driver hearing the note called to him or her would know that the long and then tightening bend demanded care. It required the driver to carefully manage the application of the throttle and to position the car to the left side of the road to negotiate the tightening bend. Whether the driver did not understand how to position and drive the car having regard to the note, misinterpreted the note or

was paying insufficient attention and whether this was due to fatigue, cannot now be determined.

6.3.11. Nor can the Tribunal determine whether the driver would have approached the bend differently had the crew undertaken reconnaissance of the stage before the event.

6.4. **The Mt Arrowsmith Stage**

6.4.1. This stage has been regularly used in Targa Tasmania since the inception of the event and although there have been minor changes to its length over the years, it has basically remained the same.

6.4.2. The 2021 stage was 52.51 kms in length, and used the Lyell Highway in Southwest Tasmania, in a generally Easterly direction. The stage can be described as fast with the leading car in 2021 averaging 131.5 km/h over the length of the stage. There are many parts of the stage on which cars achieve quite high speeds.

6.4.3. During the 2021 edition, this stage was subject to rain (heavy at times), as can be seen by the on-board video of competing cars.

6.4.4. The stage is considered by many, including the organisers, as "iconic" probably due to its length and longevity as a part of the event.

6.4.5. However, like many of the Targa stages, it has a number of unprotected hazards namely trees, ends of ARMCO fencing and, in the case of car 602, a gully which unfortunately due to the rain, had water in it.

6.4.6. The stage also varies in character, from some sections where it is fast flowing with wide open tarmac across plains, to others where it is quite "technical" (challenging corners) through forest and very slippery when wet. Indeed, sections of the stage are typically wet in April/May even if it has not rained recently due to run-off from the adjacent forest. The incident involving Car 602 occurred on such a section.

6.4.7. It is noted that there were 6 cars that ran off the road and were unable to re-join, in the 6.1km portion of the stage in the vicinity of Double Barrel Creek (from 33.7km to 39.8km).

6.4.8. It is the Tribunal's conclusion that the nature of the stage combined with the wet conditions, were a contributory cause of the incident.

6.4.9. The Tribunal also considers it fortunate that the other 5 of the 6 cars which left the road in that portion of the Mt Arrowsmith Stage did not come into contact with unprotected hazards resulting in serious injury to any crew member.

6.5. **Tyres**

6.5.1. The report from Scott McGrath on behalf of Motorsport Australia, makes the following note in relation to the wheels and tyres fitted to the car, as examined post incident:

> The wheels fitted where aftermarket Simmons branded alloy wheels (multipiece construction) of 15 inch diameter and 6 inch width. The front and rear wheel sizes presented as being the same.
>
> The tyres fitted are Yokohama A050 205/50R15 86V M (M denotes Medium compound) with all tyres presenting with late 2019 manufacture date range (spare tyre is 4219, left hand rear is 4319 – whereby the 42/43 denotes week of the year and the 19 denotes 2019). Each tyre was measured post incident for tread depth as follows:
>
> LHF 3.6mm RHF 3.65mm LHR 3.75mm RHR 3.75mm.
>
> The tyres are compliant with the regulations for the event and are deemed to be road legal.

6.5.2. The on-board footage also reveals the driver to have been struggling for grip. As mentioned above, the car was using dry R-formula tyres which only provide grip with a degree of heat. Managing tyre temperatures on long damp and wet stages requires skill and knowledge. It seems clear from the on-board footage that the tyres on this car had little or no residual heat in the lead up to the incident. R-formula tyres will still provide grip on damp roads but negligible grip on wet roads, particularly if they have no residual heat in them.

6.5.3. The Tribunal has heard evidence and received submissions from numerous parties including competitors and the organisers, in relation to the tyre regulations for the event.

6.5.4. The Tribunal has considered the evidence before it and considers that there is a high probability that the R-formula tyres on Car 602 were unsuitable for the cool (the morning temperature in Strahan was 9 degrees) wet conditions and contributed to the loss of control of car 602.

6.5.5. It has been proposed to the Tribunal that consideration should be given to banning R-formula tyres and to making “road tyres” mandatory. It has also been proposed that crews should be permitted to change to either a wet R-formula tyre or to a road tyre in wet conditions without penalty and to allow them to revert to dry R-formula tyres when conditions improve. The mandating of a standard road tyre for all cars in the field would be a potential reduction in cornering speed and probably better traction in wet or unusual road conditions. One other effect is the manner in which a car would behave on landing after leaving the ground on a crest. This is dealt with by expert evidence in section 7.2.5 below.

6.5.6. One difficulty the mandating of standard road tyres presents, however, is that what is a production road tyre for high performance vehicles with large diameter tyres is for all intents and purposes the equivalent of a

dry R-formula tyre which would yield a competitive advantage for such cars in the dry over cars with smaller diameter wheels for which similar tyres are not commercially available. This will not resolve the safety risk in wet conditions unless this type of production tyre is also prohibited and a standard road tyre with a different tread pattern was mandated.

6.5.7. The Tribunal considers that the current 6 tyre limit presents a safety risk in that it effectively prohibits competitors from changing to a tyre suitable for wet conditions. There is no evidence that the use of dry spec R-formula tyres presents a safety risk in dry conditions, particularly if the hazards presented by jumps are addressed. The use of such tyres is a feature of this type of competition and the Tribunal does not consider it necessary to prohibit them. What is needed is freedom to use a more suitable tyre in wet conditions without penalty with a strong recommendation to crews that they prepare for this contingency.

6.6. **Fatigue and Driver Concentration**

6.6.1. The Tribunal noted a significant number of submissions from current and former Targa Tasmania competitors which referred to issues with the schedule of the 2021 event. The issues referred to a much "tighter" schedule with less time allowed on touring stages (the liaison sections between Targa Stages). These, combined with the pressure of competition over significant distances each day, and early starts, in the view of the Tribunal, meant that drivers (and probably co-drivers) would most likely have been fatigued in the latter half of the event. Many of the crew members were aged over 60, with some on medication for a range of issues including mental health, heart conditions and high blood pressure.

6.6.2. The Tribunal notes that one driver who considers himself quite fit and to have physically prepared himself well for the event, found the event "took a toll on me and I am only 34". Some drivers spoke of the "stress" of the schedule and lack of time to rest, refresh and to carry out proper inspections of their cars during the running of each day's competition.

6.6.3. It is the Tribunal's conclusion that it is likely that driver fatigue and lack of concentration, due to multiple factors including age, the event scheduling, and personal physical condition and fitness contributed to the cause of this incident.

6.7. **Other factors considered**

6.7.1. *Inability of Co-driver of 602 to obtain assistance*

a. Car 602 left the road at 10.02am. As detailed in the report of Scott McGrath, car 602 left the road and rolled into Double Barrel Creek. The car landed with the driver's side fully submerged, and the co-driver's side resting on the bank of the creek. The water

was approximately 1.2 metres deep and 4.5 metres wide. The car was not visible from the road.

b. It was not until 10.34am that assistance in the form of the crew of car 999 (the official "sweep" car that traverses the stage at the end of competition on a particular stage) arrived at the scene. Regretfully there was nothing that could be done by this time.

c. This raises the important question of why it was that almost 60 competing cars went past the location of the crash of car 602 yet none of their crews were able to be utilised in any rescue attempt. It is highly likely that at least 4 cars would have driven past the location within the 2 minutes following the incident.

d. Both the Sporting Regulations and the Supplementary Regulations include Safety Procedure instructions to crews. These instructions are consistent with protocols which have been applied in rallies universally for many years. They require the crew of a stopped car to immediately exit the car (if they can) and put out safety triangles they are required to carry in their vehicle on the road ahead of the vehicle to warn oncoming cars. They also require the crew to display the SOS/OK sign (which forms part of the road book) to oncoming vehicles. If they display the OK sign, competitors are permitted to pass the stopped car. If the SOS sign is displayed, the next car must stop and render assistance. The next car to the scene must also stop, gather information and report to the next SOS point or the end of the stage. Very importantly, this procedure demands that if a crew sees a stopped car on a stage and no OK or SOS sign is displayed and no safety triangles have been put out, they MUST stop at the stopped car on the assumption that the reason why no OK sign is displayed is because the crew are trapped or injured.

e. Crews are routinely reminded of this procedure in crew briefings at which every competitor must be in attendance held before the start of any rally. Indeed, it is one of the key messages conveyed at such a briefing.

f. Typically, at a crew briefing for a rally utilising the RallySafe system, a pre-recorded video will be displayed on a screen reminding crews how to operate the RallySafe unit and what buttons to press in the event that their car is stopped.

g. There was no crew briefing for Targa Tasmania 2021 because Covid-19 restrictions prohibited the very large competitor group from all being in attendance within a shared space. Because of the Covid restrictions the Organisers prepared a pre-recorded video briefing which was sent to every competitor. This video did

include a reminder of the safety procedure. However, the Organisers had no system which could confirm that every competitor had viewed it or that those who had viewed it, had absorbed the information conveyed, for example, by requiring the competitor to complete a multiple choice questionnaire after viewing it.

h. The absence of a crew briefing attended by all competitors at the one time was unfortunate. The collective briefing of all competitors is important. Not only does it ensure that important messages are received by a captive audience, it also allows competitors to hear questions posed by others and the answers given by the organisers. There is also a solemnity to a collective briefing at which invariably the organisers representatives will remind competitors that the event carries risk for them.

i. An unusual feature of the Targa Safety Plan is that it expressly contemplates that a Medical Intervention Vehicle (**MIV)** can be despatched into a "live" Targa stage and sets out a protocol to be followed by competing crews should they encounter an MIV on a stage. In most rallies, a stage will be stopped before an MIV enters it. The Targa procedure enables a mid-stage MIV to get to an incident quicker than would be the case were that mid-stage MIV be required to wait until every car which had already started the stage has passed the SOS point where it is stationed.

j. In the minutes following the car 602 incident, the co-driver tried to rescue the driver but was unable to do so. He then climbed the embankment to the roadway to attempt to flag down other vehicles, but none stopped. The crew of cars which passed the incident gave evidence that they saw a person in a race suit waving their arms but did not interpret it as a call for assistance, rather a gesture to keep going. The co-driver had not put safety triangles out. He had not brought the OK/SOS board with him up to the road. The Tribunal accepts that the co-driver was in an extremely stressful situation and also that the OK/SOS board may not have been easily removed from the car. As noted above, Car 602 was so far off and below the road that the crews of the cars that passed could not see it.

k. The co-driver then returned to the car and made several attempts to extricate and assist the driver. His attempts were in vain and he finally returned to the roadway and was able to flag down car 999. The on-board camera footage from Car 999 shows the co-driver of Car 602 standing on the opposite side of the road to where Car 602 lay and some distance up the hill in the direction of the start of the stage. He was waving a piece of cloth in his hand to attract attention. He told the co-driver in Car 999 that his

driver had passed away and Car 999 immediately made a radio call for an MIV to be despatched. That occurred and an MIV arrived at the scene a few minutes later, as did the Chief Medical Officer in a separate vehicle. The MIV crew confirmed the driver as deceased.

l. Car 602 like all competing cars, was fitted with the RallySafe System. The key feature of RallySafe is the ability for cars to be GPS-tracked and for various warnings to be sent to other cars and, most importantly, Rally Command.

m. In this case, car 602's RallySafe unit transmitted a "Slow car hazard" at 10:02:55 followed by a "Rollover hazard" at 10:02:56. The following is an extract from the report of Scott McGrath:

> The RallySafe report indicates that the Rollover Hazard message was received by "Race Control" at 10:04:11, with this Hazard being repeated through a number of other vehicles passing the scene. In comparison the Rally Command Log indicates that a Manual SOS was noted at 10:07 – and further that a phone call was made to the Finish Location (TS26) to seek information.
>
> The RallySafe report continues to describe the Repeat Hazard – Rollover Hazard until 10:13:44 (relayed from car No. 709). It then shows Repeat Hazard – Manual SOS at 10:18:28 (relayed from car No. 554) and then at 10:20:17 Manual SOS Received at Race Control. Repeat Hazard – Manual SOS is again relayed at 10:22:04 (from car No. 902). The RallySafe report then describes that Race Control sends "RU OK?" message to 602 (the RallySafe unit is able to have a TEXT message sent to it, with a Yes or No response request), and there is no response to this message.
>
> At 10:34:52 the 999 vehicle sends a Manual SOS from their RallySafe unit, and then a Manual SOS Medical at 10:36:50 and it is indicated that this message was received at Race Control at 10:39:19. It is also noted that the 999 vehicle commenced the stage at 10:13:15 with this also recorded in the Rally Command Log.

n. It is mandatory for each competition vehicle in the field to be fitted with a RallySafe unit with both an external and internal GPS aerial. The unit is typically mounted to the roll cage in front of the co-driver. If a car stops in a live Targa stage for any reason, the screen of the unit in the vehicle will immediately prompt the co-driver to indicate whether the crew is "OK", or whether emergency assistance is required by pressing one of two alternative buttons. Further, signals from the unit in each car will repeat off the units in nearby cars.

o. This means that if a car is stopped in a Targa stage, the RallySafe unit in an approaching car will flash up a screen which will indicate that a car is stopped on the course nearby and, depending on what (if any) response to the prompt screen has been pressed by the co-driver in the stopped car, will notify the co-driver in the approaching car whether the crew in the stopped car are OK or whether, albeit OK there is a hazard because, for example, the stage might be fully or partially blocked by the stopped car, or if the crew are NOT OK and require assistance.

p. In this incident, the co-driver in Car 602 did not respond to the prompts on the RallySafe unit in that car. It seems that, consequently, when other cars which started behind it on Stage 26 approached the accident location, their units displayed a yellow “hazard” warning.

q. The Tribunal heard evidence that these “hazard” warnings appearing on the screens of following cars are often ignored. They are ignored only because in a Targa event it is very common for one or more (and sometimes several) cars in what is a huge field to be stopped in a stage. Every time a following car passes a stopped car, a “hazard” warning will appear. It occurs so often that it becomes an unwanted distraction rather than an alert and an unwanted distraction when the crew is trying to devote their full attention to competing at speed. In contrast, if a car is stopped and is in the line of sight of a following car, it is easy to take in the information and check for an OK sign and warning triangles.

r. Moreover, because Car 602 was upside down in the creek with its external GPS aerial facing downwards and because the car was below the road surface, the RallySafe unit in Car 602 did not repeat to the cars which were on the stage behind it until just before those cars had reached the incident location. It was only at that point that the “hazard” warning flashed up on their screens. The Tribunal received evidence that following crews will usually see a hazard warning on their screens approximately 200m before the stopped car. In this case the crews in the following cars had insufficient warning of the hazard to have enabled them to look for and find Car 602 before they passed it and the RallySafe system is programmed to remove the hazard warning off the passing car’s RallySafe unit once they have passed the stopped car. These crews therefore kept competing on the stage without knowing what the momentary hazard warning had been for.

s. In the circumstances, the Tribunal makes no criticism of any of the crew members in any of the cars that passed the location where Car 602 had left the road. Nor does the Tribunal make any criticism of the co-driver of Car 602. While the Safety Procedure was not followed, the circumstances in which the co-driver found himself must have been extraordinarily stressful. The vehicle was upside down and submerged. He was focussing his efforts in trying to rescue the driver. It may have been impossible for him to locate the SOS sign in the submerged car. Regular rally competitors are reminded of the Safety Procedure before every rally. It occurs so frequently for them that they know it instinctively. The crew in Car 602 had not competed in a rally for

2 years. Long intervals between competitions are not unusual for tarmac competitors. That serves to reinforce the imperative of ensuring that every competitor is reminded of Safety Procedures before they start an event.

t. There is a manual "back-up" system for RallySafe. This is common practice throughout the world, because although RallySafe is used for example in the World Rally Championship, it is accepted that an additional system is necessary in case of a failure in the RallySafe system.

u. The "back-up" system for Targa Tasmania is described in its document "SOS Point Manual". The procedure used in this system could be described as "passive monitoring" of competing cars. The Start of each Stage radios to the Finish and any SOS points in the Stage, cars in groups of 4 when they start (so approximately every 2 minutes). Each point in the Stage writes these car number onto a sheet in rows of 4, and then uses that to monitor the passage of cars past their point.

v. On the other hand, most rallies in the World Rally Championship and other major events, use "positive tracking". This involves a "ripple effect" radio system starting with the Start officials radioing the number of each car as it starts, then each SOS point and Finish, following immediately with a radio call listing the car or cars that have passed their respective location.

w. The Tribunal notes that Targa Tasmania has many challenges in the area of communications due to the nature of the terrain it traverses. Communication within each stage is conducted by local 2-way radio (presumed to be VHF band). Communication between Rally Command and the Start and Finish of each stage is by mobile phone. There is no reliable system by which Rally Command can communicate directly with locations or official vehicles within each stage (other than for some vehicles which have satellite telephones).

x. There was an SOS point located approximately 3 kms after the scene of the incident involving car 602. There was another SOS point located approximately 6 kms prior to that location.

6.7.2. *Lack of positive tracking*

a) The Tribunal is of the view that had Positive Tracking been used and had there been constant radio communications between Stage Finish or Stage Start which was also able to copy in the Positive Tracking details, then Rally Command, on receiving the Hazard Rollover message at 10:04 am could have verified with the Positive Tracking System that 602 had not passed the SOS point 3

kms past its crash scene (approximately 2 minutes driving time). Independently of the RallySafe System, this could have then triggered some form of intervention, with the logical option being to send in MIV 9 (the Medical Intervention Vehicle at the SOS point 6 kms prior to the scene).

b) Rally Command could also have initiated an SOS signal to cars in the vicinity of car 602.

c) The Tribunal concludes however that none of the above actions would have, in all probability, made any difference to the outcome of this unfortunate incident.

d) Although at the time of writing this report, no official cause of death has been advised to the Tribunal, based on evidence given and review to date, it is most likely, that in view of the fact that the cabin of car 602 was largely undamaged, the driver died because of being submerged in the creek. It is unlikely that effective intervention could have arrived in time, no matter what event systems were used.

e) Notwithstanding the above, the Tribunal will, in its Recommendations, propose improvements to the tracking and communications systems and the Rally Command protocols and procedures, for this event.

6.8. **Conclusion**

6.8.1. The Tribunal concludes that this was a unique and rare occurrence of contributing factors that combined to result in a tragic and unfortunate fatality.

6.8.2. Any one of many actions would have led to a different outcome. For example, if the road authorities had placed a guard rail on this particular corner (in view of reportedly prior incidents of members of the public leaving the road in this place), then car 602 would not have rolled into Double Barrel Creek. Likewise, if the driver had approached the corner differently, or had not applied so much right lock after the initial understeer, car 602 would not have lost control in the first place. It is also highly likely that a more experienced driver would have released the right lock as the car reduced speed, thus avoiding the final movement of the car to the right.

6.8.3. A softer tyre compound may also have prevented loss of control, a wet weather tyre almost certainly would have.

6.8.4. Driver inattention, ability and/or fatigue may also have played a role.

7. FINDINGS IN RELATION TO THE FACTORS WHICH CONTRIBUTED TO THE INCIDENT INVOLVING CAR 902

7.1. The Incident

7.1.1. The crash of car 902 occurred at the 6.2km mark of Targa Stage 33 "Cygnet", a 15.69 km stage in the Cygnet area south of Hobart. The stage has a tarmac surface in generally good condition. The stage itself was declared dry, with mostly clear but cool conditions. The time of the incident was recorded as 11:43. The Cygnet stage has been conducted at Targa Tasmania events for at least the last 7 years.

7.1.2. In his report to the Tribunal, Motorsport Australia's Scott McGrath describes the location and its characteristics as follows:

> *"The location is further defined as just prior to the intersection of Wattle Grove Road and Cygnet Coast Road. The road at the scene of the incident appears to be quite straight, however it does divert ever so slightly to the right. The road is subject to elevation change with a crest located approximately 145 metres prior to the impact scene and following the crest the road drops in elevation to a dip before rising again just prior to the junction. The crest is also slightly varied in its cross elevation being slightly higher to the centre and right in its profile, as is the nature of this road, and with the crest being right on a drive to a property to the right."*

7.1.3. Mr McGrath then describes the incident:

> *"The car has approached the crest on this section of road at a speed of 170 to 175 km/h, after reaching a speed of 188 km/h on the preceding section of straight road. The car has become airborne over the crest, appears to travel to the left-hand side of the road, which induces a yaw moment to the left (rear of the car moving left) where despite the efforts of the driver the car leaves the road making impact with the trees on the right-hand side of the road."*

7.2. Types and Behaviour of Vehicles Competing

7.2.1. Targa Tasmania attracts a wide range of vehicles, from historic classic cars to modern GT cars. Car 902 was a 2019 Porsche GT3 RS with optional Porsche Clubsport package.

7.2.2. This is a high-performance car, which according to Porsche has a power unit which develops 383 kW (520 brake horsepower) and has a top speed of 312 km/h. Mr McGrath, in his Preliminary Investigation Report TT21 902, reports that the car appears to have competed in an unmodified condition.

7.2.3. The Tribunal has heard from a number of witnesses about the suspension of such cars (not just this make and model) and the fact they are set up for driving smooth tarmac roads or competition circuits.

7.2.4. In particular, the Tribunal finds the evidence of a highly qualified and respected motorsport safety engineer, with a Masters Degree from Leeds University and 15 years' experience as a race engineer, as extremely compelling and insightful.

7.2.5. The engineer gave the following evidence:

"In review of the document "Preliminary Investigation Report TT21 902" (authored by Scott McGrath), and following discussion in the meeting held on 15th July, we would note the description of the crest in the road (included on Page 10 of the report) which Car 902 negotiated shortly before the accident as potentially significant to the understanding of the contributory factors for loss of control.

In broad terms it can be summarised that the rate at which a vehicle will yaw, i.e., rotate around it's centre of gravity, is a function of an imbalance in the forces, lateral and longitudinal, generated by the tyres, and that the lateral and longitudinal force a tyre can generate ("grip") is strongly linked to the vertical load between the tyre and the road surface. Considering these generalised descriptions of the vehicle and tyre behaviour highlights that significant and rapid changes in vertical load on the tyre, as is seen when a vehicle negotiates a crest or dip in the road, can consequently generate significant and rapid changes in lateral and longitudinal forces from each tyre.

In the case that each tyre on a vehicle experiences a simultaneous and similar change in vertical load, for example in a vehicle negotiating a level crest on a flat road without steering applied, the total unbalanced force acting to yaw the vehicle is likely to remain low. However, any circumstance or disturbance to the vehicle that results in the tyres experiencing different or "out of phase" significant changes in vertical load can result in large, unbalanced forces acting to yaw the vehicle. The quicker the change in load between tyre and road surface the more sensitive the system will become to disturbance, in particular, with respect to the time at which each tyre experiences the change in load.

It can also be generalised that the maximum unbalanced force acting to yaw a vehicle is a function of the maximum forces available from each tyre; thus, in nominally low "grip" conditions the amount of force the tyres can exert to yaw the vehicle will be lower so the rate of yaw will typically be lower, and hence it is logical to suggest more controllable. Conversely with high grip /

high force tyre road surface combinations the yaw acceleration and rate can be higher and hence more difficult to control.

It should be noted that whilst a "jump", where the tyre completely loses contact with the road surface, is a visually obvious indication of significant and rapid change in vertical load between the tyre and the road surface, it is important to note that the same rapid change in vertical load can be present even if the tyres remain "just" in contact with the road surface. In general, contact versus non-contact of the tyre with the road surface does not represent a state change in the situation."

7.2.6. Car 902 was equipped with Specification R tyres which provide high grip. Mr McGrath reports that there was adequate tread depth. The road conditions were dry at the time.

7.2.7. Video evidence shows that car 902 left the ground at a crest 6.2km from the Start of the Cygnet Targa Stage. The speed of the car, according to the RallySafe data, was 188 km/h on the straight approaching the crest and estimated at between 170 and 175 km/h when it reached the crest.

7.2.8. The video shows car 902 landing to the left-hand side of the road. This induces a yaw movement to the left (rear of the car moves left) before the car leaves the road (at high speed) to the right, impacting two trees, fatally injuring both crew members.

7.2.9. In view of the expert evidence, the Tribunal concludes that in the case of car 902, and indeed probably many other cars in the event, the configuration of the suspension is not appropriate for the type of road conditions encountered in a road rally such as Targa Tasmania.

7.2.10. The Tribunal further concludes that this suspension set-up, combined with the use of R tyres, induced the yaw when car 902 landed after leaving the ground at the crest, was the major contributing cause of the incident.

7.2.11. By way of contrast, the Tribunal notes that the suspension set-up and tyres used in other rallies where rally cars achieve considerable "altitude" over jumps, and land safely, are vastly different to those in this and other tarmac events.

7.2.12. The Tribunal also noted expert opinion that a depression in the road could have the same effect on a car such as car 902, as a crest. Having noted the large number of occasions where competing cars leave the ground over a crest in this event, and the circumstances surrounding a similar crash after a crest, in the 2013 edition of Targa Tasmania resulting in the death of John Mansell (aged 71), the Tribunal is of the view that there is strong evidence suggesting a significant number of

drivers do not understand the manner in which their car will behave in certain circumstances when suspension limits are challenged.

7.3. **Jumps in Stages**

7.3.1. There are a number of locations in Targa Tasmania where jumps or crests exist. Not only have these resulted in fatalities such as this one and the 2013 death of John Mansell, there have also been a number of crashes on crests, resulting in serious injuries and/or major car damage.

7.3.2. The Tribunal concludes that the crest at 6.2km into the Cygnet stage was a significant contributing factor to this crash, however this was only the case when combined with other factors such as the suspensions set-up of the car, and the actions of the driver (refer below).

7.3.3. It is also noted that frequently photographers gather at jumps or crests in order to obtain photos of the cars in the air. Evidence from competitors and others suggests that the presence of the photographers is an "encouragement" to drivers to attempt to get their car as airborne as possible and that this in turn increases the likelihood of a loss of control and subsequent crash.

7.4. **Terminal Speeds and Use of Speed Limiting Systems**

7.4.1. The 30 years since the inception of Targa Tasmania have seen the development of (especially) GT cars where acceleration and top speeds have increased significantly.

7.4.2. The Porsche GT3 RS is for all intents and purposes, a circuit racing car. As referred to herein, it, and many other cars entered in the event, are capable of speeds approaching or even exceeding 300 km/h.

7.4.3. It is noted that for competitions on circuits where such speeds are achieved, and such cars are driven, the world governing body (the FIA) and Australia's relevant governing body Motorsport Australia, require circuits to meet very high safety standards. In particular these include smooth and consistent (level) tarmac surfaces, run off areas often filled with gravel to slow cars down, and safety fences that can absorb the energy of an impact of a car at high speed.

7.4.4. Rallies, by their very nature, provide no such protection.

7.4.5. For most rallies in the world, because of this lack of protection, terminal speeds of competing cars are restrained by one or more of the following methods:

- Technical Regulations which limit final drive ratios or provide for speed limiters

- Selective choice of the route, to avoid long straights where high speeds could be achieved
- Virtual restricted speed zones (or similar, for example Restricted Time Zones such as are used in Targa Tasmania)
- Physical or virtual chicanes to slow cars down
- Fitment of speed limiting devices
- Imposing penalties if prescribed speed limits are exceeded.

7.4.6. The Tribunal heard that some experienced (or cautious) drivers in the event, when approaching a crest, deliberately slow in order to avoid the wheels of the car leaving the ground (or the suspension being pushed to its limits), to minimise loss of control.

7.4.7. The Tribunal concludes that the speed of car 902 on the approach to the crest at 6.2km into the Cygnet stage was a major contributing factor to the crash and the resulting fatalities.

7.4.8. The RallySafe data shows the speed of car 902 at impact with the trees, was 153 km/h.

7.4.9. It is important to note that based on the opinion of International motorsport safety experts in evidence, no safety feature in any modern rally car would have enabled a person to survive an impact of this nature, at that impact speed.

7.4.10. The Tribunal also noted that during the event, the organisers did use a number of Restricted Time Zones. Evidence indicates that these have mainly been used to slow cars down in order to achieve an average speed for a Targa Stage below the prescribed maximum of 132 km/h.

7.4.11. The Tribunal is of the view that these would be an ideal mechanism to slow vehicles prior to jumps, crests, dips of other obstacles. Refer Recommendations.

7.5. **Driver Contribution to the Incident**

7.5.1. The driver of car 902 was aged 68 and, having not competed for several years, had resumed in the year prior to the incident competing in a number of tarmac rallies before Targa Tasmania 2021.

7.5.2. The Tribunal also heard that the crew of 902 had been posting videos which indicated that the driver had possibly been driving the car beyond his limits or beyond the car's limits bearing in mind its design, purpose and the Targa Tasmania stage environment.

7.5.3. The Tribunal notes the evidence of Adam Spence in his submission, that on the day prior, the driver of car 902 told him that he would have to withdraw from the event if he did not get new suspension for the car, as "the car was behaving like a pogo stick". It is unknown if the suspension was replaced but the Tribunal considers it highly unlikely that it was.

7.5.4. The Tribunal concludes that taking into account the fact that other drivers successfully traversed the crest, even in cars that probably also had suspension set-ups that were not "fit for purpose", and that some very experienced drivers slowed down for this particular crest, sadly in this case, the driver of car 902 contributed to the incident.

7.5.5. As noted above, the incident involving Car 902 occurred upon it landing after a jump on a crest approximately 6.2 kilometres into the Cygnet stage. The Organiser's Reconnaissance Notes published to all competitors some weeks before the event as an aid for competitors to undertake reconnaissance at their leisure, included a warning in the following terms:

"*6.23km !!CAUTION Jump on Crest.*"

7.5.6. The Tribunal was also provided with a photograph of the Cygnet stage taken on the straight in the direction of travel which clearly showed "*!!*" caution boards on either side of the road approximately 50 metres prior to the jump.

7.5.7. Article 2.2 of the Motorsport Australia National Rally Standing Regulations (Special Stage Rally) 2021 is in the following terms:

"*2.2 CAUTIONS*

(a) Wherever the word "caution" is used in an instruction, its degree should be indicated by the use of exclamation marks.

(b) One exclamation mark (!) indicates a hazard where no significant reduction in speed is required but where difficulty might be encountered if Crews were unaware of the hazard. It is not necessary to use the instruction "CAUTION" with this indication. A red triangle sign may be displayed as an alternative to a single exclamation mark.

(c) ***Two exclamation marks (!!) indicate a situation where damage to a vehicle or Crew could result from negotiating the hazard at speed. This indication should be used in conjunction with the instruction (CAUTION).***

(d) Three exclamation marks (!!!) indicate a severe hazard which cannot be negotiated without a signification reduction in speed. This indication should be used in conjunction with the instruction "extreme caution".

(e) Whenever exclamation marks are used in a diagram, the instruction must describe the hazard.

(f) Whenever two or three exclamation marks used or in the instructions the hazard must be marked on the course by caution boards displaying the same symbols as red or black exclamation marks on a white background." (emphasis added)

7.5.8. In the Tribunal's opinion, the attribution of a "double caution" to this jump by the Organisers and the Checker was appropriate. At page 206 of the Road Book a tulip clearly depicting the jump with the "double caution" warning appears. Article 2.2 of the National Rally Standing Regulations was complied with in terms of the characterisation of the hazard, the tulip in the Road Book and by the erection of "double caution" boards immediately prior to the jump before competition commenced.

7.5.9. The "double caution" boards which were clearly visible to the driver of a car on the stage served as a warning that the jump presented a risk of damage to the vehicle or the crew if the driver attempted to negotiate the hazard at speed. As noted above, shortly before Car 902 hit the jump, it was travelling at 188km/h and had only reduced speed marginally to between 170 and 175km/h when it reached the jump.

7.5.10. It follows that the driver of Car 902 failed to heed the clear warning published in the Reconnaissance Notes and given by the "double caution" boards, which were clearly visible to the driver.

7.6. **Conclusions**

7.6.1. "Risk" is a function of two variables – the "Likelihood" of something happening, and the "Consequence" if it does happen.

7.6.2. Because of the nature of Targa Tasmania (and indeed rallies in general), the consequences of leaving the road at high speed (or even, as in the case of car 602, at low speed) can be serious injury or death.

7.6.3. In evidence to the Tribunal, one International safety expert witness made the following observation:

"*The consequence of loss of control (in this event) is more severe than other events around the world. If you combine this with a high probability of loss of control, the result is fatal or serious injury*."

7.6.4. The Tribunal therefore concludes that because there is little if anything that can be done to mitigate the consequences of loss of control in many places in Targa Tasmania, it is essential to reduce the likelihood of a loss of control.

7.6.5. The Tribunal believes this can best be achieved through a combination of:

- Refined consideration of acceptance of entries (is the driver qualified for the type of car entered?)
- Avoidance of hazards or use of Restricted Time Zones (or virtual chicanes) on approach
- Improved crew "education" on the risks (both pre-entry, pre-arrival and during event briefings)
- Determining if the entered car is "fit for purpose" i.e. for competition on road surfaces and conditions such as those experienced in Targa Tasmania.

7.6.6. The above will be addressed in "Recommendations".

8. FINDINGS IN RELATION TO FACTORS CONTRIBUTING TO OTHER INCIDENTS AT THE EVENT (AS REQUESTED IN THE TERMS OF REFERENCE)

8.1 The Tribunal notes that, typically, there were a number of incidents at the event, including some that required hospitalisation.

8.2 The Tribunal, having considered the evidence presented, including the many written submissions, concludes that factors contributing to other incidents were in the main similar to those considered in relation to the incidents involving cars 602 and 902 namely:

- Driver experience (or inexperience) or simply, the level of appropriate driving ability to handle the challenges of this event

- Driver "fitness" and the potential for someone who is physically or even mentally unfit to compete in a long-distance event, which requires stamina, concentration and extremely quick reaction times especially if driving a high-performance competition car

- High speed combined with the large number of unprotected obstacles (i.e., "likelihood of loss of control" and "consequences of leaving the road"). It is noted that many of the stages are in the same or similar configuration as they were 30 years ago, yet car speeds and performance in the faster categories have developed significantly in that period

- The type and number of tyres available to competitors, often combined with wet and/or slippery road conditions and a long event involving many kilometres of competitive driving

- Some of the vehicles entered in the event were beyond the capacity of their drivers to cope with the challenges presented by the event, and/or had suspension characteristics that made them unsuitable for a tarmac rally situation

- Competitive (Targa) Stage selection. The Tribunal finds difficulty in rationalising the use of sections of straight road, where speeds frequently well exceed 200 km/h (as evidenced by numerous on-board videos) and there are hundreds of unprotected objects immediately adjacent to the road. A loss of control, which could be caused by something as simple as a tyre failure, would result in serious injury or death

- The Tribunal is aware that irrespective of the safety systems that may be built into a competition car, a side impact between the A and B pillar, with an object such as a tree or telegraph pole, is not survivable if the impact speed is more than approximately 60 km/h and probably less

- Further, in relation to Stage selection the Tribunal questions the selection of a competition route that results in a car crashing into an unprotected privately-owned building, which had only minutes previously been occupied by a resident (as was the case of car 627). The point made by the owner of the aforementioned property, Mr William Hilston, about the need for a proper risk assessment rather than relying on the absence of previous crashes in that location, is in the Tribunal's view, a valid one and is addressed in our Recommendations. It should also be noted that in this case, the car ran off the road on the inside of the corner. The same occurred in the case of car 602

- Adequacy and effectiveness of Competitor Briefing and Novice Competitor Briefing. The Tribunal notes that due to COVID 19 restrictions these briefings were not conducted face-to-face and that the Organisers were unable to verify if the important warnings and information normally contained within these briefings were able to be successfully conveyed to the competing crews

- Length and schedule of the event. The Tribunal notes a number of submissions which referred to fatigue and lack of time to refresh (drink and food) and also perform safety inspections on cars, during the running of each day, due to the scheduling of the event.

9. RECOMMENDATIONS ADDRESSING INCIDENTS FROM THE 2021 TARGA TASMANIA

9.1. Introduction

9.1.1. In presenting these Recommendations, the Tribunal is conscious of its responsibilities to provide guidance to the sport's governing body concerning the overall safety of the event whilst concurrently balancing this with its desire, and that of the Targa Tasmania's many stakeholders, to see the event continue in a safe and sustainable manner, and to retain wherever possible, the traditions of the past, and the many unique features of the event embedded by its founders.

9.1.2. The Tribunal's Recommendations are presented in four sections

- Course Design
- Vehicle Preparation, Suitability and Related Issues
- Driver/Crew Licensing, Preparation and Suitability
- Safety Systems and Processes

9.1.3. It should be noted that the order of the Recommendations below is not to be interpreted as the order of their respective importance or priority.

Course Design

9.2. Recommendation 1 – Identified Risk: High terminal speeds achieved in Stages

That the Organisers, when designing the route, avoid wherever possible, sections of road where speeds of 200km/h or more can be achieved. Where this is not possible, some form of speed limiting system or device should be utilised.

9.2.1. The Tribunal accepts that this may mean some "iconic" stages have to be broken up into smaller stages however, it believes that speeds in future will only increase as car design improves, and unless action is taken, it is sadly only a matter of time before further injuries and deaths occur.

9.2.2. Where it is not possible to achieve such a speed limit through route selection, the Organisers should consider some method of ensuring that such speeds are not achieved, either through the application of speed limits, technical regulations which require cars to be geared so as not to be able to exceed this speed (which is acknowledged as probably not realistic considering the large range of cars entered), or the use of chicanes or other devices.

9.2.3. The Tribunal notes that some competitors have submitted that the implementation of speed limits will cause crashes, as drivers will be distracted by looking at their speed instead of the road. The Tribunal

believes these concerns are unfounded on the grounds that the co-driver could monitor the speed, and that there are audible speed warning devices readily available.

9.2.4. The Australian Rally Commission of Motorsport Australia, through a Tarmac Rally Working Group, is a body that would be well suited to work with the organisers in solutions that will result in the successful and safe implementation of this Recommendation.

9.2.5. The Tribunal notes that neither car in the two fatal incidents reached speeds of 200km/h immediately preceding, or during, the incidents. This report seeks to address broader tarmac rally safety items, and the Tribunal believes that this Recommendation can assist in avoiding serious incidents in future.

9.2.6. The accident involving car 902 demonstrates conclusively that, even at a speed under 200km/h, a collision between a car and a roadside obstacle will be fatal.

9.2.7. One of the recommendations of the Australian Institute for Motor Sport Safety ("AIMSS") in its November 2016 Review of Safety in Rallying in Australia (Recommendation 14) was the introduction of a maximum terminal speed of 190 km/h during any Australian rally competition. That recommendation was made by AIMSS following its analysis of extensive data collected regarding rally accidents worldwide over a number of years.

9.2.8. The Motorsport Australia Tarmac Rally Standing Regulations (Article 6.12 (iv)) specifically provides for the imposition of a maximum speed limit in a Tarmac rally. The Tribunal's recommendation of a maximum speed limit of 200 km/h is not novel. The FIA Cross Country World Cup Sporting Regulations impose a maximum terminal speed on any special stage of 180km/h. The 2021 Targa NZ Tarmac Rally Championship Series Regulations (Article 12.1) impose a maximum speed on all special stages of 200 km/h and penalties are prescribed for exceeding that limit ranging from 30 seconds for a first offence up to exclusion where the limit is exceeded by less than 10 km/h. If the 200 km/h speed limit is exceeded by 11-20 km/h, a penalty of 5 minutes is imposed for a first offence and any infringement over 20 km/h results in exclusion. The Tribunal understands that the organisers of the Motorsport Australia Targa West Series of tarmac rallies impose a 200 km/h speed limit on all competition crews.

9.2.9. Although the FIA World Rally Championship does not impose a specified maximum speed limit, the terminal speeds of vehicles are controlled by the technical regulations such that the vehicles are not capable of exceeding 200 km/h.

9.2.10. Targa submitted to the Tribunal that the WRC effective speed limit of 200 km/h is distinguishable because WRC rallies are conducted on "*narrow goat tracks and dusty lanes*", compared to the wide open, flowing and generally smooth roads used by Targa. The Tribunal respectfully disagrees. WRC Finland, while a gravel surface, is renowned for its wide, smooth and flowing stages. A number of stages in WRC Deutschland, a Tarmac rally, are of a similar character, as are several sections in the recently run WRC Rally Belgium. The Tribunal also notes that in 2016 the Australian Rally Commission re-introduced a requirement for air turbo inlet restrictors in 4WD turbo cars for the sole reason of ensuring that the terminal speeds of what were then unrestricted turbo 4WD vehicles were reduced to below 200 km/h.

9.2.11. Although the Tribunal has noted that most serious rally accidents occur at speeds less than 200 km/h, one of the key reasons the Tribunal has recommended a speed limit is because it is difficult for non-professional drivers to accurately judge the speed of their vehicle after reducing from a very high speed. If a car has been travelling at over 200km/h, a major speed reduction of, say, 70km/h, will seem to the inexperienced driver to have been a reduction of much more, yielding a false sense of low speed when the actual speed (150km/h) is too high for an approaching bend.

9.2.12. The Tribunal notes that, almost without exception, competitors in Targa rallies are amateur drivers, a handful with extensive Tarmac rally experience but the majority of the field not so. While it is one thing for an amateur driver to be driving on a racetrack featuring tyre barriers and runoff zones at 200km/h, it is quite another for vehicles competing on closed public roads with roadside hazards to be driving at that speed.

9.2.13. Targa submitted that the imposition of a 200km/h speed limit would require the introduction of an additional 80 speed zones across the course is concerning for the Tribunal. The FIA Rally Safety Guidelines, while not imposing a maximum speed limit, contain numerous references to the need to avoid long high-speed sections in course design. The Tribunal considers that if so many vehicles in Targa Tasmania events are so regularly moving in excess of 200km/h, the design of the course is inappropriate and/or the Technical Regulations which permit vehicles with power to weight ratios significantly in excess of WRC cars, require revision.

9.2.14. Targa also submitted that the introduction of additional virtual chicanes to avoid a 200km/h speed limit to be exceeded would see increased wear on tyres and brakes creating a safety risk. However, meeting a terminal speed limit of 200km/h does not necessarily require the addition of a virtual chicane. Where a long stage features a fast section where speeds in excess of 200km/h might be achieved, the organisers can consider "*splitting*" the stage to delete the fast section.

Alternatively, while the Tribunal is not in favour of a rule which would require drivers to constantly monitor their vehicle's speedometer, the RallySafe system could be programmed to signal a terminal speed warning on screen when a speed approaching 200km/h has been achieved. Further, the Targa Tasmania course already features a number of restricted time zones. Targa's suggestion that additional zones may lead to brake or tyre failure more than likely to result in a crash of some sort is dramatic and disproportionate. If that were true, such a risk arises from the existing restricted time zones.

9.2.15. The Tribunal is left with the impression from the Targa response that Targa is willing to introduce a speed limit of 210km/h. This is proposed on the basis that it will affect fewer cars than a speed limit of 200km/h. The Tribunal takes the view that if Targa is willing to introduce a speed limit of 210km/h for some cars, there is no logical reason why it cannot introduce a speed limit for 200km/h.

9.3. **Recommendation 2 – Identified Risk: High terminal speeds achieved in Stages**

That artificial speed reduction methods such as chicanes (physical and virtual) and Restricted Time or Restricted Speed Zones, <u>not</u> be used <u>solely</u> as a means of artificially reducing the average speed of a Targa Stage.

9.3.1. The Tribunal notes that the use of the above in such circumstances does nothing to improve the safety of competitors if the sole purpose is simply to reduce the average speed, where elsewhere in the same Stage, competitors can achieve speeds of 200km/h or more.

9.3.2. Since the provision of its draft report to Targa, the Tribunal has become aware that, until now, vehicles competing in speed limited categories in Targa events have been exempt from the requirement to obey virtual chicanes. If, as Targa suggests, many restricted speed zones are placed to protect corners at the end of long straights, that rationale applies not just to vehicles in the unrestricted competition field but also to those in the speed limited categories, particularly given that they have lower safety requirements. If a corner after a long straight is deceptive and hazardous, it presents the same risk for a vehicle travelling at 130 km/h on entry.

9.4. **Recommendation 3 – Identified Risk: High terminal speeds achieved in Stages**

That no Targa Stage should be permitted to have an average speed exceeding 132 km/h. Should a stage average exceed this maximum the stage must not be used without modification acceptable to the Safety Assessor, in a following year.

9.4.1. This limit is mandated by the FIA for International Rallies and is widely accepted globally. It is achieved by responsible and considered course design, notwithstanding "tradition" and "historical iconic stages".

Stages which have high average speeds by their very nature tend to have sections of road where terminal speeds exceed 200km/h. In an event such as Targa Tasmania, where the stages are lined with large trees and also electricity or phone poles, often on the outside of corners, this presents an unacceptable risk to competing crews.

9.4.2. Targa submitted that Recommendations 1, 2 and 3 should be implemented concurrently. The Tribunal concurs. Targa submitted, however, that Recommendation 3 is unnecessary because it is already implemented. The Tribunal disagrees with the suggestion that Recommendation 3 is not required given that data from Targa Tasmania 2021 demonstrates that the 132kph average speed limit was exceeded in a number of instances. Where that occurs, the stage should not be permitted to run again in the same configuration. The Tribunal's recommendation is entirely consistent with the Motorsport Australia Tarmac Rally Standing Regulations in this regard.

9.5. **Recommendation 4 – Identified Risk: Car leaving the ground or encountering another feature which results in loss of control through suspension design**

That without exception, the organisers implement Restricted Time Zones prior to any potential hazard (crest/jump, dip) which could potentially cause a car to reach its suspension limits.

9.5.1. The Tribunal accepts that this will effectively mean the elimination of cars getting "air" and hence some photo opportunities will be lost, however for as long as there is evidence that these situations have the potential for serious crashes, there appears no other suitable solution. A significant number of competitor submissions proposed this solution.

9.5.2. The Tribunal notes the importance of identifying such locations. It considers this could be done in two ways. Firstly, by the Safety Assessor (refer Recommendation below) and secondly through the use of technology such as that presented in the very detailed submission by Mr Peter Rullo, CEO of the IS Group. It is further strongly recommended that the Organisers review Mr Rullo's submission.

9.5.3. The Tribunal also notes that Mr Rullo's proposal is very similar to that proposed in Recommendation 20 of the AIMSS Review of Rally Safety 2016.

9.6. **Recommendation 5 – Identified Risk: Complacency due to Familiarity with Route**

That the organisers dispense with the concept of running a route each year which closely replicates that of previous editions, instead designing a route which has variants in both stage and itinerary design.

9.6.1. The Tribunal notes a number of submissions that indicate a certain "familiarity" with running essentially the same route each year. It has been submitted to the Tribunal that this encourages complacency and less desire to perform reconnaissance. It is also noted that Targa New Zealand frequently changes stage configurations, runs some stages in the reverse direction to the previous year and introduces new stages.

9.6.2. The Tribunal also notes that this would provide a greater incentive for crews to complete reconnaissance each year, thus familiarising them with stage conditions that are "current".

9.6.3. The Tribunal's recommendation is based on evidence received by the Tribunal that many competitors in Targa Tasmania choose not to undertake reconnaissance of the entire route, instead choosing to rely on the fact that they undertook reconnaissance of an apparently unchanged stage in prior years and use pace notes purchased from a commercial provider. Road surfaces deteriorate over time. Bumps or holes might have appeared since the last time the stage was run. A roadside obstacle may have been erected since the stage was last run even though the road itself is unchanged.

9.6.4. The Tribunal does not intend to prohibit the re-use of stages in exactly the same format in successive years where alternative options are not available. The Tribunal is acutely aware that the Targa High Country event presents very limited opportunity for course variation. The Tribunal's recommendation should be understood as aspirational. Where possible, safe and appropriate, the reversing of direction of just one stage in each leg of the course would normally require crews to undertake reconnaissance of the reverse stage and because they need to travel to get to that stage, they are more likely to undertake reconnaissance of even unchanged stages on that leg.

9.6.5. The Tribunal also recognises that major changes in route and itinerary require extensive forward planning and that it may not be possible to make significant changes to the route from year to year. However, the Tribunal is of the view that it is not overly burdensome on an organiser for them to be requested to consider the use of a side-roads off an existing stage or the splitting of long stages into two as a means to introduce some level of change to incentivise reconnaissance.

9.7. **Recommendation 6 – Identified Risk: Driver Fatigue**

That the Organisers revisit each day's scheduling to increase the time allowed on Transport Stages and to also allow for sufficient time for crews to take refreshments, plus time to carry out appropriate checks on their vehicles, whilst avoiding where possible, making the duration of each day, and the event in general, any longer.

9.7.1. The Tribunal recognises that this may mean the dropping of certain stages.

9.8. **Recommendation 7 – Identified Risk: Hazards that exist off the edge of the road**

That in designing the route, the Organisers should attempt to identify any major hazards that are located in potential run off areas. These would include ravines, lakes, dams and water courses, and buildings such as those in the car 627 incident. In each case the Organisers should conduct a Targeted Risk Assessment to determine the likelihood of a loss of control, and the consequences of same.

9.8.1. Where the risk is high or extreme, it should either be eliminated or mitigated against, either by minimising the likelihood of loss of control or by protection of the relevant hazard. In the case of significant water hazards (and it is not implied that Double Barrel Creek falls into this category), some form of emergency rescue resource should be considered.

Vehicle Type and Preparation and Related Issues

9.9. **Recommendation 8 – Identified Risk: Car or its set-up not "Fit for Purpose"**

That the Organisers embark on a significant pre-entry educational campaign informing potential competitors of the risks involved with the entry of some types of vehicles or types of suspension set-ups.

9.9.1. Ideally this would take the form of a very short video presented by a high profile, credible experienced driver. The video could be prepared in conjunction with Motorsport Australia and be used for all tarmac rally events.

9.9.2. It should be noted that the Tribunal has not considered limiting the types of vehicles that are eligible for this event, however it does hold serious reservations about the use of some modern GT or sports cars which are set up primarily for circuit use, by inexperienced or unqualified drivers.

9.9.3. The Tribunal has recommended the re-establishment of the Tarmac Rally Working Group and suggests that Targa and other major tarmac rally organisers should be represented on that Group. Such a Working Group will be well qualified to design an appropriate education campaign of the kind suggested by the Tribunal. The Tribunal considers that the cost burden of such a campaign should be shared by Motorsport Australia and event organisers. Targa Tasmania in particular is unique in that the course is much longer than other tarmac rallies and the road and surface conditions tend to vary more than they do for events such as Targa West and Adelaide Rally. The Tribunal also considers that Targa, along with other rally organisers, share in the responsibility of educating competitors.

9.10. **Recommendation 9 – Identified Risk: Car or its set-up not "Fit for Purpose"**

That the Organisers in conjunction with Motorsport Australia, investigate the development and implementation of a system where vehicle set-ups can be independently assessed for suitability, well prior to an event and that a written report be provided with recommendations where necessary.

9.10.1. The Tribunal recognises this will potentially entail issues of liability, however encourages the parties to endeavour to find a means of implementing such a system.

9.11. **Recommendation 10 – Identified Risk: Loss of Control of Car**

That the regulations for Tarmac Rallying be amended to permit entrants in Targa Tasmania to use an additional 4 "wet weather tyres", as defined by Motorsport Australia.

9.11.1. The Tribunal considered the banning of R Specification tyres and their replacement with "road tyres" (in addition to the allowing of 4 wet weather tyres), noting that these would reduce cornering speeds and potentially extend tyre life. It also noted that banning R Specification tyres was a preference of the Organisers. However, whilst this would be a suitable solution in most cases, for some vehicle types, due to wheel size, an appropriate "road tyre" would effectively have the characteristics of an R Specification tyre, thus defeating the purpose of the exercise and providing those vehicles with a competitive advantage.

9.11.2. Having noted the large number of cars that ran off the road in the wet Mt Arrowsmith stage and noted similar occurrences in previous editions of the event on numerous stages, it is the Tribunal's strong belief that wet weather tyres should be permitted if the Organisers wish to run competitive stages in wet weather.

9.11.3. The alternative would be to require any wet stage to be downgraded.

9.11.4. Targa submitted that to allow additional tyres suitable for wet conditions will increase risk because it will enable higher corner speeds when the current tyre restrictions mean that crews must "manage" a limited number of tyres for the duration of the event. Targa also submitted that a change to the tyre rules is unnecessary and that the lack of grip in wet conditions is more likely explained by crews choosing to start the event on worn tyres.

9.11.5. The Tribunal respectfully disagrees with Targa's objections to this Recommendation. The Tribunal received overwhelming evidence in the form of videos and expert opinion that dry weather R compound tarmac rally tyres are not suitable for use in wet (as distinct from damp) conditions. The Tribunal reviewed numerous videos which depicted cars losing traction on wet roads when using such tyres. The event leader,

Jason White, crashed out of this year's event on day two when his car hit a river of water running across the road 200 metres from the finish line on the Moorina Stage.

9.11.6. The Tribunal remains firm in its conclusion that dry weather R compound tarmac tyres are not suitable for use in tarmac rallies where water has pooled on the road surface. The Tribunal sees no merit in Targa's suggestion that crews be required to start Targa Tasmania with new tyres because there is no evidence received by the Tribunal that the unsuitability of R compound Tarmac tyres is attributable to a choice by competitors to start the event on used tyres. The Tribunal would be surprised if many competitors elected to do so in any event. The tyres on car 602 when examined were within their wear limit, as were the tyres on car 902, videos of which showed the driver to have been experiencing significant control issues in wet conditions.

9.11.7. It is well understood to be unsafe for a car to be driven on slick tyres on a race circuit which has been specifically designed to ensure water runoff, unlike a tarmac rally stage. In wet conditions on circuits, competitors are permitted the option of using a purpose designed wet or intermediate tyre.

9.11.8. The Tribunal recognises that its recommendation will present some challenges for reasons identified by Targa. Some crews may not have the support resources to change to wet tyres and back to dry tyres between stages on a given leg. However, the Tribunal disagrees with Targa's suggestion that to permit competitors to use an alternative tyre more suitable for wet conditions will give them an unacceptable sporting advantage. If they choose a wet R compound tyre, it will wear quickly if conditions dry, thereby limiting the performance of the car. If they choose a traditional road tyre for wet conditions, that tyre will have a sporting disadvantage compared to a dry tarmac tyre when used on a dry road if conditions dry.

9.11.9. The problem identified by the Tribunal is that the current tyre restrictions effectively demand that competitors use a "hard" dry R compound tyre which is completely unsuitable for wet conditions.

Driver/Crew Preparation and Suitability

9.12. **Recommendation 11 – Identified Risk: Driver Skill not Matching Potential of the Car**

That the Organisers and Motorsport Australia, through its Australian Rally Commission and National Medical Committee, develop a tiered licensing system for Tarmac Rallying, that takes into account the very high-performance vehicles that are eligible to compete in such rallies and which considers and assesses a driver's experience, ability to drive such a car, and physical state to manage the demands of driving such a vehicle in tarmac rally competition.

9.12.1. The Tribunal is strongly of the view that it would be irresponsible to continue to allow a driver who is inexperienced or not in possession of the necessary skill, to drive a high-performance car, primarily designed for circuit use, with upwards of 500 horsepower, at an event such as Targa Tasmania.

9.12.2. The Tribunal also notes that in the early years of Targa Tasmania there was a requirement for a driver's ability to be assessed and for driver training to be mandatory for certain drivers lacking the necessary experience.

9.12.3. In the development of a tiered licensing system, consideration should also be given to an assessment of whether or not a driver who is moving from one discipline of motorsport (such as circuit racing or gravel rallies) is competent to make the transition to tarmac rallies.

9.13. **Recommendation 12 – Identified Risk: Driver Personal Medical Condition**

That the National Medical Committee of Motorsport Australia, working with the FIA Head of Medical and Rescue, investigate the appropriateness or otherwise, of drivers in Tarmac Rallying being assessed prior to being granted a license to compete.

9.13.1. The Tribunal notes that this is a sensitive subject, that it would require a determination by Motorsport Australia as to at what level of competition this would be required (e.g., possibly based on potential vehicle performance, age of driver etc).

9.13.2. Based on submissions received, the Tribunal believes there is strong support for this within the competitor base, and that both physical and mental health factors should be included in any assessment.

9.14. **Recommendation 13 – Identified Risk: Driver Personal Medical Condition**

That the Chief Medical Officer (and/or, if the position is created – see below – the Medical Delegate) have access to the medication report submitted by each crew member to the Organisers, and that this be supplemented with an allergy report.

9.14.1. This recommendation is based on the submission of Dr Hagen who noted that the availability of such information can be important for a medical crew intervening at an incident.

9.14.2. It is important that Motorsport Australia ensure that each individual's privacy is appropriately protected and therefore this item should be included in the investigation of the National Medical Committee referred to in Recommendation 12.

9.15. **Recommendation 14 – Identified Risk: Driver and Co-Driver Preparation and Awareness**

That the Organisers in conjunction with Motorsport Australia, prepare series of short video educational tools, with the ability to track who has watched them, to assist in the preparation for, and awareness of the risk of competing in, Tarmac Rallies. These videos should come in modules focused on the challenges of events like Targa Tasmania, personal and vehicle preparation (see also Recommendation 8), writing and interpreting pace notes, operation of the RallySafe System, seeking assistance after a crash etc. (Refer also Recommendation 15).

9.16. **Recommendation 15 – Identified Risk: Inability to seek assistance on course**

That a standard "signal" be agreed upon by the Organisers and Motorsport Australia, which a driver, co-driver or official can use to indicate to following competing cars, that urgent rescue or medical assistance is required.

9.16.1. The Tribunal notes most rally cars carry an OK sign and an SOS sign. However, in some cases, especially in an emergency such as that experienced with car 602, it is not possible to retrieve a sign from the car. Therefore, a simple, easily recognised signal needs to be agreed upon.

9.16.2. In the case of car 602, the co-driver attempted to wave down at least one following car. However, it appears the crews of the following cars believed he was simply warning them of another car off the road (but not in danger).

9.16.3. It is suggested that consideration be given to using crossed arms as such a signal.

9.16.4. This could be used for all rally and off road events in Australia.

Safety Systems and Processes

9.17. **Recommendation 16 – Identified Risk: Potential Hazards on Route and Stage Safety**

That Motorsport Australia, on advice from the Australian Rally Commission, restructure the process for pre-event checking of each tarmac rally, with a division of responsibilities between an Administrative Checker and a Safety Assessor. The Administrative Checker would be responsible for most of the activities currently performed by the Event Checker. The Safety Assessor, who would be an experienced tarmac rally driver, would, well in advance of the release of the route each year, drive every stage and assess suitability of a stage from a speed, hazard and safety of crews, officials and general public perspective. Risk mitigation procedures or initiatives would be determined by the Safety Assessor. Both the Administrative Checker and Safety Assessor would

be responsible to Motorsport Australia and not to the event Organisers. A position description including roles and responsibilities should be drafted for each of the above.

9.18. **Recommendation 17 – Identified Risk: Potential Hazards on Route and Stage Safety**

That the creation of the positions of Safety Delegate and Medical Delegate be considered by the Australian Rally Commission of Motorsport Australia, for appointment to each Tarmac Rally. These two positions would have oversight responsibility "on event" and would be responsible to Motorsport Australia. The Safety Delegate would have power to downgrade or cancel a Stage. The Medical Delegate would have the responsibility to approve the event medical and rescue plan. A position description including roles and responsibilities should be drafted for each of the above.

9.18.1. The Tribunal understands that Motorsport Australia is already considering changes which are consistent with the above two recommendations.

9.19. **Recommendation 18 – Identified Risk – Crew Members not understanding RallySafe Operation**

That the Organisers, Motorsport Australia, Rally Organisers in general and RallySafe work together to create an effective (preferably video-based) educational tool to ensure that every crew member in a car equipped with RallySafe fully understands its operation and the processes to be employed in the event of an incident.

