

Tabled by: Macquarie Council of NSW
Answers to Hearing questions
Mr Christopher Burns 10/10/11

Traffic crash collection data

1. Could you outline your concerns about traffic crash collection data in NSW?
 - Unable to identify crash causation.
 - Underreporting of minor crashes reduces apparent crash risk of some vehicles
 - Police data is descriptive and few crashes are subject to actual investigation.
 - Data collection by Police is prosaic, recording of sufficient facts to support an Infringement Notice.
 - Crash reports may be simply in terms of Road Rules, generating self-serving data
 - Re-coding of Police data by RTA leads to erroneous conclusions.
 - MAA needs accurate injury/causation data to manage the CTP and LTCS schemes
 - No database of CTP/LTCS crashes
 - Risk management and risk pricing are compatible
 - Existing public databases do not lend themselves to risk management, merely quantification

Similar concerns are shared by researchers who do not regularly work with roads authorities. Funding for traffic crash data inspections is generally controlled by the road authority and limits criticism of the road authority or the data made available by them. There appears to be poor understanding of the content of the road crash data and hence, poor conclusions based upon interpretation of that data.

For example, in **Giles, M.J.**, *Primary and Secondary Data Sources for the Study of Road Crashes in Australia* (Edith Cowan University, WA), 1999 Road Safety Research, Policing and Education Conference, Canberra¹, we find the following:-

7. Conclusions

Existing road crash databases in Australia appear to be useful in estimating the magnitude of the road crash problem, albeit in terms of minimum crash numbers and outcomes. However these databases are deficient in two ways. Firstly, they have limited use in definitively identifying crash causation, such as vehicle, driver and road environment features that are most likely to result in particular outcomes. Secondly, crash information for the purpose of introducing specific crash prevention and injury reduction strategies appears to be limited, at best, or unreliable, at worst.

This paper concludes with:

In summary, the current road crash databases fall short of providing accurate information at both a disaggregated level and in terms of the big picture of road crash incidence. Instead of continuing to use questionable assumptions to adjust the information that is currently available, the quality and/or quantity of this information needs to be improved. For the sake of safer roads, this should be done sooner rather than later.

The South Australian Motor Accidents Commission notes the differences between CTP and Crash Statistics:

¹ Also published in The Australian Economic Review, vol. 34, no. 2, pp. 222–30, as “Data for the Study of Road Crashes in Australia”

“The under reporting of ‘Rear End’ crashes will almost certainly mean there is an under reporting of crashes at high-density traffic intersections, influencing the benefit/cost ratios and perhaps wrongly identifying ‘black spots’. As an example, CTP claims from postcode 5000 (central Adelaide) constitute 8.2% of all claims, yet only 6.5% of casualties. The true level of the road safety problem in central Adelaide is higher than identified in the crash database used by planners. Planners may have inequitably allocated resources to the problem.”

In general, it is desirable that data can be used to propose countermeasures to improve road safety and these may be designed to reduce the risk of exposure, the risk of a crash, or the risk of an injury or death once a crash has occurred.

For example, whilst the risk of injury to an occupant of a modern “safer car” may have reduced, there may be no change in the risk of that “safer car” causing an injury to a vulnerable road user or occupants of a smaller, less robust vehicle.

Present NSW data collection by Police with re-classification by RTA may give the impression the data is comprehensive, yet it remains barely descriptive of injury patterns.

With questionable assumptions based on poor data, we arrive at poor public policy.

One example is the simplistic methodology of reducing exposure to reduce the total number of crashes appearing in crash data. The RATE of crashes is different to the TOTAL number of crashes. It is well known that the rate of crashes (crashes per 10,000 vehicles) occurring in holiday periods is the same as the rate of crashes occurring in non-holiday periods².

Whilst the rate of crashes may be restricted by heavy Police enforcement and RBT and “driver reviver” fatigue management, there appears little measured benefit to the effectiveness of “Double Points”, other than to reduce exposure by reducing the number of vehicles on the road at that point in time. By reducing exposure through providing an incentive for people to not drive at all during this period, the total number of vehicle movements is reduced and this results in a lower total number of crashes, although the crash RATE remains the same.

Equally, by heavy enforcement of P-Plate drivers, exposure is similarly reduced, yet the cause of crashes is not elucidated from crash data.

Data on speeding appears subject to manipulation. Overstating the effect of speed enforcement discounts the effectiveness of improved engineering to provide casualty reduction. Crash data may be blinded to the effect of engineering and erroneous conclusions reached.

