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Random Breath Testing – a Successful Policy Recipe

An analysis of the policy process and recommendations for future road safety success

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Photo: Greg Casey

Introduction

Australia, amongst the most highly motorised countries in the world (1), pays a high price for motorised transport. Deaths and injuries aside, the financial costs are estimated to be in the vicinity of $15 billion annually (2). Crash causation is constantly examined by a broad range of bureaucracies, researchers, motoring organisations, community groups and Government committees so that policies are focussed on counteracting the most prominent issues in a cost effective manner (3).

Numerous public policies implemented throughout New South Wales (NSW) in the 1970s and early 1980s years have attempted to curb the alcohol related road toll. The list includes the introduction of a legal blood alcohol limit of 0.08 in 1968, increases in fines for drink-driving from $400 to $1000 in 1978, licence disqualification for first offenders in 1979, mandatory breath testing of drivers following a crash or certain traffic offences in 1980 and later that year, a reduction of the legal blood alcohol concentration (BAC) from 0.08 to 0.05. (4; 5)

Despite these measures and in response to the death and injuries still occurring on the roads and community pressure to do something about it, the NSW Government, on 17th December 1982, implemented what was then a radical move in an attempt to curb alcohol related road crashes – Random Breath Testing (RBT). History now shows RBT as something of a 'silver bullet'(6) with RBT operations now a widely accepted part of driving in New South Wales. Yet as one of a considerable number of policies designed to target alcohol related driving, it differs significantly from that which commenced in 1982. Ongoing evaluations have resulted in further policy and legislative enhancements to the initial version.

Many drink driving studies recognise the success of RBT in the context of the *behavioural* effects it achieved, but do not discuss the *public policy* context. In fact, the path it followed throughout its policy implementation and development is a major reason for its success. This paper discusses that policy process within the context of a 'policy cycle' (7), including the actors involved, identification of the issue, analysis, policy instruments and implementation and evaluation. Clear implications for those seeking to implement future road safety policy initiatives are drawn out between the policy theory and the RBT example. A conclusion is then drawn about why the policy succeeded and why it maintains very high levels of community support.

Alcohol related driving – the policies and the literature

The New South Wales experience

Strong evidence exists supporting RBT's implementation in NSW as being amongst the best working model in Australia and internationally. Police and the then Traffic Authority were awarded for the 'Most outstanding road safety initiative in the world' (8). Many others have also recognised its success (9; 10; 11; 12; 13; 14). Homel (5) recognised that:

> 'As more and more jurisdictions in various parts of the world experiment with changes to the drink-drive laws and their methods of enforcement, the New South Wales RBT campaign may emerge as being, from a scientific point of view, of particular importance.'

The 'boots and all' model used in New South Wales used 'intensive police activity, extensive advertising and free coverage generated by wide-spread media interest' (13). The Australian Transport Safety Bureau (ATSB) noted that despite the introduction of RBT in Victoria in 1976, it was the NSW effort, involving high enforcement levels 'that saw real, sustained and significant gains' (14a). Sheehan (12) comments, 'There has been extensive Australian research done on this method of deterrence and it is generally accepted that the implementation of RBT in NSW has been the most effective model.' The NSW example is thus applicable far beyond state borders.

