

TRAVELSAFE COMMITTEE OF THE 51ST PARLIAMENT
Driving on Empty: Fatigue Driving in Queensland
CONCLUSIONS AND RECOMMENDATIONS FROM REPORT NO. 43
OCTOBER 2005

THE TRAVELSAFE COMMITTEE

The Travelsafe Committee is a select committee of the 51st Parliament established by a resolution of the House on 18 March 2004. The Parliament appointed the committee to inquire into and report on all aspects of road safety and public transport in Queensland, in particular:

- Issues affecting road safety including the causes of road crashes and measures aimed at reducing deaths, injuries and economic costs to the community;
- The safety of passenger transport services, and measures aimed at reducing the incidence of related deaths and injuries; and
- Measures for the enhancement of public transport in Queensland and reducing dependence on private motor vehicles as the predominant mode of transport.

This paper outlines the Travelsafe Committee's conclusions and recommendations from its inquiry into fatigue driving in Queensland.

TERMS OF REFERENCE

During the inquiry the committee considered:

- The involvement of driver and rider fatigue as a factor in road crashes in Queensland;
- The causes and symptoms of this fatigue; and
- Legislative, enforcement, educational and other measures to reduce the incidence of fatigue-related crashes.

DRIVING ON EMPTY: FATIGUE DRIVING IN QUEENSLAND

Fatigue is a difficult concept to define. It is used to describe a range of concepts including sleepiness, tiredness, exhaustion or even inattention.

Fatigue has several precursors including time since sleeping, quality of sleep, time of day, time on duty, workload, under-stimulation and other factors. However, the importance of sleep cannot be underestimated as it is the only countermeasure that prevents or cures fatigue. A loss of a small amount of sleep can severely affect the alertness and reaction times of drivers.

The estimated financial costs of sleep disorder related crashes was \$1.1 billion in 2004. This was the second largest indirect financial cost of sleep disorders after work-related injuries.

Fatigue Crash Definitions

Fatigue crashes in Queensland are measured in two ways. The primary source of information about the causes and characteristics of crashes are the crash reports filed by police. Part of the training that Queensland Police Service (QPS) officers receive when first recruited assists them in identifying the signs of fatigue.

Queensland Transport (QT) also use a statistical surrogate to identify crashes that have characteristics strongly associated with fatigue. The Australian Transport Safety Bureau (ATSB), New South Wales Roads and Traffic Authority (RTA) and Office of Road Safety in Western Australia also use statistical surrogates to augment the data collected by police.

The committee considered three options to improve fatigue crash reporting: standardising the definitions of fatigue crashes in Australia,

enhancing the QT definition and better training and guidance for police officers to recognise crashes contributed to by fatigue.

High Risk Groups

The committee identified several groups with a higher risk of experiencing a fatigue-related crash. These included rural drivers and riders, young drivers and riders, shift workers and people with long work hours, people with medical conditions and commercial drivers including heavy vehicle drivers.

Fatigue Driving Policies and Legislation

There are two road safety strategies that provide a framework for road safety initiatives in Queensland: the *National Road Safety Strategy 2001-2010* and the *Queensland Road Safety Strategy 2004-2011*. Each of these strategies is supported by a number of action plans.

Fatigue driving in Queensland is regulated by four means:

- *Transport Operations (Road Use Management – Fatigue Management) Regulation (Qld) 1998*;
- *Transport Operations (Passenger Transport) Standard (Qld) 2000*;
- *Transport Operations (Road Use Management) Act (Qld) 1995*; and
- *Criminal Code Act (Qld) 1899*.

The first two pieces of legislation are specifically targeted at heavy vehicle drivers. The committee notes that while the implementation of legislation to control the heavy vehicle industry is more advanced than for light vehicle drivers, there are still problems with its effectiveness in reducing crashes.