9.20. **Recommendation 19 – Identified Risk – Officials not understanding RallySafe Operation**

That the Organisers, Motorsport Australia, Rally Organisers in general and RallySafe work together to create an effective (preferably video-based) educational tool to ensure that every official, particularly those involved in incident management both in the field and at Rally Command, fully understands its operation and the processes to be employed in the event of an incident.

9.21. **Recommendation 20 – Identified Risk – Crews not performing reconnaissance**

That Motorsport Australia ensures Organisers enforce the requirements of Article 13.5 (e) of the Motorsport Australia Tarmac Rally Standing Regulations viz: "Each crew that is using Safety Notes must declare that they have conducted as a minimum a single reconnaissance of each Targa Stage in the event."

9.21.1. The Tribunal notes that a significant number of competitors use Smoothline "Safety Notes". It has heard evidence that because of the repetition of stages from year to year, many crews do not perform reconnaissance of each stage of the event. The Tribunal sees great merit

in requiring all crews who use these Notes to perform a full reconnaissance every year. Refer also Recommendation 5.

9.21.2. Targa submitted that prior to the 2021 Targa Tasmania event a number of competitors were unable to enter Tasmania earlier to undertake reconnaissance of the route. The Tribunal notes and understands Targa's response about the challenges presented by the Covid-19 pandemic. However, if border restrictions prevent crews in the unrestricted competition field from undertaking reconnaissance, the Tribunal is of the view that the event should be deferred until they can do so.

9.21.3. The Tribunal recognises that it is not possible for the organiser to police and verify when and by whom reconnaissance is conducted. The Tribunal agrees that competitors in the unrestricted competition field should be required to sign a statutory declaration. The declaration should require each competitor in the unrestricted competition field to confirm that they have undertaken one pass of reconnaissance of each and every stage in the event as a precondition to being permitted to start. The declaration should require the competitor to declare the date on which they undertook reconnaissance of each stage.

9.21.4. The Tribunal considers that mandatory reconnaissance may be unnecessary for competitors in speed limited categories. However, a clear warning of the risk of competing without having undertaken reconnaissance should be given and a disclaimer signed.

9.21.5. Crews in the unrestricted competition field who do not wish to undertake reconnaissance or who have not signed the requisite declaration, should be transferred to a speed limited category.

9.21.6. The Tribunal is strongly of the view that there is no occasion for a prospective competitor in an unrestricted tarmac rally competition to elect not to undertake reconnaissance, however time consuming

9.22. **Recommendation 21 – Identified Risk – On-event Communications**

That Targa Tasmania conduct a thorough review of its Communications Network and implement, by the 2022 Event, an effective and efficient Communications Network which comprises at least the following:

A. Radio communications between Rally Command and each Start and Finish of each Stage, plus each Medical Intervention Vehicle and Course Car, in the Field

B. Internal Stage Communication to ensure that every Start, Finish and SOS Radio Point can communicate with each other

C. A system that enables the manual Positive Tracking of Cars within each stage to be replicated at Rally Command

9.22.1. The Tribunal understands the challenges that the terrain of Tasmania presents in relation to communications. However, this event is a high risk, high profile major event. As was identified in the incident involving car 602, internal stage communications were intermittent, there was no ability except by satellite phone (which was not always reliable) to communicate from within a stage to Rally Command (something which the Tribunal regards as essential) and communications between stage Starts, Finishes and Rally Command was typically by mobile phone (which the Tribunal regards as not ideal for on-event management).

9.22.2. On some days of the event, implementation of Recommendation 21 will probably entail the deployment of a fixed wing IFR aircraft carrying a series of radio repeaters. This will obviously incur significant cost to the Organisers, however in the interest of safety, the Tribunal cannot see any alternative. It would not be unreasonable to cover this additional cost through a levy on competitors who are the ultimate potential beneficiaries of the deployment of such a system.

9.23. **Recommendation 22 – Identified Risk: Failure to Identify, and be able to Intervene for, a Missing Car**

That the Organisers implement a Positive Car Tracking System to be approved by Motorsport Australia and that consistent with Recommendation 21, this system be replicated at Rally Command. Further, that cars be positively tracked at each SOS point which as a general guideline, should be no more than 10 kms apart. Medical Intervention Vehicles should be stationed generally no more than 15kms apart however because the stages are generally fast, this could be extended to 20 kms.

9.23.1. Currently the event implements a tracking system that positively reports the departure of each car at the Start of each Targa Stage. However, there is no system in place that positively reports the passage of each car past each SOS point. In the Tribunal's view, this is a serious issue. Technology such as RallySafe has made rallies much safer than in the past, however technology is not infallible. The implementation of a genuine Positive Tracking System such as employed at Rally Australia, using the "ripple" radio call system, would ensure that, provided SOS points are sensibly located, a missing car would be identified within minutes independently of the RallySafe system.

9.23.2. When combined with point C of Recommendation 21, this would provide the Clerk of the Course at Rally Command with essential information that could well save a life.

9.23.3. It is strongly recommended that the Organisers consult with experienced WRC Officials such as Mr Adrian Stafford, who could assist

in providing details of how such a system could easily be implemented at Targa Tasmania.

9.23.4. The Tribunal notes that currently the distance between “tracking points” (which can be between the Start and SOS points, of between adjacent SOS points) varied, but is often in excess of 12 kms. The international standard is 5km. However, in the case of Targa Tasmania where the transit time between points is quite short, a distance of 10kms could be considered as reasonable.

9.23.5. In his report, the Chief Medical Officer comments on the desirability of having two additional Medical Intervention Vehicles. It is quite likely that if these are to be stationed no more than 20 km apart, more Medical Intervention Vehicles may be required.

9.23.6. Targa submitted that the positive tracking requirement in the Standing Regulations (adopting the definition in the National Rally Standing Regulations (NRSR)) was complied with at Targa Tasmania 2021. The Tribunal respectfully takes issue with this assertion. The Tribunal refers to the Targa SOS Point Procedure Manual. This manual describes a "*passive tracking*" system. The tracking procedure set out in section 4 of that manual does not conform to the NRSR in two important respects. First, article 1.9(b) of the NRSR suggests that it is expected that where the interval between cars is less than two minutes, this would be the maximum reporting interval at all times, and ideally reporting should be at least every minute. In Targa events, cars start at 30 second intervals. The Start Tracker calls a group of 4 cars after 4 cars have started and waits to receive a radio transmission from the Finish Tracker that those 4 cars have completed the stage. Targa Tasmania features a number of long stages, the longest of which is Mount Arrowsmith with a stage length of over 52kms. The fastest car completed that stage in nearly 24 minutes, the slowest car in over 34 minutes. It follows that under the Targa procedure nearly 34 minutes could elapse before the absence of a car which commenced that stage is noted. While the Targa procedure contemplates Intermediate Trackers at SOS points, their role is to listen and record numbers in the same format. The procedure merely attributes a recording function to the Intermediate Trackers, not a responsibility to confirm a "*line*" or *"group*" of cars to the Start and Finish Trackers. Moreover, the evidence received by the Tribunal revealed that there were no radio communications operating between the Start and Finish Trackers on the one hand and Rally Headquarters on the other, let alone between the Intermediate Trackers and Rally Headquarters.

9.23.7. Although Targa suggests that the positive tracking procedure was conformed with on the stage that saw the fatality in car 602, there is no evidence that the Intermediate Tracker at SOS 3 (the SOS point following the incident location) reported the absence of car 602 to the

Start or Finish Tracker on that stage or that there was any other communication from any tracking point to Rally Headquarters of the absence of car 602 until it was discovered by the 999 crew.

9.23.8. The key function of positive tracking is to identify missing cars and their location to Rally Headquarters because the decision to dispatch an emergency response crew lies with the Clerk of the Course. In the absence of prompt communication of information by the stage trackers to Rally Headquarters, any tracking undertaken is of little assistance.

9.24. **Recommendation 23 – Identified Risk: Intervention in the case of a Missing Car**

That the Organisers document precisely, the procedure to be followed within Rally Command, in the event of a suspected missing car, as identified either through the RallySafe System or through Positive Car Tracking System. This procedure should, in particular, take into account the case where it can reasonably be suspected that a car is missing and no "OK" report has been received, that a Medical Intervention Vehicle can and should be dispatched immediately.

9.24.1. The Tribunal notes that the Organisers have documented a very precise procedure for the dispatch of a Medical Intervention Vehicle (Safety Plan, commencing page 46). Similar documentation should be prepared for actions that are to be taken in Rally Command and the timeframe for each action.

9.24.2. It is noted that it is a lot easier in Targa Tasmania than in other events, to dispatch a Medical Intervention Vehicle because the Organisers have developed a system whereby the stage is not necessarily stopped. This is outlined in the Safety Plan commencing on page 46.

9.24.3. The Tribunal is well aware that the advent of the RallySafe system has meant that Rally Command now has the benefit of "*real time*" tracking of cars. However, manual positive tracking is an important "*backup*" and verification tool. The fact that car 602 was stopped and had transmitted a rollover signal, yet no response crew was dispatched to car 602's known position before the 999 crew arrived, only serves to reinforce the Tribunal's position on the need for such a backup system.

10. RECOMMENDATIONS CONCERNING THE CONDUCT OF TARMAC RALLIES IN AUSTRALIA

10.1. The Tribunal considers that its 23 Recommendations herein broadly cover issues that potentially could arise at other Tarmac Rallies in Australia.

10.2. However, there is one issue on which the Tribunal wishes to make comment. During its conduct, a (small) number of competitors expressed the view that they are well aware of the dangers of competing in an event such as Targa Tasmania, and that therefore it was up to them, as individuals, to decide the level of risk they will tolerate and expose themselves to.

10.3. This Tribunal holds a contrary view. It does so not only on a "philosophical" basis but also on a pragmatic one. It believes it has a responsibility to comment on this.

10.4. The reasons this Tribunal believes that is it not solely the right and responsibility of each individual to decide the level of risk they are willing to be exposed to, are as follows:

10.4.1. The death or serious injury (including total and permanent incapacity) does not just impact the deceased or injured party. It impacts their immediate family both emotionally and financially. It also impacts their friends, and it impacts others involved in the event, in particular the intervention teams and organisers. The financial demands in the case of a totally and permanently disabled person are extremely high, on family, community and society in general.

10.4.2. A death or serious injury also impacts the image of motorsport, rallying and this event in particular. The sport relies on the support from many external sources, from individuals, local and state governments and corporations. Frequent fatalities or serious injuries have the potential to lead to a loss of support, or worse (as has been seen in other countries, and in New South Wales in 1968) prohibitions and restrictions on the conduct of the sport.

10.4.3. Of a pragmatic nature, each death or serious injury involves not only financial hardship for the family concerned, it also comes with great cost to the organisation and the governing body. Insurance premiums inevitably rise as a result of claims and this cost is borne, ultimately, by all competitors. In a worst-case scenario, cover may become unobtainable for some events or types of events, which could see their demise.

10.4.4. Government legislation is applicable to many incidents. An enquiry by a government authority can be extremely time consuming for all parties involved. Around the world, such legislation has developed to a stage where there are potentially severe penalties that could be applied.

10.5. The Tribunal notes that until approximately 10 years ago, the Australian Rally Commission had a Tarmac Rally Working Group which provided it with

experienced and expert advice on tarmac rallies. The recent restructure of the Commission has resulted in a smaller commission comprising a number of Commissioners with experience as either a tarmac rally organiser or competitor. The Tribunal believes it logical that Motorsport Australia should encourage the Commission to re-establish a Tarmac Rally Working Group and to ensure it is involved in the drafting and implementation of any regulatory or procedural changes arising from its Recommendations, that Motorsport Australia ultimately adopts. The Working Group could comprise some members of the current Australian Rally Commission, supplemented by a small number of specialists including an additional organiser and an additional experience competitor. This would ensure that the Commission was appropriately advised on matter pertaining to the regulation of Tarmac Rallies in Australia.

11. TIMEFRAME FOR IMPLEMENTATION OF RECOMMENDATIONS

11.1. It is recognised by the Tribunal that the implementation of many of its Recommendations will not be immediately possible. Therefore, it is proposed that Motorsport Australia consider implementation with effect from March 1, 2022.

11.2. In the interim however, it is proposed that Motorsport Australia work with Organisers to attempt to implement as many of the Recommendations as are possible, and where it is not possible, to conduct a targeted risk assessment in order to determine what if any mitigation processes need to be put in place.

12. **IN CONCLUSION**

12.1. It is acknowledged that the adoption of some of the Tribunal's recommendations will entail significant costs to the Organisers which ultimately will most likely need to be passed on to Competitors. Whilst this will be unpopular, the Tribunal believes that these improvements are essential to save lives, serious injuries and, from a financial perspective, to minimise the destruction or damage of vehicles and property which, if 2021 is to be taken as an example, would approach or even exceed seven figures.

12.2. Finally, the Tribunal would like to express its sincere appreciation to those who appeared before it at Hearings, those who made written submissions (each of which was carefully examined and noted) and those who submitted other items of evidence. We particularly note the contribution and cooperation of the Organisers and those witnesses who were very close to the deceased [redacted]

12.3. The Tribunal also acknowledges and applauds the valiant efforts of Mr Glenn Evans in trying multiple times to rescue his fellow crew member of car 602.

12.4. We also wish to place on the record our thanks to our Executive Officer Tamara Joy and her replacement Curtis Deboy, and Motorsport Australia's Scott McGrath and David Stuart for their very detailed reports.

The Tribunal

Matthew Selley

Neal Bates

Garry Connelly

1 September 2021

APPENDIX

Appendix A - Evidence presented (Reports, Documents, Photos, Videos, Data etc)

The Tribunal received many reports, videos, photographs and data pertaining to the event and specific incidents. A complete list of the evidence is below, containing 829 such pieces of evidence (numbers indicated in parentheses where applicable).

A large volume of email correspondence was also received. Due to the sheer volume and confidential, sensitive nature, these have been excluded from the below list and have been filed confidentially.

Unless otherwise stated, all evidence should be considered private and confidential due to the sensitive nature of the incidents.

Item	Type
Multiple written submissions and attachments (31)	Voluntary written submissions
Detailed submission by Targa Australia to the draft Report and Findings of the Tribunal	Organiser response to proposed Recommendations of the Tribunal
Entrant details, licence, registration, medical, claim form (6)	Competitor and vehicle data
Incident reports (2)	Official report
Incident video (1)	Video
Incident photos (10)	Photo
Scrutineer form	Official report
Start and finish tracking sheets	Official report
Targa Tasmania Briefing Presentation	Organiser communications
Various Stewards reports and paperwork (starting orders, classifications, infringement notices, penalties, bulletins) (36)	Stewards' reports
999 in-car footage	Video
999 car report	Official report
Entrant details, licence, registration, medical (6)	Competitor and vehicle data
Photos of incident and scene (133)	Photo
RallySafe incident list	Screenshot
Road book pages (2)	Stage information
Condition blue form	Stage information
Rally command log excerpt	Official report
Scrutiny tracking form	Official report
Stewards log	Official report
Photos of stage prior to incident (13)	Photo
Vehicle inspection photos (146)	Photo
Pre-event reconnaissance report	Word document
Motorsport Australia Preliminary Investigation Report Car 602	Motorsport Australia report
Motorsport Australia Critical Incident response Car 602	Official report
Various RallySafe data pieces (8)	RallySafe data

Incident (and relevant) videos (4)	Video
Entrant details, licence, registration, medical (6)	Competitor and vehicle data
Motorsport Australia Critical Incident response Car 902	Official report
Rally command log excerpt	Official report
Stage map	Stage information
Road book page	Stage information
Road Stewards Log	Official report
Scrutineering form	Official report
Service Crew Disclaimer	Vehicle and crew paperwork
Stewards Log Car 902	Official report
Rollcage and log book information	Vehicle information
Photos of incident and scene (169)	Photo
Vehicle inspection photos (162)	Photo
Motorsport Australia Preliminary Investigation Report Car 902	Motorsport Australia report
Motorsport Australia Car Inspection Notes	Motorsport Australia report
Various RallySafe data pieces (9)	RallySafe data
Cygnet Stage information (13)	Stage information
Incident (and relevant) videos (3)	Video
CMO Report	Official report
Various Medical Reports (11)	Official report
Recovery Team Photos	Photo
Safety plans, regulations, operations manuals (12)	Organiser information
Reconnaissance notes, road books, maps (5)	Stage information
Reports and video on top and average speed (7)	Car speed information
Incident report	Official report
Rally checker's pre-event report	Official report
Rally checker's post-event report	Official report
Competitor Medical Information	Medical information
Responses to Tribunal Questions by Targa	Responses from event organiser
Targa event timeline	Timeline

TARGA TASMANIA 2021 INVESTIGATORY TRIBUNAL

ADDENDUM REPORT

Investigatory Tribunal Appointment of Members

1. On 30 April 2021 the Motorsport Australia CEO, Eugene Arocca, established a special Investigatory Tribunal under Motorsport Australia's National Competition Rules.

2. Garry Connelly AM, Motorsport Australia's *Federation Internationale De L'Automobile* Delegate and Chair of the Australian Institute of Motor Sport Safety was appointed as Chair of the Tribunal. Matthew Selley and Neal Bates were appointed as Members of the Tribunal.

3. The Tribunal remains so constituted.

Terms of Reference

4. The Terms of Reference issued to the Tribunal by Motorsport Australia's CEO directed the Tribunal to investigate and report on fatal crashes involving Cars 602 and 902 in the 2021 Targa Tasmania event and to make recommendations to the Board of Motorsport Australia for steps to be taken to mitigate the risk of death or injury to participants in Tarmac Rallies conducted in Australia.

Method of Inquiry

5. The Tribunal has conducted its investigations and hearings in accordance with the Judicial Appendix to the 2021 Motorsport Australia Manual and the Guidelines therein.

Report 16 September 2021

6. On 16 September 2021 the Tribunal published a detailed report on its investigations to the Board of Motorsport Australia (**First Tribunal Report**).

Post-report submission received from Mr Glen Evans

7. On 28 October 2021, following the publication of the First Tribunal Report, Glenn Evans, the co-driver in Car 602 in the 2021 Targa Tasmania Event, wrote to the Motorsport Australia CEO to express his misgivings that he had not been invited by the Tribunal to give evidence to it, before the Tribunal published the First Tribunal Report. Mr Evans also submitted that some of the

observations made by the Tribunal in the First Tribunal Report regarding the context and circumstances of the fatal incident involving Car 602 were incorrect.

Tribunal Reconvened

8. Upon receipt of Mr Evans' submission to the CEO, the Tribunal determined to reconvene to consider Mr Evans' submission and to afford Mr Evans an opportunity to present evidence to the Tribunal, should he wish to do so.

9. The Tribunal took evidence from Mr Evans via video link at a hearing on 12 November 2021. At the same hearing the Tribunal received further evidence from Mr Stephen Sims, the principal of RallySafe.

Mr Evans' submission and evidence and the Tribunal's response

10. Mr Evans' submission dated 28 October 2021 to which he spoke at the hearing on 12 November 2021, raised the following propositions, the Tribunal's response to which appears below.

A. Mr Evans observed that he was not expressly identified in the Tribunal's first Report as a witness despite having been interviewed by Mr Scott McGrath, Division Manager – Technical Motorsport Australia, on 6 May 2021.

11. The Chairman of the Tribunal explained to Mr Evans at the hearing on 12 November 2021 that the Tribunal elected not to expressly invite Mr Evans to appear before the Tribunal to give evidence earlier, only because the Tribunal was aware that Mr Evans had been interviewed at length by Mr McGrath on 6 May 2021 and the Tribunal had received a detailed account of that interview by way of a written report from Mr McGrath.

12. The Chairman explained that the Tribunal had proceeded on the understanding that what Mr Evans had shared with Mr McGrath reflected his recollection of events and observations as to the cause of the accident and perceived shortcomings regarding the response to that accident, and assured Mr Evans that this information had been carefully reviewed by the Tribunal.

13. The Chairman further explained to Mr Evans that the Tribunal was sensitive to the fact that the incident must have been traumatic for Mr Evans and concluded that, unless Mr Evans specifically sought an opportunity to present evidence to the Tribunal, the establishment of which had been

widely reported, the Tribunal did not wish to cause distress to Mr Evans by requiring him to re-live the events in question.

14. The Tribunal had also noted that it had not received a written submission from Mr Evans after the call for written submissions from interested parties had been publicly announced on 17 July 2021. The non-receipt of a submission from Mr Evans had confirmed the Tribunal's expectation that Mr Evans did not wish to have any input beyond the account that he had given to Mr McGrath.

15. The Tribunal acknowledges that Mr Evans was the only eyewitness to the incident involving Car 602 and that his observations as to what occurred are unquestionably important and the Tribunal apologises to Mr Evans for any offence which may have been caused by the omission in the First Tribunal Report, of an express reference to the evidence he gave to Mr McGrath.

16. The Tribunal expresses its appreciation for the assistance Mr Evans provided to the Tribunal by participating in the detailed interview by Mr McGrath and for his subsequent contribution by the submission and the evidence he gave at the hearing on 12 November 2021.

B. Mr Evans submitted that the Tribunal's observation in the First Tribunal Report that Mr Evans sustained minor injuries in the accident is incorrect.

17. The Tribunal's observation in the First Tribunal Report that Mr Evans sustained minor injuries in the incident was drawn from Mr McGrath's Report. According to that Report, Mr Evans had been transported from the scene of the accident by ICV to Derwent Bridge and then transported by another MIV to the Hobart Hospital for observation. An injury to his finger was noted. It was that injury to which the Tribunal was referring. The Tribunal notes the submission by Mr Evans that the injury was case trying to free the driver of Car 602 from the car, rather than during the crash itself.

C. Mr Evans submitted that the suggestion in the Tribunal's first Report that Car 602 rolled down an embankment into Double Barrel Creek is incorrect.

18. The Tribunal respectfully disagrees with Mr Evans' submission that Car 602 did not roll into Double Barrel Creek. In arriving at its findings and compiling the First Tribunal Report, the Tribunal had the advantage of viewing in-car camera footage from Car 602 which includes footage up to and

including the point at which Car 602 left the roadway. Mr Evans acknowledged that he had not seen that in-car video. The Tribunal also received photographs of the accident scene which showed Car 602 upside down in the creek with only its wheels and undercarriage visible. Respectfully, the Tribunal stands by its finding that Car 602 rolled into the creek.

D. Mr Evans submitted that some observations made by the Tribunal in its first Report regarding Mr Evans' and the late Shane Navin's (the driver of Car 602) experience and recent competition history are incorrect.

19. Some of the information on this topic which appears in the First Tribunal Report was drawn from Mr McGrath's Report. It was otherwise gleaned from the "rallyresults" webpage for Motorsport Australia sanctioned tarmac rally events and the Tribunal concluded from the apparent absence of a reference to Mr Navin or Mr Evans in the timed competition results of a number of such events that neither of them had entered those events. The Tribunal accepts, unreservedly, Mr Evans' account that he and Mr Navin had participated in the 2019 Targa Great Barrier Reef, 2019 Targa High Country and 2021 Targa High Country events. However, the Tribunal considers that the omission of a reference to those events has no material bearing on the conclusions it reached with respect to the incident involving Car 602 at Targa Tasmania 2021 or to any of the recommendations the Tribunal has made.

E. Mr Evans disagreed with the Tribunal's observation that Mr Navin's steering input immediately preceding the incident were consistent with an unsettled car and lack of control.

20. In his evidence to the Tribunal Mr Evans steadfastly maintained that there were no shortcomings in the set-up of Car 602 and that the incident was not attributable to driver error by Mr Navin. Mr Evans was complimentary of Mr Navin's driving and told the Tribunal that he could vividly recall the car sliding on the wet road before it left the road but Mr Navin having applied corrective steering and having regained control. He told the Tribunal that he could recall telling Mr Navin over the intercom "Nice catch, mate!", confirming in his mind that Mr Navin had regained control. He then looked down at this pace notes and was taken by surprise when the car slid, driver's side first, off the right-hand side of the road. He suggested that the Tribunal's observations after viewing the in-car video that Mr Navin had made multiple and incorrect steering inputs was wrong and likely explained by the camera's optical image stabilisation system.

21. The Tribunal accepts that Mr Evans was genuinely relating his best recollection of the moments before the incident. However, the Tribunal is not persuaded that its findings with respect to the incident are incorrect. Mr Evans frankly conceded that he had not seen the in-car video. The Tribunal cannot accept that the camera's optical image stabilisation system is capable of depicting movement that did not in fact occur. The video was analysed in detail by each of the Tribunal members, particularly multiple Australian Rally Champion Driver and multiple Targa Tasmania winning Driver, Neal Bates, and an independent expert competition circuit and rally driver and instructor, Greg Crick. Mr Crick's observations as to the poor suspension set up on Car 602, the inability of the driver to control the car on the wet road, exacerbated by the use of dry compound R-spec tyres, incorrect placement of the vehicle on the road by the driver and ill-judged steering and throttle applications are established clearly by the video.

F. Mr Evans submitted that the Tribunal's observations regarding driver fatigue and concentration are not sustainable.

22. Mr Evans suggested that the Tribunal's observation that fatigue and lack of concentration may have played a role in the incident is speculative. However the Tribunal's conclusion was based upon evidence received from a number of other competitors in the same event, including much younger and more experienced competitors, who told the Tribunal that the itinerary was exhausting and that they were suffering from fatigue. The Tribunal cannot definitively conclude that fatigue was a factor in the incident involving Car 602, but equally the Tribunal cannot dismiss it as a likelihood given the consistent themes from other competitors. What matters, in the Tribunal's submission, is that regardless of whether fatigue was the causative element with respect to the Car 602 incident, there is a need to recognise the potential for fatigue to cause or contribute to incidents in future and it is for that reason that Recommendation 6 in the First Tribunal Report was made.

G. Mr Evans submitted that Rally Command failed to respond in a timely manner to the Car 602 incident to render emergency assistance.

23. Mr Evans was highly critical of the Organiser's failure to direct intervention from a rescue crew earlier. As is evident from Sections 6.7.1, 6.7.2 and 9.24.3 of the First Tribunal Report, the Tribunal concurs with Mr Evans that it is regrettable that Rally Command did not direct that a nearby FIV

be despatched to the accident scene following the receipt of a Rollover Hazard warning from Car 602. However, as discussed below, in some respects Mr Evans' assumptions as to the information conveyed by the RallySafe unit in Car 602 to other competitors and Rally Command is incorrect.

H. Mr Evans submitted that the Tribunal failed to fully investigate the organiser's failure to render emergency assistance earlier.

24. The Tribunal respectfully rejects Mr Evans' criticism that the Tribunal did not fully investigate the fact and reasons for the failure of Rally Command to despatch an emergency intervention vehicle to the accident scene earlier. These matters were the subject of a very detailed investigation by the Tribunal with the assistance of Mr Sims and the co-operation of the Clerk of Course of the event. Recommendations 18, 19, 21 and particularly 22 and 23 all stem from that investigation and the Tribunal steadfastly stands by each of those Recommendations. A detailed discussion of the evidence regarding the delay by Rally Command in responding to the incident appears at Section 6.7.1 of the First Tribunal Report.

25. Having taken further evidence from Mr Sims, the Owner and Principal of RallySafe, the Tribunal wishes to correct one finding of fact in the Tribunal's First Report. At paragraph 6.7.1.m on page 26 of that Report the Tribunal quoted from a report compiled by the Division Manager – Technical Motorsport Australia, Mr McGrath, which suggested that Rally Command had received a manual SOS signal from Car 602 at 10.07am, approximately 4 minutes after the accident and approximately 3 minutes after a Rollover Hazard warning had been received, the latter being a warning automatically generated by the Rally Safe unit in Car 602 after sensors detected the car was inverted.

26. The time of the manual SOS signal referenced by Mr McGrath was taken by him from a Rally Command Log which was tendered in evidence before the Tribunal. It also appeared to be confirmed by a screen dump from the RallySafe system which the Tribunal also received. According to Mr Sims, a manual SOS was activated on the RallySafe unit in Car 602 (by Mr Evans) but not at 10.07am, rather at a point in time which Mr Sims cannot now precisely confirm from the data but at between approximately 10.14am and 10.18am. Mr Sims was adamant that a manual SOS was not activated on the RallySafe unit in Car 602 before 10.14am.

27. With good reason in the Tribunal's opinion, in his evidence to the Tribunal Mr Evans was critical of the conflicting time data. Given his intimate understanding of the RallySafe system and undoubted qualifications to interpret the data it captured, the Tribunal defers to Mr Sims' explanation. In the event, the precise time at which Mr Evans pressed the manual SOS button matters little. By that time Mr Navin had sadly passed and, as the Tribunal explained in the Tribunal's First Report, steps ought to have been taken to investigate the earlier Rollover Hazard warning and, in the absence of any response from the crew of Car 602, to despatch the nearby FIV to the scene.

I. Mr Evans submitted that the Tribunal's conclusion that the RallySafe signal in Car 602 was compromised by damaged external aerial, water immersion or the location of the car is wrong.

28. Mr Evans suggests that the Tribunal's observation that communication from the RallySafe in Car 602, when the car was inverted in the creek, to Rally Command and other competition cars approaching it on the stage are conjecture.

29. In order to confirm the validity of the findings it expressed with respect to these matters in the First Tribunal Report, the Tribunal heard further evidence from Mr Sims on 12 November 2021. That evidence demonstrated unequivocally that the Tribunal's observations with respect to this topic in the First Tribunal Report were correct

30. Mr Sims told the Tribunal that, because of the damage to the external RallySafe aerial on the roof of Car 602 caused in the rollover, and the inversion and submersion of the supplementary interior RallySafe aerial in the flowing creek, there was no direct communication from the RallySafe unit in Car 602 to Rally Command after Car 602 had rolled into the creek. However, the RallySafe system uses the RallySafe units in nearby vehicles as "repeater" units such that those units are capable of receiving a signal from a stopped car's RallySafe unit and transmitting it as a repeated signal to Rally Command. Mr Sims' evidence to the Tribunal is corroborated by the data which reveals that the Rallysafe communications from Car 602 following the accident were received at Rally Command only as repeated communications from other competition cars as they passed Car 602's location. Moreover, the Tribunal received in evidence the incar footage recorded by the camera in one of the cars which started the Mt Arrowsmith stage after Car 602. The RallySafe screen in that following car is clearly visible in that video. Hazard warnings were flashed on that screen at several points in the stage where other vehicles were stopped, one only a kilometre

before the Car 602 accident site. However, no hazard warning appeared on the screen when that car approached and passed the Car 602 accident site.

31. Mr Sims explained to the Tribunal that the ability of the RallySafe unit in another vehicle to receive a signal from a stopped car depends on distance, terrain and elevation. On level ground and when one unit has an uninterrupted "line of sight" of the other unit, the RallySafe unit in an approaching car would typically receive a signal from the unit in the stopped car ahead of it approximately 500 metres before it. However, if the signal is impeded by buildings or trees or the stopped vehicle is over a brow or at a different elevation, the distance at which the approaching car will receive the signal is significantly compromised.

32. According to Mr Sims, in this case, because Car 602 was approximately 4 metres below the road surface and both its aerials were compromised, it is highly unlikely the RallySafe units in any of the multiple cars that passed the accident scene, unaware of Mr Evans' and Mr Navin's plight, emitted any warning display to the crew of those cars at all. He explained that if the signal is not received until the point at which the approaching car passes the stopped car, or the approaching car is already passed the stopped car, no hazard will be displayed on the RallySafe unit in the passing car even though the RallySafe unit in that car has repeated the hazard warning from the stopped car to Rally Command.

J. Mr Evans submitted that features of the RallySafe system did not work as they should, or at least as competitors had come to expect over the years.

33. Mr Evans told the Tribunal that over several years of participating in Tarmac Rallies and using the RallySafe System, he has held the understanding that in the event that a car is involved in a high "g" impact or rollover in a live stage and no response is given by a crew member to a prompt on the RallySafe unit requesting advice if the crew is okay or requires assistance, the RallySafe unit will automatically default from a "hazard" warning to an "SOS" warning. He told the Tribunal that he expected that the RallySafe unit in Car 602 would have automatically defaulted to an SOS signal because he never pressed "OK" on the unit in the car after the incident. He suggested to the Tribunal that each of the following cars should therefore have received an "SOS" signal from Car 602 on approach to Car 602, and Rally Command should have received an SOS signal from Car 602.

34. The Tribunal has reconfirmed with Mr Sims that the RallySafe unit will only automatically default to an SOS signal in the event that the unit has recorded a g-force of at least 14G. Because the incident involving Car 602 did not occur at high speed, and the roll into the Double Barrel Creek was relatively gentle, the g-force recorded on the RallySafe unit in Car 602 was only 7G – insufficient to trigger the automated default SOS signal. According to Mr Sims, this default trigger threshold in the RallySafe system has remained unchanged for some years.

35. The Tribunal also notes, again, that Mr Evans' conclusion that the RallySafe units in approaching cars must have displayed a warning with respect to Car 602, is misplaced, given the position of Car 602 and the fact that both of its aerials were compromised.

K. Mr Evans told the Tribunal that after the accident the screen on the RallySafe unit in Car 602 did not function.

36. Mr Evans gave evidence that following the incident the screen on the RallySafe unit in Car 602 went "black" such that he could not see anything displayed on the screen and had to judge what buttons to press by memory.

37. According to Mr Sims, it is highly unlikely that the screen on the unit in Car 602 went "black" as Mr Evans suggests, although this possibility cannot be definitively excluded given that the unit was impounded by Tasmania Police and has not been available for analysis by RallySafe or the Tribunal. According to Mr Sims, the RallySafe unit in Car 602 continued to transmit data correctly following the incident, suggesting that it was not damaged. He told the Tribunal that he has never known of a screen on a RallySafe unit to fai,l unless the unit has sustained obvious and heavy damage or has been destroyed by heavy impact or fire.

L. Mr Evans submitted that the Driver of Car 602, Shane Navin, may have suffered a head injury that might explain a loss of consciousness making it impossible for Mr Navin to extricate himself

38. Mr Evans told the Tribunal that when he went to attempt to assist Mr Navin to exit the car, he noticed that Mr Evans' belts were undone, and his helmet was against the roof of the inverted car. Mr Evans suggested that there may have been insufficient clearance between Mr Navin's helmet when in normal seated position in the car and the roll cage and that Mr Navin's helmet may have

struck the roll cage in the rollover causing a head injury which had not yet led to a loss of complete consciousness at the time he unfastened his harness, but did so shortly thereafter.

39. The Tribunal is not privy to the Coroner's findings as to the cause of Mr Navin's passing nor post-mortem details which may or may not confirm a head injury. The Chief Medical Officer told the Tribunal that he had concluded that the most likely cause of death was drowning. Detailed photographs of Car 602 taken after it was recovered from the accident site show minor damage to the roof skin on the driver's side but no apparent damage to the roof frame or roll cage. It is impossible for the Tribunal to now form an accurate conclusion from those photographs of the distance between what would have been the top of Mr Navin's helmet and the roof or the roll cage. However, the photographs do depict roll cage padding on the longitudinal roll car adjacent to the top of the driver's seat.

40. Article 13.1 of Schedule J of the Motorsport Australia Manual mandates that for a rally vehicle the top of the main roll bar tubing shall be a minimum of 50mm above the top of the driver's helmet when in the normal seated position. As discussed above, the Tribunal has no way of knowing whether this Article was complied with. Mr Evans submitted that Schedule J should also specify a minimum distance between the top of crew member's helmet to the nearest point of any roll cage. The Tribunal considers that this suggestion is best considered by the Motorsport Australia Technical Department but we note in this case that, as recommended by Motorsport Australia, Car 602 was fitted with winged type FIA approved seats such that it would seem unlikely that the helmet of an occupant, if wearing a frontal head restraint system (as Mr Navin was), could have struck the padded longitudinal bar to the right of the top of his helmet assuming that Mr Navin's harness was properly secured, and it being clear from the photographs that the roll cage around Mr Navin's helmet was not compromised in the accident.

M. Mr Evans submitted that the First Tribunal Report does not mention whether competition cars following on the stage received a "SOS" or "hazard" signal on their RallySafe unit.

41. Mr Evans submitted that the Tribunal failed to investigate whether following cars received an "SOS" or "hazard" warning on the RallySafe unit in their cars and failed to heed any such warning. The Tribunal respectfully rejects that submission. What may, or may not, have been displayed on the screens in following cars was investigated by the Tribunal at first instance and was the subject

of evidence from competitors in at least one other vehicle. As explained above, confirmatory evidence was received from Mr Sims that it is highly unlikely that the RallySafe unit in any approaching car displayed any warning given the position of Car 602.

42. Mr Evans also told the Tribunal that shortly after the incident he had repeatedly pressed the manual "SOS" button on the RallySafe unit in car 602. That evidence is not consistent with the data transmitted by the Car 602 RallySafe unit. According to that data, a manual SOS was not pressed on the RallySafe unit until at the earliest 12 minutes after the incident. The fact that a manual SOS was triggered at some point between 12 minutes and 17 minutes after the incident is confirmed by the RallySafe unit data, but the precise time the button was pressed cannot now be established.

43. The triggering of the manual SOS on the RallySafe unit caused a text message to be sent to Mr Evans' phone from Rally Command enquiring if he was "OK"? However, given the absence of mobile phone reception in the area of the incident, that message was never received. The Tribunal agrees with Mr Evans that, in the absence of a response to that text message, an FIV ought to have been dispatched to the scene. However, it is obvious that by then so much time had elapsed that there was no prospect of a response crew extracting Mr Navin from Car 602 in time to save his life.

N. Mr Evans submitted that the "backup" tracking system employed by Targa was insufficient.

44. Mr Evans' submission is consistent with the Tribunal's findings in the First Tribunal Report regarding the "manual tracking" of vehicles and explains the Tribunal's inclusion of Recommendation 22.

O. Mr Evans submitted that three additional recommendations should be adopted by the Tribunal:

"*Investigation of Erroneous Downgrading of Car 602's 'SOS' Signals*"

45. Mr Evans' submitted that Motorsport Australia should investigate why, and how, the automatic 'SOS' and 'Manual SOS' signals from Car 602's RallySafe unit were downgraded to "Hazard", when

both the RallySafe Competitor User Manual, Version 2.0 dated 09/02/2021, and the RallySafe "Briefing Video Tutorial" state that 'Cancel' (or 'OK'?) must be selected to cancel an 'SOS'.

46. As discussed above, there was no "Automatic SOS" activated by the RallySafe unit in Car 602 because the g-forces in the accident were low. Further, according to Mr Sims by reference to a detailed timeline he produced for the Tribunal, after Mr Evans pressed the "Manual SOS" at between 10.14am and 10.18am, the Rollover Hazard warning was not repeated.

"RallySafe: Add 'Rescue' Option to 'Medical' and 'Fire' on SOS Response Screen."

47. The Tribunal invites the Motorsport Australia CEO to refer Mr Evans' suggestion in this regard to the Australian Rally Commission (ARCom) and to the Tarmac Rally Working Group (TRWG) for consideration.

48. Mr Evans submitted that in all cases when a car is involved in a rollover, and the RallySafe unit displays a hazard warning, it should automatically default to an SOS signal. That is to say, Mr Evans suggested that the default SOS trigger caused by a high g-force reading should be reviewed and that in all cases a default SOS signal should be emitted whenever a crew member of a stopped car does not press "OK".

49. While the Tribunal sees some force in Mr Evans' suggestion, the Tribunal received evidence from the Organisers and Mr Sims that a failure on the part of a crew member to press "OK" after a vehicle stops on a stage is commonplace even when no assistance is required, and the car is stopped due to a mechanical failure. Were the RallySafe unit to automatically default to SOS in such circumstances, FIV's would have to be dispatched unnecessarily resulting in the possible cancellation of the stage unjustifiably. The Tribunal considers that this issue would be best considered by the ARCom and the TRWG.

"*In-Car Reflective Triangles: triangles should be carried where they can be accessed easily when the door is closed."*

50. Mr Evans told the Tribunal that he did not erect a warning triangle up on the roadway ahead of the accident scene because the safety triangles in Car 602 were strapped to the roll cage behind the seats in a position which he could not reach. Mr Evans submitted that the Tribunal should

make a recommendation requiring safety triangles to be within reach of the crew at all times. Again, the Tribunal considers that this suggestion is best considered by ARCom and the TRWG.

51. The Tribunal also notes that, in relation to the Car 602 incident, it seems unlikely that the absence of a safety triangle before the accident scene contributed to the unfortunate delay in Mr Evans receiving assistance. Indeed, the erection of a safety triangle before Car 602 may, on its own, have only conveyed to approaching cars that a stopped car in the vicinity did not require assistance, because one crew member at least had exited the car to erect it. What was needed in the case of car 602 was for Mr Evans to have held up an "SOS board" or to have otherwise used a hand signal or gesture to alert oncoming crews that he required assistance. The Tribunal has recommended the adoption of a universal gesture to address this issue – refer Recommendation 15.

The Tribunal

March 14, 2022

Garry Connelly, Matthew Selley and Neal Bates

TERMS OF REFERENCE

TARGA REVIEW PANEL 2022

A Review Panel is established by the Motorsport Australia Board (**Board**) to advise on the running of Targa style events in Australia, including but not limited to the organisation, planning, eligibility for, and conduct of such events .

1 Background

1.1 Targa events are run in various parts of Australia under the auspices of Motorsport Australia.

1.2 During the running of Targa events in 2021 and 2022, three competition vehicles were involved in crashes which resulted in four fatalities. The three deaths that occurred in 2021 during the running of Targa Tasmania were investigated by a Tribunal commissioned by Motorsport Australia. That Tribunal prepared a detailed report into those deaths and made 23 recommendations directed at making the Targa events safer for participants. All recommendations made by the 2021 Tribunal were adopted by the Board of Motorsport Australia and reported as having been implemented in full, or in the process of being implemented, prior to the commencement of the 2022 Event.

1.3 It is understood that the Tasmania Police will investigate the death of the participant in the 2022 Targa Tasmania and the Tasmanian Coroner may also hold an inquest into the death. Motorsport Australia will continue to offer its assistance to the investigating agencies but does not wish to duplicate nor prejudice those investigations. Motorsport Australia does, however, require the Review Panel to consider all aspects of Targa events for the purpose of preparing a report for the Board so that it can consider the appropriateness of its role as a governing body in future Targa events and, if it is decided to have such a role, what conditions should apply to the sanctioning of such events.

2 Composition of the Review Panel

2.1 The Board has appointed the following three independent members each of whom has a significant amount of relevant experience in motorsport in Australia and internationally:

(a) Chairman: Mr Garry Connelly AM

(b) Members: Mr Matthew Selley and Mr Neal Bates

(c) Secretary: Curtis Deboy

3 Purpose of the Investigation

3.1 The purpose of the investigation is to provide advice and recommendations to the Board on the following topics:

(a) if the risk posed by competitive Targa tarmac rallies of fatal or serious incident is too high to justify holding those rallies in their current form;

(b) under what conditions, if any, including those related to vehicle and driver eligibility, should the Board consider that competitive Targa tarmac rally events could be held in order to eliminate so far as is reasonably practicable, the risk of incidents resulting in the death of, or serious injury to any participant; and

(c) to make any observation or comment regarding the holding of and form of Targa events which the Review Panel in its expert opinion considers would assist the Board in addressing the matter raised in clause 1.3 above, including any related to vehicle or driver eligibility.

3.2 Motorsport Australia has declined to permit any further Targa events in Australia to be held under its auspices until it has received and considered the Review Panels report. It is

expected that the Review Panel will provide its report to Motorsport Australia by 30 November, 2022.

4 Conduct of the Review Panel

4.1 The Review Panel is to conduct itself in accordance with the procedures annexed to these Terms of Reference (**Annexure A**).

4.2 The Review Panel should inform its work and gather data through:

(a) The collection of information and (if thought appropriate) submissions from various sources concerning the safe conduct of competitive tarmac rallies in Australia and internationally and the criteria for eligibility of cars and crews;

(b) inviting witnesses to provide expert opinion or information in accordance with the procedures in Annexure A, as the Review Panel considers appropriate;

(c) requesting documents, data, video, photo or any other such material the Review Panel considers relevant to their investigation, particularly from Motorsport Australia and Targa event organisers or Targa style tarmac rally competitors; and

(d) considering and reviewing incidents at competitive Targa style tarmac rallies conducted nationally and internationally, as the Review Panel deems relevant.

4.3 The Review Panel is also asked to have regard to the 2021 Tribunal Report and any other relevant investigation, review or inquiry into the safe conduct of tarmac rallies nationally and internationally.

4.4 The Review Panel reserves the right to appoint or otherwise draw on any expert adviser who will assist the Review Panel in its review of Targa events in Australia.

5 Timing

5.1 The Review Panel is expected to provide its report and recommendations by 30 November, 2022 unless an extension is requested by the Review Panel and granted by the Motorsport Australia CEO.

5.2 The Review Panel should request any resources it requires to complete the Review in the time stipulated. Such requests should be made to the Motorsport Australia CEO.

20 May, 2022

Annexure A

1 Procedures

1.1 The Review Panel will convene at the direction of the Chairman of the Review Panel.

2 Submissions

2.1 The Review Panel can invite written submissions from any person or entity they consider relevant on nominated topics.

2.2 The Review Panel may also request signed written statements from relevant witnesses on nominated topics.

2.3 Further requests for additional statements, or for specified parties to attend a hearing, may occur at the discretion of the Review Panel.

2.4 The Review Panel may request documents, data, video, photographic or any other form of material from event organisers, Motorsport Australia and any other relevant party as they consider appropriate.

2.5 The Review Panel cannot compel the production of material.

3 Hearings involving witnesses

3.1 A suitable room/s will be provided, with adequate space for the Review Panel and each attendee including witness.

3.2 Hearings can also be conducted via Zoom or Microsoft Teams.

3.3 A hearing must include every member of the Review Panel.

3.4 Each hearing will be recorded in full by means of audio, video or written transcript format.

3.5 Media is prohibited from attending hearings of the Review Panel.

3.6 At the start of each hearing, the Chair will announce the opening of the Review Panel hearing, explain the Review Panel's Terms of Reference, its composition, and the purpose of its sitting.

3.7 If necessary, the hearing can be adjourned, and the witness can be called at a later time.

3.8 All witnesses are able to have one support person present, at their discretion.

3.9 The laws of evidence do not apply to hearings of the Review Panel.

3.10 Material may be tabled during the hearing and the Review Panel may make a determination as to their source, validity and relevance.

3.11 The Review Panel should provide an opportunity for witnesses to review the accuracy of any recording of their evidence on written request.

3.12 The weight to be given to the accounts and opinions of witnesses, in hearings and in statements, is a matter for the Review Panel.

3.13 The Review Panel may seek advice (including legal advice) regarding the collection of evidence, the holding of hearings in which persons are asked to give evidence and the form of its report.

3.14 Unless compelled to do so by law, the Review Panel shall not release any of the evidence (documentary or oral) it collects or has access to as part of the review process other than to Motorsport Australia.

List of evidence provided to Panel

Evidence	Provided by
Batch of photos from scene	Motorsport Australia
Further photos from scene	Responders Mike Saunders, Peter Rumball
Event Checker Report	Fro Horobin
Competition Checker Report	Lynn Rattray
Car and Incident Notes	David Stuart
Photos from scene	David Stuart
Video of Mt Roland stage, car extraction	David Stuart
Extensive FIA R-GT technical documentation	Scott McGrath
Extensive Motorsport Australia technical and homologation documentation for Lotus	Scott McGrath
Medical Delegate Report	Rik Hagen
Lotus Exige Rollcage Analysis	Triple 8
GT Production Car Regulations	FIA
Lotus Exige Homologation Information	FIA
In-Car Video	Simply Sports Cars
Licence History – A Seymour	Motorsport Australia Membership
Medical History – A Seymour	Motorsport Australia Membership
Recce declaration, entry, medical forms	Targa
Safety Cage Certificate	Motorsport Australia Technical
Scrutineering Documentation	Targa
Competitor List	Targa
Logbook Documentation	Motorsport Australia Technical
Command Centre Call Logs	Targa
Mt Roland Tracking Sheets	Targa
Mt Roland Accident History	Targa
97 Submissions	Public, TCRAA, TRWG
Extensive Stewards Report	Targa
Rally Checkers Pre and Post Event Report	Targa
A Seymour Injury Report	Targa
Competitor Briefing – Safety Slides	Targa
Clerk of the Course Report	Targa
Safety Delegate Checklist and Notes	Targa
Safety Plan	Targa
Medical Report	Targa
Roadbook	Targa
Vehicle Data	Simply Sports Cars
Speed Report	RallySafe

No.	Design nd conduct of the event with respect to participant safety	Eligibility of drivers and co-drivers for the event with respect to individual skills, experience, assessment and medical requirements	Eligibility of vehicles with respect tyres, performance, safety equipment, preparation and setup	Forename	Surname
97	Design of the event: 1.Two of the fatal accidents in the last two year's Targa Tasmania ("TT") were on wet or damp roads. End of April/start of May in Tasmania is traditionally cooler and wetter than early March in Tasmania. Targa Australia announced in April 2020 that future Targas would be in early March including the 2021 TT but subsequently decided to revert to the late late April date so it could fit in the (Covid) delayed Targa High Country. So, Targa Tasmania should be mandated to be run earlier in the year when the weather is warmer and drier. Although that wont guarrantee better conditions it will increase the likelihood. 2. Five of six days of competition is a lot for many drivers, most of whom are not professional drivers and are largely an older demographic. Fatigue is an inevitable consequence - last year's committee of enquiry found that to be the case. A solution may be to have say two days of competition and then a rest day and then the remaining 3 days of competition. That is 5 days of competition total - TT 2022 was really only 5 days of competition spread over 6 days so this proposal would not actually lengthen the event. Also it would be better for the older classic cars who are likely to need more serious maintenance mid event. Strahan would be a wonderful place to have a rest day. Conduct of the event: 1. Last year's Committee of enquiry made important recommended changes in its report of September 2021. However as at April 2022 recommendation numbers 8 (Car Setup), 9 (Car Setup) and 11 (Drivers Skill not matching cars potential), 12 (Driver medical Condition) and 14 (Driver/Codriver preparation and awareness) still hadn't been implemented by Targa Tasmania. This is surely inexcusable ? 2.For Targa Australia to send out the "Safety Delegate Notes" to competitors addressing the Vehicle setup issue on 25 /4/22 (i.e the day before the event started and a public holiday when it was clearly too late for anyone to effect fundamental changes to vehicle setup) is just laughable / embarrassing. Really there is absolutely no reason why that advice could not have been sent out months before at a time when competitors would have had the ability to seek advice and make necessary changes. 2. On the Mount Roland stage at this year's TT about half way into the stage a white road going Toyota Camry trundled out on to the stage in front of us as we came over a crest, necessitating some evasive action. Fortunately the Camry was far enough away when we came over the crest so there was enough time to take evasive action but if the Camry had come on to the stage at a different point this could have been another fatal accident. How did Targa Australia allow this to happen ? My navigator reported this incident to the CRO at the time and followed up with Gopro footage but we never hard back anything. Has Targa Australia investigated how this happened and made changes to ensure no repeat ? I can provide the Gopro footage to the Review panel if required.	Last year's Committee of enquiry addressed these issues to a good degree i.e. recommendations 11 (Drivers Skill not matching cars potential), 12 (Driver medical Condition) and 14 (Driver/Codriver preparation and awareness) but these still havent been implemented by Targa Tasmania - implementing these promptly would be a good start.	Two of the most important safety innovations in road car design over the last 50 years have been ABS brakes and stability control. However, many modern tarmac rally competition cars intentionally disable these features. I understand the reason being that in the hands of very competent and experienced drivers with great reflexes a tarmac rally car will be quicker with these devices switched off. However, not all tarmac rally competitors are "very competent and experienced drivers with great reflexes" and their safety would undoubtedly be increased if these devices were mandated to be left engaged. How would this be enforced given that on most cars it just takes a couple of buttons to be pressed for them to be switched off ? A solution may be for the top 5 or 10 placegetters in an event to submit their car computers to be interrogated to see if on any stages those devices were switched off and if they were for them to be disqualified and fined. There are no doubt other enforcement options that could be devised.	Jeffrey	Wilson

96	We have safety concerns with conducting events that include competitive stages that require/ permit participants to travel at speed over sections of public road in excess of the what is the posted speed under normal operating conditions. This is due to the fact that the road environment and the associated infrastructure is generally not designed to support higher speeds. Therefore events that are conducted on public roads should be limited to touring type events only that are also subject to a site specific risk assessment having been undertaken. Competitive events or stages should only be conducted on circuits that provide an appropriate safety environment for participants, spectators and the general public.			Charles	Mountain
95	Refer to TRCAA Submission to Targa Review Panel emailed to Curtis Deboy for submission on 29 July 2022	Refer to TRCAA Submission to Targa Review Panel emailed to Curtis Deboy for submission on 29 July 2022	Refer to TRCAA Submission to Targa Review Panel emailed to Curtis Deboy for submission on 29 July 2022	Samantha	Winter

94	Our biggest concern regarding the design and conduct of the event - ReconnaissanceRecce Notes initially issued on 10/12/21 were then superseded by V2 on the 08/04/22 – Two (2) weeks prior to start of event. Most competitors had already competed recce by the time this second version was released. Most of the changes were added RTZ's, while we understand this was a safety measure, additions like these have the potential for confusion and loss of concentration by both crew members when the locations are not added to pace notes prior to competing. Below is extracted from the event requirements and states that we were required to sign a disclaimer declaring that we had completed at least one (1) pass of each stage. Surely for safety there is no reason why RTZ's could not have been included in the initial version – even if they seemed unnecessary at the time, it would be much easier to remove them in a bulletin rather than adding them.We are an experienced crew, and one of the very few that writes their own pace notes in entirety. We have viewed in-car footage from various crews in many events and its fair to say that there are many inexperienced co-drivers competing and purchase notes written by others ie; Smoothline. Most people would find it frustrating to make last minute changes and risk making unchecked mistakes……Why make the process harder than it needs to be??14.2 Compulsory Safety/pace Notes Check All competitors/crew using any form of safety/pace notes at the event, must declare that they have conducted a minimum of a single reconnaissance of each TARGA stage included in the event reconnaissance notes for the event. All competitors using safety/pace notes will be required to sign and submit a Safety/Pace Notes in use disclaimer form before they will be granted final permission to start the event.- ScrutinyWhen our apparel was being inspected at scrutineering at the Silverdome, the scrutineer took particular interest in my helmet. I asked if there was a problem of which he stated that he needed to obtain some further advice. The helmet was taken to what I believed to be a more senior scrutineer for further inspection and discussion. Upon return, I enquired as to what the problem was of which he shared no information, other than to say that we were approved and good to go. After we have completed the George Town stage on the 1st day of competition we were approached by a scrutineer to once again inspect our helmets. Again. We again asked the same questions of which he stated that he needed to check something. On return to the Silverdome that same day we were approached by another scrutineer wanting to inspect our helmets, again we queried why and were told that he was looking for the certification stickers. We advised that the stickers were in our vehicle logbook as the helmets had been recently painted. We supplied these for inspection and again no further comment was made. We began day two (2) and completed all stages. The competition class cars were stopped from any further competition participation after the fatality that occurred on the Mt Roland stage. We did not participate in the Tour section and our car was sent back to Melbourne.On Friday 29th April, while the event was still running as a Tour, we received a text message from the scrutineer stating that our helmets did not comply and were five (5) years out of date! We were not aware of the ten (10) year expiration date, and while we acknowledge now that we should have known…..we would have replaced them without question. We had competed in: Targa Tasmania 2019 & 2021, Targa High Country 2019, 2021 & 2022 and several events in the ATR Series……with the same helmets that had expired in 2017 and again not a single comment from a scrutineer! We now seriously question the training of Motorsport Australia accredited scrutineers. It should also be noted that the scrutineer texting commented that we were not the only ones!	- RallySafeWe think there should be more training in the use and understanding of RallySafe for driver and co-driver/navigator - in both functionality and operation.If we are expected to be completely reliant on this system for our safety and for the safety of our fellow competitors this must be a face-to-face training session which would require testing of competency (1-2hr duration) - this must form part of our licencing requirements.We could probably assume that most of the drivers that have sat through a RallySafe drivers briefing presentation don't take it in, as its assumed to be the co-drivers responsibility. Example: In the case of an accident, co-driver unconscious, would all drivers know what to do and how to operate the RallySafe??	- Wet Weather Tyres I personally believe that the wet weather tyre rule is fraught with danger as not enough testing has been carried in the conditions that are experienced in Tasmania.In all other events our Lotus is fitted with Yokohama A050 tyres of which is a very common and successful for these style of events. I had also used them in all other tarmac events in wet & dry conditions.Whilst not being an expert in this field, in the lead up to the event I did some research and consulted with a Yokohama expert on the new rule and was not convinced that the suitable wet weather tyre for our car being a Yokohama A052 would actually be suitable based on the following facts.o A052 tyres need to be up to a certain temperature to work in wet conditions.o These tyres are only effective in torrential rain where there are sheets of water on the road.o Traditionally the event is run in in wet conditions and the ambient temperature on the West Coast is colder. Achieving correct tyre temperature may not be achievable in certain areas.o The A050 tyre is suitable and effective for wet conditions as the required operating temperature can be gained very quickly.o If you have a mixture of dry & wet conditions on a long stage, the A052 will deteriorate and not provide the required grip.Based on the expert advice provided, we made the decision to only take the A050 tyres .We were being serviced by Lotus Cars Australia as were many others. In the service area prior to the lunchtime stop and before the Mount Roland stage we witnessed a frenzy of about ten Lotus cars trying to predict the weather forecast and all requesting tyre changes to the A052. Several of them asked what we were going to do, of which I stated and shared the expert information that I had learnt and that we were not changing from the A050, of which we believe was the 100% correct decision to be made. I also learnt whilst asking questions about the suitable tyres, that whoever made the new rules, that the various tyre manufactures were not consulted???	Neil & Sue	Cuthbert

