



Staysafe 6

PARLIAMENT OF NEW SOUTH WALES JOINT
STANDING COMMITTEE ON ROAD SAFETY

THE ADMINISTRATION OF RANDOM BREATH TESTING



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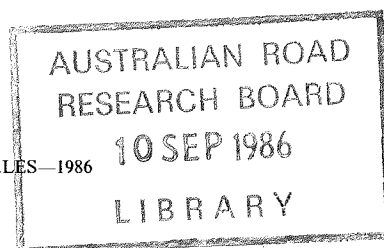
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PARLIAMENT OF NEW SOUTH WALES

SIXTH REPORT
OF THE
JOINT STANDING COMMITTEE
OF THE
PARLIAMENT OF
NEW SOUTH WALES
ON
ROAD SAFETY
RELATING TO
THE ADMINISTRATION OF
RANDOM BREATH TESTING

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(Appointment: *Votes and Proceedings*, No. 6, Entry 14 of 10 May, 1984; *Minutes of Proceedings*, No. 5, Entry 17 of 10 May, 1984 and No. 6, Entry 9 of 15 May, 1984; *Votes and Proceedings*, No. 7, Entry 14 of 16 May, 1984 a.m.; and, *Minutes of Proceedings*, No. 7, Entry 5 of 16 May, 1984.)

(Further resolutions relating to the Committee: *Votes and Proceedings*, No. 23, Entry 9 of 31 October, 1984; and, *Votes and Proceedings*, No. 47, Entry 8 of 23 April, 1985.)

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INTRODUCTION

Random Breath Testing (RBT) has been the single most effective tool in the struggle to reduce the road toll in the history of New South Wales. Initially it began as a highly controversial measure but it now has widespread public support.

Moreover, it is clear that RBT has played a part in bringing about important social changes which have benefitted the community in other areas besides road safety.

In recent reports—and indeed in sections of this report—the STAYSAFE Committee has been critical of police practices. However, no discussion of RBT would be fair without acknowledging the pivotal role the New South Wales Police Force has played in making RBT so successful. In this case, with very few exceptions, the police have done a difficult job and done it well.

At a personal level, I am proud to have been part of a Government with the commitment to change and the political will to introduce Random Breath Testing. As a reformist politician it is very satisfying to have a Labor Government introduce a radical reform, see that reform benefit the people of New South Wales and then witness the overwhelming public support for that policy.

MICHAEL KNIGHT, Chairman.

ACKNOWLEDGEMENTS

The Committee wishes to record its appreciation of the many citizens of New South Wales who took the trouble to make submissions on this matter. The Committee's deliberations have been enriched by their concern.

Submissions to Staysafe Committee from concerned citizens and organizations have been an integral part of the successful operations of the Committee.

We also acknowledge the assistance of our Adviser, David Herbert, Clerk to the Committee, Leslie Gönye, stenographer, Jennifer Goodwin and the staff of Hansard.

The kind permission of Senior Constable Buttrose, Community Relations Officer of "C" District at Maroubra, for the use of the photograph on the cover of this Report is also appreciated.

Once again the Committee expresses its gratitude to the New South Wales Government Printer for a high quality and speedy production.

RECOMMENDATIONS

CHAPTER 1

- (1) That the necessary legislation be passed to ensure that Random Breath Testing becomes a permanent part of the law in New South Wales.

CHAPTER 2

- (2) That the Police Force continue to be the body responsible for the day to day operation of RBT.
- (3) That more effort be made to make RBT a highly visible and credible deterrent by the police being seen to be testing in various types of road and weather conditions.
- (4) That the main emphasis on promoting RBT be by the police, conducting a high level of testing with occasional media campaigns being used to reinforce that message rather than the reverse.

CHAPTER 3

- (5) That police NOT be given the power to operate RBT in the mobile mode, and that this be specified in the new legislation necessary to continue RBT after the 3-year trial period expires.
- (6) That as a general principle RBT units should continue NOT to be stationed outside licensed premises.

CHAPTER 4

- (7) That the illegal prescribed concentration of alcohol (PCA) remain at .05 for all drivers except learners and first year licence holders who should be subject to a PCA of zero (effectively .02).

CHAPTER 5

- (8) That the Police introduce the one scientific device to be used for both roadside testing of drivers and as the final evidentiary instrument for the purposes of court proceedings.
- (9) That the Breathalyzer 900 be phased out and replaced by a more modern acceptable electronic device such as the Lion Alcolmeter S-D2, or another brand of device which meets or betters the specifications of that model.
- (10) That from now on the New South Wales Police Force purchase only the Lion Alcolmeter S-D2, or another brand of device which meets or betters the specifications of that model.
- (11) That as a consequence of these changes the existing Breath Analysis Section be restructured so that those Police officers made redundant by the new technology can be redeployed to other police duties for the benefit of the people of New South Wales.

CHAPTER 6

- (12) That the New South Wales Government establish a standard for self testing breath analysis machines and allow only those machines which meet that standard to be sold in New South Wales.

CHAPTER 1

THE RANDOM BREATH TESTING TRIAL IN N.S.W.

Recommendation

- (1) That the necessary legislation be passed to ensure that Random Breath Testing becomes a permanent part of the law in New South Wales.

1.1 Random Breath Testing (RBT) was introduced in December 1982 by the N.S.W. Government. The Government took this action following the release of the first STAYSAFE Committee Report which strongly recommended the introduction of RBT.

1.2 At the time of its introduction RBT was a highly controversial scheme and the Government initially introduced it for a trial period of three years. That trial expires in December, 1985 and new legislation will need to be passed by Parliament for it to continue.

1.3 The introduction of RBT was marked by a major advertising campaign to complement the work of the police. RBT was embraced enthusiastically by senior officers of the N.S.W. Police. It is fair to say that, by and large, the N.S.W. Police Force has conducted RBT better than any other police force in the world and the community owes them much gratitude. So far some 2.9 million tests have been conducted in N.S.W. As Table 1 shows, the police have been very active in their testing of motorists for drink-driving.

Table 1: Number of Random Breath Tests administered by N.S.W Police

	To date*	Whole year
1983	701 607	923 630
1984	1 001 108	1 240 842
1985	757 175	

*12 October, 1985.

1.4 It is difficult to calculate exactly what effect RBT has had on the road toll. For example, it is not possible to say exactly how many lives have been saved or injuries avoided by the introduction of RBT. However, while the exact number is difficult to determine, there can be no question that RBT has had a major and enduring effect on reducing the carnage on N.S.W. roads.

1.5 Table 2 sets out the numbers of road deaths in N.S.W. for each year since 1961. While there are fluctuations from year to year, there have been two very large and distinct drops. The first, in 1972, coincided with the new law making it compulsory to wear seat belts in motor vehicles. The second, and larger, occurred with the introduction of RBT in December, 1982.

Table 2: Road Deaths in N.S.W.

