

## **Traffic policing and road safety for individuals and for populations**

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**ABSTRACT:** Traffic policing is about changing driver behaviour through guiding, enforcing and promoting safe road use within the road transport system. Typically, when we think of traffic policing, we think of enforcement alone . . . the detection, the ticketing, and the penalties. But traffic policing has traditionally been much more than that, partly as a consequence of not having technologies and methods to effectively enforce illegal driver behaviour. Prior to the 1980s and 1990s, interventions with erring drivers were mostly unplanned and arose from observations of an illegal act. Police intervened in person, which allowed for discussion about the illegal behaviour, its causes and consequences, and corrective actions to avoid re-offending. Since then, the availability of enforcement technologies and procedures targeting drink driving, drug driving and speed detection have seen a predominant focus on detection and punishment of drivers on a community-wide basis. As a consequence, traffic policing strategies became less focused on individual guidance and safety promotion. The Safe System approach provides perhaps the strongest direction for several decades in highlighting that guiding, enforcing and promoting safe driver behaviour comprise three core taskings for effective traffic policing. Examples from Australian, New Zealand and overseas projects will be presented to illustrate the application of Safe System principles to meet traffic policing challenges in guidance and promotion of safer individual behaviour.

### **Introduction**

Road safety plans, traffic law and traffic policing have improved driver behaviour and reduced the road toll in Australia. Australian jurisdictions do face unique problems in their road transport systems, such as monsoonal climate in the north, desert environments in the centre, winter snow and ice in the southern mountains, and the demands of traffic policing in the highly urbanised communities in the south and along our coasts. However, Australian jurisdictions, despite their particular challenges, have adopted international norms for traffic policing, adapting best practice and technologies for reducing road trauma and improving road safety.

In Australia, we are agreed on the same vision for our road transport system. This vision, known as the Safe System, is based on the idea that we must act responsibly and provide a safe road transport system: safe for drivers, for vehicle passengers, for truck drivers, pedestrians,

motorcyclists, bicyclists and all road users; safe for children, safe for our elderly, safe for everyone.

Legislation has played an important part in achieving our successes in Australia, but legislation alone will not solve the problem of illegal road behaviour and road trauma. Simply having traffic laws is not enough. Having, a well developed research capacity to investigate and assess road safety and traffic policing programs is not enough.

The significant road safety benefits to the community only come as a result of integration. That is, through co-ordinated efforts, through co-operation, through commitment; through the courage to put in place measures that may not be popular, and the through communication of the necessary messages about safety on the road. You will need to ensure that you are able to measure and assess your progress, and you need the common sense to know when it may be better to wait for another opportunity. Integration of effort arises from having a vision of what you want to achieve, and a plan for how you will go about securing that vision: a plan that identifies the issues, that describes the policies and the programs to address those issues, and that sets out how performance under that plan will be evaluated. The Australian government has released a new National Road Safety Strategy for the next decade 2011-2020 [1], and this will spark further development of plans and strategies. All Australian states and territories have reduced their road tolls in recent decades.

A good way of explaining the Australian approach to road safety and traffic policing is to refer to examples in New South Wales. Over the past three decades, New South Wales has reduced its road toll from just under 1,400 deaths per year (1,383 road deaths in 1978; 3,705 across Australia) to less than 400 deaths per year (377 road deaths in 2011; 1,292 across Australia). The total road toll in Australia in 2011 was less than what it was in just one state – New South Wales – in 1978.

How did New South Wales reduce road deaths to almost a quarter of the road toll in 1978? Over the past 30 years, we moved from ad hoc interventions to address a specific road safety problem, to a strategic view that sought to integrate and focus our efforts, through to the current systematic approach that reflects the Safe System.

Prior to 1982, attempts at reducing the road toll had short-term reductions but the road toll continued to climb. There was a lack of integration. Road safety was not viewed by governments, police, and the community as a major issue. The stated aim was to improve road safety and reduce road trauma, but the policies and actions were too often focused on just catching traffic offenders.

For effective traffic policing in a community, the focus must be on general deterrence. That is, we need to convince all road users to comply with the law and not act illegally. As well, there is a role for specific deterrence, with the objective of catching people in the act of offending, and punishing them to prevent a recurrence of the illegal behaviour. The challenge is to get the mix right between general and specific deterrence.

