

**Submission
No 23**

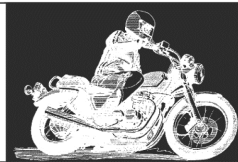
INQUIRY INTO SPEED ZONING AND ITS IMPACT ON THE DEMERIT POINTS SCHEME

Organisation: Motorcycle Council of New South Wales
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MCC Submission; Inquiry into Speed Zoning and its impact on the Demerit Points Scheme

27th February 2014

MOTORCYCLE COUNCIL
OF NEW SOUTH WALES
INCORPORATED



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About the MCC of NSW

The Motorcycle Council of NSW Inc. (MCC of NSW) is an internationally recognised umbrella group for motorcycle clubs, associations and ride groups, in the state of New South Wales, Commonwealth of Australia.

Established in 1982, the MCC of NSW is recognized as the peak motorcycle representative body in NSW and Subject Matter Experts on many complex issues dealing with motorcycling including crash data and statistics, traffic data and congestion information.

The MCC of NSW has published documentation that has been referenced worldwide by overseas motorcycling and traffic bodies and has produced video training films that have been utilised and referred to by many overseas trainers, researchers and ride associations.

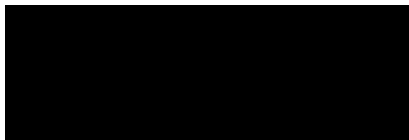
The MCCofNSW has appeared before several standing commission of inquiries in NSW including the Standing Committee on Law and Justice and is often consulted on all things motorcycling by the Roads and Maritime Services (RMS), Transport for NSW and Centre for Road Safety.

NSW is the peak representative body for motorcycling in the state of NSW. The MCC of NSW represents over 50 clubs, with more than 41,000 riders.

Christopher Burns currently holds seats on the Minister for Roads and Ports Road Safety Advisory Committee, Transport for NSW Motorcycle Road Safety Strategy working group, Transport for NSW Vehicle Standards Working Group and Centre for Road Safety Motorcycle Helmet Working Group. Mr Burns has several years experience as a motor accident first responder as a tow truck driver in Sydney's Eastern suburbs for three years giving him exposure to a high number of motor vehicle collisions up close and personal. Mr Burns has also worked as a motorcycle courier in the Sydney CBD and surrounds, is licensed to ride motorcycles and Heavy Rigid trucks. He has also completed a motorcycle riders instructor course and has had several years experience in motor sport at various levels and disciplines.

Peter Ivanoff has previously held the position of CSU Academic Director (Rtrd) Lecturing in Policing and Road Safety studies, is a former NSW Highway Patrol Officer, NSW Police Driver trainer and is currently a member of the Road Safety Committee for the Ulysses club and is an Executive Committee member of the Motorcycle Council of NSW.

Regards,



Christopher Burns

MCC of NSW Spokesman



Introduction

The Motorcycle Council of NSW is pleased to present this submission in response to the request for public input to the Staysafe (Road Safety) Committee;

Inquiry into Speed zoning and its impact on the demerit points scheme

The terms of reference are;

That the Committee inquires into and reports on the process of determining speed limits on NSW roads and the imposition of demerit point penalties for speeding offences with particular reference to:

- a) the contribution of speed to crash rates on NSW roads;*
- b) the rationale for and current operation of speed zones on NSW roads;*
- c) key factors governing the establishment of speed limits;*
- d) mechanisms for reviewing the appropriateness of maximum speed limits;*
- e) the operation of speed limits in other jurisdictions;*
- f) the appropriateness of current thresholds in the Demerit Points Scheme for speeding offences;*
- g) the impact of demerit points in reducing speeding behaviour; and*
- h) any other related matters.*

Abstract

What should be noted is that speed in itself rarely causes a crash. Conversely we find speed is a factor in 100% of crashes. Stationary vehicles are unlikely to cause a crash. However, distraction, failure to abide by the road rules, negligence and poor observation and/or poor operator skills are far more likely to be the root cause of a crash or collision.

The contribution of speed to crashes has been hotly debated, often on the basis that crash statistics are only descriptive and do not define cause of a crash.

Assumptions as to cause may result in inappropriate strategies. However, a simplistic and profitable strategy may be supported by a very narrow view that pushes aside as candidates, any factors other than speed alone.

Narrow research briefs into speeding as cause may not have pre-ordained outcomes, but reinforce inherent assumptions or policy positions. The competitive research grants system creates dependency upon limited sources of funds and fosters the clients narrow view approach to such a degree that the term "cash for comment" has been used on occasion.

Such so-called research may be banal and absorb available funding, displacing efforts at actual inquiry into causality.

Reduced casualties have arisen in Australia as a direct result of a greater fleet proportion of "safer cars" with very high levels of post-crash survivability¹. By attributing the benefits of this extraordinary engineering outcome to speed enforcement and speed zones alone, or by failing to account for it as a confounder when examining speeding indicates that some researchers may have missed the point.

Multiple speed zones require a driver to spend a significant part of their attention looking for signage. The roads are replete with signage. Some is useful to inform drivers of changing conditions, while much is simply advertising. Some speed zone signage is confusing or complex to understand, such as School Zone operation days or multiple speed zones interspersed along the same road.

¹ *Vehicle Safety Ratings Estimated From Police Reported Crash Data: 2013 Update - Australian and New Zealand Crashes During 1987-2011 Monash University Accident Research Centre - Report #318 [July 2013]* Authors: Newstead, S.V., Watson, L.M and Cameron, M.H <http://www.monash.edu.au/miri/research/reports/muarc318.html>

Section 1

Responses to the terms of reference.

a) the contribution of speed to crash rates on NSW roads;

The contribution of speed to crashes continues to be subject to debate. Various Road Authorities in Australia claim different percentages of speed *involvement* in crashes ranging from

NSW RMS “**causal** factor in around **40 per cent** of fatal crashes” Source; RMS Fact sheet 4 of 6 http://www.rms.nsw.gov.au/saferroadsnsw/speeding_and_crashes.pdf

WA “In WA, speed was considered to be a factor in 24% of all road crash fatalities in 2010 “ Source; Curtin Monash Accident Research Centre Document RR09-001 <http://c-marc.curtin.edu.au/local/docs/ISIMVCMRRWA.pdf>

Australian Transport Council “According to the ATC (2011), speeding accounts for **34% of fatal** and 13% of serious injury crashes in Australia.” Source; Curtin Monash Accident Research Centre Document RR09-001 <http://c-marc.curtin.edu.au/local/docs/ISIMVCMRRWA.pdf>

Qld “In Queensland in 2009, 75 fatalities (**or 22.7%**) were identified as being a result of speeding drivers or riders.” Source: CARRS State of the road Speeding http://www.police.qld.gov.au/Resources/Internet/news%20and%20alerts/campaigns/fatalfive/documents/speeding_fs.pdf

NT “**20% of known crashes** are speeding related.” Source; http://transport.nt.gov.au/data/assets/pdf_file/0013/31081/d_Safer-Roads-FA-3-Sept-2012.pdf

Vic “Each year about 100 hundred people die on our roads every year in crashes where speed was **a contributing** factor.” (This equates to approximately **34.5%** of fatalities are speeding related based upon the 5 year average Road toll for Vic of 290.) Source; <http://www.tac.vic.gov.au/road-safety/statistics/road-toll-annual>
<http://www.tac.vic.gov.au/road-safety/tac-campaigns/speed>

What we have here is a number of State Government Departments and a Federal body coming up with statistics that are at considerable variance as “a factor” or “cause”. One could reasonably assume that the driving conditions across the jurisdictions would not be so different as to give such variability in the comparative speeding data. However, collection and reporting may vary or introduce assumptions.

One thing is clear, none of the above illustrate an actual root cause analysis of crashes and is limited by the type of data collected and/or opinion of the investigating officer. The accuracy of NSW data, what is collected and apparent flaws in the system are discussed in detail in the Appendix.

Contrary to the state figures above, various international studies have advised that speed, as a causal factor of fatal crashes, is significantly lower than any stated by the various state road authorities in Australia;

NHTSA and Virginia Tech quote; “speed was assigned as the sole causal factor for **6.8 percent**” and that **driver inattention** was responsible for **over 60%** of all adverse road incidents

Source; <http://www.nhtsa.gov/people/injury/research/udashortrpt/UDAShortresult.htm>

United Kingdom Transport Research Laboratory (Report TRL 323, 1998) found that excessive speed was an **actual causal factor in only 7.3%** Source; http://www.trl.co.uk/online_store/reports_publications/trl_reports/cat_road_user_safety/report_a_new_system_for_recording_contributory_factors_in_road_accidents.htm

*“In the 2006 MCC survey almost two-thirds (63%) of the **riders accepted responsibility for their Single vehicle crash**, but were more likely to attribute this to lack of skills in observation (15%) or braking (12%), rather than **their speed (15%)** (de Rome & Brandon 2007”) Source Positioned for Safety 2010 MCC of NSW.*

The methodology used by the NSW RTA/RMS to determine speed as a cause of crashes and the apparent deficiencies in the system currently in use are discussed at length in the appendix of this document.

