From: Daniel Calvert
Sent: Sunday, 30 December 2007
Subject: Travel Safe Automatic Number Plate Recognition Systems

Dear Committee Members

I have read Jim Pearce's letter to the media regarding Automatic Number Plate Recognition systems (ANPR's) and I will be making a submission to the Travel Safe Committee. In the meantime I am sufficiently concerned to send this correspondence direct to members of the committee, any individual acknowledgements or comments would be gratefully received.

In his letter Jim asserted:

Automatic Number Plate Recognition technology that can check number plates against transport and police database is being used in other parts of Australia and overseas.
I must point out - The UK is the most surveiled country on earth. The use of ANPR has mushroomed in the UK and is the subject of huge controversy now the public realise the full implications of it and its data tracking and suspect storage capability. The UK has 20% of the world's surveillance cameras, in the early 90s prior to the Labour Governments mass introduction of these technologies, the **UK had some of the safest roads in Europe**. It now has a plethora of CCTV, Speed Cameras and ANPR systems in place and has **slipped to the bottom of the road safety record in Western Europe**. How on earth does that justify introducing the same systems in Queensland? Other overseas examples prove adopting higher highway speed limits, free left turns on red traffic lights and banning speed cameras reduces the road toll and facilitates better traffic flow, why not study these examples?

With regard to the limited public awareness and limited media coverage to date, it seems far too soon to even contemplate the introduction of such an invasive, big brother system. I could not find many of the committee member's maiden speeches, I hope the member for Bulimba does not feel I am singling him out, however his comments regarding impact on way of life are most relevant to ANPRs.

PATRICK PURCELL
MEMBER FOR BULIMBA
Hansard 5 November 1992
FIRST SPEECH
The lesson I learn is that community groups and residents have to work among themselves, but they also have to feel they can work with the Government to make sure that *no decisions are made unless everyone understands their impact on our way of life. (Italics mine).*

It seems this invasive and ineffective (in terms of contribution to road safety) technology to be discussed by the Travel Safe committee at the quietest time of year, has not created any media attention or debate and the vast majority of the public are unaware of its possible introduction and its broader implications – this may be desirable to the committees political expediency but a matter so monumentally central to privacy and freedom demands more public debate.

I suspect the commercial interests and powerful data gathering and revenue raising capabilities of this technology (e.g.: tolls as used by ANPR's in London) will prove irresistible. Despite the fact I have businesses to run and a busy personal life I could not in all good conscience forgo registering my protest at any possibility of introducing this technology.

I understand Judy Spence, the Police Minister, has had reservations regarding the cost aspect of this technology, as it happens rightly so. Not only does the information end up in private hands it also allows private enterprise leverage over the government once they have the contract to manage the information, particularly with respect to increasing their charges.

This is what has happened in London where despite huge revenues from the 'congestion charge' (The mayor Promised 60 million pounds profit per year) the reality has been 10 million pounds in total since inception from nearly 1 billion pounds in revenue. The term inefficient seems inadequate.

Here is an excerpt from the Bow Groups independently commissioned report on the London ANPR:

In reality the scheme has proven hugely expensive. First there is the very generous contract with Capita. "Toll facilities", of which the bulk is the Capita contract, has taken 62% of the total revenue of the scheme. Secondly there is significant TfL overhead, which takes another 9% of the revenue. And finally there is the significant capital outlay representing 28% of the revenue so far.

This final part TfL is notoriously reluctant to admit, but the truth has recently emerged in a letter to Ealing councillor Phil Taylor

All in all the net profit since inception is just £10m.

Why the difference to the Mayor's claims of £123m profit in one year alone?

The Mayor's claims omit the capital costs. With a capital intensive project like the Congestion Charge it is hugely misleading to quote figures excluding the initial outlay. This reflects either reflects very poorly on the probity of the Mayor or on his understanding of the operation.

The Mayor's claims omit the full extent of the overheads. Much of the overheads for the project are charged to the TfL general account, such as marketing. In the Mayor's figures the profit is quoted without picking these figures up. Again this smacks of creative accounting and the Mayor not being straight with Londoners.

In total this means that while the total takings of the scheme has been some £930m, taking all the costs into account, TfL's net profit over 5 years has been £10m. That is just 1% of the total that Londoners have paid TfL over that time. In short his is probably the most inefficient tax ever devised.

Below I have responded (in red) directly to the points Jim raised in his letter to the Media. I sincerely hope that someone on this committee has sufficient conscience to challenge the

sales spin and misinformation campaigns propounded to assist the introduction of this malignant technology.

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Original Letter from Jim Pearce

Plate Recognition could benefit Qld

Despite millions of dollars spent on road safety public education campaigns and the efforts of many, we have been faced with an alarming increase in road fatalities in recent years. Queensland roads are getting busier; the population is increasing as are the number of road users, historically 'road safety campaigns' seem primarily directed at 'speeding' which even by the most biased of methods the authorities can only attribute as a primary causative factor between 16% - 27% of accidents (depending on who is quoting the figures)and that's not accounting for other contributing factors which would most likely render the speed incidental rather than causative in many of the percentages quoted. A disproportionate amount of propaganda and effort is aimed at vehicle speed to the detriment of road safety.

The overemphasis on 'speed' has led to a dangerous mentality that so long as you drive at the posted limit you are a good driver. Note that since introducing speed limits in the Northern Territory this year the road toll in that State has risen significantly. In the US State of Montana in the nineties for two years there were no open road day time speed limits. When speed limits were reintroduced the road toll increased. All the evidence points to the fact that more effective impact on the road toll is achieved when the emphasis is placed on broader policing then focusing on a singular, simplistically conceived, easy to penalise scapegoat.

Until road safety initiatives concentrate on, among other issues:

Driving for the conditions
Not driving too slowly and impeding other traffic
Not running red lights
Checking for oncoming traffic when proceeding through traffic lights even though the lights are green
Not driving when depressed, angry, bereaved or in any emotionally fragile state
Maintaining the roadworthy condition of your vehicle – when will Queensland get a compulsory annual safety certificate rather than just on sale of the vehicle?
Remaining alert and vigilant at all times
The dangers of passenger distraction – a lot of reported accidents seem to involve vans or cars full of people and or kids
The dangers of inattention - Not taking your eyes off a busy road to change the cd, pick your nose etc

Looking beyond the bonnet of your car and anticipate traffic and events ahead
Staying Left in dual highway unless overtaking (why is it not compulsory for trucks to remain in the left hand lane as it is on many overseas highways)

There also needs to be a continual push for safer roads:
On roads such as Brisbane's Gateway it should be illegal for trucks to travel in the right hand lane, they frequently travel side by side for long distances creating a slow moving hazard and view block, in many countries this is illegal.
Minimise road side signs and clutter – in the Netherlands this reduced accident rates.

I do not believe politicians are serious in addressing the issue of road safety. It seems the easy to enforce infringements are the most targeted which consistently produces the same lack of results and subsequent media statements are propounded on a sound bite basis. Unfortunately the enforcement of speed limits is all too often in the form of a camera van on a safe stretch of highway. I suspect ANPR will be used exactly the same way. Overzealous policing of open road speed limits alienates the average driver and has little impact on the aspiring pilot in his Nissan Skyline doing warp factor 10 in a 60kph suburban street.

Programs to promote road safety are important but so is the ability to enforce the rules anywhere anytime.

I question this mentality which clearly signals how and where ANPR will be deployed– it seems the writer is more intent on punishment than addressing the road toll. Fact is many roads overseas, comparable with Queensland's, have higher speed limits overseas and are safer. Big brother scare tactics and punitive mentalities will not reduce the road toll, it won't stop inattention, drowsiness, bad driving technique and other primary accident causing factors. This authoritarian statement is a classic example of why road safety initiatives predicated by parliamentary committees and the police are bound to fail. Enforcing the 'rules anywhere anytime' is not the same as targeting the road toll in an effort to make the roads safer. What's safer a new BMW travelling at 130KPH on the M1 or an old van travelling at 100KPH? From personal experience with both vehicles, I know it is the former, yet it is the driver of the former vehicle that will be vilified and fined.