93	With 25 years of rally experience in Australia and abroad, including almost 20 consecutive years of Targa Tasmania competition history, I have a well-developed knowledge of course design, the way events are conducted and the level of competitor understanding across both the Tarmac and Gravel fraternities. I have contested close to 300 rallies including approximately 130 Tarmac rallies and have achieved victories in Targa Tasmania, ARC (gravel) events and many other rallies. I continue to compete at the highest level on both gravel and tarmac, working with serious outright competitors, raw novices and others in between. Of all the events I have contested, Targa Tasmania is unique. It is significantly longer and less compact than other events, also attracting a different cohort of competitors.I believe there is ample opportunity to make significant gains in Tarmac Rally safety without sanitising the experience for competitors. Before making any comment on how the situation could be improved, I believe it's important to illicit my perspective on some parts of our current system.In relation to course design, I believe there are 3 types of hazard: 1. Obvious hazards, being those that are evident to most people: eg high speeds on straights.2. Hidden hazards, being those that are difficult for the untrained eye or the casual competitor to recognise.3. Perceived hazards, aren't really hazards but rather sections that may look risky to the untrained eye ie: an object near the roadside but in an area where the natural flow of the road would take the competition vehicles away from. I would propose that much of the "safety focus" in recent years has been on areas of perceived hazards.Recommendation 7 of the 2021 MA Investigatory Report focussed on identification of hazards that exist off the edge of the road, suggesting a Targeted Risk Assessment be carried out for any that are uncovered.To me this implies the use of a nuanced system, assessing stages for fluctuations in risk level, aiming to identify and protect sections or road features that pose a higher risk than others. I would suggest this black-spot approach, based around investigation of the common features of serious accident sites and developing a targeted response to mitigating risk would be a great leap forward in our sport.Given the ongoing focus the FIA place on competitor safety in motorsport, it is imperative we compare our current practices and ideology to the FIA's recommendations.Article 4.1 of the FIA Rally Safety Guidelines 2022 states:"Average speed is not an indicator of the suitability of a special stage, though it is one consideration in any choice. High-speed sections are not necessarily dangerous. It all depends on the surroundings; are there large drops, cliff faces, established tree line, a sudden corner or jump that would present a risk? All factors that come into consideration that are affected by speed in that section, not the overall average speed of the stage. Are there any high-speed points? Are these areas of prolonged high-speed? "In contrast, from my viewpoint the currently implemented approach appears to be based on the presumptions that:1. the level of risk is linear across the entire length of a stage or even across a full event,2. that speed poses the greatest risk to competitor safety and 3. slowing cars in one part of a stage will make the remainder of the stage inherently safer.Despite the FIA indicating that "average speed is not an indicator of the suitability of a special stage" and "high speeds are not necessarily dangerous", it appears events and stages are currently judged primarily on their adherence to a prescribed maximum average speed, with speed-limiting safety measures generally positioned to limit terminal speed (mid-way along straighter sections of road).The gravity with which speed is currently assessed as a hazard is reflected in the 2021 MA Investigatory Tribunal's findings where the 1st 3 recommendations relate directly to speed. The report does however, in article 9.3.1, note that artificial speed reduction methods do "nothing to improve the safety of competitors if their sole purpose is to reduce the average speed"Under our present system, event administrators are responsible for assessing risk and implementing control measures (road book cautions, caution boards etc). Without any intent to undermine or devalue the work of those officials, I believe that Obvious Hazards and Perceived Hazards are well catered for, however Hidden Hazards have not received the attention they deserve. An increased focus on identifying Hidden Hazards and their relationship to known Black Spots would, I believe, go a long way toward reversing the recent trend of having regular fatal accidents.Under the currently utilised risk matrix, administrators are tasked with predicting the likelihood of an incident on course as well as the potential outcome (which is largely focussed on guesstimating the severity of damage to the vehicle and occupants in a theoretical crash). This is an extremely subjective system and from my perspective is not being carried out by those most qualified to estimate the likelihood or magnitude of potential incidents.With 7 of the 9 fatalities investigated in the AIMSS report displaying cause of death as either head injuries from contacting the ROPS (presumably in a sudden stop) or ingress of a tree into the cabin, I believe it would be worthwhile to, in conjunction with a focus on Black Spot identification, investigate a risk matrix revision that focusses on more objective factors	Through my discussions with competitors across all parts of the field and have been presented perspectives which reflect their level of experience or place in the field. I'm frequently told information that is factually incorrect, particularly around who's crashing and where. To me, safety initiatives need to be applicable to competitors in all parts of the field, while targeting new and casual competitors as well as those who fit the profile of those currently having serious incidents. In my experience, serious crashes tend to occur in the 2nd quarter or middle third of the field. In my opinion, drivers at the front generally possess a more finely tuned knowledge base and skillset, and I suspect those at the rear tend to be going slowly enough to generally avoid catastrophic incidents. The risk is largely borne by the semi-experienced competitor whose ambition exceeds their KNOWLEDGE more than their ability.Rallying, both on Gravel and Tarmac, attracts a large number of casual competitors who compete infrequently. This is perhaps most true of Targa Tasmania. In both sides of the sport, the front-running competitors are generally well trained, well equipped and well able to manage the risks of competition. On the same hand, those further back in the field are often competing with a lesser skill set and lesser safety equipment, as well as travelling slower.There is very little education and training required for a complete notice to obtain a rally licence. Educating new and existing competitors about the considerations involved in rally before they compete would go a long way toward empowering them to manage their level of risk. Knowledge is power.At the present moment there is also precious little control over what styles of vehicle can be driven by an underexperienced competitor, which in my mind is one of the largest issues we face as a sport. It has been proposed that a licence structure be developed that limits the speed some competitors can travel at, although I believe this doesn't go near far enough to improve the safety of novice or casual competitors. I would propose a graded licencing structure that requires drivers to display competence negotiating the variable conditions experienced in Tarmac Rallies before they can enter a high-performance vehicle.My recommendations are:1. Massively tighten the licencing requirements to:a. bring medical examination requirements in line with circuit racingb. Before issuing a competition licence, educate competitors on:i. the real-world requirements of tarmac rallyii. considerations for safe competition including PPE, tyre pressures, compounds and patterns etciii. The risks involved with such factors as tyre age.iv. Where and how on-stage incidents occur and how to best prepare to avoid falling into the common traps2. Implement a multi-factorial grading system for drivers that focusses on more than speed (age,	The level of safety equipment required in the current Targa regulations varies based on the speed the vehicle will be allowed to go in competition. The most major variations are in terms or Roll Over Protection Systems (ROPS) although some other areas such as Head and Neck Support (HANS) also vary between categories.It appears to me that vehicle preparation regulations tend to focus on the performance and cost aspects of any component, aiming to erode imparity wherever possible. Just as I discussed unintended consequences in my comments on the course construct, I believe that competitor safety could be significantly improved if some components were assessed on their safety value more than their potential performance effect.As an example, one of the most significant advances in occupant safety in recent years has come from the introduction of energy absorbing foam. This foam is inexpensive and has been shown to reduce the peak rate of deceleration in motorsport accidents and also the depth of ingress. It is universally used in high-level motorsport, although it cannot be used in most Tarmac Rally cars as fitment requires the structure of the doors to be altered and window material to be changed. These modifications are currently not allowed in many categories.When tarmac rally tyres are discussed, regulators have long expressed the view that the number of tyres should be significantly limited to "improve safety", based on the assumption that a competitor can and drive faster on softer, more grippy tyres than they would if they had to compete on harder tyres that were less suitable for cooler or wetter conditions. Interestingly, in the Motorsport Australia Rally Championship we are restricted to using 16 tyres in a gravel rally with 200 – 250 competitive kilometres, yet are limited to 6 (and more recently 10) tyres for the 500 competitive kilometres of Targa Tasmania.Noting the FIA's stance on speed not being the primary indicator of risk (as outlined in the part of my submission relating to course design), I propose the idea that having competitors driving on good condition tyres that are appropriate for the prevailing conditions adds far more to their safety than any detrimental effect of potentially adding marginally to their speed.Just like in Gravel rallies, the standard of Roll Over Protection Systems (ROPS) varies greatly throughout the field at a tarmac rally. Despite great advances in design over the past 10-20 years, until recent years there was no process by which the ROPS in many rally cars could be legally upgraded. I must commend Motorsport Australia for having made the necessary regulatory alterations to make upgrading possible for most or all rally cars.Unfortunately though, the owners of many rally cars seem to be unaware of this facility, unaware of the shortcomings of the ROPS in their car and unaware of the extra protection that could be gained through some simple upgrades. In my mind, winged seats have also provided a huge increase to the safety of competitors in all rallies. The AIMSS report recommends phasing in a winged seat mandate, although this has not occurred as yet. Since Shane Navin's passing, commentary from some competitors has focussed on the added difficulty that winged seats pose to exiting a vehicle through the side window, particularly for a driver who has a steering wheel to also negotiate.I would recommend considering the following in relation to tarmac rally car safety:1. Review MA regulations and remove any that limit safety initiativesa. Energy absorbing door foam MUST be (at the very least) allowed in all cars. This will require regulations such as those surrounding window and actuation material to be changed to suit.b. Roof vents reduce cabin temperature and therefore heat fatigue. These should be allowed on all vehicles.c. ABS should be allowed to be fitted to all carsd. Brakes are one of the most critical vehicle-mounted safety features. To my mind there should be no restriction to upgrading brakes on any car.e. All cars should be able to have safe and effective electronic speed limiters fitted if we continue down that path. In my mind that would require all cars to be allowe dot utilise a fly-by-wire throttle.2. ROPS standards should be converted to a rolling-standard like harnesses (outdated ROPS should be brought up to current spec to be allowed in open competition regardless of when log book was issued, historical value or anything else) for the vehicle to be eligible for use in a speed-based competition.3. To qualify for open competition, cars should have winged seats and removable steering wheels.4. I'm not sure how best to word it, but vehicles like the Ultima (where the crew's heads are OUTSIDE the cage in their normal seating position, protected only by a sheet of fibreglass) shouldn't be allowed to enter.	[redacted]	[redacted]

	such as likely approach speed and the presence/nature of obstacles in the run-off zone (with judgement based on the likelihood of point-loading the ROPS and therefore predicting level of ingress).In response to the 2021 Targa Tasmania fatalities, the Competitor Checker role was created by MA. I interpret this to reflect an understanding of the value a seriously credentialled competitor would bring to course safety assessment. Despite the best of intentions, I believe only a very small percentage of this role's potential has been tapped thus far.The current implementation of the Safety Checker role requires the "seriously experienced competitor" to not compete in the event, instead traversing the course in one of the zero cars. I believe in most instances this precludes the competitors I would consider "suitably qualified" from agreeing to take on the role. In my professional role as Smoothline Stage Notes author, I essentially undertake a corner-by-corner risk assessment of every tarmac rally stage in Australia, then objectively document the road including identifying and grading hazards. The Stage Notes we produce are one of the most important safety tools that teams have at their disposal. The AIMSS report acknowledges stakeholders calling for "highly experienced individuals to select roads and mark hazards to limit the "surprise" factor for drivers". The single most important aspect of safety in rallying is having the tools with which to stay on the road and avoid crashing. It is difficult to imagine something that contributes more to this than having an accurate, consistent and concise set of directions outlining what's coming up around the next corner, where hazards exist and where the driver needs to slow down to remain safely on the road.The note for the corner where Tony crashed highlighted both that "the car was likely to become unsettled", that "the section of road presents an obvious threat to any driver" and that "the section of road requires drivers to reduce their pace". In contrast, the corner in question was not mentioned in the event road book.To my understanding, the purpose of Caution Boards is to ensure that even in the event of navigator/codriver distraction or disorientation, the driver is made aware of any approaching hazard. Under the current regulations, not all identified hazards are signposted, with "Cares" not receiving the same treatment as "Cautions" or "Extreme Cautions". The current system also does nothing to notify the driver of the nature of any hazard only the estimated level of severity.Of all the fatal Tarmac Rally crashes I am aware of, almost all fall into one of 2 categories:1. Getting airborne in a rear-engined car and landing with the front wheels turned slightly.2. Being "caught out" by a Hidden Hazard and din turn failing to negotiate a corner with a radius between approximately 45m and 90m, that also:a. Has a fast, flowing approach ANDb. Has some other complicating factor (longer corner, tightens, tends downhill, is situated over a crest, rolls off camber etc)Note: The risk is further increased if the corner is preceded by another, more open corner which heads in the opposite direction and itself exhibits any of the complicating factors.I do not for a moment imply that I am the only person qualified to assess the safety of courses. I do however suggest that for Tarmac Rally to be safely conducted, the strategic input of a similarly experienced competitor is vital to the safety process, and that suitably appropriate people will not be able to be regularly contracted while ever they are precluded from competing in events on which they've advised.In 2022, instead of protecting the well-known hazardous corner that ultimately took Tony Seymour's life, 2 Restricted Time Zones were placed in close succession only a few km earlier. While it could be argued that one was in an appropriate location, the other was placed between a pair of long straights, with the apparent aim of reducing speed (as opposed to protecting a hazard). Despite having 450m straights either side, the zone was setup to extend into the fast, open corner that links the straights. This was not one of the more hazardous zone placements at the event though. There were a number of Restricted Time Zones that, in my professional opinion, significantly increased the level of risk. This includes one RTZ on the Cethana stage that to my mind created a hazard that, if the stage were wet, I believe would present a risk with potentially catastrophic consequences. Although the weather was very wet on the day Cethana was scheduled to run, thankfully the event had been downgraded, averting the situation.I'm not aware of the internal post-event accident response protocols currently in place, but would expect that areas where multiple accidents have occurred in the past should be routinely:a. Identified in the road bookb. Have caution boards placed before themc. Be provided to the competitor safety checker for consideration of zone placementIn the case of the site of Tony Seymour's accident, I believe any suitably qualified Safety Checker would have identified that site as a "high risk" area and considered it for some mitigating intervention. I believe the large number of cars that have sustained considerable damage at that site over the years and the fact that it's not mentioned in the road book or signed in any way represents a multi-systematic failure of safety systems.Questions around safety tracking have again been raised following Tony Seymour's accident. I was personally involved in the	level of experience, crash history, vehicle performance etc). As an example, a relatively young or old driver with limited motorsport experience shouldn't be allowed to race a high-performance vehicle until they've developed a skillset in a potentially more forgiving vehicle. Similarly, drivers who prove unable to keep their car on the road should be restricted in how they are allowed to compete.3. For all but the outright competition, not post stage times until the end of each day of competition.4. Develop regulations that make test days feasible to arrange, allowing crews to practice and develop their skills on real world stages. It's worth noting that "tarmac rally testing" on a circuit is akin to testing an ARC car on a football field.5. Setup a structured mentoring service for new competitors			

	accident which the RallySafe owners attribute to being the catalyst to developing their product. We crashed into another competitor's car, the driver having parked on the racing line while stopping to attend another accident. It's ironic that this whole catastrophe occurred on the same corner Tony was killed on some 12 years later.RallySafe is a fantastic safety innovation and works well in most instances, transmitting information to competitors about hazards that are related to a stationary competition vehicle. The benefit would significantly increase if an expansion of scope were possible, allowing the reporting of course-based (as opposed to vehicle based) hazards, particularly those that develop during the course of competition.At present, event safety tracking all focusses on car numbers. As competitors we're often asked whether we've seen car 714 (for example) on a stage. Recently we've also been encouraged to write down the numbers of the few cars in front of us going into each stage. The issue with this system is that we as competitors often know the people around our part of the field and can recognise their cars but have no reason to memorise their competition number for that event. When lined up at the start of a stage, we can see the number of the car in front but none beyond that. I have often reached the end of a competitive stage and reported that I'd seen "Mick Downey in the black Torana off just after the last bridge", to which the official always asks "what's their car number". Even if we didn't know the competitor we passed, I would be much more likely to know that it was "a red RX7" than seeing and being able to read the car number. Similarly I have reached the end of a stage and been asked by the stop control official "have you seen car 602?", to which my response is invariably "who's that?".In developing safety initiatives, any unintended consequences need to be considered and investigated. Some examples of unintended consequences of safety initiatives include:• Hefty penalties for hitting a chicane has caused a number of drivers to crash heavily trying to avoid hitting them.• Restricted Speed Points (RSP's, also known as Virtual Chicanes) often cause competition vehicles approach each other with very high closing speeds when one brakes at the start of the zone and the following driver plans to brake much later.• The high "minimum time" on TS1 generally doesn't allow competitors to adequately warm up, instead leaving them to head into TS2 unprepared. It's worth noting that 33% of the fatalities studied in the AIMSS report occurred on the first or 2nd stage of Day 1.• In cars where the rules make fitting an electronic speed limiter unfeasible, a speed limit requires the driver and codriver to take their attention off the road at the time when they most need to focus on what's happening around them. Resolving this will require all vehicles to be able to fit a fly-by-wire throttle.In thinking about how to improve course safety I have tried to provide suggestions that:• are relatively simple, objective, easily implementable• counteract hidden (real), not perceived risks• Draw on existing regulations and recommendations from tarmac rally and other areas of motorsport• Avoid placing increased responsibility for judgement on administrators• Don't sanitise the experience of rallyMy suggestions for improving course safety for tarmac rallies are:1. Initiate a black-spot approach to hazard identification program, including the consultation with a suitably qualified, seriously experienced outright Targa competitor2. Move the current focus away from using "risk mitigating devices" to manage average or terminal speed, instead placing them to protect the black-spot hazards identified.3. Place caution boards before ALL identified hazards, not just !! and !!!.4. Treat infringements in a way that doesn't increase risk (eg speeding penalties should be applied as per Targa West regs, not Targa Tas regs).5. Heavily promote the Crashtag app to give MA the tools to make better informed safety decisions6. Remove any requirement to drive fast (as opposed to limiting actual speed) in built-up areas (eg town stages and when passing close to houses – eg Ferrari in Pelverata).7. Investigate the possibility of Status Awareness Systems expanding their scope to:a. Allow reporting of stage-based hazards as well as vehicle-based hazardsb. Allow the confirmation of hazard as well as OK and SOSc. Allow Rally HQ to request confirmation of sighted OK from cars passing the site of a known incident where status hasn't been confirmed by the crew involved in the incident.8. Expand the manual safety tracking system (including official's information and training) to be able to take in details that are more likely to be able to be recalled than the number of the competition vehicle (Eg crew names and vehicle colour/type).				

92	Public roads have a range of in-built hazards and risks that are responsible for the death and injury of over 40,000 Australians every year. The conduct of the Targa Tasmania on these roads exposes competitors to these same in-built risks within a motorsport environment. Ensuring organisers and competitors are fully aware of these risks provides an opportunity to enhance safety for all.iRAP is a global charity and an FIA Member (https://www.irap.org/). The charity has the vision for a world free of high-risk roads and has developed the Star Rating of Roads that have now been adopted by the UN and Australian Government amongst partnership activity in more than 100 countries worldwide. The Star Rating is based on an assessment of over 50 road attributes known to impact the likelihood of a crash and the severity of the outcome. 1-star is the least safe and 5-star is the safest. iRAP has had initial discussions with the FIA at the global level to implement a RallyRAP that builds on the foundation of the iRAP models, specifications and software that is used for public road use.Within a motorsport environment many of the road features that matter will be similar to public road use although the magnitude of risk may vary up or down based on the controlled access and other racing conditions. Likewise the degree of detail for some road features (e.g. road pavement condition, defects, super-elevation) may need expansion to meet and fully inform the needs of rally participants. The application of the existing iRAP models and Star Rating across the Targa Tasmania network can be mobilized through the iRAP team and local partners (e.g. Austroads, ARRB, Anditi, Safe System Solutions) and/or members of Motorsport Australia can build skills to undertake the assessments and calculate the Star Ratings. The global AiRAP initiative (the accelerated and intelligent collection of RAP attributes) uses LiDAR, satellite, telematics and other data to generate the iRAP road attributes. A recent iMOVE project for Transport for NSW has resulted in the Australian-based firm Anditi becoming the first global AiRAP accredited supplier using TomTom LiDAR data. Their approach can work with a variety of LiDAR sources and provides the added benefits of delivering more detailed insights on the pavement and roadside condition that will be very relevant to the Targa motorsport use-case. Working with experienced organisers and competitors, the relative value of these new insights can be determined and added to the standard iRAP Star Rating and related outputs.While these assessments can provide immediate benefits, the potential of RallyRAP has been identified at the global level with FIA Deputy President Robert Reid and FIA counterparts in Geneva. Initial discussions have identified that any RallyRAP application would need to review all existing public-road risk factors, provide further detailed information for some attributes and consider how the results are presented. The potential for the application to inform both competitor and spectator safety has been identified as initial priorities.iRAP is therefore recommending a LiDAR-based Star Rating assessment of the Targa Tasmania network that also provides additional detailed insights on other key road attributes. Working with Motorsport Australia, the method of reporting can be tailored to meet the specific stakeholder needs. Conducting this work in close coordination with the FIA at the global level can also help inform the development of RallyRAP that can benefit all rally participants worldwide and provide a legacy of improved safety for all.			Rob	McInerney

91	Driver and navigator standards/support officer. This person is available in person at the start of the day, lunch, and at end of each today to provide non rule based support to the crews. This can be in relation to driver or navigator concerns regarding the performance or conduct of their crew mate. The intention is to validate, identify and act on concerns crew members have as well as mediate for a positive and safe experience. After learning that the navigator in the incident in TT22 had voiced concerns regarding the driver not listening to the navigator when they thought he was driving too fast, I believe the availability of standard officer could have prevented an accident and a death.Speed limit. I do not believe a speed limit should be in place due to evidence not supporting that a speed limit would have prevented deaths in many cases. Accidents and deaths are occurring at locations previously known for accidents and the most recent one I believe was under the posted road limit. Accidents occur on corners or locations that unsettle cars and rarely occur at high speeds above 200km/h. Driver education and car preparation are more important in accident prevention.Identification of known danger points where accidents have occurred before. Of the last 3 accidents involving deaths, at least two of them occurred at spots that have had crashes previously. The cattle grid on Mt Roland/Cethana stages was known to be dangerous in the wet to seasoned competitors and the following right hand corner had experienced crashes before. Both these points should have been marked in the road book, with roadside signs, and in pace notes.Pace notes. As a competitor who has read 6 different types of pace notes for different drivers I know that pace notes are subjective to the driver and no one style is better for everyone. Pace notes should not be limited to a particular supplier as evidence to date does not support that using a particular style of pace notes prevents or contributes to accidents or deaths. Often pacenotes purchased are changed to suit the crew using them. I personally have written pace notes in conjunction with a driver and won outright using these pace notes. The notes did not include one single care, caution or danger and they were not warranted for this crew. I was never involved in a crash with this driver and never felt unsafe. Though I do not suggest that cautions on the notes are not warranted, I do believe this highlights the individuals preference for different styles.My experience is that drivers are less alert and more likely to crash after an event. 10 years ago I took note of accidents and I noticed an increase in accidents after lunch and a decrease in performance. This is something that MA and event organisers will need to look into to see if there is still a correlation. Studies and evidence suggest that reaction times and concentration are reduced after eating certain foods or certain amounts. Though this can not necessarily be controlled, when teams are aware they are more likely able to manage it. I have assisted navigators and drivers with the dietary choices at lunch and have had positive feedback regarding concentration as well as knowing from my own dietary management and performance. Event organisers should consider meals supplied during events or consider the length of touring to the next stage post lunch.	Navigator ability check. This can be through the provision of incar footage with the navigator calls heard clearly and accurately and with good timing, or a recording of the navigator calling notes while watching incar footage with accuracy and timing. Using incar footage to practice the timing of notes is a great training tool and ensures the inexperienced have an understanding of pace notes and their delivery. The task of the navigator providing proof of their abilities also acts as a training tool for the inexperienced. If incar provided is not considered to be at an acceptable safe level, feedback will be given and additional footage requested. Experience does not mean a navigator is capable, I have seen average incar from experienced navigators and people that have never navigated but are trained be much better. Drug testing of competitors randomly throughout the event. As a competitor who has socialised throughout the competition field for over 10 years I have seen first hand the illicit drug use that occurs amongst competitors. My experience has seen this occurring mostly with drivers who are considered good drivers at the top of their competition field. This is highly concerning and dangerous for the drug user and for other competitors including the navigator.Medical checks for crew members. As a person that has had a driver suffer from a medical episode and pass away during an event I know that a medical clearance can not guarantee driver health. The person I speak of had recently had a controlled exercise stress test completed and medical clearance as part of his sporting and gym activities and had no concerns. I would like to see crew members have a simple medical clearance letter from a Dr that also includes a list of medications that the person is prescribed. The event organisers or MA can then decide off the medical information provided warrants further investigation to make them eligible to compete. I have had personal experience with a driver taking prescribed medications during recce yet stating they are vitamins, and not listing their medications on the event documentation. Having been in the position with a person that suffered a medical episode and knowing what medications he took, I was able to transfer this information to medical professionals.	Inexperienced competitors new to Targa Tasmania are not permitted to use R spec tyres and a choice of 3 pre selected tyres are listed as options. R spec tyres need to be pushed to a certain point to activate their grip qualities and new competitors are less likely to be skilled in the knowledge required regarding tyre use as well as less likely to be cornering at speeds required to maintain optimal tyre temperature. High performance road tyres are more consistent in their grip and are more predictable in all weather and road conditions. I started competing over 10 years ago with road tyres and see the benefit in this approach.Cars that are a higher performance car that has been developed with a track racing focus should be considered against for tarmac rallying. Small cramped cockpits that mean the construction of a roll cage is compromised and driver and navigator can not safely exit the vehicle, should be denied. Roll cage construction for these cars needs to be re-considered before allowing entry, as well as consideration to the size and age (flexibility) of driver and navigator. Having been involved in 2 accidents in small cars, if I was a bigger person I would not have been able to exit the vehicle via the drivers side which was required. Though I was safe and unharmed, other people would have been put at risk trying to assist me. I have spoken to crews that will sit in their car when there is time to exit as the difficulty in exiting and entering their car makes them reluctant to be mobile.	[redacted]	[redacted]

90	1. Design and conduct of the event1.1. Keeping cars on the road and improving outcomes when they go off1.1.1. The no 1 priority [1] should be to do everything possible to keep the cars on the road.1.1.2. The no 2 priority [2] should be to improve outcomes when they go off.1.1.3. This submission is directed towards these priorities and will reference them as [1] and [2] where relevant in the recommendations. Ideas with the biggest potential for improving outcomes will be marked with a double Asterix **.1.1.4. Whilst it is recognised that events such as Targa Tasmania have significant history, prestige and tradition in order for there to be a long-term future for Tarmac Rally in Australia significant changes are required and this submission attempts to do that. 1.2. Prioritise running of events when weather is likely to be dry [1**]1.2.1. It is a known fact that wet weather increases the risks of cars going off the road. Events should be run in the time of year when there is best chance of favourable weather.1.2.2. This not only makes the event safer but more comfortable / attractive for volunteers, officials and spectators.1.2.3. Rally Organisers should work with stakeholders to find a suitable time in the calendar with an increased priority for favourable weather over what is best for tourism. I have competed in every Targa Tasmania since 2017 (total of 5) and only once was there fine weather. Most times when I have been there for recce (generally in the weeks / months prior) the weather has been good.1.3. Appropriate Course Design with assistance from Current Competitors [1]1.3.1. A Rally Organiser should engage a Competitor Panel (no less than 3) of Current Competitors (at least one to be a recognised Co-Driver) to assist with Course Design. The course should be as far as possible designed to provide a variety of stage types (street stage, tight and twisty, fast and open, flowing through rolling hills etc) to suit a variety of Vehicle types.1.3.2. Various lengths should be included however stages projected to be > 20 minutes for a majority of the Competitors should be minimised or even split (if possible) to reduce Driver / Co-driver (Crew) fatigue.1.3.3. Course Design should be implemented in such a way to minimise transport (liaison) time & distance. This all adds to the fatigue of an event. In recent years Targa Tasmania has had total distances of > 600km with stage km of > 140km in the latter days of the event. This all adds to fatigue, particularly later in the event. If the days must be longer due to unavoidable transport between the stages, it should be earlier in the event when crews have more energy.1.4. Appropriate Course Checking with assistance from Current Competitors [1**]1.4.1. A Rally Organiser should engage a Current Competitor with extensive experience as a Course Checker to identify Blackspots.1.4.2. A Blackspot is a section of the Stage where previous accidents have happened or have a high potential to happen.1.4.3. The experience of the Course Checker must be in understanding the characteristics of a road that increase the risk of a car leaving the road. For example: surface changes, tightening corners, crests / bumps that may unsettle a car etc. 1.4.4. The Course Checker should also look for any features off the road that pose significant risks eg: cliffs, state of fencing, power poles on street stages etc.1.4.5. Depending on the severity of the risk Safety Measures should be introduced (warning boards, hay bales, Virtual Chicanes, Restricted Time Zones etc).1.4.6. Specific locations for Virtual Chicanes, Restricted Time Zones etc should be set by the Course Checker to have the effect of improving safety to keep the cars on the ground over crests and that hard braking in these zones will not introduce additional risks.1.4.7. Course Checking should be completed twice. Once before the Course is issued, road book created etc and a second time as close as possible to the Event Date. This is double check that road surfaces / road works etc haven't changed in such a way that any additional Safety Measures are required. 1.5. Introduce Base Times for wet weather conditions [1**]1.5.1. For Regularity / Time Speed Distance (TSD) the average speed is reduced if a stage is declared Wet. If the conditions are wet a generous Base Time should be set such that 50% (or a higher figure) of the field in that Competition should be able to achieve the time without unnecessary risk.1.5.2. The Base Time should be different for each Competition including adjustments as required for Classic Handicap.1.5.3. If the Stage has run before, the time could be set using a % of the dry / wet times from previous years. If the Stage is new, it could be set using an avg speed (to be determined by the predominant nature of the stage and comparisons with similar stages).1.5.4. Wet Base Times should be published in advance in the Road Book.1.5.5. If a Stage is declared Wet then rules regarding Wet Tyres come into effect for that entire day of Competition regardless of any declaration before Competition for that day (see Vehicle section for further detail on Wet Tyres).1.6. Start Competition cars earlier and fastest to slowest, then Tour [1]1.6.1. Starting the Competition fastest to slowest reduces the chance of cars catching each other and gives the best road condition to the fastest cars. The fastest cars are generally more reliable and less likely to drop fluids (oil, coolant etc). Also, if the road degrades due to do gravel etc being brought onto the road the fastest cars will have better conditions than slower cars. This adds to	2. Eligibility of Drivers and Co-Drivers (Crew) for the Event 2.1. Driver / Co-Driver skill and experience appropriate for Vehicle / Competition level (Graduated Licencing System) [1]2.1.1. Both Crew shall be required to have appropriate experience to be eligible to compete in a particular Competition category. For example, starting in the lowest speed limited Competition, then completing a certain number of events to earn points towards an upgrade to a higher speed limited Competition.2.1.2. Additional points could be earned by completing Tour events without incident, completing external training courses by recognised providers (eg Advanced car control, Co-Driver training etc).2.1.3. If either Crew enters an event in a Vehicle that is significantly difference in its performance or handling characteristics than their recent history of experience this should limit the Competition available to that entry.2.1.4. Any incidents that occur in events (crashes, penalties etc) should deduct points (demerits) or even force the Competitor to take a step backwards in eligibility or even be banned from the sport completely for a period of time (similar to the road licence system). This would require a Driver Standards Observer. 2.1.5. At the completion of each event without incident a certain number of points will be accrued. Both Crew will need to maintain a certain level of points to remain at a certain level of Competition, thus ensuring experience is recent.2.2. Medication and age-related medical reports [1] [2]2.2.1. It is a known fact that as someone ages their reflexes slow which impacts on the ability of the Crew member to respond quickly when things start to go wrong. In the effect of an incident increased age is also a factor in survival / extent of injury, time to heal etc.2.2.2. Any Crew above a certain age (say 50 years old) should have a full medical examination every 3 years, every 2 years from 60 and every year from 70 as part of their annual licence renewal.2.2.3. Any medication from a pre-determined list that the National Medical Committee deems should require a report from the treating specialist referencing the suitability of that individual for Competition given their condition. This is to be provided at annual licence renewal or if new medication is prescribed / dosage changed then at that time to the National Medical Committee.	3. Eligibility of vehicles 3.1. Tyres in general [1**] 3.1.1. Improved tyre technology is a large part of the increase in speed over the years. The use of 'Formula R', 'R compound' or 'semi-slick' tyres designed for racetrack use has already been identified as not ideal for the variable conditions seen in a long Tarmac Rally event such as Targa Tasmania. The purpose of these tyres is to generate maximum grip in dry conditions which allows Vehicles to maintain higher corner speeds. A characteristic of these tyres is that they are less progressive than performance street tyres when they lose grip in dry conditions and have limited grip in wet conditions – hence the introduction of the Wet Tyre rules.3.1.2. A solution to this would be to mandate tyres must have a minimum treadwear rating of 220 UTQG or higher. This will rule out semi slick / r compound tyres and other tyres designed specifically for dry road / racetrack use. 3.1.3. My research indicates that Tyres should be in no higher tier than 'Max Performance Summer' on Tirerack.com to meet the 220 UTQG or greater target. This is the second highest tier of the "Performance Tyres" category on Tirerack. The category above Performance Tyres is "Track & Competition Tyres" which is not recommended for street use.This 'Max Performance Summer' tier of tyres is described as "Designed to deliver the highest combination of dry and wet traction along with reasonable ride and treadwear. Not for winter conditions." The next tier above is 'Extreme Performance Summer' in the "Performance Tyres" category is described as "Hyper-focused on extreme dry grip, but gives up wet traction, comfort and tread life to get it."See: https://www.tirerack.com/tires/types/category.jsp?category=PERFORMANCEAlso see: https://www.tyrereviews.com/Article/2022-Tyre-Reviews-UHP-Summer-Tyre-Test.htm3.1.4. There is a wide range of tyres in many sizes that meet the criteria. For example, tyres such as Michelin Pilot Sport 4s (300 UTQG), Goodyear Eagle F1 SuperSport (240 UTQG), Bridgestone Potenza Sport (300 UTQG), Continental SportContact 7 (240 UTQG) and other similar high performance road tyres that have good grip in the wet. This alone will slow the cars down and limit grip available in corners. It will also make the cars more progressive when grip does break loose on the limit. Tyres such as these also have deeper tread and that combined with a higher treadwear rating means a single set will last the duration of a Targa Tasmania if dry. 3.1.5. If the above is implemented in conjunction with Base Times in Wet conditions, it will remove the need for additional Wet Tyres as the tyres will last for the duration of the event. If this change does not happen, then see below for recommendations regarding Wet Tyres.3.1.6. To not disadvantage vehicles with a staggered tyre setup, the number of tyres for an event could be reduced to 5 for vehicles with a square setup and 6 for vehicle with a staggered setup – this allows for a spare to be used without penalty.3.1.7. At the completion of each Leg and at the end of Competition tyres on vehicles should be checked to ensure they are road legal (ie not below Tread Wear Indicators). Any tyre found to be below TWI shall incur a penalty per tyre.3.2. Some cars not suitable for level of Competition [1]3.2.1. Any vehicles from a pre-determined list that may require modifications from standard to various parts. Eg. suspension and brakes should be required to have the suitability of those modifications assessed by a qualified third party specialising in such areas before being approved for a certain level of Competition.3.2.2. Some cars should be capped a certain level of Competition eg 165km/h if it is not possible to modify them in such a way that they can drive at high speed with an adequate level of safety, for example if not possible to get enough suspension travel for bumps etc.3.3. Seats [2**]3.3.1. All vehicles in a Competition with a speed limit > 130km/h must be fitted with winged seats – no exception.3.3.2. If a vehicle cannot have winged seats fitted the Crew must be required to run a HANS device that provides additional lateral support. Eg Simpson Hybrid. The highest level of competition would be 130 km/h for any vehicle than does not have winged seats.3.4. Roll cages [2**]3.4.1. All Competitions other than Regularity must run a full roll cage (ie no half cages).3.4.2. A review of the roll cage regulations should be completed to determine what if any additional regulations should exist for Tarmac Rally over and above the existing standards.3.4.3. Different standards may be required based on the level of competition (eg 130km/h, 165km/h, 200km/h).3.4.4. ALL existing vehicles should be re-certified against any new standards that may apply, ie no grandfather clause.3.4.5. Both Crew should be present at Scrutineering to	Jeff	Morton

	safety.1.6.2. Starting late in the day messes with the normal rhythms of the body with regards to eating patterns etc. Having a lunch stop at 3pm in the afternoon isn't normal and creates extra stress on the body.1.6.3. Less chance of Tour cars crashing and backing up the field for the Competition, the Competition cars should be given priority to complete the stages in closed conditions during the road closure time.1.6.4. The only thing that goes against this is the amount of road closure time that is available but if it means fewer cars able to participate and entry fees being increased it is a worthwhile change for the increase in safety.1.7. Provide opportunities for Competition Training at Tarmac Rally Events [1**]1.7.1. There is no such thing as a 'test day' at any of the Tarmac Rally Events I have entered. Most other rallies have a test day in the lead up to or immediately prior to an event. 1.7.2. Due to the complexities around road closures, this may not be possible in the lead up to a Tarmac Rally Event, therefore more time should be given at the start of the event for the Crews to 'settle in' and 'practice'. Even experiences Competitors would appreciate time to practice without the stopwatch running.1.7.3. The current TARGA Australia method of having a minimum time for the first stage of an event (with penalties for going under) does not work for most Competitors. Each Crew has a different approach to 'settle in' and having a minimum time with such a low average speed causes some Crews to 'bleed time' at the beginning so from a certain distance they can continue to the end without incurring a penalty. With the minimum speed being 30km/h the closing speed from cars approaching behind makes this dangerous. Either the minimum time should be abandoned or increased significantly with a different minimum time for each Competition (based on the relative speed of each Competition). 1.7.4. Suggested solution is to have multiple stages (at least 3 that do not count) in the morning on the first Leg until first regroup (morning tea / lunchtime). This is the best form of Competition Training as Crews can get used to the car, work out any issues, understand current road conditions and make any changes necessary at the regroup before the Competition starts.1.8. Implement a database to track events / incidents etc [1] 1.8.1. Competitors should have consequences for their incidents beyond their wallet. Any incidents that either require a tow truck or leave vehicle debris (fluids, bumpers, parts etc) on the road should be recorded and investigated by a Driver Standards Observer (regardless of the severity) to determine causation.1.8.2. The Driver Standards Observer should be an experienced Driver with recent experience in Tarmac Rally.1.8.3. The Clerk of Course (or other appointed Official) can order a Competitor to complete any repairs deemed necessary (black flag), with the Competitor having to present the vehicle for Scrutineering again before being allowed to continue.1.8.4. If Crew error is determined to be the fault for the incident, then penalties may be applied up to and including points reduction on their respective licences. 1.9. Create an additional speed limited Competition at 165km/h [1]1.9.1. The jump in speed is too large from 130km/h to 200km/h and it takes time to adjust. Targa West has Targa 165 (165km/h limit) and Australian Tarmac Rally has Rally Sport (160km/h limit).1.9.2. When I progressed from GT Sports Trophy (130 km/h) to Open Competition in 2017 (no 200 km/h limit) the speed difference was massive and I had an incident on the morning of day 1 at Targa High Country that ended the event for me.1.9.3. This Competition could also be used as part of a Graduated Licencing System for both Crew and Car – eg Crew or Car limited to no higher than 165km/h Competition or could be capped at 165km/h Competition for a period of time. More detail on this in Crew and Vehicle sections below.1.10. Review RallySafe to improve functionality for hidden cars [2]1.10.1. If a Vehicle is off the road and invisible to the following car consider what measures can be implemented to get assistance to the hidden car as soon as possible.1.10.2. Some kind of flare / coloured smoke device external to the vehicle could be triggered given certain events (g-force, roll over etc) to draw attention to the hidden car.1.10.3. Some kind of warning on the RallySafe on approaching cars of hidden car last known position to look for vehicle off the road etc.1.11. Review RallySafe to improve functionality for reporting road conditions [1]1.11.1. RallySafe should give the Co-Driver the ability to 'drop a pin' on a stage to alert rally base to negative road conditions, eg: fog, dropped fluids (oil / coolant), car debris, loose gravel, sudden change in road surface making it more slippery etc. 1.11.2. The distance into the stage could then be passed back to start control and updated on the Notice Board.1.11.3. At stop control, any car that has dropped a pin can be asked for more information to update the notice board with more accurate info.1.11.4. As cars on the stage approach the dropped pin a warning could flash on the RallySafe of the negative road conditions.		determine adequate clearance between occupants and roll cage. If there is not adequate clearance the car does not pass scrutineering.3.4.6. Whilst at Scrutineering, both Crew must demonstrate that they can exit the vehicle within a reasonable timeframe (say 10-15 seconds) from fully strapped in with helmets, harness, helmet and intercom plugged in, door closed etc.3.5. Wet Tyres in particular [1] 3.5.1. It is acknowledged the difficulty in implementing a Wet Tyre Definition given the complexities that exist and competing interests of stakeholders. The problem with the current definition of 25/03/2022 is that it allows OEM tyres (which aren't necessarily recommended for the wet). Without specifying when the Wet Tyres can be used this effectively gives teams access to more tyres for the dry which allows them to push harder. The solution to this is mandating when a Wet Tyre can be used.3.5.2. The Rally Organiser should prior to the start of competition advise Competitors if that day is to be declared as a Wet Day. This declaration is to be based on current conditions or the forecast of rain over the course during that day. Only in this instance should Wet Tyres be permitted to be used. Crews can decide if / when to fit their Wet Tyres at any point during that day of Competition only.3.5.3. Stages will still be declared Dry / Wet during the day for the purposes of Wet Base Times. 3.5.4. If before start of competition the Rally Organiser does not declare a Wet Day and any Stage on that day is declared Wet, the day will automatically become a Wet Day allowing the fitment of Wet Tyres at the discretion of the Crew.3.5.5. The number of Wet Tyres permitted should be 5 for vehicles with a square setup and 6 for vehicles with a staggered setup.3.5.6. Wet tyres should be marked in a fashion to easily distinguish them from Dry Tyres and must be run as a set, ie cannot mix with Dry Tyres.3.5.7. At the completion of each Leg and at the end of Competition tyres on vehicles should be checked to ensure they are road legal (ie not below Tread Wear Indicators). Any tyre found to be below TWI shall incur a penalty per tyre.3.6. In car camera / audio systems mandatory3.6.1. All Competition vehicles must be fitted with an in-car camera system capable of providing a satisfactory recording including Driver / Co-Driver audio.3.6.2. This is to be provided in the case of an incident or if requested for the purposes of investigation to the Driver Standards Observer.4. My Tarmac Rally ExperienceI have competed in all Modern Competitions of Tarmac Rally since my first event in Nov 2016. TSD / Regularity, GT Sports (130km/h), Rookie GT (first time Open Competition Targa Tasmania – full event), Open Competition and Open Competition (200km/h). I've competed in 18 events, failing to finish twice due to off road accidents and not being able to rejoin.2016: Targa High Country, TSD, 2006 Lotus Elise 111R, 3rd2017: Targa Tasmania, GT Sports Trophy, 2017 Lotus Exige 350, 1st2017: Targa High Country, Open Competition, 2017 Lotus Exige 350, DNF (accident)2018: Targa Tasmania, Rookie GT, 2017 Lotus Exige 350, 1st2018: Targa Great Barrier Reef, Open Competition, 2017 Lotus Exige 350, 3rd2018: Targa High Country, Open Competition, 2017 Lotus Exige 350, 3rd2019: Mt Baw Baw Sprint, Open Competition, 2017 Lotus Exige 350, 3rd2019: Lake Mountain Sprint, Open Competition, 2017 Lotus Exige 350, 24th (mechanical problems)2019: Targa Tasmania, Open Competition, 2017 Lotus Exige 350, 4th2019: Targa Great Barrier Reef, Open Competition, 2017 Lotus Exige 350, DNF (accident)2020: Mt Baw Baw Sprint, Open Competition, 2019 Porsche GT2 RS, 1st2020: Lake Mountain Sprint, Open Competition, 2019 Porsche GT2 RS, 1st2021 March: Adelaide Rally, Open Competition, 2019 Porsche GT2 RS, 2nd2021: Targa Tasmania, Open Competition, 2019 Porsche GT2 RS, 4th2021 Nov: Adelaide Rally, Open Competition, 2019 Porsche GT2 RS, 2nd2022: Targa High Country, Open Competition (200km/h), 2019 Porsche GT2 RS, 1st2022: Targa Tasmania, Open Competition (200km/h), 2019 Porsche GT2 RS, 2nd2022: Snowy River Sprint, Open Competition, 2019 Porsche GT2 RS, 2ndApart from Tarmac Rally I have significant circuit experience including class wins at Challenge Bathurst in 2016 and 2020. I'm also the current Production Car Lap record holder at Mt Panorama, set at Challenge Bathurst in my Porsche GT2 RS in 2020.		

89	John Large and friends created a safe event in 1992 which ran for many years with few fatalities. The invitation entry method allowed organisers to control cars considered suitable, crews with international licences judged to have the requisite skills, fitness and competition experience, overseen by a programme of checks and controls and scrutiny. These cars and crews were then able to compete on an entirely derestricted course. Over time these entry requirements of crews and cars have been lost, almost every aspect downgraded or abandoned (details follow). Instead, there has been promotion of speed limited classes and the introduction of speed zones facilitated by Rallysafe technology. These measures have failed to preserve the safety of the event, the increase in speed control measures accompanying the increase fatal accidents. In TT30, as a result of 2021 Tribunal report, there were planned to be 52 speed zones over the 593 kms of stages, meaning crews would have to slow to about 65 kph for 200 m every 11 kms on average in addition to limiting maximum speeds to 130 kph or 200 kph. This results in constant distraction from correct car positioning, braking and acceleration, processing the notes and a big increase in loss of notes. There is no time when the crew's attention is solely devoted to safe high speed driving. This also restricts the stage distance for competition, putting more pressure on high corner speed and encouraging the sense that if there's no zone then more risks can be taken.I propose that Targa Tasmania will not be safe for participants until the proven method of conducting the event is restored, most importantly the removal of all speed restrictions back to at least the TT16 level	An International licence was required until TT05, needing an observed test and 9 clerk of course signatures at national races or gravel equivalent; it demanded serious commitment to motor sport and car control, with frequent seat time and managing pressures of competition. The medical was face to face with approved doctor + stress ECG over 45 + blood, urine, BMI.Now 200 kph Targa applicants just do on-line lecture if they are over 25 with road licence for 5 years; 130 kph just needs a $25 speed licence. The medical is a self declaration of 15 questions. Anyone can obtain a licence with no relevant experience or interest or fitness.In TT30: several competitors, including leaders and previous winners crashed or had wild slides on Georgetown 24 hours after a briefing including a photo of Mark Perry's broken neck. This blatant behaviour raises questions of the mental and emotional health of even experienced competitors. This kind of madness exhibits a lack of self control which speed limits and zones clearly don't discourage. I propose the introduction of a specific tarmac rally licence and medical in three levels with renewal dependant on behaviour recorded by Clerk of Course signatures. The first licence would be provisional (P plate) requiring signatures at 3 races or 5 sprints and satisfactory completion of an approved tarmac rally training course (Smoothline or Evolve) to include required attitudes, dealing with competitive pressure, accident avoidance techniques and an observed licence test. A new medical standard would apply to all licence grades. Own Doctor face to face + stress ECG + blood, urine, BMI (fitness and safe extraction). Test for relevant psychological skills and emotional management. Licence grade 1: would be required for cars with up to 200 bhp max; it could be obtained with 2 tarmac rally signatures at P plate level and maintained with 2 tarmac rally signatures or 3 circuit races with medical test renewal; licence grade 2 would be required for open bhp, maintained with 2 tarmac rally signatures or 3 circuit races with medical test renewal. Existing competitors' record would be assessed and licences awarded after training course completionSafe competition behaviour would be recorded in the licence passbook with input from driving standards officials and analysis of crashes and offs. A points system might be required with sanctions taking the form of licence downgrades to the extent of a 1 year suspension.	For over a decade, Targa listed 'acceptable' cars (eg no WRX or Evo) and said "Applicants with inappropriate vehicles will be advised to nominate a different vehicle". Every entry had pre-event wheels off examination and post event scrutiny actually happened. Modern super cars seem to be a problem, developed for circuit racing with aerodynamic aids to be fast at Mt Panorama, but dangerous on Mt Roland. Wings and splitters vulnerable to damage and too many catch alight, crash and get smashed to pieces. Targa teams have nowhere to test & develop and there is infrequent competition. More hot rods are appearing, silhouettes of famous cars. Classic cars are being forced to wear R-Spec tyres in very low profiles, which want their natural drifty style to become modern car grip. A typical ave cornering G for a modern supercar is 1.5; these are 60 year old cars pulling 1.2 G and suffer unpredictable behaviour. I propose that only cars which are fit for purpose be invited and then thoroughly scrutineered pre and post. This Targa list would be an expert technical selection by MSA with an appeal mechanism and approved modifications. A Targa Test and Tune day should be established for each event, including an obligatory stage test, observed by Driving Standards scrutineers. MSA should re-establish the pre-event scrutiny system, including eligibility and parc ferme and post event scrutiny should happen every timeThere should no more wet/dry tyres, MSA should approve only all weather spec tyres, which can include R-Spec. 5 tyres only, becomes competitive variable like in proper racing and driving to conserve tyres becomes a winning strategy option. For Cat 2-4, 60% aspect ratio minimum, no more R-Spec tyres (note that Bridgestone Potenza RE003 are available in all 60% Classic sizes)(This submission has been prepared by Brian Dermott. We have competed in 45 tarmac rallies since 1997 (Podium 5, Category 28, DNF 5) and I retired aged 81 after TT30. In addition I have competed since 1965 in the UK in dozens of races, sprints, speed events and held an Australian International circuit and rally licence from 1997, from when I ran in Austin Healey racing, Historic Touring Car Biante Series and many sprints)	[redacted]	[redacted]

88	# allowing Tour group crews to participate without a compulsory and proven reading of the general supplementary regulations or have some understanding of tarmac rally protocol is negligent.# allowing Tour group cars to participate without personal safety clothing and helmets is negligent.# allowing cars to start a stage after their sweep vehicle for that stage has started and is already proceeding on the stage is negligent (cars that have fallen behind their groups sweep car are supposed to wait for the 999 sweep car and proceed in front of 999).# some competitors have a very cavalier attitude to the consequences of a high speed off road incident, particularly when overtaking, as we deal with the necessity of having maximum speeds imposed on the competition. # issuing (emailed) 20 additional RTZ zones at 6pm the evening before the start of Targa Tasmania 2022 was irresponsible, in fact grossly irresponsible given that crews had already signed documentation declaring that they had done a reconnaissance of the event stages to check the accuracy of the pace notes they were using.# issuing (emailed) a notice (from Michael Smith) regarding 'vehicle suitability for purpose' and 'suspension setup' at 6pm the evening before the start of the event indicated to me that Motorsport Australia officials and Promoters were aware of cars that did not fulfil the requirements of the notice yet still permitted those cars to start the event.My navigator and myself raised the issues regarding vehicle suitability for purpose and inadequate suspension travel with Targa Australia nine years ago!# in 2016 the introduction of categories which were speed limited to 130 kph exposed a problem, confirmed by incidents, with the concept of driving a vehicle at a set maximum speed limit using VISUAL instruments (tacho or speedo), necessitated the driver's eyes leaving the road for a period of time. Studies have demonstrated that the real time of this visual distraction is approximately 600 milliseconds. At a speed of 130 kph the car travels 37 metres visually unsupervised. In 2022 the rest of the categories became speed limited to 200 kph. At a speed of 200 kph the car travels 52 metres visually unsupervised. A much worse scenario!I FIRMLY BELIEVE THAT THE MAJOR CAUSE OF THE TERRIBLE INCIDENT RECORD IN TT2022 was created because drivers simply had insufficient time to react to the situation developed while the drivers eyes were off the road!!We developed an AUDIO speedo system in 2017. The device has undergone continual software and hardware development and had its qualities expanded. It has been used very successfully in the 130 kph speed limited 'THOROUGHBRED TROPHY' category.	# tarmac rally licences should be a tiered structure based on tarmac rally experience in the discipline as well as frequency of usage.# tarmac rally licences should be subjected to the same protocols as the circuit racing licence with regard to the medical protocols.# it should be mandatory for drivers, irrespective of background and experience level, to initially compete in the 130 kph category and then proceed to the 200 kph level based on a satisfactory assessment of the Clerk of Course and signature.	# the current Motorsport Australia Technical Regulations are excellent but but should be expanded to include a section on "vehicle suitability for purpose'.IE: ground clearance, suspension / wheel travel ratio and structural integrity of the base vehicle.#the 'self scrutineering' regime is a cop out by Promoters and Motorsport Australia. I suggest that most competitors are not technically competent to sign the self scrutineering declaration and as for the medical declaration.....	jack	waldron

87	Hi Everyone, I am an old Targa Official involved for five years from 2005 to 2010. at this time we had CET's (communications, equipment and transport) we were 9 groups of officials consisting of four people, two at the start and two at the finish. Our vehicles carried radios, signage, documentation for our allotted stage...you get the picture everything to set up the stage for the day. We travelled the state and set up a stage every day be it in the very early morning or afternoon. At the end of the stage that is after checking off EVERY vehicle entered we would check we had all the equipment back signed documentation and prepared to drive to the next part of the state for the next day. This also meant stopping to roll up the barrier tapes on the way if you were at the finish to meet up with the start team.I wanted to explain what we did and if there was a problem we had the "Bible" a procedure and organisation manual written over many years by past Targa Officials It was very precise in communication positions, signage placement and documentation for each stage of Targa. My main point with out going to deep into procedures is that everything was checked once, twice and three times be fore a start and after the finish. I don't think this happens now. The current organisers when they took over discarded the CET teams, discarded the "Bible", took the Police of the road closures, use non experience officials who were still "spectators" in the wrong positions and did not check everything three times.How do I know this....a couple of years after I stopped Targa was invited back to train a COMM's Official and on that Stage I was at the Finish in the car when a member of the public drove pass me on to the stage , which was hot, immediately radio the Start .."car on Stage " who stopped the next car and was abused for doing so, meanwhile at the finish the road closure man was still reading the paper in his car and the Targa finish team were still wondering what happened while I radioed the "SOS" to ask where the car was, the reply, watch him come in , he is ok just turned into a drive way...Say no more...have never done another Targa...the thought of what nearly happened was enough.Today I am still a passionate Official but only for Motorsport Australia.			[redacted]	[redacted]

86	1. The event should never have been stopped - it was an insult to Tony Seymour. If a tragic incident happened on say lap 10 of Bathurst (God Forbid) would MSA officials stop the race and cancel future races while MSA conducted a 7 month inquiry, effectively cancelling the season? I think not! 2. Crews have to sign a stat dec to prove they have carried out a recce. A good idea. Who put 20+ additional RTZs in the course just a few days before the event start? This made a mockery of having to sign a stat dec. RTZs are an introduced course hazard, where you stop concentrating on what you should be doing, redirect your attention and then try and pick up where you left off. The first few corners after an RTZ are always guesses!! Trying to put RTZs into course notes the night before the event, in a motel room, is crazy. Except for unavoidable minor changes, the course should be finalized 3 months before the event to enable notes to be prepared and recces to be conducted. RTZs should be kept to a minimum. 3. Cars in the 130kph speed limited category should not have to do RTZs. Basic maths tells you they cannot exceed 132kph average speed on a stage. 4. You cannot introduce a measure based on what the best rally driver or rally crew in Australia can cope with and assume the average Targa driver of crew can do the same. The driver must concentrate on the road and not the speedo. It is not practical, at the speeds proposed, for the co driver to be advising the driver of speed readings. 5. The actions of MSA at this year's Targa Tasmania has left many competitors with bad feelings about MSA - MSA officials need to remember all Targa competitors are members of MSA and they should not be treated like mushrooms! Where are the Targa competitors on these review panels?	1. I support the idea that all new drivers/crews have to do 130kph speed limited events before 200kph events.	1. I have always competed in a classic car. This idea of adding another group of more modern cars to the classic field every few years just compels older classics to push harder and harder, and in some cases, push the car beyond its basic design capability. Classics are now competing against early EFI cars and turbo EFI cars. Another category should be introduced for these modern classics and finish the classic era at its traditional year of 1981. 2. Hot rod classics should not be allowed.	Vin	Gregory

85	Firstly, until it's known why Seymour's Lotus left the road, one has to ask the question: Why is this review taking place ?If the cause was mechanical, driver error or a medical event – any one of the three is outside a Promoter's control, unless Scrutineering failed to detect a mechanical failure.Secondly, Targa Tasmania in particular is at a T-junction right now – TL or, TR ? SO is not an option in my view.Rather than see Targa Tasmania and other Tarmac Rallies wound back to re-enactments or regularity trials, I offer the following comments and options:John Large and I always wrestled with how to reduce in particular, the Media focus on the Outright Winner.We could see each year, a separation in the competitor ranks to the haves and the have nots. As more and more Safety equipment was imposed into the regulations which made the cost of preparation and entering far more expensive, the have nots quickly lost interest and started to drop out – in particular the Classic and Vintage vehicle entrants.In Year Five we attempted to come up with a workable Formula for a Winner on Handicap to be acknowledged equally with the Outright Winner.As much as we felt strongly for it to happen for the reasons stated above, the formula back then was not widely accepted by the Competitors and, our Results Department could not publish daily, accurate updates on who was winning on Handicap, hence promoting this with Outright results in Media Releases didn't happen.Moving on 31 years, with current technology, I believe an accurate, acceptable formula across the Competition Division field, to daily promote the Winner on Handicap each day is achievable.I'd also like to suggest a different title be applied to reflect this era of motoring.The winner on Handicap has a retarded ring to it.The Overall Equalised Winner ?? is a starting point for a more positive name for this Award.And, I also suggest, the Outright Winner award be retired.In turn, this would also retire the Targa Tarmac Rally ChampionshipThe Steve Glenny issue a few years back was a one off and should not be construed as the elimination of an Outright Winner did not work.Maintain the Classes and Categories across the Tarmac Rally Category, including an E Category.Yes – a handful of big budget entrants won't support this option but, I believe to take the focus of speed and outright winning away from Targa Tasmania (and other Tarmac Rallies) now, will see a new focus on winning across the field and attract more amateur entrants back into Tarmac Rallies.Give Competitors with cars 30 years and older, at the start of the calendar year, a 50% Entry Fee cut – get some Vintage and Classics back into the field.John Large never intended Targa Tasmania to be a full on, outright speed event and it worried him greatly where the 'rocket ships as he called them, were taking the Event into the future.In our time, as Neal Bates will confirm, we held a tight rein on not inviting the 'rocket ships' as it was becoming obvious even after Year Five, that big money was being thrown at the pointy end of the field to vie for Outright Honours – fuelled by big budget drivers and Manufacturers.The future is now and unfortunately, John's concerns are materialising and yet, the roads used as Targa Stages are pretty much as they were 31 years ago – unforgiving. Maximum Speed on Targa Stages: Competition Division: 200 kph is still too high. Reduce to 160 kph, with the Clerk of Course to lower to max. speed if the 'OO' car deems the Stage is Wet.Tour Division: Maintain the max. Speed of 120 kph for the Tour Division on Targa Stages for now – review each year.Again, with Clerk of Course discretion to lower max. Speed if Wet.Targa Stage Selection: As I drive in the Tour Division each year and experience new Targa Stages that have evolved after our seven years of ownership, I remind myself of John's Template for a stretch of road to be considered a Targa Stage.I'll repeat what John would often say:If Ronda, driving her Toyota Corolla 4WD S/W, on an open road, can average 120 kph or more, between Point A and Point B – the stretch of road was too quick to be a Targa Stage.Yes, some may say, this is an amateur way of making an assessment of what roads got the nod or, not.Given his well documented Rally background, he knew if I , as an amateur driver (not holding a CAMS licence until I was 65, 71 years now) could achieve this average in a 1600cc twin cam, everyday standard vehicle, imagine when the outright contenders at the back of the field could achieve !! John's Quote: Lethal Speeds.What are today's criteria for Targa Stage selection and by what method ?Tour DivisionLeave as is – with again, discretion by the Clerk of Course to reduce maximum speed in ' 00 ' driver declares the Stage is Wet.Face to Face Medicals – mandatory for Drivers 60 years and over.MSA to appoint a Tour Observer for each year, with a view to a Review in five years.Feedback coming to me during the final four days of this year's Targa Tasmania were comments along the lines of:We're still here because we've travelled long distances to get here so, why not keep going but, to pay the Entry Fee and travel back here for future events, with a max. speed limit of 100 kph, down to 60 or 80 kph on stages going through built-up areas – no way.Other comments were – we stayed to support the Officials and small businesses of Tasmania who would miss out on vital cash flow if Targa stopped on Day Two this year.Competition and Tour Divisions:I feel there is a strong augment for	As mentioned in my notes to the Tribunal in 2021, bring back face to face Medicals for all Competition Division drivers and,Introduce this protocol for Tour Division drivers 60 + years of age in the year of entry.Face to Face Medicals was required in our time due to Targa Tasmania being listed on the FIA International calendar.At some point during Octagon's ownership, a decision was made to save the FIA Calendar Fee cost – hence the licence required under CAMS back then dropped back to the level it is now.Given the increased speeds and handling of the Competition Division cars built post – 2000 onwards, I have been championing this cause since I found out at the 23rd running of Targa Tasmania, a face to face medical was no longer required. It is too easy for Drivers to be untruthful when answering questions online.In regard to licencing, the work conducted last year and new regulations from 2023 is yet to be tested.Although I'm told, Tony Seymour (aged 59) would have been eligible for a Targa Tasmania Competition Super Licence in 2023, based on his experience up to 2022 event. Power to weight ratio to be introduced for the level of driver experience – as per limitations on P Plate drivers for purchase and driving high performance road cars.I believe some of this has been addressed in the new Licence rules from 2023 ?One certainly has to question the wisdom of accepting an entry from John Mansell (aged 71) in 2013 and Leigh Mundy (aged 69) in 2021, given the high performance cars they nominated, with no face to face medical required.Hopefully, this lesson has been learnt for future Tarmac Rallies.I also recommend a tougher address to ALL Competitors – Competition and Tour Divisions at briefings – a stronger Police address and a Motorsport Australia Manager to deliver stern warnings as well.All briefings to be conducted the day before the Start – not the morning of the day.	Manufacturers have progressed and developed technology and acceleration of many standards, everyday road cars to a level of the handful of Outright contenders in the 1992 eraWings and no suspension travel are now standard in many off the shelf high performance models, e.g. Porsche GT3 and Lotus Exige.The Lotus Exige – has hideously small fuel tanks – refuelling is required in Targa Tasmania after every Stage or second Stage. This in turn ups the cost of Service Crews and the frequency can cause drivers to have to overdrive to catch up.As long as Targa Tasmania runs in the back half of April each year, inclement weather will always be a factor. (Dates for the next five years are mid- to late April)To date, there have only been four, all dry Targa Tasmania's across the 31 years.Wet weather tyres increase the cost to competitors including,, the need to have service crews to carry and change them – are there two or three intermediate brand tyres (not R rated) suited to all invited vehicles in an Event, eliminating the expense and extra servicing throughout a Tarmac Rally ?Bring back the six tyres max. ruleIf a Targa Stage is declared Wet by the Clerk of Course and the stage top speed is reduced, there should not be a need for 'top shelf' wet weather tyres and, a new max. speed of 160 kph will assist to reduce tyre wear, wet and dry.Bring back a serious Pre-Event Scrutiny system AND, Post-Event Parc Ferme and Scrutiny for Category and Overall Handicap Placegetters.Re-visiting the positioning statements John Large created for Targa TasmaniaThe Multi-Million Mobile Motor Show is back in Town .....Targa Tasmania Vehicle Selection: Invitation to Sports, Classic, GT Cars of DistinctionTarga Tasmania – The Ultimate Tourist Trophy – changed downstream when the FIA/CAMS Prescriptions for Tarmac Rallies were introduced to: The Ultimate Tarmac RallyAs John and I quickly realised, the Media attracting, High Profile Competitors and Manufacturers will come and go from Motorsport Events as they please.As Promoters, we were aware of keeping up with the 'rank and file' competitors, year in and year out.We never viewed Targa Tasmania Outright Winner driver success as a pathway to higher level Motor Sport Categories.It was always intended to be a fun, challenging five day event for owners of Sports, Classic, GT Cars of Distinction to drive on closed tight, twisting roads, the way the manufacturer designed their cars to be driven. Yes, nice to rub shoulders with a few celebrities from time to time but, basically, enjoy the experience, with your navigator/best friend and return home with a Targa Trophy and a few lies to tell your mates.This policy also applied to sticking to a rigid Vehicle Selection Policy – No Shopping Cars, No Utes, No Rocket Ships .....Perhaps it's time to revisit John's design intentions for Targa Tasmania with a back to basics approach and to reset Tarmac Rallies in general across Australia.Ronda MatthewsCo-FounderTarga TasmaniaFormer Event Manager & Director,Targa Promotions Pty Ltd.	RONDA	MATTHEWS

	reverting back to a five day Targa Tasmania – Tuesday to Saturday.Fatigue can be an issue over six long days coping with 9.9 out of 10 difficulty Targa Stages.Many entrants new to the Tour Division have commented to me over the years, that as their first foray into Motorsport, six days is exhausting.Bearing in mind, most of these 'Captain's of Industry' do not drive at normal speeds every day, across six days for a holiday !!Cutting back to five days would save Competition Division Entrants one-sixth of their budget.Targa Gt Barrier Reef (5 out of 10 difficulty) and Targa High Country (7 out of 10 difficulty) are really only 2.5-day Events and six days of Targa Tas is a BIG step up.				