Please see the ARRB report funded by RTA:

<http://www.rta.nsw.gov.au/roadsafety/speedandspeedcameras/fixeddigitalspeedcameras/index.html>

This paper originally appeared as Dr. Don Carseldine’s 2004 paper: “Fixed, Digital Speed Cameras in NSW: Impacts on Vehicle Speeds and Crashes”

<http://www.rsconference.com/RoadSafety/detail/374>

² See P.63 http://www.infrastructure.gov.au/roads/safety/publications/2004/Safety_Aust.aspx

These two papers simply measure crashes and speeds before and after installation of the speed cameras in “selected” locations. The locations were initially identified as “black spots” from crash statistics. It is well established that treating “black spots” with road engineering improvements, gives an excellent return on expenditure with reduced crashes. (See also McColl’s report indicating Black Spots may be incorrectly identified due to crash number as opposed to injury numbers)

What is NOT included in the data analysed in either paper on speed cameras, is the effect of engineering improvements made to the road after the speed camera was installed.

Taking just one speed camera site used in Carseldine’s study, at Delhi Road North Ryde, it is apparent that the camera is in the wrong place. The “black length” was identified as being from Epping Road to Lady Game Drive. However, Delhi Road has two distinct sections, with the curves on the escarpment down to the river being where the crashes were occurring. The speed camera was placed on the straight stretch along the top of the ridge from Epping Road to the edge of the escarpment.

Following installation of the speed camera, engineering improvements were immediately commenced on the dangerous curves down the escarpment to the Lane Cove River at the intersection with Lady Game Drive. Re-engineering of the curves saw a massive investment in changing curve geometry, removing the polished and rippled road surface, sub-base repair and hot-mix re-surfacing, road widening, improved drainage, cutting back roadside trees, installing lighting and installing a continuous concrete median divider from the crematorium entrance to the river, preventing crossover or head-on crashes.

It is very clear that road engineering improvements reduced crashes, that the long-term role of the speed camera was minimal. By ignoring the major variable of road quality, crash reductions have been attributed to speed cameras alone.

Similar considerations have already seen some speed cameras shut down in NSW and many of these are included in the ARRB report.

2. Can you elaborate on your submission in regard to RTA data that over 20% of motorcycle crashes defined by police to include road conditions as a major contributing factor in the crash were redefined by the RTA as 'speeding' being the major factor? What are the ramifications of this?

Please refer to Pages 10 & 14 of the RTA Statistical Statements available at:-
<http://www.rta.nsw.gov.au/roadsafety/downloads/crashstats2009.pdf>

Criteria for determining speeding and fatigue involvement

Speeding

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.

Inspection of RTA data

The Motorcycle Council of NSW sought to inspect the effect of this re-classification in relation to single vehicle crashes, due to the large number of reports by riders of unsafe road surface on curves.

The MCC of NSW retained LdeR Consulting (ldeRconsulting.com.au) to inspect the RTA database, Sydney Region for the period 1999-2000.

The factor most commonly identified in motorcycle crashes in NSW is "excess speed". Almost one in four (24%) motorcycle crashes in NSW, were classified by RTA encoding as having involved excess speed for conditions compared to 10% of other drivers.

The following table is an extract from the RTA database, showing all crashes where a road surface hazard was reported by Police as a contributing factor to the crash.

As may be noted from the table, when this data is encoded in accordance with RTA instructions, the apparent meaning of the data changes significantly.

All crashes where Police recorded a road surface hazard as a contributing factor.

Classed by RTA criteria as Excessive Speed	Yes	No
Car	3.2%	0.4%
Light truck	3.8%	0.4%
Heavy vehicle	2.7%	0.3%
Emergency	8.5%	1.4%
Motorcycle	20.2%	6.2%

Source: RTA database, Sydney Region 1999-2000, (LDR Consulting for MCC of NSW)

Road surface hazards (including loose gravel on a sealed surface or shoulder, diesel or oil spills, water, potholes, other surface damage) were noted by police as a contributing factor in 20.2% of motorcycle crashes. These same crashes were classified by the RTA as “speeding” crashes.

Re-classification of Police data by the RTA appears due to an **assumption** by RTA that motorcycle loss of control must be due to excessive speed alone. This embeds an opinion in RTA data and blinds the inquirer to the effect of road surface defects.