Automatic Number Plate Recognition technology that can check number plates against transport and police database is being used in other parts of Australia and overseas.

The technology can detect speeding over a section of road, vehicles that are unregistered or have unlicensed registered owners, including those who may have lost their licences due to repeat drink driving and non compliance with restrictions for young drivers.

Inevitably the politically driven introduction of systems and measures the public would find less than desirable, were they to realise the full implications, are preceded by statements implying that only the most heinous of offenders will be affected. In reality the hard core offenders will be least affected. What you do not say is that it can be used to levy road user charges as well, for example as with London's hated congestion tax. How popular would the introduction of this technology be if the public were fully versed with the infinite power of

these systems? You can pull away from the kerb, drive round the block and park again and be charged 8 pounds for the privilege in London. Furthermore the data storage has been likened to Swiss cheese, even the most innocent of citizens do not want to feel their every move is logged, tracked and recorded in dodgy data bases, the instance of the private sectors management of these databases and the information being passed to third parties is common. I suspect this is a strong political motivating factor for deploying this insidious big brother technology that the public would find unpalatable, a plus where the committee is concerned possibly but a big negative for road users.

Parliaments Travelsafe Committee is investigating whether this technology should be used to support road safety in Queensland.

Perhaps the committee's findings are a foregone conclusion? It seems that what the public, who ultimately pay for and wear the consequences of this system, consider a disadvantage, the committee may well perceive as a desirable feature. The evidence suggests if anything, ANPR's offer a negative contribution to road safety, but great potential for invasion of privacy and prying more tax from the public. If the committee were serious about road safety there are many more areas where they could direct their funds and efforts that would have a real impact on lessening road trauma.

There are a number of issues for consideration, including privacy and costs. There is also a cost for the community and road users from the fatalities and serious injuries resulting from road crashes.

ANPR will not reduce road trauma, it certainly hasn't helped in the UK. No doubt the manufacturers of such systems can dress up various figures but the fact remains that since the plethora of camera technology in various countries the road toll has remained unaffected. Why introduce such invasive technology if the benefits are nonexistent?

If the committee is serious about reducing fatalities and serious crashes there are far more effective ways of doing this without destroying the public's privacy with a system that will contribute nothing but extract much. A search on the internet regarding the collection of data via cameras and its usage and security reveals a plethora of information and concerns. Any person fully versed on the implications would weigh this up and find ANPR unacceptable.

The technology is worth considering in the wake of our increasing road toll. Public comments can be made through a submission to the committee.

As stated it will do nothing for the Road Toll, as with so many of these measures introduced for the 'publics own good' by a tiny minority of the peoples so called representatives the most adversely affected will be Mr. and Mrs. average, it won't affect the real problem element.

Below from the UK Safe Speed website is a breakdown of the effects of cameras versus police patrols

What does it mean?

The 'without speed cameras' figure (the same for road works and open motorway) of 0.089 PIAs per mvkm is a very good general safety performance.

There are six cases where we can see the effects of two sorts of speed cameras and police patrols for both road works and open motorway. As follows:

effect on PIAs	**Road works**	**open motorway**
Analogue speed cameras	**55% increase**	**31% increase**
Digital speed cameras	4.5% increase	6.7% increase
Police patrols	27% reduction	10% reduction

These percentages are a simple calculation from the TRL data - for example the Analogue speed cameras at road works is:

0.138 / 0.089 = 1.5506 = 55% increase.

It really comes down to the simple question, does the committee and the police wish to continue sensationalising road trauma and continue implementing punitive but ineffective 'solutions' or is there a real desire to minimise traffic accidents? If any members of this committee have an ounce of integrity perhaps they will acknowledge there are far better ways to address road safety than ANPR's.

Further information can be obtained online at www.parliament.qld.gov.au/safe or, from January 2 by phoning 1800 504 022.

Jim Pearce
MP
Chairman Travelsafe Committee and Member for Fitzroy

Submission to Parliamentary Travel Safe Committee Issues Paper No 12
'INQUIRY INTO AUTOMATIC NUMBER PLATE RECOGNITION TECHNOLOGY'

Submitted by Daniel Calvert

Introduction.

This submission consists primarily of a paper written by Peter Ivanoff, Lecturer at the School of Policing Studies, Charles Sturt University. The paper is titled 'How Road Authorities Classify The Causes Of Road Trauma.'

The writer has obtained Mr Ivanoffs permission to reproduce his paper.

The writer's input is limited to the following Introduction.

INTRODUCTION

The Queensland Parliamentary Travelsafe Committee is about to meet to consider the introduction of Automatic Number Plate Recognition (ANPR) in Queensland.

It is apparent that the technology is expensive and invasive, it is the writer's opinion that the considerable financial and police resources that would be devoted to ANPR would be better deployed elsewhere if the desired objective is to effectively impact the road toll in Queensland.

It is also apparent that the technology will be widely used to enforce speeding infringements, indeed, the well known and controversial Monash University study, which has been widely discredited, is used to support this intention.

The following paper is an authorative insight into where authorities have gone wrong in their analysis and manipulation of data relating to road trauma and identifies weaknesses in present State road safety policies. It further acts as an ideal guide to where policing and data collection might be better employed to impart effective road safety initiatives.

The paper is reproduced as published, however I have highlighted some very salient FACTS that reveal serious flaws in current Australian thinking plus some illustrations of why vehicle speed per se is does not merit the current disproportionate emphasis in enforcement and media propaganda.

Some interesting points raised include:

- **The huge margins for distortion in recording the causes of road incidents due to police and RTA guidelines pertaining to methods of recording the data. Even percentages quoted in official reports don't equate with the numerical breakdowns cited in those same reports.**

- **The telling RTA statement that a broad approach to research figures gave the government 'more control over the use of the information. '**

- **The inaccuracy and limitations of the Monash university findings re the crash risk in speed differentials in kph which has long been trotted out by State Governments in defence of fining motorists for even minor incidences of exceeding posted speed limits – the same study cited in Parliamentary Travelsafe Committee Issues Paper no 12.**

- **The fact that even according to RTA figures only 3% of Road Trauma occurs on 110kph freeways and highways, yet these are the focus of a disproportionate amount of 'enforcement'**

- **The British Governments Transport Research Laboratory's Findings that excessive speed was a causal factor in only 7.3% of crashes.**

- **The fact that Germany's unrestricted speed Autobahns report lower fatality rates per kilometre than comparable US highways where the 55MPH limit is retained.**

- **The Fact that when the speed limit was increased from 110KPH to 150KPH on Italian multi-laned highways the annual road toll on these highways DECREASED by more than 20% from the previous year.**

As a taxpayer, Australian Citizen and Motorist for some thirty years it is my will that the people elected to represent me cease the disproportionate emphasis on vehicle speed and speed enforcement and look for more realistic solutions to the road toll by targeting the real issues. It is also my will that the abhorrent use of surveillance via technological means in any way shape or form, particularly ANPR, is discontinued as it has been proven not to save lives. Whilst undue resources are being channelled at easy solutions people continue to die on our roads and otherwise innocent motorists are both fined and lose of points for perfectly safe driving practices.

Daniel Calvert

How Road Authorities Classify The Causes Of Road Trauma

The following paper is about how road authorities classify the causes of road trauma and how they are inaccurate.