84	I've pondered long and hard on how to best provide the panel with a submission that could be of some value and despite being suspicious that MA have no actual interest in competitors views, and have issued a ridiculous statement that only wholesale changes are being considered because further loss of life is unacceptable. Whilst this is headline worthy and desirable in todays PC world, it is in my opinion patently idiotic. Despite this, I offer below my thoughts.The design and conduct of the events does not need to change in the main. Targa Tasmania was designed and is conducted as a test of man and machine, that is what it was intended to be, that is what it is, and that is what it always should be. Neither the design, nor the conduct of the event contributed to the deaths that have occurred recently.There are only two concerning things that I have noted over the 30 years of Tarmac rallying that I've been involved with. The first is the introduction of safety measures that do nothing to improve safety and in many instances have introduced an element of danger. Slow zones that on occasion introduced several cars at different speeds into the same small area at the same time seem ridiculous to me. Repetitive stop and go zones, at times every 2 kilometres, that caused brakes to fail and diffs to be torn out again seem ridiculous to me. All measures introduced in the name of safety, supposedly by a governing body with the best interests of it's members at heart, but having the opposite effect.The second are events, like the Mt Buller Sprint and other events where the same piece of road is used several times in the course of (usually) a two day event. I believe this encourages more of a "circuit mentality" and less of the "rally mentality" required to safely complete tarmac rally style events.	The current requirements for new entrants into the sport to progress through the various speed limited categories is sufficient. If MA wish to impose further restrictions or requirements on aspiring competitors then they need to answer one question first, how would any measure they introduce have saved Peter Brock…Having said that, new entrants to the sport should be required to demonstrate the right mindset before being allowed to enter higher performance vehicles.	At the risk of sounding like an American gun lobbyist, it isn't the car that kills people, it's people that kill people! I have mostly driven ridiculously powerful and unsuitable cars in Tarmac rallies, because I enjoy the challenge. It isn't the car…Having said that, it appears that the detachable roof on the Lotus was a contributing factor in the death of the driver, and in my opinion it would makes sense to ban convertibles and ironically, "Targa" style roof vehicles. With regards to tyres, the recent changes to include "wet weather" tyres has done nothing to improve safety at the events, it has simply added complexity and potentially (if my understanding that Tony had "wets" fitted to his Lotus is correct) could be a contributing factor in his accident.At the end of the day, I believe it is commonly accepted wisdom that a side on collision with a relatively immovable object like a tree at 60kph or more in the vicinity of an occupants head will likely result in death. As a competitor, I know and accept this, and do my best to avoid this situation. But unless the events are limited to a maximum speed of 59 kph there is every chance that I could find myself in this situation, and frankly that is part of the appeal of the events. If there was no risk, then it would be like attending kindergarten, and there would not be the sense of satisfaction available for completing, conquering or even surviving the events. Humans have always sought to push the boundaries and test their own limits and skills, is it the place of MA to quell the very nature of the human spirit?	Adam	Kaplan
83	Generally we believe the Targa officials do an excellent job. My son and I run in TSD and one complaint we have, is with the time set for the Geogetown stage this (2022) Targa Tas. Day one is supposed to be a dialling in and "getting up to speed" day. The time allowed for Geogetown converted to an average speed of 71 K/H compared to the previous average speed of 65 K/H the last time this stage was run. Hardly a "getting up to speed" time. No one made this time. If this was a mistake then maybe this sort of information should be double checked.	A couple of High Country Targa's ago, in TSD we were catching the car in front when it slowed without any warning and for no apparent reason. We had to take sudden avoiding action. On approaching the diver at the lunch stop, he explained that he was a newby and he was slowing for the RTZ. He was unaware that back then, RTZ's didn't apply to TSD. Maybe newbys should have to sit an exam of some sorts, as well as being started at the back of the TSD field to avoid this type of incident in the future. (We later found out we were not the only ones endangered by this erratic behaviour). Maybe restricted licence holder should also have to supply and annual Doctor's Certificate. With the higher speed classes newby's should have to come up through the ranks starting with TSD or Thoroughbred Trophy.	We found that Scrutineering left a bit to be desired at TT 30 compare to previous Targa's. We understand that many scrutineers are volunteers, but maybe better training and more efficient check lists to better maintain a benchmark standard. Tyres Because we run tyres that are very good in both wet and dry conditions (Dunlop Direzza Z2), we are not sure if cars that present at the start line with "dry only" tyres are allowed to start a stage that is declared "Wet". If, as we suspect they are, then a "wet tyre" only rule should be strictly enforced at start line time control.	[redacted]	[redacted]

82	I would not run a reverse order I believe a conventional competition running order fastest to slowest is a safer option. Due to road condition changing as cars drag loose gravel & bluestone onto the road for the fastest crews to hit unexpectedly. Oil lost onto road by earlier cars is also more likely a bigger issue for the faster crews.	This is difficult and very hard to determine a fair system. I attended in 2018 at age 48 as a rookie I choose a car consummate to my ability & 30yrs experience in motorsport & gravel rallying as well as my budget. I do believe just because someone has track experience a big budget and buys a high performance vehicle does not qualify them to be able to compete safely in a tarmac rally. But how you draw a line is the million dollar question.	I think if a car is prepped to a state or national rally standard that would be a minimum requirement. I don't think a bolt in cage is adequate in the competition section when terminal speeds on tarmac are much higher than gravel events.Suspension set up on factory built track day cars do need to be set up as all cars should for tarmac rally not track days. Each state could appoint a few specialists to assist going over cars to assure set ups are suitable.I like the idea of a handicap system for high powered supercars either limiting the power or similar. Possibly using a restrictor if turbo charged. I'm ok with 200kmh limit but don't like to see too many rtz zones as they have Thier own safety issues associated regarding brake degregation.	[redacted]	[redacted]

81	I have written my submission as a stand alone document .I have attempted to divide it into the categories specified.Safe running of events.The original concept by the event originators John Large and the late Max Stahl was to put on a “million dollar mobile motor show” for the Tasmanian public. The intention was to present to the spectators a spectrum of exciting cars ranging from vintage classics to the most modern exotic machinery. The early events featured many wonderful old cars but as the years passed the older cars were sidelined as more attention was paid to the contest at the front end of the field. The slow speed of the older cars was also causing problems with road closure schedules, which may have been a factor in organisers de-prioritising them. With the absence of true Classic cars media reports on Targa Tasmania and other tarmac events now focus almost exclusively on the outright winner. Inevitably, the media wants an ultimate “winner”, but perhaps organisers could de-fuse this issue to some extent by issuing media releases that give more emphasis to category and class leaders/winners, increasing the prestige of class wins (eg, so and so wins the John Large trophy for Classic cars) and a broader coverage of the field. The cooperation of leading media sources could be sought in this area.The concept of running two events in conjunction, the Targa Classic and Targa Modern should be considered. Pace notes is an issue that could be examined. The banning of notes, requiring drivers to drive the roads as they see them and using the road book instructions supplied, provided they are of good quality, would reduce the amount of risk taken by many drivers. There is a strong lobby that pace notes increase safety, but there is an opposing view that says driving roads “blind” reduces speeds, and requires a more cautious approach, particularly at hazardous parts of the course. Is there any statistical evidence that using pace notes actually reduces the incidence of accidents? A review of early Targa events may provide evidence either way. If pace notes were to be banned, there would be a requirement for the road book to be produced by a highly experienced (at top level) competitor, not just a person who is familiar with the course. Of course, the matter of pre-exiting pace notes from past events would need to be considered. There are also commercial implications associated with the banning of pace noting – the community being deprived of the extra income that pace noting generates – but on the other hand it would significantly reduce costs for competitors.It is difficult to see how the safety of vehicles could be improved. In all but the most extreme accidents the mandated safety measures now in place provide adequate protection to the crew. This shifts the focus to the organisation of the event and how risks presented by the course can be reduced. In my, and many other’s opinion the restrictions brought into force for Targa Tasmania 2022 were too extreme, particularly the treatment of crests. The reaction of the majority of crews was extremely negative to these restrictions, so a return to a more liberal treatment of the course would be a positive step. Competition drivers who have paid a considerable entry fee do not appreciate being treated like children and brought down to a very low common denominator.The use of virtual speed restrictions through Rallysafe is a useful tool, although its overuse will disrupt the flow of the stages. Use of “virtual chicanes” on straight sections of the course where speeds would otherwise reach 200km/h plus should be mandatory	In current Targa events a problem exists of very high performance cars, even in the lesser categories often being driven by “weekend warrior” drivers lacking the skills required to control very fast cars. “Professional” drivers are driving high performance cars on a regular, almost daily basis which enhances their skills and confidence. Drivers who compete on an intermittent basis, often with months between events, do not have the same level of ability to be at one with their cars.Regulating the matching of driver skills with vehicle performance will be difficult. The incidence of relatively inexperienced drivers purchasing extremely high performance cars (the Porsche GT3 is an example) is a current reality, and experience has shown that these cars are involved in a high proportion of crashes in tarmac rallies. I agree with the findings of the previous enquiry that some of these cars designed specifically for race tracks may not be suitable for Targa type events without modification. There would be a strong reaction from manufacturers to any attempt to prevent such cars from competing, so perhaps it could be made mandatory that drivers who wish to enter such cars be required to receive driving instruction in those vehicles from a source approved by the vehicle maker and Motorsport Australia.	I was chairman of the committee that set up the initial Tarmac Rally regulations. One of our key eligibility points was that cars capable of completing a standing 0-100 km/h time in under 5 seconds must run in showroom condition with no modifications allowed. It was not envisaged that cars such as Lamborghini Aventador, Porsche GT3 and Dodge Viper, already capable of sub 5 second 0-100 times would be allowed the freedoms now permitted under current regulations, which have filtered down to the lesser categories. This has occurred due to representations by manufacturers and entrants to the event organisers over the years for increased freedoms and has resulted in cars that are extremely fast, very expensive to prepare and require great skill to drive. In my view, as a minimum condition cars capable of sub 5 second 0-100 km/h times should be made to compete in showroom condition. That would include using a proven, checked stock ECU.Tyres were a hot topic of discussion when the first Tarmac Rally regulations were formed. The possibility of restricting tyres to the ones originally fitted by the manufacturer was discussed at length. This would be comparatively easy to monitor for contemporary cars, but not so easy for older cars. Current racing tyres have very high levels of grip and very rapid breakaway at the limit of adhesion, characteristics which also require great skill to control. In addition, for older cars high grip tyres place far higher stresses on suspension components than were never envisaged by the manufacturer. Perhaps the question of limiting tyres to a more roadgoing type could be re-visited.Summary:• Reduce outright road speeds by the use of virtual chicanes, top speed 200 km/h.• Reduce then performance of the fastest cars by specifying that any car capable of 0-100 km/h in less than 5 seconds race in showroom condition.• Review the efficiency and need for pace notes• Require expert driver training for drivers of cars known to have an historic record of crashes.• Review tyre usage.	Bob	Watson

80	1. Design and Conduct of the Event (with respect to participant safety)Event Timing Directly Affects Safety. One of the primary problems with event design and participant safety is the date(s) of the event. Tasmania weather is variable to say the least and closer to winter the event is held the greater the likelihood of rain and even snow; particularly on the West Coast. After a dry period this can make the roads very slippery to the point of being undriveable at anything above normal road speed. This was the case for Targa 2022 - we stopped at the XU1 rollover at Paloona and by the time we drove the Nook, as the first competition car through the stage in some time, it was extremely slippery. Consequently we advised the finish control personnel to update the warning board at the beginning of the stage to advise the following crews. I don't believe this was done which brings me to the next point - the warning boards are not being used to their full capability. I suspect that this is due to the lack of experience by some of the volunteers and more importantly by little or no feedback from the rally crews as the stops at the finish of the stage are extremely brief.Organiser has limited interaction with participants. I have participated in 18 Targa Tasmania's and numerous other mainland Targa events. The event has changed significantly over the years - probably due to improved technology, the lack of volunteers and the need for the organiser to make more of a profit. For example, there used to be numerous warning boards on stages where corners had caught out previous participants and these served to remind drivers that the risk had increased. Also as a result of participant complaints, and, again lack of personnel, the scrutiny and check in procedures have been dumbed down to be very superficial. Even the driver's briefing has been minimised in its content. This is, in part, recognition of previous experience but it was noticeable in this year's event that the Clerk of Course did not give a briefing. Instead the CEO gave a speech, quite rightly, about 'perspective´ which was clearly intended to induce some recognition amongst the participating crews that they weren't racing for a world championship but rather a pewter plate. Nevertheless, overall the organiser has very little direct interface with the participating crews.Vehicle Eligibility. The organiser no longer appears to have a vehicle eligibility officer. They have accepted classic vehicles that are fitted with modern engines and have allowed significantly larger diameter and width tyres (more than the long established two inches in width and diameter) that far exceed that originally fitted to classic cars. They have also established a classic GT class in which many of these classic cars, that would otherwise not fit the definition of a classic car, compete. The organiser should re-establish an eligibility officer position and closely scrutinise modified vehicles. In fact vehicle eligibility, particularly modern vehicles, should also considered with applicant experience. This will be discussed further in section 3.Competitor Relations Officer and Safety. This year there was one Competitor Relations Officer (CRO) for a massive field of cars. This is insufficient even if most of the cars were tour cars – time wasting questions still get asked. Also given the number of racing incidents a Safety Officer Position should be established in order to review safety events that are reported or vision that is supplied. The safety officer would operate in conjunction with any driving standards or Clerk of Course considerations. Certainly reports of poor or overly aggressive driving standards should be followed up.More Safety related Information is required. I have previously mentioned warning boards and there decaying/inadequate use. Now the organiser has moved to electronic warning boards which greatly improves visibility and readability but the board is only as good as the information posted. Crews, who now stop briefly, must be encouraged to report issues. Also speed zones should be strategically placed to minimise risk and not just speed. Safety notice boards that seem to have dropped out of use should also be placed at corners where major accidents have occurred. Slippery road information should be advised to a common defined standard – we do this in aviation and when braking action is inadequate we do not land. In the case of the rally the stage should probably be downgraded when slippery conditions at this level are encountered. The organiser should establish and approve a cadre of experienced tarmac rally participants selected as eminent peers from the 15 and 20 year competitor ranks and from both the modern and classic fields. These volunteers would act as mentors and monitors during the event. They would mentor new/provisional licence competitors and act as monitors during competition for road conditions, safety issues and observed driving standards.Regulations Don't Necessarily Prevent Accidents. I read with interest the panel's analysis of the previous accidents and resulting deaths and the subsequent recommendations which were adduced from the determined facts. I regularly act as an expert witness in aviation accidents and incidents and have investigated accidents ranging from Airbus and Boeing airliners and accidents with numerous fatalities to light aircraft and helicopter accidents. Aviation is the safest mode of transport on the planet but we still have accidents. When standards and recommendations are made at ICAO and regulations are made in a country	2. Eligibility of drivers and co-drivers for the EventRallying is a Team Sport. It is an obvious statement but driving a rally car at speed requires a cooperative team to achieve the optimum performance. A driver is only as good as their navigator when it comes to negotiating a complex stage that cannot be fully assessed visually by the driver. That is why experience at giving, receiving and acting on verbal instructions is absolutely mandatory. The requirement to conduct a full reconnaissance of the stages goes part of the way to forming the necessary team bond. Experience is also vital for higher performance cars and competitors nearer to the 'front of the field'. Experience is not easily gained without participation but novice or limited speed events for beginners helps to establish the basic skills. In military aviation a new, inexperienced pilot is often crewed with an experienced navigator; particularly in fast jet operations. I recommended a mentoring system to the organiser some years ago and this should be considered as an option for new crews with minimal experience. Volunteer mentors with suitable experience could meet the crew before the event to discuss the nature of the event and key points and considerations for some stages. During the event the mentors could brief the various stages for the next day and where necessary debrief the day's experience and learning points.Participants are Amateur Once a Year Drivers and Navigators. While not always the case some of the participating crews only compete in one rally of perhaps two or three for the year. There are any number of reasons for participation or otherwise in each event. Anecdotally cost is a big consideration for Targa Tasmania in particular. Participants who accept their lack of experience and the limitations of both themselves and their car often are thrilled merely to compete and achieve a Targa plate for achieving all stages within their base times. This is by and large most of the field and while they might have an odd 'off' these are mostly at low speed and the car is often returned to competition the next day. These amateurs are the backbone of the sport and should be encouraged but they should also receive appropriate training, licencing and mentoring.Drivers need to walk before they can run. It has been well established that circuit racing experience does not directly relate to rallying as the driving techniques vary significantly. Indeed several famous racing drivers have had incidents and accidents in tarmac rallying over the years. Given that most of the participants are not professional racing drivers gaining experience is a must before competing in outright competition. Most circuit racing drivers work their way up through the sport from go karts to lower category, lower performance racing cars before competing at national and international level. Unfortunately this type of grounding is not readily available to	3. Eligibility of VehiclesVehicle Performance Has Increased. It has been very noticeable that vehicle performance has increased significantly since the beginning of tarmac rallying in Australia. The early events were populated by classic cars with a smattering of vintage and modern cars. Indeed some events were for classic and vintage cars only. Now a high performance modern car can be bought for a relatively low outlay. Cars of this calibre require significant driver skill and acumen to drive them to their full potential. Electronic driver aids give a false impression of skill and make the vehicle appear more benign than it really is as the electronic aids reach the limit of their capability. When the vehicle finally "lets loose" it is well beyond the skill levels of all but the most skilled driver to bring the car back in control on a narrow country road. Similarly, classic car performance has improved both as a function of development of the vehicle and more effective springs and dampers and larger diameter wider racing oriented tyres being fitted. Most of these high end classic vehicles are fitted with superlative braking systems when compared to the original brakes. Consequently very high velocities are achieved in all categories. A brief comparison of stage times of the same vehicle over the years shows a marked improvement. The change in performance is so marked that it cannot be attributed to improving driver skills learnt with experience. At the extremes this development of the vehicles, both modern and classic, has reached the point where the vehicle is only a "silhouette" vehicle of the original. In the classic field this has resulted in vehicles being fitted with modern high performance engines, suspension and brakes as well as MOTEC information systems. There has even been requests made for sequential gearboxes and engine management systems. In the modern field some vehicles are fitted with options and systems not readily available to a commercial purchaser of the same vehicle.The Eligibility line has blurred. The search for competitive performance has now reached the point where some of the cars no longer fit into the original Standard, Limited Modified ore even the Modified definitions. This applies equally to the Motorsport Australia C1, C2 and C3 classifications. Consequently the organiser has permitted a GT Class where no handicap is applied and the crews compete on outright performance. In the classic field this has resulted in ostensibly classic cars matching modern cars for performance and stage times. In the modern field this has resulted some cars briefly touching terminal velocities well north of 250 Km/Hr in stages – WRC cars never reach these speeds. These performance levels are still reached despite the imposition of speed zones in the higher risk areas of jumps, crests and very long straights as well as dangerous sections of road.The Driver and Vehicle Combination is the Determinant of Safety. The primary determinant of safety in tarmac rallying is the combination of the performance of the car and the skill levels of the driver. The Co-Driver/Navigator can only use their voice to influence driver behaviour. In the early years of tarmac rallying the driver often reached the limits of the car long before they reached their own skill limit. Thus the primary performance limiting factor was the car's capabilities which had to be accounted for in the driving style and technique. Conversely a modern high performance car or, for that matter, a highly developed classic car has performance capabilities that probably exceed that of the average once a year or irregular tarmac rally competitor. In these cases the driver will often run out of skill before the car runs out of capability or the car will display characteristics at its limit which the driver does not have the skill to recover. In circuit racing where driving at the limit of tyre grip and vehicle performance is the target for maximum performance a breach of the driver skill or vehicle limits generally results in a minor run off or a relatively harmless spin – the track is designed to accommodate these type of events. In tarmac rallying the consequences of error can be profound – the road is often narrow with large trees and obstacles very close to the road. Having stopped at an accident in the Classic Adelaide a number of years ago I have seen directly the consequences of an error which resulted in two fatalities.Entry Eligibility must consider the Driver and Vehicle Combination. Given that the panel previously recommended the introduction of a "Super style Licence" for tarmac rally competitors and that recommendation has been accepted then consideration must be given to the vehicle that is entered and the licence held by the nominated driver(s). A list of vehicles that can only be driven by Super Licence holders should	[redacted]	[redacted]

	such as Australia one of the primary safety drivers is that the passengers on regular public transport aircraft have “an unknowing acceptance of risk” – when they get on an airliner they expect to get to their destination safely and they also assume that all airlines and crews are of the same standard – they know from the media that there is an extremely small risk but they assume that they are essentially safe. Indeed that is the case there is a much higher risk of dying in your bathroom in your home than there is of dying in an airliner accident. Conversely “a knowing acceptance of risk” is applied to skydivers who jump out of aircraft. Their sport is known to be dangerous and they train and carry out safety procedures accordingly. I would submit that Tarmac Rally participants operate in a “knowing acceptance of risk” environment and sport. Indeed there have been 20 crew fatalities in the World Rally Championship since its inception in 1974 and this is at the peak level of the sport with the best crews in the world and works prepared cars that are extremely robust. So, while I admire the effort put in the Targa Review Panel and also agree with some of the previous recommendations such as the 200Km/Hr limit and the need for so called Super Licences; some of those recommendations don’t necessarily seem to arise from the facts determined from last year’s fatal accidents. Shane Navin's accident occurred at relatively slow speed on a known slippery corner where a car had gone off the previous year into the river - fortunately nose first. It would be illuminating to see state government records on the number of accidents on that corner over the years - an extension of the AMCO as a result of previous road user accidents at that corner may have prevented the racing fatality. Indeed it is arguable that none of the three previous deaths would necessarily have been prevented by the proposed changes to tarmac rally licensing and operations. The crews operate in a known risk environment and sport and they accept that risk when they enter. Safety regulations should set the safety standard for tarmac rallying participation, vehicle capability and safety and crew standards and performance but regulations cannot control individual behaviour. In the highly regulated world of air transport the individual crew under the direction of the pilot in command have to manage the risk and thus the safety of operations on the day. Similarly, in tarmac rallying the primary responsibility for safety rests with the participating crews who need to manage the risks at the time such as prevailing weather and road conditions and contain the driving within their and their car's capabilities.Cost Limits Participation. The cost of entering tarmac rally competitions has risen significantly over the years to the point where competitors are weighing up whether to compete at all. For example, Targa Tasmania can cost a crew between $15,000 for a small crew staying with friends for the event to more than $25,000 for crews staying in commercial accommodation and with supporting crew members. For amateurs this cost is often equivalent to an entire year’s budget for other cheaper forms of motorsport. Consequently cost alone can limit regular participation and thus experience and competence when driving a rally car at high speed on narrow country roads. A significant number of competitors have ceased turning up for events over the years or limited their participation to one or two events a year.Tour Car Participation. The organiser has increased the level of tour car participation over the years to the point where they are the largest percentage of the field. Tour car owners get the thrill of driving their often very expensive and very fast cars over the closed rally stage roads and the organiser gets a vastly increased profit for the event. However, participating in a tour is little or no preparation for moving to a competitive event. A minimal requirement for training would be participation in a speed limited event such as TSD. Also over the years tour cars have inadvertently interacted with competition cars which has on occasions resulted in the tour car, which has no roll cage or racing harness fitted, racing the competition car. Tour driver friends have also reported tour drivers dropping back from their package leader and then racing other tour cars or individually driving at speeds well over 200Km/Hr. This type of driving is clearly unacceptable behaviour and the odd accident has happened as a result of poor driving skill exhibited by some tour drivers. Indeed, in the past we have passed tour leader cars on their roof in rally stages. On previous events the tour has been run in front of the competition cars and the numerous offs and breakdowns have resulted in lost competitive stages as the road closure times end up being insufficient to get all the competition cars through the stage. Also we drive an iconic classic car which attracts a large crowd at every stop. These stoic spectators who turn up in all weathers tell us they come to see the competition cars racing; not tour cars driving by – the organiser would be well reminded to remember that.	budding rally drivers – even dirt rallying in Australia has minimal participation at the top echelons of the sport. Consequently a training or experience requirement should be established. The driver should undergo a racing driver’s course and should participate in speed limited or rookie events before being allowed to participate in the full competition. A points system could be established that would credit circuit events at all levels as well as rookie or speed limited events. Sufficient points could result in a Provisional Rally Licence that would be valid for a period or number of events. A driving standards review would then be conducted to assess any incidents or accidents. An uneventful probationary period with little or no fail to finishes or gross driving standards errors would then permit the applicant to apply for a “Super Licence”.Co-Drivers need Training and Mentoring. Competent Co-drivers and Navigators are absolutely essential to safe tarmac rallying and to crew performance levels. A competent rally crew would almost always beat an experienced professional racing driver over a road course so it is essential that the Co-Driver/Navigator receive proper training and mentoring if they are to hold a Super Rally Licence. Navigators should be limited in the same fashion as a driver at the Provisional Licence level until they have learnt the skills at both navigating and, equally importantly, managing the driver’s sped and driving levels to an adequate level of performance. It is well known that drivers experience the “red mist” of increased performance or that they have ambitions to succeed against other crews when, in fact, their skills and competence combined with the car’s limitations do not measure up to that ambition. An experienced Navigator can use their calming influence to limit those unrealistic expectations. Thus it is essential that the Co-Driver/Navigator receive adequate training from an experienced (Super Licence qualified) Navigator or Driver mentor. There may even be sufficient interest for a commercial operator to establish a short Navigator’s course. New Navigators could also be mentored by experienced Navigators during their first few rallies.Regular Participation is a Must. As discussed most Tarmac rally crews participate in very few events during the year. This is as a result of event availability, event cost and other commitments amongst other things. Nevertheless it would be reasonable to expect a minimal rate of participation to hold a licence – particularly a “Super Licence”. One Tarmac rally a year plus other motor racing participation would probably satisfy any recency and experience requirements. If the participant cannot for any reason enter a Tarmac rally then an offset could be achieved by a short (one day) refresher racing or rally driver course.	be drawn up in the same manner a vehicle handicap list is published. Provisional licence holders would not be able to enter a vehicle on the published list. Also a previous Super Licence holder who has not competed for some time (more than a year?) would not be permitted to enter a car on the list unless they could demonstrate commensurate motor sport experience.Vehicle Preparation. In previous years a car was required to be presented for pre-event scrutiny to an authorised representative of the organiser. Now the entrant declares vehicle self-scrutiny on a form and the vehicle is briefly checked by the scrutineers prior to the event. Consideration should be given to re-instating pre-event scrutiny for vehicles that have been entered for the first time or have changed owners or the owner only holds a Provisional licence. This pre-scrutiny should be pitched as help to ensure eligibility and that the safety characteristics of the car such as the roll cage are adequate.Safety Equipment. When I first started tarmac rallying the only dress requirement was long sleeves and jeans or trousers with solid (sneakers?) footwear. I always wore an Air Force fireproof flying suit. Now we are required to wear fireproof suits, under wear, socks, gloves and boots as well as head and neck restraints and a compliant helmet. I initially thought that a HANS type restraint would limit vision in tight corners – and it does but you soon learn to compensate. Now winged seats are recommended. These in combination with roll cage door protection make entry/egress from the vehicle when wearing all the safety equipment quite difficult. It is often easier to remove the helmet and HANS in the car before egressing. The combination of the worn safety equipment, the winged seat and the cage can also make rescue difficult. When we stopped at the XU1 accident this year the driver was outside the car but the Navigator was hanging in the straps in the inverted car. I briefly investigate the possibility of extracting him but this would have been very difficult and since he was conscious and advised me that he had pulled the kill switch and pressed the Rally Safe for help I left him in situ as I returned to our car to send for medical help on our Rally Safe. By the time I returned to the crashed vehicle he had extricated himself. Despite the rescue difficulty: particularly in Shane Navin’s unique case it is my belief that the level of safety equipment required to worn and fitted is adequate for most events.Recommendations1. Rally crews have a knowing acceptance of the risks involved in the sport. These risks are accepted by the participants in much the same manner as skydiving and that should be considered by Motorsport Australia and the review panel.2. Increasing regulation does not necessarily increase safety – aviation is the most highly regulated form and safest mode of transport on the planet but fatal accidents still occur. Regulations should only be implemented if they enhance safety.3. Having the event after March/early April in Tasmania almost inevitably results in poor weather conditions and slippery roads – this greatly increases the risk. Targa Tasmania should be held earlier in the year.4. Inexperienced crews should be mentored for their first few events. Volunteer mentors should also be asked to monitor and report on driving conditions, safety risks and possibly driving standards.5. The combination of car and driver experience should be assessed for eligibility. Provisional licence holders should not be permitted to enter a car that is on a list of very high performance factory prepared race cars. This list should be established in much the same manner as the handicap list.6. Highly modified classic cars fitted with modern engines and equipment should not be permitted to enter.7. Consideration should be given to eliminating the classic GT class.		

79	a. I propose that rally safe functionality be extended to include real time road condition updates. b. With Tony Seymour's accident there was a sudden reduction in available grip just after the apex of the corner where the grip went from 1.0G down to 0.74G and then restored back to 1.0G. I have very detailed logging of this corner. c. I am certain that many drivers that were in front of Tony experienced the grip issue with that corner as I did. Two cars even left their rear bumper covers in the middle of the road.d. Rally Safe could have a button that can be pressed alerting rally base and following cars to the location of an issue with the road surface in real time. The rally safe could then give a warning just prior to the problem spot. This along with a rally safe heads-up display for the driver would make a big difference. The navigator simply can not be relied on to relay any rally safe information in real time. e. There have been numerous instances of road surface issues claiming many teams in multi cars incidents over the years. Tasmania has roads that are not maintained to the standard we might expect, and they can become very slippery in spots when wet. f. Targa should be moved to March when the roads would normally be much dryer.	a. It is my view that the focus should be on the attitude of the crew rather than just focusing on experience as I have seen plenty of reckless attitudes and driving from very experienced crews.b. While it is not possible to always have an instructor/observer in the car to validate the crew's attitude and capabilities it is possible to have an onboard computer monitoring the driving. This would be along the lines of a stability control system that detects over/under steer wheel slip and braking lockup. Its report could be automatically downloaded over Wi-Fi at the end of each stage and the crew spoken to if the driving is not up to standard. There could also be a flashing light like a modern cars Stability Control to warn them they are pushing too hard. c. Tony Seymour trying to run in the top 10 in the wet in a 2WD car on the first day of racing with his limited experience in Tasmania could be seen as reckless. It is almost certain he would have had some "events" prior to his crash that could have been picked up.d. The organizers should be able to request in car video and have it expertly analyzed to determine at what level a team can compete. Just doing a Targa at 130kph does not mean a team is suitable for 200kph. e. Continue with demerit points for accidents. Tony Seymour's big accident at Targa Great Barrier Reef should have been a big red flag.	a. There is no doubt that the car suspension plays a very big part in the suitability of a car for tarmac rally. The MA Tribunal from 2021 recommended that the cars suitability should be verified but this was not implemented. b. An example would be Tony Seymour's crash at Targa Great Barrier Reef where it hit a dip in the road. (https://www.youtube.com/watch?v=8oVTBSha3FQ @13:30)c. Even cars that should have adequate ride high and suspension travel often do not due to being lowered excessively. I followed a Subaru BRZ Competition car out of Strahan at touring speed in this years Targa Tasmania and it had sparks coming out from under the car on every third corner due to something under it striking the road.d. There is lots of talk about safety cages from people with no idea. It would seem all cages in the 5 deaths back to 2013 performed as well as could be expected. Any gains in this area would be small and incremental. It's all about the crumple zones and to increase the side impact zone it is simply not possible to have the crew far enough inboard to survive a 60kph side impact. It is the G force that the human body is subjected to that kills. 0-20G no issue, 20-50G observation required, 50-70G in hospital with serious injuries. >70G in the morgue (G=G-force, 1G = force due to Gravity). The greater the distance you have to decelerate in the better for survivability. Note that the deceleration must be controlled. e. Require the latest club level FIA accident data recorder to be installed. This would allow proper analysis of crash protection performance by measuring the force the occupants have been subjected to so the actual areas that matter can be address using real data. It would also provide first responders with the information required to better treat the crew. I have designed an FIA crash accident data recorder.f. All tarmac cars should ultimately under steer at the limits. Hitting an object head on is far more survivable than side on due to the much larger crumple zone especially in modern cars with properly designed controlled crumple. The fitment of a safety cage can alter the crumple characteristics of a modern car for the worse. g. The mandatory use of winged seats with a HANS device. The effect of having a HANS device between the shoulder and helmet base should be investigated in relation to neck injuries.	[redacted]	[redacted]

78	1) remove jumps - the lack of action by coroner and MA after Mansell is astonishing! 2) remove instant stage results to remove competitive pressure- nightly release only3) FIA regs make it abundantly clear that “speed is not the issue” in course design - remove the current tribunal obsession with speed and average speed 4) RSPs to be avoided . Adelaide Rally proved how dangerous they are with massive braking and massive acceleration required5) RSZs to be avoided . They require attention on the speedo not the road.Use only as a breathing zone with no timing and no time penalty applying 6) RTZs accepted as an appropriate way to reduce speed approaching a danger . Do not use to control average speed. FIA recognises speed is not the issue7) adopt a uniform very high visibility warning signage for all tarmac events . Must be stable in wind . Many blow over at certain events8) compulsory incident reporting by competitors. This is required by FIA. Utilise to collect data for future review and course planning / warning signage. If a competitor goes off , they must report the circumstances.9) compulsory reporting of oil drops. At present a small number of classic entrants in poorly prepared cars blow motors and dump oil on line. Every event there is a significant oil loss of a poorly prepared classic creating a danger. On track flag marshals warn drivers , at tarmac rallies the danger remains hidden A) In TT 2008 a Porsche kept going leaking oil on line as near the finish . Caused a potentially serious life threatening crash of a following car . Compulsory going off line and off road when oil pressure drops . Numerous other examples exist …L usually the same cars .B) required figment of large highly visible central oil pressure warning light to classic cars visible to both crew 10) course dangers exist where there is a black spot…eg change of rhythm , change of surface . Identify these . Highlight these dangers with warning signage 11) certification and training of course checkers . They must come from the pool of experienced tarmac competitors, not just MA committee members . Course checkers should be eligible to compete . A) Adelaide Rally had two well known dangerous corners totally unmarked and two serious incidents (down embankment/ rollover) yet dozens of dangerous RSPs in safe road areas 12) downgrading of stages where danger emerges due to conditions.A) eildon road surface became very loose and inconsistent gravel due to heat wave and high traffic with early large tour groups. Numerous cars off road. Return leg Jamison not downgraded - numerous cars off as surface became even looser and more dangerous. Avoidable danger missed13) using compulsory incident reports to gather data on accident points on regularly used stages14) introduction of intermediate 165kph division, between 130k and 200k groups 15) demerit point system for crew for accidents, oil drops , with relegation to lower speed group , with entry exclusion for repeat incidents.	1) development of risk management training module (video) for new entrants - successfully used in road driver training for high risk groups. 2) proof of experience in Motorsport and safe driving at events 3) demerit point system as outlined above to penalise bad driving behaviours 4) graded system via speed limited 165k group to become eligible for 200kph open group 5) there is no evidence medical examinations have any bearing on tarmac rally safety.	1) extensive review of tyre choices indicates different vehicles need different tyres … strict determination by organisers is not appropriate 2) allowing 6 tyres requires crews to conserve tyres and drive more conservatively. 3) retention of ESC on in Tour groups should be compulsory. Numerous Tour cars go off with ESC deactivated and crew have no notes nor high level experience 4) vehicle type and performance has no bearing on incidents, which are caused by driver behaviour. Retain ability to enter a broad range of vehicles 5) require classic category to have large highly visible oil pressure warning light 6) safety equipment is as good as it can be - extensive discussions with cage builders indicates that extreme point loadings (such as in the Seymour incident) will cause degradation and collapse of any cage . 7) require speed limited categories to have full cage (not just a half cage allowed at present) and wear flame proof equipment not jeans and a shirt as currently allowed . The Navin and Seymour incidents happened at low speeds . There have been numerous incidents in 130k limited class , luckily the entrants involved had full cages and wore full gear	[redacted]	[redacted]

77	Riana & Camena Stages farmers have supported for 30yrs & we have sent a petition asking for no more use of our roads. Our petition sent by registered mail has not been acknowledged by Targa & as concerned community we have done the right thing allowing Targa to use our roads unheeded but please accept our request.	Our Riana & Camena Stages of Targa are no longer suitable for racing as our farming community have petitioned it cease in our area. We have obliged for 30 years with a death on our roads. No more please & we have sent a signed petition to Mark Perry in May 2022 requesting no more in 2023	Riana & Camena stages had no consultation with community about road closure in 2022 & no signage in Natone or Upper Natone creating dangerous & bio security problems for local farming. Objections in a sensible petition were sent to Targa Tasmania Mark Perry requesting no more Targa in the Riana & Camena Stages. We have oblidged for long enough & Targa do not answer our calls or letters. Still very concerned as farmers were irate in 2022 & I managed to approach through what I thought the right channels but still no reply. I need affirmation Targa is going elsewhere or our community need to be more vocal. Christine Atkinson 0364362181	Christine	Atkinson

76	Opportunity not Threat in the ChangesMy submission considers more than just participant safety. For Targa events to continue successfully, the potential impact of proposed changes needs to be assessed against the objectives of all stakeholders and not just with respect to participant safety. Events must be viable for promoters, and this is dependent on attracting enough competitors.The current imperative to introduce change for participant safety should not be managed as a negative but used as an opportunity to improve Targa events and enhance viability into the future. Competition entries have been falling as long term competitors have been leaving the sport faster than new competitors starting. Recent events have exacerbated this with significant numbers indicating that they are unlikely to return. A theme I have noticed for many years is that the sport is losing the 'middle of the road' competitors many of whom believe that the emphasis has swung towards the very fast (and wealthy) competitors to the detriment of the more 'resource constrained' competitors who compete for the experience rather than the glory.Changes to Targa events need to encourage existing competitors to remain but also to attract new entrants. The majority of competitors should not lose the event, or the things that make it special because a small number of people want to drive incredibly powerful cars, take risks by seeking the most spectacular 'air' over a jump or drive without reasonable safety margins to win. Let's bring back the fun and make Targa better!Game Changing ApproachI am proposing some 'game changing' approaches that address participant safety and provide a framework to encourage new entrants. This approach addresses the conduct of the event, the entrants, and vehicles in an overall strategy that would result in lower overall speeds and ensure that only competent and experienced crews compete in high performance vehicles.Incentives to Reduce SpeedsReducing the overall average speeds would make the event safer for participants and would reduce the perception of danger from external stakeholders including the public. Some of the current vehicles are faster than the Group B rally cars of the 1980s. Few (if any) Targa competitors have the skills comparable to the WRC competitors of that era. Across the field many crews are driving with very high levels of commitment increasing the likelihood of accidents. A Targa fatality at very high speeds (eg well over 200kph) would be perceived as unacceptable by external stakeholders and probably result in permanent loss of the event. Hence the range of measures (200kph limit, speed zones) that have previously been introduced. However, these well intentioned measures have introduced other problems in themselves and potentially reduce safety overall. The Adelaide Rally measures were particularly poorly implemented and adversely impacted the event.Rather than outright banning very high performance vehicles, a more effective approach would be to provide incentives for competitors to choose lower performance vehicles by making these more competitive relative to the faster vehicles. High performance vehicles would be limited to the most competent crews.Handicap as a Game ChangerThe primary "Game Changer" would be to reduce overall speeds by changing competitions to a handicap system. The handicapping system would be biased towards lower performance cars over high performance cars. There would be no outright competition and only handicap results would be published. Removing outright competition would upset some competitors and a few might leave the sport. However, in the existing competition few entrants have the resources (or skills) to be competitive in outright terms. With a handicap, a wider range of vehicles and competitors would be vying for top honours, and this would be less dependent on having 'very deep pockets'. Being a handicap doesn't seem to impact interest in the Melbourne Cup! Handicapping already occurs, eg weight penalties previously applied to Nissan R35 cars.Competitors wanting to be at the sharp end of the field would choose to run lower performance cars. These would still be driven hard but it generally takes less skill to drive a lower powered car at its full potential than a very powerful car. Terminal speeds would be lower and fewer cars would be impacted by the distraction of staying below the 200kph maximum (which would remain). Very high performance cars would still be eligible but would be limited to the most competent crews and would be less competitive in terms of official results. This might impact the value of the high performance cars but not as much as the discontinuation of tarmac rallies.This approach would also see many more types of cars potentially at the front and might encourage more manufacturers to support the event (eg Brendan Reeves in a Hyundai or Harry Bates in a Yaris might win, provided they could beat Ashley Yelds in the 1961 Volvo)!How would the handicap system work?The handicap system would be a development of the Potential Performance Indicator (PPI) approach as was successfully applied to the Classic competition in 2022. The current timing and scoring system already accommodate this. However, unlike the current Category and Class based PPI in Classic, the PPI for each car would be based on its age, weight and capacity based on a formula derived from statistical data from actual results from previous events. This works	My proposal for driver eligibility is part of a coordinated approach along with the conduct of the event and eligibility of vehicles. The overall approach is to ensure that each crew competes in a vehicle (performance potential) and event category (130kph/ 200kph limit) commensurate with their driving style, ability, and attitude. This should reduce the likelihood of the crew being involved in off tarmac incidents with the potential for injury.This would be managed through:- initial licencing, - event entry based on licence- upgrade and maintenance provisions based on demerits for off tarmac incidents resulting in vehicle damage. LicencingLicencing would be similar to existing arrangements except that there would be more emphasis on the initial provisional endorsement and upgrade conditions to remove the endorsement. This would align more closely with the circuit race licence provisions. Detail consideration is required for the minimum number of events before a licence could be upgraded given the low availability and high cost of events.There would be merit in introducing a similar provisional licence system for codrivers as experienced codrivers are integral to team performance and safety in tarmac rallying. Many co-drivers currently undertake specialist training to enhance their skills and this should be encouraged.Event Entry Drivers holding a licence with Provisional endorsement would be limited to compete in the following competitions:- 130kph speed limit (full competition or TSD) in any vehicle performance level and with any licenced codriver- 200kph competition in a low performance vehicle (capacity/weight PPI factor below a nominated value) but only with an experienced codriver with a full licence.A driver holding a full licence could compete in any competition in a low performance vehicle (capacity/weight PPI below a nominated value) with any licenced codriver.Only crews (driver and codriver) with full licences would be eligible to compete in the 200kph category in a high performance vehicle. Upgrade and Renewal of LicencesThe driving style, ability, and attitude of the driver can be observed in circuit events, but not easily in rallying. For rallies a measure of a driver's skill and attitude (cautious vs hard charging) might be based on a record of incidents. Some competitors have very few incidents while others have many. These range from minor excursions with limited vehicle damage, through to incidents requiring vehicle recovery. Officials (judges of fact) could record evidence of damage during the event. Incidents could be graded. As an example:- Minor accident damage evident but the vehicle can continue in the event without missing a stage, incurring late time penalties or requiring removal from parc ferme for repair. (1 demerit point)- Accident damage evident but vehicle is able to complete the Leg and re-join the event with repairs resulting in missing one or more	Co-Ordinated Approach of Event, Crew and VehicleMy proposal for vehicle eligibility is part of a coordinated approach along with the conduct of the event and eligibility of crew. The introduction of a handicap, biased towards lower outright performance vehicles is intended to encourage competitors to choose lower performance vehicles and thereby reduce overall speeds. Reduced speeds would lower the perception of danger from external agencies and reduce the consequences of accidents.As well as reducing the likelihood of serious injuries, the ongoing viability of Targa competition is dependent on maintaining sufficient entries for the events. High performance vehicles would not be excluded but the handicap and other factors such as tyre limitations and overall speed cap (ie 200kph) would make them less desirable.The eligibility of vehicles for different competitions (ie 130kph speed limited, 200kph speed limited) would be linked to the experience level of the crew with only experienced crews able to enter high performance vehicles (defined by engine capacity/weight Potential Performance Indicator (PPI) factor). The approach is addressed further under 'Design and Conduct of the Event' and 'Eligibility of Drivers and Co-Drivers'.Expanding Vehicle EligibilityFew potential new competitors are building dedicated cars for Targa events (compared to the past) and so maintaining viable competitor numbers should focus on encouraging new entrants who already own cars. Many potential entrants have cars (particularly classic or early modern cars) which are built to different rules than the current tarmac current regulations (eg PRC). Recent experience with the Adelaide Rally showed that given the opportunity, some new competitors will participate. Typically, these were highly capable crews in well prepared cars. However, differences in the applicable technical compliance regulations resulted in large differences in performance and an 'unequal' competition.The current category and class system favours also a small number of cars that best fit the age and capacity 'gates' in the rules. The introduction of a handicap system for all cars would enable the vehicle eligibility to be more flexible with modifications for vehicles outside the current regulations allocated a handicap 'penalty'. The handicap system would favour vehicles with lower level of performance modifications but would not exclude current highly modified vehicles such as Holdens with modern Chevrolet V8 engines and would enable entry of other popular competition vehicles such as Escorts with Duratec engines. All could be handled by mechanisms in the handicap system, but the underlying principle would be to favour lower performance vehicles. The proposed handicap approach is addressed in the 'Design and Conduct of the Event' section.TyresChanging tyres for different conditions is not practicable at Targa events. Therefore, cars should use tyres that are suitable and safe for all stages in all weather conditions. In my experience competition tyres of medium or harder compounds cannot be kept at effective operating temperatures in very wet conditions and are contributing factors to many incidents in the wet. However, Soft compound competition tyres can provide high levels of grip and with appropriate tyre management can be used effectively by low power cars on all stages. Therefore, my recommendation is that approved tyres should be limited to those suitable for all weather conditions. These would be road tyres (ie the current wet weather tyre definition) or competition tyres designated as a Soft compound. Allowing the use of soft compound tyres would provide an incentive for competitors to choose cars able to complete the event on softs and to manage these to be able to last for the full event.A second approach to tyres would be to limit cars to four tyres, with any additional tyres subject to a small penalty. Perhaps 30 seconds for the next two tyres and then five minutes for additional tyres. This would encourage:- careful tyre management by crews (works for Formula 1)- lower levels of corner commitment, particularly on the tighter corners where most incidents occur- selection of lower performance vehicles able to complete the event on one set of tyres (particularly softs).Scrutineering would be required to monitor tyre condition towards the end of the event.Vehicle Weight. Reducing car weight to the minimum allowable can be difficult for some cars and is therefore a disincentive to incorporate a comprehensive ROPS. I propose that the minimum weight for all vehicles be increased by 5% (a guess) from the current figures to support enhancements to safety equipment (without the expense of high strength ROPS materials) Compliance ChecksThe handicap approach would	Bruce	Power

	without the need for any Category or Class: these could be retained or varied as appropriate. I spent several weeks in late 2021 developing this handicap approach as a potential future approach for Classic PPI and have developed statistical models based on the complete 2019 Targa results (stage by stage for every car). Full implementation would apply data from other Targa years and events to better reflect relative performance on different stages and in the full range of weather conditions. The approach enables a PPI to be allocated by applying a formula to every car based on entry data of capacity, competition minimum weight and age (factored for modification level (SS, LMS, MS for classic). I have also considered ways to refine the PPI (eg handicap penalties based on results) to even out the competition over time. There is considerable detail already, but that level of detail is not appropriate to expand on here. I have developed an enormous volume of data and 'what if' modelling to apply the handicapping approach to 'reconstruct' previous event placings when applying different PPI handicaps. These models are not currently in an appropriate form for release, but if this approach was to be broadly supported a workable system could be implemented within a few months of concerted effort. A system could be implemented prior to Targa Tasmania 2023 (or even before Targa High Country if there was a commitment for this approach).Handicap ManagementThe handicaps could be managed on behalf of MA and Targa by a committee or working group, similar to the Classic Handicap Working Group that currently advises Targa on the Classic handicaps. A subcommittee from TRCAA might be appropriate.The role of the working group would be to agree the assumptions and parameters to derive the PPI for different vehicles. Ultimate decisions on PPI for different vehicles would be by MA or an event promoter.Pace Notes/ Safety Notes/ Road BookUsing analogies with the ARC for the application of pace notes for Targa style events in my opinion is not appropriate. The differences in type of event, (short vs long, gravel vs tarmac) and type of competitor (highly experienced vs 'occasional') means that very different approaches are applicable. Most competitors in Targa do not have serious aspirations of a podium and use notes to reduce the risk of the unknown, rather than to extract a competitive time advantage from every corner.Mandating full recce for everyone using notes is impractical for many competitors in Targa and, not unexpectedly, has resulted in competitors signing false declarations rather than changing their behaviour regarding recce. This is not a useful outcome. Over 20 years of tarmac rallying I have competed on road book alone, on purchased notes without recce, on purchased notes with recce and on self-written notes. Participating on the road book alone is the most hazardous option. An understanding of the road topography ahead enables the car to be kept balanced, properly positioned on the road, and reduces the likelihood of 'surprises' which in turn can lead to sudden control inputs to unsettle the car with potential loss of control. This is not the same as blind gravel rallies where the speeds are generally lower, and the car, driving style and road surface are more conducive to an unanticipated change of direction. I do not recommend anyone competing on road book alone. Purchased notes without recce can work well and safely for 'middle of the field' competitors. These drivers tend to 'drive to what they can see' with the notes warning of potential surprises. Typically, a difference between the visuals and notes results in the driver slowing down. This is safer than an unanticipated surprise without notes. The use of purchased notes without recce is appropriate for a range of competitors, particularly competitors in a low powered vehicle and/or in 130kph speed limited competition. It provides a good learning experience for new competitors becoming accustomed to notes.Purchased notes with recce is a logical progression for competitors wishing to progress towards the front of the competition results. Notes and a full event recce for crews competing in high performance vehicles in 200kph competition should be mandatory. Writing good notes is a skill that takes time to develop, and I only progressed to it with the help of ARC experienced codrivers. After about 10,000 competitive km, I am still learning. It is time consuming and more expensive than buying good notes. It is also very rewarding to drive with confidence on notes the crew has developed themselves. It should remain an option. Full recce should be mandatory for self-written notes in any category.If the use of road book alone was to become the norm in future, then the road book detail would need to be greatly expanded. For example, the corner where Tony Seymour crashed did not attract a warning in the road book, despite many previous accidents close to this location. Perhaps the approach used in the Smoothline series of notes with an 'accidents common' warning could be adopted for the roadbook.Speed in Other CompetitionsVery high speeds in the full competition are perceived as the highest risk in Targa. However, most incidents occur at low to medium speeds, possibly where competitors feel more comfortable to push hard and also because most of the event actually occurs at more moderate speeds.Other competitions, particularly the TSD but also some tour drivers reach similar	stages, incurring late time penalties or requiring removal from parc ferme for repair. (2 demerit points)- Vehicle requires recovery services to be returned to the road or to the end of the leg. Vehicle is able to re-join the event with repairs resulting in missing one or more stages, incurring late time penalties or requiring removal from parc ferme for repair. (3 demerit points)- Accident damage resulting in vehicle being unable to be repaired to return to the event. (4 demerit points). Driving incidents and resulting demerit points would be considered by a Driver Standards Officer as part of a licence renewal and upgrade assessment. Drivers with full licences could be returned to a Provisional status (or loss of licence in extreme cases) for incurring a predetermined number of demerit points over a given number of events (more thinking required on the detail). The demerit system would be an evidence based approach that would identify drivers with shortcomings in driving style, ability, or attitude for the vehicle they are driving or the competition in which they are entered. This could initiate action to address the limiting factor (training, change in driving approach, change of vehicle). Ultimately those drivers unable or unwilling to participate at a pace commensurate with their capabilities would be sanctioned through downgrade or loss of competition licence.Driver Standards Officer. MA should appoint a Tarmac Rally Driver Standards Officer. This should be an experienced and respected tarmac rally driver who understands the tarmac rallying discipline. Tarmac rallying is different to gravel rallying and circuit racing disciplines and for credibility the position should not be 'multi hatted' (unless it was Jim Richards!).	require compliance checking of vehicles to ensure a fair competition. The level of checking has declined in recent years. For example, some vehicles in Classic are suspected of being non-compliant with some rules (perhaps engine capacity). Scrutineering would need to include compliance checks, particularly to confirm capacity and weight.		

	speeds to the full competition cars in many parts of the event, but without the same level of safety equipment or usually experience. In the 2022 Targa some TSD target times were beyond the ability of any of the competitors to achieve and this encourages competitors to drive to the limits of the car's performance and their ability. The disparity in car performance in TSD makes the selection of target speeds and times very difficult. An approach similar to circuit regularity where competitors nominate a time/speed might be appropriate, or an adaption of the proposed PPI based handicap system to set a target speed for each vehicle might be a useful approach to ensure that each competitor has a speed target that requires a spirited drive but is achievable with reasonable safety margins.The tour is another challenge entirely and perhaps all cars need to have Rallysafe fitted. Unfortunately, it seems that some tour drivers do not have the ability to drive the roads even at slightly spirited driving speeds. Dazzling by SunA specific hazard that is often overlooked is the risk of being dazzled by the sun. This has contributed to high speed accidents by very experienced competitors (eg Rex Broadbent). I have driven off the road at high speed but fortunately at a gravel clearing and without incident, but this was potentially fatal. It typically occurs on the rare occasions of clear skies on late afternoon stages approaching Strahan. Course setters should be aware of this possibility and competitors made aware of the hazard. Personally, I now mask most of the windscreen to a narrow slit on stages with this potential hazard.				