Year ended 31 December	Fatal crashes	Traffic deaths	Traffic deaths per 10 000 population	Traffic deaths per 10 000 licences on issue	Traffic deaths per 10 000 registered motor vehicles
1961	850	918	2.3	6.8	9.0
1962	798	876	2.2	6.2	8.2
1963	818	900	2.2	6.2	7.9
1964	903	1 010	2.5	6.6	8.3
1965	1 026	1 151	2.8	7.2	8.9
1966	1 042	1 143	2.7	6.8	8.4
1967	1 022	1 117	2.6	6.3	7.8
1968	1 069	1 211	2.8	6.6	8.0
1969	1 070	1 188	2.7	6.2	7.4
1970	1 135	1 309	2.9	6.4	7.6
1971	1 096	1 249	2.7	5.8	6.9
1972	981	1 092	2.3	4.9	5.7
1973	1 082	1 230	2.6	5.4	6.1
1974	1 121	1 275	2.6	5.3	6.1
1975	1 150	1 288	2.6	5.1	5.8
1976	1 119	1 264	2.6	4.8	5.6
1977	1 118	1 268	2.6	4.6	5.5
1978	1 222	1 384	2.8	4.9	5.8
1979	1 125	1 290	2.5	4.5	5.2
1980	1 152	1 303	2.5	4.4	5.0
1981	1 130	1,291	2.5	4.2	4.8
1982	1 115	1 253	2.4	3.9	4.5
1983	877	966	1.8	2.9	3.4
1984	910	1 037	1.9	3.1	3.6
1984*	—	807	—	—	—
1985*	—	808	—	—	—

*to 22 October.

1.6 The figures in Table 2 are quite dramatic. They are even more encouraging when we consider the fact that each year we have more motor vehicles on the road a factor which in isolation should cause more deaths rather than fewer.

1.7 While the injury figures are less reliable than mortality figures due to differences in definition of "injury" by different people collecting the data, there is general agreement among the researchers that RBT has also led to a reduction in injuries as well as in deaths.

1.8 One startling outcome of the introduction of RBT is the very large decrease in the number of drivers killed with an illegal Blood Alcohol Concentration (BAC). Table 3 sets out the blood alcohol levels in all drivers killed in motor vehicle crashes since 1980.

Table 3:

Year	Test results			All killed		Tested % of killed
	Total No.	BAC .05 and above No.	%	Total No.	BAC .05 and above No. (est)	
1980	541	244	45.1	639	288	84.7
1981	540	224	41.5	650	270	83.1
1982	505	204	40.4	631	255	80.0
Av. 1980/82	529	224	42.4	640	271	82.6
1983	379	138	36.4	482	175	78.6
1984	405	132	32.6	509	166	79.6

1.9 Since the introduction of RBT there has been a significant drop in both the number and the percentage of drivers killed with a BAC of .05 and above. The number killed with an illegal BAC in 1983 is 35.4% lower than the 1980-82 average. The reduction in 1984 is even better (38.9%) when compared with the 1980-82 average.

1.10 Overall, there can be no doubt that since the introduction of random breath testing in N.S.W. the incidence of death and injury on our roads has been significantly reduced and that RBT itself has been a major cause of that reduction. Conversely, it is almost certain that the abolition of RBT would lead to more deaths and injury on our roads than would otherwise be the case.

1.11 Not only has RBT been an effective tool in reducing the road toll but it is a procedure which has increased in public acceptance and public support. In the early 1970's only 42% of people surveyed indicated that they approved of the scheme. By March, 1984 (after only 15 months of RBT in N.S.W.) some 91.5% of people surveyed indicated their approval for RBT. A summary of these survey results are set out in Table 4.

1.12 As well as being generally popular with the public, RBT has also been approved by the experts. The Traffic Accident Research Unit and the Bureau of Crime Statistics and Research were delegated by the Government to jointly evaluate RBT during its three year trial. Both organisations have found from their research that RBT has had a major positive impact on the road toll, and both support its continuation.

Table 4: Survey Acceptance of RBT

Date	Organization	Approval	Disapproval	Don't know
		%	%	%
Late 1971	Traffic Accident Research Unit	42.0	50.0	8.0
Mar. 1979	McNair Anderson	66.0	33.1	0.9
Dec. 1981	McNair Anderson	80.1	18.9	1.1
Nov. 1982	Traffic Accident Research Unit	63.8	36.2	0.0
Dec. 1982	McNair Anderson	77.4	21.0	1.6
Feb. 1983	Homel, Macquarie University	88.3	9.3	2.4
Mar. 1983	Bureau of Crime Statistics and Research	90.2	9.8	0.0
May 1983	Traffic Accident Research Unit	85.3	14.7	0.0
Mar. 1984	Bureau of Crime Statistics and Research	91.5	8.5	0.0

1.13 RBT has clearly been a success and, with a few exceptions, that success is widely acknowledged. Every major political party in N.S.W. has responded to the effectiveness of RBT and the community support for it, by declaring themselves in favour of its continuation. Indeed RBT has been so successful that it has virtually pre-empted the formal evaluation and any Parliamentary debate about whether it should continue.

1.14 The emerging issue is not over the continued existence of RBT but over the exact form that RBT will take in the future. It is to that important subject that the remainder of this report is addressed.

CHAPTER 2

WHAT MAKES RANDOM BREATH TESTING WORK?

Recommendations

- (2) That the Police Force continue to be the body responsible for the day to day operation of RBT.
- (3) That more effort be made to make RBT a highly visible and credible deterrent by the police being seen to be testing in various types of road and weather conditions.
- (4) That the main emphasis on promoting RBT be by the police, conducting a high level of testing with occasional media campaigns being used to reinforce that message rather than the reverse.

2.1 There are various theories about what makes RBT effective. However, the most persuasive material has been produced by Ross Homel of Macquarie University. In a lengthy study, partly funded by the Federal Government, Homel isolated what he saw as the key element in the RBT package.

2.2 RBT is a system primarily aimed at deterrence. The real aim of RBT is not to catch drink-drivers (though the police obviously want to catch people breaking the law). Instead the aim is to deter people from driving at an illegal alcohol level.

2.3 With this in mind, Homel found that the most important aspect of RBT was the credibility of a highly visible police presence. Put simply, RBT does not work because people are impressed by the TV ads, worried about high penalties or because drink-drivers change their moral stance on the issue. RBT works because potential drink-drivers are deterred from driving at an illegal alcohol level because they are frightened of getting caught. There are several elements to this fear:

(a) *The existence of RBT is well known*

2.4 Obviously people will not be frightened of being caught by RBT if they don't know it exists. Fortunately the deluge of free media publicity in the early months of RBT and the major Government sponsored advertising campaigns have virtually achieved a saturation coverage of the issue. It is hard to imagine anyone who doesn't know about the existence of RBT and the survey evidence certainly confirms this.

2.5 Consequently the Committee feels that the funds available for the advertising of RBT should not be spread too thinly on general campaigns throughout each year. Instead the emphasis should be on short, sharp campaigns at particularly dangerous times of the year, such as the Christmas and Easter holiday periods, to reinforce the threat of detection of drink-drivers.