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Introduction:

"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." (Simpson 1998)

Road Trauma is a term that encompasses both the human and financial losses suffered as a result of crashes on our roads. In New South Wales, the cost of road trauma in 2003 came to approximately 3.6 billion dollars. Given the enormity of the personal and economic consequences of road trauma, it is imperative that the government and other key road safety stakeholders should understand exactly why crashes happen.

Table 1 – Historical trend of road fatalities

3.1 FATALITIES - OVERALL TREND

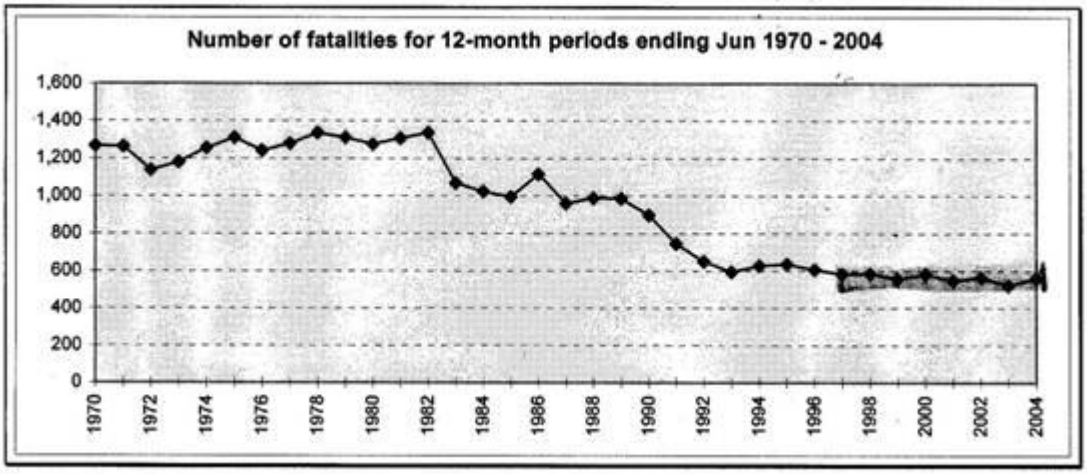

Table 1 above, shows that from a historical perspective, road authorities in NSW have had success in reducing the number of fatalities and injuries being sustained on our roads, from a high of over 1,300 fatalities in 1978 down to under 600 fatalities for 2003. This has been a significant achievement when one takes into account the increasing volume of vehicular traffic during the same period. This reduction in the road toll has occurred in a series of steps & plateaus. Significant and permanent reductions in the road toll resulted from initiatives such as compulsory wearing of seat belts, roadside breath testing and vigorous media safety campaigns backed up by enforcement strategies. Despite the ongoing use of such strategies, our road toll has been in a virtual stasis since 1997. It would seem that the potential of such strategies for the reduction of road trauma has reached its maximum. More of the same is not producing results.

NSW road authorities (primarily the Roads and Traffic Authority & the NSW Police) have continued both media campaigns & enforcement efforts in an attempt to re-start a declining road toll. They are focussing their efforts on a campaign that implicates “speeding” as the greatest killer on our roads.

Despite the increasing reliance of technology in the detection of “speeding” drivers, particularly via the increased use of static speed cameras, the stasis in our road toll continues. The increasing reliance on the use of speed cameras, the lowering of speed limits and the introduction of “double-demerits”, has had no appreciable effect on the road toll in New South Wales. Holiday period road tolls in particular, have been up and down like a yo-yo for many years now, despite intensification of enforcement efforts during these periods. Pleas for people to slow down and more and more speed cameras, will not serve to develop increased awareness and hazard perception skills of drivers.

More importantly, little is known about what are the real underlying causes of why crashes occur. Improved knowledge of causal factors for crashes is imperative, if further reductions in road trauma are to be achieved.

The failure of current speed management strategies (particularly “speed cameras”) as the next panacea to achieve significant reduction in the road toll is clear when one compares road trauma statistics for the last 8 years. The number of fatal crashes in 1989 totalled 551 and whilst this fell to 469 by 2004, 2005 results to date are showing an increase again, with no definitive evidence available to indicate the reasons why.

A plethora of information exists and is routinely gathered on the incidence of crashes but unfortunately, whilst we do well at gathering information about HOW crashes occur, we do quite poorly when it comes to understanding WHY they occur. Drivers don't crash as soon as they exceed a speed limit or ought to have been going a bit slower. If this were true, crashes would be a commonly encountered phenomenon on every road journey. Speculation, opinion, and at best calculated guesswork, routinely pass for fact as the cause of crashes. This inaccuracy is then compounded by the application of vague and imprecise criteria with which the RTA classify causal factors for crashes. As a result, factual evidence as to the causes of crashes becomes a rare and poorly established component in road safety policy development.

In this paper, I will outline how crash details and statistics are gathered, "investigated" and recorded by police in NSW. I will then explain the involvement of the RTA in the process, who extrapolate from the crash data supplied by police and apply specific criteria to come up with their definitive set of causal factors for crashes. I will then discuss the flaws and inconsistencies in this process and conclude with an examination of some contemporary road safety research in Australia, discussing why the research is often unreliable for the purpose of formulating road safety strategies.

Part One – the Police

In New South Wales, the primary agency that records and provides crash data is 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).

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?

Crashes that do not meet these criteria are considered to be minor in nature and are not routinely investigated. Immediately, a valuable opportunity to discover the reasons for these crashes is lost under the above criteria because in "minor" crashes, both drivers and passengers could be easily interviewed. By interviewing drivers and witnesses involved in minor crashes, it would be relatively easy to discover what drivers were doing prior to their crash. My experience as a police officer has shown me that in most cases, the typical causes of minor crashes are no different to those that underlie more serious crashes. It is not just about speed. There is no magic fixed speed or inherent margin of increased speed above a prevailing speed limit that will cause a crash. The relative "safety" of any speed necessarily depends upon a plethora of considerations that a driver should make according to the prevailing road environment.

The next issue to consider when examining how causal factors for crashes are currently determined, is to understand 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, beginning with the welfare of those involved and working through a set of further priorities that deal with restoring traffic flow, recording how the crash happened and culminating with taking action against the driver/s considered responsible for the crash. Annexure 1 is a copy of instructions for NSW police on what to record at motor vehicle crashes. In these instructions, there is no mention of the need to discover why a crash happens. The instructions listed do not represent an investigation of cause but rather a simple process of recording observable information, the explanations given by drivers and ensuring that certain functions are carried out, such as breath testing and taking action against the driver deemed responsible.

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

If it were a requirement (as it should be) to accurately record the reasons why a crash occurred, it would extend the time involved in routine crash investigations significantly and impact upon the competing priorities of a police officer's busy shift.
In the absence of any specific requirement to do so, it is easy to understand why causes of crashes are not well established. Police preoccupy themselves with simply, how the crash happened and whether any offence was committed. Brief explanations from the drivers involved in a crash are required by law (Australian Road Rule 287) and recorded by police but this requirement and most explanations provided, simply indicate how a crash happened from the driver's perspective and usually do little to shed light on why the crash occurred. Drivers are rarely prepared to incriminate themselves when providing a required explanation of how they believe their crash happened. The Bureau of Transport and Regional Economics was clearly right when it suggested that police crash statistics nationally, are far from complete. It is also important to bear in mind that any offence committed by a driver and the cause of a crash, may not necessarily be the same thing.

It is important to mention that even in the case of serious crashes involving death and/or serious injury where specialist investigators attend, a better picture results about HOW a crash happened. However, much of what can be gleaned from a crash scene often remains circumstantial at best, of WHY the crash occurred. Too often, cause is simply stated as excessive speed or fatigue in the COPS narrative because it is easy to link the physical outcomes of crashes with pre-determined criteria, in the absence of any conclusive evidence. This pre-determined criteria will be examined in Part 3 of this paper.

