

**Submission  
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## **REVIEW OF ROAD SAFETY ISSUES FOR FUTURE INQUIRY**

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Transport and Road Safety (TARS) Research  
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## Submission to NSW Staysafe Committee's *Review of road safety issues for future inquiry.*

# Serious injury data in NSW – how can we improve the current data collection and analysis?

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We recommend the Staysafe Committee inquires into the adequacy of current NSW road safety data used for the purposes of identifying serious injury crashes and access to this important data for the general research community. The method currently used by the NSW Centre for Road Safety that was originally set up by TARS UNSW, is to link road traffic hospital and Police crash records via a data linkage process. Road safety remains a serious problem for the community. Road traffic crashes rob us of too many of our young and productive members of our society, and constitute one of the major causes of premature death and injury. Most concerning is that these deaths and injuries are almost always preventable.

Questions are being raised about the effects of road traffic crashes on injury, especially serious injury. First because we really don't have good data on injuries due to road crashes since the focus has always been on road deaths. Second, it is likely that at least some of our efforts to reduce fatalities may actually increase serious injury. Some of our countermeasures act less on preventing crashes and more on limiting damage to the person. This, we fear may be resulting in greater numbers of people with serious longer term injury due to road traffic crashes. We need to know: a) whether this is so, b) the nature of crashes that results in serious injury so we can prevent them.

### **Why is this issue important?**

Road safety authorities around Australia and the world have focussed on trends in fatalities. This is because they are undoubtedly unequivocal outcomes, newsworthy and almost always tragic. Increasingly however there have been calls for better data on serious injury. In fact, the primary measure of success for our current National Road Safety Strategy 2012-2021 [1] is the number of serious casualties on the roads.

The problem is: What information do we use? Hospital data is available across Australia and the External cause codes (E-codes) differentiate road traffic injury and what type of road user is involved. It is possible to track changes in hospitalisation rates for road traffic injury [2].

To attempt to make a difference in preventing road traffic injury, however, we need more than this. We need information on the nature of the crash and how it occurred. In all states and jurisdictions in Australia, police collect data on road crashes and pass it on to road authorities for analysis and use in policy development. Police normally attend and investigate crashes where someone is injured or there is significant property damage requiring a vehicle to be towed away. Road regulations require crashes to be reported as soon as possible, especially where someone is injured or requires treatment for injury at a later time.

The problem is that not all crashes involving injury are reported to police; even for serious injury. We know this from multiple studies where hospital admissions data is linked to crash databases. These results show much higher numbers of injured due to traffic accidents being admitted to hospital than are in the road safety crash databases. For example, studies linking road traffic hospital and crash records in WA found only 64% of hospitalised cases linked to cases in the crash database [3], in NSW, only 56.3% linked [4], in New Zealand linkage was only 63% [5], in the UK, only 61% linked [6] and in Hong Kong only around 58% linked [7]. Clearly, looking only at injury or serious injury data that is captured in the conventional road crash databases will underestimate significantly the number of crashes and people injured. Even more concerning, particular types of crashes, have even lower representation in the crash databases. For example, the research shows that crashes involving particular road users, such as motorcyclists, pedestrians and young children are significantly under-represented in police-reported crash databases. The crash databases relying on police reports therefore only represent part of the problem.

### **Why should it be explored by Staysafe?**

Currently there is a great deal of interest in the use of probabilistic data linkage of hospital admissions and crash databases as a solution to identifying serious road traffic injury from minor injury. These studies show that probabilistic data linkage is not a solution to the problem of tracking serious road traffic injury and understanding why they occur. Counting serious road traffic injury only from cases in crash databases that link with hospital data will result in gross underestimation of the problem. NSW needs a new, alternative approach for monitoring road safety.

A number of government agencies (e.g., NSW Police, Transport for NSW (TfNSW), NSW Health) contribute to NSW road safety data so it is appropriate that the Staysafe Committee conduct an overarching inquiry which can combine inputs from across agencies and make recommendations that require coordinated action between agencies.

Presently it is difficult in NSW for independent researchers and NGO stakeholders to access the serious injury data other than via the de-identified general data available on the Centre for Road Safety web site. A Staysafe inquiry could assess the nature of the access problem by considering inputs from the many other stakeholders who could potentially use detailed NSW road safety data such as safety researchers and other road user groups, who are capable of analysing NSW road safety data and can provide insight into potential countermeasures. For example, Victoria currently provides researcher and NGO stakeholder access to the Vicroads Road Crash Information System (RCIS) which is an online database providing detailed crash data from Victorian road incidents dating back to 1987 [8]. A similar on-line scheme is provided through the US Government's National Automotive Sampling System (NASS) in the USA [9]. NSW access is limited in comparison. The Staysafe inquiry could compare what crash data sets are available in NSW, who can access them in any meaningful way and compare them to data sets available in other Australian states and internationally.

### **How will Government policy and practice be improved?**

The key to identifying serious road traffic injury is the hospital admission. The objective of a new approach to monitoring road traffic injury would be to systematically report all hospital admissions for road injuries to police. This would allow police to match existing reports of crashes that they had attended or had reported to them. It would also allow them to identify any serious crashes where no report had been made and to follow them up.

This new approach would have some major advantages. First it would produce a database of serious road traffic injury that accurately reflects the size of the problem and will allow tracking of change over time. Second, it would, for the first time, allow direct linking of crash information from the police report with hospitalisation information about the injury outcome of crashes. This would make possible analysis to understand how serious crashes occur, the types of injuries that result from them and allow evaluation of the effectiveness of countermeasures on different types of crashes and different types of injuries. Better information about what works and what works best will improve road safety action and outcomes. Third, the approach will direct police efforts into investigating and reporting on the road traffic crashes of most concern.

### **What benefits will the community enjoy?**

Road safety is unlikely to significantly improve while we still only focus on preventing road deaths. For too long, serious road traffic injury has been largely ignored in spite of its greater financial burden on our health system and the community. Expanding our focus, however, needs accurate data which

currently does not exist in NSW (only 56.3% of crashes are linked). We think some simple, strategic changes to how we manage the collection of information about serious road traffic injury will set us on a better path to improving road safety in NSW.

The community will enjoy safer roads if Staysafe inquiry recommendations to improve road safety data and in particular researcher access to detailed data, are made and adopted because better quality and more complete data about the circumstances of road trauma will provide better evidence upon which to base and target policy and practice and will improve the capacity of the NSW government to identify what strategies are measurably effective.

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