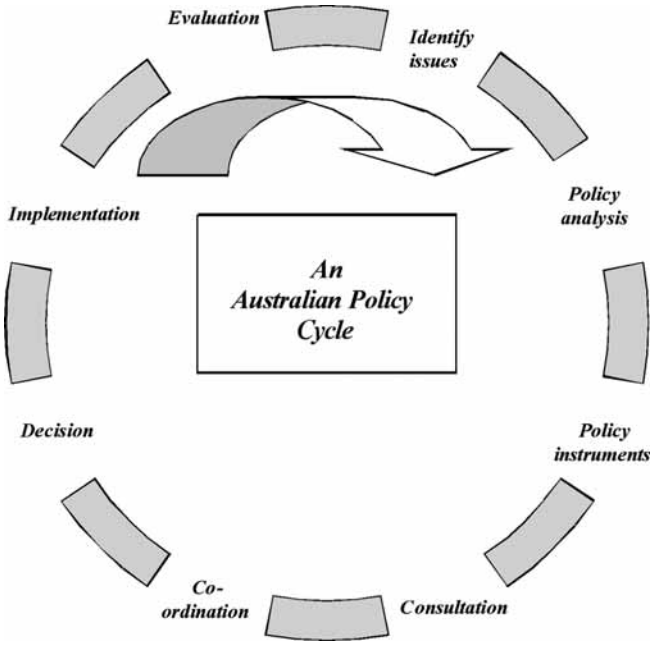
The Policy Actors

The States and Territories of Australia have primary responsibility for the management and regulation of roads within their jurisdictions (15). In NSW, the Roads and Traffic Authority (RTA), have primary responsibility for delivering road safety policy, through management of most facets of the States road network including the safety of the road environment and road users (16). NSW Police have responsibilities for road safety through enforcement and facilitation of the free movement of traffic (17). Local Government responsibilities lie with local traffic management and both environmental and more recently, behavioural road safety programs (18).

The Staysafe inquiry and corresponding consultation that preceded RBT saw the whole scope of *policy actors* involved in the policy process, i.e. elected and appointed officials, interest groups, research organisations and mass media (19), albeit in the somewhat controlled environment of a committee hearing. Yet the decision making phase remained solely at State Government level. At the implementation phase, it was the Police who were the primary agency involved, with the RTA playing a community education and publicity role through the mass media.

The literature makes much of the threats to successful policy implementation if too many agencies are involved. Pressman & Wildavsky (20) comment, 'When a program depends on so many actors, there are numerous possibilities for disagreement and delay.' Others conclude that the probability of a successful outcome is reduced when responsibility is shared amongst too many players and when implementation requires agreement at each stage among a large number of participants (7) (21). Gerston & Sharpe (22) restate the axiom of Robert Lineberry in that:

> 'successful implementation depends upon simplicity and simplicity demands that authority and administrative responsibilities be shared amongst the fewest possible agencies.'



Source: Bridgeman & Davis (2000:27)

The implementation of a 50km/h urban speed limit in NSW provides an example of the difficulties raised above. State Ministers, the Staysafe Committee, Local Traffic Committees as well as the full Council for each of the 172 councils (23) in NSW were all involved, resulting in 'disagreement and delay' and an ad-hoc policy implementation. Statewide uniformity was not achieved until the State Government 'overruled the bureaucracy' (22) and reduced the default urban speed limit. In RBT's case, these problems were avoided by virtue of the minimal number of actors involved - a major hint regarding reasons for success.

A Policy Cycle

Whilst some authors discuss the policy process (24), Bridgeman & Davis (7) detail the concept of a *policy cycle*, which they suggest, arises from the 'endless interactions' of the political, policy and administrative worlds, the routines that define the roles and responsibilities of each of the players and the recognised sequence taken by policy ideas on their way to cabinet consideration and subsequent realisation. They cite the work of Lasswell (1951), Simeon (1976), Sabatier & Jenkins-Smith (1993)

and Burch & Wood (1989) before arriving at their own eight stage *Australian policy cycle*. This they describe as 'merely a tool, a small machine for making sense', with numerous applications for their model demonstrated and discussed throughout their work (7). Their model provides an excellent framework for examining the introduction of RBT in NSW.

Identification

The first issue discussed is the need to *identify issues* (7). Between 1964 and 1982 at least 1,000 people were killed each year on NSW roads, reaching a peak of 1,384 in 1978 (25) and the Government of the day was under pressure to act (5). The Minister for Transport, the Honourable Mr Peter Cox moved in the Parliament that a joint standing committee be appointed to monitor, investigate and report on road safety issues in NSW and also to 'review and report on countermeasures aimed at reducing deaths, injuries and the social and economic costs to the community arising from road accidents' (27).