For example, a motorcycle travelling at a speed below the speed limit may, without warning, encounter a road surface hazard such as a gravel-topped pothole repair, a steel plate, slippery crack sealant, slippery line-marking or road signage paint, multiple layers of road markings, rutting or other hazard.

In establishing the nature of cause and effect in relation to crashes, speed is one **factor** to be considered amongst many and cannot be used in isolation to determine **cause**. Confusion as to the meaning of the term “speeding” and poor analytical thinking may fail to separate speeding as a factor from an assumption that speeding was cause.

Ramifications

- Road safety focuses on speed enforcement
- No strategy for engineering to reduce road surface hazards
- Poor road design embeds risks for single-track vehicles
- Road hazards not recognised as being a factor causing crashes
- Police issue citations for Negligent Driving to riders instead of looking for a road hazard
- Local councils leave gravel on pothole repairs and leave excess gravel over Sprayseal.
- Implementation of gimmicks to fix M/C crashes like ISA instead of addressing root causes such as road hazards, diesel spills, poor road surface repairs etc.
- No programs to implement Austroads Guide to Traffic Engineering Part 15: Motorcycle Safety, despite ample funding for implementation of Parts 13 & 14 (pedestrians & bicycles) by RTA and local councils. These specific Guides have recently been withdrawn and their content integrated into general road design guides, with implementation to be guided by traffic crash data.
- Motorcycle riders paying higher insurance premiums subsidising poor road maintenance
- Motorcycle riders are set-up to fail, to be at-fault.

Medical Care and Injury Service Levy

3. Your submission noted that there are five different classes of motorcycles for the CTP scheme, each with differing risk and CTP premium. Each different class is paying a different LTCS levy. Your submission stated that this is not equitable.¹ Can you explain why?

LTCS and CTP are two completely different forms of insurance.

CTP is an indemnity purchased by a vehicle owner against being sued for injuries caused to another person through use of their vehicle. Pricing is based upon vehicle characteristics and owner characteristics.

LTCS is a community based no-fault scheme to benefit all. These can be small children, pedestrians or bicycle riders without any form of insurance. It is the community that benefits and bears the load of costs. All drivers/riders of registered vehicles are "subsidising" those without insurance at all.

Further, where drivers or riders are injured as a result of collisions with roadside furniture or fixed objects such as trees or telephone poles, a part of that risk comes from the community-supplied roadside infrastructure. To assign responsibility for roadside infrastructure to individual drivers or riders is inequitable. Around 40% of all casualties arise from collisions with roadside objects.

Similarly, single-track vehicles like bicycles or motorcycles are exposed to low quality roads maintenance. While an assumption in RTA data assigns blame to the motorcycle rider, the responsibility must be shared with the road owner, ultimately, the whole community.

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4. Your submission suggested that the LTCS levy should revert to a common flat fee across all registered vehicles in NSW and that it should be charged to licence holders rather than to owners of registered vehicles.² This suggestion was forwarded to the Lifetime Care and Support Authority in pre-hearing questions on notice. In reply the Authority stated:

This would represent a move to good (low risk) drivers subsidising poor (high risk) drivers. This is against a long held general insurance principle to price risk.³

- a. What is your comment on the LTCSA's response?

The response makes an assumption that the only persons claiming LTCS are poor drivers.

The risk of a crash giving rise to a claim under LTCS is a rare event for any one individual in the community. If one vehicle class is dominant amongst claimants, then supporting data must be examined carefully to accurately determine causation in order to identify risk management strategies and responsibilities.

¹ Motorcycle Council of NSW, MAA Submission 2, p 7.

² Motorcycle Council of NSW, MAA Submission 2, p 9.

³ LTCSA, Answers to pre-hearing questions on notice, 2011, p 4.

With the present system, pricing of LTCS risk is based upon a CTP risk.

In fact, CTP insurance is charged by vehicle characteristics. The response indicates some confusion between the vehicle risk and the operator risk and fails to consider road environment risk. This confusion makes it abundantly clear that these risks, currently mingled, must be separated before an accurate answer can be identified.

The risk factors associated with each type of vehicle are ill defined and there is no fair basis for establishing pricing of risk. The response does not consider the missing data, relying on the rarity of crash involvement of any one driver and the assumption that crashes happen only to bad people who may be stereotyped as risky.

There are risks inherent in road use that cannot be eliminated. All road users are required to share at least part of the cost burden for road use, as must the road owners.