The vagueness of speed data as a causal factor of fatal crashes is also substantiated by recent comments in the Victorian Road Safety Committee Inquiry into motorcycle safety. This extract is from the parliamentary Inquiry into motorcycle safety, Ms Rebeiro is giving evidence for the police...

Mr LANGUILLER — Through the Chair if I may, I am particularly interested in the issue of speed. Can you elaborate on what your data would be on speed?

*Ms REBEIRO — **We have the field ‘speed’, but we do not provide too much qualifying data around it. So it is just a tick list, speed, and there is no further qualifying data on that.***

Mr LANGUILLER — What would be the question there for the tick?

Ms REBEIRO — In the members opinion, ‘What was the cause of the accident?’, they are able to select the field ‘speed’.

Mr LANGUILLER — So, for example, would that translate into a illegal speed or inappropriate speed?

Ms REBEIRO — Currently it does not allow us to provide any additional information.

Mr LANGUILLER — Are you looking at that?

Ms REBEIRO — Not at the moment.

Source;

http://www.parliament.vic.gov.au/images/stories/committees/rsc/motorcycle_safety/Transcripts/20120307_VicPol_Transcript.pdf

b) the rationale for and current operation of speed zones on NSW roads;

The rationale for and current operation of speed limits on NSW roads can best be addressed by the documents attached in Appendix 1, Example 1 Pacific Highway and example 2 Picton road.

An inexplicable speed zone would be the Old Pacific Highway north of Sydney. This is a rural road that was once the main highway into Sydney with a speed limit of 100kph. The current speed zones on this road are 80kph from Berowra to Moonee Moonee and then changes from 80kph to 60kph from Moonee Moonee northwards. The reduction in speed limit from 80 to 70 to 60 in early 2006 was introduced after lobbying by the Peats Ridge Action Group (long since defunct). Bear in mind that Peats Ridge is not actually on this road. The 60kph zone is well below the lowest recommended speed limit of 80kph for “lower quality rural roads” as outlined in the NSW Speed Zoning Guidelines. One justification for maintaining the lower limit is that total crash numbers have been lowered, but this fails to take into account that the lower speed limit has redirected traffic to the Freeway and reduced the total traffic volume, hence the lower crash numbers result from less traffic.

Another proposed reason for lowering the speed limit was due to the perception or assumption that all motorcycles were speeding on the road. Lowering the speed limit has made previously acceptable speeds a serious offence and riders simply take their tourist spending elsewhere.

The current speed limit is now so low that pushbikes regularly overtake cars or motorcycles. It would appear that the **rationale for lowering the speed zone** in this area was **due to emotive issues** rather than from an objective scientific base.

Since the reduction in speed limits the road has been resurfaced, several bends have been realigned and from an engineering point of view the speed zone is inappropriately low outside of the few small built up areas. The speed limit on this section alone needs to be reviewed and raised to the former 80kph limit.

c) key factors governing the establishment of speed limits;

Management of the setting of speed limits in NSW appears to be a hotch potch of responsibility and is determined variously by the RMS, local Councils and or local Road Safety Officers within the local councils. This can then lead to inconsistencies within NSW between different Local Councils. One example is City of Sydney Council proposal of introducing 30kph limits. See also the items listed in the previous section.

Speed limits in NSW appear to be based upon past history of the road area without taking into account;

- the recent engineering changes on particular sections of the road. See 1 below
- The 85th percentile ITE Committee guidelines Item 2 below.
- Root cause of fatalities
- Speed zone reductions are as a way to warn drivers of dangers. See 4 below

Changing signage on the roadside for speed zones appears to only affect the number of prosecutions and takes the focus off other measures that could have improved safety on the that portion of road.

For instance, between the centre of Annandale and King St Sydney CBD, a distance of 5 kilometres there are 7 changes in speed zones and this effectively redirects the focus of the driver from what is going on around them to what speed they are travelling at.

Research shows that despite signage of a speed zone, traffic will flow at the speed that is determined by the drivers risk perception, not what the sign says. This is borne out by the information on point to point average speed such as the results from Meadow Flat and New Italy areas of NSW. 100,000 drivers were detected breaking the speed limit.

<http://smh.drive.com.au/roads-and-traffic/tens-of-thousands-of-speeding-drivers-get-off-scotfree-20110220-1b13n.html>

This is also ratified by Report No. FHWA-RD-92_084 "Effects of Raising and Lowering Speed Limits" from US Dept. of Transportation Federal Highway Administration.

<http://www.ibiblio.org/rdu/sl-irrel.html>

Guidelines for speed zoning taken from;

**ITE Committee 4M-25 Speed Zone Guidelines
Recommended Practice**

Available at; <http://www.ibiblio.org/rdu/ite-szg.html>

The following guidelines will provide a consistent basis for the application of engineering principles to speed zoning.

1. **Speed zones shall only be established on the basis of an engineering study.** Each speed zone should be periodically restudied to determine that the established speed limit is appropriate. The suggested maximum interval is five years. In addition, an engineering study should be conducted whenever there is a change in the roadway that would affect the prevailing speed. Such changes would include elimination of parking, added lanes, signal coordination, changes in roadside development, etc.
2. The engineering study include an analysis of the current speed distribution of free-flowing vehicles. The **speed limit within a speed zone shall be set at the nearest 5 MPH increment to the 85th percentile speed** or the upper limit of the 10 MPH pace. No speed zone shall be established in a location where the 85th percentile speed is within +/- 3 MPH of the statutory speed limit. The existing speed limit within a speed zone shall not be changed if the 85th percentile speed is within +/- 3 MPH of the posted speed limit.

3. The engineering study may include other factors such as:

- a. Geometric features including: vertical and horizontal alignment, and sight distance;
- b. Roadside development;
- c. Road and shoulder surface characteristics;
- d. Pedestrian and bicycle activity;
- e. Speed limits on adjoining highway segments;
- f. Accident experience or potential.

However, in no case should the speed limit be set below the 67th percentile speed of free flowing vehicles.

4. **Speed zones should not be used to warn motorists of hazardous conditions.** If a hazardous condition exists within the road segment under study, this condition should be corrected or an appropriate warning sign in conjunction with an advisory speed plate should be posted.

5. Enforcement of speed limits within speed zones should be uniform. Efforts should be made to coordinate the implementation of speed zones and the enforcement policies with the governing enforcement agency.

d) mechanisms for reviewing the appropriateness of maximum speed limits;

See ITE Committee 4M-25 Speed Zone Guidelines Recommended Practice in Terms of Reference c) and the 85th percentile.

Also reference “Posted Speed Limits and Speed Limit Setting Practices in British Columbia”

Page 7; “ a speed limit is appropriate when it is based on the general road geometry and land use characteristics of the segment. With an appropriate limit, the majority of drivers perceive the limit is reasonable by selecting their speed at or below the posted limit. An appropriate speed limit in British Columbia can be established for any road segment by applying the quantitative factors outlined in the MoT speed limit setting procedure. Generally, the posted limit should be set near the 85th percentile speed...”

And on page 23; “Based on the analysis, it appears that raising the limit from 90 km/h to 100 km/h resulted in a 12.9 percent reduction in crashes at the sites where speed limits were raised. The Phase II sites experienced an 8.6 percent reduction in total crashes. Both reductions are statistically significant.”

http://www.th.gov.bc.ca/publications/eng_publications/speed_review/Speed_Review_Report.pdf

e) the operation of speed limits in other jurisdictions;

BITRE • Road deaths Australia 2012 statistical summary

Table I Deaths by jurisdiction and road user

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
All road users^a									
2003	539	330	310	157	180	41	53	11	1,621
2004	510	343	311	139	178	58	35	9	1,583
2005	508	346	330	148	163	51	55	26	1,627
2006	496	337	335	117	200	55	45	13	1,598
2007	435	332	360	124	235	45	58	14	1,603
2008	374	303	328	99	205	39	75	14	1,437
2009	453	290	331	119	190	63	30	12	1,488
2010	405	288	249	118	193	31	49	19	1,352
2011	364	287	269	103	180	24	44	6	1,277
2012	376	282	280	94	185	33	48	12	1,310
% change 2011-2012	3.3	-1.7	4.1	-8.7	2.8	37.5	9.1	100.0	2.6
Ave. trend change p.a. (%)	-4.2	-2.5	-2.1	-4.7	0.5	-6.1	-0.5	-2.3	-2.8

See http://www.bitre.gov.au/publications/ongoing/files/RDA_Summary_2012_June.pdf

Victoria is an area where drivers appear to be losing licenses over a short period of time for minor speeding infractions incurring single point demerit losses from hidden speed cameras with significantly lower tolerances for exceeding the posted speed limit (3kph). Whilst the number of offences are going up as are the number of license losses, the **fatality rate in Victoria has slowed at half the rate of NSW, Vic -2.5% vs NSW -4.2%** over a ten year period. It is obvious that the intensive Victorian speed enforcement campaign is not having the effect claimed. The unintended consequences may well be a negative impact on the Victorian economy and impose undue financial hardship on people and families who lose their licenses, lead to a rise in unlicensed or disqualified driving offences and not have the intended effect of reducing the road toll.