(b) *There is a high likelihood of getting caught*

2.6 A good public knowledge of the existence of RBT is of itself not enough to deter drink-drivers. Unless they perceive that there is a real chance of actually getting caught than simply knowing that RBT exists will not deter them.

2.7 Homel's research suggests that the key here is a visible police presence. A highly *visible police presence* both backs up any media publicity about RBT and itself creates the impression of a realistic threat to the potential drink-driver. The likely offender will not worry about RBT if in his or her experience the police are never actually seen testing.

2.8 For this reason the Committee believes that the police should continue to be seen actively conducting RBT. This also means that the police should be trying to block any known loopholes in the system.

2.9 For example, until recently it appeared that the police were using a lack of guile in the placement of their RBT units. In some suburbs it became commonplace only to see the RBT units at one or two locations on major roads. While this met the criterion of high visibility it also meant that the deterrent lacked credibility since potential offenders were confident they would not be detected by using back roads.

2.10 Similarly, it is now fairly common knowledge that the police do not test in heavy rain. Again, the potential drink-driver will feel much less likely to get caught if he or she drives in the rain.

2.11 The Committee recognises that testing in heavy rain and using some minor roads to set up RBT stations presents logistical, morale and safety problems for the police. However, the Committee is firmly of the opinion that within these constraints the police must do more to be seen testing in all conditions, on all sorts of roads.

2.12 In evidence to the Committee, Police witnesses stated that their guidelines require that all Highway Patrol vehicles conduct random breath testing for a minimum of one hour during each daily shift. No documentary evidence was produced to the Committee on this matter. However, it is clear from the preceding sections of this report and the report on Appropriate Strategies for Police Traffic Law Enforcement (STAYSAFE 5) that such a visible roadside deterrent is highly desirable.

2.13 There has been some adverse media comment questioning whether all Highway Patrol vehicles are in fact testing for one hour during every shift. To put this matter beyond doubt, and to ensure the effectiveness of the RBT deterrent, the Committee believes that guidelines to all police on this matter should be formalised, and the results strictly monitored.

2.14 When the Highway Patrol is operating RBT at maximum levels, using both the stationary "booze-bus" and single vehicle methods, the greatest visibility and range of operation is achieved. This ensures in turn that RBT has its maximum deterrent effect.

(c) Getting caught is a serious business

2.15 An integral part of the deterrent value of RBT is that not only is detection perceived as likely but that the consequences of getting caught are serious. If, for example, the consequence of getting caught was simply a "rap over the knuckles" then even a high risk of detection would not be much of a deterrent.

2.16 So far getting caught has been treated very seriously. First it involves arrest by the police. Second, a criminal charge is laid with all of the attendant embarrassment of finger printing, questioning and bail. Third, the alleged offender must appear before a criminal court on a criminal charge. And last, but by no means least, the likely penalties, should a conviction be entered, are quite substantial.

2.17 The Committee believes that the foregoing aspects of RBT have been essential to convince potential offenders that getting caught is indeed a serious business. For this reason, the Committee recommends that the existing procedures of criminal arrest and charge remain substantially unchanged. The Committee sees no need to increase penalties so long as the other procedures remain in place. However, the Committee does have some concerns about the court procedures and outcomes. These will be dealt with in a later report on penalties and traffic law enforcement.

2.18 Implicit in the discussion so far in this chapter is an acceptance that it is the police force which should continue to be responsible for the administration of RBT. While this theme runs through the preceding paragraphs without any explicit justification, the Committee did give serious consideration to the submission by the Australian Transport Officers Federation to have non-police personnel take over the running of RBT.

2.19 The Committee, however, feels that by and large the police have done an excellent job in their administration of RBT. We also believe that the obvious involvement of the criminal law process as symbolised by the police plays a very important part in the credibility of RBT as a deterrent. Still, it is comforting to know that others are keen to take on the job should the police ever tire of it.

CHAPTER 3

TWO MAJOR PROPOSALS FOR CHANGE

Recommendations

- (5) That police NOT be given the power to operate RBT in the mobile mode, and that this be specified in the new legislation necessary to continue RBT after the 3-year trial period expires.
- (6) That as a general principal RBT units should continue NOT to be stationed outside licensed premises.

3.1 Two major changes in the format of RBT were proposed to the Committee. One of these proposed changes was to allow the police to conduct RBT in the mobile mode. The other proposed change was to station RBT units outside clubs and hotels.

Mobile RBT

3.2 The main change the police themselves sought to the format of RBT was to be allowed to randomly test drivers pulled over by mobile vehicles rather than only those stopped at stationary RBT checkpoints. The police are seeking to have highway patrol officers driving along to be given the power to stop other motorists they encounter and submit them to a breath test.

3.3 At present the police have the power to stop anyone they have *reasonable cause* to suspect of being at or over the prescribed illegal limit (.05) and administer a breath test. It is an offence to refuse a breath test in such circumstances.

3.4 The police also, under RBT, have the power to set up a roadside check point and randomly stop motorists passing that check point and administer a breath test. Again, it is an offence to refuse to submit to such a test.

3.5 At law, the police also technically already have the power to stop any motorist and test him or her anywhere on the road without setting up a random breath testing check point and without reasonable cause to suspect that the motorist is over the prescribed limit. However, under the guidelines laid down by the Government, the police are not allowed to conduct RBT in such a manner.

3.6 What the police now are seeking is a change in the guidelines to enable them to conduct RBT in the mobile mode.

3.7 The STAYSAFE Committee rejects this idea and recommends against giving the power to police to conduct mobile RBT.

3.8 There are two reasons why the committee has rejected this proposal. First, much of the success of RBT has rested on a good relationship between the police and motorists in the conduct of RBT. Motorists have generally felt that the police have been conducting RBT fairly. There have been very few allegations of the police testing disproportionate numbers of certain classes of people (young males, motorcyclists, attractive women, etc).

3.9 The public perception of RBT is that it really has been random, that everyone is subject to it and that individual road users or groups of motorists are not being discriminated against. If mobile RBT is allowed there is a very real risk that discrimination—however unconscious and inadvertent—will creep into the system.

3.10 Even more importantly, there is the near certainty that motorists will believe that the system is no longer genuinely random and that they may be being victimised by being tested. In such circumstances the public goodwill towards RBT could rapidly evaporate and the scheme itself would be in jeopardy.

3.11 Secondly, mobile patrols generally are a much less effective deterrent than static police. As the Committee reported in the STAYSAFE 5 report, stationary police check points are seen by many more motorists than a mobile patrol, even a well marked patrol car. This dovetails in with Homel's work, reported in Chapter 2, that a highly visible police presence is the cornerstone of the successful operation of RBT.