The committee believes that legislation relating to fatigue driving by light vehicle drivers is ineffective. However, the committee also notes the difficulties in adequately identifying and enforcing fatigue driving legislation for light vehicle drivers.

In Queensland, the Department of Industrial Relations (DIR) manage fatigue in the workplace through Workplace Health and Safety Queensland. Individual Queensland Government departments produce policies to reduce the risk that their own employees will experience a fatigue-related crash while driving for work. The committee believes that the Queensland Government should develop a directive similar to those used by Department of Main Roads, DIR and other Queensland Government agencies for all departments and agencies that will reduce the risk of public servants experiencing a fatigue-related crash while driving for work.

The committee notes that workers in particular industries are more likely to experience a fatigue-related crash. Interventions targeted at these industries will help reduce the incidence and severity of crashes. The committee believes that the mining industry is an appropriate industry to trial these measures. The approach adopted for use within the mining industry could then be used as a model for other, high-risk, industries.

Raising Awareness of the Problem

The majority of Queensland's public education campaigns on road safety issues are conducted by QT. The first of QT's major driver fatigue education campaigns began in 1997. QT's expenditure on light vehicle fatigue public education programs is approximately \$957,000 annually.

Mass media public education campaigns are not the only method of raising awareness about this issue. As an example, the RACQ and the QPS trialled a Fatigue Sucks campaign in Mackay over the 2002-2003 summer holiday period.

Although public education has been used in Queensland to raise awareness of driver fatigue, ongoing education is required to change driver attitudes and behaviour. The committee believes there is a role for campaigns using alternative, more targeted methods aimed at specific high-risk groups to encourage these groups to change their behaviour.

The QT driver manual for learners, *Your Keys to Driving in Queensland*, contains a two page summary of fatigue-related issues. However, the current written exams do not include any questions about the problems associated with driver fatigue. The committee believes that including questions on driver fatigue in some versions of the novice driver and rider licence theory tests will provide an incentive for new drivers to develop a greater understanding of fatigue and its impact on driving.

The Driver Reviver program is a community-based road safety initiative of QT and the QPS. It aims to reduce the number of fatal crashes caused by fatigue driving.

The committee believes that the most appropriate method of enhancing Driver Reviver and ensuring continuity of funding is through a partnership between the Queensland Government, the federal government and the community sector.

There are alternatives to the Driver Reviver program. The use of alternative models to Driver Reviver may encourage those drivers who do not stop at Driver Revivers to take a break from driving. The committee suggests that QT explore these alternative models.

The goal of the HealthBreak program in Victoria is to prevent workplace injury, accidents and illness among transport workers. To achieve this, 15,000 workers in the transport industry will be offered a free workplace health check focusing on the detection and prevention of diabetes as well as sleeping, breathing and heart disorders.

The committee suggests that QT, in conjunction with Queensland Health and the Victorian authorities evaluate the HealthBreak program to determine whether it should be adopted in Queensland.

Countermeasures

Sleep is the only cure for fatigue. A short sleep of about 15 minutes reduces drowsiness while driving. However, a short sleep does not replace adequate sleep at night.

Both legal and illegal drugs affect a person's ability to drive, particularly when fatigued. Modafinil, marketed under names such as Provigil, Alertec and Modavigil, is a drug that enhances wakefulness and vigilance but is less likely to cause jitteriness and anxiety than traditional stimulants. It is currently used in the treatment of some sleep disorders. The effects of drugs used to mask the effects of fatigue are not fully understood. The committee believes further research is required.

Caffeine is a potentially effective short-term countermeasure, particularly when combined with a short sleep. Two to three cups of coffee, containing 200 mg of caffeine, reduces driver sleepiness. Caffeine in other energy drinks may also reduce the chances of a

fatigue-related crash. However, there may be longer-term effects that need consideration before promoting the use of caffeine.

The design of roads can reduce the chances of a fatigue-related crash or its severity if a crash does occur. A more forgiving road environment and divided roads are examples of using road design to reduce crashes. Fatigue-related crashes may also be decreased by reducing driving monotony by making roads more interesting.