<http://www.smh.com.au/data-point/blogs/the-crunch--data-point/speeding-fines-in-victoria--get-the-data-20130916-2tu41.html> (revenue up, offences down)

The Northern Territory abolished open speed limits and implemented a blanket 110k limit across the Territory in January 2007. Immediately after the **reduction in speed limits the fatality rate in NT jumped** and has only returned to normal after 6 years.

- 2006 45 fatalities.
- 2007 58 fatalities an increase of 28% on 2006
- 2008 75 fatalities an increase of 66% on 2006
- 2009 30 fatalities a decrease of 33.3% on 2006
- 2010 49 fatalities an increase of 9% on 2006
- 2011 44 fatalities a decrease of 2% on 2006
- 2012 48 fatalities an increase of 7% on 2006

The Northern Territory has recently abolished the 110 limit and replaced it with a 130kph limit and has also reintroduced open speed limits on 4 sections of highway.

United States; the NHTSA's Traffic Safety Facts 2009 ending edition – by 2008, most of USA's states had abandoned the 55mph (90kph) speed limit and most went about **increasing their speed limits**,

with some increasing speed limits up to 85mph (135kph). As a result, the USA's fatal crash annual total, which had been in a plateau of around 38,000 crashes up to 2007, **dropped in 2008** to 34,000 and then **dropped again in 2009** to 31,000 crashes.

f) the appropriateness of current thresholds in the Demerit Points Scheme for speeding offences;

There seems to be a major disparity between penalties for offences that are victimless crimes and offences that in actual fact injure someone and create a great deal of pain, suffering, inconvenience, loss of pay and oft times greatly diminished quality of life, sometimes on a permanent basis.

As an example on the 14th of June 2012 Christopher Burns was riding his motorcycle in Burwood Sydney and was run down by the driver of a car. Mr Burns sustained multiple fractures to his right foot and injuries to his right knee/hip/shoulder as well as sustaining damage to his motorcycle. The injuries sustained by Mr Burns left him immobile for a month, limited mobility for several months, off work for 3 and a half months, returned to work on light duties part time and then signed off for fulltime light duties 4 and half months later. After 2 years Mr Burns is still not fully recovered. During that time Mr Burns was unable to drive and spent most of the time on crutches requiring transport services from taxis and his partner to carry out even the most basic of travel requirements. The other driver admitted guilt at the scene and was penalised \$272 and 3 demerit points.

A driver can exceed the speed limit by more than 30kph and less than 45kph on a straight road, clear day, excellent visibility, no cross streets or driveways and hurt no one, a victimless crime. Penalties are 5 demerit points, loss of license for 3 months and a fine of \$815.

There is something not quite right with these two examples, how is it that a person can injure another human being through negligence, yet is imposed with a significantly lower penalty even though their actions resulted in an actual injury and an increase in statistics, as opposed to a heavy handed penalty for an action that only has a theoretical consequence that is not realised?

g) the impact of demerit points in reducing speeding behaviour; and

The wild and unpredictable swings in fatality and crash rates during double demerit holidays seem to show that the results are unpredictable. A highly visible police presence seems to have a better outcome than the simple threat of double demerits. General financial considerations also seem to have a greater effect on holiday road tolls as has the abundance of cheaper air fares to major holiday destinations.

ATSB publication shows there is no difference in injury crash rates in times of double demerits than the rest of the year.

http://www.infrastructure.gov.au/roads/safety/publications/2006/pdf/Holiday_fatalities.pdf

see Abstract – Main Findings – Conclusions

It is apparent nonetheless that all these factors combined have had a net zero impact on the total number of road deaths. This is consistent with the findings of the 2003 ATSB study, which noted the important unknown 'counterfactual': the holiday fatality rate might have been much worse if additional enforcement and other road safety measures had not been in place

h) any other related matters.

"Travelling Speed and Risk of Crash Involvement" (Kloeden et al.1997) appears to have some fundamental flaws in it yet is often used as a basis for the speed kills message, see Appendix 1 for further details. Kloeden "identified" that over 70% of our road trauma occurs at intersections and other areas of congestion and that over 68% of all crashes happen when vehicles turn across the path of another most often involving speeds below the speed limit. We now have the scenario where speed cameras are being installed at intersections, thus causing the driver to divert attention from the road and traffic at a most crucial moment in order to check where the needle on their

speedometer is pointing. By all means install red light cameras, but speed cameras at intersections may be defeating the purpose.

RTA/RMS data appears to show that the majority of speed enforcement happens on roads that account for around 3 % of the road trauma. This appears to be governed by sight lines and target acquisition vantage points for Police speed detecting equipment. Various schools of thought have highlighted the lack of enforcement of other fundamental road rules in NSW with heavy reliance upon a simple measuring tool for the “low hanging fruit” of speed. Arguments for enforcement of all road rules claim this would ensure driver adherence to all the rules, all the time, not just posted speed limits. Some have suggested speed enforcement is simplistic, intellectually lazy and fails to deliver broad tangible benefits.

A recent paper published by Transport and Road Safety University of NSW,
“Speed the most contested road Killer” Grzebieta/Job,

http://www.tars.unsw.edu.au/news/2013/Various_files/6_Mooren_PR.pdf

The authors appear to confuse exceeding a speed limit and “driving too fast for the conditions” while disparaging those who do not share their own view.

Point to Point speed cameras. Much had been made of the fact that P2P Cameras had not been booking drivers for speed offences; <http://theconversation.com/point-to-point-cameras-better-than-average-at-nabbing-speeders-18842>

NSW trialled the technology in 2005, but only deployed it across 21 roadway lengths from 2010. It is only used to enforce heavy vehicle speeds (while monitoring all vehicles). [Transport for NSW has acknowledged](#) that hundreds of thousands of car drivers and motorcyclists are detected for speeding offences but are not being penalised.

And <http://www.dailyexaminer.com.au/news/caught-on-camera-speeding-motorists-not-fined-775596/>

The Clarence Valley has one of only two point-to-point speed cameras in NSW. They are located on the Pacific Highway between Harwood Bridge and New Italy. The cameras record a vehicle's speed by measuring the time it takes the vehicle to get between the two points. This camera, along with the state's other point-to-point camera near Bathurst, has recorded the details of almost 100,000 vehicles caught speeding during a nine-month period. During the same period, just 117 trucks were caught speeding, despite heavy vehicles being the target of the cameras. But despite the pleas of road safety groups, the NSW Government is refusing to fine anyone other than truck drivers.

The articles above spawned comments like “..100,000 people speeding and none of the died..” which is just the style of comment that “Speed the most contested road Killer” endeavours to disparage.

MCC of NSW Recommendations

1. Review the methods employed by RMS to determine speed as cause of crashes.
2. Extend the brief for police investigation of crashes to include determining contributing factors such as the road environment, rather than sole focus on identifying culpability for enforcement purposes.
3. Research to be carried out to include and improve crash scene data acquisition and data processing to enable effective root cause analysis of crashes.
4. A reappraisal of the use of Kloeden et al reports by NSW authorities as a reference.
5. Implementation of a system using the 85th percentile as a means to determine speed zoning limits.
6. Our highways need to have speed limits raised to the same measure that exists in most of Europe and the USA – ie 130kph.
7. However, we also need to have slower speed limits in other road environments, such as high-pedestrian traffic areas.
8. The use of day/night speed zoning should also be implemented.
9. Should a driver be proven to have injured someone in a crash then penalties must be applied, such as imposing a minimum 3 month license suspension.
10. Implement a system of Victim Impact Statements from injured parties to guilty parties to ensure they are made aware of the impacts of their actions.
11. Enforce all the road rules, all the time, not just speeding.
12. Increase the speed limit on the Old Pacific Highway north of Moonee Moonee to its former level of 80kph outside of residential areas.
13. Implement a safety campaign similar to the boating "You're the skipper, you're responsible" aimed at road users.
14. Installation of Red light cameras only in lieu of speed detection or combined speed/red light cameras at intersections.

Appendix 1

“Speed – the biggest and most contested road killer”. Rebuttal

Peter Ivanoff CSU Academic Director (Rtrd)

“ But broad public and media understanding of the issues are still confounded by misleading publicity and opinionated non-expert mass and social media discussions of views opposing speed enforcement and even views that disagree that speeding is a road trauma risk.”

This comment above is from the abstract of Professors Grzebieta’s and Job’s new ‘paper’ entitled, “Speed – the biggest and most contested road killer”.

Their new paper (Mooren,L.; Grzebieta,R.; Job,S. 2013) claims that there is an abundance of research that demonstrates the ways in which speeding influences both crash risk and severity. Now this is an important point – that there is a HUGE distinction that needs to be made between “risk” and “severity” – and the paper offers up nothing that indicates that speed is a major factor in crash cause rather, only in terms of outcome.