In a recent semester's offering of Charles Sturt University's "Road Trauma Reduction" subject within its Bachelor of Policing course, students were asked to submit a short comment about the appropriateness of general duties police attending to vehicle crashes. The following quotes come from the submissions of the six operational police who undertook the subject. The identities of these students are maintained by the author. These comments from operational police confirm my

assertions made above, about the agenda of police when attending crashes and that causal factors involved in crashes are seldom established.

Student 1:
"In short, it is clearly evident in my patrol that general duties police do not think road safety is expressly their portfolio."
Student 2:
"General duties policing involves a high degree of interaction with the public however time is not provided for officers to do more than take quick notes of what has occurred and move on. Most officers would love to have the time and really assist the public and look closer at causal effects of traffic crime but who is going to pay for that time?"
Student 3:
"When I think back to my own training regarding traffic and accidents, it was definitely a case of get the basics recorded, do a site diagram and send someone a ticket in the mail so you can move on to the next job on the list. As long as a person at fault was established, that was the end of the investigation into the incident."
Student 4:
"Most GD's staff have little interest in traffic collisions and it tends to be just another bloody acco. More work to do. GD's do tend to look at the obvious at an accident, usually just the driver's statements. This information is placed on the system and the Traffic Office then directs the officer to issue a TIN or breach the driver for an offence."
Student 5:
"At present, untrained staff are attending traffic incidents not with the intention of finding out the contributing factors and conforming to the traffic policies but rather are trying to determine the driver at fault, if any and then commenting on the associated factors at a later date when completing the COPS entry and in some circumstances placing "speed" when they are untrained (through no fault of their own) to make this determination."
Student 6:
"When it comes to general duty police attending crashes, I don't believe they go there with the attitude of investigating the incidents to establish and identify the causal factors involved, they are there to record the observable information, act on any offence and then return to the station to record these details on COPS."

Part Two – the RTA's data processing

In New South Wales, the RTA 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 known as the Road Safety Strategy Branch which 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.

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 states that TADS validates and enhances the information. The extent and nature of this "validation" and "enhancement" is not provided on the website but the RTA claims that it is a

process whereby crash data is transposed into a different format. The data validation and enhancement is contracted to the Spinal Cord Injuries Australia (SCIA) group. According to the RTA, the SCIA 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 validate it

The RTA states that checking for inconsistencies and errors occurs and that the data is edited daily. The RTA then states that further checking and refinement occurs so that "anomalies" are corrected and a "clean file" is obtained. Finally, a 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) and the Australian Bureau of Statistics (ABS) to name a few.
Despite all the stated checking, re-checking and validation, there are still 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%.

Given the lack of information about the causal factors for crashes existing within crash reports on COPS, this RTA-managed process performs extrapolations of COPS data and delivers not only the causal factors for crashes - but in what percentages the various causal factors involved, contributed to the road toll. This determination of cause happens without any reference to the people involved in the crashes or to those who conducted the investigations. This is a process that forms conclusions about specific causal factors from data that does not provide a basis from which to draw such conclusions. I was particularly keen to study 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.

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.

The RTA's criteria for determining crashes that are caused by speeding and fatigue are duplicated in Annexure 2. The RTA begins by conceding that it is not always possible to suggest "speed" as a factor in crashes from police reports.

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…". The speed of a vehicle prior to impact is a factor to be considered in every crash. What crash investigators must do is to establish the speed at which a vehicle was travelling when reaching the possible point of perception of the hazard or circumstance that led to the crash. The investigator should 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 of the hazard 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 having information that indicates how the crash happened. The fact that a crash involved a significant impact does not automatically mean that the impact was caused by the speed of the vehicle.

Before examining the criteria in more detail, it is important to highlight the RTA's definition of "speeding". On their website (www.rta.nsw.gov.au), 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" as a factor in any crash, particularly when manipulating data in TADS.

When examining the RTA's causal criteria from Annexure 2, the RTA states that a crash will be recorded with speed as a causal factor if the driver/rider is charged with a speeding offence. 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
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 must be in motion. This is not the case when police attend a crash and so police do not proceed with speeding offences when no contemporaneous evidence of a vehicle's speed can be given. Therefore, this first criteria

provided by the RTA is superfluous.

Next, the RTA criteria also states that a vehicle will be considered as having been speeding if police record the vehicle's speed to be excessive. 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 further on this issue as it would require separate research on how police formulate opinions about "excessive speed" but my experience has shown me that "excessiveness" is routinely 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 almost every crash but it certainly should not be considered a precursor to excessiveness.

The RTA's criteria continues and indicates speeding will be nominated if "…the vehicle's speed is stated to be above the speed limit". This would not be known with any certainty in a routine police investigation of a crash and would again become a matter of non-expert opinion. In the case of fatalities and serious injury crashes, a better estimation of speed is made by specialist investigators but again, vehicles do not crash automatically or invariably because they may have been exceeding a speed limit. Many crashes occur at speeds at or below the speed limit.

Following the criteria in Annexure 2, the next point is "jack-knifing". The inclusion of this phenomenon as a criterion for speeding is problematic because in most cases, "jack-knifing" results from an emergency combination of steering and braking input as a result of the manifestation of an inappropriate road behaviour that was unforseen and can occur at relatively low speeds.

With regard to the next criteria of "skidding", "sliding" and "lost control", it is over-simplistic to suggest that the solution to such occurrences is for drivers to slow down.
Experience has shown me that such losses of control primarily occur because of a failure on the part of drivers to recognise and respond to hazardous road conditions, rather than any conscious effort on the part of drivers to test their abilities in trying to maintain a speed that they knew would be risky under the circumstances. The speed a vehicle reaches can be a by-product of this lack of attention. From a true causal perspective though, the remedy to reduce instances of a driver's loss of control is to better educate drivers on how to recognise and perceive risk/hazards within the road environment, rather than simply slowing drivers down. A slower driver does not automatically equate to a safer driver. If we were to pursue the "slow down" argument to save lives to its logical end, we should abandon cars and all get around in a horse and buggy. This would most definitely result in a dramatic drop in road deaths. An "overuse" or harshness of braking and/or steering (typical in a panicked response where a driver's concentration was lacking) can result in skidding, sliding and loss of control and more often results from driver inattention, inability and failure to respond in time to a hazard, rather than simply from speeding.

The RTA's next comment about speed as a criteria in Annexure 2, relates to vehicles running off the road, except where it was because of drowsiness, illness, inattention etc. The problem with this criterion is that factors such as drowsiness and inattention are rarely established with any certainty in crash investigation.

There are flaws and shortcomings in the RTA's criteria, particularly when their application is the

result of any number of opinions during the functioning of TADS. Inaccuracy is not just a probability in such a process, it is a certainty. Such inaccuracy however, does not seem to be an issue with the RTA (neither with the NSW Government) and one might question the intent of the process in light of the following extract:

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. (Brelsford 2003, p70)

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!

The same vagueness can be seen in Annexure 2, when studying the criteria that leads to a crash being classified with "Fatigue" as a causal factor.

As an example that highlights the flaws in the RTA's claimed causal factors, I have examined a couple of relatively recent police operations. Operation 1 was conducted in 2003 and Operation 2 was conducted in 2004. The 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:-

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 had not crashed when stopped and issued with their speeding fines. Despite 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" had not crashed.
• Whilst it cannot be ascertained how many drivers drove on the roads at any time during these 3 days and how many hundreds of thousands of kilometres were travelled by these drivers during this period of intense police enforcement, the vast majority of drivers did so without incident. Australia reports only one death per 109 million kilometres travelled.

• If we accept the RTA's claims about the percentage involvement of their causal factors, for example 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. That comes to a total of 166 crashes. What caused the other 404 crashes, remembering that the 3350 "speeding drivers" in this operation 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!
• 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?