3.12 Even if mobile patrols did detect a slightly higher incidence of drink-driving—and there is no reason to believe that they would—they would lessen the proven deterrent value of static check points and hence place at risk the effectiveness of RBT in this State. In the STAYSAFE 5 report, the Committee detailed the manner in which the police tend to adopt work practices which are satisfying to the officers performing them, but, which have little or no positive effect on road safety. Were the police able to choose between the proven effectiveness of stationary RBT check points or the more immediately satisfying but less effective work of mobile RBT patrols, then the Committee has no doubt that the police would shift resources into the less effective procedure.

3.13 Consequently, the Committee recommends against any use of mobile mode RBT. Indeed, the Committee believes that the formal power to conduct mobile RBT should not even be in the appropriate legislation and recommends that when the new legislation is passed to enable RBT to continue beyond the 3-year trial period that the power to conduct RBT be restricted to the stationary breath testing mode (as it is in the Victorian legislation).

3.14 However, we do remind both the police and the motoring public that the police already have the power to stop and test motorists whom they have reasonable cause to suspect from their behaviour of having alcohol in the body (the classic example being of a motorist's weaving all over the road) and that this power can and should be used to supplement RBT operations.

Static RBT outside Licensed Premises

3.15 The original guidelines for RBT operations laid down by the N.S.W. Government, prohibited the deliberate location of RBT units outside licensed premises. While it was acknowledged that in very small towns it would be impossible to be highly visible without being in the vicinity of any licensed premises, in general, RBT units should not be stationed outside hotels and clubs.

3.16 Throughout the trial period of RBT, various individuals and organisations have suggested that this restriction should be removed. Many people have said that if the Government is "fair dinkum" about RBT then it will allow testing outside hotels and licensed clubs.

3.17 For these reasons the Committee has again examined the question of what restrictions, if any, should be placed on the location of RBT units. However, the Committee has again come to the same conclusion. While we can conceive of geographical circumstances where it is impossible to operate an RBT station without being in close proximity to licensed premises, as a general rule RBT units should not be stationed outside licensed premises.

3.18 There are two factors which influenced the Committee to come to this conclusion. First, stationary RBT units outside licensed premises opens the whole Pandora's box of allegations (and sometimes the reality) of discrimination and corruption. Publican A will feel discriminated against, if an RBT unit is outside his or her hotel and not outside that of Publican B. He or she may also wonder whether Publican B has come to a corrupt arrangement with individual police.

3.19 Now whether or not discrimination or corruption actually occurred in such circumstances is not the main issue. The central concern of this Committee is that once allegations of this nature start the public acceptance of and credibility of RBT would be undermined. This could lead to a reduction in the effectiveness of RBT and perhaps even threaten the whole programme.

3.20 Meanwhile, anyone drinking in a hotel or a club with an RBT unit outside is highly unlikely to get in his or her car and drive past it if there is a risk of being over the legal limit. The "sensible" thing to do in such a situation is to stay inside the hotel or club until the RBT unit goes away. In other words it is "safer" to stay inside drinking—and thus being more likely to have a crash on the way home—than to risk being picked up by the immediate threat outside the place of drinking.

3.21 Alternatively, the "best" thing to do would be to drive off in another direction without passing the RBT station secure in the knowledge that there is unlikely to be another one in the vicinity. It is therefore highly unlikely that an RBT unit outside a hotel or club would either catch many offenders or deter other potential offenders from drinking and driving.

3.22 Perhaps the placement of such a unit might deter someone approaching the licensed premises from entering it at all. However, this may only lead to the person going to patronise a different club or hotel rather than deter him or her from drinking and driving.

3.23 For RBT to be a credible deterrent, potential offenders must feel that there is a high likelihood of being detected when driving with the prescribed content of alcohol. This means they must perceive that the police are testing in lots of locations and that they could come upon them on any route they choose to drive. Placing an RBT station right outside licensed premises is too obvious a ploy and simply won't work.

3.24 This is not to say that the Committee is soft on drink-drivers and does not want to see offenders caught. The Committee would have no complaint about the police occasionally using an unmarked car to stop and test obviously drunk motorists trying to drive home after leaving licensed premises. That power exists and is under-utilised. But stationary RBT units outside licensed premises would be a waste of resources.

CHAPTER 4
.05 VERSES .08

Recommendation

(7) That the illegal prescribed concentration of alcohol (PCA) remain at .05 for all drivers except learners and first year licence holders who should be subject to a PCA of zero (effectively .02).

4.1 When the Breathalyser was introduced, in N.S.W. during 1968, the minimum level of Blood Alcohol Concentration (BAC) at which it became an offence to drive a motor vehicle was set at .08.

4.2 In December 1980 this level was reduced to .05. Two years later when Random Breath Testing was introduced the level remained at .05 for all drivers.

4.3 In April 1985, the level at which learners and first year licence holders would be guilty of the PCA offence was reduced to .02.

4.4 Since the introduction of RBT there has been considerable controversy over the appropriate minimum limit of BAC at which it should become an offence to operate a motor vehicle. In particular the argument has centred on whether .05 or .08 is the appropriate minimum level for fully licensed drivers.

4.5 Ironically, many people in the community believe that the .05 level was introduced at the same time as RBT. However, as indicated above, that new level was in force for two years prior to the introduction of RBT.

4.6 Throughout the course of this inquiry the Committee has again received several submissions on the .05 versus .08 controversy. Both the Australian Hotels Association (AHA) and the Registered Clubs Association (RCA) made submissions seeking a return for some, or all, motorists to the .08 level.

4.7 However, in the end the Committee is firmly of the view that the existing level of .02 for learners and first year licence holders and .05 for all other motorists should remain.

4.8 The Committee favours the retention of the .05 level (and .02 for "P" plate and learner drivers and riders) because we believe that any move back to .08 will almost certainly result in more deaths and injuries on N.S.W. roads. There are several factors which cause us to take this position.

Crash studies

4.9 First, studies comparing blood alcohol levels of all drivers with those of drivers involved in crashes show that drivers at all BAC levels above .05—including those in the .05 to .08 group—are over-represented in crashes.

4.10 The most famous study of this nature was conducted by Borkenstein (1964) in the U.S.A. He measured the BAC levels in 7 590 drivers on public streets and in 5 985 drivers involved in crashes. Table 5 sets out Borkenstein's findings.

Table 5: Comparison of crashing with ordinary drivers, Borkenstein, U.S.A., 1964.

BAC range %	Crashing drivers		Ordinary drivers		Crashing	Relative crash risk compared with under .05
	No.	%	No.	%	Ordinary	
0 to 0.049	5 398	90.19	7 345	96.77	0.93	1.0
0.050 to 0.079	132	2.21	132	1.74	1.27	1.4
0.080 to 0.149	264	4.41	99	1.30	3.37	3.6
0.150 up	191	3.19	14	0.18	17.72	19.0
TOTALS	5 985	100.00	7 590	100.00	—	—

4.11 Table 5 shows that drivers with BAC of .05 to .079 are over-represented in crashes. In other words there were more drivers with alcohol levels between the two commonly discussed figures .05 and .08 having crashes than there should have been if that particular blood alcohol level was no more dangerous than being under .05.