We describe this in terms of “extreme drivers”, safe drivers, and the “everyday driver” [2]. Consider drivers as belonging to one of three groups. First, there are law-abiding drivers who do

not commit offences – while a small group, these drivers simply do not commit traffic offences. Second, there are extreme drivers who are contemptuous of their role in the road transport system and who undertake criminal behaviour. We consider the extreme drivers to be “high risk”, they are the repeat traffic offenders, the drink drivers, and the speeders. They are, and should rightly be, the focus of specific enforcement action. The third group is those drivers who haven’t “figured it out yet” and remain to be convinced that their behaviour on the roads is unsafe. These everyday drivers are the focus of general deterrence in traffic policing. By public education and high visibility policing we can reach these drivers and change their behaviour for the better.

In 1982, the New South Wales government created a powerful new means to address road safety [3]. A standing parliamentary committee – the STAYSAFE Committee – was established to look at the core reasons for why the road toll was not reducing, investigate the road safety situation, and to identify workable countermeasures. The STAYSAFE Committee provided the means by which we moved from ad hoc interventions to a strategic view about road safety.

The STAYSAFE Committee’s first report [4] in 1982 laid out a clear plan to deal with alcohol-impaired driving – or drink driving. The great majority of drivers do not drive when alcohol-impaired, but for those few who do, the risk of crashing and causing harm is very high. The Committee recommended the introduction of random breath testing – RBT – by integrating new equipment to test drivers for alcohol impairment at the roadside, with new offences in the legislation, new operational deployment methods for police, and a massive public education campaign to inform and warn the public. Simply put, police were given the power to set up stationary sites at the roadside to randomly stop drivers and test their level of sobriety.

The random breath testing initiative saw a dramatic reduction in the road toll. Traffic policing became focused more on general deterrence through high profile policing, rather than just on specific deterrence by targeting offenders. Traffic policing became more intelligence driven, and became focused on reducing the road toll, rather than the number of arrests and the number of infringements issued to drivers. This is the model that has been used in New South Wales since 1982.

It is important to recognise that the work of the STAYSAFE Committee is done by elected parliamentary members, not by road safety experts. It is the parliamentary members who inquire, who seek the views of the community, or experts, and who report their findings. We think that much of the legislation and traffic policing initiatives in place in New South Wales (and more generally across Australia) over the past 30 years may not have been introduced, or would have been delayed, without the support of the STAYSAFE Committee. Many of the recommendations made by the STAYSAFE Committee resulted from parliamentary members’ learning about best practice in road safety research and policy development around the world. This has been critical to our success. The involvement of the legislators as leaders and advocates of an integrated approach to road safety and traffic policing allowed for clear linkages to be developed between lawmaking, policy development, program implementation, and the introduction of new technologies, new methods, and new thinking.

The success in addressing road safety depends, in great part, on how well you address such issues as commitment, co-operation and co-ordination, communication, evaluation, and the last but not the least, the courage to change (and the common sense to know when it may be better to wait for

another opportunity) [see 5, 6, or for a more recent alternative, but complementary, formulation, 7].

## **Commitment**

First and foremost, there must be commitment. There must be a commitment to the vision of a plan of action to address road safety, and there must be a commitment to working to achieve that vision. This is done by road safety strategic plans, first commenced in 1990. Road safety plans provide a framework to show the commitment of the New South Wales Government to achieving a vision for road trauma reduction. The plans included targets and performance measures for reducing road trauma, and identify areas for proposed action. Commitment means more than just lip service. Commitment has to flow through all levels of an organisation. It is not always easy. With limited budgets and so many differing issues to address, there will be competing demands for resources.

## **Co-ordination and Co-operation**

Following the changes initiated by the adoption of random breath testing as a general deterrence policing model, both the New South Wales Police Force and the then Traffic Authority of New South Wales (later the Roads and Traffic Authority, now Roads and Maritime Services) found they had different programs, different time lines, and different performance targets across organisations, despite trying to work to achieve the same goals of improving road safety and reducing road trauma. For example, at any one time, police were running operations on speeding when the roads authority was running advertising and communications campaigns on drink driving.