We can see from these figures that around 70% of crashes fall outside the ambit of the RTA's criteria because their cause is unknown. Most of the 30% of crashes that are classified with a cause, receive their classification as a result of the workings of TADS, rather than a qualified finding from an investigation.

Part Four – The Research

Two prominent sources of road safety research from whom Australian road authorities (particularly the RTA in NSW) rely upon and subsequently base their road toll reduction strategies, are:

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)

A famous (or infamous, depending upon which side of the speeding debate one sits) research project that implicated "speed" as a significant causal factor for crashes 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 research project 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 at or below the speed limit.

According to RTA figures, only 3% of our road trauma occurs on our 110kph freeways & highways - yet a lot of mobile and static traffic enforcement seems to occur on these classes of road where the road environment is devoid of intersections, pedestrians, housing & the other typical road hazards routinely involved in road trauma incidents. The NSW police maintain that their deployment of mobile and static highway patrol 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.

I argue 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 quote from the minister. I regularly witness marked Highway Patrol Cars sitting behind trees, bushes and other discreet locations that have no significant crash history at the location. As a former NSW highway patrol officer, I was regularly tasked to do the same, as were my colleagues of the time.

Numerous individuals and motoring groups independent from government ties and government funded research (such as the National Motorists Association of Australia, FastAndSafe.org.nz and ex-Vicroads John Lambert MIEAust), have critiqued the Kloeden research project and highlighted the biases, assumptions and other flaws contained in it, with regard to the "finding" that marginal speed increases cause massive increases in crash risk. 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 appear to have ignored these criticisms and continue to cite the research when attempting to justify the need for slower travel speeds and increasing levels of speed enforcement. It is also worth noting that the "findings" of this research project are typical of much contemporary road safety research in Australia, relying upon extrapolations of data produced by statistical theory.

An example that shows the unreliability of research that is based upon statistical theory and extrapolation of data was the MUARC study (Newstead & Cameron, Report 204, 2003), that looked at Queensland's speed camera program. This study "proved" (at least theoretically), because speed cameras were introduced, that the following annual figures resulted:

1. 110 fewer fatal crashes per year
2. 1100 fewer crashes where hospitalisation was involved
3. 2200 fewer crashes that required medical treatment
4. 1600 fewer non-injury crashes

The reality of course is that the research quite rightly refers to its findings as estimations. A snapshot of reality was as follows:

1. In, 1996, Queensland recorded 338 fatal crashes
2. In 1997 as the speed camera program began, Queensland recorded 321 fatal crashes, a percentage reduction of only 5%
3. Fatal crashes reached a low of 257 in 1998 (a 24% reduction from 1996) but then climbed steadily each year until 2004, when 311 fatal crashes were recorded. This represents an 8% reduction from the 1996 figure, a long way short of the claimed 45% reduction in fatal crashes (directly attributable to speed cameras) as stated in the research "finding"
4. During the rise in fatalities from 1998 to 2004, Queensland's speed camera locations increased five-fold

It is a concern when road authorities and State governments continue to fund and use statistically derived research to justify their policies of road trauma reduction when clearly, actual results show

that the research is inaccurate and/or misleading.

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. (Harrison 2003, ARRB Transport Research)

The British government's Transport Research Laboratory concluded that excessive speed was a causal factor in only 7.3% of crashes. 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.

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 road safety is as valid a cause as were the crusades in preserving the Holy Land. The German Autobahns that allow unrestricted speed, report lower fatality rates per kilometre than comparable US highways where the 55mph speed limit was retained! During 2004, Italy increased the speed limit on its multi-laned 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 have comparable speed limits on their suburban roads and in some cases even slower than in NSW, but they also have speeds higher than those allowable on major roads in Australia but in conjunction with better and safer road environments. "Speed" is not the greatest causal factor for crashes, despite it being claimed so by road authorities and most road safety researchers in Australia. The real issue about "speed" is when its use becomes excessive for the prevailing road environment. This of course leads to the specific debate about the necessity of speed limits and appropriate speed zoning. This paper does not purport to address the specific issues of speed limits and speed zoning in any depth but it is the author's belief that there are considerable inequalities and inconsistencies with these issues, both in NSW and Australia as a whole.

My experience has shown me that poor judgement, poor risk perception, ignorance of risk, inattention, complacency, poor driver education & development and unsafe road environments, are all factors that are more significantly involved as causal factors of road trauma, when compared to the issue of speeding.

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 crashes. A little more recently and a little closer to home, consider the following:

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. (Knowles & Tay 2002)

Driver distraction can be both visual and cognitive in nature and both can and do lead to failure on the part of a driver to either recognise or respond appropriately to a hazard. In their research, Regan & Young clearly state that driver distraction/inattentiveness is a significant causal factor in road crashes in Australia.
Despite the evidence, provisions for distraction, inattentiveness, poor risk perception and risk taking as causal factors, doesn’t even exist within the RTA’s causal factors criteria or TADS. In fact, none of these underlying causes of crashes are included in RTA statistics who, as the Government appointed road safety authority and along with the NSW police, perpetuate the claims that the “fatal four” (ie speeding, drink-driving, fatigue & not wearing seat belts) cause almost all our road safety problems. Nothing could be further from the truth!

Annex 1

13 Point Plan to Investigating and Recording Major Traffic Crashes.

Officers investigating **Major Traffic Crash Events** will follow the 13 point plan in the investigation and recording of the crash:

1) Record location of vehicles (Lane no.'s etc).
2) Check for injuries, attend where applicable.
3) Identify drivers and any witnesses.
4) Determine point of impact.
5) Remove vehicle from road to allow free flow of traffic (CIU not investigating)
6) Obtain versions from identified parties.
7) Take appropriate action where applicable.
8) Create COPS event.
9) Complete ALL mandatory actions.
10) Narrative to contain all driver/owner details. Vehicle registrations, vehicle makes, time, date and location, damage/injuries, Breath test results
11) Weather Conditions
12) Speed Limit
13) Record action taken/pending.

(See one page Aid for completing MTC COPS events)

Annex 2

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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Submission to Parliamentary Travel Safe Committee Issues Paper No 12
'INQUIRY INTO AUTOMATIC NUMBER PLATE RECOGNITION TECHNOLOGY'

Submitted by Daniel Calvert

Introduction.

This submission consists primarily of a paper written by Peter Ivanoff, Lecturer at the School of Policing Studies, Charles Sturt University. The paper is titled 'How Road Authorities Classify The Causes Of Road Trauma.'

The writer has obtained Mr Ivanoffs permission to reproduce his paper.

The writer's input is limited to the following Introduction.

INTRODUCTION

The Queensland Parliamentary Travelsafe Committee is about to meet to consider the introduction of Automatic Number Plate Recognition (ANPR) in Queensland.

It is apparent that the technology is expensive and invasive, it is the writer's opinion that the considerable financial and police resources that would be devoted to ANPR would be better deployed elsewhere if the desired objective is to effectively impact the road toll in Queensland.

It is also apparent that the technology will be widely used to enforce speeding infringements, indeed, the well known and controversial Monash University study, which has been widely discredited, is used to support this intention.

The following paper is an authorative insight into where authorities have gone wrong in their analysis and manipulation of data relating to road trauma and identifies weaknesses in present State road safety policies. It further acts as an ideal guide to where policing and data collection might be better employed to impart effective road safety initiatives.

The paper is reproduced as published, however I have highlighted some very salient FACTS that reveal serious flaws in current Australian thinking plus some illustrations of why vehicle speed per se is does not merit the current disproportionate emphasis in enforcement and media propaganda.