4.12 The second last column in Table 5 is the ratio of drivers involved in crashes compared with ordinary drivers in that same blood alcohol content range. The last column is the risk of those having crashes in each higher BAC group compared with the group under .05.

4.13 Now, it is true that although in Borkenstein's study the extra risk of crashing at a level between .05 and .08 was significant, it was not huge. However, Borkenstein was looking at *all* crashes including minor ones. The position gets much worse for people in the .05 to .079 range as more severe accidents are considered.

4.14 In 1980, McLean conducted a similar study to Borkenstein's, but this time in South Australia rather than the U.S.A. McLean's study differed in that he didn't consider *all* crashes but only those more serious crashes involving the attendance of an ambulance.

4.15 While McLean found very similar percentages of ordinary drivers in each BAC group to those which Borkenstein found, the increased risk of being involved in an accident with increasing BAC was higher than in Borkenstein's study.

4.16 In other words, Borkenstein found drivers in the .05 to 0.79 group were 1.4 times likely to have any sort of accident than those under .05. McLean found drivers in that BAC group 2.3 times more likely to have an accident involving an ambulance attending than drivers under .05.

Table 6: Comparison of crashing with ordinary drivers, McLean, South Australia, 1980.

BAC range (%)	Crashing drivers		Ordinary drivers		Crashing	Relative crash risk compared with under .05
	No.	%	No.	%	Ordinary	
0 to 0.049	250	83.61	1 156	96.66	0.865	1.0
0.050 to 0.079	11	3.68	22	1.84	2.00	2.3
0.080 to 0.149	18	6.02	15	1.25	4.82	5.6
0.150 up	20	6.69	3	0.25	26.76	30.9
TOTALS	299	100.00	1 196	100.00	—	—

4.17 The contrast between risk of crashing in the .05 to .079 group and those under .05 becomes even more stark when fatal crashes alone are considered.

4.18 In N.S.W., the majority of drivers killed have their blood analysed by the Division of Analytical Laboratories, N.S.W. Department of Health. The results of these tests have been published since 1980. The figures in Table 7 refer to the three pre-RBT years 1980-82, when the legal limit was either .08 or a poorly publicised .05 without the perceived risk of getting caught which RBT introduced. Data for ordinary drivers are from Borkenstein.

Table 7: Comparison of killed drivers (N.S.W.) with ordinary drivers (U.S.A.)

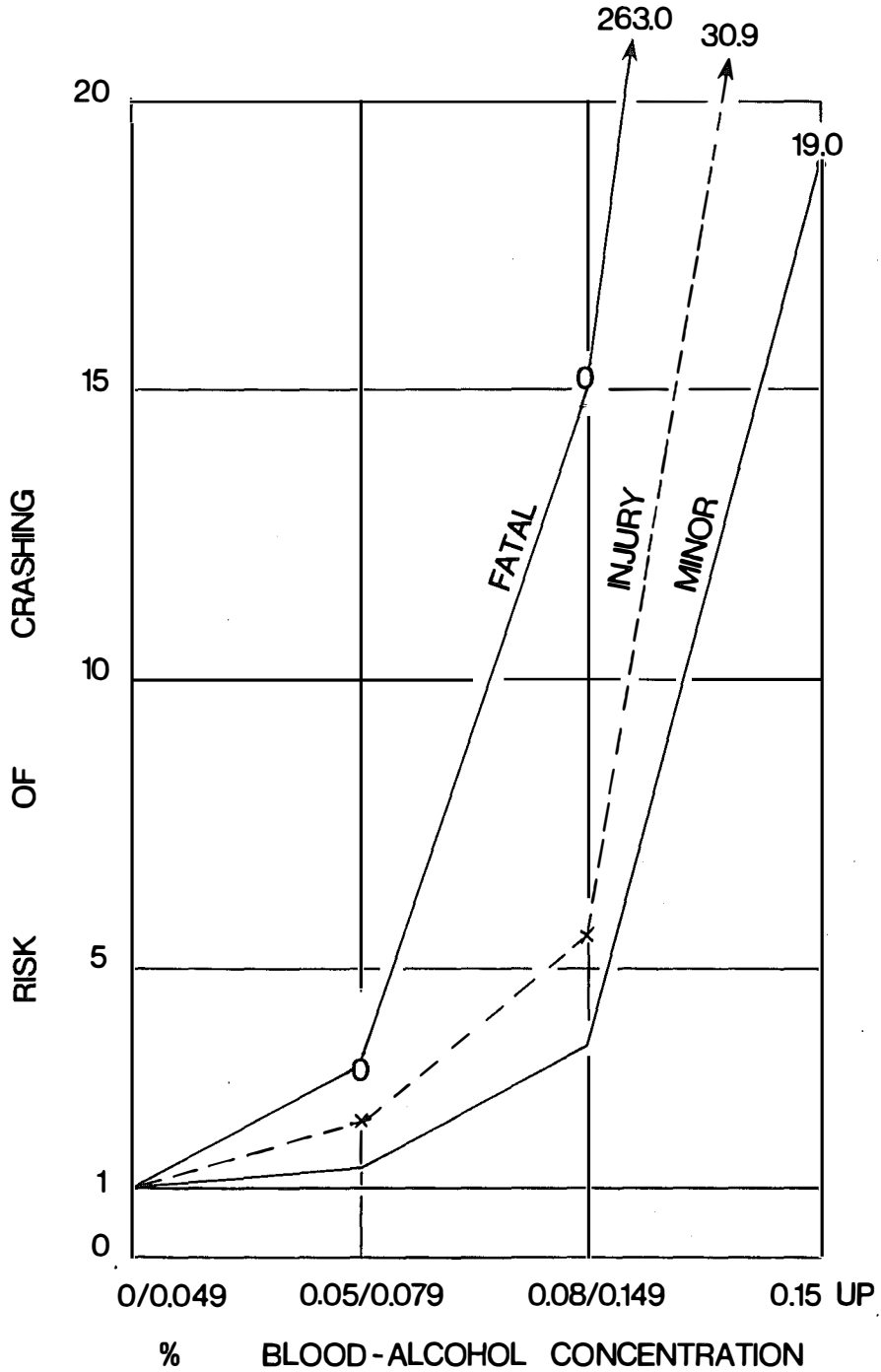
BAC range (%)	Killed drivers		Ordinary drivers		Killed	Relative crash risk compared with under .05
	No.	%	No.	%	Ordinary	
0 to 0.049	680	57.15	7 345	96.77	0.591	1.0
0.050 to 0.079	38	3.19	132	1.74	1.833	3.1
0.080 to 0.149	139	11.68	99	1.30	8.985	15.2
0.150 up	333	27.98	14	0.18	155.444	263.0
TOTALS	1 190	100.00	7 590	100.00	—	—

4.19 As Table 7 shows, the risk of being killed in a crash is 3.1 times higher for drivers in the .05 to .079 group than it is for drivers under .05. Table 8 provides a good summary of the data contained in the previous three Tables. The same material is shown graphically in Figure 1.