Rest areas aim to reduce the risk of road crashes related to fatigue as well as the number of fatigued drivers on the road. There are approximately 530 rest areas, heavy vehicle stopping areas and points of interest such as scenic lookouts in Queensland.

The committee believes that the current number of rest areas, heavy vehicle stopping areas and points of interest are insufficient for the vast and dispersed Queensland road network. The committee is also concerned that points of interest and stopping areas do not contain the required facilities. The committee believes that the construction of more quality rest areas will encourage drivers to stop and rest and as a result reduce fatigue-related crashes. The committee suggests that new rest area sites are chosen with input from key stakeholders.

Audio-tactile devices are used in a variety of ways to provide an audible and tactile warning to drivers. These devices include edge lines, rumble shoulders, rumble strips and rumble sections.

The committee believes that audio-tactile devices should be used more extensively throughout Queensland. However, the committee believes that an independent evaluation of the effectiveness of these devices in Queensland is needed. This evaluation should include a cost benefit analysis.

The majority of research on emerging technology in road safety is aimed at developing on-board driver monitoring systems or crash prevention systems to reduce fatigue-related crashes. Many in-vehicle technological aids claim to help reduce the risk of a fatigue-related crash, however, there are concerns about the reliability of these devices.

The Intelligent Access Project (IAP) provides an innovative mechanism for the Queensland Government to better manage the road network and its use. The program aims to implement a system that will monitor heavy vehicles remotely to ensure they are complying with their agreed operating conditions using telematics (telecommunications and computing). The IAP reports on the speed, location and mass of heavy vehicles.

Further Research and Implementation of Recommendations

The committee was unable to identify an existing clear definition of fatigue that is universally accepted. The committee believes that research into different types of fatigue such as hypovigilance should be supported in order to move towards a common definition.

The committee believes that a valid and reliable fatigue detection technology, that is suitable for use in on-road enforcement and is recognised by the Courts would be useful in reducing the amount of fatigue driving and, as a consequence, the amount of fatigue-related crashes. However, they believe that further research and development of existing technologies is required to achieve this end.

The committee suggests that further research on the effects of drugs such as Modafinil on the Central Nervous System and on healthy adults who use it to reduce their need for sleep is needed. The committee does not believe that the focus on Modafinil should stop researchers from trying to develop additional, safer, more effective drugs that help reduce fatigue.

The committee acknowledges community concern regarding the implementation of recommendations. To support the implementation process, the committee recommends that Ministers report annually to

Parliament on the implementation of supported and partially supported recommendations.

RECOMMENDATIONS

1: That Queensland Health should actively promote the importance of sleep to health and the adverse health consequences of insufficient or poor quality sleep.

Ministerial Responsibility: Minister for Health

2: That the Minister for Transport and Main Roads should seek the support of all Australian Transport Council members for the development of standardised fatigue crash definitions and reporting for road safety purposes.

Ministerial Responsibility: Minister for Transport and Main Roads

3: That Queensland Transport should not adopt the ATSB fatigue crash definition in its present form.

Ministerial Responsibility: Minister for Transport and Main Roads

4: That Queensland Transport should, in consultation with the Department of Main Roads, the Queensland Police Service and other stakeholders, consider amending its fatigue crash definition to exclude 0.05 BAC and higher drink driving crashes and to remove the speed limit criteria. Crashes identified by police as being caused by fatigue and drink driving would continue to be included.

Ministerial Responsibility: Minister for Transport and Main Roads

5: That the Queensland Police Service should trial the collection of 'time on task' and 'amount of sleep' information by police who attend crashes. The trial should consider the benefits and costs of collecting the extra data as well as the feasibility of collecting the data for all crashes attended by police in Queensland.