Some interesting points raised include:

- **The huge margins for distortion in recording the causes of road incidents due to police and RTA guidelines pertaining to methods of recording the data. Even percentages quoted in official reports don't equate with the numerical breakdowns cited in those same reports.**

- **The telling RTA statement that a broad approach to research figures gave the government 'more control over the use of the information. '**

- **The inaccuracy and limitations of the Monash university findings re the crash risk in speed differentials in kph which has long been trotted out by State Governments in defence of fining motorists for even minor incidences of exceeding posted speed limits – the same study cited in Parliamentary Travelsafe Committee Issues Paper no 12.**

- **The fact that even according to RTA figures only 3% of Road Trauma occurs on 110kph freeways and highways, yet these are the focus of a disproportionate amount of 'enforcement'**

- **The British Governments Transport Research Laboratory's Findings that excessive speed was a causal factor in only 7.3% of crashes.**

- **The fact that Germany's unrestricted speed Autobahns report lower fatality rates per kilometre than comparable US highways where the 55MPH limit is retained.**

- **The Fact that when the speed limit was increased from 110KPH to 150KPH on Italian multi-laned highways the annual road toll on these highways DECREASED by more than 20% from the previous year.**

As a taxpayer, Australian Citizen and Motorist for some thirty years it is my will that the people elected to represent me cease the disproportionate emphasis on vehicle speed and speed enforcement and look for more realistic solutions to the road toll by targeting the real issues. It is also my will that the abhorrent use of surveillance via technological means in any way shape or form, particularly ANPR, is discontinued as it has been proven not to save lives. Whilst undue resources are being channelled at easy solutions people continue to die on our roads and otherwise innocent motorists are both fined and lose of points for perfectly safe driving practices.

Daniel Calvert

How Road Authorities Classify The Causes Of Road Trauma

The following paper is about how road authorities classify the causes of road trauma and how they are inaccurate.

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Introduction:

"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." (Simpson 1998)

Road Trauma is a term that encompasses both the human and financial losses suffered as a result of crashes on our roads. In New South Wales, the cost of road trauma in 2003 came to approximately 3.6 billion dollars. Given the enormity of the personal and economic consequences of road trauma, it is imperative that the government and other key road safety stakeholders should understand exactly why crashes happen.

Table 1 – Historical trend of road fatalities

3.1 FATALITIES - OVERALL TREND

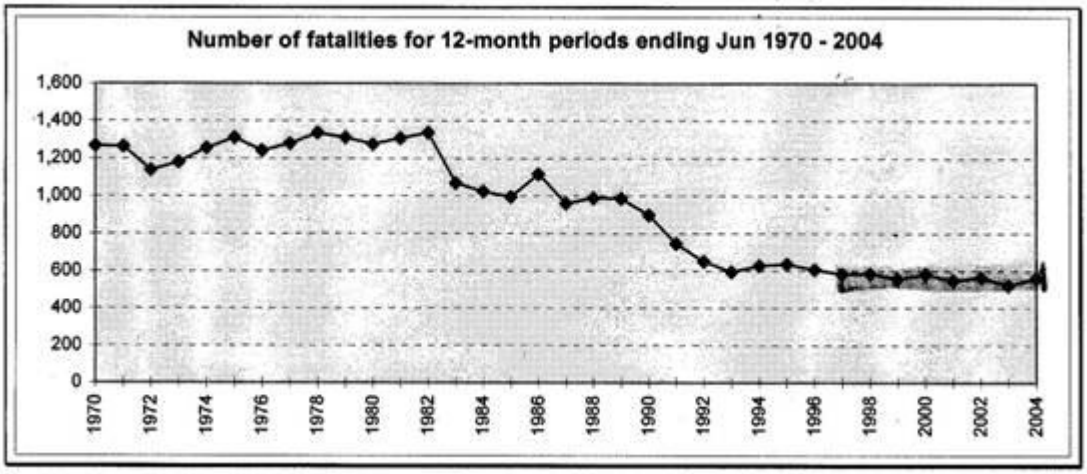

Table 1 above, shows that from a historical perspective, road authorities in NSW have had success in reducing the number of fatalities and injuries being sustained on our roads, from a high of over 1,300 fatalities in 1978 down to under 600 fatalities for 2003. This has been a significant achievement when one takes into account the increasing volume of vehicular traffic during the same period. This reduction in the road toll has occurred in a series of steps & plateaus. Significant and permanent reductions in the road toll resulted from initiatives such as compulsory wearing of seat belts, roadside breath testing and vigorous media safety campaigns backed up by enforcement strategies. Despite the ongoing use of such strategies, our road toll has been in a virtual stasis since 1997. It would seem that the potential of such strategies for the reduction of road trauma has reached its maximum. More of the same is not producing results.

NSW road authorities (primarily the Roads and Traffic Authority & the NSW Police) have continued both media campaigns & enforcement efforts in an attempt to re-start a declining road toll. They are focussing their efforts on a campaign that implicates “speeding” as the greatest killer on our roads.

Despite the increasing reliance of technology in the detection of “speeding” drivers, particularly via the increased use of static speed cameras, the stasis in our road toll continues. The increasing reliance on the use of speed cameras, the lowering of speed limits and the introduction of “double-demerits”, has had no appreciable effect on the road toll in New South Wales. Holiday period road tolls in particular, have been up and down like a yo-yo for many years now, despite intensification of enforcement efforts during these periods. Pleas for people to slow down and more and more speed cameras, will not serve to develop increased awareness and hazard perception skills of drivers.

More importantly, little is known about what are the real underlying causes of why crashes occur. Improved knowledge of causal factors for crashes is imperative, if further reductions in road trauma are to be achieved.

The failure of current speed management strategies (particularly “speed cameras”) as the next panacea to achieve significant reduction in the road toll is clear when one compares road trauma statistics for the last 8 years. The number of fatal crashes in 1989 totalled 551 and whilst this fell to 469 by 2004, 2005 results to date are showing an increase again, with no definitive evidence available to indicate the reasons why.

A plethora of information exists and is routinely gathered on the incidence of crashes but unfortunately, whilst we do well at gathering information about HOW crashes occur, we do quite poorly when it comes to understanding WHY they occur. Drivers don't crash as soon as they exceed a speed limit or ought to have been going a bit slower. If this were true, crashes would be a commonly encountered phenomenon on every road journey. Speculation, opinion, and at best calculated guesswork, routinely pass for fact as the cause of crashes. This inaccuracy is then compounded by the application of vague and imprecise criteria with which the RTA classify causal factors for crashes. As a result, factual evidence as to the causes of crashes becomes a rare and poorly established component in road safety policy development.

In this paper, I will outline how crash details and statistics are gathered, "investigated" and recorded by police in NSW. I will then explain the involvement of the RTA in the process, who extrapolate from the crash data supplied by police and apply specific criteria to come up with their definitive set of causal factors for crashes. I will then discuss the flaws and inconsistencies in this process and conclude with an examination of some contemporary road safety research in Australia, discussing why the research is often unreliable for the purpose of formulating road safety strategies.

Part One – the Police

In New South Wales, the primary agency that records and provides crash data is 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).

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?

Crashes that do not meet these criteria are considered to be minor in nature and are not routinely investigated. Immediately, a valuable opportunity to discover the reasons for these crashes is lost under the above criteria because in "minor" crashes, both drivers and passengers could be easily interviewed. By interviewing drivers and witnesses involved in minor crashes, it would be relatively easy to discover what drivers were doing prior to their crash. My experience as a police officer has shown me that in most cases, the typical causes of minor crashes are no different to those that underlie more serious crashes. It is not just about speed. There is no magic fixed speed or inherent margin of increased speed above a prevailing speed limit that will cause a crash. The relative "safety" of any speed necessarily depends upon a plethora of considerations that a driver should make according to the prevailing road environment.