Amongst the various physiological causal factors identified (26), alcohol related driving was one that had been recognised by legislators for a number of years, however existing legal, financial and technological constraints were apparently doing little to deter drivers from drinking too much before driving - in 1981, 41.5% of all drivers killed had a blood alcohol level at or above 0.05 grams of alcohol in 100 millilitres of blood (27).

Alcohol is described as a drug that affects the central nervous system and results in cognitive and psychomotor impairment (27; 28). Katter mentions that; 'Alcohol severely restricts the amount of information that the brain can cope with at any one time' (27). In addition, alcohol 'increases confidence and aggression' (29). Thus alcohol increases crash risk (11) and its influence as a causal factor is 'widely accepted' (30).

The Chairman of the committee, which became known as Staysafe, Mr George Paciullo, openly acknowledged the drink driving problem, citing the need for drivers to accept 'the principle that driving combined with drinking over the legal limit is incompatible with the safety interests of other motorists and themselves' (27). Thus the problem having been identified, the committee moved on to analysing the potential policies that could stem the alcohol related death toll.

Policy analysis

The *policy analysis* phase considered existing and proposed policies. Amongst these was the existing offence of 'Drive under the influence of alcohol' (DUI) (31). This cumbersome process relied upon Police providing the court with evidence of the subjects driving style, their appearance and demeanour (28;32) and could only be invoked post incident. Scientific research was however, coming to the rescue.

As far back as 1932, Widmark (28) established a relationship between alcohol consumption and blood alcohol content (BAC). Chemical testing was developed to determine the concentration of alcohol in a subject's blood and thus their level of impairment. Some countries - Norway and Sweden - then implemented legislation based upon a specific BAC (4; 28; 33).

It was not until the development and implementation of the 'Breathalyser' in 1968 and in NSW, the subsequent introduction of the *'per se'* offence of driving with the 'Prescribed Concentration of Alcohol' (PCA) on 16th December of that year that the system became easier to use (4; 28; 31; 32). Cashmore (4) explains *'per se'* legislation as where 'a driver's blood alcohol concentration is by itself evidence of alcohol intoxication: no other evidence is necessary to prove legal incapacity to drive.' The new equipment combined with 'per se' legislation made it possible to measure and act against alcohol affected drivers based solely upon their blood alcohol concentration without necessarily relying upon proof of the subjects 'drunkenness' (28;33).

The creation of the offence of PCA, saw a legal blood alcohol concentration set at below 0.08 grams of alcohol in 100 millilitres of blood (34). How this limit was arrived at is not clearly defined in the literature. Zaal (28), whilst not giving specific reasons for a 0.08g/100ml limit, states that legislators used information on the relationship between BAC and impairment to, 'determine a socially responsible and acceptable level of alcohol risk.' This tends to suggest a reflection of the social use of alcohol at the time, which has been described by Smith (6) as:

> 'a culture that valued the manly ability to hold one's liquor, and although driving under the influence had been an offence since the 1920s the existence of legal sanctions could make little headway against popular culture.'

Whatever the reasons for such a limit, abundant research since then sets out the dangers that remain between BAC's of 0.05g/100ml and 0.08g/100ml. Moskowitz & Robinson (28) carried out a comprehensive review of over 200 studies on the effects of BAC and concluded that even a BAC of less than 0.02g/100ml can reduce driver performance.

Facing such research and a mounting alcohol related road toll, the NSW Government introduced a new policy in December 1980 reducing the legal blood alcohol content for drivers from 0.08g/100ml to 0.05g/100ml (34). (Homel (5) notes a common misconception that lowering the legal BAC coincided with RBT's introduction in 1982.)

Policy analysis showed however, that existing laws restricted the use the 'Breathalyzer' to circumstances involving; a) a breach of the regulations; b) an attempt to drive whilst apparently having alcohol in one's body, or; c) a drivers involvement in a crash. On such an occasion a screening test was conducted involving a 'Dräger Alcotest' (i.e. blowing into the bag), involving colour-change crystals in a glass tube. Each tube could only be used once and involved a cost of $1.18 to the Government (27) which constrained the amount of roadside testing, thus further reducing the risk to a driver of being breath tested.

