

Policies of the Australasian College of Road Safety

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Alcohol

ACRS Policy Position

Drink driving has always been a major contributor to road trauma in Australia. There has been great improvement over the last three decades, but further reductions in alcohol associated road trauma are possible. To this end ACRS supports

- present national permissible blood alcohol limits of 0.05 BAC for most drivers and 0 for novice drivers (0.02 in WA), drivers of heavy vehicles, dangerous goods vehicles, emergency vehicles, public service vehicles, and driving instructors and supervisors of learner drivers
- continued enforcement, education and publicity on the risks and dangers of drinking and driving
- efforts to reinforce the social desirability of separating alcohol and road use
- maintaining a high level of high profile random breath testing, to at least one test for each licensed driver each year
- regular review of penalties for drink driving so that a range of measures including monetary, driver's licence, denial of vehicle use and custodial penalties remain a real deterrent against drinking and driving
- continuing development of measures to deal with 'problem' alcohol users and recidivist drink drivers, including social measures such as rehabilitation
- greater availability of safe and reasonably convenient public transport alternatives.

In the longer term, ACRS sees merit in investigating whether there is a case for further reduction in permissible blood alcohol concentration to Zero BAC for all motor vehicle operators.

ACRS presses for the development and universal fitting of passive breath test devices or driver impairment sensors that detect the presence of alcohol or impaired performance, and provide warnings or prevent the vehicle being driven.

Objective

Objectives of this position are to:

- continue to reduce the influence of alcohol on road trauma
- reinforce the social desirability of separating alcohol and road use.

Discussion

Drink driving has been one of the largest single contributors to road trauma. In 1980 when 3272 persons were killed in road crashes, 44% of drivers and motorcycle riders killed had more than the legal concentration of alcohol. In 1995 when 2017 persons were killed that proportion was 30%. The most recent national figure, for 1997, is 28%.

The improvement has come about through a combination of reducing the permissible blood alcohol limit to 0.05 g/100ml of blood (0.05%), introducing and maintaining a high level of random breath testing, and heavy penalties reinforced with publicity and information measures (eg the distribution of millions of 'standard drink' cards, media advertising, etc) aimed at making drink driving socially unacceptable.

However, any single problem that still accounts for more than one quarter of driver road deaths should be capable of improvement, and a major target for countermeasures. Further improvement can be gained by increasing the level of random breath testing to at least one test per licensed driver per year (a component of the National Road Safety Strategy 2000-2010 announced by Australian Transport Council in November 2000), strategically targeted to achieve the greatest effect.

Alcohol ignition interlocks have been proposed, usually as a way to allow convicted drink drivers to continue to drive where court rulings allow. Technology is now being developed to fit 'passive' devices that can sense the presence of alcohol and prevent the vehicle from being started until a test is passed. Such devices would not inconvenience a sober driver. Any such device should be reliable, accurate and difficult to bypass, and fitted to all vehicles in manufacture.

The College also notes that devices have been developed for the road transport industry to assess impairment from fatigue, and that there is potential for systems to automatically assess variation from a driver's own baseline driving performance characteristics, and issue progressively more intrusive warnings and eventually shut down vehicle systems if the driver does not respond. ACRS should press for the further development and eventual equipment of all vehicles with such devices.

There remain some problem areas such as recidivist drink drivers. Recidivist drink driving is the effect of a problem, not the problem itself. As well as enforcement measures to deter offending and alcohol interlocks, recidivist drink drivers need other treatment and support measures such as rehabilitation programs. As well, there may be a case for applying penalties administratively instead of going through the courts, for repeat offenders. Measures such as impoundment of the vehicles of repeat offenders should be investigated, trialled and implemented if found to be effective.

In the longer term, society should consider moving to more stringent permissible blood alcohol limits (ie 0 BAC) for all motor vehicle drivers.

Reference

Australian Transport Council, The National Road Safety Strategy 2001-2010, ATSB Canberra 2001

Comment

Unfortunately there is little significant change in the position regarding road trauma resulting from drink driving. The numbers have remained relatively stable for the last several years (as has road trauma generally). Of itself this suggests that there is more to be done, with one of the major emphases in recent times being the problem of recidivist drink drivers. It is possible that more research should be done to develop 'smarter' practices in random breath testing.

In this policy statement ACRS called for more stringent permissible blood alcohol limits to be considered. This should still remain as a medium to long term policy objective, but we note that one of the largest problem areas remains in high range alcohol offences, as well as recidivists. It is possible that the most significant alcohol problem continues to be those with an alcohol use problem.