The authors of this paper should know, when it comes to road crash investigation, it’s all about cause and effect or more accurately stated in crash terms, cause and outcome, where outcome can be both extent of damage as well as degree of injury, often combined. Now when it comes to outcome, the local village idiot would realise a simple scientific reality in that the faster you go the harder the impact will be and so therefore as night follows day, damage and injury will in general terms be proportional to speed. This is why speed is a “factor” in every single crash that happens – ie 100% and not 40% or 50% or whatever figure road authorities want to suggest this week – BUT 100% in terms of outcome only. Now when we then turn any crash investigation away from outcome and start to examine cause, this is where the debate and issue arises the authors are banging on about in their paper. Now despite the academic achievements of the authors, they couldn’t be more wrong if they tried when they allege that speed is the biggest causal factor for crashes. For an insight into why they are wrong, an extract from another paper (Ivanoff, P. 2007), attached as Annexure 1, explains in detail, why Australian claims, based upon typical Australian research from the usual Australian road safety research centres, are fundamentally flawed and inaccurate and in fact are simply contrived without any accurate data based on investigated fact.

Almost every single Australian research project that has emanated from the usual road safety research institutions in Australia, including the infamous Kloeden et al study from 1997 out of RARU – are based upon the extrapolation of data that is essentially provided by police reports of crashes. Now if we for a moment take the Kloeden et al paper and use it as the quintessential example of what we’re talking about here, this is the situation with that research:

1. It was a paper that relied on the submitted crash reports within the Adelaide metro area
2. Interviews of the drivers involved, as to possible causation from a plethora of possibilities was not considered
3. The whole research project was based upon a supposition premise that speed was the only factor capable of affecting causation

4. Computer modelling and then mathematical/statistical extrapolations (regression to the mean techniques) were then employed to demonstrate how an underlying supposition about travel speeds would affect the outcomes of these crashes – relying for credibility of this process by citing the scientific fact that stopping distances and therefore crash risk both diminish as travel speed decreases.

This is the sort of fate accomplice process that Mooren, Grzebieta and Job pass off as their shining light of the abundance of research proving that speed is the greatest causal factor for crashes. The extent of underlying supposition in such a process should be obvious to anyone with a modicum of intelligence and hence little wonder then that Mooren et al 2013 are right when they say that we have so much discord when it comes to the issue of speed. Even ex Vicroads boss John Lambert, some time ago after the Kloeden et al paper was released, wrote his own scathing response of the Kloeden paper (Lambert, J. 2003). We could very easily employ the same research process as the Kloeden paper and proceed to produce a paper, using regression to the mean techniques and 'prove' that wearing a green shirt, as opposed to wearing a yellow shirt, increases crash risk. Say no more.

Now, if we turn to overseas research projects that have studied crash causation from a much more considered, independent and non-suppositioned process, where ALL possibilities of causation were canvassed from those actually involved in the crashes, we find a much different picture to the bleatings about speed from Australian road authorities.

The United Kingdom's Transport Research Laboratory (Report TRL 323, 1998) found that excessive speed was an actual causal factor in only 7.3% of ALL crashes but that various forms of driver error and inattention amounted to over 50% of causal determination. Then a few years later in 2002, the USA's National Highway Traffic Safety Administration conducted a massive research project in conjunction with the Virginia Tech Transportation Institute over a number of years that included 100 case vehicles including 241 different drivers that produced 43,300 hours of video footage of over 3.2 million kilometres driven. 28 crashes and 761 'near-miss' situations were recorded and studied. Incredibly, their research findings showed that exceeding speed limits was a causal factor in only just over 4% of crashes and that driver inattention was responsible for over 60% of all adverse road incidents. Now interestingly, both these overseas research projects also listed and identified road conditions & engineering design as factors to be considered in crash mitigation, yet the mentality that prevails in road authority circles in Australia is that drivers/riders should just slow down and drive to the speed limit – but then even when they do that, if they crash and conditions were deemed to be 'appropriate' (a consideration applicable to NSW's Transport Accident Data System), then they can still be considered to have been speeding by definition and speed thus gets the blame routinely. Just look at the Roads and Maritime speeding definition, attached as Annexure 2, for proof.

Now to use some specific examples that completely destroy the arguments about the need for and the effectiveness of speed reduction & enforcement that Mooren et al 2013 state, let's consider some actual examples from history rather than the usual extrapolated, biased & agenda driven research projects that dominate Australian anti-speed road safety research:

Example 1 – Pacific Highway

The “death” highway as it used to be known, was subject to regular and continued enforcement operations (primarily concentrating on speed) for many years with little real success in bringing down road tolls. No better example of this than the Bulahdelah-Taree area, which every year, continued to record serious crashes year after year despite the enforcement attention. Then, when significant road engineering improvements were made to the area, the road toll dropped instantly and has remained much lower than pre-road improvement levels. This localised road trauma reduction was achieved through proper road engineering, not speed enforcement and there was no evidence to suggest that all the drivers involved in all the crashes over the years in that area were driving at dangerous speeds. Travel speeds on the new highway are now faster than what was possible on the old stretch of highway – so if crash rates are all about speed as the major factor from a causal perspective, then how do we explain this anomaly of higher travel speeds providing a lower crash rate? The answer is very simple – an appropriate speed zone for a well engineered road environment.

Example 2 – Picton Road

A few years ago, Picton Road in NSW was dubbed Australia’s most dangerous road. Why? Because suddenly over the period of a couple of years, there were a number of fatal crashes that happened on that stretch of road, which then had a speed limit of 100kph. Police reports in the local newspaper stated that in two cases where head-on crashes happened, it was clear that excessive speed played no part in the cause of the two crashes, both involving a situation where a vehicle crossed to the incorrect side of the road and impacted an oncoming vehicle. One of those crashes involved the offending vehicle being a family 8 seat 4 cylinder wagon with a full complement on board as it was travelling up hill and around a wide sweeping bend. Now when action was taken by road authorities, without one shred of evidence to rely on that a 10kph speed differential was a proven causal factor involved, we saw the typical and ignorant knee-jerk reaction that lowered the speed limit by 10kph to 90kph and so suddenly for hundreds of thousands of motorists who had successfully and safely travelled that road in the past at 100kph – they could now no longer do that speed to be safe – now they could only be safe with a speed limit of 90kph. The absolute stupidity and ignorance of such a decision should again be obvious to anyone capable of rational thought yet sadly, this type of ignorant and blatant agenda driven road authority action persists today. There can be no doubt about this because when the NSW Coroner’s findings about Picton Road identified the need for centre barriers as the most important single thing needed to stop these type of fatal impacts, road authorities then proceeded to install just a few kilometres of such barriers on the 28km stretch of Picton Road but then also spent many more millions of dollars building ‘turn & burn bays’ for the Highway Patrol to operate from on that road – as if excessive speed had been identified as the primary cause of the rashes.

Increasing speed will always increase crash severity BUT only if and when an impact happens. There are a myriad of driver inputs possible that play a more significant role in crash avoidance before the need to dumb-down driver input to a simple consideration of keeping speed below the number painted on the red, black and white speed limit sign – when one is there to be seen. One of the very reasons we have road trauma is because of our poor process of driver development with regard to the task of doing all that should be necessary to safely drive a vehicle within our road environments. The ability to adjust speed

for safety is not a particularly difficult thing to achieve and in the main, drivers do so amazingly well, as is evidenced by the fact that road crashes are actually a rare phenomenon. Little wonder, since most people who drive/ride don't have a death wish.

Consider this significant actual recorded statistic (not extrapolated result from reliance upon regression-to-the-mean statistical process that flows from underlying assumption – so typical of Australian road safety academic research) from the NHTSA's Traffic Safety Facts 2009 ending edition – by 2008, most of USA's states had abandoned the 55mph (90kph) speed limit and most went about increasing their speed limits, with some increasing speed limits up to 85mph (135kph). As a result, the USA's fatal crash annual total, which had been in a plateau of around 38,000 crashes up to 2007, dropped in 2008 to 34,000 and then dropped again in 2009 to 31,000 crashes. This actual result sheds light on the stupidity of arguments from those who espouse impending carnage whenever an increase in speed limits is proposed. A little closer to home, it should be remembered that back in 2007, Australia's Northern Territory government, following 'proven' research findings from Monash University's Accident Research Centre, imposed a 130kph speed limit on its major highways in order to bring the road toll down. The NT's highway road toll subsequently rose in 2008 and then rose again in 2009. Today, fortunately the NT has a government that listens to reason and has returned its major highways to an unrestricted speed on the basis that there is simply no actual evidence to support any inherent safety benefit of maintaining a 130kph speed limit. Time will tell whether the carnage that is being prophesied by some as a result of returning to unrestricted speeds, will result.