75	Elevated speeds on what are predominantly asphalt roads with unsealed edges, surrounded by trees / vegetation and other hazards, have drop-away sides &/or steep embankments combined with a high percentage that do not have barrier protection along their length, is potentially a recipe for a serious motor vehicle accident. Given those parameters most Targa events are held at times of the year when road conditions are less than ideal for high speed motoring. Autumn and winter when wet conditions or road surfaces are made slippery in sections by moisture either not drying out or dripping from overhanging trees (often Eucalyptus), and conditions of bad light and visibility present challenges for the most experienced competitors. Ideally timing of Targa should be considered to match dry weather conditions (spring, summer), and consideration given to adjusting maximum speeds when road or weather conditions alter or change at anytime during a Targa event.	I believe the MSA licensing process is adequate, but individual skills need to be assessed based not only individual experience, but that experience matched to the vehicle being driven (co-driven) prior to the specific Targa event to which it is entered.In the case of Speed licenses applicable to Targa Tour, first or potentially even 2nd time attendees should participate at lower speeds at the rear of the field on the first day of Targa. No Competition license holder should be permitted to enter Targa until they have participated in at least one Tour event. Maximum speeds should be reassessed across all classes and consideration given to downgrade those speeds during any section of, or total stage if deemed appropriate for safety or other reasons (the maximum speed downgraded at any time during any individual stage due to a specific hazard, change or forecast change in road / weather conditions.	Targa participants take great pride in their vehicles and participate with some of the worlds best engineered performance cars. Scrutineering and existing regulations appear to adequately address safety, both driver, co-driver and equipment. However, a performance vehicle that is driven as a daily drive or driven only occasionally as a weekend drive (or infrequently at club competition level), mostly within the boundaries of road rule regulations, is a far cry from driving that vehicle to the very limits of its performance whilst participating in Targa. For those reasons it is applicable to carefully consider downgrading the first day of any Targa event to a level where drivers can attain experience driving their specific car in Targa conditions. Initially maximum speed at posted speed limits (or lower) early in the day with Targa observers giving the ok to remove those limits and elevate them as the day progressed.	[redacted]	[redacted]

74	Targa Tasmania Review 2022BackgroundI am a resident of Tasmania and I have taken an interest in each of the Targa Tasmania events from inception in 1992. Because of job commitments my son and I were unable to take part until 2006. So in 2006 and 2007, we participated in the Tour, which was recommended as an excellent preparation for the competition. This turned out to be true and we then entered the competition (Vintage Class, driving a 1937 Riley) in 2009 and 2011. In 2009 we came second, and in 2011 we came fourth with a class win. In 2009 we were flag car.TourI was very impressed with the Tour as it was conducted in 2006 and 2007 and thus I recommend that that the Tour be retained. Recent evidence from participation numbers and from personal reports from those who have participated, show that the event is clearly very popular. I see no need to restrict the type of car accepted, so long as the speed is restricted to the posted limits and that the package leader controls his/her package of cars (10 maximum) from the front as was the case in 2006 and 2007.Tour cars must be road –registered with seat belts etc. and both driver and navigator must have a current Motorsport Australia L2S licence.Targa Tasmania Tour is particularly attractive because of the closed-road stages, the incredible scenery and fantastic roads. The current entry fee for the Tour appears reasonable.CompetitionMy understanding is that until recently the Targa Tasmania competition event set a maximum time for each stage that had to be accomplished in accordance with the class the car had entered. There were no restrictions on speed. As I have noted from the early entry lists, a good proportion of the cars were collectible classics dating earlier than 1970 and drivers were mindful of the value and fragility of their vehicles and drove accordingly. Times have moved on and we are on the cusp of high speed all-electric vehicles. Recent evidence shows that the event has become incredibly competitive with rather tragic consequences. In addition, in recent years there have been no vintage cars and very few that date earlier than 1970. My view is that the recent Targa Tasmania events have departed very significantly from the concept envisaged by the original proponents and conducted in the early years.From visits to Italy to witness the running of the Mille Miglia Storica (a regularity event starting in Brescia for historic cars manufactured up to 1957) and from discussions with colleagues that have participated in the GP Bordino (a 3 day regularity event starting in Alessandria involving timed sections on public roads and on a race track) and the GP Nuvolari (a 4 day 1000 km regularity event starting in Mantova), I am confident that events of this kind are very well suited for Tasmania. All three of the Italian regularity events are very popular and are over-subscribed and that the organisers have to make decisions as to which cars are accepted. None of the three involves closed-road stages to the extent of Targa Tasmania.Thus I would recommend that the all-out tarmac rally concept be abandoned and replaced with an event along the lines of the Mille Miglia Storica – a Regularity Tour. The primary intent is to attract the best collectible classics from Australia and overseas. Most importantly, a regularity event of this kind will protect participant safety. Obviously, the most significant attracting features will be the closed-road stages, the wonderful scenery and a conservative entry fee. The fee would need to be more expensive than the Tour (above) to offset the extra cost to run regularity activities. Competitors would be expected to organise their own accommodation.This year the Mille Miglia Storica was again a regularity event and attracted over 400 entrants at a hefty fee of 12,200 Euro per entry. However, the fee included accommodation, meals for two and insurance during the event. Over three days (Brescia-Roma-Brescia) there were 115 time trials, 17 time controls and 8 Average trials. As I have said above, this event is incredibly popular and challenging, even though there are no closed road stages except the use of 2 race tracks for time trials. Participants have to contend with normal civilian traffic on open road stages. As with the Tour recommendations above, I would suggest that cars comply with Motorsport Australia regulations for regularity events and that driver and navigator have a current L2S licence.For the Regularity Tour, I recommend that only cars manufactured before 1970 (or possibly 1975), be accepted.I accept that the current" tarmac rally family" will show little interest in a Regularity Tour and thus an entirely new marketing strategy will be required.Michael Clark0409181667	See 1. above	See 1. above	Michael	Clark

73	Safety is everyone's responsibility but I feel the Safety guide lines of the sport are adequate.	Big issue with Tarmac rallying (or any motorsport) is seat time in the car, when there are long breaks everyone gets "rusty" and when an event is run after a long hiatus or in fact personal reason for not being able to compete for a period of time there is an element of risk. I don't believe doing 1 or 2 events a year is enough to be comfortable/competent in all conditions behind the wheel in a Tarmac Rally. Fatigue also plays a part in longer rally's/stages due to personal fitness or medical ailments.	This is one of the big issues, it is in my opinion the rules around car modifications have got out of control. i.e too many freedoms (suspension/brakes excluded these are a necessity) however in some cases these modifications are entirely unsuitable for Tarmac Rallying and aimed at the vehicles primary use in another discipline. Vehicle eligibility should have a power to weight or 0-100 km/h limit or possibly a maximum recommended retail price capTyres are another issue on longer rallies due to penalties imposed for using non marked rubber causing possible unsuitable tread depth for the conditions,	[redacted]	[redacted]
72	The course in the initial years was designed that it increased in difficulty as the event progressed, the view was this gave the competitors the opportunity to "dial themselves in". The course design no longer follows this principles for a number of reasons so currently a highly difficult stage can occur on Day One. The event also paid much more emphasis on the the Targa Plate than overall class wins with the exception of outright. Its hard to gauge how much recce is being undertaken, one ceraintly doesnt see the amount of media attention that it did if one goes back ten years where you couldnt pickup the newspaper without something negativy either as an article or public opinion. In relation to the conduct of the event it has been on a constant improvement plan, if I think back to 1992 to 2020 the last event I attended there is no comparison eg dedicated safety teams, rally safe units including event vehicles. Taking a very statistical view the event has had 6 Fatalities in 30 years, two co drivers and four drivers, is it just unfortunate that there has been four in the last two years.	How individual skill levels and experience are rated I am not sure, there is no doubt that the Targa Tas event at the end of a Leg can be very tiring. I have seen this in the tour scenario with a variety of pairings, so if this is a one off event per year I am sure it would be similar for some competitors. I am strongly of the belief that over a certain age a competitor should be required to do an annual physical medical check to ascertain they are medically capable of competing in the event. In most other forms of racing the competitor can be witnessed and action taken i.e. at a track event. Targa Tasmania is not an event that each competitor can be observed easily. If there were any medical issues with the last three fatal crashes the Coroners Inquest hopefully should shed some light on this as there is some conjecture that this applied to at least one of the crashes.	Whilst I have some views on this area, I beleive this is best left to the experts in this field.	[redacted]	[redacted]
71		The performance of cars used has increased significantly from the days when Targa was first introduced in 1992. It no longer feels like a classic car event. The opportunity to compete in a GT3RS or Lotus with no assessment of driving skill or experience seems to have contributed to the high accident rate. Very powerful and fast modern cars are able to generate extremely high corner speeds and lateral loads until they let go and it goes wrong a lot quicker than getting loose in an older, low powered car on smaller tyres. When applying for entry in the 90's and 2000's, we were required to convince the board you had the appropriate motorsport experience which was usually a general competition licence. We were also advised that if we were seen to be crashing, we wouldn't be invited back.	We had a 'standard' v8 commodore in our category. It was actually a Group C car..... Where is the appropriate scrutineering?	[redacted]	[redacted]
70	I believe that Targa Tasmania in particular, should be run in the summer, having experience with the event, I think it is the wet roads that contribute to greater risk of incidents.			Graham	Johnston

69	Previous experience indicates that this event is run to the highest of standards. Noting my tour leaders comment that the participates in the one-day tour where better behaved i feel that this should be a regular part of Targa - one day tours, so as to encourage local participation and showcase local cars and create a sense of collective pride of Targa. This would also encourage a more diverse field to consider preparing and training for the competition.	Both Drivers (and/or Co driver) should be holding the appropriate Australian Motorsport Licence and the Navigator should be required to undergo a developed training course specifically for Navigating (when to give instructions, reading pace ect).Both Drivers (and/or Co driver) should be holding the appropriate Australian Motorsport Licence and the Navigator should be required to undergo a developed training course specifically for Navigating (when to give instructions, reading pace ect).Having done the Targa Tour before should be madatory before one is eligible for the compertition. All competitors should have to undergo a perscribed medical before they can compeat in the race, and be mesured against basic reaction times (only times below the avrage of 300 mili secods should be given the green light to compeat).	Limit Vehicles that can reach 0-100 in UNDER 4 seconds (factory Specs) to an outright class. Bring in a Standardised power to weight ratio that limits the ability of a modified car to exceed this acceleration time. Exclude production cars that have been developed for race tracks to compete (R, RS, GT Versions ect) and force competitors to use "lesser models of these cars with less ridged and more forgiving suspension suited to rough/uneven road surface (Eg 911 Turbo over a 911 GT3). Introduce maximim spring rates/ stiffness ect.	Nicolas	Strafkos
68	This is a recurring problem in Targa, but other events are not immune. The end of April beginning of May slot increases the likelihood of rain, ice and snow. The use of a 200kph limit misses the point that there are very few places to go faster than 200kph in Targa, and are invariably not high-risk sections of road. The fatal accidents that have occurred to date were at speeds less than 200kph. Accepting that 200kph limits are here to stay, endless speed zones are largely redundant. There are of course numerous black spots often corners where you can go as fast as you like. A more sensible option would be to identify those areas (Black spots) and create slow zones there. The most recent fatality was the site of numerous accidents over the years. Indeed, when we went through that section of road, this year,2 Subaru's had already spun and left their rear bumpers on the road ,and we needed to negotiate our way between them at speed. We were not that far ahead of the vehicle that resulted in the death. There is probably sufficient data and or experience to identify those areas.	There is a broad range of driving talents and experience and a superlicence for somebody after several events does not mean they are a better driver. I don't think the new drivers are most at risk but you may have data to support a different view, but collecting some data is key. Do we have any? There is always a point in somebody's development as a driver when you begin to take more risks to be competitive. Often accidents occur in this group. This does not necessarily correlate with deaths. In any given Targa 30% of cars have serious mechanical issues or accidents. This can still be less than off-road racing or gravel rallying. As to medical requirements I am not aware of anybody with a significant medical condition having died, and age is not an issue as most older drivers are very fit for there age and race regularly.	There needs to be a clearly defined minimum for cages. Simple bolt in extensions are inadequate. Structural bolt ins may be satisfactory. This would allow drivers with high end vehicles the ability to compete without destroying the value of the car. Full cages are the gold standard. Fire standards are universal but bombs should be mandatory as there are no marshalls in close proximity with an extinguisher in most instances. Adequate tyres are critical and it surprises me that more accidents have not occurred due to severe tyre degradation. Also pushing vehicles towards there GVM as a mistaken means of ensuring parity is dangerous.	john	ireland
67	If the stage base times where a little more achievable then maybe your cowboy drivers wouldn't need to be pushing so darn hard in bad weather to achieve them and killing themselves seriously you need to take a good hard look at how hard they push in bad weather downgrade stages earlier safety should be first but I know for a fact it's not it's see no evil pace car goes and then rain hits and idiot drivers still trying to do dry times in wet just doesn't work get it together a bunch of monkeys could run this show better I stopped being a volunteer because I was told to do unsafe practices by your so called leader mark perry so how can you expect to run an event when the manager won't even take a responsibility to his competitors	Slow down if they don't have the experience to make a call to slow down in wet ice etc don't let them drive simple		[redacted]	[redacted]

66	All aspects relating to design and safety have been reviewed during the past 24 months, updated, and communicated to all involved to ensure the safe running of Targa events. All modifications and changes have been clearly articulated through revised regulations, and specifications issued to competitors and reiterated through compulsory briefings and bulletins. Permission to complete in any Targa event is dependent upon the understanding of these requirements through competitor signed forms and disclaimers). We believe Targa management has followed and met all the safety requirements and obligations required by Motorsport Australia.	Given the nature of the event, it is important that the skills, experience and physical capability of the drivers (and co-drivers) meet Motorsport Australia requirements. The reintroduction of International Rally licenses (required when we first competed in 2002) would assist in ensuring an individual's ability to meet these requirements and underlying health issues would be identified by such tests an ECG's etc. We don't believe that current licensing addresses all the events requirements. In addition to this the reintroduction of identifying first timers would be beneficial. They could then be buddied up with more experienced competitors. We need to remember that this is not a professional race competition and needs to keep the spirit of the original Targa concept in allowing "motoring enthusiasts" to both safely compete in competition whilst showcasing a collection of collectable and/or purpose built cars from all periods of motoring history.	I believe all vehicle eligibility and requirements have been met by Targa Australia – consideration of speed and functionality have been captured within the rules and regulations for the running of the event.	Simon	Davison
65	Ensure roads are in good condition and scrutineering is conducted with competitor safety as the priority.	Open (speed) classes require at least 5 rally event experience with at least 1 being a tarmac event at min trophy level.	As per existing Motorsport Australia regulations for National events.	Vic	Scona
64	From what I observed it was great. Good clear information. I felt comfortable heading into my first tour	I think the new rules are a good idea with drivers having to earn their way up the categories. I just think that the governing body needs to remember that irrespective of driver experience mistakes happen, accidents happen. I guarantee that all the competitors understand that	I'm not sure how much more can be done there. The only thing of concern I could see is setup, for example someone running a car far too stiff. But I'm not too sure how you would go policing a spring rate given the number of different makes and types of cars.	Dirk	Joiner-Stewart

63	I've provided my views as a competitor (driver) of over 20 different Targa events in the last 12 years. Happy to expand upon further if needed. Rallysafe was a step in the right direction when it was introduced however no improvements to this system have really been made since. It is extremely hard to see notifications when you approach a crashed car and, as a driver, you have to rely on the navigator to regularly look up rather than looking at their pace notes. There have been too many cases where other competitors have driven past the scene of an accident as they had no indication that someone was off. The car to car communication needs to be improved significantly and there needs to be multiple redundant systems that ensure there is no way a car can be "lost" on the stage. The driver also needs more indication. A combination of mandatory integration to all intercom systems with intercom messages and warning lights that are visible to the driver. Most other forms of motorsport operate with a flag (or light system). I believe a similar approach could be taken with the Rallysafe system that would neutralise competition over certain parts of a stage if incidents are reported. The team that performs the stage sweep needs to provide this feedback to the stage start teams and if there are extenuating circumstances in the road conditions, think years back when there was snow and or ice, they can neutralise certain parts of the stage. You're not timed for that part of the stage and you must abide by road speeds. Most cars in the field are not designed to get airborne. Period. They're not factory prepped WRC cars and the drivers behind the wheel don't have that level of experience. Adding a virtual chicane that reduces driver speed over these areas (Riana state in TT for instance). Is a big step in the right direction. Some stages are also unsafe for use in their current lengths. Jamieson/Eildon on High Country being the main one that comes to mind. It's rare to find a competitor to get through that stage with properly functioning brakes and tyres that aren't overheating. Split any of these gruelling ones up into smaller stages. If you don't have the people to run the controls I'd rather have this kind of stage shortened by 10km than increase the risk to myself or any other competitor. The event needs to be transparent in it's communication with any serious events and have multiple contingency plans in place so that they don't have to leave drivers in the dark overnight while they debate what to do with the relevant parties. Unfortunately there's not going to be a way to guarantee that this won't happen again. There are lots of ways to ensure that it is less likely and if it was to happen again the whole community is better prepared and informed.	The decision to restrict drivers to speed limited competition is a smart move. As it has been discussed, you can't just enter in the top form of most motorsports and show up. You have to have come through the feeder categories and have proven yourself worthy of the next step. Be strict and fair with penalties too. Most forms of motorsport abide by this kind of system too. Every single competitor I have spoke to about the matter is aware of the risks, and aware of the consequences of competing in these events - not only from them personally but the potential impacts for their family.	Cage standards need to be improved. We need to either match or get close to the level of safety that is built into modern WRC car cages. Winged seats need to be mandatory, not that this would have really helped in any of the incidents earlier. Emergency GPS based communications devices should be considered for areas with little phone coverage. Or even better, 2 way communication through the Rallsafe. The new tyre allowances are laughable and would not have helped a single one of the crashes that have occurred. The only time a HARDER COMPOUND tyre with more grooves will be grippier is when there is standing water. All it has done is given an extra set of tyres to teams who were running tyres made for their specific car (i.e. the GT class cars running soft versions of a street tyre). It should be the road sweep's responsibility to neutralise the stage if there is standing water as it's too much of an uncontrolled variable. If the events continue in a similar length (500-600km) two sets of tyres for each team is fair. You've made it a rich person's sport and the extra 2 tyres isn't going to anyone away. It will mean that it's fair for those teams who can't run the same tyre on the front and the back and would have to decide to favour one end of the car or end up with no tyres at the end.	Liam	Howarth
62	I really can't see any issues with how the event is run. We were all briefed on the tenuous nature of the future of the event and implored to be careful. Perhaps the only thing lacking might have been some words from the families left behind by the recent fatalities (assuming they would be keen to speak).	From what I could see the incidents occurred at all ends of the experience spectrum. If you take the view that any accident has the potential to be a fatality then on the first day of the event nearly all catagories of driver were represented, from Whites in Viper, to Taylors in Lotus and the classic Volvo all running off on the first stage. I think there is an attitude held by most competitors that crashing is part of the sport and somehow all the devices will save you. Clearly this isn't the case but this is certainly the behaviour.	For sure some of the cars are too quick for the roads, this said as above on stage 1 a Classic Volvo and a 130km speed limited Lotus were among the crashers (along with Viper). I do wonder if the progress made with Air Bags and the like may have actually made cars equipped with them safer than the same cars with airbags stripped out and a large hard metal cage bolted in. I also wonder if drivers would make the same decisions with a lot less apparent safety equipment around them.	garth	davies

61	I have been fortunate to participate on 3 Targa Tours as part of Paul Stokells group. They were 2021 High Country and Tasmania as well as 2022 Tasmania. To be honest I feel the events for Tour participants have been well run and safe and don't see any issues with anything. A few times we have members of the group warned for speeding in straight lines - fair enough! 130kmh absolute max is fast enough for us. 100kmh or less is not fast enough though.	Even on Tour I believe that all participants should be required to have attended track driver training before the Tour Leader accepts them on the Tour. I have not been a competitor so it is not right for me to have an opinion about that.	My comments are only with respect to the Tour where I think this is not such an issue. Paul Stokell (our Tour Leader) makes it pretty clear re preferred tyre choice and suspension settings. Given a lot of us have cars that are similar to competitor cars I am amazed at how fast they can go!	[redacted]	[redacted]
60	I believe participant safety is already very high with properly installed cages,6point harnesses, HANS device, race seats & rallysafe. However I feel that rallysafe did have some failings during the recent crashed which unfortunately deaths occurred in which are evident to some of we competitors . Communication also may have been an issue! If comms are not working 100% then a stage should be downgraded .	As discussed at TargaTassie briefing Super licences (I personally do not like this name) may be granted to current or past Targa competitors. I do agree that a tiered targa licence may hold some merit taking into account ones driver/navigator history including any crash history . Driver/navigator should be able to grow in skill levels & confidence by starting in a speed limited category & working through a tiered licence system .	All vehicles in all categories need to be set up to be capable & safe to undertake targa events in the ever changing road & weather conditions. Suspension/brakes/steering/wheels/tyres and all onboard safety gear must be up to the rigours of tarmac racing and not just set up for speed on a flat race track situation We have all seen & commented on vehicles which have competed in targa & are obviously not set up well with poor suspension travel or soft dampers or unsuitable brakes or pads , tyres that are old/out of date or more akin to circuit racing . Another point is I am not keen on wrap around race seats especially in smaller cars which would drastically hinder shreds in an accident	Bo	Williams
59	I believe the events should have a maximum speed limit and different categories should be created with lower maximum speed limits for rookies or less experience drivers to enter to develop their skill and awareness of the dangers of these types of events in a safer competitive environment. The use of maximum speed limits, virtual chicanes or stop and go points and restricted speed zones can be used at at critical locations to increase the safety of Targa style events.	I believe all new competitors (Drivers and Co-drivers) to Targa style rallies should have to be able to prove a minimum level of motor racing experience in motor racing events (of any discipline) and at having competed in at least one (1) speed limited Targa rally event of a lower category before being eligible to competed in outright open competition. I also believe existing competitors with prior experience in outright competition Targa rally categories should receive automatic approval to enter such categories going forward. I would also support the creation of a higher license level (EG "Open Targa License") for experienced competitors to get eligibility to enter open/outright competition categories.	I think there needs to be more focus on Modern cars and the capability of these cars, in particular the use of intelligent driver assist controls which allow competitors to reach speeds in very short distances and travers corners at speed far greater than their natural ability's would otherwise allow. Often drivers will send these types of cars into corners knowing very well they are traveling at speeds far greater than their natural ability would otherwise allow with the full expectation the intelligent computerized aid will get them through safely. The perception and expectation competitors have that they can rely on the cars intelligent driver assisted aids create a very dangerous and potentially fatal situation. Even these cars will let go at some point, and when they do the speeds and impacts are so high fatalities are an inevitable result. In addition to this I think the cars eligibility and suspension set up of modern cars, especially cars directly off the factory floor need closer scrutiny and regulation to ensure enhanced performance and capability of suspension to accommodate the unique conditions encountered in Targa style rallies.	[redacted]	[redacted]

58	Consideration be given to the following: If a car is involved in an accident that involves impact with a safety barrier (e.g. fixed guard rail, hay bail, water filled portable barrier etc.) and the impact has caused the barrier to become compromised (i.e. moved or broken to such an extent that it is reasonable to think it will no longer provide the level of safety intended), the car must remain in place and is not permitted to continue in the stage. The car is required to activate RallySafe to an appropriate setting to warn oncoming competitors of a potential hazard, thus requiring approaching competitors to slow down while they pass the hazard site. The benefits of this are twofold: 1. On coming crews are warned of a potential hazard and slow down accordingly, thereby reducing the risk of them impacting what would otherwise be a potentially compromised safety barrier of which they would have no knowledge if the previous car that impacted the barrier had left the scene. 2. Knowing that the consequences of impacting a safety barrier are extreme (i.e. the stage is over for the impacting car) will serve as a deterrent against driving at speeds that are misaligned with the road/weather conditions as well as skill of the driver. Track events have the luxury of being able to red flag a race while barrier repairs are made and then restarting. This is not feasible in tarmac rally, but the above suggestion may help provide a similar level of safety utilising the already available equipment (RallySafe) and competitor compliance. This concept could be extended to scenarios where competitors have an accident that doesn't involve a safety barrier, but it causes their vehicles to be leaking fluids onto the road surface. Protocols could be introduced mandating crews involved in any such accident to stop and check their vehicle is not leaking fluids before proceeding with the stage. This would reduced the risk on oncoming competitors being faced with a change in road conditions caused by fluids that were absent during recce.	Consideration be given to another speed limited category with a speed limit between the current 130 and 200. The delta between travelling at 130 and 200 is quite large. Perhaps a pathway that included a 165 speed limit is worth considering.		Richard	Gibbs
57		I am 62 years old, in 1992 I won a the CAMS racing car driver of the year in SA, so I can say with experience I know what it takes at the top. I also know first hand that from then to now my reflexes are slower and I fatigue quicker on a track day or in a long 4 day tarmac rally. In the Adelaide Rally I drive accordingly in the range of 85 to 95% with room to move with a driving or navigator error. I think a lot of drivers in tarmac rally don't have the Motorsport experience to know their limits (be that age or skill related) and overdrive leading to mistakes with no room for error. A more graduated rally licence would be appropriate and once a year rally drivers should do a number of track days during the year signed off on their licence to keep their skills sharp.	I am a qualified automotive mechanic and progressed through numerous roles including a senior motor underwriter in a major insurance company. I have done a lot of Motorsport vehicle preparation and the number one thing I see is some cars are set up like circuit cars with not enough suspension compliance for tarmac rally roads. When the Classic Adelaide rally started here the go to cars were Ford Escorts and alike, now GT3 Porsche's are almost doubling those top speeds. Clearly some drivers can afford these cars but don't have the ability to catch them when they have a moment such are the huge speeds. The argument to ban some hard core circuit focused cars competing will be difficult , however heavily reducing terminal speeds for all tarmac events will help. Like 130 capped Challenge category (which I do as I am comfortable with 130 in this stage of my career) and cap outright to 150 or 160 kph. Yes they will complain but its a decent reduction to the risk and the Lloyd's of London underwriters will acknowledge that.	Bill	Lakstins

56	I believe we need to go back to Non Pacenoted events as there is far more emphasis on the driver to drive to the conditions that they can see rather than relying on information they can't see. I can understand pacenotes being used for World Type Rally Cars but I believe there is a real danger for teams that don't perceive a particular instruction correctly to then find they are going way too quickly.	I think this area is well managed but in WA we have a 200kmh limit and chicanes etc put in where a long straight is occurring	This area is is well managed	[redacted]	[redacted]
55	We choose to participate at OUR OWN RISK Current conditions are appropriate	Current conditions are appropriate	Current conditions are appropriate	Justin	Hughes
54	Having been competing in "Targa" events since 2010, I have not had any issues with the design and conduct of the event. The course is clear, we have ample time to conduct reconnaissance and even right up to the point we get to the start line, stage officials relay any pertinent information to us about any changes to course conditions, hazards etc.	Drivers will benefit from participating in other speed events, sprints, hill climb etc and should be a requirement so they have a good understanding of car behavior. New teams should have access to mentoring from the leading and more experienced teams. The knowledge these experienced competitors have is invaluable for new comers in terms of car setup, driving and co driving. This should occur even at the time someone is thinking of buying or building a tarmac rally car, long before they may do an event.	I feel this is the key to making the events safer than they are now. Cars designed and built for the purpose of "Rally". Time and time again we see rally cars crashing, rolling, hitting trees and the crews walk away. Should the eligibility list more closely reflect the ARC or even other tarmac rallies from around the world, such as the Irish Tarmac Rally Championship. R3, R4, R5, S2000, NR4 cars etc The most recent incident was tragic and unfortunate. A competitor who had worked his way up from the tour category, to speed limited and then outright. Would a different car in this situation have provided a different outcome?	[redacted]	[redacted]
53	As an current event organiser of a state championship gravel rally, and previously a Clerk of Course of an event that suffered a fatality, I am extremely disappointed that the recommendations from the last review after the last Targa fatality was not passed on to other events within the same discipline. Gravel rally also has similar risks and organisational problems but the findings were never shared nor any communication provided to any clubs, state panels or event organisers. This is a failure to the Rally Commission to not implement or at a minimum communicate some of the findings. I only found the MA report by googling after the media coverage of this years fatality. Some of the recommendations for conduct of the event were excellent and some very easy to implement, but the lack of communications to other event organisers is appalling. MA really dropped the ball on this. Very disappointed in MA and the Rally Commission.			Matt	Swan

52	It was proposed to run the event in March in dryer weather. Then Targa signs up to run it in the old timeslot for the next few years. I thought this was a good recommendation. A safe idea. The Tasmanian government should be doing more also for safety. the corner Tony exited the road is a known bad corner, as was the corner Shane came off. If there was new guardrail installed on these corners these deaths would not have occurred I believe. I'm not saying do new rail on every corner in Targa, but the known, common bad corners would definitely help raise safety. All in all I genuinely believe the deaths of recent years are just bad luck, not all risk can be mediated and that's what makes motorsport entertaining and addictive, the rush and the risk.	As proposed in at the briefing for 2022 I agree that new / returning competitors should have to compete in a speed limited class in a less powerful / fast car not a supercar. However maybe just for one event or year, not 3 events. Targa costs around $30k min to compete in, no-one is going to spend 100k to get their full competition license, I surely wouldn't.	As above new / returning drivers should have to work their way up to the premium class. Targa has it self to blame for making the 'Premium Class' 2wd supercars and making safer AWD cars ineligible to take the outright win. This has pushed people away from the safer AWD cars into RWD supercars. The 3 vehicles involved in the fatalities in recent years were all RWD. The event needs to be more focused on everyone and all categories not just the supercars and the high profile drivers. It should be encouraging people to enter the event in 'normal cars'. Like the rookie category, which is the same price as normal entry now (no discount) and no prize. It should be half price with free entry the next year, get people in get them hooked on Targa. It doesn't encourage the average person in the average car to enter and work their way up through the categories and learn how to drive in slower, safer cars. The event in my eyes has become too commercial and too much about money, not enough about driving, great roads, great scenery, great fun, rare cars and all the stuff that made it great in the 90s and 00s.	Tyler	Page

51	There are a vast array of opinions and commentary about the fatalities and serious accidents at recent Targa Tasmania's. At its core tarmac rallying is a driver and navigator in a vehicle driving at speed. At every moment the driver is evaluating a range of inputs, the navigator's call, the visuals of the road surface, the weather conditions and feedback from the car. They take on board all those inputs (they should then add some margin of error) and decide the optimum fastest speed for a given corner or section of road. If this evaluation is wrong, they either go slower than optimum, or potentially leave the asphalt and crash. There is not one single item that can stop fatalities, but a range if items which can reduce the probability of an accident occurring, and then reducing the magnitude of the impact when one does occur. • Each stage should be assessed and rated prior to be included in a given event. The "score" a stage is given would include factors such as: - Variability of road surface - amount of running/standing water that exists when stages are wet - Grip levels during both wet and dry conditions - Proximity of major obstacles (Bridges, trees, rivers, ravines etc) - Amount of protection along roadway (guard rails, dirt banks, open fields etc) - probability of gravel and dirt being dragged onto the road by competition vehicles - excessive bumps or blind crests If the score is too high, then mitigations are required, (eg protect major obstacles) otherwise it should not be included in an event. This assessment should be by an experienced course checker and experienced competitor and other officials as necessary to get a variety of views. • If a given stage experiences three of more vehicles crashes (a crash meaning a vehicle stops on the stage and needs a tow) whilst the stage is running, then it should be immediately downgraded. Conditions have changed, or the risks are not obvious hence due to the large number of accidents that have occurred, the risk has become too high. • The current rules around no cars should undercut corners or have wheels in the dirt verges should be strictly enforced. Too often cars undercutting corners leads to gravel being spread across the surface of the tarmac resulting in slippery, unexpected conditions for following competitors. • Certain sections of the course are regular accident locations. They should be removed from the event, or neutralized via an extended slow zone. Statistics should be collated and if a corner has more than 5 incidents over a 5 year period it needs to be formally reviewed and the risk mitigated. • When a stage is deemed to be wet, then the maximum speed on that stage should be capped at 130kph. This is as much about signaling that the stage should be treated with caution, as it is to limit the top speed. Rallysafe can monitor for non-compliance with strict penalties. Much of this is about raising awareness to treat the event differently as conditions change and attempting to modify overall crew behavior.	The experience of the crew under varied conditions is key. Having just track day experience isn't enough to deal with the changing circumstances experienced in tarmac rallying. • A training course should be developed that focusses on awareness of road conditions, driving styles, vehicle dynamics, and the dynamics within the car. This could be a combination of online and video presentations that need to be watched before entry into any event. • The current medical examination regime that applies to circuit racing (every two years) should also be made mandatory for tarmac rally licenses. These medicals would ensure an entrant is physically and mentally able to withstand the rigors of an event. • The time taken to prepare pace notes is a key way to understand the road and how a stage needs to be driven. Although recce is said to be compulsory, many do not give it the attention it needs. I feel this can be addressed in two ways: - Crews should be forced to prepare their own pace notes for the first three events which complete in. This would help them understand what's needed to prepare notes, and the important facets of this key part of the event. After their third event they can then purchase pre-prepared pace notes, but must complete at least 2 passes of every stage to confirm the content of the notes. - The ARC uses a phone based app to monitor the recce that occurs in dirt rallies. Tarmac should adopt a similar app to ensure teams actually complete a minimum of two passes on each stage. • A driving standards officers should be incorporated in every event. They need to be a recognized competitor with significant event history. They would be a resource for new competitors for guidance and support, but more importantly should be reviewing in car footage and incidents and be able to enforce penalties. We have all seen footage posted online which looks like it was a near miss, or accident waiting to happen. The driver standard's officer can actually follow that up, suggest changes in driving style or an appropriate penalty. They could also act as an escalation point if a given navigator was unhappy with the behavior of a driver. Currently if the driver isn't listening or responding well to a navigator who is feeling uncomfortable then there is no way to resolve this. The driving standards officer can give an impartial view and resolve the situation. • The penalties need to have significant consequences to change behavior. If you get	Even the worst setup car can be driven safely if the driver is making allowances for its limitations. Many vehicles (especially modern vehicles with lots of electronic aids) don't show their limitations until they approach or exceed their limits. One of the key things is the time available to react if things go wrong, how progressive the vehicle starts to lose traction and then in the event of impact what safety systems are available to protect the occupants. Some ideas relating to these items: • Scrutineering of vehicles should be thorough. At the recent Targa they spent so much time writing down the standard numbers of each item, they didn't check if the belts were frayed, if the mounting of items was secure or was the vehicle in fact only fitted with a basic roll cage. Full pre event scrutineering should happen to allow time to get things fixed properly. The vehicles must be compliant. • Vehicles should be encouraged/mandated to fit foam padding into the doors and additional side impact protection as is now common in WRC/dirt rallying. This will require the use of lexan windows and the regulations should allow that for only this purpose. (not as weight reduction strategy) Again a small cost which is worth the potential saving in the event of an accident. • Vehicles should be capped to a specified power to weight ratio across the whole field. This is not to remove specific models, rather they may possess extraordinary power and are therefore required to run a lot of ballast to balance this out. I would suggest around 170 kw/tonne as a start point, which means competitive mid field cars maybe need some small ballast or are ok in factory specification. e.g. Vehicle - kW/tonne 2017 Porsche GT2 RS - 333 2014 Porsche Boxster GTS - 182 2017 BMW M2 - 173 2000 Subaru Impreza STI - 173 1996 Mitsubishi Evo IV - 163 1995 BMW E36 M3 - 149 For fairness, cars would need to be weighted and their power output tested. This could be part of the build up to the event. It's a public festival as each car is driven onto the dyno, takes 5 minutes to test it, then the next one is checked. • Other Motorsport disciplines prescribe cockpit space around occupants. This should be considered. Minimum headroom from helmet to top of roof, amount of space around the occupants should be considered and standards developed to enforce a minimum distance around the occupants as a form of crumble zone in the event of impact • Each crew member must demonstrate how they can exit the vehicle quickly in the event of incident. F1 drivers are required to get out in 5 seconds in full gear and seat belts tight. This is a good bench mark. • • Tyres are a difficult one. Previously they have been used to help limit high powered cars by limiting the number of tyres that can be used. This means that you are acknowledging by the end of an event they are running on sub standard tread. Might be passable in the dry and but not ideal in the wet. Similarly using better wet weather tyres is good, but having done so personally, the better grip levels just promote faster driving in wet conditions. Given the changeable conditions in an event like Targa Tasmania, the key are tyres that are adaptable and progressive in how they behave. Some R Spec tyres are difficult to manage unless you have experience in them.	Peter	Gluskie

		caught on a public road 25kph over the limit, you lose your license, low grade speeding has demerit points and a fine. A similar system needs to be introduced for rallying. 10 demerit points per competitor. Which gets reset after 5 events. Accident requiring medical attention – 8 demerit points; Accident requiring tow truck but, no injuries 5 points; Speeding in slow zones, exceeding 200kph, undercutting corners - 3 demerit points; Time based penalties are annoying but being banned from events for a period of time due to lose of demerit points is a real consequence and would help underline the need for considered driving and respect of the rules. This could be further expanded. You don't get to be eligible for outright podium places unless you have a clean license. (just like the Brownlow – if you get reported, you miss out). Real consequences are needed for poor driving behaviour.			

50	One very important thing I left out of my previous submission is the question of benefits V consequences. Over the many years of participating, my partner/ co-driver and I have met so many wonderful people. Visited so many out of the way places and experienced memories that will stay with us forever. The local people are always welcoming when ever Targa came to town. The tourist operators welcomed us with open arms. The many friends we made will be friends for life as we all share a passion that brought us together thanks to Tarmac rallying. In reflection, with out those people we have met there would be a void in our hearts. We also share the sadness of loosing friends. We knew several of the competitors who passed. We witnessed the tragic consequences when things go wrong April 2021 we arrived on the scene as the fourth car We stopped to render assistance. This is part of the consequences and the reality that awaits us all in the end one way or another. Other costs are, my friends lost control. Took out a power pole and destroyed their car. A repair bill for both to make your eyes water. They had a few bumps and bruises but nothing would hold them back from repairing their car and competing in the next event. There are literally thousands of examples of passionate locals and fellow racers helping each other in times of need. This is the passion and comradedry we share. The people, volunteers locals officials and competitors of all ages and backgrounds are some of the most generous and genuine people we have come to meet. And that my friends should also weigh heavily in the mix. Yes we all want to go home safely, but we don't live inside a bubble by choice.			Steven	Van Der Brug
49	I forgot to add this one in my previous submission so doing another one - sorry! 5. 5. Given the apparent RallySafe failures to alert following crews in the Shane Navin (2021) and Tony Seymour (2022) fatalities RallySafe should be reviewed for it is fit for purpose use in tarmac events. I understand the issue is when there is poor GPS coverage, as exists in the Mt Arrowsmith stage where Shane died or the Mt Roland stage where Tony died. I further understand that this issue could be resolve by having GPS extenders in place to broaden the GPS coverage and ensure that the WHOLE stage is covered and RallySafe can work as designed. Having been in a car close behind Shane Navin on the Mt Arrowsmith stage I can advise that there was NO in car warning on the RallySafe device that there was an incident occurring at Double Barrel Creek. I have watched our in-car footage many many times since that day and I would swear in a court of law that my RallySafe device displayed nothing as we came into that part of the course or past the crash zone. Had we received the Red SOS that was pressed by codriver, Glenn Evans, we may have been able to assist with helping him free Shane from the car. Sadly, we will never know if any crews could have helped and changed the outcome as none of the following cars received a message saying help was needed. I also believe this issue happened with the crash involving Tony Seymour this year on Mt Roland, and the first car to receive the signal was some cars behind Tony's car. Again, it may not have made a difference but it would have alerted crews that someone was off the road and in need of help.			[redacted]	[redacted]

48	1. Each stage should be assessed and rated prior to be included in a given event. The “score” a stage is given would include factors such as: - Variability of road surface - Amount of running/standing water that exists when stages are wet - Grip levels during both wet and dry conditions - Proximity of major obstacles (Bridges, trees, rivers, ravines etc) - Amount of protection along roadway (guard rails, dirt banks, open fields etc) - Probability of gravel and dirt being dragged onto the road by competition vehicles - Excessive bumps or blind crests If the score is too high, then mitigations are required, (eg protect major obstacles) otherwise it should not be included in an event. This assessment should be by an experienced course checker and experienced competitor and other officials as necessary to get a variety of views. 2. There should be a short stage at the start of every day of competition which has a TARGA style Minimum Time to get crews into the right mindset for the day ahead. 3. Use and positioning of speed restriction measures should be based on slowing a crew down coming into a known danger point, not for the purpose of managing overall stage speed. Experienced competitors know the corners that are the "Accident Very Common" ones, and act accordingly. However, event organisers do not take this information and place RTZs in places to manage passage through these stage points or as a reduction of speed into a known hazard. For example, the corner where Shane Navin died in 2021 had a car go off the road and into the water (with less tragic circumstances) the year before however there was no change in the roadbook from the event organiser. The corner where Tony Seymour went off and died in 2022 is a known hazard corner due to the grid preceding it unsettling the car immediately followed by a tightening corner which has changing camber and grip levels. Again this corner was not noted in the road book as a caution. Where a corner has multiple incidents in event and over time, event organisers should use RTZ and other measures to ensure that crews passage these known hazard points safely. RTZs are currently used to control top end speed predominantly and not placed in safe ways - for example at TT30 one was placed immediately after a sweeping right hand corner (9R very long) where cars would have high speed coming into the corner and then braking to enter the RTZ zone, which was highly unsafe especially in the wet conditions. 4. Purchased stage notes are not to be used without attending an online training session by both driver and codriver prior to event entry. I am not convinced that all competitors know how to read them and what they mean. I appreciate that Smoothline have a glossary at the front of their notes which explains the terms, but to some degree that assumes that the driver / codriver understand what they mean. Once we had a training day with Bernie and he explained them in detail with pen and paper we had a different appreciation of what they meant and have improved our safety as a result. This session could be recorded, with a test at the end to test understanding and ensure it was watched, or could be conducted online via zoom for example. It should be done at each level of notes purchased (ie: Smoothline have 3 levels so each time you go up a level as the notes change and the level of safety margin in the notes reduces as it is assumed that crews are competent. This should be at the crew's cost.	1. Both driver and codriver must have experience to enter a full competition category, having worked through speed limited categories and proving they can deal with the car and the terrain at lower speeds before moving into the full competition level. Event promoters need to follow their own rules in this regards – I have personal knowledge of one codriver at Targa High Country in February 2022 and Targa Tasmania in 2022 who had not met the Supplementary Regulations with regards to having competed in the speed limited category before entry into either event. I get drivers need codrivers sometimes at short notice, as was the case for both of these drivers (they were different for THC and TT), but the codriver was young and had very limited experience in rallying – known to me personally I provided a significant amount of mentoring to him to ensure he understood what the event was about and how to be successful and he was with drivers who were both sensible. But this makes a mockery of the rules that Targa themselves have put in place when they don’t follow them. 2. Both driver and codriver must have minimum first aid and emergency management training. Having a high level of both myself personally (I was a centre manager for Westfield and they provided VERY high level training to all centre management staff as you were the one on the ground in the event of an incident) so that crews know what to do if they are 1st, 2nd or 3rd in scene to an incident and have the requisite skills to provide basic first aid until MIVs arrive. Having been first or second on scene several times now, it perplexes me that triangles are not put out, a crew dispatched to the nearest SOS point and common sense be enacted with basic incident management and first aid being provided. 3. Crew attitude is key. Codrivers have to be able to have a voice in the car and provide feedback to their driver when they are feeling unsafe or the car is not being handled appropriately. Having had many codrivers confide in me at events over my competitive time that they were uncomfortable but did not feel able to provide feedback or it would be listened to that worries me. My driver and I communicate well, I have learnt to become comfortable with raising my concerns where I feel they need to be (and they are respected and acknowledged/listened to). Where a codriver is afraid to speak out or their driver ignores their feedback a Competitor Whistle Blower policy should exist where this person can speak in strict confidence with the CRO or another suitably skilled event official to explain what is going on and have their feedback listened to, understood and a facilitated conversation occur with their driver. If the driver does not agree to take the feedback on board the entry is immediately	1. Other Motorsport disciplines prescribe cockpit space around occupants, and this should be considered for tarmac rallying. Minimum headroom from helmet to top of roof and the amount of space around the occupants should be considered and standards developed to enforce a minimum distance around the occupants as a form of crumble zone in the event of impact. 2. Each crew member must demonstrate how they can exit the vehicle quickly in the event of incident. This should be demonstrated at scrutineering, done in full racing gear and blindfolded conditions to simulate a situation an accident. 3. Scrutineering of vehicles should be thorough. At the recent Targa they spent so much time writing down the standard numbers of each item, they didn't check if the belts were frayed, if the mounting of items was secure or was the vehicle in fact only fitted with a basic roll cage. Full pre-event scrutineering should happen to allow time to get things fixed properly. The vehicles must be compliant. 4. Consider limiting power to weight ratios, so that a cap is in place to remove the "arms race" at the front of the field. This should definitely be in place for the Classic GT category where it has become apparent that all the rules of a classic car have gone out of the window and it is throw as much money as you have at the car to make it go as fast as possible. It is still a classic car though, and too much power is not suitable to the technology of these older cars no matter how skilled the driver may think he is!	[redacted]	[redacted]

		removed from competition and the crew are offered the option of continuing in the Tour (or perhaps speed limited if in full competition). Codrivers have a unique position in the car and can provide an invaluable feedback mechanism to a driver who's ego allows him/her to have someone in the car comment on their driving during the event. Some others have referred to a Driving Standards person who reviews crew performance during the event. This could be the person a codriver could speak with confidentially . 4. Crews over 50 should have medical clearance for their license (like speed licences require) and undertake a medical assessment every 2 years or after a major medical incident (to be defined). Any medication being taken should be assessed by the medical practitioner as to the effect that it would have on cognition and risk taking to sign off that the crew is fit for purpose to be in the car.			

47	Design of the event; Having competed in 22 Targa Tasmania competitions I consider the design of the event to be little changed apart from the reduction of competitive stages, this and the general easing of regulations, inspections and policing has resulted in a loss of the 'endurance event' feel. Nonetheless Targa Tasmania is still the pinnacle of tarmac motorsport competition due to the testing surfaces and weather conditions; I would not bother to compete if those challenges were removed. Cautionary signage or RSZ areas should include all locations of previous multiple incidents. The original day books included the 'names' of corners with a high number of incidents, these have all disappeared from the road books. My memory has many high risk sites 'burned in', indeed this slows our times. The fatal accident this year occurred at a site at which I had seen at least 20 incidents; surprisingly there had been a 'new' second RSZ included some 2kms prior to this high risk site. This double RSZ resulted in total loss of tyre temperature just when it was needed, had that second RSZ been at the 'cattle grid' this fatality would have been avoided. Conduct of the event; During these 22 years I have witnessed the event transition from competitor focus to a commercial interest; unfortunately this transition has overlooked participant safety. The competition had an over-riding focus on safety in the early 2000's that was gradually phased out from around 2006. We used to be lectured by the 'Clerk of Course' at the briefings, advised that any accidents would result in us losing our 'invitation' status the next year. Preliminary scrutineering in your home state, lengthy (3 hour) event scrutineering, eligibility inspections, regular vehicle weight checks, tyre wear checks and scrutineers present in the service areas are all gone. Simplification of the event appeared to be the by-word and the planned phasing out of the Handicap category was evidence of a lack of understanding of what had been a concerted effort by the original event designers to increase safety. (I have a document from Targa labeled "2007 initiatives" and consider it important reading) I look back on the excellent safety record of those early years and ask why the regulations of that time could not be applied at this time as an instant fix for the current issues.	Drivers; Individual skills; unfortunately common sense is a difficult skill to define. Perhaps an assessment of the potential entrant's road driving history should be included in the application process; this licence is, after all, an event requirement. Continual demerits for certain offences should flag issues in the assessment process. For new competitors both advanced driver training AND skid pan experience should be a requirement. Experience; five years recent full competition Tarmac experience in this event should be a minimum achievement to enable automatic eligibility without assessment. Any less experience than that is unlikely to have witnessed the various conditions that can be encountered. Entrants should have completed a minimum of one speed limited TT competition prior to a full competition entry, regardless of other Tarmac rally experience. While some circuit experience is an advantage that could include simple regularity competition or any other speed competition that enhances car control, wet weather events should be noted on log books. Some desensitisation from circuit racing techniques is also preferable and to this end mentor staffed lectures should be part of the first timers' eligibility process. Reduced reliance on braking, an appreciation of 'line of sight' driving, road surface assessment and late apexing are all skills that need to be learnt. The use of 'pace notes' should be limited to drivers that have a minimum 2 years 'line of sight' full competition. (I spent 5 years 'line of sight' and our highest Classic finish was 15th, our first year on 'pace notes' had us in 2nd until mechanical issues slowed us to an 8th place finish. 'Line of sight' driving results in reduced speed over crests and lowers corner entry speed; I totally refute the use of the description 'safety notes') Assessment; Recent advanced driver training documents used to be a requirement, perhaps they still are but I have not been asked to present them for some years. All entries with less than 5 years TT full competition experience should be re-assessed by a committee. The possible inclusion of applicants 'in-car' video could be considered in that process. Medical; The original 'International' level of licence was dropped around 2008, that level of licence required full annual medicals, the current requirements are minimal, and while possibly adequate I am unsure whether there is a professional assessment process that accompanies these documents. Navigators; Individual skills; A recognised advanced driver course should be mandatory and also a preference that navigators have circuit experience so that they can assess driver competence and possible over commitment, navigators control competition	Types; Classic ; Once again referring back to the early 'safer' years of this event, my 'Modified Specification' Classic vehicle was outlawed and grandfathered out of the event by 2003, I was told at the time not to build another 'MS' spec car as that category was to be phased out (by CAMS) by 2006 on safety grounds. I subsequently built an 'LMS' vehicle. The current Classic GT competition which was introduced gradually from 2006 (basically the original MS) should be de-tuned and put back into the handicap competition where (potentially) slower vehicles are rewarded with time credits. The overall handicap credit available over the full Targa course is in the order of 59 minutes and all vehicles handicaps are re-assessed by committee annually. All driver assist devices were banned in Classic with the intent of slowing those vehicles down. The organisers have recently dropped the requirement for Vehicle Component Declarations but these are essential for correct handicapping and as reinforcement to the 'speed limiting' technical regulations. I feel that the Classic competition should be allowed to continue considering its clean safety record, Shane Navin's unfortunate death was misadventure. Modern; Modern track day type vehicles are inappropriate for Targa competition, lack of (road) compliance driven by poor suspension travel, low tyre wall height and generally high spring and shock rates renders these vehicles incapable of being brought back into a control situation once the driver assistance has reached its limit. Frankly drivers that require driver assistance should not be competing in road events anyway. The original organisers of this event recognised the safety risk of introducing these modern performance vehicles to Targa and accordingly had a ban on 4WD vehicles in an effort to reduce the speed of the event. Performance; Classic; I have always built and driven high performance V8 vehicles, these are actually well suited to Targa as the weight and power increases tyre temperature and we have usually been one of the faster wet weather vehicles, the power of these vehicles also allows us to use slow mid corner speeds and accelerate after exit lines are established. It is also important to minimise mid corner speed in a heavy vehicle to ensure tyre durability for the length of the event. Our lighter, less powerful competition are able to utilise higher corner speeds and softer tyres which combined with advantageous handicaps means the finish results are extremely close. Modern; I have little input and frankly no interest in Modern vehicles apart from their negative impact on my Tarmac Rallying. I find it disturbing that there are entrants that have been robbed of the challenge of car control in these events. Safety equipment; All categories; current FIA/MA roll over protection, individual crew protection and Rally Safe devices are sufficient for this event. Perhaps the inclusion of under bonnet fire bombs would be an inexpensive addition. Preparation; Classic; Most Classic entrants build, maintain and prepare their vehicles, those that don't are still intimately knowledgeable about their vehicles, have done many events and don't want to crash their pride and joy. The service parks are filled with Classic vehicles every evening getting total nut and bolt checks. I spend well over 200 hours between events on maintenance and have over $200K invested in our current vehicle which gets a full freshen up every 10K kms. Modern; This competition relies more on specialist services and dealer networks than Classic, Modern vehicles don't rely on daily service as much as Classics therefore I feel that there is possibly a disconnect there. Modern make specialists are also not necessarily Tarmac Rally savvy. Setup; Classic; almost all eligible Classic vehicles were designed as road vehicles, the best as grand touring cars, as such suspension travel caters for Targa road conditions, most classic entrants appreciate compliant springing and balanced shock settings. Even live axle, leaf sprung vehicles are surprisingly compliant and most entrants will opt for the maximum wall height in their tyre selection when available. My Targa tyre selection has always been those that comply with the 'new' wet weather tyre requirement. As a rule of thumb I consider that the most suitable	Peter	Ullrich

		speed even on 'road books'. Experience; both the navigator and driver must have at least one TT speed restricted event prior to full competition entry. Medical; as above.	Targa Tasmania vehicles are below average track cars at best. Modern; Track day cars are unsuitable by description. These are road events, road compliance is essential; I would only allow track day cars in speed limited competition. Circuit setup of performance vehicles is also unacceptable; vehicles could be checked at scrutineering for minimum diagonal bump travel.		