Table 8: Relative risk of fatal, non-fatal injury and non-injury crashes.

BAC range %	Mainly minor crashes	Injury (non-fatal) crashes	Driver-fatal crashes
0 to 0.049	1.0	1.0	1.0
0.05 to 0.079	1.4	2.3	3.1
0.08 to 0.149	3.6	5.6	15.2
0.150 up	19.0	30.9	263.0

Figure 1: Increase in risk of minor, non-fatal injury, and driver-fatal crashes, at various blood-alcohol concentrations, compared with the range of zero to 0.049%. (Borkenstein, McLean and N.S.W.)



4.20 In summary, the research evidence shows that the risk of crashing increases with increased alcohol consumption and that the risk of having a serious or fatal crash escalates even more with increased alcohol than does the risk of having any crash. While the higher the alcohol consumption the greater the risk, motorists in the .05 to .079 BAC group present a much greater danger to themselves and to others than do motorists under .05.

Controlled experiments

4.21 The powerful evidence of the “on the road” studies cited above is backed up by several controlled experiments which show that drivers are significantly more impaired with a BAC of .05 to .079 than they are at levels below .05.

4.22 One of the best studies of the influence of blood alcohol on driving skills was conducted by Lovibond and Bird (1971) of the University of N.S.W. They began by using a battery of driving tests on a group of 26 ordinary drivers and 16 racing and rally drivers. Initially, all of these test were done with no alcohol in the blood. Not surprisingly, the racing and rally drivers did better than the ordinary drivers on the tests at zero BAC.

4.23 All of the drivers were then tested on the same driving tests at three different levels of BAC: 0.05; 0.08; and, 0.10. The deterioration in performance was significant at all levels of BAC.

4.24 By about 0.06 BAC the rally and racing drivers had lost their advantage over sober ordinary drivers, in tests of ability to corner, of tracking, braking smoothness and lane control. At 0.08 one competition driver lost control in a corner.

4.25 Heavy drinkers showed as much impairment from alcohol as did light drinkers. In many tests there was a proportional decrease in performance, as BAC was increased from zero. As Birrell (1974) commented on this study “the only aspect of driving improved by alcohol is confidence”.

4.26 Another controlled experiment was conducted by Cohen (also cited in Birrell’s 1974 book). Bus drivers of great experience were given the task of driving between markers and showed skill in so doing. At blood alcohol concentrations of 0.06 however, many experienced drivers attempted to drive between markers spaced less than a width of the bus. Clearly their performance had been significantly impaired with a BAC of .05 to .079 than they are at levels below .05.

The lowest BAC level for offenders

4.27 A third reason for supporting the retention of .05 is the effect that any raising of the limit might have on the numbers of drinkers over .08. As we have seen from the studies by Borkenstein and McLean, supplemented by N.S.W. data, drivers in the low (.05—.079) BAC range are more likely to be involved in crashes, especially serious and fatal crashes, than drivers under .05.

4.28 While this risk is far too large for the Committee to endorse, it is still considerably less than the increased risk in the next group up—the medium BAC range (.08 to .149). The risk of being involved in a fatal crash in the low (.05 to .079) range is 3.1 times more likely than for drivers under .05. However the risk in the next group, the medium (.08 to .149) group is a staggering 15.2 times greater.

4.29 Any move to return to a .08 limit would not merely lead to more deaths and injuries involving people in the range between .05 and .08 but it would mean that the category of drivers who strayed over the limit would constitute a far more dangerous group than those who presently just stray over the existing limit.

4.30 There are reasons to believe that more people would inadvertently stray over the higher limit than the lower one. Greater intake of alcohol leads to greater impairment of judgement. The judgement which is impaired is not only the judgement required in driving but the judgement of how many drinks the driver has actually had. The clearer head which comes with being under .05 is an advantage in actually staying under the legal limit.

A sign of weakness

4.31 Another reason why the Committee favours the retention of the .05 limit is that any move away from it could be perceived as being soft on drink-driving.

4.32 RBT has worked more effectively in N.S.W. than anywhere in the world. An integral part of that campaign has been extensive promotion of the .05 limit. The slogan "under .05 or under arrest" encapsulates the message which has been effectively communicated to the public. A move to a higher limit could easily be perceived in the community as a weakening of resolve to combat drink-driving, as evidence that it was no longer such a serious matter. The effects of such a view could have catastrophic effects on the road toll.

4.33 We should be aware that while RBT has had a dramatic impact on the N.S.W. road toll, the war against drink-driving is far from over. While there has been a large reduction in alcohol related deaths, illegal levels of alcohol still remains the largest single identified factor in deaths on our roads.

4.34 Drink-driving is still a serious problem. Even if the Government should never have moved to .05 (and we believe all of the evidence shows it was right to do so) any retreat from that position could be interpreted as a weakening of concern in this area and could contribute to an increased road toll.

The age/experience myth

4.35 Some of the people who have sought an increase from .05 to .08 have not advocated a blanket change. Instead, they have suggested that experienced drivers should be allowed a higher BAC level before they would be committing an offence.