A final argument for consideration when looking at the issue of speed limits – consider two driving offences, both attracting expensive fines and loss of points – yet achieving wildly differing rates of driver compliance. Let's compare speeding with running red lights. The overwhelming majority of drivers do not run red lights and come to a stop when faced with a red light. However, the overwhelming majority of drivers (whether they admit to it or not), exceed speed limits. Why the difference in compliance rates? The answer is very, very simple and it has to do with driver/rider perception and recognition (the very things that we need to encourage in drivers). The vast majority of drivers/riders, as they approach an intersection with lights, realise the real and imminent danger involved with an intersection where there are traffic lights and of course realise that the risk of crashing is very real if they were to proceed through the red light and chance across traffic flow. However, travelling along a highway that was designed with an engineering brief to handle speeds of up to 150kph, on a fine day but having to do so below 110kph becomes instantly recognisable to the vast majority of drivers as being completely unnecessary and overly conservative when they can judge the merits of the road environment in front of them and yet try to fathom the need to travel so slowly on a road that is conducive to travelling along quite safely at higher speeds for the greater portion of the journey on that road. Equally absurd but at the other end of the spectrum, is the 40kph speed limit in school zones, when research clearly shows that once impact speeds between cars and pedestrians exceeds 30kph, serious injury risk escalates at a steep exponential rate – yet the speed limit remains at 40kph, a most 'unsafe' situation indeed and indicative of the arbitrary nature of setting speed limits. This is just the tip of the iceberg when it comes to blatantly obvious inconsistencies in speed zoning in Australia. Consider these quick and obvious anomalies in speed zoning /limiting that constantly frustrate motorists :

- Roads like the M7 having a 100kph speed limit and yet there are other rural roads, not divided, bumpy, heavily crowned, pot-holed, narrow, soft-edged, massive trees just alongside the road edge – also having speed limits of 100kph or only 10kph less at 90kph. These two road environments are worlds apart in terms of their safety measure yet have almost identical speed limits.
- Heavy vehicles like “B-Double” combinations being legally able to travel at 100kph whilst cars can only travel at 10kph higher speed. The absolute stupidity of this situation should be obvious but unfortunately Australian road authorities allow this gross safety disparity to continue.
- 40kph school zones when research shows that pedestrian impacts at speeds over 30kph are almost always fatal.

We need a little more reality in safety terms with respect to speed limits. Our highways need to have speed limits raised to the same measure that exists in most of Europe and the USA – ie 130kph. However, we also need to have slower speed limits in other road environments, such as school zones and high-pedestrian traffic shopping areas. The use of day/night speed zoning should also be implemented.

The reduction in fatalities in recent years on our roads has a lot more to do with road improvements, car safety improvements, treatment options – to name a few, than it has to do with enforcement efforts, the ever increasing use of speed cameras or the lowering of speed limits on our highways to ridiculously slow and unnecessary levels. Interestingly, actual crash rates have not declined to the same extent as fatalities, backing the arguments made in this submission about road authority claims about speeding enforcement. As our fatality rate has dropped in recent years, more and more drivers are being fined for speeding. If speeding is the biggest cause of crashes, how is this anomaly continuing?

Mooren, Grzebieta and Job are right when they say that a re-think is needed about the speeding message – but not their message. A far better message for improved road safety would involve communicating the importance to drivers/riders about the need to focus and concentrate on the task of driving/riding and all that entails in terms of attention, perception, attitude, focusing on hazards, positioning (to name just a few things) instead of dumbing it all down to simply watching for what numbers are painted on signs. The motorists out there on our roads are not interested in crashing and the speeds that motorists travel at are not the biggest issue that impacts on road trauma. As for the very few idiots who want to play racers on public roads, you’ll find that they make that decision irrespective of whatever speed you want to paint on a sign.

Annexure 1

Extract from "Road Trauma Accurately Identifying Casual Factors" 2007

Peter Ivanoff CSU Academic Director (Rtrd)

Part One – the Police

In New South Wales, the primary agency that records and provides crash data are the police. When police attend crashes, they are required to complete a computerised record of the details of the crash. These crash reports are recorded on the Computerised Operational Policing System, commonly referred to as "COPS".

Once the crash details are finalised on COPS, a copy is forwarded to the Roads and Traffic Authority (RTA). However, before continuing on with this series of events, we should take a closer look at the police involvement in crashes.

In New South Wales, police are only required to investigate a crash when they can answer "yes" to one or more of the following criteria:

1. Was anyone in the crash killed or injured?
2. Did any driver involved leave the scene of the crash without exchanging their particulars?
3. Did any motor vehicle involved in the crash require towing from the scene?
4. Was any driver involved under the influence of alcohol or some other drug?

One can immediately see that these criteria in essence, revolve around the seriousness and/or severity of crashes. Crashes that do not meet these criteria are considered to be minor in nature and are not usually investigated. Immediately, a valuable opportunity to discover the true causes of crashes is lost under such criteria because in "minor" crashes, both drivers and passengers could be easily interviewed and would likely be suffering lower levels of stress and anxiety than their counterparts involved in more substantial crashes. From a common sense perspective, it is also fair to say that the likely underlying cause of most minor crashes would be no different to those that underlie more serious crashes. There is the obvious difference of the outcome in more serious crashes, usually involving greater impacts, but the speed of the vehicles as a factor in itself, is rarely the cause of a crash. The well worn catchcry "speed kills" is a misnomer and the more appropriate message to convey would be that "impacts can kill". The salient message to be conveyed to drivers should revolve around alertness, concentration and safe driving practices that prevent/avoid collisions. Speed is just one of a number of issues to be considered and in any crash investigation, a vehicle's speed will ALWAYS be a factor in terms of outcome but rarely a factor in terms of cause. I will discuss the issue of speed in more detail later.

The next problem that exists with accurately establishing causal factors for crashes is the routine agenda of police when attending crashes. Police have a number of priorities at crash scenes that interlock with their purpose in being there.

Firstly, police concern themselves with injury & well being of those involved in a crash. Once they have dealt with or discounted this issue, they then attend to restoring the free flow of traffic (or in the case of more serious crashes, preserve the scene until specialists conclude their investigations). Once this has been achieved, they will then begin to record details of the crash. These details are recorded initially in the official notebooks of the investigating police and usually follow a set format, although the style, order and details recorded vary with individuals. This is despite a consistency in both the training police receive at the NSW Police College in their traffic studies with respect to the completion of notebook entries and instructions provided in official documentation in the format of standard operating procedures (SOP's). Astonishingly, the NSW police hierarchy obviously believe that canvassing causal factors for crashes is unimportant, as there is no specific mention of the need to do so.

The key point to note about the routine police notebook documentation of crash details is that it is designed to achieve two key outcomes:

1. Capture information necessary for the subsequent COPS entry
2. Capture information to prove the commission of any traffic offence

It would be unfair to accuse police generally of being nonchalant when it comes to the need to record information for some other government body but it would be fair to say that police find the investigation of crashes a mundane and routine job and that attending crashes falls within the competing priorities of a general duties officer's busy shift. This impacts negatively upon the accurate recording of causal factors in crashes. This situation is exacerbated by the fact that almost all traffic offences are 'strict liability' matters. This means that at law, the reason or the driver's thoughts and/or actions that were behind the commission of an offence are in essence, irrelevant. The Latin term "mens rea" or more succinctly put, the nature of the guilty mind in the commission of the offence is not an issue. As a result, police fail to canvass causal factors in a crash and tend to preoccupy themselves with simply, how the crash happened and whether any offence was committed. Brief explanations from drivers involved are required by law (Australian Road Rule 287) to be given and recorded by police, but this requirement and most explanations provided by drivers do little to shed light on why the crash occurred, unless the attending officer was to pursue the issue of cause.

*"...but police crash statistics are far from complete."*²

At this stage, it is important to indicate that in most cases where crashes result in death and/or serious injury, specialist crash investigation police usually attend and conduct any investigation.

These police are better trained in the collection and analysis of crash scene evidence and can often provide information about vehicle speed, direction, attitude and other things including interpretation of physical features left at the crash scene.

Again, whilst these investigations certainly paint a better picture of how a crash occurred, unless the drivers can be interviewed successfully and in fact "confess" to their actions prior to the crash occurring (excepting cases where for example, a driver had a significant blood alcohol level), much of what can be gleaned from a crash scene remains circumstantial at best of WHY the crash occurred.

The upshot of all this is simply that police rarely either record or can be sure of what actually caused a crash when they complete their COPS entry. Too often, the cause is simply stated as excessive speed or fatigue because it is easy to link the physical outcomes of crashes with vague criteria, in the absence of any "hard" evidence.

"The key point is that although our knowledge base is by no means incomplete, it is far from adequate in many cases for guiding programs and policies."

*...we need explanatory data that help us understand why collisions occur – their causes. For, if we do not understand why crashes occur, our efforts to prevent them can be suboptimal."*³

Part Two – the RTA's data processing

In New South Wales, the Roads and Traffic Authority is the government "arm" that is responsible for the management of road safety and traffic/vehicular management generally. Within the RTA itself, there exists a specific section or branch known as the Road Safety Strategy Branch and it is this branch that is responsible for the collation and dissemination of crash statistics. The brief details of their data processing are available on the RTA's website by clicking on the Road Safety tab at www.rta.nsw.gov.au.

² Bureau of Transport & Regional Economics – Report 102, Road Crash Costs in Australia 2003

³ H.M. Simpson PhD. 1998

Once police have completed crash details on COPS, the details are forwarded to the RTA and entered into their system, known as the Traffic Accident Database System or TADS. Information from the RTA's website indicates that TADS validates and enhances the information. The extent and nature of this "validation" and "enhancement" is not provided but the RTA claims that it is a process that ends in the data being transposed into a different format so that it can then again be transferred, this time under contract to the Spinal Cord Injuries Australia group. This group then employ people who apparently, according to RTA claims, do the following:

1. Code and re-enter data on TADS
2. Accurately determine location details for each crash
3. Interpret the collision summary information provided by police and further validate it

The RTA then state that further checking for inconsistencies and errors occurs and that the data is edited daily until a "clean file" exists for every crash. The final product is apparently again re-checked and further "anomalies" are corrected until someone in this convoluted process is apparently happy with the results. Then, the absolute final database is made available to other organisations such as the Australian Transport Safety Bureau (ATSB), the NSW Police themselves, the National Roads and Motorists Association (NRMA), the Australian Bureau of Statistics (ABS) to name a few.