46	It is my firm belief that not enough inspection of the road is carried out by the officials. I must first say that I was an official in Targa West (WA) and that I have limited experience in Targe Tasmania, however I attended the Georgetown stage and I was appalled at what I saw. The straw bales were put on the wrong (safer) side of the road for the bend that I was at. There were spectators in the school ground including children and only a few minutes before the Volvo crashed through the fence there were people actually at the fence. On the same side of the road there was a park bench style seat and a power pole that had no bales placed in front. It seemed to me that the officials I spoke to had not had enough training. I also want to mention that this "official spectator point" was closed off for 5 hours with no access to a toilet! The accidents and near misses that I witnessed could have been reduced easily by 1. Sweeping the course of loose gravel. 2. by having a large sign that showed the acute angle of the corner. I also would like to add that in my opinion a lot of the roads chosen are not suitable for this type of event and the legs are far too long. I also need to ask why was the ZERO car driving so slowly? Isn't the job of the 0 car to be testing the course? Why did the driver and co-driver not wear helmets?	See above for course cars and drivers. For competition drivers they need to hold the appropriate licence. I believe that all drivers should at least pass the club rally licence online test.	I think that this is handled OK. However there were a few drivers in the "tours" that had more ambition than skill!	[redacted]	[redacted]
45	I would like to make a submission with regard to this matter. The instructions are unclear if this is the place to do so. I have in car footage of the corner where the incident occurred that I would like the panel to consider also.			[redacted]	[redacted]
44	The event is well conceived. Compulsory recce, good quality notes available, and well thought out course. The tour groups are poorly controlled and monitored. Too many crashes from them. The speed limit at 200 has allowed cars which were not normally close to the front pack to believe they are a chance. They push harder out of their ability, as they see themselves much closer than they would have been when the 200 km limit wasn't there. The number of times we were over 200 wasn't very often and no accidents have been attributed to that, but condensing the field with a glass ceiling has definitely had a role in the latest death. The speed zones are distracting . It would be better going back to a base time to slow down.	An observed driving component could be useful. Watching incar posted by the recent fatality driver from the Georgetown stage would have had some doubts in my mind to his capability to have an open licence.	Eligibility Is well thought out and managed. Setup is controversial. A stock porsche suspension is great up to a point, to go faster and safer, a different shock setup is needed. As demonstrated in 2021. Given the latest fatality was below the posted speed limit , in a car known to have limited suspension travel, but in the right hands has won targa outright demonstrates the difficult problem.	[redacted]	[redacted]
43	No change from current regulations apart from removing top speed restrictions for open category.	Evidence based licensing/ classes. Considering most targa competitors are part time racers, a more stringent licensing system would be appropriate and hence the classification a competitor could enter with a view that the base time per stage should reflect the qualifications of the license and not just the vehicle. A handicap system for drivers could be set up and adjusted based on results per stage/ events regardless of vehicle type. Most districts have khanacross clubs. This could also be encouraged for amateur competitors to participate in.	All vehicles capable of exceeding 220 kmph must have speed limiting devices fitted which cannot be altered by the crew. Targa is meant to be an endurance event. Limit Tyres to six per vehicle. Scrutineers to check Tyres during the event. Drivers briefing should also focus on the potential risks involved in participating in targa events. I was amazed that some participants I spoke to were unaware of their liability of the damage they may cause. Targa should use examples of actual incidents that have occurred in the past including photos and damage amounts in real dollars and the tragedy of loosing your life and the possible cost to your family and friends. But at the end of the day, if we choose to compete, we do so knowing the risks and we are prepared to accept the outcome how ever that maybe.	Steve	Van der brug
42	Accidents happen. The event was run safely as it always has been. It was driver error, which is possible, no matter how much safety and preventative measures and risk management is in place.	Eligibility is fine as it is. Drivers need to be responsible for their own driving and their own capability and drive accordingly.	Eligibility is fine. The use of road tyres is not! It is UNSAFE. Semi-slicks are much safer in competition whether it's wet or dry.	[redacted]	[redacted]
41	A1, it's as safe as we can get. It's in our hands. We sign for that	Perfect, we had to comply to a given standard	No issues except the stupid wet tyre rule	Rob	Sheppard

40			I have made a detailed submission on this topic to the TRCAA, which may or may not get through their vetting process to end up with the Review Panel. It appears there is no facility here to attach a document (which would enable me to provide the complete submission) but please contact me directly if you would like a copy. In short, it is my view, after many years working in technical areas in the automotive and tyre industries (as well as being a tarmac rally and other motorsport participant for many years) that the ultra-low profile tyres now fitted (either as original equipment or replacement) to much of the Competition field offer superb levels of grip, but also lack feedback to the driver about the approaching limit of grip, and their response to steering input once that limit is exceeded limits the ability of the very great majority of drivers to recover control. Stability control systems, antilock braking systems and similar can, if used, inspire confidence that is not in proportion to the driver's skill and experience - yet the ability of those systems is entirely limited by the grip levels and recoverability of the tyres. My opinion is based on data that illustrates the dynamic response characteristics of tyres, all of which is explained in detail in the TRCAA submission. In my view a solution, as unpopular as it may be, is to limit the aspect ratio of tyres used to those that provide greater driver feedback, are more "forgiving", and which are more controllable once the limit of grip is exceeded. I applaud the initiative to identify and attempt to resolve these difficult questions and appreciate the opportunity to have input. Best of luck in your endeavours.	David	Southwell

39	The existing roads used are suitable with some changes: • Caution locations and SRZ locations to be reviewed before the course is finalised with an experienced current competitor in the car to assist and advise with potential locations. The course needs input from people who actually compete. • Caution board planning needs an update – put a green caution board at least 100m (& in plain sight) before the current yellow caution board so crews have more notice as they approach a caution. • SRZ's should be actively used to manage potential locations rather than just as an average speed management device. Ie: don't use them on straights, use them approaching and around corners. • Stop publishing stage times. Crews look at each other's times before stage starts and push harder. • Use the new digital stage start signs to also advise the extra trophy time when the stage is Intermediate or Wet. Ie: SS4 Wet – Extra 60 seconds. The intention is to make crews consider the conditions.	Instead of super licence consider another approach to achieve crew PERSPECTIVE: • We need a powerful message. • One crash & your MA licence (or your Targa Invitation) is suspended for 14 months if there are no mitigating circumstances like gravel, oil or coolant on the road. The intention of the 14 months is to make it obvious that they would not be competing next year. • Overdriving = suspension.	(a) Ban semi-slick tyres: • Very good road tyres provide better transition of grip levels with surface changes, particularly in the wet. • Limit to 6 road tyres. Competitor tyre costs would be halved. Attract more entrants. • While there are many suitable road tyres available, I know that the Yokohama AO52 works well in the Wet & Dry. That's what we used on the wet Targa days 3 to 6 and at a dry race track on a 90 second lap it was only 0.8 seconds slower. (b) Ban high performance cars that trigger any of these points: • short suspension travel • rely on aero for grip • Cabin space too small for the body size of the crew • Perhaps cap the car purchase price at a $ figure to help achieve this?	[redacted]	[redacted]
38	1. Not using sections of road where cars can become airborne....or at least slowing cars before such sections using physical chicanes 2. Avoiding roads with a lot of trees or trees close to the edge of the road 3. Ability to introduce further speed mitigation in case of wet roads...eg additional chicanes, virtual chicanes or RSZ's 4. Strict enforcement of maximum speeds - this may include dropping 200 to 190 and 165 to 160 and 130 to 120. 5. Tour cars should really stick to the maximum speeds of each state's jurisdiction 6. Consider shortening individual stages to say 20 or 30 km max 7. Do not use roads that are rough, loose, too narrow or have just been re-surfaced	1. For entry to targa events, rookies should start with lower speed restricted categories and should be able to show at least 5 years' prior experience in state level motorsport events 2. Competitors over the age of 60 be eligible only for restricted speed (130 or 165) categories unless they have national or international recognised status 3. Co drivers in open categories to have appropriate co driving experience (eg 5 years in targa or gravel events?) 4. All competitors in 165 and open competition should have appropriate and recent (eg in the last 3 years?) experience in targa or gravel events (to be determined by the expert committee)	I understand for Targa Tasmania and I have seen in WA for targa events that safety requirements for cars could be upgraded....specifically: 1. Ensure the suitability of safety cages, especially in fibreglass and "kit" type cars. For example I understand that the top of the safety cage for the Ultima GT entered in this year's Targa Tas did not fully protect the occupants heads 2. Consideration be given to restricting eligibility of small, lightweight and powerful fibreglass vehicles...eg restrict to lower speeds 3. All safety cages in categories 160 KMH and above to be MA/CAMS certified and inspected at least every 5 years 4. Restriction or even ban of bolt-in cages 5. Closer examination of types of suspension especially on very powerful cars - discourage use of race circuit types of setups (very low stiff suspensions with restricted travel) 6. Restriction of significant modifications to cars, especially classic and early modern to ensure that excessively powerful engines are not installed into cars not designed to handle the outputs 7. Ensure that all cars are constructed to the highest possible standard rather than "backyard modified" 8. Ensure that all cars strictly adhere to MA rules and regulations - ie "invitational" entries to be banned for cars that are highly modified beyond technical regulations	[redacted]	[redacted]

37	The design so far is appropriate - Perhaps restrict long stages when heavy rainfall or very slippery conditions prevail- or include additional virtual chicanes to reduce speed during rainy condition. Have a set of Virtual Chicanes that get active during rainy/slippery period. Open Tyres & brakes Accidents can occur at any speed- its the tragic outcome of these accidents is what we want to avoid and that would mainly come from human behaviour. If we had bright sign posts in more critical areas, perhaps it would make the driver more aware of his actions.	To make it tiered licensing moving forward- 1st Year in TSD 2nd Year in Speed Restricted 3rd Year in Open understanding that each year the investment has to increase to jump into other categories- but then they can have an appropriate car that can move into each of these categories.	As per FIA regulations.	[redacted]	[redacted]
36			There has been no advice from MA or Targa Australia about the specific circumstances of Tony Seymour's accident. As a competitor in this event I have not seen any detail beyond sketchy news reports and a couple of amateur photographs of the crash scene with only vague or heresay advice as to where the incident occurred. I am not aware of any more specific advice linked say to a Pacenotes reference that would help pinpoint the site and enable better recall of observed conditions approaching the site. No advice of any Rallysafe vehicle performance data is available presumably because of police or coronial inquest embargoes. Any submissions made in the absence of a clear understanding of the incident (Coroner's Report or Police Report or any advice from Targa about the conditions precedent) would seem to me to impact on their objective value. Are you planning to write to all entrants in the open competition category of TT 30 with an invitation to make a submission and to provide any/all contextual information?	Bruce	Douglas
35	Very Poor communication from Motorsport Australia regarding the cancelation of the competitive category at the event and in the time since April.			Crichton	Lewis
34	The major problem is running events in the rain, these stages are were most fatalities occur ,There should be a down grade if stages are wet, as for allowing a extra set of tires for wet conditions i believe is ridiculous. Only the very top running crews would do so .For most competitors it means those extra wheels and tires to be carried by someone else to various service points ,an additional cost to a already expensive operation. If a survey was done you would find 90 percent have not taken up the wet tyre option. Hence restrict speed or down grade the wet stages			Ross	Dunkerton
33			Opening the rally to Group R (R1, R5, R-GT etc) and AP4. Still have similar performance but significantly more safety. Likely cheaper on the high end too.	Callum	Mclachlan

32	Have 0 cars relay info back to start of each stage as to the conditions of the course ie wet/dry, loose surface, any hazards that may impact a car. Then this info is given to each car as advice. It is up to the driver and co driver then to drive within their limits knowing where and if a hazard exists. Think of this as a sort of recce but only for the conditions of the road.			[redacted]	[redacted]
31	Barriers Putting barriers at high risk areas, preventing serious crashes. Average speed Choosing stages with lower average speed Running of rally More in line with current stage rally format Classes On top of speed limit classes, using different engine capacity as classes in full on competition, and have trophies to each classes. That can eliminate chances from people entering cars that is not suitable for rallying. For example Under 1500cc 1500-2000cc 2000-4000cc With 4000cc the maximum capacity allowed. Combine with a maximum power on wheel, that might able to help to promote entering cars which focusing more on handling than just power.		Types of vehicles Types should be in line of FIA rally vehicles including group A/N cars. Limiting power output to a cap, therefore making the field more balance and fair. Tyres Allow replacing full set of tyres after every legs. Roll cages Current national level roll cages should be sufficient. enough	[redacted]	[redacted]
30	From a design and conduct perspective, the Targa Tasmania event was run extremely well this year. In particular the changes from last year were constructive. I have always found the information provided by the officials to be very good, but this year was a clear step up. The information provided prior to the event and the competitor briefing were outstanding, with a clear emphasis on even greater safety and personal responsibility for safety.	There was a noticeable change up this year for Targa Tasmania with respect to driver eligibility. Previously, all that was required was to join a local Motorsport club (on-line), and then apply for a Motorsport Australia licence (on-line). This year, event entry required drivers to demonstrate experience and competence, and a further requirement to have a navigator recognised to be a co-driver.	The key observation for Targa Tasmania this year was around tyres - the change to allowing 10 tyres for the event rather than six, and requiring four to be wet weather tyres.	Michael	Graver
29	An excellent safety briefing as explicit about the risks of the event as the one given at Targa Tasmania 2022 including, as this one did, management of accidents and injured participants. There should be another speed limited category at 150km/hr which is a step up from the 130km/hr for a minimum of 3 events without accident before being eligible to enter full competition.	There were suggested changes to license eligibility with respect to experience in speed restricted categories prior to full competition and following time periods without competing. Probationary periods on moving up competition categories where major accidents would result in relegation back to previous class (eg full comp back to speed limited or speed limited back to tsd) Motorsport Australia needs to allow events to proceed to see the effect of these changes All major accidents should result in wreckage inspection and review of in car recordings for any safety concerns.	Above TSD, all categories should have winged race seats and certified roll cages. Suspension for full competition should be competition capable not factory standard Scrutineering should be supervised by a MA representative to ensure proper and thorough conduct Above TSD, cars should be provided with RallySafe devices with twin antennae as in major events overseas	Sharon	Poulter
28	Where at all possible, TT needs to be scheduled during the dry(er) months (feb, early march)			Alan	Ricketts

27	Without facts from the current accidents I worry you are only getting conjecture. However I am personally mostly satisfied with the design and conduct of the event from a safety perspective, especially since the changes last year. I have concern your course checkers are not experienced enough and you need to involve seasoned competitors who have driven the stages at pace - or analyse previous data - to determine optimal locations. The course checkers seem to put slowdown mechanisms in weird places. Some events add excessive RTZ's - which can add to danger as they are often put in dangerous spots (on corners!!) and change the 'flow' of a stage from a smooth rhythm to a series of go fast / stop fast sprints. Other events appear to put RTZ's in spots that might "look" dangerous (i.e. during a long straight) but not at the end of sections where the nature of a course changes significantly (i.e. fast sections into slow section with a deceptive corner). I suspect smarter placement of these alone (note: this doesn't mean adding lots more) will make a measurable difference. Again - involve active competitors in any safety changes - especially those highly involved with pace-noting or analysing courses, there are a number of experienced and brilliant people who want to help but MA have been a closed book.	More driver education and testing. TARGA's concept behind a superlicence sounds like a good idea, ** as long ** as a low-budget competitor who isn't doing every single event is able to attain one if they can prove driving ability. It will kill the sport if it is only available to the elite or those with big pockets or everyone is initially pushed into low-end speed limited classes. However all recent fatalities were seasoned competitors who likely would have qualified for a superlicence and I don't think this would have made a difference to these specific situations.	I am personally satisfied with current safety level of vehicles, if vehicles are built to current regulations and those regulations are actually enforced. Mandatory data logger installed in all vehicles so safety reviews can be performed with **actual** information and not conjecture. Additional detailed safety scrutinising process BEFORE the event, which MA facilitate. * Make sure driver/co-driver can unbuckle belts and get out of car within X seconds (some endurance events do this). * Ensure internal clearances are sufficient (seat location, distance between body/helmet and cage / roof of vehicle, etc). * Ensure all safety requirements are up to modern specifications and give competitors AMPLE time to resolve. All too often a safety issue isn't discovered until event scrutinising and the scrutineers are put in a shit position feeling like assholes saying a competitor can't compete. I have also been in the opposite situation **TWICE** now as a new competitor bringing a car I thought was compliant (which a MA scrutiniser checked over and OK'ed - on both cars), Targa/other events rightly knocked it back immediately before an event, and it was a horrible experience having to panic to sort things out in time. MA should be far more involved in this process, ensuring there is full support and pre-event scrutinising available to ensure a new vehicle build (or even an existing car somebody has purchased) is up to standard.	Ryan	Verner

26	These events have been designed and implemented to a high standard (from my perspective as a multiple event driver in classic competitive classes). Constant improvement has been evident. The events are somewhat of an endurance style and competitors must be physically well and very aware of their level of alertness throughout. There is plenty of rest time prior to each day's stages. Crew must understand the nature of the event very thoroughly before participating and certainly must enter speed restricted (130km/hr) classes initially, regardless of circuit racing, hillclimbs,sprints etc experience. Stage start information regarding observed or reported conditions such as slippery surfaces, wet patches, gravel on road etc could be better gathered and provided to competitors at the start control via electronic signage The selection of stages to minimise 200km/hr potential speeds is important and the use of RTZs is an effective means of reducing average speeds while not being a hindrance to the enjoyment of stages. They should be placed to give reasonably straight entry and exit roadways	As above, competitors must have a clear understanding of the difference between endurance tarmac rallying on public roads and racetrack conditions. Organisers and regulators need to develop measures to both educate and assess competitors true understanding of this critical point. Drivers must always take responsibility for controlling the car's speed and direction and not be unduly influenced by the navigators calls or comments General good health is essential as is strict limitation of any overnight drinking or other similar activity. 200 Kph classes could perhaps limit driver BMI and require medicals for drivers over, say, 65. All initial entrant drivers must enter speed limited classes and be assessed post event if involved in any off road event for which they were responsible. At least 5 days of driving under these conditions should be required before 200 kph classes can be entered Observed licence testing should be introduced if rally conditions can be effectively reproduced.	Road cars which have been rally prepared must maintain compliant suspension, suitable damping rates and minimal bump steer to safely negotiate road irregularities without inducing loss of tyre contact or uncommanded direction change. Specifications need to be developed and all cars initially tested, with spot checks subsequently. Cars developed by the manufacturer with circuit racing an intended use must be particularly tested to ensure sufficient suspension compliance and travel together with suitable damping for road going use. Safety cages meeting the current requirements as per the Motorsport Australia regulations for registered 'cages' appear to be very effective without restricting entry /exit unduly. The current helmet/hans and belt configuration also appears to be suitable. Since rollover protection is very important in rally as drops or obstacles may be encountered if a car leaves the road, it is essential that the tops of the A and B pillars are almost impossible to deform in a roll over event.the currently specified registered cage design does appear to achieve that objective.	Paul	Byrne
25	I believe there was adequate information provided at the beginning of each stage. one thin perhaps could improve is the road surface condition. It is of a concern when the local councils see fit to top dress the road surface in some stages with relatively loose blue metal which not only affects the level of grip negatively, but the danger of stones being thrown onto windscreens. Two years running, I have had to replace two windscreens	For competition drivers and navigators there should be an observed licence test which should be revised if the competitors have had a recorded incident. It was interesting that from Day 3 onwards when the stages were all speed limited, there were still two crashes by competition entrants. Obviously, the driver/navigator experience and limitations were beyond what was required. This in itself, unfortunately does not bode well for Targa overall,	Consideration to all entrants to be wearing compliant helmets. We all indemnify Targa, we all should know the risks and dangers. We also know people can get killed playing cricket, racing horses, racing yachts (Syd - Hobart?), football, and going to work. Many entrants have spend a huge amount of money fitting out their Tarmac Rallye vehicles, I would encourage the Panel to not let Media dictate what happens to Targa.	Randall	Lumbewe
24	Scrutineering of the vehicle after a hard hit, as it used to be. More random scrutineering, more weighing, more tyre checking. Shakedown stage is dangerous and not conducive to event. RtZ's dangerous, many points have been raised with these. Increased time needed between stages, reduced transport kilometres, focus gets lost. Tour should not be anywhere near competition. Put at the back. They crash, extend time issues, make big waiting times, annoy spectators. Give the Event a bad name.	Licensed experienced driver with experienced navigators in open competition.	As per Targa set up rules and regs. Safety such as roll cages, brakes and tyres. Plus all rallysafe. Helmets, harnesses etc. Communication is so important with competitors. Updating info 2 weeks before event is too late. Pay for safety teams such as race solutions rather than reliant upon just volunteer.	[redacted]	[redacted]

23	Having only competed here in Western Australia, I can only comment on Targa West and South West, which are run very well. I believe we're by far the safest in the country with many Safety barriers and Virtual Chicanes as well as RSZ's etc. I know our overall speeds are by far the lowest in the country and this is a reflection of how the event is organised.	I think we do it well over here in Western Australia, having most new drivers only being allowed to compete in the lesser speed classes. Once they've done their initial event, they can be deemed eligible for the faster 200 limited class.	This is where I think eligibility has gotten completely out of hand. Targa is a Rally. So only Rally type cars should be allowed to enter. Such as the Evo's WRX's, Yaris's etc. The Porche's, Lamborghini's and Lotus's are a track car that belong on a track. Also, all cars should only be allowed to have a weld in cage. These bolt in cage rubbish is a loophole that should be closed and by enforcing this on it's own, will eliminate a few of the cars deemed too fast to race on public roads. There should be suitable room within the cockpit for a driver to maintain suitable room in case of an impact.	Drew	Nutton
22	I have driven in ten Targa Tasmania competition events. In my view Tour Cars should not be in same event as Competition Cars, because the event becomes too large to run efficiently and competitor safety may be compromised by the extra work that the Tour entries impose on officials. There should be more time flexibility during the event so that drivers and navigators remain fresh and alert.	I have no suggestions for this area.	Full Face Helmets should be mandatory, and Open Face Helmets should not be permitted. Safety Cage should be fully welded-in (this will be a problem for cars constructed of aluminum or polymer). Only 6-point harness should be permitted. There should be no limitation on the number of tires permitted.	[redacted]	[redacted]

21	Some of us were not aware of this but Targa Tasmania started 30 years ago as a Tour-only event. Over time, it morphed into a competition tarmac rally and tour event. Regulations have changed frequently and competitors have coped with these changes, despite the many complaints. These suggestions mainly apply to the competition and some of them are quite radical. Some of them will not be popular with hard-core competitors but they should be popular with the governing bodies, insurers, most manufacturers, the Tasmanian Government and, importantly, the public. To ensure that the event can continue for many years, we all agree that change is needed. Some of the comments and suggestions below are minor and some are major. I have deliberately avoided using references to the existing regulations covering Targa as I am not an expert in these and this would distract from the points we are trying to make. Nevertheless, if the suggestions have merit, I would be prepared to join a discussion of how existing regulations could be changed to accommodate them. I have spoken with many long-term competitors and tour participants and while there is still a lot of disagreement on some of the specifics, they generally agree with the direction presented below. Tyres Over the past 30 years, tyre technology has improved dramatically. The majority of cars competing in Targa run 'Race-spec' tyres (for example Yokohama AO50) that allow for significantly faster dry-weather cornering but are totally unsuitable for wet weather, on most cars. This year, competitors were allowed to bring and run wet-weather tyres but leaving it to the discretion of individual competitors to decide whether to run wet-weather tyres is not a robust safety measure. In reality, road tyres (Such as Michelin Sport Cup 2 or Goodyear F1) should be the minimum standard. These tyres are acceptable in the wet while marginally slower than the 'race-spec tyres' in the dry. Again, some competitors will complain but they are free to choose from many manufacturers' sport road tyres that are better suited to an event with changeable weather conditions. This change should apply to both the competition and tour cars. 'Risk of jump' Cautions Over the years, cars leaving the road on a straight section has been the cause of many serious and sometimes fatal accidents. Last year's tragic double-fatality accident involving a Porsche GT3 RS on Oyster Cove stage is only one of several similar accidents in recent years. Another similar accident on Rhianna stage several years ago (also involving a Porsche GT3 RS) resulted in the driver being in a coma for 3 months. With the use of speed reduction zones in many stages, such 'jump-risk cautions' should only be within an SRZ. This will eliminate a high-risk element from the competition immediately. Procedures after a racing accident When a competition car fails to complete a stage due to an accident or mechanical breakdown of any kind, the car should be scrutineered again before being allowed to start another stage. While this does happen now in many cases, expanding this to all cases will provide better control over individual car safety. It will require additional experienced scrutineering resources and will potentially cause some frustration but it will improve the situation where safety aspects such as braking system integrity is overlooked when a car is repaired following an off-road excursion. Targa event programs will potentially need to allow additional time and logistics to handle this additional 'safety scrutineering'.	When the event started 30 years ago, a special license was required to take part in the event. Motorsport Australia has categories of licenses that allow competitors to do different kinds of events under the same license. Targa events are significantly different to other kinds of events and carry with them very different risks. Competition drivers and tour participants should be required to undergo specific 'Targa License' courses, appropriate to the skills required for the event. These courses should be graded depending on whether the entrant is a competitor or taking part in the tour but should also be graded relative to the speed potential of the car they wish to enter in the event. For example; someone entering a Toyota 86 in the competition would require a 'Level One' license, while someone entering a BMW M2 Competition might require a 'Level Three' license. The difference would be the length of the course untertaken and the skills required to reach each level. The courses should include both dry and wet weather skills (skid pan) and use the competitor's own car. This would more appropriately match the observed skills of the driver with the speed potential of the car. There are very experienced driver training professionals and organisations in every state that could participate in the development of such specific courses. This would also apply to navigators (obviously, the course content would be different) and require that the navigators participate in the courses with the driver of the car in which they will navigate. If a driver changes the category of car they wish to enter in the event, then they would need to undertake the next level of Targa Licensing. There should be a shorter but compulsory course structure for tour competitors as well. Competitors/tour participants would be required to cover the cost of such courses.	Over the past 30 years, the categories and eligibility criteria have changed frequently. In the beginning, Classic and Production/Showroom were the two most popular categories and to some extent, in terms of the number of competitors, they still are. However, the speed of modern cars and the entry of much faster 'classic' and GT cars have increased the speeds of cars in the event. In addition, the safety equipment on modern cars has increased dramatically over the past 30 years (airbags, traction and stability control, chassis integrity and brakes) but many of the cars in the event disable or switch off such improvements to increase speed and competitiveness. So, to the point.... There should be three categories with capacity classes beneath them: Showroom Production, Improved Production and Classic. This is not far away from the structure now but would be more focused on modern production cars and their derivatives. GT cars should not be allowed in the competitive event. I own a Porsche GT3 RS but do not run it as i consider it too track-focused and therefore dangerous in a Targa environment with changing road surfaces, uneven and patchy tarmac and no run-off areas. Many of the 'big' crashes in the past ten years, even those where there have been no serious injuries or fatalities, have involved GT cars and cars like Lotus, that have similar power to weight characteristics. Some cars are better suited to race tracks with better run-off areas, gravel traps and less fixed objects to run into. That is not to say that it is a problem with one particular make or configuration but common sense would say that GT cars and cars better suited to race tracks should not be permitted in an event like Targa. Showroon production Showroom Production should be as it currently is; permitting roll cages, race seats, harnesses, additional safety equipment and very limited modifications. Rules could easily crossover with Bathurst six-hour type production regulations. Improved production Improved Production should broaden the competitive classes and permit safety and performance modifications. For example, better braking systems, better exhaust and engine management (re-mapping/'chipping'), improved handling and fuel systems (surge protection and fuel safety) and potentially better aero aspects, allowing rear wings and front splitters, for example. However, modifications should be limited to these types of areas. Improved Production cars should retain as much of the manufacturers' safety equipment as possible. This would become the top competitive class and give Targa more control over the type and safety of cars entering the event. This is consistent with the current Targa eligibility regulations. It would potentially bring more manufacturer interest to the event. Classic Classic should be approximately as it is but certain additional safety aspects should be enforced, including a requirement for modern braking systems (which many/most cars already have) and increased 'safety scrutineering'. The major change for Classic is that there should be a maximum speed restriction of, say, 150KMH. This will not be overly restrictive for this class.	Chris	Ryan

20	There must be oversight of Targa permit approval by independent senior clerk of course personnel especially review in regards to high speed approaches to slow junctions, tight corners , spectator points etc. Terrain and obstacles must be taken into account and addressed. For example, strategically placed chicanes, portable plastic water filled barriers, hay bales etc to mitigate mistakes on approach. WRC tarmac safety requirements and course design needs to be introduced. Reduce average/high speeds by utilising chicanes - especially on high speed approaches into hazardous junctions/corners At particularly hazardous junctions, trained recovery personnel should be utilised - they can also double as authorised spectator marshals. Indeed. I was attending a Targa Cairns at a spectator point when there was an incident (minor thankfully) but no-one took control of the situation to ensure following vehicles slowed down or to ensure the crew was OK. A circuit flag marshall system could be useful in addition to current Rallysafe warning systems. A Rallysafe device could be available to the lead spectator marshal to warn following competitors or red flag the stage in the event of a significant incident. Response times for emergency crews to attend a serious incident my be reduced by delegating to a fully trained spectator point leader or equivalent personnel along the stage route	FIA international licensing such as super-licences be introduced for drivers of modern/early modern category vehicles - drivers and co-drivers must have the requisite experience. to handle these vehicle, Co-drivers must have requisite pace note experience and be trained/certified. Introduce an accrued points licensing system before competitors can compete at high speed. Points can be provided by recognition of prior experience . To gain points - All drivers/co-drivers must have medical approval, have rally/circuit competition experience and/or a number observational/theoretical assessments on closed race tracks. Prospective competitors must attend Targa events as novices under the control of an experienced driver/co-driver/clerk of course etc to gain knowledge of the event administration, road sections, hazard management, competition/vehicle/crew requirements etc. Once the required points are acrued, novices progress by competing in a number of track/touring events using pace notes, before tackling high speed competition.	Vehicles should be built/retrofitted with WRC spec safety cell requirements, especially in relation to side impact protection and reinforced solid seat mountings. Ban standard adjustable seat rails. All vehicles to have a yearly rally rego type inspection by an authorised inspector to ensure required eligibility/safety/log book requirements. Roll cages to have approved retrofitted additions for early log-booked vehicles Turbo restrictor size needs review and limit open class modifications to super licence competitors or those with proven experience Increase tyre allocation to ensure tyres have tread to cope with wet weather conditions. The type of shock absorber needs review to ensure adequate travel/rebound to maintain high speed stability on uneven approaches to junctions. Lift the minimum ride heights and reduce down force by banning non-homologated aero devices. This may increase mechanical grip when vehicle is travelling sideways	Peter	Pinter
19	Targa should construct a junior/ feeder event so the drivers can prove they can handle the cars.	Drivers should be able to handle the cars they are driving.	Any vehicle should be allowed	Jonathon	Harris
18	With regards to the design and conduct of any tarmac event I feel that these event's should be run in the same way a state or national level gravel rally event is run. That is with a central service park and have loops of stages run around this service park. Targa west events are run in this way. I also feel that stage lengths should NOT be shortened but more SOS points be created particularly on stages longer than 10km. Speaking from many years experience working as a service crew member on many national and state events, I believe that by having the event run like this allows crews to have more breaks during the course of the day and also allows them to inspect there vehicles and/or make repairs or setup changes to suit changes in weather conditions.	National level license holders only in any current class running faster than 130kph.	All vehicles wishing to compete in any racing class with a road speed faster than 110kph must be constructed to a minimum national spec rally car level. Otherwise all new or existing vehicles that are not constructed to this level and wish to enter an event are restricted to a touring category with road speeds restricted to a max of 110kph.	[redacted]	[redacted]
17	The safety is good, They were all from driver error , not event safety error.	Its the drivers and co drivers call if the think they are up to it. we know the dangers. National rally standard	Its up to the owner for there choice and prep of there car. Not Motorsport Australia	[redacted]	[redacted]
16	I'm sure Tarmac Rally Events as they stand, go through many steps to meet expected standards.	Drivers and co-drivers should gain experience in grass roots level Motorsport events, Track Days before taking on Major events like Targa Tasmania. Even experienced crews know the risks thier taking going into rallies. Targa West wasn't reduced to a Touring Drive with the death of Peter Brock. Medical checks are important for Rallies but more 1-2 day short tarmac rallies should be held to help crews gain experience and with more Tarmac events, the groundwork for a Round Australia Tarmac Rally can be help, starting from Melbourne before going around Australia in a 1970's Dulux Rally style event using road stages and circuits, ending back up in Melbourne before	Vehicles should have track standard side door safety cell roll bars to help protect drivers in side on collisions with trees. The vehicles are designed for frontal crashes but side protection needs to be considered.	[redacted]	[redacted]

		being a class in the Targa Tasmania were a true Round Australia Rally should finish.			
15	I seriously believe that event speeds are still too high. Even with speeds capped at 200kph, the variety of terrain and close proximity to trees presents a safety issue that can't be overcome. I'm a co driver in a 0 car for the WA Rally championship and really don't see the need for speeds to be in excess of 160kph. With the reduced speeds the outcome from a incident would presumably be reduced from catastrophic to serious in a majority of cases. 2 classes 110kph and 160kph with roads conditioned to achieve theses limits. (Chicanes and virtual speed zones) 160 class limited to fully prepared competition vehicles.	Targa rally licencing should consist of an assessment " track day" and a skills assessment by senior experienced assessor's for all drivers. Specific Motorsport drivers medical to be designed and undertaken by all drivers and co-drivers A full licence to be issued to probationary drivers after 2-3 full seasons. Competitors on a probationary licence limited to 110kph for the 2-3 yrs	As above I think fully caged vehicles could be limited to the top level class. (160kph) Harnesses / harness bars and extinguishers mandatory in all other vehicles. PPE such as helmet, Hans device, race suit ect across all competition levels.	Matthew	Jackson
14	I could not see anything wrong with the set up of the event	Drivers and co- drivers need to have the skill and it's a rich man's sport and they know the risks they take in an event like this .	All vehicles should be cams approve.	[redacted]	[redacted]
13	ban or restrict gt speed cars from event as they are too powerful for the roads and course as they stand now in tassie . for those super fast cars hold events at places like the territory and FNQ where roads are designed with greater speeds , are much wider and more forgivinbg and offer greater runoffs . we cant move nature but we can look for roads and areas that offer this . this can create new events . some of the events are now more tour4ing type or for the cars of 50 years ago .{tas}Some of the cars far exceed what the events can now cater for and no amount of new measures in safety will work ., its more thye car vs enviroment	feel these are fine .	need for restrictions at some evnts . create new ones for the faster modern gt style and speed cars in new areas that can cater safer to there needs and restrict to a certain speed for caqrs at events like tassie to match the narerow roads etc . mayb have to turn some to touring or closest to nominated time .....take out the risk from the race	[redacted]	[redacted]
12	I believe that Targa Tasmania would be one of the hardest events to have a "set and forget " event set up plan. Given the variances in weather not only from stage to stages, but across the span of a single stafe even, this makes it near on impossible to have a "design" set in stone but maybe should have it's very own unique rule book of sorts. The event itself has run for many many years with no fatalities, but what gas changed? Higher powered lighter vehicles and ageing entrants. It's very fine line of risk mitigation to keep all stakeholders both satisfied with the event and getting their "bang for bucks" from all facets of the event. To drop it to a touring only type of event would ruin what Targa is and what it means. All the changes implemented at Adelaide Rally last year successfully achieved what they were set out to do. I realise these events are like chalk and cheeses in a lot of aspects, but they are also great similar.	Stringent pre-event medical certification i think is a must for all drivers and navigators. Much like a vehicle must be scrutineered. Also i believe the reintroduction of CATO testing may also be of great benefits.	As vehicles are getting faster and lighter i think the eligibility through power to weight may be worth looking into.	James	Whelan

11	With 7 years involvement with tarmac rally and targa events The mix of safety in stages of this years targa tasmania 2022 was at a good balance with use of rtz zones. Problems that was faced was the late inclusions of rtz at last minute which doesnt help teams specialy after stages been recceed. This shows a incompetance of stage design from officials and organisers and lack of attention.	Like above with 7 years involvment in tarmac rallies and only as a navigator, the licencing system is fine. Maybe some form of previous motorsport experience required for drivers but the whole superlicence that was talked about is truely ridiculous, maybe super licence for cars to ecceed 200kph may be viable	A bigger focus need to be on seats and roll cage positions plus seatbelt angles. I bet 50% of cars dont have correct seat belt angles. Cars such as the lotus dont provide sufficent safety requirements for tarmac rally, no room for winged race seats or space between helmet and roll cage impact upon a accident such as decribes in the MSR technical requirements of 50mm. Scrutineers need to be more focused on seatbelt angles etc then worried about a fire extinguisher being a week out of date. Atleast 1 person of each crew be atleast have minimum of first aid cert and possible some form of basic fire training. For reccee maybe a code or barcode be set up at stage end so crew must record the code to prove atleast 75% of course been recceed. Too many teams dont reccee course	Phillip	Smith
10	Needs to have the fastest first as in all other rallies. Targa wants to parade the tour to appease their corporate partners, but having several hundred cars go through the stage prior to the competition cars causes gravel and dirt to be pulled onto the road. This would have an affect on the tour, but has dire consequences for competition cars who rely on constant grip levels to stay on the road. Also all cars in the event need to be monitored by rallysafe to ensure adherence to speed limits. Many tour cars don't have any means of being policed other than tour leaders who cannot see all the cars on their group. Speed limited classes are penalised for exceeding the speed limit regardless of how much. There needs to be single warning then exclusion implemented. Many competitors who are penalised realise they are no longer in the running for a podium so ignore the speed limit for their class as the penalties no longer affect the outcome.	I believe the policy implanted last year is adequate.	I believe the policy implanted last year is adequate.	[redacted]	[redacted]

9	I support the concept of pre-event route inspections by experienced drivers who are best equipped to identify potential risky pieces of road. It will never be a perfect solution to accident prevention but careful use of mitigation strategies as have been recommended following the initial enquiry seem appropriate to me. The sport will of course learn and develop the mitigation strategies just as we have experienced in recent years of WRC, but this will take time. Of much more importance to me is the removal of "time bombs" per below comments.	It is extremely worrying to me as a sometimes event organiser/official that we have rally drivers who are patently unfit, obese and very often lacking recent sustained high-speed experience. (sorry about the PC) Rally is such a dynamic sport that it is impossible to fully mitigate the risks and situations that cause drivers to get into trouble. However the sport can take much more solid steps to simply not allow the types of drivers who are ill-equipped to deal with such dynamics.(even if perhaps they were quite capable of doing so before their now, adult children left the nest....) I am not well informed on the discrimination laws on such matters, but surely there must be a way. Airline pilots, train drivers and other high value operators must meet suitability standards. I abhor the view put by some drivers that they accept the risk of death/injury and thus we just carry on regardless. One only needs to work alongside event organisers after such accidents to see the sometimes long-lasting mental damage done. If such drivers wish to get that level of adrenaline "fix" then take up a solo activity like rock fishing or diving etc.	Motorsport has countless examples of technical regulations surrounding safety and performance. Survivability in a rally type accident has been subject to a huge amount of work by the FIA in WRC. Increased side impact shock absorption has been once such focus. I doubt the types of Lotus cars used in Targa events would meet any survivability index in a rally situation (if such a thing existed) Even a modern rear-engined Porsche would not be my weapon of choice in a tree side-impact situation. In another context - when taking into account that we now have to accept speed restrictions in some situations these few super high performance rally cars are skewing the enjoyment experience for probably 90% of the remainder of the field. In Targa West 2021 where I was the MA Sporting Delegate - there were only two cars that got close to or exceeded the speed restrictions on several stages. I understand from the organiser the same or similar situation occurred at Rally Adelaide 2021 although I have not seen the actual data. MA will have all that data so I hope you have access to it. It is now time to take action and remove these types of cars. Be that by power/weight ratio AND some sort of survivability inspection. Or if this is too difficult then just bite the bullet and ban certain makes/models. There is precedent for this in other forms of motorsport. Such cars can be sold into track events or whatever. Being a regulator in sport isn't an easy mission - but there are times when the "greater good" must prevail. To me, taking direct action on a few selected cars is a far more logical step than banning (pausing) the whole discipline as we have just seen. For the record I am very disappointed in the MA decision to "pause" and to do so in such a manner as to potentially cause irreparable damage to the image of rallying generally - some of these events are our sport's best pathways to Government - both State and Local. I wish you well with your extremely difficult task.	[redacted]	[redacted]

8	This is pretty much fine, cant really do much more other than maybe drilling into the driver and navigators heads what signs mean and to keep an eye out looking whats around the next 3 bends not the one you're on, because there are warnings (Also please keep in mind I am only young and don't know every detail about how this event is run. I have only volunteered for this year, 2022, and this opinion is from what I've seen. I'm hoping there will be a targa 2023 because I loved it so much volunteering for the week)	This NEEDS to be worked on. You can't just let people with money and nice cars into a tarmac rally. They should go through a series of test over months before the rally. Medical tests, any health issues that may effect, etc. Experience driving outside of the typical placed road rules, and just being smart about their driving, driving how they feel comfortable and to the conditions on the course. Driving an unknown road is scary, need to have either practice by sim or more of a heads up. Experience on a race track doesn't count, rural roads change all the time, and they aren't clean (oily) as an example. Experience driving the particular car they've entered in, every car handles differently and the driver should get to know the car more with a "racing style", so then they know the cars limits and if something feels off they can fix it. It all really comes down to the driver. If you can't drive, you shouldn't push the limit and do something you have no experience doing just because you have the money to do so.	Different tyres should be allowed for whatever conditions the vehicle encounters, whether its dry, damp, wet or icy. Regular checkovers by qualified mechanics before the next event, or if they make a repair, for it to be double checked by a qualified technician. For example, the white lotus that smacked nose first into that power pole had issues with the brakes the day before, and they had attempted to fix it. But the brake line wasn't right and broke off/came un-done, then the brake fluid drained straight out of that meaning they had absolutely no brake pressure at all to help stop them. Any issues or work a vehicle has should be marked down and checked over by a qualified technician once the repair is made, so any bolts that had been undone should be torqued and marked with a marker, then signed off by the tech. Yes it'll make the tech more liable than whoever made the repair, but seriously would help to just be checked over multiple times before the car is right to go back out into the rally. Ensure the vehicle entered is set up for the constant changing of conditions of stages. Tassie roads are horrible, and change all the time.	[redacted]	[redacted]
7	Weather has to be considered so Targa Tas def. needs to be March at the latest. THC was perfect in Feb, a little warm but not dangerously. This would need to be moved back to it's November time though.	What about a qualifying type of scenario where (only eligible cars of course) competitors must "qualify" for the speeds of the outright category on day one of the event. In a controlled section of the course. If you cant satisfy the director that you have the skill and equipment to continue at that pace you will be speed limited. My other thought was have a device in each car similar to a rallysafe that has a corner number system. EG: 50m 3left etc. Needs to be clearly visible to the driver at all times. The only time I nearly came to grief was when my nav called a 7 right but it was a 3. A good example of not going 10/10ths pays off. Obvously this takes a bit of skill away from the navigator but better offended than crashing.	More tyre freedoms and time to change tyres and adjust spring/rebound setup in between stages. This would mean less cars in the event to get through the stages in the allowed time frames. EG; less touring or touring on a different part of the state to competing. Obviously this would require a lot more staff/volunteers but less pressure on competitors and officials to get things moving. I have never had to organise the logistics for this type of event or size but it would be enormous I know. Speed limited to 200 or 180 kph is still ok but what about a points system rewarding most time spent at say 160kph for example. Not as much need or desire to hit 200 and stay there. Rallysafe would be the judge of fact.	[redacted]	[redacted]
6	Events should be conducted with an emphasis on safety rather than to a schedule Roads should be chosen (or artificial means used) to limit the terminal speed of vehicles Those directly running safety at an event should not make money from the event, it always results in a maximum entry, running schedule at all costs, avoid considering safety aspects unless required mentality	Anyone with a rally licence should be eligible for 130 and 165 categories with the open category only available to drivers with proven experience on tarmac and or gravel.	The power of the vehicles probably needs to be limited (as per gravel classes) and all safety, design, etc should meet or exceed those for gravel rally. Consider a criteria that at least one crew member from each vehicle is required to hold a current first aid certificate with both crew members prefered	[redacted]	[redacted]
5	if you look back 8 years ago the safety was great because most car were a lot slower than the ones now. It not rocket science to see the road and stage are for old cars without all the hi tech stuff in the car today. i believe if i race my 1973 lj torana in the event i would be fine as my car from one corner (my car at 60kmph though it) to the next it would only be 100m so i would be doing 100kmph if i luck not like to new cars one corner they do 80 to 100 kmph and 100m they would be doing 200 kmph that is why they loss control	As long as you have racing licence you should been fine. it should not discriminate about experience and assessment and medical as long as you have a racing licence	there is already way to make you car safety in the CAM rules i said above if they were all old cars tyres i would use semi slick for most of the race unless rain then a rain tyre performance only if car need it as etc brake gearbox diff are item that would be safer by not performance to make the car go faster	[redacted]	[redacted]

Tarmac Rally Working Group

RECOMMENDATIONS

Vehicle Safety – Course Design – Competitor & Culture

Tarmac Rally Working Group
Recommendations for Review Panel

VEHICLE SAFETY

1. **REVIEW SAFETY CAGE STRUCTURE – "BOLTED MEMBERS TO ASSESS THE SUITABILITY OF THE PERMITTED "JOINT TYPES" IN KEY AREAS OF THE SAFETY CAGE.**

Reason:
Conjecture surrounds the use of "bolted" safety cages as opposed to fully welded structures.

In application many safety cages incorporate bolted systems to attach the safety cage to the vehicle structure (monocoque) at the required mounting points and/or in the connection of safety cage members to each other.

It must be noted that many modern vehicles are constructed from materials that are not compatible with the material used to construct a safety cage, i.e. steel cage material – aluminium monocoque, therefore the use of bolted mounting points is common practice in use across the sport, with little evidence to suggest that the bolting of mounting points present an insufficient connection between the safety cage and the monocoque.

This review is to consider the types of joints used in connecting safety cage structure members to each other, as opposed to using welded joints, especially at the primary compulsory member connection points being:

- Main Roll Bar to Front Lateral/Half Lateral Roll Bar
- Main Roll Bar to Backstays
- Roof Reinforcements
- Upper Transverse members
- Side Intrusion

The Motorsport Australia Manual (Technical Appendix Schedule J) describes a range of permitted joint types and where they are permitted for use, and this is essentially the same application as applied by the FIA.

This review will further assess these joint types and their continued suitability in the key safety cage connections, with the outcome to provide clear recommendations on the best joint types for use in these critical areas.

Implications:
Review may determine that certain joint types are not suitable for use – in which case a pre-existing vehicle that is using those joint types may be required to fit an alternate safety cage design using the joint types that are recommended through the review.

Action:

- Motorsport Australia Technical Department to undertake a review of the permitted joint types and further assess their suitability for key safety cage connections. Motorsport Australia Technical Dept. will engage with the FIA Technical Dept. on the review. Motorsport Australia Technical Dept. will engage with a recognised Safety Cage Structure analysis engineer to undertake the review.

Timeline for review is estimated at 3 months

2. **SIDE INTRUSION/IMPACT PROTECTION – ADDITIONAL MEASURES**

Reason:
Current regulations mandate dual side intrusion as a minimum for newly constructed safety cage structures. Existing cars (previously log booked) are able to continue with pre-existing cage specifications, at the time the vehicle was log booked.

Additional side impact protection has been developed for use in Rally, with the implementation of Rally Door Foam as evident in the FIA WRC and related Rally classifications.

Implementing the use of Rally Door Foam across all Motorsport Australia Rally disciplines and classifications is to be further applied as being permitted and where necessary mandated.

Further consideration as to the mandatory application of dual side intrusion across the outright competition Tarmac Rally classification, and therefore where necessary the requirement for those vehicles without dual side intrusion to undertake the retro fitment of these members.

Implications:
Rally Door Foam typically requires the modification of the door structure and glass to facilitate the insertion of the foam. The door/side windows must be permitted to be replaced with a fixed polycarbonate window and a specific door card (inner door trim or cover) to provide the necessary transfer of side impact loads.

The associated cost of the foam and the necessary modifications will vary depending on the vehicle. At the lower end where the door does not require extensive modification this may be as little as $500 AUD for both sides of the vehicle. For others this may be upwards of $1000+ AUD. This modification may render the door/window unsuitable for use should the owner wish to revert the vehicle back to a normal road car.

Current safety cage regulations do permit additional members to be added to an existing safety cage. If applying dual side intrusion as mandatory for Tarmac rally vehicle in the outright competition, then there will be a requirements for those without to retro fit the additional member as a minimum and have this recognised for that vehicle in the Log Book and Safety Cage approval. Cost of adding a member should not be too high to discourage this being applied.

Action:

- Rally Door Foam: Regulations applied to permit the fitment of Rally Door Foam to improve side impact protection across all rally classifications. Fitment will be applied as per the recommendations of the FIA. This will include the fitment of polycarbonate windows and as necessary apertures in those widow.
- Consideration of a timeline to mandate the use of Rally Door Foam across the outright tarmac rally competition classifications. NOTE: gravel rally applies this as mandatory for all FIA Classifications, Group AP4, Group G4 and G2.
- Dual Side Intrusion: Regulations applied to “highly recommended” dual side intrusion for those with existing structures and identify that this is permitted to be undertaken retrospectively to an existing cage, without affecting its compliance otherwise.
- Consideration of a timeline to mandate dual side intrusion for the outright tarmac rally competition classifications, and consideration across all rally classifications.

Timeline could be immediate to recommend the use of Rally Door Foam and Dual Side Intrusion with further consideration for the mandatory application.

3. REVIEW SEAT AND SEAT MOUNT REQUIREMENTS FOR MANDATORY APPLICATION.

Reason:
Currently the application of seat requirements in Tarmac Rally does not mandate the use of competition specific standard seats, although it is highly recommended. Seat mounting, whilst not identified as contributing directly recent to injury/fatality incidents, should be applied to ensure that seat mountings provide the necessary seat retention in accordance with motorsport standards.

The review is to ascertain what is required to mandate the use of FIA standard competition seats that incorporate head restraint (winged seat) elements. The applicable minimum standards should be FIA 8855-1999 and 8855-2021 with the use of 8862-2009 applied as highly recommended. Minimum seat mounting requirements to be applied in relation to the FIA seat standards.

It is noted that in general a high percentage (65%) of current Tarmac Rally vehicles have fitted FIA standard seats that incorporate head restraints (winged elements).

Implications:
When applying the mandatory use of an established standard, i.e. those of the FIA, those standards apply mandatory "not valid after" usage life of seats. Technically once a seat has passed this "not valid after" date then the standard applied to that seat has also expired. Consideration needs to be given to the acceptance of the use of a seat beyond the "not valid after" date and what inspection criteria to confirm the seat remains suitable for use beyond that date. This may be in a similar manner to the extension of FIA Safety Harness "not valid after" dates within the Motorsport Australia regulations.

It may be required to consider what is possible for a vehicle that is unable to fit FIA standard seats with head restraints given the size and shape of the vehicle cockpit. Should a dispensation be considered, or is the vehicle then deemed unacceptable for outright competition and limited to speed restricted competitions only.

Actions:

- Review the application of mandatory FIA seat standards that incorporate head restraint elements for tarmac rally.
- Determine what if any life extension can be applied to FIA seat standards.
- Determine what if any dispensation or outcome where a vehicle is unable to be fitted with FIA Standard seats incorporating head restraint elements.

Timeline for review should be no longer than 3 months.

4. REVIEW OCCUPANT SPACE AND SUITABILITY INCLUDIND OCCUPANT SELF-EXTRICATION CAPABILITES.

Reason:
Review requirements for the occupant space/suitability and occupant self-extrication capabilities in Tarmac Rally. To ensure that there can be a useful and measured understanding and improvement to the occupant space, to ensure that outcomes of incident can be improved. To understand and measure the capabilities of occupants to self-extricate themselves in the event of an incident in a suitable and accepted time frame. Note that minimum self-extrication requirements are applied if a person has a disability to show they are capable of self-extrication in an incident, this is not applied to what would otherwise be considered as able-bodied persons.

Consideration to be given to:

- a minimum clearance between the helmet and any safety cage member with padding fitted
- additional padding criteria – minimum members that must have padding fitted
- establish minimum self-extrication guidelines for rally

Implications
There are number of questions that need to be considered as they will have implications for the rally discipline:

- is the occupant space critical to ensuring that incidents remain "survivable"?
- Is there a point at which the occupant space is that constrained that it reduces the survivability in an incident to an unacceptable level?
- Are there tangible improvements that can be implemented – such as the minimum clearance requirements between the cage and helmet?
- Minimum self-extrication requirements to be considered and recommended – with a view to applying a mandatory requirement. This would need to be generally achievable, and a program established to have this demonstrated by each competitor.

In application there may come a time once mandatory requirements are established that certain vehicle may be deemed unsuitable or certain competitor are deemed unsuitable due to factors related to occupant space and self -extrication.

Action:

- Establish minimum guidelines for occupant space and suitability. Establish minimum guidelines for self-extrication.
- Consider further the implications, once guidelines are established, to have these applied as mandatory.

Timeline to establish guidelines would be around 3 months given time to undertake review of minimum requirements and further implications.

5. VEHICLE SUITABILITY – PERFORMANCE FACTORS

Reason:
To review vehicle suitability from a performance factor consideration to understand if there are certain vehicle performance factors that may be deemed unsuitable for particular levels of competition and/or competitor experience or tarmac rally in general.

Implications:
There are two primary implications.

The first implication being the establishment of effective performance factors and then the establishment of the control factors for those vehicles that exceed the established performance factors. Considerable work would be required to effectively apply those controls to achieve the outcome given the variability in vehicle specifications. It is however noted that the FIA have performance factor control measures that could be applied/referenced, albeit with variations to suit tarmac rally such as engine inlet restrictors (e.g. FIA GT3 all run inlet restrictors tailored to the specific model of car) or vehicle weight requirements etc.

The second implication being that it may come to point where certain vehicles are simply not accepted as eligible for tarmac rally due to the establishment of performance factors, in that despite applied control measures they are still deemed unsuitable.

Action:

- Review the application of minimum performance factors for tarmac rally in conjunction with performance control measures.

Timeline to undertake this review to establish the performance factors would be around 3 months. The timeline to establish performance control measure would then have the potential to take further considerable time – needs to be understood once the factors themselves are determined.

6. WET TYRE DEFINITION.

Recommendations:

- Investigate if the current Tarmac (Targa) Rally Wet Tyre Definition as implemented created the desired outcome.
- Investigate the adoption of wet weather tyre testing consultants and facilities available.

7. MANDATE HARNESS CUTTER AND WINDOW BREAKER.

8. SAFETY COMMUNICATIONS

Motorsport Australia should develop a system of being able to communicate with competitors regarding important safety updates and initiatives. This should include a clear explanation of the benefits of these safety updates and initiatives.

Tarmac Rally Working Group
Recommendations for Review Panel

COURSE DESIGN

1. TARGA RALLY BASE TIMES

The current Motorsport Australia Tarmac Rally Standing Regulations (TRSR) definition under Targa Rally is *"Targa Stage - A closed road competition section between two successive time controls utilising a base time as the basis for scoring."* We believe the use of Base Times should be mandated across all tarmac rally to control the average speed over a stage and mitigate risk through further education of competitors.

Recommendations:

- Using the agreed maximum average speed of 132km/h or 36.67m/s over the distance of the stage to calculate the lowest base time for the 200km/hr outright class over stages considered low risk.
- Investigate the use of longer Base Times over stages that are considered higher risk.
- Investigate the use of longer "*Wet*" Base times to reduce the average speed required to achieve a Base Time in wet conditions.
- Investigate the use of longer Base Times for reduced maximum speed classes such as 165km/hr or 130km/hr.
- Investigate with RallySafe display on the RallySafe Unit real time data to the reference Base Time or calculated average speed on stage.

2. CREATE A COURSE RISK ASSESSMENT COMMITTEE (CRAC)

The Motorsport Australia Tarmac Rally Working Group (TRWG) to approve competent current driver competitors as members nominated by their peers to analyse the course in conjunction with the Event Checker as described in the TRSR.

Recommendations:

- It is proposed that a minimum of two (2) members from each competing event (currently Targa West, Adelaide Rally, Targa Great Barrier Reef, Targa High Country, and Targa Tasmania) create the ten (10) members of the Course Risk Assessment Committee.
- The Course Risk Assessment Committee to collectively agree on the design and implement a consistent Course Risk Assessment Matrix approved by the TRWG for all events.
- The Course Risk Assessment Committee to collectively agree on *Extreme* locations that require the implementation of **Speed Reduction Methods**.

RISK ASSESSMENT MATRIX

RISK MATRIX		Consequence				
		1	2	3	4	5
Likelihood		**Insignificant** No injuries, health or environment effect	**Minor** First aid treatment or environment effect contained internally	**Moderate** Medical treatment or environment effect requiring assistance	**Major** Permanent disability, health issue or environment effect with impact	**Extreme** Death or environment effect with significant impact
5	**Almost certain** The event is expected to occur in most circumstances	Moderate	High	Extreme	Extreme	Extreme
4	**Likely** The event will probably occur in most circumstances	Moderate	Moderate	High	Extreme	Extreme
3	**Possible** The event may occur sometime	Low	Moderate	High	High	Extreme
2	**Unlikely** The event could occur sometime	Low	Low	Moderate	High	High
1	**Rare** The event may occur in exceptional circumstances	Low	Low	Low	Moderate	Moderate

- The Event Checker has the ability to override the Course Risk Assessment Committee if they wish to increase risk classification. The Event Checker will not be able to down grade the level of risk determined by the Course Risk Assessment Committee.

3. SPEED REDUCTION METHODS

Recommendations:

- To promote consistency, we encourage all events use the same required terminology for speed restriction zones such as those currently being used by RallySafe and the Motorsport Australia Tarmac Rally Standing Regulations (TRSR)
- **Virtual Chicanes (VC previously known as RSP's) -** VC are to be set just prior locations that have been deemed to be of extreme risk, they are not to be used to lower the average speed. It was agreed that the normal minimum speed in a VC be increased from 60km/h to say 80km/h. This will reduce the severity of braking, reduce road damage and the potential to induce an incident.
- **Restricted Time Zones (RTZ) -** RTZ is the recommend method control the average speed to 132km/h of a stage if it cannot be achieved by course design. It is also recommended that RTZ are place at zones or locations that have been deemed to be of extreme risk, normally 400m long, with a 20 second time which averages out at 72km/h. It was agreed that on long stages that a longer RTZ could be implemented to give the crews a "refresher break" or to join two competitive sections of roads with a large straight. Investigate the use of further RTZ if a Stage is deemed to be "Wet" added in zones known to have extreme low surface friction in wet conditions, (RallySafe would need to be consulted on how this could be achieved to build the locations into the system pre-event.)
- **Restricted Speed Zone (RSZ) -** Remove the use of RSZ from the TRSR.
- **Physical Chicanes -** Continued to be used as per the TRSR in locations determined by the Course Risk Assessment Committee, Event Organiser and approved by the Event Checker.
- **Restrict live timing information -** Consideration be given to removing competitors' access to live timing during each leg. Official times can instead be published at the end of each leg (or lunch time if necessary). This would remove some of the temptation for competitors to drive beyond their limit, noting that there could be some negatives in implementing this.

Competitors (where possible) should have 150m clear vision on approach to the location of Speed Reduction Methods (if achievable) with indicator boards marked at 300m, 200m, 100m. The braking zone distance for a Speed Reduction Zone to be a maximum of 200m

Commented [MS1]: Move this so that it applies to all speed reduction methods

4. POST EVENT REVIEWS (CRAC)

Recommendations:

- **RallySafe Data -** Event Organisers to have access to data overlay maps showing fastest speeds through stages to analyse if further speed reduction methods may be required in specific zones.
- **Video Reviews -** All Competitors to video their in-car action and must make it available to Event Organisers or Motorsport Australia if required. The Course Risk Assessment Committee and Safety Assessor to review any in-car footage and other data, post event to analyse if further Risk Mitigation is to be added to the course.
- **Accident & Incidents -** Event Organisers to keep data on where accidents and incidents have occurred, even if there isn't a crash as records may show that one location has had a number of minor incidents that one day may result in a major accident. RallySafe data will show when cars have stopped on stage. It was suggested that a Standard Log of Accident and Incidents be kept by Event Organisers.
- Motorsport Australia to record and share data on individual competitors to track the Incident rate of competitors

5. SPEEDING PENALTIES

Recommendations:

- TRWG to create a demerit point system for competitors to manage consistent bad behaviours such as going over speed restrictions or having an incident. Example: When they have received the maximum number of points they get downgraded to the next category. i.e. from 200km/h Outright to 165km/h. Demerit Point system to be implemented for going over a set high speed i.e. 215km/h
- It was recommended that the RallySafe Speeding Calculator to be implemented as the preferred penalty system. Additional Automatic Penalty of 30-seconds be implemented for cars going over 215km/h. Stewards may apply further penalty if deemed that competitor and deliberately over speeding up to exclusion.
- Penalties to be "Rounded Up", i.e. after the Factor 5 is worked out and the Penalty for example is 0.7 seconds or 1.3 seconds it is to be rounded up to 1 second and 2 seconds.
  Rallysafe already has this capability and it is simply a matter of having all event promoters adapting the same system.

COMPETITOR AND CULTURE

1. MANDATORY TRAINING AND ASSESSMENT

Reason:
The nature and experience of competitors in tarmac rally differs from those that may be involved in other areas of the sport. Not all competitors come with a background either in the sport or in a related industry and therefore they enter a competition with reliance on the help and support of others – such as those that prepare vehicles for the sport or provide a support package to those competitors that undertake this pathway to the sport. In short, some competitors have little actual knowledge as to the preparation of a vehicle for the sport and therefore are solely reliant on others to ensure the outcome is in their best interest from a safety point of view.

Access to education and information resources that can provide insight to key vehicle safety considerations and driving technique may assist in improving safety outcomes.

Establishing programs and networks with suitably informed and qualified individuals/workshops and events to assist competitors in a review of their vehicle and preparation for a tarmac rally. This may be in conjunction with scrutineers for compliance and those with the necessary sport knowledge to provide clear outcomes for those entering the sport on how to optimise their vehicle preparation to ensure is suitability and ultimately safety for a tarmac rally.

This may not specifically be a recommendation that can be managed solely by Motorsport Australia as a regulator for the sport, however, is a matter for the sport as whole.

Things to consider:

- Mandatory driver training and assessment should be considered for all other competitors as part of the licensing program.
- Structured licensing requirements and grading of competitors and vehicles to determine maximum speed limits and/or class eligibility.
- Have mandatory training and assessment for super-license holders on the use of safety equipment, RallySafe etc.
- The implementation of a 'best-practise' document such as training and safety videos that highlight opportunities to prepare cars in the safest manner.

- Educate competitors on tyre – selection, usage, effect of pressure change, variations for certain conditions
- Suspension – selection, usage, effect of damper setting changes, variations for certain condition – racetrack settings don't work for rally etc.
- Personal safety – how best to set up driving position, seat choice, harness fitment, helmet/FHR etc.
- Practice – athletes practice for optimum performance – what can be learned from this in application for this sport. How many competitors practice getting in and out of the car to work out the best way to do so, how familiar are they with the controls of their car – as familiar as say the daily car where you instinctively know where all controls are etc.
- Consideration be given to the implementation of a demerit points system for license holders similar to what is used by the FIA
- Consideration be given to having a maintenance requirement for licensing. This can be considered by the TRWG in conjunction with the overall license requirements.

Implications:
The main implication is having the necessary resources (including those who can do it) to create and maintain the education/information content and develop and maintain the programs for pre-event reviews.

Actions:

- Consider how best the sport can provide education and information to improve the ultimate safety of the sport. Consider the vehicle review programs and resourcing to provide that service to competitors.

Timeline will be dependent on having the necessary resources to achieve the outcomes.

2. STRUCTURED LICENSING REQUIREMENTS AND GRADING OF COMPETITORS AND VEHICLES TO DETERMINE MAXIMUM SPEED LIMITS AND/OR CLASS ELIGIBILITY

Recommendation:

- Levels of competition be simplified; there are too many classes. This would help shift the focus of competitors to finishing rather than winning.
- The class structure of Targa West (130, 165 and 200) be adopted across all tarmac rally events. Competitors could then be required to complete a certain number of events in each category before becoming eligible to progress to the next.
- Staged licensing should mirror the staged requirements/conditions for vehicles and crews alongside an educational pathway.

3. MANDATORY RECONNAISSANCE

Recommendations:

- All Outright competitors (130km/h or above) must complete at least 2 Reconnaissance runs of each stage. Investigate how this can be recorded electronically with a QR code, photos or in conjunction with RallySafe app.
- Other timed competition crews be required to conduct at least one pass of reconnaissance of each and every stage as a precondition to being permitted to start.
- All crews must sign a statutory declaration confirming they've undertaken same. Timed competition including all speed limited categories and outright categories, save for the time-speed-distance category.
- TRSR to limit competitors to a maximum of 3 runs of Reconnaissance to reduce issues with residents, speeding on public roads and practicing on the course.
- It is recommended that competitor's video their reconnaissance for future reference.

4. SAFETY (PACE) NOTES

Reason:
Our belief is that pace-notes are an important safety tool. Whilst one consequence is that crews may go quicker in driving beyond what they can see, crews are also armed with detailed information on topography, hazards, changes to the road surface and instruction about what to expect if the weather changes. This allows for better positioning of cars on the road to avoid hazards, set up for the following corner/s and recover from loss of control.

Recommendations:

- Rename "Pace**"** notes as "Safety" notes.
- New competitors must have completed an accredited training course on the way pace-notes are written and how they are to be used.
- Commercial sellers are to be certified through Motorsport Australia, and highlight locations or zones determined as extreme risk by the CRAC.
- All Caution, Care or Danger to be shown in the Road Book must also be in Commercial or Private Safety Notes
- Provision of an instructional video outlining key issues (cautions, dangers, turn gradings etc)

5. MEDICAL

Recommendations:

- Review the medical licence requirements and produce a "Guide for Competitors" outlining our recommendations for various levels of licence and age of competitors. This should include minimum requirements for safely exiting the car in a timely manner.
- Medical assessment to be carried out at regular intervals in order for competitors to maintain their Rally License and/or compete in certain categories.
- Medical History Information sheet to be filled out by each competitor at each event and made available by the Medical Delegate to the event medical teams. Information to be destroyed post event.
- 'First on Scene' power point to be presented at each Event Drivers' Briefing. Probably once every three years, otherwise to new competitors at each event, each year.
- Look at a strong recommendation that each competitor undertake a basic 'First Aid' course in their state of origin.
- Explore the possible use of "Rally Safe" as a simple communications tool to enable trouble free, confidential 'comms' between medical teams in the field and Rally Control.
- Explore the possibility of producing a further "Guide for Competitors" outlining sensible preparations for competition in the areas of nutrition, hydration, and rest.

OTHER

SINGULAR SET OF TECHNICAL REGULATIONS FOR TARMAC RALLY

- Targa Australia Technical Regulations have been recently updated but the Motorsport Australia one has not. The group believes there should be one set of technical and sporting regulations for all.

RECORDING OF ACCIDENTS AND INCIDENTS (INCLUDING NEAR MISSES)

- Promote the use of the AIMSS Crash Tag App (or similar application) or a standard form be added to the back or Road Books that competitors could record their Incidents to assist Organisers in compiling incident locations.
- It was recommended that the FIA Innovative low-cost Impact Data Recorder be a requirement in all rally cars.
- The ability to develop Rallysafe so that competitors can drop a hazard pin on the course as a warning for following competitors. (i.e. a fallen tree). Additionally, consideration should be given to the development of a recce app where competitors can add hazards/ comments for both fellow competitors and the organisers to reference/ consider.