Ministerial Responsibility: Minister for Police and Corrective Services

6: That the Queensland Police Service should, with assistance from Queensland Transport, provide comprehensive training for traffic and general duties officers who attend road crashes to assist in their identification of fatigue-related crashes and the detection of drivers who are impaired by fatigue.

Ministerial Responsibility: Minister for Police and Corrective Services and Minister for Transport and Main Roads

7: That Queensland Transport and Queensland Health should consult with the Australian Medical Association regarding the best way to inform general practitioners about the need to:

- Better inform their patients about the dangers of driving and riding while fatigued;
- Identify patients with sleep disorders; and
- Help them seek treatment.

Ministerial Responsibility: Minister for Transport and Main Roads and Minister for Health

8: Following the consultation in recommendation 7, Queensland Transport and Queensland Health should contact general practitioners and advise them about their obligation to better inform their patients about the dangers of driving and riding while fatigued, identify patients with sleep disorders and help them seek treatment.

Ministerial Responsibility: Minister for Transport and Main Roads and Minister for Health

9: Queensland Transport should advise general practitioners that, if a patient continues to drive against their advice, it is their ethical and legal responsibility, to advise the patient that in the interest of public safety, they must inform Queensland Transport. Queensland Transport should provide information to general practitioners regarding their legal rights and protections when informing Queensland Transport about a patient's inability to drive safely.

Ministerial Responsibility: Minister for Transport and Main Roads

10: That the Queensland Police Service should, in conjunction with Queensland Transport, increase the level of on-road enforcement of driving hours for heavy vehicle drivers.

Ministerial Responsibility: Minister for Police and Corrective Services and Minister for Transport and Main Roads

11: That Queensland Transport should review the New South Wales and Victorian legislation that directly addresses fatigue driving to identify if it reduces the incidence of fatigue-related crashes; the success rate of prosecutions; the ease of enforcement; and the likely benefits of introducing similar legislation in Queensland.

Ministerial Responsibility: Minister for Transport and Main Roads

12: That the Department of Industrial Relations should provide guidelines for employers and workers on the extent of eligibility for compensation for injuries sustained in crashes by workers who have a short sleep before driving home after shifts or break their journey to use another fatigue management countermeasure.

Ministerial Responsibility: Minister for Employment, Training and Industrial Relations

13: That the Department of Industrial Relations should work with organisations to provide opportunities for employees to have a short sleep before travelling home after work, particularly in industries where employees have a higher risk of a fatigue-related crash.

Ministerial Responsibility: Minister for Employment, Training and Industrial Relations

14: That the Department of Industrial Relations should develop a directive similar to those used by Department of Main Roads, Department of Industrial Relations and other Queensland Government agencies for all state government departments and agencies that will reduce the risk of public servants experiencing a fatigue-related crash while driving for work.

Ministerial Responsibility: Minister for Employment, Training and Industrial Relations

15: That the Department of Natural Resources and Mines should work with employers, employees and other stakeholders within the mining industry to support and encourage the development of countermeasures such as more effective rostering systems, public education, health programs and alternative transport arrangements to reduce the incidence of fatigue-related crashes on the way to and from work.

Ministerial Responsibility: Minister for Natural Resources and Mines

16: That the Department of Industrial Relations should identify particular industries where employees have a high-risk of experiencing a fatigue-related crash either at work or while travelling to or from work and then, using information gathered from the implementation of recommendation 15, support and encourage the development of countermeasures to reduce fatigue-related crashes within these high-risk industries.

Ministerial Responsibility: Minister for Employment, Training and Industrial Relations

17: That Queensland Transport should introduce public education campaigns targeted at all high-risk groups outlined in Part 5 of this report. These campaigns should incorporate information on a range of symptoms and effects of driving fatigued and countermeasures that can be used to prevent fatigue-related crashes.

Ministerial Responsibility: Minister for Transport and Main Roads

18: That Queensland Transport should complement existing mass media fatigue-related campaigns by using alternative, more targeted, communication methods which target key groups such as passengers and children to influence drivers.