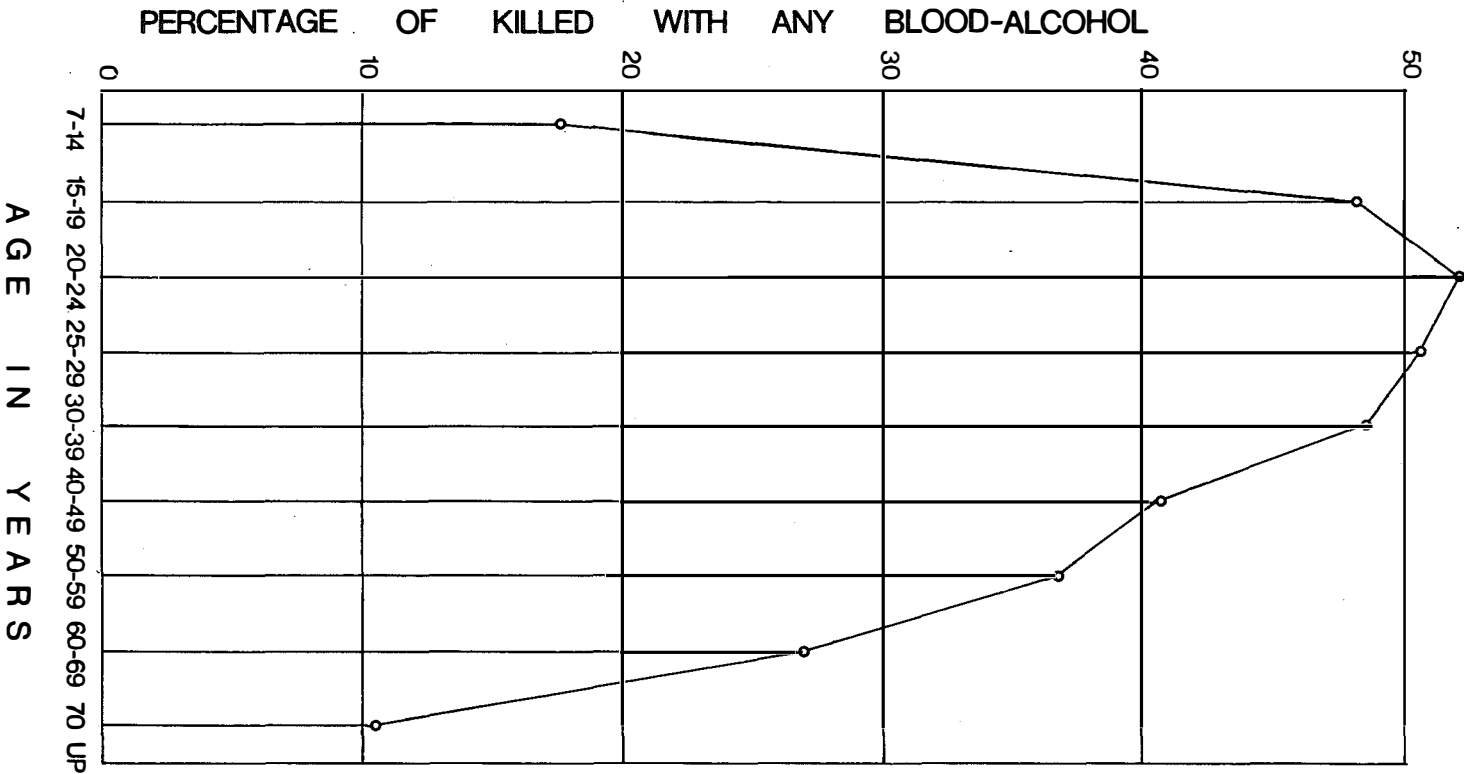
4.36 Although the studies cited earlier in this chapter clearly show why a move to a higher level would be disastrous, the Committee still believes it is important to demolish the myth of greater age and experience being appropriate for having a higher level.

4.37 First and foremost, the Committee feels it is ridiculous to use alcohol as a reward for good behaviour on the roads. At a time when drink-driving is still the single most serious danger on our roads the notion of encouraging "good" drivers to drink more is highly inappropriate.

4.38 Second, the available evidence does not demonstrate that older drivers are markedly less likely to have alcohol related crashes than younger drivers. Certainly, younger and inexperienced drivers have more crashes overall than do older, more experienced drivers. However, the difference between the two groups is much smaller in crashes where alcohol is involved.

4.39 As Figure 2 shows, drivers and riders in the 15-19 age group actually have a smaller percentage of fatal crashes where the driver or rider has alcohol in the blood than do the 30-39 age group. It is only when the over-fifty age groups are considered that there is any substantial reduction.

Figure 2: Percentage in each age group of killed drivers and motor-cycle riders, who had any alcohol in the blood at autopsy.



4.40 Having regard to the material outlined so far in this chapter the Committee is strongly committed to the retention of the .05 limit.

4.41 While the exact numbers are difficult to quantify, we have no doubt that a return to .08 would result in the needless death and injury of more men, women and children in N.S.W.

CHAPTER 5

EVIDENTIARY EQUIPMENT

Recommendations

- (8) That the Police introduce the one scientific device to be used for both roadside testing of drivers and as the final evidentiary instrument for the purposes of court proceedings.
- (9) That the Breathalyzer 900 be phased out and replaced by a more modern acceptable electronic device such as the Lion Alcolmeter S-D2, or another brand of device which meets or betters the specifications of that model.
- (10) That from now on the New South Wales Police Force purchase only the Lion Alcolmeter S-D2, or another brand of device which meets or betters the specifications of that model.
- (11) That as a consequence of these changes the existing Breath Analysis Section be restructured so that those Police officers made redundant by the new technology can be redeployed to other police duties for the benefit of the people of New South Wales.

5.1 At present a driver stopped for a random breath test is tested on either a Drager Alcotester ("blowing in the bag") or the Lion Alcolmeter S-L2. If the driver passes the test then he or she drives on unhindered by the police.

5.2 However, if the driver fails the test he or she is immediately arrested. The driver is then taken to a special location, sometimes a bus but more commonly a police station. There a specially trained police officer conducts a test using the Breathalyzer Model 900. This procedure is very complicated and requires considerable training of the operator. Often the operator is not on rostered duty at the police station but is especially called out to perform the test.

5.3 If the driver passes the Breathalyzer 900 test then he or she is released from police custody. However failure of that test leads to the automatic criminal charge of driving with the prescribed concentration of alcohol.

5.4 In essence the Drager Alcotester or the Lion Alcolmeter S-L2 is used as a "screening device" to find drivers who may have an illegal blood alcohol concentration and the Breathalyzer 900 is the final legal test which decides whether a prosecution is to be launched.

5.5 It is the Breathalyzer 900 which is accepted as a scientific device for the purposes of court proceedings. This is because the Police Commissioner has issued a certificate under the Motor Traffic Act indicating that the equipment used is suitable and the operator is adequately trained.

5.6 The foregoing procedures have grown up over many years. The Model 900 Breathalyzer has been used by N.S.W. Police since 1968 as the evidentiary device accepted by the courts for determining whether a driver had an illegal blood alcohol concentration. A whole section in the police force has evolved over time to handle this growing responsibility. According to the Police Department's Report for the year ended 30 June, 1983, the Breath Analysis Section comprises 62 full-time personnel and 236 part-time personnel.

5.7 In the late 1960's and throughout the 1970's the common instrument for screening drivers was the Drager Alcotester commonly known as "blowing in the bag". This is the clear bag with crystals in it which should change colour when someone with too high a blood alcohol level blows air through the attached mouthpiece.

5.8 The police still use this instrument. It is fairly cheap and therefore is particularly useful to issue to general duties policemen who may be called to the scene of an accident and be required to administer a test for blood alcohol level to drivers involved in that crash.

5.9 However, in the case of random breath testing itself the police are increasingly moving away from using the old "bag". Instead they are using the newer Lion Alcolmeter S-L2. This is a hand-held device about the size of a small transistor radio. It is a very sophisticated device which can be used for an almost unlimited number of tests.

5.10 The Lion Alcolmeter S-L2 is preset for certain blood alcohol concentrations. A light comes on at the 0.05 level. This is the device which the majority of people random breath tested in N.S.W. are given their "screening test" on.

5.11 By switching to the more modern and accurate Lion Alcolmeter S-L2 the Police have considerably upgraded the technology of the roadside screening test. However they have done nothing to change their overall procedures for the arrest and testing of drivers over the legal limit. The old procedures of the 1960's are in essence still maintained.

5.12 This is very unfortunate and particularly inefficient because the device being used for a "screening test" is now superior to the device being used for the test to decide whether or not a charge is laid.