Policy instruments and consultation

The Staysafe inquiry was particularly detailed, perhaps due to their and the Government's consciousness of potential political ramifications. Smith (35) supports their concern by commenting:

> 'Measures that result in dollar cost to the community, curtailment of freedoms or coercion are only likely to be instituted by governments where there is a proven benefit or strong research to justify the action. Therefore, measures that cannot be demonstrated to be effective are unlikely to be endorsed or required by governments or authorities.'

Staysafe's first report to Parliament, 'Staysafe 1 - Alcohol and other drugs and road safety' shows that a large number of policy instruments were considered. These included 'non-coercive' options (7) such as school and community education programs, improving driving and social skills, self testing for alcohol, alternative transport, road safety slogans and even temperance clubs (27).

Legislation surrounding DUI, PCA and lowering of the PCA limit from 0.08g to 0.05g/100ml blood could all be considered strictly compulsory policy instruments because they 'compel or direct the action of target individuals……who are left with no discretion'(36). Other coercive types of instruments (7) considered included tighter alcohol controls, zero blood alcohol content for first year drivers, Police blitzes, increased Police visibility and the introduction of Random Breath Testing. Some post-offence policy instruments suggested included legislating for ignition interlocks, more severe penalties and rehabilitation programs for offenders. Improving the road environment and vehicle safety through engineering measures was also considered (27).

Of all the policies and programs suggested, consultation showed that perhaps one of the most controversial was RBT (4; 37; 38; 39; 40). In a number of submissions to Staysafe, Glynn (27) felt Police powers were sufficient and that 'too many civil liberties have already been ceded to the Crown.' Chamberlain (27) felt highway patrols were 'inadequate and inefficient'. Submissions from the corporate sector, such as the Cronulla-Sutherland Leagues Club (27) opposed RBT as an infringement of civil liberties, adding that the effect of alcohol varies between individuals - 'an issue for which the 0.05 limit has no regard'. Random licence inspections were suggested, with follow up breath tests only if a person is found 'obviously under the influence of alcohol' (27), a proposal to which the Traffic Accident Research Unit (27) responded, stating that the function of RBT was 'to dissuade from driving those drivers who were not obviously under the influence of alcohol, but were nevertheless in the range (above 0.05 per cent BAC) in which their driving was affected.'

Having considered the plethora of information and 'strong research' (35) put before it, the Committee was able to single out RBT as potentially the most effective policy instrument available. Education programs could not expect to change driver behaviour in the short term because of the 'culture' referred to by Smith (6) above and as Homel (5) found:

> 'Driving after drinking is common behaviour in New South Wales….. High alcohol consumption, perceived pressure to drink and driving while intoxicated comprise a cluster of correlated attributes.'

In such a social environment, non-coercive campaigns could only be expected to have had limited success. Post-incident policies, whilst warranting consideration, may be construed as punitive rather than preventative actions, applicable only to those who have already had a crash. Vehicular and road environment engineering solutions carry with them long lead times and considerable costs. RBT however, as a general deterrent, was obviously swifter than the many other concepts suggested as well as being more than cost effective (4).

Fildes & Lee (41) describe *general deterrence* as 'the assumption that those exposed to enforcement, apprehended or not, will be discouraged… through fear of detection and punishment' and *specific deterrence* as 'the assumption that drivers who are caught and punished….will be discouraged from committing further offences.' RBT was intended to reduce alcohol related crashes through general deterrence - impressing upon drivers that being subjected to a roadside breath test was 'highly probable,' (27) even without crashing or otherwise attracting the attention of police and thus inducing voluntary compliance with drink-driving laws. It was also practical - with a limited number of Police, thousands of kilometres of road and in 1982, some 2,788,000 vehicles driven by about 3,198,000 licensed drivers in NSW (25), a specific deterrence focus simply would not work. As Anderson (24) states:

> 'Policies depend greatly for their effectiveness upon voluntary or non-coerced compliance, because those responsible for implementation cannot effectively handle and apply sanctions in large numbers of cases.'