Fatigue

ACRS Policy Position

ACRS supports measures to increase public awareness of the contributors to and dangers of driver fatigue, to promote awareness of countermeasures, and further research on these factors and the nature of fatigue and its effect on performance.

Objective

To improve safety by improving knowledge of the causes, contributing factors and effect of fatigue on performance.

Discussion

Fatigue is believed to make a primary contribution to between 4 and 30% of crashes (Moore & Brooks 2000, NRTC 2001). There is however no agreed definition of fatigue and no reliable and exhaustive means of determining whether or the extent to which fatigue contributed to a particular crash (Neville Inquiry, 2000). It is possible that crashes attributed to fatigue are actually the result of the driver falling asleep, and that those crashes represent the lower bound of a much larger number. Some crashes attributed to other causes such as inattention or failure to anticipate could well have fatigue as a factor behind the identified cause.

Whatever the true figure, fatigue is a serious safety problem. Better knowledge of fatigue and factors contributing to it may help the driving public to adopt practices that minimise fatigue and prevent fatigue related crashes from occurring. There has been a considerable amount of research on fatigue in the last decade or so and although much of that has been carried out with respect to the road transport industry, the fundamental physiological factors apply to all.

Australian research on fatigue has tended to characterise fatigue operationally, focussing on mental and physiological effects.

The symptoms or effects of fatigue include impaired performance (loss of attentiveness, slower reaction times, impaired judgement, poorer performance on skilled control tasks and increasing probability of falling asleep) and subjective feelings of drowsiness or tiredness. Contributory factors include long periods awake, inadequate amount or quality of sleep, sustained mental or physical effort, disruption of circadian rhythms (the daily cycle of waking and sleeping), inadequate rest breaks and environmental stresses (heat, noise and vibration).

Adequacy of sleep and length of time awake are probably more important than duration of actual work. Two pieces of Australian research (Dawson & Reid 1997 and Williamson et al 2000) have found that being awake for 17-19 hours (eg, from (say) 6am to around 11pm-1am) brought a deterioration in performance on some tests equivalent to having a blood alcohol concentration (BAC) of around 0.05%, the legal limit. After 24-27 hours, impairment was equivalent to a BAC of 0.1%.

Circadian rhythms have an important effect. The body is governed by inbuilt biological rhythms that are attuned closely to the cycles of day and night. There are two 'low' points in the circadian rhythm when there is a strong propensity to sleep: from about midnight to 6am and a lesser one in the early to mid afternoon. Work is best performed during the day when the bodily system is (other things being equal) awake and alert; the best sleep is obtained at night. Sleep at other times of the day is less 'efficient'; work performed at the low points of the cycle may be more prone to error.

Sleep is a biologically determined drive, and fatigue can only be relieved by sleep. If restorative sleep is not obtained, then impairment and progressive deterioration in performance occur, and sleep will follow. If sleep deprived to a significant extent, a person may fall asleep without warning, either into deep sleep or 'microsleeps' of a few seconds' duration.

One reviewer (Swann, 2000) has noted that at lesser levels of sleepiness drivers may have significant withdrawal of attention from road and traffic demands which can affect collision avoidance ability (selective) or collision avoidance and vehicle control (general). At these impaired levels of information processing drivers may not detect critical events such as stop signs and red lights and may fail to appreciate high crash risk situations.

Simple measures are available to avoid the dangers of fatigue. The most important are:

- Get a good night's sleep before travelling: repay any sleep debt
- Many people leave for holidays after work on Friday. This should really be avoided if possible. The effect of a full day's wakefulness and a day's work will affect alertness, judgement and anticipation
- Plan the trip to allow for rest breaks
- Take frequent breaks. There is no research evidence on a 'good' rest interval, but the usual suggestion of a break every two hours is good advice.

- Know what signs to look for. Passengers can look for some of these too and alert the driver.
- Wandering in the lane or over lane lines
- Changes in speed, especially slowing down without reason
- Yawning
- Nodding
- Lapses in concentration.