The next issue to consider when examining how causal factors for crashes are currently determined, is to understand 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, beginning with the welfare of those involved and working through a set of further priorities that deal with restoring traffic flow, recording how the crash happened and culminating with taking action against the driver/s considered responsible for the crash. Annexure 1 is a copy of instructions for NSW police on what to record at motor vehicle crashes. In these instructions, there is no mention of the need to discover why a crash happens. The instructions listed do not represent an investigation of cause but rather a simple process of recording observable information, the explanations given by drivers and ensuring that certain functions are carried out, such as breath testing and taking action against the driver deemed responsible.

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

If it were a requirement (as it should be) to accurately record the reasons why a crash occurred, it would extend the time involved in routine crash investigations significantly and impact upon the competing priorities of a police officer's busy shift.
In the absence of any specific requirement to do so, it is easy to understand why causes of crashes are not well established. Police preoccupy themselves with simply, how the crash happened and whether any offence was committed. Brief explanations from the drivers involved in a crash are required by law (Australian Road Rule 287) and recorded by police but this requirement and most explanations provided, simply indicate how a crash happened from the driver's perspective and usually do little to shed light on why the crash occurred. Drivers are rarely prepared to incriminate themselves when providing a required explanation of how they believe their crash happened. The Bureau of Transport and Regional Economics was clearly right when it suggested that police crash statistics nationally, are far from complete. It is also important to bear in mind that any offence committed by a driver and the cause of a crash, may not necessarily be the same thing.

It is important to mention that even in the case of serious crashes involving death and/or serious injury where specialist investigators attend, a better picture results about HOW a crash happened. However, much of what can be gleaned from a crash scene often remains circumstantial at best, of WHY the crash occurred. Too often, cause is simply stated as excessive speed or fatigue in the COPS narrative because it is easy to link the physical outcomes of crashes with pre-determined criteria, in the absence of any conclusive evidence. This pre-determined criteria will be examined in Part 3 of this paper.

In a recent semester's offering of Charles Sturt University's "Road Trauma Reduction" subject within its Bachelor of Policing course, students were asked to submit a short comment about the appropriateness of general duties police attending to vehicle crashes. The following quotes come from the submissions of the six operational police who undertook the subject. The identities of these students are maintained by the author. These comments from operational police confirm my

assertions made above, about the agenda of police when attending crashes and that causal factors involved in crashes are seldom established.

Student 1:
"In short, it is clearly evident in my patrol that general duties police do not think road safety is expressly their portfolio."
Student 2:
"General duties policing involves a high degree of interaction with the public however time is not provided for officers to do more than take quick notes of what has occurred and move on. Most officers would love to have the time and really assist the public and look closer at causal effects of traffic crime but who is going to pay for that time?"
Student 3:
"When I think back to my own training regarding traffic and accidents, it was definitely a case of get the basics recorded, do a site diagram and send someone a ticket in the mail so you can move on to the next job on the list. As long as a person at fault was established, that was the end of the investigation into the incident."
Student 4:
"Most GD's staff have little interest in traffic collisions and it tends to be just another bloody acco. More work to do. GD's do tend to look at the obvious at an accident, usually just the driver's statements. This information is placed on the system and the Traffic Office then directs the officer to issue a TIN or breach the driver for an offence."
Student 5:
"At present, untrained staff are attending traffic incidents not with the intention of finding out the contributing factors and conforming to the traffic policies but rather are trying to determine the driver at fault, if any and then commenting on the associated factors at a later date when completing the COPS entry and in some circumstances placing "speed" when they are untrained (through no fault of their own) to make this determination."
Student 6:
"When it comes to general duty police attending crashes, I don't believe they go there with the attitude of investigating the incidents to establish and identify the causal factors involved, they are there to record the observable information, act on any offence and then return to the station to record these details on COPS."

Part Two – the RTA's data processing

In New South Wales, the RTA 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 known as the Road Safety Strategy Branch which 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.

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 states that TADS validates and enhances the information. The extent and nature of this "validation" and "enhancement" is not provided on the website but the RTA claims that it is a

process whereby crash data is transposed into a different format. The data validation and enhancement is contracted to the Spinal Cord Injuries Australia (SCIA) group. According to the RTA, the SCIA 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 validate it

The RTA states that checking for inconsistencies and errors occurs and that the data is edited daily. The RTA then states that further checking and refinement occurs so that "anomalies" are corrected and a "clean file" is obtained. Finally, a 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) and the Australian Bureau of Statistics (ABS) to name a few.
Despite all the stated checking, re-checking and validation, there are still 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%.

Given the lack of information about the causal factors for crashes existing within crash reports on COPS, this RTA-managed process performs extrapolations of COPS data and delivers not only the causal factors for crashes - but in what percentages the various causal factors involved, contributed to the road toll. This determination of cause happens without any reference to the people involved in the crashes or to those who conducted the investigations. This is a process that forms conclusions about specific causal factors from data that does not provide a basis from which to draw such conclusions. I was particularly keen to study 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.

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.

The RTA's criteria for determining crashes that are caused by speeding and fatigue are duplicated in Annexure 2. The RTA begins by conceding that it is not always possible to suggest "speed" as a factor in crashes from police reports.

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…". The speed of a vehicle prior to impact is a factor to be considered in every crash. What crash investigators must do is to establish the speed at which a vehicle was travelling when reaching the possible point of perception of the hazard or circumstance that led to the crash. The investigator should 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 of the hazard 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 having information that indicates how the crash happened. The fact that a crash involved a significant impact does not automatically mean that the impact was caused by the speed of the vehicle.

Before examining the criteria in more detail, it is important to highlight the RTA's definition of "speeding". On their website (www.rta.nsw.gov.au), 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" as a factor in any crash, particularly when manipulating data in TADS.

When examining the RTA's causal criteria from Annexure 2, the RTA states that a crash will be recorded with speed as a causal factor if the driver/rider is charged with a speeding offence. 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
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 must be in motion. This is not the case when police attend a crash and so police do not proceed with speeding offences when no contemporaneous evidence of a vehicle's speed can be given. Therefore, this first criteria

provided by the RTA is superfluous.

Next, the RTA criteria also states that a vehicle will be considered as having been speeding if police record the vehicle's speed to be excessive. 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 further on this issue as it would require separate research on how police formulate opinions about "excessive speed" but my experience has shown me that "excessiveness" is routinely 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 almost every crash but it certainly should not be considered a precursor to excessiveness.

The RTA's criteria continues and indicates speeding will be nominated if "…the vehicle's speed is stated to be above the speed limit". This would not be known with any certainty in a routine police investigation of a crash and would again become a matter of non-expert opinion. In the case of fatalities and serious injury crashes, a better estimation of speed is made by specialist investigators but again, vehicles do not crash automatically or invariably because they may have been exceeding a speed limit. Many crashes occur at speeds at or below the speed limit.

Following the criteria in Annexure 2, the next point is "jack-knifing". The inclusion of this phenomenon as a criterion for speeding is problematic because in most cases, "jack-knifing" results from an emergency combination of steering and braking input as a result of the manifestation of an inappropriate road behaviour that was unforseen and can occur at relatively low speeds.

With regard to the next criteria of "skidding", "sliding" and "lost control", it is over-simplistic to suggest that the solution to such occurrences is for drivers to slow down.
Experience has shown me that such losses of control primarily occur because of a failure on the part of drivers to recognise and respond to hazardous road conditions, rather than any conscious effort on the part of drivers to test their abilities in trying to maintain a speed that they knew would be risky under the circumstances. The speed a vehicle reaches can be a by-product of this lack of attention. From a true causal perspective though, the remedy to reduce instances of a driver's loss of control is to better educate drivers on how to recognise and perceive risk/hazards within the road environment, rather than simply slowing drivers down. A slower driver does not automatically equate to a safer driver. If we were to pursue the "slow down" argument to save lives to its logical end, we should abandon cars and all get around in a horse and buggy. This would most definitely result in a dramatic drop in road deaths. An "overuse" or harshness of braking and/or steering (typical in a panicked response where a driver's concentration was lacking) can result in skidding, sliding and loss of control and more often results from driver inattention, inability and failure to respond in time to a hazard, rather than simply from speeding.