Fildes & Lee (41) also mention the three 'classic mediators of behaviour modification' as the 'certainty, severity and celerity of punishment.' Therefore, simply applying more coercive post-offence policies, such as increasing penalties, would not suffice on their own. As Staysafe noted, 'even if the penalty is very large, if a driver believes that the risk of detection is very low, the effect of the legislation will be small (27).

To increase perceptions of 'certainty', RBT was implemented in an environment of high publicity with community education and encouragement programs. Whilst having a 'compulsory' element to it - that one could not drive at or above a blood alcohol limit of 0.05g/100ml blood - it also had a 'voluntary' element, encouraging the individual to choose to either drink or drive. Thus, RBT can be considered a mixed policy instrument (36) due to its combination of both voluntary and compulsory elements.

Coordination, the decision and implementation

Recognising the need for a *coordinated* approach, RBT was introduced for a trial period of not less than two years (27), with operations coinciding with greater conspicuity of Police, highly visible breath testing, media publicity and education. It was recommended that the operation of RBT should be monitored and evaluated and importantly, that appropriate 'administrative resources' such as roadside screening equipment and breath analysis instruments be provided, thus facilitating policy implementation by addressing major equipment issues (7; 27).

The Parliament made a *decision* to introduce RBT and on 17th December 1982, the *implementation* of RBT in NSW commenced in accordance with the conditions specified by Staysafe and a blaze of media publicity (4; 5; 37; 38). To coincide with this, penalties for PCA offences were increased and expanded from a two to a three tier system. *Low range* PCA penalties rose from $400 to $500 and 6 months automatic licence disqualification (1st offence), *medium range* PCA remained the same at $1,000 and/or 6 months gaol with automatic licence disqualification of 12 months (1st offence) whilst the new *high range* PCA penalty stood at $1,500 and/or 9 months gaol with a 3 year automatic licence disqualification. Blood testing of drivers, motorcyclists and pedestrians older than 15 years admitted to hospital following a crash also became mandatory. (4)

Evaluation

Since its introduction the Government via Staysafe have held numerous inquiries evaluating RBT. An evaluation in 1985 revealed that 'there can be no question that RBT has had a major and enduring effect on reducing the carnage on NSW roads' (40). The passage of legislation making RBT permanent was recommended (40). Such action was doubtless made easier after a March 1984 survey found overwhelming public support for RBT, citing 91.5% in favour (40).

Proposed enhancements were assessed including the introduction of mobile RBT. Reasons included a waning of the deterrent effect because offenders could simply avoid stationary RBT in back streets and during heavy rain. At the time though, Staysafe felt that Police were using a lack of 'guile' in the placement of RBT units. Concerns regarding targeting of offenders and victimisation surfaced and police were not 'given the power to operate RBT in the mobile mode' (40). However, subsequent surveys supported the claim that drivers could avoid RBT by driving through back streets. Accordingly, the Government set aside Staysafe's recommendation and Mobile RBT was introduced in NSW in November 1987 (32).

Further policy enhancements took place in 1989 when Staysafe published their 13th report (42), relating to the immediate loss of licence for persons found with a high range BAC (>0.150g/100ml blood). Moynham, a medical doctor, testified that if one is capable of consuming that much alcohol and is still capable of driving, then their problem is one of 'alcohol addiction' (42). The committee agreed with Homel (42) that such a policy would deter many motorists through 'a more immediate, more certain and substantial penalty.'

The Government, no doubt comforted by a survey showing 76% community support for the concept, introduced a policy of immediate licence suspension for high range PCA offenders in November 1989 (31). This has since been reduced to include drivers charged with mid range PCA (0.08g/100ml blood) or higher (43).