Now, given the vagueness, inaccuracy, guesswork and often the complete absence about the causal factors for crashes existing within COPS reports, this RTA managed process conveniently performs extrapolations of COPS data and delivers not only the causal factors for crashes but in what percentages various causal factors involved contribute to the road toll. This must be an amazing system to say the least, one in which causal factors for crashes are refined, validated, checked and made accurate into a "clean file" – without any further reference to the people involved in the crashes or to those who conducted the original investigations! I was particularly keen to study this remarkable process and the exact workings of TADS, as well as the roles and qualifications of those involved but unfortunately the RTA refused to participate in my research. I do not believe that any real issue exists with the SCIA coding and re-entering police data but it is points 2 and 3 above where the issues lie. Firstly, why would the SCIA need to accurately determine the crash locations? Are they suggesting that the attending police routinely record the location of crashes incorrectly? Secondly, why would they need to interpret the police summations of how crashes occur and why would any such interpretation by such people without practical crash investigation experience, be considered as a validation? Quite simply, it appears this is done so that the crash data can be conveniently "classified" into predetermined criteria that have been created by the RTA. Not surprisingly, this criteria, when applied to the TADS data and finally checked, re-checked and processed, conveniently creates the standardised set of causal factors for crashes that has been promulgated by our road authorities for many years :- ie speeding, drink-driving and fatigue.

On a final note about this process, after all the checking, re-checking, validation and so on, they still have inconsistencies in their data. Here's a quick example:

1. In the "Main Points For 2003" summary of the "Road Traffic Crashes in New South Wales 2003" publication, the RTA state that alcohol was known to be involved in 24% of all fatal crashes. Later, in table 15a on page 22 of the same publication, it lists the actual data and shows that in the total of 483 fatal crashes, 90 had alcohol involved. This actually represents a figure of 18.6% - not 24%.
2. In the same summary, the RTA claim that alcohol was involved in 9% of injury crashes but again when their actual figures are presented in table 15a, 1080 out of 20,798 injury crashes are given as involving alcohol, which represents a figure of 5.2% - not 9%.

3. Again, the RTA's summary claims alcohol is a factor in 7% of all crashes but when you take the total crashes with alcohol involved from the total number of crashes recorded, the figure comes to 4.2% - not 7%.

Part Three – the RTA's causal criteria

“There is a raft of interlocking features that make up what causes an accident, just as in the workplace. It is very rare that you can say people were killed exactly because they were going fast. They were not killed because they were going fast; they were killed because they stopped suddenly and people cannot stop suddenly and live...

...That is why it is not just about speed and fatigue.

...While it is fair to say that one in three people were unbelted, two in three were belted but still died.”⁴

The RTA's criteria for determining crashes that are caused by speeding and fatigue are duplicated in Annexure 2. Conveniently, when one looks at the criteria, the RTA begins by conceding that it is not always possible to suggest “speed” as a factor in crashes from police reports. The RTA then take it upon themselves to develop criteria that, despite what police may not have recorded about the vehicle just prior to the crash, will serve to indicate what was going on prior to the crash, without any degree of certainty! It should be stressed at this point that the RTA clearly state that their criteria simply indicate whether “Speeding is considered to have been a contributing factor to a road crash...” They needn't have bothered because anyone experienced in the study and/or investigation of crashes will tell you that “speed” is a factor that impacts upon the severity of impact in EVERY crash. What this then means is that a crash investigator must establish the speed at which the vehicle was travelling when reaching the possible point of perception of the hazard or circumstance that led to the crash. The investigator must then determine the range of possible alternatives that were available to the driver and what would have been possible at the stated speed, both from the earliest possible point of perception and then from evidence of where the driver involved has reacted. There is of course in reality much more to consider in this process but the salient point here is that these types of investigation are quite complex and often prove inconclusive from a causal perspective, particularly in the case of fatalities. What often becomes apparent to an investigator is the lack of a clear reason for why an impact occurred, despite a whole heap of information that indicates how the crash happened.

Before we examine the criteria in more detail, it is important to highlight the ‘ease’ with which the RTA will suggest a vehicle is “speeding”. On their website (www.rta.nsw.gov.au) and under the “Speeding” tag, they state:

“Speeding is defined as travelling at a speed greater than that specified by the speed limit. However, speeding can also involve travelling too fast for the prevailing conditions, despite travelling under the posted speed limit.”

Such a definition makes it exceptionally easy to implicate “speed” in just about any traffic situation, particularly when it all becomes a matter of opinion or when data is manipulated in TADS.

In the first instance, the RTA's criteria states that a crash will be recorded with speed as a causal factor if the driver/rider is charged with a speeding offence. Now here's the reality – drivers/riders can only be charged (or as is most often the case with speeding offences, issued with a Penalty Notice) with speeding if one of the following applies:

1. A vehicle's speed has been recorded by an approved speed measuring device (eg Radar, Lidar & speed camera); or

⁴ Mr Lachlan McIntosh-Executive Director, Australian Automobile Association – transcript of address to House of Representatives Standing Committee on Transport & Regional Services inquiry into road safety – 2004.

2. A vehicle's speed has been "checked" when it was followed by a police car that has a certified speedometer – known as a "check-speed"; or
3. A vehicle has been followed in any police vehicle and an estimation of the speed has been made (requires strict and specific evidence of the estimation to be given)

The key point here is that at the time of speed determination, the vehicle was in motion.

This is not the case when police turn up to a crash and so police do not proceed with speeding offences when no contemporaneous evidence of the speed can be given. Therefore, this first criteria provided by the RTA is superfluous.

In the second instance, the RTA criteria states that a vehicle will be considered as having been speeding if police record the vehicle's speed to be excessive. What does this mean? This is a particularly relevant question because according to the RTA's own definition, a vehicle could be considered to be travelling at excessive speed when doing 40kph in a 50kph zone. It is difficult to comment on this issue as it would require separate research on how police formulate opinions about "excessive speed" but even in policing circles, my own experience has shown me that many such calls are based upon the old "chestnut" of reasoning – 'if the driver had been going slower, then the crash could have been avoided'. Such a statement could of course have relevance in every crash but it certainly is not a precursor to excessiveness. One can again see the propensity for exaggeration of the involvement of "speeding" in this criteria.

In the third instance, the RTA's criteria indicates speeding will be nominated if – "*...the vehicle's speed is stated to be above the speed limit*". Again, this would not be known with any certainty in a routine police investigation and would again become a matter of non-expert opinion. In the case of fatalities and serious injury crashes, at least a better estimation of the speed could be made but again, vehicles do not crash automatically or invariably because they may have been exceeding a speed limit. Many, many crashes occur at speeds below the speed limit so it should be completely illogical to automatically log speed as a cause of a crash, the moment someone decides that the vehicle's speed was above the speed limit.

The next series of criteria that the RTA serves up as indicative of speed is also problematic. In the vast majority of cases, "jack-knifing" is a manoeuvring phenomenon that results from a steering misjudgement and most often at quite low speeds. I fail to understand why this phenomenon would be included as a routine consideration for speed. Further, "skidding", "sliding" and "lost control" can result from any number of possibilities that may or may not involve excessive speed.

An "overuse" or harshness of braking and/or steering (typical in a panicked response where a driver's concentration was lacking) can result in such things and arguably more often results from driver inattention, inability and failure to respond in time to a hazard, rather than an excessive speed. Just which, being the exact reason for a given crash, is often difficult to ascertain if indeed ascertained at all – but because of RTA designed criteria, it can easily appear as a "speeding" crash, if not also counted as fatigue related.

The RTA's next comment stems on vehicles running off the road, except where it was because of drowsiness, illness, inattention etc. The problem with this criteria is that these other factors are rarely established with any certainty if established at all and so therefore, in a fatality where a vehicle has run off the road at a bend and hit an object, the crash would be routinely recorded as "speeding" and/or "fatigue" related.

The flaws and shortcomings of such criteria, particularly when their application is the result initially of police opinion and then any number of further opinions during TADS, should be obvious to any reader. Inaccuracy is not just a probability in such a process, it is a certainty. Frighteningly however, such inaccuracy seems not to be an issue with the RTA (neither with the NSW Government) and the following extract may be indicative of a sinister agenda:

“Radar Reporter asked the Traffic Authority engineers why more detailed information is not recorded? The RTA stated that a broad approach to the research figures gave the Government more control over the use of the information. It was not in the Government’s interest to tighten up the system.”⁵

In fact, when responding to criticism by the Chairman of the NSW Parliamentary Standing Committee on Road Safety (“Staysafe”), that the RTA was lacking in terms of up-to-date information and ideas for improving road safety, the RTA’s Chief Executive Mr Paul Forward stated,

“You don’t have to have detailed statistics to plan for the future!”⁶

A similar vagueness can be seen in Annexure 2, when studying the criteria that leads to a crash being classified with “Fatigue” as a causal factor. Now, even if for one moment we were to accept the RTA’s statistics on causal factors, here is the picture these figures paint:

1. Only 4% of all crashes have alcohol involved (rises to 19% for fatalities)
2. Only 17% of all crashes involve speeding (rises to 37% for fatalities)
3. Only 8% of all crashes involve fatigue (rises to 14% for fatalities)

Even with these exaggerated figures due to the inaccuracies and vagueness of the criteria and processes that led to their compilation, along with the fact that some crashes involve multiple factors, we can still see a huge gap between the figures and totality. What is causing all these other crashes that simply couldn’t be roped into existing criteria?