The further you went down the line, the greater the problems that would arise. What police and the roads authority wanted to do at the regional and local levels was often different to the State priorities. Joint action planning was developed to address this problem. For example, since 2011, police in Australia and New Zealand co-ordinate their activities to enforce road safety in the Easter and Christmas holiday periods. This is generally known as Operation Crossroads (but the Easter operation continues to also be known as Operation Tortoise in New South Wales, and the Christmas operation is known as Operation Safe Arrival).

Police involved in Operation Crossroads target a range of road offences including speed, alcohol, drug use, fatigue, distracted driving, and dangerous driving. Over the 2012 Easter holiday period, police in Australia and New Zealand:

- administered almost 700,000 random breath tests, and detected over 1,900 drink driving offenders;
- administered thousands of roadside drug tests, and detected 175 drug drivers;
- detected over 3,500 other driver licence offences (typically, unlicensed driving), and
- issued 38,749 traffic infringement notices (mostly for speeding, not including speed camera offences).

The result was that only 11 road fatalities occurred Australia-wide over a six day period. No fatalities occurred in New Zealand.

Operation Crossroads is an example of high profile policing that has the goal of ensuring safe driving behaviour. This is not just something that is promoted in isolation from the community – it is expected. In a conversation with a driver who was travelling from Queensland through New South Wales to Victoria, he said that police had stopped him on four occasions. Rather than being annoyed, he expressed appreciation as he felt that all drivers were more likely to act safely when they saw police being active out on the road. A New South Wales Police Highway Patrol Sergeant, speaking after the recent Easter 2012 Operation Crossroads, said that he was pleased that no road fatalities had occurred in his area of responsibility, and that his officers had stopped more drivers for random breath testing and driver licence checks than any of the other Highway Patrol groups in his Region. He didn't just talk about arrest or infringements, he understood that traffic policing was about being highly visible on the road and helping to create a safe driving environment.

### **Communication**

We do need to address the difficult issue of communication. The experience of the New South Wales Police Force and the roads authority in the 1980s was that there was a good understanding of the issues at the state level, but when you got to the “doers” who conduct the traffic policing and road safety activities, there was little understanding of the general intention and the system of approach to deal with road trauma and unsafe road behaviour, or of the need to get specific actions and tasks right in order to achieve the planned goals. The visionary goals had been filtered out. Highway Patrol and other police did not understand how their individual actions were valuable in addressing the State-wide issues of road trauma and road safety. This problem was addressed through the establishment of joint working groups at various levels within the police and roads authority structures, and by the development of a communication strategy to be delivered both internally and externally.

### **Evaluation**

Evaluation is not easy at any time, but it is even more difficult when the data that is required is not in the right format or is not timely. The New South Wales Police Force has automated much of the traffic policing data relevant to decision making, but there is still much to be done. There is a need to ensure that the data collected is relevant and can yield the information required to develop a clear picture of what is happening in the various traffic policing programs. As a basic set of questions, the following are critical: What kinds of crashes are happening, and why. When are the crashes or illegal behaviours occurring, where in the road transport system do they occur, and who is involved.

Above all, there is a need to be careful that we are accountable for road safety and traffic policing decisions. Recent controversies over the operation of fixed speed cameras have led to radical changes to the camera enforcement program, while the introduction of point-to-point speed cameras remains indecisive as the New South Wales government has to date only authorised enforcement action to be taken against drivers of heavy vehicles rather than all cars.

Ultimately, such decisions about safety in the road transport system are, and must remain to be, political decisions. The determination of an appropriate balance between the mobility, access, amenity and safety demands of the system is a political decision.

## **Courage**

Law makers and policy makers do not always have all of the information that might need for decisions – the real world is not a laboratory. Decision makers in road safety and traffic policing must have the courage of their convictions. They must be prepared to accept and respond to criticism, to argue the case, and to stand by what they believe. Courage means accepting that the research evidence is not (and may never be) available and to be confident in relying on your judgment. Sometimes, that will mean adopting a common sense approach, and accepting that a desired traffic policing technology or policy cannot be introduced at this point in time, and it is better to wait for a more suitable opportunity in the future.

Often, traffic policing is thought of as only the detection of offenders. While traffic policing is certainly about enforcement, it is also about providing guidance to the community and about persuading drivers that compliance with the traffic rules is the right thing to do. If guidance and persuasion are not present in traffic policing programs, then drivers can disregard enforcement actions by saying they were just unlucky to be caught, or that it is unreasonable that they have been caught for an offence.