Discussion

In a policy context, RBT's success can be measured against the writing of Lewis Gunn (7), who lists ten conditions for perfect implementation of a policy. These are:

1) No crippling external constraints
2) Adequate time and resources
3) A suitable combination of resources at each stage
4) A valid theory of cause and effect
5) Direct links between cause and effect
6) A single implementation agency or at least a dominant one
7) Understanding and agreement on the objectives to be achieved
8) A detailed specification of tasks to be completed
9) Perfect communication and coordination
10)Perfect obedience. *Source:Gunn (7)*

Considering the manner of RBT's implementation, almost all of Gunn's conditions were met. First, the Government was so keen to introduce RBT that all external constraints for the Police, such as legislative issues and community concern, were amended and allayed. (All relevant legislation was carried over in December 1999 to the current Road Transport Legislation) (48) The timeframe was obviously sufficient, as were the human, physical (eg. breath testing equipment) and financial resources. A valid theory of cause and effect was established and was directly linked to the existing road crash situation. Police were the one dominant implementation agency, with the RTA responsible for publicity and community education programs. The objectives were clearly understood and the specified tasks of each agency were clear, right down to the individual Police on site, who subsequently received praise for their vigour (12). Communication and co-ordination were a major success, as the expensive publicity had to correlate with the heightened Police activity for its effectiveness. (5)

Perhaps the only area where the policy did not fulfil Gunn's conditions was that of perfect obedience, demonstrated by the number of drivers who were not deterred by the policy. In 1983 alone, of some 900,000 breath tests 5,348 people were charged with PCA offences (4). Yet as a measure to deter the majority of drivers and as a corollary, reduce the road toll, its success is without doubt (11; 44; 45; 46).

Photo: Greg Casey

Annual evaluations of community attitudes confirm that some 97% of the community consider RBT as 'reasonable' (47), suggesting why drink driving laws work, or at least why they are perceived to work. They also support evidence of an attitudinal shift in the social acceptability of drink driving. More people are now inclined to label a drink-driver as 'irresponsible, a criminal or a potential murderer.' (28)

There is no doubt that RBT in NSW is an extremely successful policy. It has had a major positive effect upon alcohol related road crashes in a highly cost effective manner (4; 28). For a policy about which the doomsayers were so loud, the very high degree of community acceptance and support (47) has no doubt come about through the manner in which it was implemented and has since been developed.

Conclusion

Abundant information is available throughout the road safety literature regarding the reasons behind the success of a public policy implemented in NSW, which gives Police the power to stop drivers anywhere, at any time and in any type of motor vehicle for no reason other than to subject the driver to a breath test. Theories of deterrence exist against which RBT's success can be measured (5; 41) and there is no doubt as to its ability to cause people to voluntarily think about either their alcohol consumption or their subsequent mode of transport. Yet other policies, such as lowering the urban speed limit in NSW, have been introduced on a similarly sound theoretical basis, with direct links between cause and effect, but without the smoothness of RBT. It is obvious then that there is more to making policies successful than just sound theory in the subject area.

It has been shown that one of the reasons for RBT's success was that the policy process flowed in an almost textbook fashion. Correlations exist between the policy stages and the ultimate result. The issue was identified, the policy instruments and subsequent enhancements were thoroughly analysed, the community was consulted, resources were considered, decisions were made with a minimum of fuss and the policy was implemented with the support of the bureaucracy charged with its implementation. Evaluation has occurred many times and is ongoing.

Whether the flow of alcohol related driving policy in New South Wales followed the textbook models intentionally or accidentally may never be known. What has been shown is that there are two sides to the success of RBT policy - first, it followed sound scientific and deterrence theories and second, it followed a proven public policy cycle. This has no doubt contributed to a policy that not only has achieved its objective but continues to engage overwhelming community support.

There are clear implications for those seeking to implement future road safety policy initiatives. Consideration of theoretical policy processes as in this example should ensure a greater chance of success.

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