TRCAA
Tarmac Rally Competitors Association of Australia

SUBMISSION TO MOTORSPORT AUSTRALIA TARGA REVIEW PANEL

July 2022

Contents

Executive Summary

The Tarmac Rally Competitors Association of Australia Incorporated (TRCAA) is a newly formed association of Targa style event competitors who are actively participating in the timed and open competition classes of such events.

There are currently 270 members of TRCAA, representing current tarmac rally competitors across Australia who have competed in a time-based class of at least one tarmac rally in the last three years. TRCAA's members compete in events from all tarmac rally organisers including TARGA Australia, Adelaide Rally, Targa West and AutoCorsa. Many of the members have also competed in Targa New Zealand tarmac rally events.

The member base of TRCAA was asked to submit suggestions that would have the effect of materially reducing instances of on-course incidents during Targa Style events and/or materially reducing the adverse consequences of such incidents were they to occur. There was a high degree of consistency in the suggestions received.

This submission has been informed by the experience of TRCAA members with collectively 566 years of tarmac rallying experience, who have competed in 1,450 tarmac rally events of which 365 have been Targa Tasmania events specifically. It aims to be proactive, practical, considered and constructive in the recommendations provided.

In this submission, the Committee of TRCAA has collated the suggestions into like themes and organised them into sub-categories following those requested by the Review Panel being:

1. **Design and conduct of the event** (with respect to participant safety);
2. **Eligibility of drivers and co-drivers for the event** (with respect to individual skills, experience, assessment and medical requirements); and
3. **Eligibility of vehicles** (with respect to types, performance, safety equipment, preparation and setup).

TRCAA's recommendations consider the suitability, design and requirements of vehicles used for Targa style events, the competency, currency and culture of those competing and the design and conduct of events.

Section 1 contains a summary of the recommendations against each of the sub-categories. These have been curated to be relevant, informed from member experience and with a safety improvement purpose.

As the representative body for Tarmac Rally competitors in Australia, TRCAA is committed to safety in our sport. TRCAA thanks the Motorsport Australia Board for the opportunity to provide input to the Targa Review Panel. While the pain and sadness we feel for having lost our rally family members in recent events will last for many years to come, we relish the opportunity to be part of the process of building their legacy: a refined and improved version of the sport that is safer than ever and able to both entice, and protect, the motorsport community for many years to come.

The Committee would welcome the opportunity to discuss any of the recommendations provided with the Motorsport Australia Board and / or Targa Review Panel.

Yours Sincerely,

Tony Quinn
President, TRCAA

Philippe Etienne
Vice President & Chairman, TRCAA

1. Summary of Recommendations

TRCAA member recommendations are summarised as follows:

1.1 Design and conduct of the event (with respect to participant safety)

TRCAA recommendations are aimed at achieving the following:

Hazard identification, treatment and reduction

1. A Black Spot approach to hazard identification.
2. Motorsport Australia and event organisers use additional tools to make better informed decisions in identifying hazards including known hazard locations.
3. Systematic capture and analysis of incident information, including promotion and use of the CrashTag App.
4. Appropriate qualification of the course Safety Checker.
5. Use of Restricted Time / Speed Zones to protect crews in relation to identified hazards.
6. Ensure Restricted Time / Speed Zones are appropriately placed and do not create hazards by their placement.
7. Improve caution boards on stage for better visibility and placement.
8. Investigate possible modifications to RallySafe to allow for hazard identification during competition –
    a. live hazard notification.
    b. driver warning lights.
9. Investigate possible modifications to RallySafe to enable following cars to be alerted to issues identified by Rally HQ.
10. Running events at a time of year when there is a better chance of favourable weather in recognition of the increased risk posed by wet weather.
11. Enforcement of a requirement that vehicle wheels remain on tarmac.
12. Oil drops are reported and penalised.
13. Tour vehicles are required to leave ESC engaged.
14. Consideration of a reduced Wet stage maximum permitted speed.
15. Management of the 200 kph maximum speed limit.

Enabling appropriate opportunity for crews to gain experience and progress

16. Provide Test Days to competitors, similar to what is done in gravel rallies).
17. Ensure that the use of Minimum Times allows for a realistic warm up for crews before progressing to full competitive stages.
18. Incorporate a 165km speed limited category in all tarmac events as a stepping stone to full outright competition.
19. Crews, whether they choose to use the event road book or stage notes, should be provided with education on the risks and responsibilities of each option.

1.2 Eligibility of drivers (and co-drivers for the event) (with respect to individual skills, experience, assessment and medical requirements)

TRCAA recommendations are targeted at improvements in the following areas:

Licencing

20. A Tarmac Rally specific licence be developed.

Training

21. Development of a mentoring scheme
22. Development of a structured and comprehensive training course for Tarmac Rally competitors.
23. Expanded drivers' briefings.

Reducing competitive pressure during events

24. Remove "live" stage times from crews to reduce the competitive tension during an event and the temptation for crews to "chase times".

Test days to be made available, similar to gravel rallies

25. Test days to be made available, similar to gravel rallies.

Confidential reporting for competitors

26. A confidential reporting system be established for competitors to raise serious concerns.

1.3 Eligibility of vehicles (with respect to types, performance, safety equipment, preparation and setup)

TRCAA recommendations are aimed at improvement in the following areas:

Tyres

27. Retain the limit of ten tyres, remove the requirement that a number of them are designated "wets".
28. Tyre choice (pattern, compound and type) to be free (other than being road legal).

Vehicle Safety

29. Require Full (Type 3) Roll Over Protections Systems (ROPS) for all Timed Competition vehicles (excl TSD). ROPS to be of "Tarmac Rally" specification.
30. ABS to be allowed for all vehicle categories.
31. Energy Absorbing Foam filled doors to be highly recommended and modifications required for fitment be allowed.
32. Development of a process to ensure vehicle capability and crew capability are not grossly mis-matched.

Occupant Protection

33. Winged Seats or Simpson devices required for all Timed Competition vehicles (excl TSD).
34. Removable Steering wheels highly recommended.
35. Vehicle "Fit" - Placement and position of Team (Driver and Co-Driver) to be assessed to ensure sufficient space between body panels/roof.

Pre-Event Scrutiny

36. Pre-event Scrutiny.

2. Design and conduct of the event

2.1 Introduction

In providing recommendations in relation to the design and conduct of the event with respect to participant safety, TRCAA notes the following as a preamble to our specific recommendations.

There are currently 3 major event promoters who run tarmac rallies in Australia under Motorsport Australia (MA) sanction being:

1. TARGA Australia events (which include Targa Great Barrier Reef, High Country and Tasmania events);
2. Targa West events; and
3. Adelaide Rally.

In our consideration of participant safety, we have assessed the varying courses and their design for the range of tarmac rallies run across Australia, seeking to create commonality across these events with a "best of breed" approach to course design and safety as an outcome. In addition, commonality in design and conduct of events is itself a contributor to improved event safety. When different promoters/organisers use different methodologies, it creates a disjointed competitor experience and potentially leads to confusion where competitors compete across multiple event promoter rallies.

TRCAA members have significant experience in MA sanctioned events throughout Australia across all event promoters. Further, our members also have considerable experience in tarmac rally events sanctioned by AASA. This brings a depth of competitor experience in our consideration of recommendations to assist Motorsport Australia in improving participant safety.

2.2 Motorsport Australia framework for safety in course design and event conduct

In seeking to prepare our response, TRCAA has reviewed Motorsport Australia's relevant Risk, Health and Safety policies and procedures in order to link our recommendations to existing Motorsport Australia policies and frameworks. Where relevant, TRCAA will suggest improvements that could be made to these existing policies and frameworks including.

i) Risk Management Framework Policy – this provides the structural framework to effectively identify and manage the risks involved in all Motorsport Australia activities in order to maximise opportunities and minimise adversity and to achieve improved outcomes and outputs based on informed decision making and organisational resilience.
ii) Safety 1st Management Plan: for Motorsport Activities and Events – this outlines the overarching risk and safety management provisions to be implemented by Motorsport Australia and its stakeholders for the safe and efficient management of motorsport activities and events.
iii) Hazard and Risk Management Policy – this describes the measures to be implemented within Motorsport Australia for the identification of Hazards, and for the assessment and control of health and safety Risks. It outlines methods for management of these Hazards and sets minimum performance standards for Motorsport Australia.

These policies and frameworks are integral to course design and event management. In particular, hazard management is a critical part of the design of any course, particularly the need to identify, assess and treat risks arising from course hazards in order to minimise negative consequences to participant health and safety.

2.3 Hazard identification and treatment

In considering course design, TRCAA members believe that an optimal course is one that provides the challenge of tarmac rallying for competitors while mitigating the adverse consequences of identified hazards to maximise the creation of a safe environment for participants, officials, volunteers and spectators.

We believe that the goal should not be to sanitise the event, but create an event where incidents occur less frequently, and are of less severity. This means any viable risk management approach to tarmac rallies cannot aim to absolutely prevent incidents from occurring. Instead, the desired outcome should be to ensure that all reasonable measures are in place to mitigate incidents occurring and reduce the severity of consequences when they do occur.

In designing and conducting an event, MA seeks to ensure promoters take Reasonably Practicable steps to ensure participant safety[1]. Reasonably Practicable is defined as meaning that which is, or was at a particular time, reasonably able to be done to ensure health and safety, taking into account and weighing up all relevant matters including:

(i) the likelihood of the Hazard or the Risk concerned occurring;
(ii) the degree of harm that might result from the Hazard or the Risk;
(iii) what the person concerned knows, or ought reasonably to know, about the Hazard or Risk, and ways of eliminating or minimising the Hazard or Risk;
(iv) the availability and suitability of ways to eliminate or minimise the Risk, and after assessing the extent of the Risk and the available ways of eliminating or minimising the Risk, the cost associated with available ways of eliminating or minimising the Risk, including whether the cost is grossly disproportionate to the Risk.

Further, MA's Hazard and Risk Management Policy includes a Hierarchy of Control which relates to identified hazards[2]. This means ranking risk control measures in decreasing order of effectiveness:

(i) elimination of Hazard;
(ii) substitution of hazardous processes or materials with safer ones;
(iii) isolation of the Hazard;
(iv) engineering controls;
(v) administrative controls; and
(vi) personal protective equipment (PPE)

While TRCAA acknowledges that some of these controls are currently used by MA and Event Promoters, feedback from our members questions the effectiveness of control implementation in some instances and suggests a more nuanced approach is required to hazard identification and risk management within a course, rather than a blanket approach across a whole competitive stage.

In doing so, a risk likelihood and consequence matrix is used to provide guidance as to which hazards should be treated in which way. The result being the higher the likelihood and/or the more severe the consequences of occurrence, the more that occurrence should be mitigated to the extent possible, or removed completely where a suitable mitigation is not possible.

[1] Motorsport Australia, Hazard and Risk Management Policy, January 2020, Page 3
[2] Motorsport Australia, Hazard and Risk Management Policy, January 2020, Page 2

2.4 Specific recommendations addressing hazard identification, treatment and reduction

Recommendation 1: A Black Spot approach to hazard identification

At present hazard identification on special stages appears to reflect the idea that each part of the stage is treated as presenting a uniform level of risk, and speed related matters have high priority in consideration, with the outcome to limit top speeds to 200 kph or below and ensure average stage speeds stay below the FIA's 132 kph average speed requirement.

A focus on Black Spot identification is recommended by the FIA in the 2022 Rally Safety Guidelines[3] with event organisers encouraged to use available tools when it comes to stage selection including experience of running the stage previously and matters other than average speed.

> *"...average speed is not an indicator of the suitability of a special stage, though it is one consideration in any choice. High-speed sections are not necessarily dangerous. It all depends on the surroundings; are there large drops, cliff faces, established tree line, a sudden corner or jump that would present a risk? All factors that come into consideration that are affected by speed in that section, not the overall average speed of the stage".*

The fatal incidents in Targa Tasmania 2021 and 2022 did not have high speed as a contributing factor. A key contributing factor of these incidents was the presence of a "Black Spot" hazard, being a change in road nature.

A Black Spot approach was introduced into Australian road safety thinking in 1990, and potentially provides a useful foundation to considering hazard management in tarmac rally special stages. For tarmac rally purposes, a Black Spot would be considered to be:

- Where a complex or hazardous corner is preceded by a faster section of road;
- In areas of high obvious risk such as large drop-offs or cliff faces;
- In places of varying or reduced grips levels particularly in the wet;
- Where the road design could surprise a driver due to being out of character with the rest of the stage or the immediately preceding course; and
- Where a significant change in rhythm of corners occurs.

When assessing a stage, this black spot approach should be used and hazard warnings implemented to warn crews upon approach. This process should seek to identify the type of hazard from three categories:

- Obvious hazards, being those that are evident to most people: e.g. high speeds on straights.
- Hidden hazards, being those that are difficult for the untrained eye or the casual competitor to recognise.
- Perceived hazards aren't really hazards but rather sections that may look risky to the untrained eye e.g. an object near the roadside but in an area where the natural flow of the road would take the competition vehicles away from.

The consideration of Black Spot hazards should take into account more than speed alone. It should assess likely speed on approach to the hazard and the potential magnitude of outcome in the event of the car leaving the road.

[3] FIA Rally Safety Guidelines, 4th Edition, 2022 – 4.1 Special Stage Selection, page 75

To this end, the Risk Matrix used by event organisers should be based on more objective factors than a prediction of whether a car could continue following an incident at that location. We note that the risk matrix included in the Targa Tasmania 2022 Road Book (figure 3 below) refers to visibility as the key contributor of the potential outcome.

Figure 1: Risk Matrix, Targa Tasmania 2022 Road Book

POTENTIAL OUTCOME OF NEGOTIATING OBSTACLE TOO FAST	LIKELIHOOD OF INCIDENT			
	HIGH, IMPOSSIBLE TO SEE	MED-HIGH, DIFFICULT TO SEE	MED-LOW REASONABLY EASY TO READ	LOW QUITE VISIBLE
SERIOUS PHYSICAL HARM OR INJURY. MONUMENTAL DAMAGE TO VEHICLE	!!!	!!!	!!!	!!!
POSSIBLE INJURY DEFINITE MAJOR DAMAGE TO VEHICLE	!!!	!!!	!!!	!!
DAMAGE LIKELY TO STOP VEHICLE	!!!	!!	!!	!!
DAMAGE LIKELY TO SLOW VEHICLES PROGRESS	!!!	!!	!!	!
POSSIBLE MINOR VEHICLE DAMAGE	!!	!	!	!

Factors apart from speed must be taken into account when identifying hazards and putting in place treatments to reduce their impact.

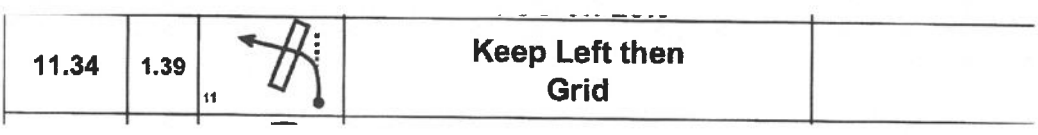
By prioritising a Black Spot identification approach and wider use of technology such as the CrashTag App, event organisers would have greater nuance of their approach to how course hazards present and their location

Recommendation 2: Motorsport Australia and event organisers use additional tools to make better informed decisions in identifying hazards including known hazard locations

Black Spots hazards can and should be identified using both predictive and historical techniques. Experienced competitors can identify the pattern of where incidents are likely to occur (black spot identification), and this information is currently available to all competitors through high-quality commercially available stage notes. However, when looking at where hazard reduction methodologies are currently deployed, it would appear that these demonstrated points of elevated risk are not always identified or taken into account in the course design and/or the event road book.

For example, the corner on Mt Roland where Tony Seymour's incident occurred in 2022 is a known Black Spot corner where there have been multiple incidents over many years. However, the current hazard management approach did not identify this corner as a hazard, with the road book tulip falling immediately prior to the accident site (see Figure 2 below).

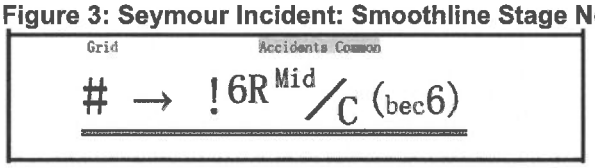
Figure 2: Seymour Incident: Targa Tasmania 2022 Road Book, Mt Roland Stage, Page 49



Although many experienced crews undertaking recce were able to identify this series of corners as being hazardous, the absence of information in the road book also meant there were no caution boards to visually alert approaching crews of the hazard, nor was any risk mitigation tool such as an RTZ employed there.

Commercially available stage notes did, however, have a caution on the corner (defined as requiring competitors to reduce speed in order to safely negotiate the corner) as well as identifying "Accidents Common". Crews would have seen this description both when undertaking recce and in the event, encouraging users to take appropriate caution, such as shown in Figure 3 below.

Figure 3: Seymour Incident: Smoothline Stage Notes, Mt Roland Stage, Page 9



Event organisers should use historical incident investigation reports from previous running of the stage as part of the black spot identification process, to ensure locations where incidents have previously occurred to protect current and future competitors from falling foul of the same hazard.

Investigations into the site of previous incidents will often show that hidden hazards are the highest risk to crew safety. We suggest that the fatal incidents of Shane Navin in 2021 and Tony Seymour in 2022 are examples of where Hidden Hazards occur, where the corner was critically different to those proceeding it, although did not necessarily appear so on approach.

Recommendation 3: Systematic capture and analysis of incident information, including promotion and use of the CrashTag App

In designing a course, historical Black Spot hazard identification can be helpful in understanding the nature of these hazards to make predictive assessments when new stages are being considered and previously run stages re-used. A systematic approach to capturing and analysing incident information is critical to having all available information upon which to make these assessments. We therefore recommend that a standardised approach to the collection and analysis of incidents be considered. This would include agreement on the definition of incident, and what type of incidents should be captured for the purpose of consistency and lead to the creation of a database of this information nationally for tarmac rallies.

While TRCAA would not propose the specifics of this reporting database, we note the CrashTag App[4] created by AIMSS is a purpose-built tool that facilitates the capture of motorsport incident and injury data. Anyone including crew, officials or spectators are able to submit an accident report. CrashTag's incident capture is detailed and compliant with the FIA World Accident Database incident capture standards. Information captured can include the time, the location, the number of competitors involved, the type of accident, and other information required by MA or event organisers.

Of importance in tarmac rally events, which often traverse poor cellular coverage areas, is that the App works in areas of little or no cellular connectivity, storing the report on the device and sending the incident report when a stable connection is restored. More frequent use of CrashTag will improve the capture, storage and analysis of incident data for hazard identification purposes.

[4] https://crashtag.com/

Recommendation 4: Appropriate qualification of the course Safety Checker

TRCAA suggests that implementation of Recommendation 16 of the 2021 Motorsport Australia Investigatory Tribunal Report[5] has had two unintended consequences.
Recommendation 16 states that:

> *"…. The Safety Assessor, who would be an experienced tarmac rally driver, would well in advance of the release of the route each year, drive every stage and assess suitability of a stage from a speed, hazard and safety of crews, officials, and general public perspective".*

Firstly, in implementing this recommendation one condition that has been introduced by event organisers is that that competitor cannot be entered in the event for which they are checking the route. This has had the unintended consequence that those competitors who are often the most qualified to undertake this important safety role are unable to be used. Instead, drivers who have not competed for some years are being used to perform this role.

TRCAA would suggest that a current outright competitor would be the most suitable for the role of Safety Assessor. They have recent experience of competition stages, competitive speeds and current vehicle technology.

We acknowledge that as tarmac rallies are run on public roads in Australia, road deterioration or works can and often do occur after this Safety Check has been completed and before the event is run, giving rise to hazards which were not identified at the time of the Safety Check. We believe the obvious hazard these works present is already well catered for with the Course Checker and other officials tasked with identifying these obvious hazards immediately prior to competition. An example is the road resurfacing on the Murchison Highway in Tasmania in 2021 which impacted the Hellyer Gorge and Murchison North stages. In this instance the significantly loose surface was identified and the Clerk of Course was able to take appropriate action by downgrading the stage and in doing so avoid exposing competitors to undue risk.

The current control is the release of a Communique or Bulletin by the Clerk of Course on the Official Notice Board for an event. We wish to reinforce the importance of these being released in a timely manner, allowing competitors to absorb and understand the contents. We recommend that this information be further highlighted at the start of each day by requiring each crew to sign to indicate that they have received the information and understand it upon presentation to the overnight security park as a way of ensuring <u>all</u> crews are aware of the information.

Lastly, as noted above, the Safety Assessor undertakes their risk assessment prior to the event to identify hidden hazards. On the day of competition, immediately prior to competition cars entering the stage, the Course Checker is tasked with identifying any new hazards such as weather conditions on the day or anything peripheral to the road that may have changed since the Safety Assessment. While course checker cars on the day drive the stage and provide information to the start officials to convey to competitors, the consistency of this information varies widely. We commend Targa on their recent update to distributing this information via an electronic sign, which was previously only visible to crews once in the start control and about to enter the stage. Historically this has caused stress to codrivers while they attempt to ensure they have the key information captured correctly prior to starting the stage.

Further, there have been many instances where RTZ/RSP and caution boards on stage have been impacted by winds during a stage and blown over so were unseen by crews upon approach. TRCAA therefore recommends an additional role of the course checker for each

[5] Motorsport Australia, Targa Tasmania 2021 Investigatory Tribunal Report and Findings, Sept 2021, page 50

stage should be ensuring that all on stage signage is not only erect and correctly located, but is also securely mounted to avoid being blown over.

Recommendation 5: Use of Restricted Time / Speed Zones to protect crew safety in relation to identified hazards

TRCAA recommends the use of Restricted Time Zones (RTZs) or Reduced Speed Points (RSPs) to reduce the likelihood of high consequence incidents for identified hazards and not just as a speed reduction mechanism.

Recommendation 4 of 2021 MA Investigatory Tribunal Report[6] was that:

> *"...organisers implement Restricted Time Zones prior to any potential hazard (crest/jump, dip), which could potentially cause a car to reach its suspension limits".*

TRCAA would go further with this recommendation and suggest that all speed or time control mechanisms be used by event organisers to treat identified hazards, rather than manage average or terminal speeds.

In reviewing the 2021 and 2022 Targa Tasmania courses, it would appear the placement of Restricted Time Zones (RTZs) was largely to address concerns about terminal speeds within the stage. For example, on the Mt Roland stage where Tony Seymour died there were 2 RTZs used in a stretch of road a few kilometres prior to the corner where the fatal incident occurred. These were in mostly long straight sections of road, and may have assisted in reducing the average speed of the stage to within the 132 kph FIA limit. However, their placement was in locations where the 200 kph limit in place would have already limited outright competitor speed so did little to further reduce risk.

This was also noted in the November 2021 Adelaide Rally event that an excessive use of Restricted Speed Points (RSPs) was used to slow competitor cars below 40 kph. As a result of the significant braking requirement to repeatedly slow to below 40 kph, many cars experienced brake issues during the event including brake failure due to significant overheating, cracked rotors and brake pad issues. Instead of creating a safer event for competitors, this had the opposite effect and created an unsafe environment. A number of competitors withdrew mid-event citing significant safety concerns, and those who continued raised similar concerns with Event Organisers throughout and after the event.

In the instance of the series of corners where Tony Seymour's car left the road, is it TRCAA's view that the use of warning signage and/or a speed restriction measure prior to the corner would have improved safety of this part of the course. This would also have been the case on the corner where Shane Navin went off on Mt Arrowsmith in 2021. We note that TARGA Australia introduced an RTZ protecting this corner in the 2022 event as a way of highlighting to crews the hazard in this location.

TRCAA recommends that hazard reduction measures are implemented as follows:

- Restricted Speed Points (RSP's)

  Also known as Virtual Chicanes, require competitors to brake to a predetermined speed within a relatively small area before accelerating again. RSP's have an advantage of teams not having to achieve a prescribed average speed through a section, in turn requiring the navigator to maintain their place in the route instructions and focus on speed concurrently. Crews remain focused on the road ahead at all times and the

[6] Motorsport Australia, Targa Tasmania 2021 Investigatory Tribunal Report and Findings, Sept 2021, page 44

compact nature of RSP's make setting a zone where the braking / accelerating is undertaken on a relatively straight section of road more achievable.

The use of RSP's may however inadvertently increase risk as their nature encourages some drivers to brake earlier than others which can invoke a situation where 2 cars have a high closing speed. This is most treacherous when the zone is blind on approach and when the speed in the zone is excessively slow (eg: under 60km/h).

In relation to RSP use, we strongly recommend that:

- RSP's only be used where the approach to an identified hazard contains a number of corners making RTZ use non-ideal.
- Target speeds be standardised, with the prescribed target not below 60 kph.

- Restricted Time Zones (RTZs)

These require competitors to remain within a defined zone for a predetermined duration. The nature of RTZ's gives the advantage of competitors generally braking in a more uniform location and the duration providing a "moment of pause" mid stage which can facilitate competitors having an opportunity to "reset", however their large size means they're less suitable where a large number of corners occur in the approach to a hazard.

It should be noted that TRCAA supports Targa Australia's existing protocol for configuration of the RTZ's used, which provide a consistent zone length time required within.

In relation to RTZ use, we strongly recommend that they be utilised where:

- the identified hazards are located within a less busy section of road, and
- where it is assessed that competitors may benefit from a "moment to pause" due to the nature of the approaching road.

Recommendation 6: Ensure Restricted Time / Speed Zones are appropriately placed and do not create hazards by their placement

It was noted that an RTZ placement on the Cethana stage at Targa Tasmania in 2022 started half way around a long sweeping right hand corner (9R Very Long), where the outright competitors would have been at or near the maximum 200 kph speed limit coming into the zone. The RTZ was located between two long straights with the apparent aim of limiting speed. We suggest that any zone placement that encourages competitors to brake heavily mid-way around a high-speed corner does not add to their safety.

The Cethana stage did not run in 2022, falling the day after Tony Seymour's tragic accident. The area received significant rain on the day Cethana was scheduled to run, and if competitors had been asked to brake heavily mid-corner from a very high speed on a wet road their level of risk would have been increased significantly. It is not impossible to imagine that a potentially catastrophic event could have been induced by this intended safety initiative.

In trying to understand the intent of the safety initiative, we have considered the likely reasoning for the location of this and several other similarly placed zones. One possible reason could be confusion by those placing them in the difference between an "Restricted Time Zone" (the zones currently used where the competitor slows while in the zone) and a "Restricted Speed Zone" (which have not been used for quite a number of years, where the competitor would have slowed prior to entering the zone). While this is speculation on our part, if it was the case, it would further highlight the need for a current competitor to be involved in hazard identification

and appropriate risk mitigation. In any case, TRCAA would question the safety benefit of an RTZ in this general location, given the introduction of the 200 kph maximum speed for the 2022 event. Further, if a zone were deemed necessary, TRCAA would suggest that a safer option would have been to have the RTZ start either well before or after the corner providing a straight-line braking opportunity and in turn minimising the risk.

TRCAA therefore recommends that:

- a review of the current RTZs be undertaken given the introduction of the 200 kph speed limit at Targa Australia events, and
- that zone placement be used that ensures a safe braking approach for competitors in all conditions but particularly where high approach speeds are involved.

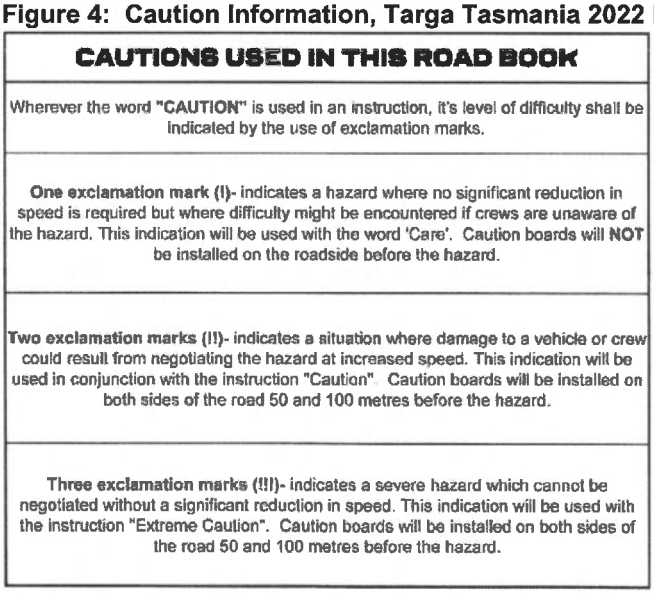
Recommendation 7: Improve caution boards on stage for better visibility and placement

Caution boards are used on course for the purpose of a visual warning to drivers of a hazard location approaching.

The current use of caution boards does not reflect the nature of a hazard and TRCAA recommends that an enhanced and consistent approach be adopted.

At the 2022 TARGA Tasmania event, Caution Information was contained in the Road Book as shown in Figure 4 below:

Figure 4: Caution Information, Targa Tasmania 2022 Road Book



CAUTIONS USED IN THIS ROAD BOOK
Wherever the word **"CAUTION"** is used in an instruction, it's level of difficulty shall be indicated by the use of exclamation marks.
One exclamation mark (!)- indicates a hazard where no significant reduction in speed is required but where difficulty might be encountered if crews are unaware of the hazard. This indication will be used with the word 'Care'. Caution boards will **NOT** be installed on the roadside before the hazard.
Two exclamation marks (!!)- indicates a situation where damage to a vehicle or crew could result from negotiating the hazard at increased speed. This indication will be used in conjunction with the instruction "Caution". Caution boards will be installed on both sides of the road 50 and 100 metres before the hazard.
Three exclamation marks (!!!)- indicates a severe hazard which cannot be negotiated without a significant reduction in speed. This indication will be used with the instruction "Extreme Caution". Caution boards will be installed on both sides of the road 50 and 100 metres before the hazard.

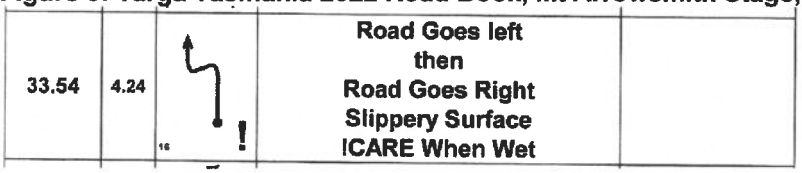
TRCAA notes that only !! and !!! cautions identified in the road book have caution boards installed on the course to visually alert drivers.

It is noted that the description of a "Care", denoted by a single exclamation mark (!) in the Road Book, does not have any warning boards installed on the roadside despite this being where event organisers identify that difficulty may be encountered if crews are unaware of this hazard. This relies on crews being unaffected by distraction, car sickness of the navigator / co-driver or confusion as to their exact location on the road which can arise as the distances displayed in the Road Book may not be the same as that displayed on the RallySafe device in car due to this

being calculated based on GPS location as opposed to Terratrip distance for the Road Book. It can be the case that a crew is not aware of their precise location on the course and if this were to occur when approaching a hazard their level of risk would, in the absence of any visual warning for the driver, not be mitigated appropriately.

An example of this is on the Mt Arrowsmith stage, where the course changes significantly in nature at approximately 33.5km into the stage. Figure 5 below is an extract of the 2022 Targa Tasmania Road Book entry for this part of the course, where a single exclamation mark (!) is noted which would result in the navigator calling 'Care'.

Figure 5: Targa Tasmania 2022 Road Book, Mt Arrowsmith Stage, Page 201



However, if there is any level of confusion in the car at the time or the navigator is "off" the road book or stage notes at this point for any reason, the driver would enter this section of the course unaware of the significant danger that it presents as it is not until being in the corner that the hazard is apparent. This significantly increases the likelihood of going off the road, as evidenced by a high number of incidents previously occurring at this location.

The Caution Boards used at present in many events, including TARGA Australia events, are a white board with either a !! or !!! in black or red on them. This can make it difficult for a driver to discern the difference between a Caution or Extreme Caution when passing these boards at speed during competition due to their similarity.

TRCAA recommends that a change be made and Caution boards in be installed at the location of ALL identified caution locations as follows, including Care (!) locations:

- **Care**: denoted by a single exclamation mark (!) on a YELLOW board
- **Caution**: denoted by a double exclamation mark (!!) on an ORANGE board
- **Danger**: denoted by a triple exclamation mark (!!!) OR skull and crossbones on a RED board.

TRCAA recommends the renaming of the severe hazard from 'Extreme Caution' to 'Danger', as the word Danger has a stronger meaning, is more succinct and is verbally different to Caution so a driver would not confuse this with a less severe hazard.

TRCAA further recommends that these boards use "Fluro" colours so they are easily identifiable in poor lighting conditions to ensure drivers can visually see them, especially when illuminated by headlights on approach.

Finally, TRCAA recommends that the placement and installation of caution signage be in a location appropriate to the braking spot for the hazard, not the hazard location itself. At present caution boards are installed 100 and 50 metres before the hazard. This placement may not be visible to drivers on approach or allow sufficient braking distance for a competition car to reduce speed to an appropriate level to traverse the hazard safely. In all cases, installation should be such that the boards can withstand high winds and don't fall over, as was experienced by crews at the Adelaide Rally in November 2021 and with RTZ boards in Targa Tasmania 2021's Moriarty stage.

Recommendation 8a: Investigate potential modifications to RallySafe to allow for hazard identification during competition (live hazard feedback)

At present hazard identification during the event is managed by the course checker car at the start of the stage in order to provide a "live" assessment of the conditions immediately prior to competition cars starting on that stage. Where a course checker assesses a noteworthy condition on the course this is communicated to the Stage Start Officials via radio communication and either verbally advised to competitors or communicated via the start of stage board which can generally only be seen once in close proximity to the stage control entry. Examples of this are fog or wildlife encountered on the stage or standing water or black ice in the event of inclement weather.

TRCAA commends the significant improvement to Start board communications launched by TARGA Australia at the 2022 Targa Tasmania event, where the previous whiteboard approach was replaced by a more sophisticated LED signage that could be seen clearly and also at a further distance from the start control.

However, once the crew has left the start control, they are reliant on their handwritten insertion of any information provided at the start of the stage. Any new hazards created on the course after a competitor has left the start control are unknown to the crew. It is often the case that as crews complete the course they become aware of additional hazards, such as standing water, oil, gravel or other debris over the road in addition to the location of cars as hazards on course. This information is provided to the Finish Control officials who then radio to the Start Control officials to add to the stage communication signage or verbal advice provided. This is not available to any crews who are already on the stage. This was evidenced in the Georgetown stage of the 2022 Targa Tasmania where long sections of the course were akin to an unsealed road yet no such information was presented to competitors at the start line.

TRCAA recommends that Status Awareness Systems be contacted to explore the feasibility of having RallySafe modified to allow crews to identify hazards in real time during a live stage. Current functionality could potentially be extended to enable a "Hazard on Course" button to be added so that crews can press to trigger a hazard notification to Rally HQ as a feedback loop of live information throughout the competitive period. While, on the surface this feature could be abused to slow following competitors, if the information were monitored by officials in Rally HQ and where this hazard notification is observed by several competition cars in locations of close proximity Rally HQ could then "accept" these hazard notifications, whereby RallySafe then triggers a Hazard on Course notification to crews approaching this location. This is similar to a debris flag used in circuit racing to indicate to following cars of a hazard to be careful of ahead and would provide real time notification of a change condition to crews as they enter the location, similar to the current RallySafe functionality of a green, yellow or red hazard upon approach to a car on course.

As examples of the application of this functionality at Targa Tasmania in 2022:

- On the Georgetown stage (TS2) on Day 1, a competitive car experienced a burst radiator hose on the stage and left a trail of coolant on the driving line for approximately 800 metres. This created a slip hazard to following cars as they entered this location with several outright competitors having spins as a result. The following crews who experienced the issue could have triggered a Hazard on Course notification.

- On the Mt Roland stage (TS7) on Day 2, two competitor vehicles lost their bumpers on stage, having made contact with an object on the outside of the course. These bumpers would have been something approaching competitors would not have expected to encounter mid corner and therefore could be considered a hazard. Had

the following crews been able to trigger a hazard notification to Rally HQ, the following cars could potentially have been warned of a hazard on the course.

Recommendation 8b: Investigate potential modifications to RallySafe to allow for hazard identification during competition (driver warning lights)

It is recommended that where feasible RallySafe be mounted in the centre of the car where both a driver and codriver can see it so as to observe green, yellow and red hazards on course which may appear. It is recognised that in many instances this is not possible due to lack of a suitable mounting point in the middle of the car between the crew.

TRCAA has observed that a large number of competitors have the RallySafe device mounted on the ROPS on the co-driver's side of the car. In this location, it is out of peripheral vision for the driver who is focusing on the road and may not be seen by the co-driver who is focused on the road book or stage notes or distracted due to car sickness or trying to pinpoint their location on the stage.

TRCAA suggests that Status Awareness Systems be consulted to investigate the possibility of RallySafe enabling a separate remote screen (with similar effect of shift lights) to be installed on the driver side of the vehicle that displays the coloured signal received on the RallySafe box (i.e. Push To Pass would show as blue, a fire or medical SOS would show as red etc). This remote screen should be of an appropriate size so as to not obscure the driver's vision of the road ahead. Just like the caution board system, this would then allow a driver to have a verbal warning provided as the primary input, and a visual warning in the event that a verbal warning is not provided.

Recommendation 9: Investigate potential modifications to RallySafe to enable following cars to be alerted to issues identified by Rally HQ

In his submission to both the Review Panel and TRCAA, Mr Glenn Evans (the co-driver in car 602 in which Shane Navin died on Mt Arrowsmith stage in Targa Tasmania 2021) noted that he was unable to notify the following cars of the situation that he faced. In a written submission to TRCAA, Mr Evans stated that:

> *"...In the 2021 Targa Tasmania event, Car 602 left the road and fell into a steep cutting, landing on its roof, between six and seven metres below the level of the road. The car could not be seen by passing cars. In fact, once I got out of the car, I could not see cars passing along the road from the level of the creek bank. No satellite signals from RallySafe were received from the car after the "Hazard – Rollover Hazard" was transmitted prior to the impact"[7].*

It was only once Mr Evans was able to flag down the 999 car that the need for assistance was recognised. Further, the Targa Tasmania 2021 Investigatory Tribunal Addendum Report in February 2022[8], notes that:

> *"...regrettably Rally Command did not direct a nearby FIV be dispatched to the accident scene following the receipt of a Rollover Hazard warning from Car 602".*

Paragraph 32 of the Tribunal Addendum Report[9] provides information in relation to this incident and states:

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[7] Mr Glenn Evans, Submission to TRCAA on Safety of Tarmac Rallies, July 2022

[8] Motorsport Australia, Targa Tasmania 2021 Investigatory Tribunal Addendum Report, February 2022, page 7

[9] Motorsport Australia, Targa Tasmania 2021 Investigatory Tribunal Addendum Report, February 2022, page 9

> *". According to Mr Sims [of RallySafe], in this case, because Car 602 was approximately 4 metres below the road surface and both its aerials were compromised, it is highly unlikely the RallySafe units in any of the multiple cars that passed the accident scene, unaware of Mr Evans' and Mr Navin's plight, emitted any warning display to the crew of those cars at all. He explained that if the signal is not received until the point at which the approaching car passes the stopped car, or the approaching car is already passed the stopped car, no hazard will be displayed on the RallySafe unit in the passing car even though the RallySafe unit in that car has repeated the hazard warning from the stopped car to Rally Command."*

In the case of Tony Seymour's fatality on the Mt Roland stage in the 2022 Targa Tasmania, Car 903 was also not visible from the road and the RallySafe did not alert several of the following cars to the incident. Competitor Mr Michael Pritchard was the first car to receive an in-car RallySafe notification, which we believe to be as a result of a higher placement of the RallySafe Wi-Fi antenna in his car. We understand that the RallySafe system worked as designed at Rally HQ, however, and they were aware of the car having left the road and an incident being underway.

TARGA Australia's accident procedures largely rely on a crashed car being visible to the crews of following cars. If a crashed car is not visible to following crews, procedures rely on a competing co-driver observing a Hazard warning on RallySafe and, if there is no OK indication and the Hazard disappears from the screen without a crashed car being sighted, that the car is off the road and that they must stop to investigate.

TRCAA suggests that developing a crew's ability to "acknowledge hazard" would allow Rally HQ to initiate a further response if this is not done.

TRCAA also strongly supports Mr Evans' recommendation that the possibility of RallySafe being modified to allow Rally HQ to notify approaching competitors of a vehicle that's left the road but hasn't acknowledged OK be investigated, rather than relying purely on the car-to-car feature. This would allow passing competitors to acknowledge that an OK board is sighted, or if not then following cars could be notified of the immediate need to stop and investigate. In addition, TRCAA strongly agrees with Mr Evans recommendation that a rollover registered by RallySafe should trigger an automatic SOS signal, which could then be downgraded to a Hazard warning. This should be in addition to a "high g impact" triggering an automatic SOS, with an impact of 14G currently being required to trigger an automatic SOS on RallySafe.

Based on the lack of visibility of either car 602 in 2021 or car 903 in 2022 to passing crews, TRCAA recommends that a new protocol based on a Car Off hazard be implemented for all future tarmac rallies and indeed extended to gravel rallies as the same limitations could arise there:

In the event of receiving a Car Off hazard notification based on GPS proximity of the last known location of a car that has transmitted a rollover or high 'g' impact incident, the following crew(s) are required to respond as follows:

- OK: Crew are ok AND course is clear with no hazard for approaching cars
- Hazard: Crew are ok BUT a hazard exists on the course for approaching cars
- SOS: Crew are NOT ok

If the following 2 passing cars do not press anything in relation to the Car Off hazard notification, then an escalated message should transmit to the following cars such as "SOS – Search for Car" so they are alerted to the fact that a car cannot be located. The stage should be immediately downgraded upon the issue of this SOS – Search for Car notification and crews alerted via their RallySafe device, with an audio warning emitted (similar to when Tour Cars exceed the maximum allowable speed) as an additional cue to competing crews.

Recommendation 10: Running events at a time of year when there is a better chance of favourable weather in recognition of the increased risk posed by wet weather

Event organisers should prioritise running of events when weather is likely to be dry.
Given the increased likelihood of hazards during wet weather, TRCAA recommends that events should be run at a time of year when there is a better chance of favourable weather.
Specifically, event organisers should consider moving Targa Tasmania to a different time of the year where less wet weather is likely.

Motorsport Australia's Safety 1st Management Plan, further highlights Adverse Weather[10] as a specific risk to be managed, stating:

> *7.13 Adverse Weather*
> *Weather monitoring should form part of the emergency management planning arrangements to ensure that the workforce, participants and public are protected. Monitoring and management arrangements typically include:*
> • *Weather monitoring such as radar or other similar systems*
> • *Inclement weather escalation procedures*
> • *Escalation communications*
> • *Triggers for cessation of activities or event and evacuation protocols*
> *In the event of severe inclement weather, a coordinated management and response approach should be applied with management and emergency response stakeholders.*

TRCAA acknowledges the reason for the current timing of the Targa Tasmania event is to provide an increase in visitor numbers during a traditionally quiet tourism period. However, safety should be a priority factor in determining event dates and TRCAA considers that running events when there is a strong likelihood of wet weather creates an increased risk environment. Although our recommendation is related to the timing of Targa Tasmania, given the 4 fatalities in 2021 and 2022 during wet weather, this recommendation applies to all tarmac rallies run in Australia.

Recommendation 11: Enforcement of requirement that vehicle wheels remain on tarmac

TRCAA notes that existing regulations require vehicles not to cut corners and to remain wholly on tar. Event organisers recognise this and include it in Event Regulations. The rationale is to prevent gravel being spread onto the roadway and creating a hazard for following competitors. There is ample evidence from competitors regarding issues being caused by gravel spread after corner cutting. This risk should be removed from future events.

FIA[11] recommend that organisers place barriers at positions liable to corner cutting and likely to spread gravel across the course. This could be achieved economically and effectively by placement of video cameras at positions where corner cutting could take place. Evidence is then available for application of penalties for miscreants, perhaps first by warning then for further offences, time penalties.

[10] Motorsport Australia, Safety 1st Management Plan, Version 3: 15 February 2021, Page 31
[11] FIA Rally Safety Guidelines, 4th Edition, 2022 – 3.10 Corner Cutting, page 61

TRCAA recommend course checkers identify potential areas of risk, including known areas of corner cutting, and implement placement of video recording at those sites. In the event of an incident or competitor complaint to the Competitor Relations Officer as well as for post event debrief and analysis purposes the Clerk of Course could review footage. Alternatively, in the highest risk areas (where consequences of loss of control on spread gravel are assessed as high), barriers could be installed.

Recommendation 12: Oil drops be reported and penalised

TRCAA member feedback indicates considerable concern over the danger created by oil drops on course and the danger created for following vehicles. An incident was highlighted where a vehicle continued on course as it was close to the finish, despite blowing a large amount of smoke and dropping oil from a faulty engine. A following competitor hit the oil dropped on the competitive line and left the roadway, ending upside down sliding across a field. Had there been trees, the incident could have been even more serious; potentially fatal.

At track events, there are flag marshals to issue warnings to following competitors of these dangers. TRCAA members are of the view that it is poorly prepared vehicles that are most liable to create this unnecessary danger for others and as a result these vehicles should compulsorily report the drop and suffer penalty, up to exclusion for multiple drops. Further, event briefings should include reference to oil drop, the danger created to following competitors and to remaining offline and getting off course into a safe position as quickly as possible. The drop could be reported via the proposed improvement to the Rally Safe hazard reporting system.

We also recommend consideration be given to requiring entrants to have a large central oil pressure warning light visible to both crew, so loss of oil is immediately obvious inside the car.

Recommendation 13: Tour vehicles be required to leave ESC engaged

TRCAA members have knowledge of various tour entered vehicles being involved in crashes. Whilst these are not formal "competitors", members are aware that many of these incidents have involved inexperienced drivers leaving the roadway having turned off ESC. A simple solution, prior to serious injury being sustained in Touring categories, is for ESC to be left on as a directive and requirement of participation.

Recommendation 14: Consideration of reduced Wet stage maximum speed

The 2021 Motorsport Australia Tribunal recommendation that led to the recent introduction of a 200 kph speed for all tarmac rally events recognised the potential challenge some drivers may face adjusting between high and low speed sections.

Wet stages intrinsically require competitors to drive slower than they could on the same stage in dry conditions and a number of TRCAA members have suggested that a reduced maximum speed be applied to any stage that has been declared wet when the 000 car starts. The aim of this suggestion was to re-enforce to competitors the need to treat the conditions with the respect and caution they deserve

The determination of what would constitute an appropriate wet stage maximum speed requires further consideration with a range between 130 kph and 165 kph having been suggested by a number of competitors. However, in evaluating this suggestion, we feel it is important to consider:

- The time between when the 0 cars traverse a stage and when the final competitors arrive. This timeframe can be considerable.
- TRCAA Members have also indicated that adherence to a competition speed limit can only be achieved safely with the incorporation of an electronic speed limiting device,

generally tapering engine performance when the pre-programmed speed limit is approached. This allows competitors to focus on the road ahead rather than on the speedometer. Many of the Classic and Early Modern category cars do not have the capability to use speed limiting devices, and so crews in these cars are manually managing speed limits during the event which can lead to an unintended outcome of not being fully focused on the road and road book or stage notes.

- Only one of the recent fatal incidents at the 2021 and 2022 Targa Tasmania events was on a declared wet stage (Car 902 in 2021) and occurred above the posted public speed limit so a reduced wet stage speed limit will not of itself prevent all such incidents.
- For the one fatality that occurred above the posted speed limit, the road surface was in fact largely dry by the time the incident occurred.

As with all other recommendations, it is imperative any potential unintended consequences be considered regarding this suggestion. Given the variability of weather and the timeframe between course car assessment and the competitors entering a competitive stage, it follows that competitors may face wet conditions in a stage that has been declared dry. As the incident in Targa Tasmania 2021 involving car 902 highlighted, it is just as foreseeable that a declared wet stage be dry by the time some competitors enter the stage. This shows that the weather a course car experiences ahead of the field does not necessarily correlate to the conditions competitions cars face some time later. While obviously it can rain on a previously declared dry stage, this example highlights the reverse is also applicable. Information taken from the conditions experienced by the course cars at the head of the field can give competitors a useful insight into what conditions they are likely to experience, but are not sufficiently nuanced to use as the basis for regulations such as speed limit variability.

In addition, with electronic speed limiting incorporated into ECU programming, this facility would only be available to the highest speed limit in the event, leaving competitors to refocus on manual means of management should the limit be altered mid-event such as for a declared wet stage. It could be argued this side-effect would at best offset any perceived benefit of the lower limit itself and at worst increase risk to the competitor in more tricky conditions that require 100% focus to safely negotiate.

A key component of competing in Tarmac Rallies is adapting to varying conditions and TRCAA recommend the formation of safety regulations that impact positively on competitor safety at all times, as well as others that are accurately targeted to specific high-risk situations. Given the wide range of situations where a variable speed limit would not have the desired effect of limiting speed on wet roads, it is unlikely such a regulation would achieve any material benefit. This may instead lead to frustration of drivers forced to drive even slower at times in relatively safe conditions, and also seeing competitors driving harder in other parts of the stage to "make up" perceived lost time from being speed limited which is clearly not a desired outcome. Therefore, in conclusion, we highlight the need for significant consultation and consideration of potential unintended consequences.

Recommendation 15: Management of 200 kph maximum speed limit

As noted in recommendation 14 above, the recent introduction of a 200 kph maximum speed for all tarmac rally events recognised the potential challenge some drivers may face adjusting between high and low speed sections.

TRCAA members have noted that there is a differing approach taken to management of the 200 kph maximum speed by different event organisers.

For example, TARGA Australia events have a "hard limit" approach where any time over the maximum speed incurs a penalty as soon as the maximum speed is exceeded by any amount (ie: 0.5 second at 201 kph). This requires crews to manage adherence to the maximum speed

extremely closely, particularly when it is being approached. For vehicles which are unable to or do not have speed limiting devices installed (classic category cars are a good example), management of the maximum speed limit requires the driver and/or co-driver to take their attention off the road at the time when they most need to focus on what's happening around them.

In comparison, Targa West events allow a competitor to go slightly over the 200 kph maximum speed limit and any gained time is automatically added back to their stage result. This is via a RallySafe Speed Limited Real Time Advantage System[12] that is used to calculate penalties for speeding. The calculator is set to a factor of 5, the aim of the system being to provide a scaling penalty that always punishes a breaching car, while at the same time not unduly punishing competitors who break out of their speed limit for a fraction of speed/time. The algorithm devised uses the data currently collected from the RallySafe unit in the car, and is provided to Targa West timing and judging team in real-time, for efficient results gathering.

In all events, competition cars are fitted with a RallySafe device. The RallySafe device actively monitors the speed of the vehicle, and displays a warning when approaching the maximum speed and an alarm if limits have been exceeded. In both scenarios, data obtained from the RallySafe device is used to monitor maximum speeds.

TRCAA member concerns in managing maximum speeds in cars where the rules or vehicle specifications make fitting an electronic speed limiter unfeasible, such as Classic or some Early Modern cars, is the need to take their focus off the road to monitor speed. This is an undesirable unintended consequence and can create a dangerous situation which can increase the risk of incident.

In light of this valid concern and in order to ensure a safe environment for crews during competition, TRCAA recommends that all event organisers adopt the RallySafe Speed Limited Real Time Advantage System as used by Targa West event organisers. This removes the current "hard" limit at TARGA Australia events that has an instant time 'fine', and provides a consistent approach adopting the 'time credit system' like Targa West Events. This allows a competitor who inadvertently goes slightly over the 200kph speed limit to have a penalty applied, as any time gained is automatically added back into their stage time. It further allows crews to focus more on the road ahead rather than an over focus on sitting just under the speed limit.

Lastly, TRCAA further recommends that vehicle eligibility requirements be reviewed to ensure that an electronic speed limiting device can be fitted to all vehicles within the regulations. It is our understanding that this would involve allowing a fly by wire throttle system to be incorporated into vehicles.

2.5 Specific recommendations that enable appropriate opportunity for crews to gain experience and develop their skills in a non-competitive environment

Recommendation 16: Test days to be made available, similar to what is done in gravel rallies

Test days are a key feature of gravel rallies in Australia, through which competitors can test car set up and handling as well as giving crews an opportunity to "practice" between or immediately prior to events. Test days are a valuable source of experience for crews and provide the

[12] RallySafe Speeding Calculator: http://rallysafe.com.au/rallysafe-speeding-calculator/

opportunity to test different suspension setups, tyre options and crew dynamics which cannot be simulated in any alternative environment.

At present, the only way a tarmac rally crew can test their car set up/handling or themselves is on a track which does not simulate tarmac rally conditions. A track is a carefully manicured surface with safety features built in such as consistent surface condition, appropriate grip levels and run-off areas on corners. A tarmac rally course uses public roads, which are not constructed with track specifications in mind. These roads are often in country areas and contain changing surface and grip conditions, bumps / crests / dips and in some instances limited run off areas. In part, this is the challenge of tarmac rallying – driving as fast as safely possible on a closed section of public road. A test day at a track can provide some level of experience in car handling and crew performance. However, it is not a substitute for a test day on a real tarmac stage. To a tarmac competitor, testing on circuit is akin to a gravel competitor testing on a football field

TRCAA recommends that Motorsport Australia work with event organisers to develop a format through which roads can be closed for testing purposes in the same way that forestry roads are closed for gravel rally test days.

This will allow crews to gain invaluable experience in real life situations across a range of conditions so they can learn, experience a variety of conditions and develop their skills in tarmac rallying. It also avoids events being the first time a driver has been at speed in a new car and will go some ways to reducing the possibility of incidents resulting from inexperience.

Test days can also be used to help crews experience what progression from one level of competition to the next would be like in a smaller format than a multi-day rally, so they can assess their level of ability to compete safely at that higher level of competition and also enable event organisers to assess crew capability to compete in certain level of competition.

Recommendation 17: Ensure the use of Minimum Times allows for a realistic warm up for crews before progressing to full competitive stages

TRCAA member feedback is that the current TARGA Australia approach to the minimum time on the first stage of the rally is not effective in providing a realistic warm up at a stage start.

Due to the complexities around road closures, test days are currently not provided for TARGA Australia tarmac rallies. As it is not possible to test the car or crew in the lead up to a tarmac rally event, it is important for the crews to 'settle in' and 'practice' in realistic circumstances and stages. Following the death of John Mansell in 2013, TARGA Australia implemented a Minimum Time Shakedown Stage on the first stage of a Targa event which is excluded from results and provides a chance for crews to warm into the competitive sections.

Although well intended, the execution appears to not have necessarily achieved its intended objective with the minimum time allowing a "warm-up stage" to be used that may not otherwise be deemed suitable or not be reflective of the event's other stages. For example, TS1 – Greenhill at Targa Great Barrier Reef is a mostly flat open stage with very few corners which is not reflective of the rest of the rally stages. At Targa High Country in 2021 and 2022, TS1 Mirrimbah was extended to commence at the top of the Mount Buller ascent which means crews first stage is in a high-risk part of the course and has seen several incidents occur as a result of crews being "cold" at the top of the stage. At the 2022 Targa Tasmania event, TS1 – Hillwood was a stage which was very bumpy and not reflective of general conditions to come in the event.

The TS1 "minimum time" often requires competitors to travel at a speed more akin to the regular speed limit than their normal competition speed. The speeds required to not breach the

Minimum Time are generally too low and adherence does not allow crews to 'warm' into the event. As example, TS1 – Hillwood at Targa Tasmania in 2022 was 3.57km long with a minimum time of 2:00 minutes. To achieve the minimum time, an average speed of around 107 kph was required. In reality, crews started out at a reasonable speed and then had to slow excessively to ensure they did not go under the minimum time and incur a penalty at the end of the stage. This is largely a result of the combination of the fast nature of the Hillwood stage and its short length.

TRCAA agrees that a shakedown stage at the start of the event is a good way to allow crews to settle into the event without the competitive pressure for the first stage. Where a minimum time shakedown stage is used as the first stage of an event, this stage should be reflective of the general nature of the stages to come and be of sufficient length with the minimum time set at a reasonable level so as to require some level of attention without being at full competition speed. Even experienced Competitors appreciate time to practice without the stopwatch running but TRCAA member feedback is that the current minimum time approach does not actually provide meaningful practice.

TRCAA notes that the proposed 2022 Targa South West event, that was scheduled to run on 11 June 2022 had introduced a Shakedown stage on the day before the event using the Pump Hill stage "for those who wish to get a bit of seat time before the rally at a cost of $100 for 4 runs[13]".

TRCAA encourages all event organisers of tarmac rallies in Australia to consider adopting the approach of Targa South West in offering a shakedown stage on the day before the event as an opportunity for testing.

Recommendation 18: Standardise use of a 165km speed limited category to all tarmac events as a stepping stone to full outright competition

Targa West events have a progressive approach to speed levels within the competition, providing both a 130 kph and 165 kph speed restricted category as well as an open Competition category which has a 200 kph maximum speed.

TRCAA recommends that this progressive approach to increased speeds be introduced to all tarmac rallies run in Australia as a way of assisting crews to gain experience at progressively faster speeds before moving into a higher category. TRCAA further suggests that a competitor should compete in a minimum of at least 2 events at each progressive speed level in order to gain sufficient experience before moving to the next higher speed category.

Where a competitor steps up from the current 130 kph and 200 kph speed limit category at TARGA Australia and Adelaide Rally events, this represents a very significant 54% increase in the maximum speed permitted for the crew. The 165 kph category provides a stepped approach to competing at speed. The step from 130 kph to 165 kph categories is a 27% increase in maximum speed travelled. The step from 165 kph to 200 kph category is 21% increase in maximum speed travelled. Increasing through these two levels before being able to compete in the full competition category allows for crews to gain experience across a range of stages at a higher speed at a more modest increased maximum than a move from 130 kph to 200 kph allows. Introduction of a uniform approach to competitive categories will assist competitors who compete in events across different states, in addition to bringing a uniform approach to the gaining of experience at speed by competitors.

[13] 2022 Make Smoking History Targa South West, Supplementary Regulations, Page 2

Recommendation 19: Crews, whether they choose to use the event road book or stage notes, should be provided education on the risks and responsibilities of each option.

TRCAA understands that there are different views on the use of commercially available stage notes by competitors in tarmac rallies in Australia. In formulating its position, TRCAA expresses no view on the appropriateness of commercially available stage notes in Australia and these comments should not be taken to constitute such. Tarmac rallies, particularly TARGA Australia events are multi-day events which have limited use of the same stages. Further, many stages are long, upwards of 20km to 30km or more in length. TRCAA also understands that some gravel event competitors believe that stage notes should not be used unless the crew writes their own.

Purchased stage notes can provide tarmac rally competitors with a reliable source of stage information, including the identification of known black spots. Stage notes that include both obvious and hidden hazards are required for crews to maintain safety. It takes significant time and knowledge to prepare stage notes to an appropriate standard, which may not be realistic for all competitors to undertake particularly for an event the length of TARGA Tasmania.

TRCAA is also aware of the school of thought that the use of commercially available stage notes allows some crews to compete with more confidence than they would otherwise have with only a road book, potentially a 'false confidence' in their ability leading them to travel at higher speeds than they would in a 'blind' rally based on road book only. However, it is our position that the use of stage notes allows crews to have a starting point, with pre-identified hazards already outlined, for them to finesse and add their own nuances during reconnaissance. In contrast, inexperienced competitors may lack the assessment skills required to safely document the road, leading to increased risk through 'false confidence' in the accuracy and consistency of the notes they have prepared.