References

Dawson D and Reid K (1997) *Equating the performance impairment associated with sustained wakefulness and alcohol intoxication*, Centre for Sleep Research, University of South Australia

Moore B & Brooks C (2000) *"Heavy Vehicle Driver Fatigue: A Policy Adviser's Perspective*, Proceedings, 4th International Conference on Fatigue and Transportation, Coping with the 24 Hour Society, Fremantle 19-22 March 2000

National Road Transport Commission and Smithworks Consulting (2001) *Heavy Vehicle Driver Fatigue: Review of Regulatory Approach Discussion Paper* NRTC

Williamson A, Feyer A-M, Friswell R and Finlay-Brown S (2000) *Development of measures of fatigue: using and alcohol comparison to validate the effects of fatigue on performance*, Consultant Report CR189, Australian Transport Safety Bureau, Canberra

Swann P (2000) *Heavy vehicle driver health and sleep disorders*, AP-148-00, Austroads

Comment

Fatigue is emerging as one of the most urgent and serious problems in road safety. For a long time it has been considered to be a problem most especially of the long distance road transport industry, but it is now becoming clear as some of the available (but nevertheless very poor) evidence is showing, that it is very much a problem of the whole community. Two serious problems are that it is not really possible to get a good estimate of the extent of the problem because it is so difficult to reliably identify crashes in which fatigue was a prominent contributory factor, and that by and large the public is ignorant of the extent of the problem. The President's report for the October 2006 issue of the ACRS Journal (17:4, October 2006) deals with the problem of fatigue. The ACRS National Executive has identified fatigue as one of the priority safety issues for action over the next twelve months.

The ACRS policy statement was further elaborated on in an article in the ACRS Journal (17:1, February 2006).

This is an issue on which all members could usefully inform themselves and spread the word. By making known the facts on fatigued driving ACRS members can perform a real service to the community.

Heavy Vehicle Fatigue

ACRS Policy Position

Fatigue is recognised as a significant problem in the road transport industry, in terms of the health and lifestyle of drivers as well as in the potential for crashes.

ACRS supports measures by governments and the road transport industry in partnership to manage and mitigate fatigue in road transport. ACRS considers all heavy vehicle drivers should have regular health checks, including assessment for sleep disorders such as sleep apnoea.

ACRS supports the development and implementation of measures to effectively manage fatigue in the road transport industry, having regard to circadian rhythm and cumulative fatigue, and the roles of manufacturers, consumers and other parts of the distribution chain.

Objective

To enhance heavy vehicle driver health and safety, and the safety of other road users, and minimise the impact of fatigue arising from freight transport practices.

Discussion

Fatigue is a significant problem in road transport, especially in view of long distances and the structure of commercial/industrial operations, and the geographical spread of industry and commerce in Australia. Fatigue is believed to contribute directly to between 4 and 30% of road crashes, and there are probably many more in which fatigue may have played a part but was not identified, or the crash was attributed to other causes such as inattention. Fatigue of heavy vehicle drivers is believed to contribute to about 4% of heavy vehicle crashes (NRTC 2001).

Traditionally Australian governments have sought to minimise the safety and health consequences of fatigue by limiting daily and weekly hours of driving for long distance operations. It is now considered that this is not sufficient, and that account must be taken of the causes and precursors of fatigue (see separate policy statement). Further, road transport is just one part of a distribution chain, and often the root problem of fatigue in the road transport industry is the demand of industry, commerce and the consuming public for movement of goods to particular schedules.

ACRS supports measures by governments, the road transport industry and other parts of industry and commerce to manage fatigue directly and to address the conditions that give rise to the fatigue problem.

Reference

National Road Transport Commission and Smithworks Consulting (2001) *Heavy Vehicle Driver Fatigue: Review of Regulatory Approach Discussion Paper* NRTC

Comment

There has been a good deal of movement on this issue over the last few years, with the National Transport Commission continuing to develop policies and guidelines, and the concomitant regulations, for transport drivers. It remains an area that is very difficult to grapple with because the root causes of the problem are the demand for timely delivery of consumer goods, coupled with the extremely competitive nature of the industry. The effect of this last is that to keep costs down, even under regulations drivers are permitted to work hours that would be regarded as unacceptable in any other industry. Surely the community could accept a small increase in the freight component of the goods they buy (a few cents, say on top of the cost of a packet of breakfast cereal) to allow more drivers to be employed and allow all to work more reasonable hours.

One development since this policy statement was written is the advent through the National Transport Commission of Chain of Responsibility policies and legislation that requires non transport parts of the distribution chain to accept responsibility for practices that contribute to or increase driver fatigue. This includes setting schedules that cannot be met without breaching driving hours or speed limits; long waiting times for loading and unloading during which drivers are nevertheless on duty and cannot take rest; goods receiving schedules that require extended night duty by the truck driver and so on.

The ACRS President's report for the Journal (17:4, October 2006) outlines some recent findings and developments. If members wish to inform themselves further on this difficult issue, the National Transport Commission web site www.ntc.gov.au has a wealth of information.

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