It was Sir Robert Peel, the founder of British policing, who noted that the best way to deal with crime is prevent it. In the past, the effectiveness of traffic policing in New South Wales, as with other areas of enforcement, was measured by arrests and convictions. After the changes recommended by the STAYSAFE Committee in 1982, the focus shifted to a general deterrence traffic policing model. Effective traffic policing often means not catching anyone behaving illegally, just being active and visible to all road users. High visibility traffic policing does not always have to involve active patrols. The Traffic & Highway Patrol Command in the New South Wales Police Force has recently adopted the tactic of recommending officers complete any necessary paperwork and required reporting from the field wherever possible. By police parking their vehicles at the roadside and being visible to passing motorists when engaged in such tasks, such a tactic is thought to contribute to a general driver perception that police are likely to be encountered anywhere, anytime.

## **The challenges ahead**

New South Wales no longer has a simple structure to underpin the strategic interface between road safety agencies and enforcement and compliance agencies and entities. In New South Wales in the 1980s and 1990s, the structures were simple: police did the enforcement and processed the fines and the road authority did road safety prevention and the roads management activities. This represented a strongly linked strategic partnership.

Now, enforcement structure supporting road safety in New South Wales in 2012 is a complex unlinked system, mixing public and private sector interests. Traffic policing (including alcohol, drug, speeding and vehicle and licensing offences) is undertaken by specialist Highway Patrol police and also by general duties police. Red light enforcement is conducted by Roads and Maritime Services, fixed speed camera enforcement is conducted by Roads and Maritime Services (including “safety cameras” at intersections combining red light and fixed speed cameras). Mobile speed camera enforcement is conducted by private contract. Parking enforcement is conducted by local councils (and related entities such as universities), and traffic

fine processing is performed by the Office of State Debt Recovery (a part of NSW Treasury). There is no means of monitoring and determining if this enforcement structure is working well.

Despite such structural changes, the focus on speeding, drink driving, drug driving and illegal road manoeuvres remains.

## **Speeding**

A major innovation is the introduction of point-to-point (P2P) speed enforcement (average speed enforcement), which is a continuous automated speed enforcement system that measures the average speed of vehicles over an extended length of road. One of the challenges about speeding is that it is a transitory behaviour, that is, you can be speeding one minute, and compliant with the speed limit the next. This generates phenomena such as the “halo effect” where drivers slow for fixed speed camera sites or a known or suspected police speed enforcement location, and then resume the prior travel speed a short distance after. The great advantage posed by point-to-point speed enforcement is that the pattern, or sustained behaviour, associated with speeding can now be monitored. No longer is speeding the transitory behaviour that is associated with a specific enforcement point . . . It is now what you do, as a driver, over distance and over time that can be brought to attention, and enforced. In a sense, then, the problem of dealing with the transitory speeding behaviour is gone, replaced with the new “horizon” of dealing with sustained speeding as an illegal behaviour. The wider deployment of P2P speed enforcement is indicated, as there are anecdotal reports from police and transport officials of drivers exiting a P2P road segment and then driving at higher speeds in an apparent attempt to recover what is perceived as lost travel time. The opportunities offered by point-to-point speed enforcement remain relatively underexplored, particularly as the New South Wales government has announced that P2P enforcement will only we used to enforce heavy vehicle speeds.

There are a number of additional measures that will impact on future traffic policing for illegal speeds, but they are not enforcement measures. These include Intelligent Speed Adaptation (ISA), on-board data recorders (EVRs, note that ISA devices are on-board data recorders too) and smartcard driver licenses [8, see also 9]. Recent work has demonstrated that changing behaviour towards safer driving and less speeding can occur without enforcement or coercive action. Greaves and Fifer [10] at the University of Sydney have studied the behaviour of drivers who were able to receive financial ‘rewards’ for reducing illegal speeds *relative* to a normal driving control period, using GPS-based tracking of vehicle usage, position and speed. Three-quarters of the sample reduced speeding with overall levels of speeding, coming down from 13.5% to 8.8%. Coupled with an observed fall in vehicle kilometres travelled during the study, this represented a substantial reduction in speeding kilometres of 41.7%. Clearly, without enforcement action or other coercion, drivers can modify their distance driven and the speeds with which they drive. However, a substantial proportion (40%) of drivers studied did not, modify their behaviour suggesting they were unwilling or unable to change for the monetary incentives on offer. While undoubted challenges remain, GPS technology opens up the possibility for developing greater equity in road access charging systems that reflect not just the kilometres driven but when, where and how they are driven