It is also interesting to note that when information can be more accurately obtained by investigative police (ie when able to speak with drivers and witnesses and not dealing with deceased persons), the percentage involvement of speeding and fatigue drops markedly? If we now come down to reality and accept the exaggerations in the RTA’s speeding & fatigue figures, the “gap” in terms of knowledge of causal factors is widened! As I mentioned earlier, the effectiveness of current enforcement practices would seem to have reached their potential for some time now, as has been evidenced by the recent stasis in the road toll.

The magnitude of speed camera intensification of the last few years has not produced a drop in the road toll of any significant amount and in fact in 2004, Victoria, with the greatest number of un-announced speed cameras, has apparently experienced a similar road toll to 2003! NSW’s 2004 road toll was one of the lowest ever but the exact reason is not known and the reality is that it was a marginal reduction from previous years. The other reality is that nationally, whilst fatalities dropped by 1.5%, the actual number of fatal crashes increased and the real reason for the drop in fatalities in 2004 was due to a drop in passenger fatalities.⁷ We will need to see the results over the next few years to ascertain whether the 2004 result can be sustained or whether it simply has been another marginal fluctuation.

We should certainly continue to monitor and enforce good driving behaviours but the entrenched philosophy about speeding, alcohol, fatigue and non-wearing of seat belts being the biggest killers on our roads is plainly inaccurate.

As a final example that highlights the extent of the inaccuracy of the RTA’s claimed causal factors, we should examine a couple of relatively recent police operations. Operation 1 was conducted in 2003 and Operation 2 was conducted in 2004. Both operations were conducted throughout both metropolitan and rural areas of NSW. The following information was released by the NSW Police Media Unit and obtained from the Sydney Morning Herald newspapers of the day:-

⁵ Brelsford H. (2003-p70) “Under the Radar”

⁶ Daily Telegraph, Tuesday 19 October 2004

⁷ ATSB December 2004 report

Operation 1:

- 80,000 drivers stopped over 13-15 March 2003
- 364 positive alcohol tests = a strike rate of just 0.46% or in other words, less than 1 in every 200 drivers was over the limit!
- 3350 drivers were caught for speeding = a strike rate of only 4.2% (if 80,000 drivers were also targeted)
- These 3350 drivers were not involved in the 570 major crashes that were recorded over the 3 days, but with the RTA claiming a 400% increase in crash risk just for going 10kph above the speed limit in built-up areas, these 3350 “speeding drivers” miraculously were able to avoid crashing.
- One can only guess at how many drivers drove on the roads at any time during these 3 days and how many kilometres were racked up by these drivers during this period of intense police enforcement, all without incident.
- Now bear with me here, if the RTA claims that 17% of all crashes are speed-related, then 97 crashes during this period were attributable to speeding motorists. Alcohol would have added another 23 crashes and Fatigue another 46 (according to RTA figures). That comes to a total of 166 crashes. What caused the other 404 crashes – especially when you consider that the 3350 “speeding drivers” had not crashed when detected speeding?

Operation 2:

- 34,796 drivers stopped on 13 November 2004
- 93 positive alcohol tests = a strike rate of just 0.27% or close to only 1 in every 400 drivers was over the limit! Amazingly, the NSW police Traffic Services Commander commented that the drink driving message was still not getting through to some drivers, justifying his comments by isolating the few examples of high alcohol readings obtained. Consider the reality – almost 399 out of 400 drivers sampled had not been drinking and driving. It begs the question, what specific degree of perfection is he after until he considers that the message is getting through?
- 1744 drivers were caught speeding = a strike rate of only 5% (if 34,796 were targeted for speed)
- Again, these drivers had not crashed at the time they were stopped for speeding but 164 major crashes were recorded.
- Using the RTA’s percentages again, this would mean 28 caused by speeding, 7 from drink-driving and 13 from fatigue – totalling 48 crashes. What caused the other 116 crashes?

What is causing the other 70% of our crashes? Why is traffic enforcement concentrated on the “big four” factors that represent 30% of the problem?

Part Four – The Research

It is no secret that most of the road safety research that underpins current road authority thinking in Australia comes from two principal sources:

1. The Centre for Automotive Safety & Research (CASR) of the Adelaide University – (formerly known as the Road Accident Research Unit or RARU); and
2. The Monash University Accident Research Centre (MUARC)

Arguably, the most “famous” research project (or perhaps infamous) that implicated “speed” as our greatest causal factor and the one most often cited by road authorities when attempting to manage

speed on our roads, was the “Travelling Speed and Risk of Crash Involvement” (Kloeden et al.1997) project that came from RARU. This single piece of research underpins the RTA’s speeding strategies and their claims that just a 5kph increase in travel speed will double your crash risk and that a 10kph increase in speed will increase your chance of crashing by 400%. This same research however, “identified” that over 70% of our road trauma occurs at intersections and other areas of congestion and that over 68% of all crashes happen when vehicles turn across the path of another – most often involving speeds below the speed limit!

“...and most crashes happen in urban areas under 80kph.”⁸

Now bear in mind that according to RTA figures, only 3% of our road trauma occurs on our 110kph freeways & highways - guess where most mobile speed detection occurs? It happens on these classes of roads where the road environment is devoid of intersections, pedestrians, housing & other typical road hazards. Despite this reality, the NSW police maintain that their deployment of mobile speed units is “intelligence based”.

“Traffic enforcement is intelligence driven and based on reports and research that highlights areas of concern. In determining where speed enforcement is of primary importance, consideration is given to such factors as pedestrian and traffic volumes, road trauma and collisions at the location, the nature of the environment including road conditions, schools, retirement housing and information provided by local councils and the community.”⁹

This statement is no doubt well intentioned but the reality is that whilst some traffic initiatives are intelligence driven, the deployment of mobile speed detection is much more designed around the ease of acquisition of targets than it is about the adherence to criteria stated in the above extract.

Numerous individuals and motoring groups independent from government ties and research funding have critiqued the Kloeden research project and highlighted the biases, assumptions and other flaws contained within it. The critiques are relatively lengthy and complex and I have not attempted to replicate the criticisms here.

The salient point to be made though is that road authorities have conveniently dismissed these criticisms and continue to cite the research when attempting to justify the need for slower travel speeds and increasing speed enforcement. It is also worth noting that the “findings” of this research project and many others from the two above-named institutions, often rely upon extrapolations of data produced by statistical theory which whilst scientifically valid in its own right, is not necessarily valid in the “real world” unless all biases, assumptions and variables are negated.

A good example of “real world” application to discuss and one that would be known to many, is the recent television advertisement that was based upon measurable scientific fact and then conveniently linked to the CASR research. This showed two cars stopping and reacting to a truck which has driven across their path. The vehicles simultaneously braked at comparative speeds of 50kph and 60kph. The result depicted showed a relatively minor impact from the 50kph car but a significant and potentially fatal impact from the 60kph car. I could devote my whole paper to the inconsistencies, flaws and assumptions associated with this clever piece of television propaganda but the real-life shortcomings of applying academic research in this case can be briefly listed below:

1. One can not argue the issue that “speed” did not cause the crash. It was caused because the truck driver failed to observe and respond to a hazard – not because of any speed either car may have been doing.
2. The advertisement relies on a fixed distance from the intersection as the point of recognition by the drivers. The advertisement does not indicate how far back the first

⁸ Morphett A. (2004) NRMA Policy Advisor, “The P-Plate Debate” – The Open Road

⁹ Hon J. Watkins, Minister for Police, extract from letter to K. Hodgkinson MP, dated 16 December 2004

possible point of recognition was, nor does it indicate the actions/level of attentiveness of the drivers on their approach.