At present, there is no industry-wide process to ensure that competitors/crews understand the construct and meaning of stage notes, whether purchased or written. Training is however offered to all customers of Smoothline (the most prominent stage note supplier). TRCAA recommends that crews are required to demonstrate their level of understanding in how to read and interpret stage notes through the completion of a stage notes training session provided by either the event organiser or stage note provider at the competitor/crew's cost. TRCAA is of the view that education around the use of stage notes will further enhance competitor safety (particularly for those choosing to prepare their own), and that limiting use to certain competitors only or banning use of purchased Stage Notes presents an increased risk of danger. Tarmac rally road books are not of the level of 'blind' gravel rally road books.

Further, tarmac rally road books would require a significant improvement by event organisers, particularly in the area of hazard identification, if crews were to be able to safely complete the course with them only. For example, in the 2022 TARGA Tasmania Road Book, the 52.75km Mt Arrowsmith stage contained 25 tulips in total: approximately 1 tulip per 2 kilometres of the stage. In comparison, one commercially available stage notes had 36 pages of instructions for the same stage.

3. Eligibility of drivers (and co-drivers) for the event

3.1 Introduction

The primary safety devices in a rally car are the driver and co-driver. We believe that well trained, experienced drivers and co-drivers minimise the risks associated with tarmac rallies and would set the tone for a culture of safety and enjoyment of the sport as a priority. Should some or all of these recommendations be implemented, TRCAA would welcome the opportunity to expand these concepts and to aid with implementation via Motorsport Australia.

3.2 Specific recommendations regarding licensing

Presently, a Motorsport Australia Rally Licence can be obtained quite easily, with virtually no pre-qualification required. In reviewing factors that could have an impact on crew safety, we are of the view that a structured licencing system should be strongly considered; one that requires competitors to build incident-free experience to progress through various levels of competition. Such a system would ensure novice competitors are unable to enter outright competition or compete in a vehicle more suitable for drivers with a higher experience level. A requirement to avoid incidents in order to progress could conceivably assist in moulding competitors' mindset and attitude toward competition. We consider the development of a progressive licencing system that rewards a somewhat conservative approach as a vital first step toward reinforcing a culture of safety.

Recommendation 20: A Tarmac Rally specific license be developed

TRRCA recommends that a Tarmac Rally specific licence be developed that:

1. Requires regular medical checks, consistent with circuit competition licences;
2. Requires completion of a tarmac-specific education package;
3. Denotes the level of competition that may be entered by the licence holder, based initially on their age and level of experience in other forms of motorsport and then through a points system which rewards successful completion of tarmac rallies without any major incident;
4. Denotes the level of competition vehicle they are qualified to compete in, again based on an event-by-event points system that rewards consistency over speed;
5. Can see competitors relegated to lower levels of competition in the event of regulatory breaches or significant incidents, using a demerit point approach;
6. Initially requires the use of an in-car camera system with intercom connection, to allow review by a driving standards official; and
7. Ongoing monitoring of event performance through review by a driving standards official.

3.3 Specific recommendations regarding training

Tarmac Rally requires a very different mindset and skill set to other forms of motorsport, with high-level performance generally only being achieved through extensive competitive experience and a cohesive crew dynamic. Recognising that many first-time Tarmac Rally competitors arrive with an established base of experience in circuit racing, club sprints and hill Climbs, education around the different approach required for safe participation in Tarmac Rally is vital.

Establishing a culture of safety amongst competitors is of the utmost priority, in conjunction ensuring they are aware of the risks and responsibilities involved in Tarmac Rally competition. A structured training and mentoring program would help ensure both new and existing

competitors are well versed in the considerations around personal safety in the theatre of Tarmac Rally.

Recommendation 21: Development of a mentoring scheme

TRRCA recommends that consideration be given to development of a mentoring scheme whereby new competitors are partnered with an experienced Tarmac Rally driver or navigator as appropriate.

We have knowledge of mentoring that currently exists such as recommended however, this is not systematic nor structured in terms of content and guidance addressed. Current mentoring covers a wide range of areas and depends on the personalities and experience of the people involved. TRCAA recommends a formalised approach which is made available to all new competitors as well as competitors who are progressing through speed limited classes into open competition and different vehicle specifications.

Topics that are covered can include a range of the following:

- Vehicle related matters including technical specification understanding and vehicle suitability, model specific configuration, car preparation, log book processes and event scrutineering;
- Event logistics such as getting to and from an event, trailer management, refuelling, tyre and servicing arrangements, service crew considerations and accommodation;
- Reconnaissance considerations such as the purpose of recce, how to approach recce and what to do during it, recce planning and timing, what to do post recce prior to the event;
- Known Black Spots and hazards, and awareness of some of the hidden risks such as gravel on the road, standing water, bumps at high speed, sunlight and varying grip levels under hot, cold or wet conditions;
- How to use the road book, adherence to route instructions, late time and general running of the event;
- General crew attitude and realistic goal setting (ie: to finish first you must first finish);
- How to build a constructive driver and co-driver dynamic, including communication, how to handle challenge situations and how to enjoy the event; and
- Being a sounding board during the event along with the provision of visible support, checking in to allow for clarification of any issues raised and encouragement.

Recommendation 22: Development of structured and comprehensive training course for Tarmac Rally competitors

The development of a structured and comprehensive training course for Tarmac Rally competitors be considered, comprising either an in-person training course and/or a video course covering topics such as:

1. Specific requirements for selecting and preparing a car suitable for tarmac rallying;
2. Related vehicle regulations;
3. Safety considerations including roll cages, seats, harnesses, fire extinguishers;
4. Vehicle modifications including suspension set up, tyre selection, tyre pressure management and the impact these factors have on both performance and safety;
5. Correct fitment of Personal Protective Equipment (PPE);
6. Familiarisation with specialised rally equipment including RallySafe, road book and stage notes;
7. Event operation and safety and competitor requirements during event; and
8. Incident management, vehicle evacuation, first aid training (minimum CPR).

Recommendation 23: Expanded drivers' briefings

TRRCA recommends Tarmac Rally drivers' briefings expand the information provided on

1. On course safety;
2. On-scene incident management;
3. Basic first aid particularly CPR; and
4. Car evacuation.
5. Correct fitting and use of personal safety equipment including fire extinguisher

The ability to ask questions is an issue that members have raised, as some formats are the presentation of information only with no opportunity during the briefing for Q&A. It is understood that this may lengthen the duration of the briefing a little, with members supportive of this outcome.

3.4 Specific recommendations reducing competitive pressure during events

Recommendation 24: Remove live stage times from crews to reduce the competitive tension during an event and temptation for crews to chase times

Improvements in technology with the introduction of RallySafe have brought many safety improvements to the running of rally events in Australia and throughout the world. However, the availability of live stage times through the RallySafe App and linked Rally Results websites provides crews with information on stage times as soon as they have completed a stage and co-drivers are often observed looking at their own and other cars' times on their phone in transport stages.

The culture of rally competitors has been raised as a potential contributor of increased incidents over recent years, with some citing that Targa has lost its heritage of being a spirited drive and test of car and crew, to being a highly competitive event. The ability to have real time live timing data contributes to this increase in competitiveness amongst some crews. TRCAA notes that highly competitive crews can be heard at lunch stops claiming that they will gain those few lost seconds back on the afternoon stages, with crews pushing harder than perhaps they might if they were unaware of the timing results during the day.

In order to reduce the competitive tension and temptation for crews to chase times during the day TRCAA recommends that all live timing be disabled during the day initiall, and results released once all cars have finished the final competitive stage for the day.

This has a twofold effect in our view. Firstly, it sends a strong signal to the competitive field that stage times are not to be chased during the day. Secondly, it allows for the event to return to its heritage of the spirited drive and test of car and crew in a competitive environment but without the pressure that the availability of live timing creates. If the rate of incidents reduces, re-introduction of live timing could be phased in with strict attitudinal observance in place where competitors who are observed adopting a highly competitive approach having their access to this information removed again.

It has been proposed that some competitors may at times feel undue competition pressure, perhaps leading to a momentary decision to drive outside their skillset. Any decision to chase times instead of focussing on the safe completion of each competition stage may in turn lead to an incident. Historically, stage times were not available until the end of the day's competition, although more recently modern technology has made stage times instantly accessible. It could be argued that for a small number of teams the constant availability and monitoring of results

could compound a pre-existing sense of pressure, luring them into attempting to find some extra seconds on the next stage at the expense of personal safety. It is possible that returning to a system where results are published daily, will reduce some of the sense of pressure thereby empowering them to make more rational choices.

TRCAA recommends that a trial be considered, with live results suspended until after the day's competition.

3.5 Specific recommendation that test days to be made available, similar to gravel rallies

Recommendation 25: Test days be made available, similar to gravel rallies

Highlighted in recommendation 16 above, testing is also an important part of improving crew skills in addition to how the event is run.

Testing and practice have long been an established part of motorsport in all forms, including gravel rally. Testing provides an opportunity for crews to safely evaluate and develop car setup and handling characteristics as well as their own skills away from the competition environment. At present there is little or no opportunity to effectively test a Tarmac Rally Car in an environment that mimics the competitive environment.

Aside from the benefits to the crew, facilitating testing could also give officials an opportunity to evaluate the driving ability of crews, in particular those with limited competition experience.

TRCAA recommends that Motorsport Australia work with event organisers to develop a format through which roads can be closed for testing purposes, in the same way that forestry roads are closed for gravel rally test days. This could take the format of a hill-climb style stage on a closed public road. This could also provide a valuable tool for assessing new competitors, and for them to gain experience in rally conditions.

In the same way that forestry roads are currently closed for gravel rally test days, TRCAA requests that Motorsport Australia work with event organisers to develop a format allowing regular Tarmac Rally test days to occur, both between and in the leadup to events.

3.6 Specific recommendation that a confidential reporting system be established

Recommendation 26: A confidential reporting system be established for competitors to raise serious concerns

Motorsport Australia's Whistleblower Policy[14] has the purpose of encouraging the reporting of serious conduct or wrongdoing that is of legitimate concern to Motorsport Australia (Reportable Conduct), by providing a convenient and safe reporting mechanism that ensures protection for anyone who makes a disclosure.

Included in Reportable Conduct are behaviours that[15]:

[14] Motorsport Australia, Whistleblower Policy, May 2022, Page 1

[15] Motorsport Australia, Whistleblower Policy, May 2022, Page 3-4 abridged

(ix) are grossly negligent;

(x) pose a serious risk to the health and safety of any person at the workplace including any risk of discrimination, harassment of bullying;

(xi) involves a serious risk to public health or safety; or

(xiv) Any conduct which may cause loss to Motorsport Australia or be otherwise detrimental to the interests of Motorsport Australia or any of its employees

Although the Whistleblower policy exists, TRCAA notes competitors may not be aware of its existence and so feel there is no safe and confidential mechanism for participants to report or raise issues that may implicate another competitor, an official or the rally organiser.

We recommend a TRCAA committee member or nominee appoint a person for each event who participants can speak, email or text with concerns. A TRCAA sub-committee would then decide how to appropriately deal with the information, and where it is determined that this is Reportable Conduct will notify the appropriate Motorsport Australia personnel as per this Whistleblower Policy. TRCAA will provide information to assist in any inquiry or investigation of the conduct disclosed.

4. Eligibility of vehicles

4.1 Introduction: Vehicle Safety and Preparedness

In considering vehicle safety and occupant protection, TRCAA recommends that certain unique features of tarmac rallying inform the minimum requirements for passive and active occupant protection. These unique features include the cornering speeds and g-forces achievable on a tarmac surface, the prevalence of side impact incidents, and the variable nature of the road surface (roughness, grip) which can create unpredictability in vehicle performance.

It is unarguable that vehicle type and setup is also a critical factor, however specifying what is optimal is far more difficult that identifying what is not suitable. TRCAA's recommendations do not seek to identify specific vehicles that are not suitable for Tarmac rallying. However, these recommendations work towards ensuring vehicles are equipped with occupant protection appropriate for the nature of Tarmac Rally incidents and call for more thoughtful vehicle pre-event scrutiny to facilitate vehicles being prepared appropriately. TRCAA recommendations are aimed at achieving the following:

- Reduced frequency of off-Stage incidents; and
- Reduced injuries because of off-Stage incidents.

Undoubtedly, the technical specification of vehicles and the allowed levels of modification away from manufacturer standard can factor into the suitability of vehicles and potentially for an increase in the likelihood of an incident. Over the years we have seen frequent variation of technical constraints, with regulations being loosened and tightened, which we acknowledge has to some degree been called for by competitors.

For the purpose of safety, TRCAA considers it important to maintain enforcement of technical specifications in areas affecting both performance and standard of preparation. This will ensure that a proliferation of modifications beyond the intended scope of the regulations is not allowed to occur.

The recommendations cover vehicle safety and occupant protection including:

1. Tyres;
2. Vehicle Safety;
3. Occupant Protection; and
4. Pre-Event Preparedness and Suitability.

4.2 Motorsport Australia framework for vehicle eligibility

In seeking to prepare our response, TRCAA has reviewed Motorsport Australia's relevant Vehicle Eligibility and Technical Regulations in order to link our recommendations to existing Motorsport Australia policies and frameworks, including the 2022 Motorsport Australia Manual[16].

i) Rally / Road Appendix: Tarmac rally standing regulations (TRSR)[17] – this provides the regulation framework to the conduct of tarmac rallying in Australia.

ii) Tarmac rally technical regulations (TRTR)[18] – this provides the technical regulations covering vehicle eligibility and specifications for both classic and modern vehicles.

These policies and frameworks are integral to vehicle specifications and safety.

[16] https://www.motorsport.org.au/regulations/manual

[17] Motorsport Australia Manual, Rally/Road Appendix, Tarmac rally standing regulations, 9 May 2022

[18] Motorsport Australia Manual, Rally / Road, Tarmac Technical Regulations

4.3 Specific recommendations regarding Tyres

Recommendation 27: Retain limit of ten tyres, remove requirement that a number of them are designated "wets"

Tyre wear, tread depth and appropriateness of compound are safety issues. Traditionally Targa and Motorsport Australia have placed highly restrictive limits on the number of tyres that can be used at each event, with the stated intention of reducing speed in order to increase safety. We consider that there are a number of unintended consequences from these limitations that outweigh any safety benefit. These include:

- Given the variable nature of the weather over a full week, tightly limiting tyre numbers forces competitors to race on tyres that may be far from optimum for the prevailing conditions for extended periods.
- Choosing a tyre that will definitely remain legal throughout a completely dry event may end up having compromised grip levels in wet weather.
- Choosing a tyre that will provide good adhesion in wet weather may wear excessively if the weather is dry for several days.

While the frequency of weather variations means there will always be times when a competitor is on a less than ideal tyre, it seems that making them commit to one type of tyre for the duration of an event is more likely to increase risk.

Allowing extra tyres that must be of a certain type (ie: "Wet") further compromises safety once that type is worn to an unsafe level. Prescribing tyre type creates issues of mixing different compounds, rim width difference means that choice of compounds needs to be made ahead of the event. It also restricts a team that has a good understanding of what tyres suit their vehicle or their driving style from using those “best suited” tyres.

It can be argued that an excessive supply of tyres could encourage overdriving, or result in an ‘arms race’: this must be balanced in achieving safety outcomes. Conversely, too few tyres (six) does not guarantee no overdriving. Restrictions on the number of alternate compounds and patterns creates issues for teams deciding when to swap to different tyres.

By retaining a limit of ten tyres for Targa Tasmania (perhaps fewer for TGBR and THC), but dropping the requirement for a number of them the be ‘wets’ allows for cars with differential rim widths to have two sets of fronts, two rears and a spare for each. This will still require teams to undertake some level of strategic tyre management.

The recommendation will need to be implemented with strict and consistent scrutiny at Start of Day and Lunch Breaks to ensure tread depths are maintained. TRCAA support increasing levels of time penalties should additional types be required and that frequent scrutiny occur before the commencement of each half day’s competition.

The Desired Outcome is that we can remove unsafe / worn out tyres from being a factor in incidents.

Recommendation 28: Tyre choice (pattern, compound and type) to be free (other than being road legal)

Prescribing wet weather specific tyres may have perverse outcomes on driver behaviour, and has not demonstrated any improvement in incidents.

Inexperienced teams may develop an expectation that a "wet weather" tyres make them invincible and immune to hazard, and or wear them out then revert to less suitable compounds.

Removing the limitation on the type of tyres that may be used (other than being legal for road use) and NOT directing that a certain number of tyres must be wet type places tyre choice more appropriately back onto the Team – they are best equipped to understand their vehicle and their driving style. TRCAA notes that this will need to be incorporated into any educational program for driver/team preparedness, culture and attitude.

The Desired Outcome is that teams will become more involved in thinking through tyre choice and achieve an understanding of the compromises across type (road vs competition) and compound (wet vs dry)

4.4 Specific recommendations regarding Vehicle Safety

Recommendation 29: Require Full (Type 3) Roll Over Protections Systems (ROPS) for all Timed Competition vehicles (excl TSD). Roll Cages to be of "tarmac rally" specification

Many ROPS in currently competing cars are insufficient for Tarmac rally in areas of side impact and roll over. Design is often compromised by vehicle size or shape. ROPS can be Type 3 compliant but provide insufficient side impact occupant protection.

Speed Limited Competitions are only required to have half-cages (Type 2) even though serious incidents are very prevalent at speeds below the posted speed limit.

It is evident that car preparation (ROPS design) does not always appropriately consider the nature of Tarmac Rallying. Point-loading side impacts are very prevalent in Tarmac Rallying incidents. Certain vehicle designs preclude the fitment of appropriately designed cages with appropriate side impact protection. Speed Limited entrants (130km/h) running Type 2 (half ROPS) are not as protected as they should be: arguably they are pressing harder through corners and up to the capped speed limit as they are unable to make up time on straights.

It is recommended that MA investigate a new standard Best Practice for Tarmac Rally ROPS in conjunction with TRCAA. Furthermore, TRCAA recommends that all Timed Competition vehicles should have full roll cages (Type 3) with suitable side-impact protection. Older vehicles' ROPS should be reviewed and where necessary be brought up to a new increased Tarmac Rally level cage.

The Desired Outcome is that some vehicles' Roll Cages may not be able to meet the Tarmac specification, and therefore unable to compete (Those vehicles could run in TSD or the Tour). Remaining vehicles will have higher level of side impact protection than is commonplace currently, and the speed at which impacts cause high injury is raised. All Timed Competition entrants will have the same level of protection.

Recommendation 30: Vehicle Safety: ABS to be allowed for all vehicle categories

Technology exists to retrofit ABS, but is not allowed under current technical regulations.

Momentary brake lock-up from lapses in driver concentration or unexpected road condition can result in off-Stage incidents.

TRCAA recommends that ABS be permitted for all vehicle categories. The Desired Outcome is that there will be an added margin of safety for when a driver's concentration lapses or road conditions change unexpectedly, and a reduced incidence of brake-lock-up related incidents.

Recommendation 31: Vehicle safety: Energy Absorbing Foam filled doors to be highly recommended and modifications required for fitment be allowed

The development of Energy Absorbing Foam has brought one of the largest increases in motorsport occupant safety in recent years. The use of Door Foam is mandated in most high-level forms of motorsport. Door cavities offer an opportunity for additional side impact protection through filling with Energy Absorbing Foam, but require removal of internal window mechanisms, and the replacement of glass windows with Perspex – this is not permitted under current Regulations.

Intrusions to the vehicle cabin during incidents are therefore not as well protected against as they might be with foam filled door cavities.

TRCAA recommend that foam filled door cavities are to be highly recommended, and that dispensation be allowed for fitment of Perspex side windows (or a material that won't impede vehicle egress in an emergency)

The Desired Outcome is that Foam filled Door cavities will add significantly to side impact occupant protection, and that the speed at which impacts cause high injury is raised.

Recommendation 32: Development of a process to ensure vehicle capability and crew capability are not grossly mis-matched

The recent development and relative availability of extreme performance supercars has seen a number of these vehicles entered in Australian Tarmac Rallies. Targa Tasmania was conceived with the stated intent of putting such exotic sports cars in the public view, set against the backdrop of the Tasmanian scenery. Fortunately, in the 30 years that have passed since the first Targa Tasmania, we have seen improvements in vehicle safety that parallel the performance gains, although TRCAA is acutely aware that relying on vehicle technology in isolation is not an acceptable safety strategy.

Vehicles of this specification display incredible performance and handling characteristics (even at lower speeds) but safely operating them in the variable conditions experienced in the Tarmac Rally environment demands a skillset far beyond what the average driver can be assumed to possess. As we have acknowledged in article 3.2 of this submission, at the present moment there is very little control exerted over who is able to enter such vehicles. Essentially the water test is the ability to afford the purchase price.

TRCAA recommends that a process be developed to ensure drivers are required to qualify before being allowed to enter an extreme-performance vehicle in competition. Development of a licencing system that grades drivers based on their past safety record would ensure only the most suitable drivers can compete in these vehicles, providing significant mitigation against the risk of having novice drivers competing in vehicles that are potentially well beyond their ability to safely manage in all conditions.

TRCAA would be very happy to contribute to a Motorsport Australia led sub-committee charged with developing the crew/car matching requirements.

4.5 Specific recommendations regarding Occupant Protection

Recommendation 33: Winged Seats or Simpson devices required for all Timed Competition vehicles (excl TSD)

Tarmac Rally off-Stage incidents typically involve side impacts. Occupant restraints such as HANS devices work well for frontal impacts.

In an off-Stage incident, if occupants' lateral head movements are not constrained, low speed impacts result in a high probability of injury.

TRCAA recommends that all competition teams are required to use either Winged Seats or Simpson devices in their vehicles.

The Desired Outcome is that winged seats and/or Simpson devices will better contain occupants' head movements and add to side impact protection. The speed at which impacts cause high injury is raised.

Recommendation 34: Removable Steering Wheels highly recommended

ROPS design and winged seats constrain easy egress from the vehicle in emergency situations, or where co-driver needs to extract an unconscious driver.

In the event of an incident where egress through doors is not possible, occupant's delay or inability to get out of car increases likelihood of secondary injury (fire, water)

TRCAA recommends that all open competition vehicles have quick-release steering wheels to make egress easier.

The Desired Outcome is that in times of emergency, an occupant's egress will not be impeded by the steering wheel. Where course delays occur, teams will be able to more easily get out of the vehicle to sit in shade or otherwise rest.

Recommendation 35: Vehicle "Fit" - Placement and position of Team (Driver and Co-Driver) to be assessed to ensure sufficient space between body panels/roof

It is not uncommon that Drivers and Co-Drivers are unable to be contained within the perimeter of the vehicles' roll cage, either because of roll cage design, or overall vehicle size is too small, or because of occupant height or weight. In the event of an incident, intrusion into the cabin is more likely to cause injuries to the occupants.

TRCAA recommends that teams demonstrate that when seated and belted they are within the perimeter of the Roll Cage with a prescribed safety margin between the occupant and the surrounding structure.

The Desired Outcome is that vehicles and their occupants will "fit", reducing the likelihood of secondary injury in an incident.

4.6 Specific recommendations regarding Pre-Event Preparedness and Suitability

Recommendation 35: Pre-event Scrutiny

Scrutineering the day before an event leaves minimal time to rectify technical compliance or Safety Equipment issues or shortfalls (especially occupant fit). It also limits the opportunity to pass objective judgment on the suitability of a vehicle or its setup.

When issues are identified at Scrutineering, the subsequent modifications required to address non-compliance are rushed, or not undertaken in as thorough a way as they should be (ie: seat brackets, seat belt mounts). Rectifying Technical non-compliances that impact vehicle performance creates issues on Stage.

TRCAA recommends that all vehicles undergo a thorough pre-event scrutiny at least four weeks ahead of an event. Scrutiny at the event to be primarily checking Safety Equipment is present, and that the vehicle is road worthy, and spot checks for Technical Compliance.

The Desired Outcome is that crews are as safely contained within their Roll Cages and seats as can be, and that vehicle safety equipment is appropriate and compliant. "Last minute" vehicle preparation will be eliminated. Robust Technical Compliance results in better and fairer competition.

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6. Abbreviations

ABS	Anti-lock Braking Systems
App	Application
CPR	Cardiopulmonary Resuscitation
ESC	Electronic Stability Control
Kph	Kilometres per hour
MA	Motorsport Australia
PPE	Personal Protective Equipment
Rally HQ	Rally Headquarters
ROPS	Roll Over Protection Systems
RSZ	Restricted Speed Zone
RTZ	Restricted Time Zone
TARGA	TARGA Australia
TRCAA	Tarmac Rally Competitors Association of Australia Incorporated
TS	Targa Stage
TSD	Time Speed Distance competitive category

TARGA

TARGA SUMMARY OF DISCUSSIONS WITH REVIEW PANEL
25 August 2022

Introduction

We thank the review panel for taking the time to meet with us in Hobart and listening to our thoughts and ideas, combined with being open and frank with us on their current thinking in relation to possible future changes for tarmac rallying in Australia.

Below is a summary of our discussions and our thoughts on safety improvements, covering the key points including which key items TARGA can confirm at this stage that we support the implementation of for 2023 and beyond;

1. Road Books & Reconnaissance Notes

It was asked if we could merge the two documents into a single road book document to be checked by the appointed competition checker at least two months before each event and released at least one month before each event.

TARGA agrees that this can be implemented but would look to release this road book at least three months before each event to ensure the historical nature of the recce notes being used is maintained in encouraging pre-event visitation. This version would be released electronically, with the traditional final printed version of the road book provided at event documentation.

2. Pre-event Scrutineering

TARGA agrees that mandatory pre-event scrutineering needs to be re-introduced and carried out in each capital city closest to the entrant's home address at least one month before each TARGA event. This pre-event check should be focused completely on the safety aspects of the vehicle, not necessarily its technical eligibility, set up or whether it is `fit for purpose'. Adding these requirements makes the area of pre-event scrutiny over complicated and ensures that it will be difficult to implement and manage, due to a lack of expertise and personnel skilled enough to make these determinations on such a wide variety of vehicles.

We feel that this over-complication has prevented Motorsport Australia from implementing this recommendation from last year.

By focusing on crew safety and the vehicle cockpit will achieve the key outcomes desired by the review panel and TARGA. TARGA could manage this process itself, as it did many years ago.

3. Winged Race Seats

TARGA agrees that the mandatory fitment of FIA approved winged race seats should apply to ALL competition vehicles, regardless of the competition. It instantly provides a large improvement in competitor safety, regardless of the speed being travelled at the point of impact.

4. Cockpit Head Room

TARGA agrees that the application and enforcement of a minimum space parameter around the helmet area should be implemented and applied as part of the pre-event scrutiny check and on event scrutiny check procedure.

5. Roll Cage Fitment

TARGA agrees that all grandfather and exemption clauses currently in place for tarmac rally vehicles should be removed and ALL competition vehicles (except those in TSD Trophy) should have fitted, and maintained in the future, the current standard for full roll cages, as determined by Motorsport Australia.

6. Energy Absorbing Foam

TARGA agrees that the use of energy absorbing foam in doors should be mandated in ALL competition vehicles (except those in TSD Trophy).

7. ABS Braking Systems

TARGA supports the highly recommended use of aftermarket ABS braking systems being fitted to all competition vehicles and is willing to make the necessary amendments to its technical regulations to accommodate this change.

8. Base Times

TARGA agrees the use of the base time system should be re-introduced with the addition of penalties being applied to crews who go under the set base time to provide another mechanism to manage stages that may be identified as having dangerous sections of road within them, which will in turn, ensure the integrity of the TARGA event is maintained.

9. Black Spot Identification

TARGA supports the broad principle of black spot identification and a suitable standardised measure and mechanism to manage these locations.

10. Competition Checkers

TARGA agrees that the appointment of this crew should be a current experienced full competition crew and they should retain the right to enter the event in which they are the competition checkers.

11. 165 km/h Competition

TARGA doesn’t support the introduction of this style of competition. It only adds another `everybody wins a prize’ element and encourages over-driving in what will be generally inexperienced competitors, whilst having to still manage a pre-determined speed.

12. Tyres

TARGA agrees with the TRCAA that the complicated introduction of ten tyres needs to be reviewed. It doesn't agree that it should simply be changed to ten road-legal tyres. TARGA requests the review panel consider one important factor when discussing what is the right number of tyres for TARGA Tasmania and that is the road surface itself. All roads in Tasmania are laid with a surface designed to cope with extreme cold and wet weather. R-Spec tyres deliver the exact opposite to this and heat the road up quickly in short periods of time.

Our previous experience has seen that this tends to lead to road surface de-lamination, leaving the road very slippery for the vehicles at the back, the fastest vehicles in the field. This leaves us little choice but to downgrade the stage and even when this occurs, the road will still leave damage to any car which drives on it. The other impact of this occurrence is cost, massive cost in some instances, to then repair these roads for the road owner.

Six tyres were introduced in 2014 as the best compromise, after the use of eight tyres historically had seen much damage caused to roads along with dramatic increases in average speeds. Prior to this, TARGA Tasmania actually only allowed four tyres for the first 18 events! Given the smaller competition fields taking part these days combined with a number of these vehicles competing at 130 km/h or less, we feel that eight road-legal R-Spec tyres is the best outcome for the future in giving competitors the more tyres they seek, whilst allowing us to effectively manage the prevailing road conditions without causing damage in normal use.

It will also reduce the chances of large increases in average speeds due to the removal of any need at all to conserve tyre wear, even at TARGA Tasmania, if ten tyres were implemented.

It should also be noted that at no time has TARGA ever prevented competitors from using more than the maximum allocated tyres. It simply applies a time penalty to the use of extra tyres in fairness to all competitors. This again touches on the culture challenges, when current competitors will generally choose to risk their own safety instead of taking a time penalty for fitting a new tyre. There have been many instances over the years where competitors, including Jim Richards and Peter Brock, took extra tyres and received the penalty, believing this was in their best interest. This has not happened in recent years unless applied by the scrutineering team on the discovery of a badly worn tyre/s.

13. Classic GT Competition

TARGA agrees that the allowed modifications currently in place for this competition are beyond acceptable standards for the sport in 2022 and we are agreeable to the removal of this competition. TARGA will provide an opportunity for all current competitors to move back into the Classic competition under the technical regulations in place for this competition.

14. Motorsport Australia TARGA Championship

Whilst there are no firm facts to support the belief, TARGA feels that the presence of the championship has motivated competitors to compete beyond their limits by virtue of being placed higher in the championship than they ever would be in a single TARGA event on the back of competing in more events. This was the case in both the Mundy and Seymour cases, when they crashed.

It also encourages all competitors to chase points rather than TARGA plates and finishers medallions, both awarded for finishing stages, again encouraging crews to overdrive in the hunt for more points and removing any attention on the traditions of winning a TARGA plate. A quick survey of current competitors has shown that the vast majority do not know what is required to win a Platinum TARGA Plate (six successful all stages completed at TARGA Tasmania), which all but confirms their lack of interest in the long-term goals and awards that drove TARGA's success for the first 25 years.

We also feel that in the absence of any noticeable commercial gain and the heavy media focus on TARGA Tasmania, as opposed to the championship, continuing with a championship in the future presents a greater risk for unfavourable outcomes to occur than benefits it can provide.

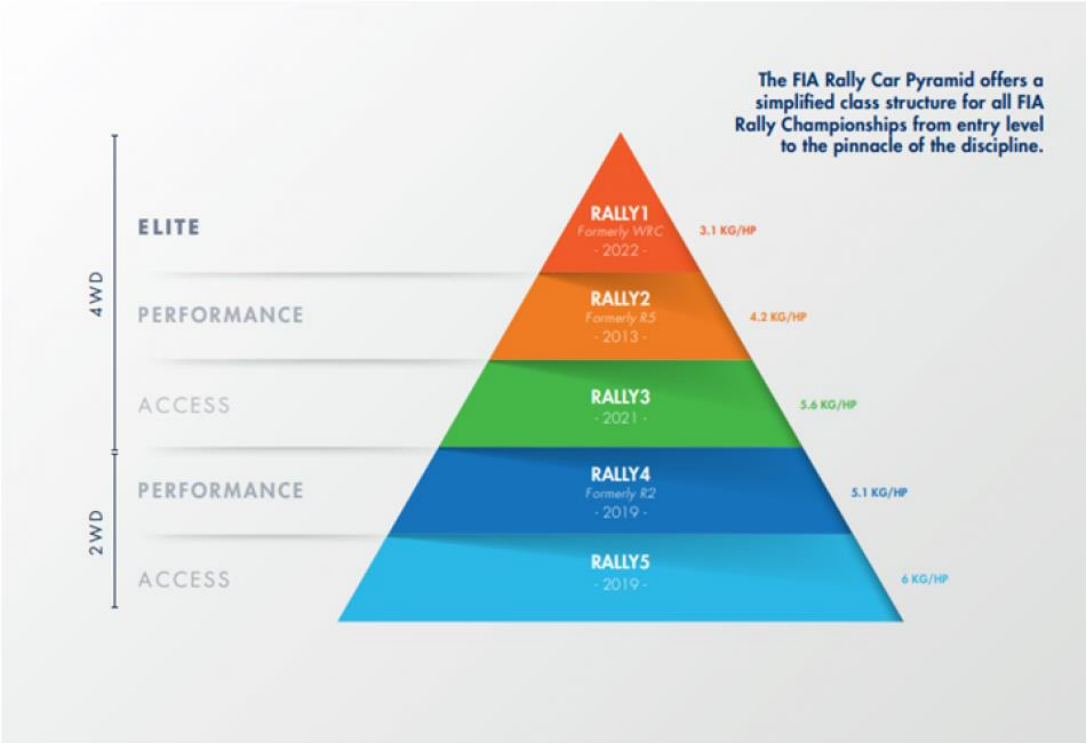
We will therefore seek to remove it from future contracts with Motorsport Australia.

15. TARGA Tour

TARGA was advised that it needed to again include all tour rules and regulations in the events sporting and supplementary regulations, to better assist it in managing the various tour groups that take part. TARGA agrees to re-implement this for all future events and manage the various tour groups directly from the Command Centre at each event.

16. Vehicle Eligibility

We appreciate the discussion and openness into the current thinking of the review panel in relation to the vehicles currently competing in TARGA events and tarmac rallying generally in Australia. We were presented with the FIA Rally pyramid, shown below, as a basis for pointing out where the current GT Outright TARGA vehicles sit within this pyramid.



We would like to note that the power to weight measure currently being used in this pyramid is just one measure with which to determine vehicle suitability for any motorsport competition. The KG/HP figures used are based on the vehicles being purpose built with roll cages and safety gear already fitted along with the vehicles having mechanical gearing fitted which automatically limits the maximum speed of the vehicles to below 200km/h, making them faster in most situations than road legal vehicles with much lower KG/HP ratings. The adding of weight for roll cages and other safety gear also increases the KG/HP rating for TARGA vehicles over and above the figures published by manufacturers.

We do agree however that in recent years, a number of new vehicles have entered TARGA events that are dramatically faster than those before them, with the most obvious area of performance improvement being available downforce, which has increased dramatically, whilst horsepower and weight have remained relatively stable.

As we touched on in our meeting, we all must remain focused on the next wave of road vehicles coming, the high-performance sports EV. It is only the massive weight of these vehicles currently that is holding them back from a performance perspective, along with a lack of fast charging infrastructure in regional areas. The Tasmanian Government is very focused on this area and is regularly seeking our input on where to place fast charging on the island to ensure EV's can play a key role in future TARGA Tasmania events.

Our point here is that the FIA Rally Pyramid will not present any basis for blocking the arrival of a high-performance EV, as it's KG/HP will be well within acceptable levels if this pyramid is used, whilst being faster than any of the current vehicles being looked at by the review panel. For example, a Porsche Taycan Turbo S is 3.82 KG/HP yet it's 0-100km/h time is 2.8 seconds, which matches the Porsche GT2 RS even though the Taycan is nearly 1,400kg heavier. We use this example, as we conducted a promotion with Porsche at Symmons Plains that saw both vehicles on the track together and the results were exciting, if not very concerning! The Taycan was dramatically faster out of the tight hairpin turn, the only corner on this track that can be compared to a TARGA stage.

Many years ago, in the absence of effective technical regulations, TARGA Tasmania applied a minimum 0 to 100km/h time, which was designed to keep out the world's fastest supercars and hand-built specials. In more recent times, minimum production numbers and effectively prepared technical regulations have delivered TARGA a field of exciting vehicles whilst largely not allowing the extreme to compete.

We feel the best way to manage our current vehicles along with future proofing TARGA for the arrival of EV, hybrid and hydrogen vehicles is to simply return to the measure that equals all road vehicles, regardless of power plant, weight, power or downforce and that is the measure of the manufacturer published 0 to 100km/h time.

Manufacturers are far more likely to exaggerate this time than understate it, so it still holds relevance for the current TARGA competition vehicles, which in essence remain modified road vehicles, unlike the vehicles referenced in the FIA Rally Pyramid.

On that basis, and understanding the review panels desire to address the extreme performance of some of the GT Outright vehicles, we would like to propose the following times be used as a basis to decide if a particular model of vehicle is allowed to compete in TARGA.

- All Speed Limited Competitions- 0 to 100km/h- 4.0 seconds
- Classic, Early Modern & Modern Competitions- 0 to 100km/h- 4.0 seconds
- Outright Competition- 0 to 100km/h- 3.5 seconds

These figures will address the current concerns of the review panel (see table below) with a high number of the current vehicle types being deemed ineligible in the future (shown in red), which will severely impact the commercial success of TARGA until such time as either current or new competitors purchase allowable and suitable vehicles under this new criteria.

Current Model TARGA Vehicles Built Since 2016	0 to 100km/h time in seconds		Current Model TARGA Vehicles Built Since 2016	0 to 100km/h time in seconds
Nissan R35 GT-R	2.8		Dodge Viper ACR Extreme	3.0
Porsche 911 GT3 RS	3.2		Ultima RS (TARGA Spec)	3.0
Porsche 911 GT3	3.4		Audi TT RS	3.7
Porsche 911 GT2 RS	2.8		BMW M2	4.2
Porsche 911 Carerra S	3.6		BMW M3	3.6
Porsche Cayman GT4	4.2		Subaru WRX Sti	4.4
Porsche Taycan Turbo S	2.8		Lotus Exige Sport 410	3.4
Mercedes Benz AMG GTR	3.6		Lotus Exige Sport 350	3.8
Mercedes Benz AMG A45	4.0		Lotus Evora	3.8
Chevrolet Corvette C7 & C8	2.9		**2022 WRC Car**	**3.1**

Whilst the Lotus Exige Sport 350 and Evora fit the proposed new limit, it needs to be remembered that neither car will likely be able to meet the proposed introduction of current specification full roll cage protection, winged race seats, foam insertion in doors and/or head room allowances, hence it is imperative that all four safety measures are implemented.

At the end of the day, TARGA has always had an invitational process in place for the inclusion or exclusion of vehicles, and it agrees that the Lotus vehicles, currently available, are not suitable for tarmac rallying and therefore offers the panel a commitment that it would not invite these vehicles in the future, regardless of them meeting the proposed 0-100km/h basic measure for invitation to a TARGA event.

17. EV, Hybrid & Hydrogen Vehicles

With the imminent arrival of various types of new generation, alternative energy vehicles, TARGA feels that the review panel should be proactive in recommending some basic parameters for their inclusion in future TARGA and tarmac rallying competition.

TARGA would like to propose that these vehicles only be allowed to compete in 130km/h speed-limited competition and vehicles which can record a faster 0 to 100km/h time of 4.0 seconds not be allowed to compete. Their considerable weight is of great concern to us, making them difficult to manage in an emergency along with the large mass causing considerable damage to anything it may hit.

We would suggest these basic rules should apply until the end of 2025, before a review is undertaken based on the technology of these vehicles at this time.

In being proactive about these vehicles now will assist us greatly in our various discussions with manufacturers currently well underway.

18. Licencing & Experience Levels

For reasons unbeknown to TARGA, licencing changes recommended last year have been totally ignored to date. As it is in every other form of motorsport, licencing provides a great platform to encourage competitors to gain experience, seek results, improve their skills and compete more often, in order to receive the reward of a higher-level licence. It also allows us to downgrade those who crash and not finish events and it is this area where there has never been any accountability in tarmac rallying for actions that result in crashes. The current structure used in tarmac rallying does not provide any motivation in the key areas of improvement we all seek to see in our competitors.

TARGA feels strongly that the review panel must use whatever influence it has to ensure the introduction of a tiered licencing system, to ensure many more competitors are experienced enough to take part, along with having to maintain their skills in order to continue to compete.
As a broad overview, TARGA envisions a licencing system, which is largely unchanged, but implements a Super Licence for those wishing to compete in any late model vehicle, regardless of what late model vehicles are permitted to compete in the future. Reason being is we feel that regardless of the vehicle, those who are poorly trained and prepared are more likely to crash a late model vehicle due its technological advantages enabling the vehicle to be driven at higher speeds beyond the abilities of the ill prepared.

As much of this is criteria based on performance at TARGA events, TARGA could easily implement and manage this criterion itself without the need for licencing changes but we feel that a proper independent licence higher than the current National Rally Licence covering all tarmac rallying is important to the future success and acceptance of the sport within the various stakeholders involved across the country. The information below outlines a proposed structure;

TARGA Tour- Level 2 Speed Licence remains the same as current

- 100 km/h maximum for all first-time participants and those who choose to take part in these slower versions of the TARGA Tour
- 120 km/h maximum for experienced participants who have successfully completed one TARGA Tasmania Tour without incident or penalty in the 100 km/h tour

TARGA 130 km/h Speed Limited Competitions- Licence changed from Level 2 Speed to National Rally Licence

- **TSD Trophy**- Regularity style competition for vehicles from 1946 to present. Entry level to speed limited competitions
- **Thoroughbred Trophy**- Handicap style speed-limited competition for vehicles from 1946 to 1989, aimed at rewarding the fastest experienced amateur crew regardless of vehicle and preparing competitors for the Classic competition
- **GT Sports Trophy**- Speed-limited competition for vehicles from 1990 to present, aimed at rewarding the fastest experienced amateur crew and preparing competitors for the Early Modern, Modern and Outright competitions.

VEHICLE CRITERIA

- All vehicle makes and models, in all three competitions, must not have a manufacturer published 0 to 100km/h time less than 4.0 seconds, as determined by TARGA and Motorsport Australia
- A list of ineligible vehicles will be published by TARGA in its technical regulations each year and updated, as required.

TARGA 200 km/h Full Competitions- National Rally Licence remains for the following competitions;

- **Classic**- Handicap style competition for vehicles from 1946 to 1989, aimed at rewarding the fastest experienced amateur crew regardless of vehicle
- **Early Modern**- Competition for vehicles from 1990 to 2006, aimed at rewarding the fastest experienced amateur crew
- **Modern**- Competition for vehicles from 2007 to 2015, with a year added each year thereafter, aimed at rewarding the fastest experienced amateur crew

COMPETITOR CRITERIA

- Must have successfully completed one TARGA Tasmania and two other TARGA events, without incident, or penalty, in one of the competitions listed above or, in either GT Sports or Thoroughbred Trophy in the previous five years to gain entry into the above competitions at any TARGA event.

VEHICLE CRITERIA

- All vehicle makes and models, in all three competitions, must not have a manufacturer published 0 to 100km/h time less than 4.0 seconds, as determined by TARGA and Motorsport Australia
- A list of ineligible vehicles will be published by TARGA in its technical regulations each year and updated, as required.

TARGA 200 km/h Full Competition for Outright Vehicles- TARGA Super Licence or International Rally Licence introduced for the Outright competition;

- **Outright**- Competition for vehicles from 2016 to present (rolling seven-year window), aimed at rewarding the fastest experienced semi-professional and professional crew who meet the strict criteria to compete.

COMPETITOR CRITERIA

In order to be eligible to hold a TARGA Super or International Rally Licence, drivers and co-drivers must fulfill the following criteria. No exemptions can apply beyond the driver/co-driver holding an equivalent licence in another motorsport discipline, as determined by Motorsport Australia on request from TARGA.

- Drivers only must be under 60 years of age as at 1 January each year
- Must annually pass the Motorsport Australia ECG test and physical medical assessment, as set by Motorsport Australia
- Must have successfully completed without incident, or penalty, a minimum of five TARGA events in a full competition, including two TARGA Tasmania events in the previous five years
- Must not have had more than two `did not finish' (DNF's) in TARGA events in the previous five years
- Must have had at least two top ten finishes in a TARGA full competition in the previous five years
- Must have won at least one TARGA plate for completing all stages under the set trophy time at TARGA Tasmania in the previous five years

VEHICLE CRITERIA

- All vehicle types makes and models in this competition must not be able to achieve a published 0 to 100km/h time of less than 3.5 seconds, as determined by TARGA and Motorsport Australia
- A list of ineligible vehicles will be published by TARGA in its technical regulations each year and updated, as required.

Summary and Closing

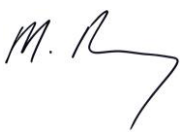
We would like to thank you again for taking the time to meet with us and your positive approach to the agreed need in implementing further changes. We hope you can see in the above document, our clear and open willingness to provide valued input for these changes.

It remains important in the viewing of data that some consistency is applied regardless of the subject at hand. We noticed in our meeting that on some subject's, data was being sort for many years (more than ten years in one case) to ascertain an outcome or a view, whilst on other subjects there was a very small snapshot of recent data presented and spoken about to support a particular view. This was particularly evident when discussing competition crash data and then at the other extreme tour crash data and speeding.

We should have noted in our meeting that the Porsche Tour crash at this years TARGA Tasmania was the first tour crash since the tour started in 2004, which resulted in an overnight hospitalisation. This is not to take away from the near tragedy, which occurred this year, but to put it into some context against a backdrop of the more than 3,500 tour vehicles who have safely taken part in TARGA over this 18-year period.

We look forward to continuing to work closely with you in the period ahead and feel free to contact me directly at anytime if you require further input or any clarification on the content provided.

Kind regards on the behalf of Matt & Hamish



Mark Perry
CEO
TARGA Australia PTY LTD

Analysis of the Removeable cage joint from the Seymour Lotus Crash Targa Tasmania.

Analysis by: Jeromy Moore, T8 Race Engineering Australia Date: 29-09-2022

1. Aim

Compare the relative strength of the bolted joints used on the failed connections versus a welded connection by FEA.

2. Summary of results

- The bolted joint failed at a similar force Assuming the bolt was a 12.9 grade bolt (A lower grade may have been used) when using the nominal dimension per the drawings provided yielding with the caveat that the weld was represented pessimistically, whilst the bolted joint mesh simplifications would have made the load slightly higher than in reality.

VERSION	VERTICAL LOAD at YIELD (N)
Welded	655
Bolted	700

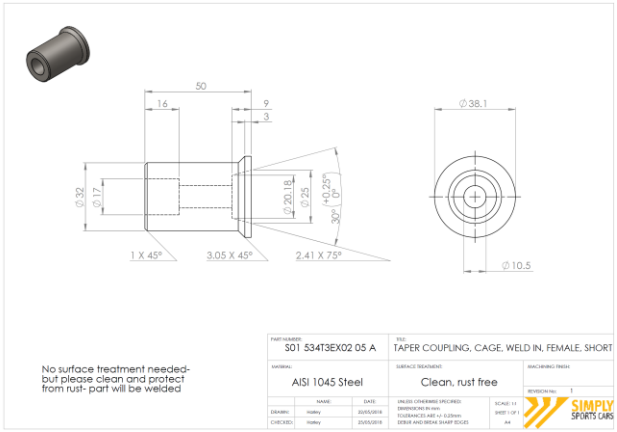
- This is comparing a single bolted joint to a single welded joint. It was noted the 2 x roof reinforcing tubes were connected with only 1 bolted joint giving the strength of those 2 tubes to be approximately half of what they would have been if they were both welded separately, or bolted separately.

- It also must be noted the joint doesn't match correctly either of the two versions permitted by the FIA or MA. See Appendix

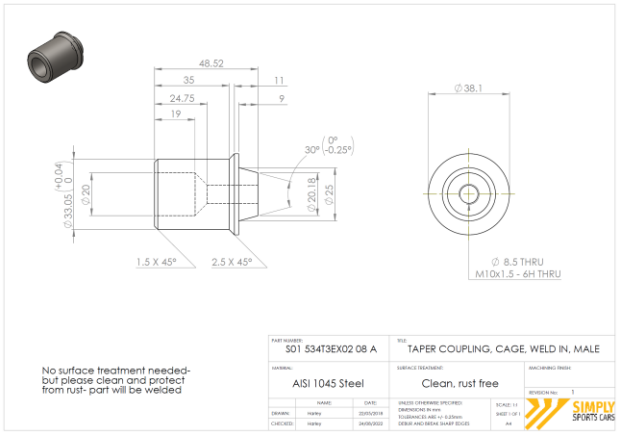
3. Analysis

Modelling the following 2D drawings in Solidworks to represent the bolted version as well as a fully welded tube we then use these models to Analyse with Ansys.

Female joint (welded into main rollbar tube)



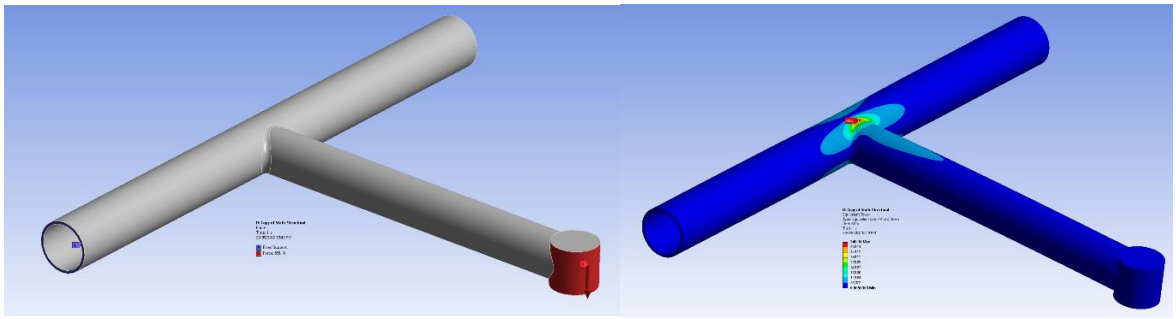
Male threaded joint (welded into longitudinal bars)



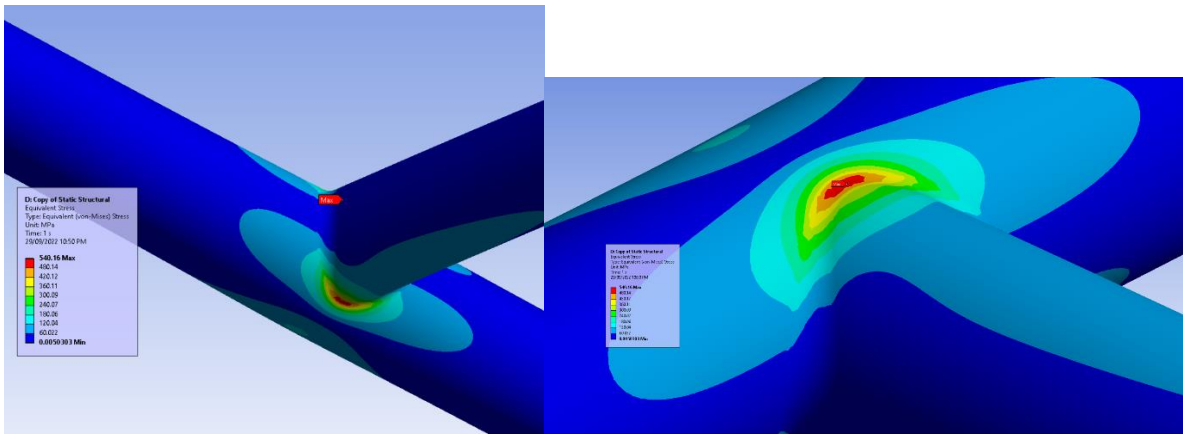
Constraints:

The 500mm tube representing the main rollbar is fixed at each end. The applied load at a distance 320mm from the centreline of the main rollbar is increased until first initial yielding the welded joint, or the bolted joint, and this force is compared.

3.1 Welded Version:

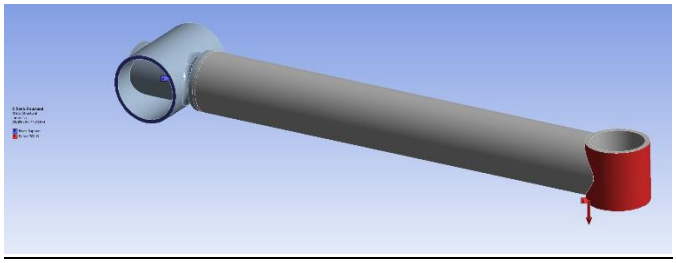


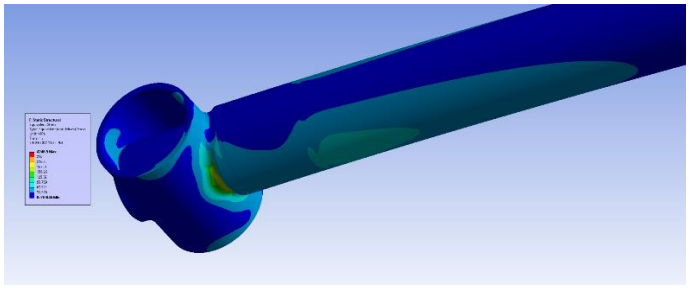
Basic R3 radius fillet representing the weld between the tubes. A typical mig weld would have a convex profile which would be slightly more favourable than modelled, but for simplicity a fillet radius was used.

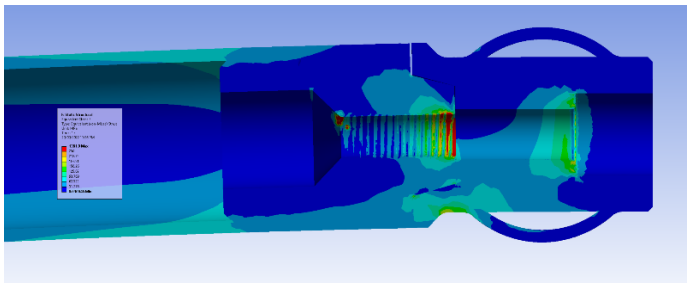


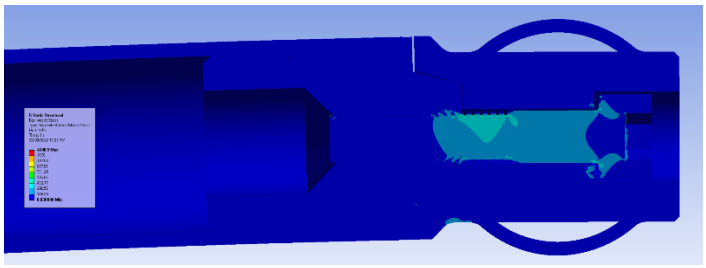
For a vertical force of 655N, the tube will yield at the weld.

3.2 Bolted Version

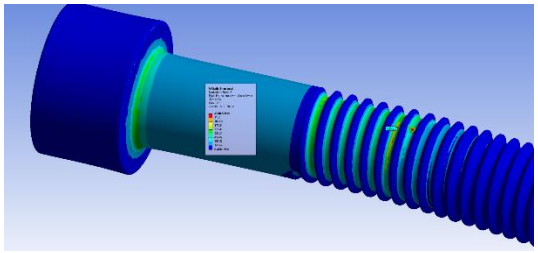








Bolt stress plot showing slightly higher than yield stress of the bolt confirming at this vertical load the joint will fail.



4. Conclusion

The bolted joint failed at a similar force Assuming the bolt was a 12.9 grade bolt (A lower grade may have been used) when using the nominal dimension per the drawings provided yielding with the caveat that the weld was represented pessimistically, whilst the bolted joint mesh simplifications would have made the load slightly higher than in reality.

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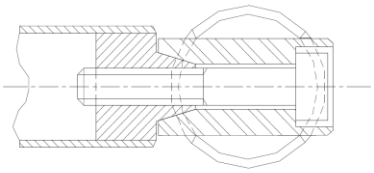
TRIPLE EIGHT
RACE ENGINEERING

5. Appendix

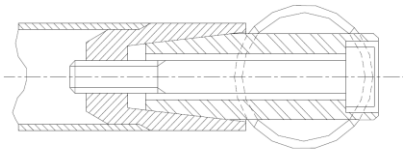
5.1 Further Comments:

These dismountable joints do not technically match the joints required in the relevant homologation documents:

Appendix J Article 253-8.3.2.4

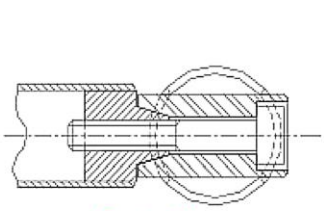


253-38

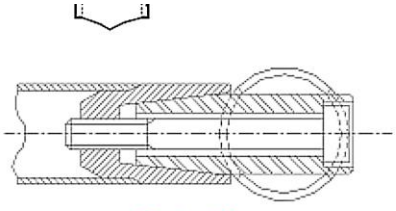


253-39

Or Motorsport Australia document: Schedule J, Safety Cage Structures:

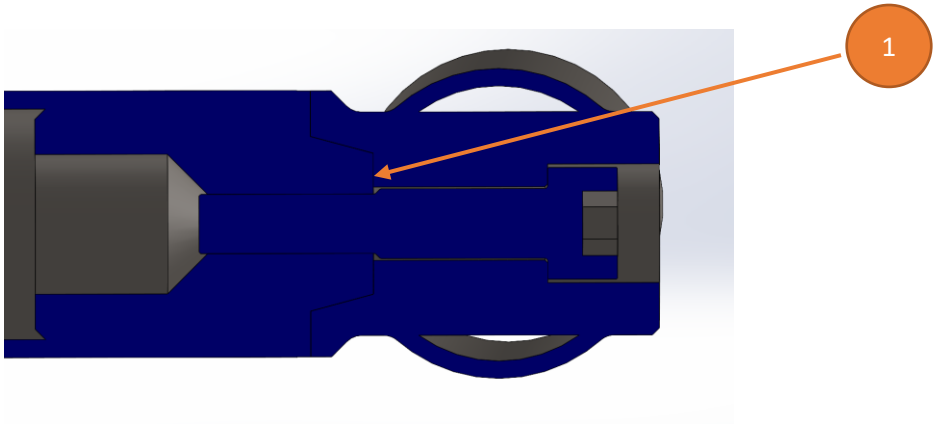


Drawing J-48



Drawing J-49

Connection used:



The joint can bottom out on the flat section

The joint can and most likely does bottom out at the flat section (shown as point 1 above) and so not supporting the bolt in bending. These two surfaces of the male and female connection are specifically designed (in the permitted dismountable joints) so to avoid this. This bottoming out given the tolerances permitted (+/- 0.25mm) can be extreme. We have just modelled the nominal dimensions not the extremes possible given the tolerances permitted on the drawings.

ATTACHMENT J

Suggested Topics for Competitor Induction and Mentoring

- Overview of tarmac rallying
- Differences to other forms of motorsport
- Role definitions for driver and codriver
- Safety attitude
- Nature of hazards
- Variability of conditions (even within a stage) and considerations around being prepared for unexpected changes
- Nature of major incidents (not at obvious hazards, often lower speed etc)
- Why some people are faster than others (results are the outcome of homework and seat time, not pressing on. drive at the pace appropriate to your level of experience and homework)
- What being a novice means (and why you're not able to recognise the signs when things are about to go wrong)
- Steps of progression through the sport (classes, categories, roles etc)
- What reconnaissance is and how to do it properly
- What notes are, how to use them to assist with safety
- Vehicle preparation considerations: tyres, suspension setup etc (including differences between circuit and tarmac cars)
- Tyre pressure management
- Correct use of safety equipment (HANS etc.)
- First response priorities
- Purpose and use of RallySafe
- How to get started
- Where to get further advice