The RTA's next comment about speed as a criteria in Annexure 2, relates to vehicles running off the road, except where it was because of drowsiness, illness, inattention etc. The problem with this criterion is that factors such as drowsiness and inattention are rarely established with any certainty in crash investigation.

There are flaws and shortcomings in the RTA's criteria, particularly when their application is the

result of any number of opinions during the functioning of TADS. Inaccuracy is not just a probability in such a process, it is a certainty. Such inaccuracy however, does not seem to be an issue with the RTA (neither with the NSW Government) and one might question the intent of the process in light of the following extract:

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. (Brelsford 2003, p70)

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!

The same vagueness can be seen in Annexure 2, when studying the criteria that leads to a crash being classified with "Fatigue" as a causal factor.

As an example that highlights the flaws in the RTA's claimed causal factors, I have examined a couple of relatively recent police operations. Operation 1 was conducted in 2003 and Operation 2 was conducted in 2004. The 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:-

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 had not crashed when stopped and issued with their speeding fines. Despite 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" had not crashed.
• Whilst it cannot be ascertained how many drivers drove on the roads at any time during these 3 days and how many hundreds of thousands of kilometres were travelled by these drivers during this period of intense police enforcement, the vast majority of drivers did so without incident. Australia reports only one death per 109 million kilometres travelled.

• If we accept the RTA's claims about the percentage involvement of their causal factors, for example 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. That comes to a total of 166 crashes. What caused the other 404 crashes, remembering that the 3350 "speeding drivers" in this operation 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!
• 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?

We can see from these figures that around 70% of crashes fall outside the ambit of the RTA's criteria because their cause is unknown. Most of the 30% of crashes that are classified with a cause, receive their classification as a result of the workings of TADS, rather than a qualified finding from an investigation.

Part Four – The Research

Two prominent sources of road safety research from whom Australian road authorities (particularly the RTA in NSW) rely upon and subsequently base their road toll reduction strategies, are:

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)

A famous (or infamous, depending upon which side of the speeding debate one sits) research project that implicated "speed" as a significant causal factor for crashes 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 research project 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 at or below the speed limit.

According to RTA figures, only 3% of our road trauma occurs on our 110kph freeways & highways - yet a lot of mobile and static traffic enforcement seems to occur on these classes of road where the road environment is devoid of intersections, pedestrians, housing & the other typical road hazards routinely involved in road trauma incidents. The NSW police maintain that their deployment of mobile and static highway patrol 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.

I argue 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 quote from the minister. I regularly witness marked Highway Patrol Cars sitting behind trees, bushes and other discreet locations that have no significant crash history at the location. As a former NSW highway patrol officer, I was regularly tasked to do the same, as were my colleagues of the time.

Numerous individuals and motoring groups independent from government ties and government funded research (such as the National Motorists Association of Australia, FastAndSafe.org.nz and ex-Vicroads John Lambert MIEAust), have critiqued the Kloeden research project and highlighted the biases, assumptions and other flaws contained in it, with regard to the "finding" that marginal speed increases cause massive increases in crash risk. 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 appear to have ignored these criticisms and continue to cite the research when attempting to justify the need for slower travel speeds and increasing levels of speed enforcement. It is also worth noting that the "findings" of this research project are typical of much contemporary road safety research in Australia, relying upon extrapolations of data produced by statistical theory.

An example that shows the unreliability of research that is based upon statistical theory and extrapolation of data was the MUARC study (Newstead & Cameron, Report 204, 2003), that looked at Queensland's speed camera program. This study "proved" (at least theoretically), because speed cameras were introduced, that the following annual figures resulted:

1. 110 fewer fatal crashes per year
2. 1100 fewer crashes where hospitalisation was involved
3. 2200 fewer crashes that required medical treatment
4. 1600 fewer non-injury crashes

The reality of course is that the research quite rightly refers to its findings as estimations. A snapshot of reality was as follows:

1. In, 1996, Queensland recorded 338 fatal crashes
2. In 1997 as the speed camera program began, Queensland recorded 321 fatal crashes, a percentage reduction of only 5%
3. Fatal crashes reached a low of 257 in 1998 (a 24% reduction from 1996) but then climbed steadily each year until 2004, when 311 fatal crashes were recorded. This represents an 8% reduction from the 1996 figure, a long way short of the claimed 45% reduction in fatal crashes (directly attributable to speed cameras) as stated in the research "finding"
4. During the rise in fatalities from 1998 to 2004, Queensland's speed camera locations increased five-fold

It is a concern when road authorities and State governments continue to fund and use statistically derived research to justify their policies of road trauma reduction when clearly, actual results show

that the research is inaccurate and/or misleading.

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. (Harrison 2003, ARRB Transport Research)

The British government's Transport Research Laboratory concluded that excessive speed was a causal factor in only 7.3% of crashes. 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.

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 road safety is as valid a cause as were the crusades in preserving the Holy Land. The German Autobahns that allow unrestricted speed, report lower fatality rates per kilometre than comparable US highways where the 55mph speed limit was retained! During 2004, Italy increased the speed limit on its multi-laned 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 have comparable speed limits on their suburban roads and in some cases even slower than in NSW, but they also have speeds higher than those allowable on major roads in Australia but in conjunction with better and safer road environments. "Speed" is not the greatest causal factor for crashes, despite it being claimed so by road authorities and most road safety researchers in Australia. The real issue about "speed" is when its use becomes excessive for the prevailing road environment. This of course leads to the specific debate about the necessity of speed limits and appropriate speed zoning. This paper does not purport to address the specific issues of speed limits and speed zoning in any depth but it is the author's belief that there are considerable inequalities and inconsistencies with these issues, both in NSW and Australia as a whole.

My experience has shown me that poor judgement, poor risk perception, ignorance of risk, inattention, complacency, poor driver education & development and unsafe road environments, are all factors that are more significantly involved as causal factors of road trauma, when compared to the issue of speeding.

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 crashes. A little more recently and a little closer to home, consider the following:

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. (Knowles & Tay 2002)

Driver distraction can be both visual and cognitive in nature and both can and do lead to failure on the part of a driver to either recognise or respond appropriately to a hazard. In their research, Regan & Young clearly state that driver distraction/inattentiveness is a significant causal factor in road crashes in Australia.
Despite the evidence, provisions for distraction, inattentiveness, poor risk perception and risk taking as causal factors, doesn’t even exist within the RTA’s causal factors criteria or TADS. In fact, none of these underlying causes of crashes are included in RTA statistics who, as the Government appointed road safety authority and along with the NSW police, perpetuate the claims that the “fatal four” (ie speeding, drink-driving, fatigue & not wearing seat belts) cause almost all our road safety problems. Nothing could be further from the truth!

Annex 1

13 Point Plan to Investigating and Recording Major Traffic Crashes.

Officers investigating **Major Traffic Crash Events** will follow the 13 point plan in the investigation and recording of the crash:

1) Record location of vehicles (Lane no.'s etc).
2) Check for injuries, attend where applicable.
3) Identify drivers and any witnesses.
4) Determine point of impact.
5) Remove vehicle from road to allow free flow of traffic (CIU not investigating)
6) Obtain versions from identified parties.
7) Take appropriate action where applicable.
8) Create COPS event.
9) Complete ALL mandatory actions.
10) Narrative to contain all driver/owner details. Vehicle registrations, vehicle makes, time, date and location, damage/injuries, Breath test results
11) Weather Conditions
12) Speed Limit
13) Record action taken/pending.

(See one page Aid for completing MTC COPS events)

Annex 2

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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