5.13 The new Lion Alcolmeter S-L2 is a much better scientific instrument than the old Breathalyzer 900. Because the Police have not adapted their procedures to the new technology we find that the device they rely on for court evidence is not as good as the screening device they use.

5.14 In effect they rely on 1960's technology when they really already have cheaper, easier to use 1980's technology at their fingertips. They do the equivalent of issuing their officers with pocket calculators but then check all of the calculations back at the police station with another policeman specially trained to use the old logarithm tables!

5.15 The Committee feel that the Police erred when they purchased the model of the Lion Alcolmeter which only gives an indication of whether someone has exceeded a present blood alcohol limit (the S-L2), when for a similar price they could have purchased the model which gives a digital readout of the exact blood alcohol concentration of the person being tested (the S-D2).

5.16 Despite the advice in the first STAYSAFE report, which recommended the introduction of Random Breath Testing, that the Police purchase equipment which would provide both themselves and the driver being tested with a numerical readout, the police purchased a device which does not provide such a reading.

5.17 The Lion Alcolmeter S-D2, which has almost identical internal parts to the S-L2 used by the Police, is a machine which will do everything done by the Breathalyzer 900. Moreover it can be used at the roadside, requires less maintenance, relies much less on reliability of the operator and requires almost no special training.

5.18 Table 8 compares the Breathalyzer 900 and the Lion Alcolmeter S-D2. It uses ideas originally presented in a report by Perl, Starmer, Bird, Beverstock and Moynham (1984).

5.19 As Table 8 demonstrates, relatively cheap technology is available for the Police to have a roadside testing device which is simple to use, hand-held and very reliable. Such a device would require very little special training. The device would also provide motorists who *passed* a random breath test with a reliable indication of their own blood alcohol concentration.

5.20 Consequently the Committee recommends that the evidentiary device accepted by the courts become the Lion Alcolmeter S-D2 or another brand of equipment which meets or betters the specifications of that device.

5.21 Further the Committee recommends that from now on the N.S.W. Police Force only purchase the Lion Alcolmeter S-D2 or another brand of device which meets or betters its specifications. Such an instrument should, in the case of Random Breath Testing become the only device used at the roadside, and the follow-up test by the Breathalyzer 900 should be abolished.

5.22 In the case of other breath tests administered by police where a Lion Alcolmeter S-D2 or similar equipment is not available, then the evidentiary test should be conducted on such an instrument as soon as practicable.

Table 8: Comparison of Breathalyzer Model 900 with a typical portable automatic digital instrument, i.e., the Lion Alcolmeter Model S-D2.

Feature	Breathalyzer	Alcolmeter
Break a new glass ampoule for each test	Yes	No
Wet chemicals	Yes	No
Skilled, honest, separate operator	Essential	Unnecessary
To dissipate mouth alcohol	Wait 5 to 10 minutes after last drink	Wait 5 to 10 minutes after last drink
To dissipate tobacco smoke	Wait 5 minutes after smoking	Probably unnecessary, or wait 5 minutes
Errors from acetone in diabetics and others	Yes	No
Time for each test	Half an hour	90 seconds
Calibration and zero checks	Must be done before and after every test	Weekly
Accuracy	Probably correct to nearest 0.01% BAC from 0.02 to 0.15	Guaranteed correct to nearest 0.01% BAC from zero to 0.15
Detection limit	0.02% BAC	0.005% BAC
Weight	Around 1 kilogram	250 grams
Cost	Probably over \$1,000 even to police, in large quantities	Probably under \$500 to police, in large quantities

5.23 Because the currently used Lion Alcolmeter S-L2 and the recommended S-D2 have many of the same internal parts, it is suggested that the Police Force should immediately investigate the possibility of converting their S-L2 models into digital read out models.

5.24 As a consequence of these changes the Committee recommends that the existing Breath Analysis Section be restructured so that those Police officers made redundant by the new technology can be redeployed to other police duties for the benefit of the people of New South Wales.

5.25 In recommending that the Lion Alcolmeter S-D2 or a similar device become both the roadside testing instrument and the evidentiary device, the Committee realises that there is still the minor problem of mouth alcohol from a very recently consumed drink distorting a driver's first test result. The subsequent test by the Breathalyzer is not distorted in such a manner but this is because of the time lag between consuming the drink and having that test rather than due to the nature of the Breathalyzer 900. Consequently the new guidelines would need to allow for a retest of an arrested driver (but on the same machine or same type of instrument) after approximately twenty minutes to ensure there were no distorted readings due to the presence of mouth alcohol or tobacco smoke.

CHAPTER 6

SELF TESTING EQUIPMENT

Recommendation

(12) That the New South Wales Government establish a standard for self testing breath analysis machines and allow only those machines which meet that standard to be sold in New South Wales.

6.1 One constant criticism made of Random Breath Testing is that drivers in most cases can only find out if they are over the legal limit when it is too late, that is when they fail the test.

6.2 Of course this is not really a criticism of Random Breath Testing, since the crime of driving with too high a blood alcohol content existed before Random Breath Testing and is still an offence whether it is detected by RBT or another method.

6.3 However, the general complaint of “how can I know if I am over the limit without risking committing an offence?” is a fair one. Many people argue that if Governments set a figure which cannot legally be exceeded then Governments have a responsibility for ensuring that citizens have a way of calculating where they stand in relation to that figure. The Committee finds this to be a very persuasive and sensible argument.

6.4 The Government has done much to provide information to motorists about the dangers of drink-driving. The guidelines of how many standard drinks can be consumed in what period with what likely BAC reading has been of considerable help to the majority of citizens who wish to obey the law.

6.5 However it is still inadequate. No such guidelines can take into account individual differences in metabolism, age, weight and the type and amount of food consumed at the same time as drinking alcohol. While the guidelines provide good advice they can never be any more than the name suggests—guidelines—not certain facts.

6.6 A further positive step was taken by the Government when it commissioned a report by Professor Starmer of the University of Sydney and Professor Breakspere of the New South Wales Institute of Technology on the effectiveness of various self testing devices. That report indicated to potential consumers which instruments were efficient and reliable and which were not.

6.7 However, while such a research project represents a giant leap forward it still does not completely resolve the problem outlined at the beginning of this chapter. Such reports are usually not widely distributed and even when they are they rapidly become out of date with new products entering the market and others being withdrawn.

6.8 A more effective solution would be for the N.S.W. Government to establish a standard for self testing machines—both small individual machines and the larger ones sometimes placed in licensed premises. Were the Government to establish a standard then only those machines meeting that standard could be sold. While no Government could ever be expected to guarantee that every machine were to be in proper working order at any point in time, a system of allowing the sale of only those machines which meet a proper standard would go a long way towards providing motorists with a reliable self testing measure.

6.9 This would have significant road safety benefit. It would also be fair from a consumer affairs standpoint.

6.10 Such a standard could be easily developed and should be fairly inexpensive. While the costs of testing individual models to determine whether they met the standard could be expensive there is no reason why a fee could not be charged to manufacturers or distributors to cover the cost of evaluating their product.

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