## **Drink driving**

The enforcement of drink driving through random breath testing is one of Australia's great road safety success stories and one of Australia's great policing success stories. That we convinced our community that it is appropriate and proper for police to pull over a person driving down the road, who is otherwise showing no sign of impairment or who has not been observed committing an offence, and require them to identify themselves and submit to a breath alcohol test, and then be arrested if the test is failed, is extraordinary, and shows that the "civil society" relationships between the community, police, governments and the justice authorities are strong and resilient. The future developments in drink driving countermeasures lie more in the areas of alcohol control policy and dealing with offenders (e.g., education requirements, interlocks) [11].

## **Drug driving**

There has been much comment in the media about the resistance by the community to road safety measures, particularly if they involve enforcement. While the introduction of speed camera enforcement technologies has been fraught, police in Australia have had a remarkable success with the introduction of random drug testing, perhaps even more extraordinary as the legislation does not require police to establish impairment. Again, the future developments in drug driving countermeasures lie more in the areas of control policy for illegal drugs and dealing with offenders (e.g., education requirements, fitness to drive issues in addiction medicine). However, drug driving related to prescription and therapeutic drugs remains a difficult issue, particularly for older people who may well be polydrug users.

## **Licensing and registration offences**

Police in New South Wales have also had remarkable success with the introduction of Automatic Number Plate Recognition (ANPR). Driver licensing offences, vehicle registration offences (and by default mandatory insurance requirements – CTP) can be addressed in a way not hitherto possible. Of course, the major impetus for the development of ANPR technologies is from road pricing (e.g., toll rolls, needing automated vehicle identification systems for revenue collection). For the road safety interface, the future developments in these "road access" countermeasures lie more in the intelligence-led deployment of the ANPR technology to support drink driving and speeding enforcement, but there are also benefits through linking this traffic policing technology into the general dealing with crime in the community. There have been attempts to use traffic policing tactics to address general crime, and perhaps these need to be revisited (e.g., random road watch policing in Tasmania and Queensland, Operations Medea & Waratah in New South Wales).

## **Occupant protection**

One area of traffic policing that remains problematic relates to occupant protection enforcement – seat belt wearing, child restraints, and inappropriate carriage of passengers. While seat belt wearing compliance for drivers is generally very high, the non-wearing of belts by rear seat passengers remains an issue, and the incidence of non-wearing by vehicle occupants in fatal crashes is a significant problem (and usually contributes to the fatal outcome). Inappropriate carriage – overloading with passengers, improper use or non-use of child restraints, conveying



passengers in open trays of utes and trucks, and car surfing are also issues. The major failure of road safety policy for occupant protection is the inability to secure legislative provision requiring seat belt interlocks (generally in the vehicle fleet, or for offenders). Otherwise, developments in vehicle technologies have yielded great benefits for occupant protection, including, for example, the influence of ANCAP on the fitment of technologies that improve occupant protection (frontal airbags, etc.) and the development and marketing of side impact protection technologies (including airbags) that have the additional effect of strengthening the roof structures to provide rollover protection.

One new enforcement technology that can address the non-wearing of seat belts (and allow for enforcement action concerning a range of other traffic offences such as use of mobile telephones for making calls and texting, and drivers crossing double lines) is a long range camera technology now being used by New Zealand Police and under consideration by Australian police forces [12]. The cameras are mounted on a roadside tripod and can record image evidence from a distance of 300-500 metres.

### **Concluding comments**

Australia has done well in working towards a safe road transport system, but the recent Easter holiday experience with the Operations Crossroads shows us what could be achieved. In the six-day period, just 11 people died in road crashes on Australian roads. If this effect was maintained over a full calendar year, the Australian road toll would be expected to be 730 deaths, more than 500 deaths less than our current national road toll. This example shows just what can be possible with an effective interface between traffic policing and road safety.

Commitment, cooperation and co-ordination, communication, evaluation, and courage, are essential elements that play a large part in the likelihood of success for the future road safety effort. But there must be the proper framework in which road safety and traffic policing policies and programs can be formulated, argued and debated, and delivered. The Safe System approach provides this framework.

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