3. In the “real world”, a drivers point of reaction will be determined by their ability and practice in being alert and anticipation of risk. Such a factor could easily have a driver doing 60kph at the time recognising the risk presented by the intersection ahead and responding in a safer fashion by covering the brake pedal. Such a simple practice would negate the average driver’s failure to do so, despite the fact that they were going 10kph slower.
4. Given that the truck was always going to be at that point at that moment of time, it is just as true to say that the collision could have been avoided by a slower car as it is to say that if a car (from commencement of its journey) had managed to travel at an average speed just a few kph faster, then the crash would not have even occurred because the car would have passed the intersection before the truck comes through. In other words, simple probability theory dictates that for every crash that can be avoided by a slower speed (where our driver is not at fault), one can also be avoided by having been able to maintain a faster speed elsewhere.
5. The advertisement is only representative of an emergency phenomenon where a driver could have done no more. If the point of realisation of our drivers was closer to where the hazard manifested itself, then we would see serious damage to the car travelling at 50kph. If the drivers were attentive and had prepared for the intersection and their reaction point was a few metres back from where depicted, then we would not see the extent of damage from the car that was doing 60kph. If a child runs unexpectedly onto the road in front of a car just 10 metres away, it won’t matter whether a driver was doing 50kph or 60kph. It is well documented that pedestrian survival rates on impact with vehicles decrease exponentially once the speed exceeds 40kph. Should we all drive at 30 something kph all the time just because you never know when a pedestrian might step out in front of you – especially when the vast majority of pedestrian/vehicle impacts have the pedestrian at fault?
6. The advertisement is in fact an excellent depiction of what really causes crashes (in this advertisement being the truck) and simple physics relating to speed and stopping distances. The advertisement does not in any way shape or form prove that crashes happen because people exceed a speed limit. The motoring public would be far better served if media campaigns indicated the importance of remaining alert and how to assess and respond to risk situations.
7. Constant media propaganda blaming speed as the cause of crashes and pleading with drivers to slow down, will only ever convince some drivers to be slower drivers, not necessarily better or safer ones.

Scientific methodologies employed in research are all well and fine but the ultimate proof is in the pudding. I have seen another recent piece of “scientific” research that came out of a MUARC study (Newstead & Cameron – 2003) that dealt with road safety in Queensland and the research “proved” that 100 additional lives over a year would be saved by the speed camera program. One only has to examine Queensland’s road toll over the last few years to appreciate this fanciful claim. Queensland’s road toll was in stasis between 2000 and 2003 and managed a drop in fatalities of only 30 for 2004!

“When research theories are challenged by the results of studies or evidence from research conducted elsewhere, there seems to be a general reluctance in some road safety areas to let go the theory. This has been apparent in some areas of evaluation

research, where the expectation that some program will have an effect has not been supported by the data.”¹⁰

Of course if you prefer a more “no-nonsense” espousal of some of our so-called “credible research” that underpins contemporary road safety authority thinking, there is the following:

“They take the road toll at the time immediately before the introduction of change X, then assume that the road toll would have grown proportionally with the population for Y years. That gives the theoretical road toll to which they then compare today’s actual figures. If the population grows and the road toll stays the same, you could use this basic technique to “prove” that giving daily enemas to all the bovines in WA has reduced the road toll.”¹¹

In perhaps the only study of its kind, the British government’s Transport Research Laboratory concluded that excessive speed was a causal factor in only 7.3% of crashes.¹²

Unlike the manner in which NSW arrives at its “speeding” claims, this study looked closely at the issue of speeds that were involved in the lead-up to crashes and their distinct effect (or lack thereof) as the cause of the inability to avoid impact.

The British research identified that excessive speed was a definite causal factor in only 126 out of the 2897 crashes studied. This compares with 840 of the crashes that were attributable to inattention and incompetence of drivers in assessing and responding to risk in a situation that involved another vehicle. Despite this government commissioned research finding, the British Government, like the NSW Government, persists with claims that over 30% of fatal crashes are caused by “speed”.

The NSW Government, the RTA and the NSW Police have to accept that realistic speed zoning and speed limits are required in a technologically advancing society. People want to move about quickly. Pleas to go slower as the nexus to safety is as valid a cause as were the crusades in preserving the holy land. The German Autobahns consistently report lower fatality rates per kilometre than comparable US highways in states where the 55mph speed limit was retained! During 2004, Italy increased the speed limit on its highways from 110kph to 150kph and their annual road toll on these classes of roads decreased by over 20% from the previous year! These countries all have comparable speed limits on their suburban roads and in some cases even slower than in NSW, but they also have more realistic speeds allowable on major roads in conjunction with better and safer road environments and the carnage that our road authorities would have us believe is the inevitable result of higher speeds, does not result! Why? – because “speed” is the single greatest over-stated causal factor for crashes.

Poor judgement, poor risk perception, ignorance of risk, inattention, complacency, poor driver education & development and unsafe road environments, are the real factors behind road trauma. Being “booked” (ie fined & loss of licence) for doing 130kph on the 110kph Freeway between Sydney & Canberra when a driver has half a kilometre of clear view, with no intersections, no sharp bends in the road and no oncoming traffic on a multi-laned fully divided road of premium surface quality in an area with no development of any kind and no pedestrian traffic, has as much relevance from a cause and effect perspective as the manufacture of plastic bath towels.

In the late 1970’s in the USA, an Indiana University study entitled, “Pre-crash factors involved in traffic accidents” identified inattention as the leading cause of automobile accidents. A little more recently and a little closer to home, consider the following:

¹⁰ “Dinosaurs, the Flat Earth & Road Safety Research in Australia” Harrison W.A. ARRB Transport Research (2003)

¹¹ NMAA Yahoo email forum – Gav (2004)

¹² TRL323 report (1997)

*"In an effort to reduce road trauma, traffic authorities in Australia and New Zealand have implemented a series of countermeasures aimed primarily at reducing the road fatalities, with most states focusing their efforts on four major contributing factors known as the "fatal four": speeding, drink-driving, fatigue and non-usage of seat belts. Relatively little attention, however, has been devoted to several other factors, including driver inattention, that contributed more to the social cost of road crashes in Australia than the "fatal four"...and the traditional focus on the "fatal four" is not likely to result in the optimal allocation of scarce road safety resources."*¹³

Driver distraction can be both visual and cognitive in nature and both can lead to failure on the part of a driver to either recognise or respond appropriately to a hazard. Despite the existence of evidence just as "credible" as that which comes from CASR and MUARC, driver distraction does not appear to be an issue with road safety authorities. Consider the following revelations:

*"...numerous other studies have found that tuning a radio degrades driving performance more than holding a simple phone conversation on a mobile phone, particularly when driving in adverse conditions(Briem et al.,1995; Wikman et al.,1998)"*¹⁴
and

*"Results revealed that drivers spent greater lengths of time glancing away from the road when tuning a radio than when dialling a phone."*¹⁵ and

*"A recent study by Stutts et al (2001) revealed that a greater proportion of drivers involved in traffic accidents are distracted by eating or drinking (1.7%) than by talking on a mobile phone (1.5%)."*¹⁵ and

*"...there is reason to believe that distraction is a significant contributing factor to crashes in Australia."*¹⁵

Despite the evidence, the provision for "distraction" as a causal factor doesn't even formally exist within the RTA's causal factors criteria or TADS!

In fact, none of the real underlying causes of crashes are provided for by the RTA who as the Government appointed road safety authority and along with the NSW police, perpetuate the claims that the "fatal four" cause almost all our road safety problems. Nothing could be further from the truth.

¹³ Knowles D. & Tay R. (2002) "Driver Inattention: More Risky than the Fatal Four?"

¹⁴ Regan M.A. & Young K. L. (2003) "Driver Distraction: A Review of the Literature and Recommendations for Countermeasure Development" - MUARC

Annexure 2

xiv - ROAD TRAFFIC CRASHES IN NEW SOUTH WALES 2003

CRITERIA FOR DETERMINING SPEEDING AND FATIGUE INVOLVEMENT

Speeding

The identification of speeding (excessive speed for the prevailing conditions) as a contributing factor in road crashes cannot always be determined directly from police reports of those crashes. Certain circumstances, however, suggest the involvement of speeding. The Roads and Traffic Authority has therefore drawn up criteria for determining whether or not a crash is to be considered as having involved speeding as a contributing factor.

Speeding is considered to have been a contributing factor to a road crash if that crash involved at least one *speeding* motor vehicle.

A motor vehicle is assessed as having been *speeding* if it satisfies the conditions described below under (a) or (b) or both.

- (a) The vehicle's controller (driver or rider) was charged with a speeding offence; or
the vehicle was described by police as travelling at excessive speed; or
the stated speed of the vehicle was in excess of the speed limit.
- (b) The vehicle was performing a manoeuvre characteristic of excessive speed, that is:
 - while on a curve the vehicle jack-knifed, skidded, slid or the controller lost control; or
 - the vehicle ran off the road while negotiating a bend or turning a corner and the controller was not distracted by something or disadvantaged by drowsiness or sudden illness and was not swerving to avoid another vehicle, animal or object and the vehicle did not suffer equipment failure.

Fatigue

The identification of fatigue as a contributing factor in road crashes similarly cannot always be determined directly from police reports of those crashes and the following criteria are used to assess its involvement. Fatigue is considered to have been involved as a contributing factor to a road crash if that crash involved at least one *fatigued* motor vehicle controller.

A motor vehicle controller is assessed as having been *fatigued* if the conditions described under (c) or (d) are satisfied together or separately.

- (c) The vehicle's controller was described by police as being asleep, drowsy or fatigued.
- (d) The vehicle performed a manoeuvre which suggested loss of concentration of the controller due to fatigue, that is
 - the vehicle travelled onto the incorrect side of a straight road and was involved in a head-on collision (and was not overtaking another vehicle and no other relevant factor was identified); or
 - the vehicle ran off a straight road or off the road to the outside of a curve and the vehicle was not directly identified as travelling at excessive speed and there was no other relevant factor identified for the manoeuvre.

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