Ministerial Responsibility: Minister for Transport and Main Roads

19: That Queensland Transport should liaise with non-government organisations such as the RACQ and insurance companies in order to enhance the effectiveness of alternative, more targeted education campaigns.

Ministerial Responsibility: Minister for Transport and Main Roads

20: That Queensland Transport should include questions on driver fatigue in some versions of the novice driver and rider licence theory tests.

Ministerial Responsibility: Minister for Transport and Main Roads

21: That Queensland Transport should liaise with the community sector and the Department of Transport and Regional Services to provide a stable and recurrent source of funding for Driver Reviver programs on national highways and roads of national importance.

Ministerial Responsibility: Minister for Transport and Main Roads

22: That Queensland Transport, the Department of Main Roads and the Queensland Police Service should review the location and messages provided by signage for Driver Reviver sites.

Ministerial Responsibility: Minister for Transport and Main Roads and Minister for Police and Corrective Services

23: That Queensland Transport should explore alternative models to Driver Reviver for the provision of rest facilities for drivers. This should include partnership with fuel and food outlets, along with other businesses with a presence across Queensland's road network.

Ministerial Responsibility: Minister for Transport and Main Roads

24: That Queensland Transport should, in conjunction with Queensland Health and the Victorian authorities, evaluate the HealthBreak program to determine whether it should be adopted in Queensland. When making a decision about the adoption of the program, Queensland Transport and Queensland Health should consider the existing resources allocated to treat sleep disorders, the resources required to effectively treat the individuals diagnosed with a sleep disorder and, if necessary, allocate more resources.

Ministerial Responsibility: Minister for Transport and Main Roads and Minister for Health

25: That Queensland Transport and the Department of Main Roads should construct more quality rest areas based on the Department of Main Roads rest area policy outlined in Chapter 20 of their *Road Planning and Design Manual*. The location of future rest areas should be decided through consultation with heavy vehicle drivers and other key stakeholder groups.

Ministerial Responsibility: Minister for Transport and Main Roads

26: That, following an independent evaluation of the current audio-tactile devices, the Department of Main Roads should continue to deploy audio-tactile devices throughout Queensland.

Ministerial Responsibility: Minister for Transport and Main Roads

27: That Queensland Transport should, in conjunction with other transport agencies and universities, support research into different types of fatigue including hypo vigilance.

Ministerial Responsibility: Minister for Transport and Main Roads

28: That Queensland Transport should liaise with other transport agencies and universities to continue research into fatigue detection technologies. This research should have a particular focus on:

- Developing valid and reliable methods to measure fatigue or types of fatigue such as monotony;
- Linking the fatigue detection technology to, and accurately measuring, crash risk; and
- Providing research evidence to satisfy prerequisites for test results to be admissible in a court of law.

Ministerial Responsibility: Minister for Transport and Main Road

29: That Queensland Transport should, in conjunction with Queensland Health, monitor the development and usage of drugs, such as Modafinil, which are used to address fatigue.

Ministerial Responsibility: Minister for Transport and Main Roads and Minister for Health

30: That Queensland Transport should, in conjunction with Queensland Health, liaise with research institutions to investigate and gain an understanding of:

- The effect of Modafinil and other similar drugs on the central nervous system;
- The effect of Modafinil and other similar drugs on healthy adults;
- The effect of Modafinil and other similar drugs on driving; and
- The development of additional, safer and more effective drugs to reduce fatigue.

Ministerial Responsibility: Minister for Transport and Main Roads and Minister for Health

31: That Ministers should report annually to Parliament on the implementation by their departments of supported or partially supported recommendations in this report.

Ministerial Responsibility: Minister for Transport and Main Roads, Minister for Police and Corrective Services, Minister for Health, Minister for Employment, Training and Industrial Relations and Minister for Natural Resources and Mines

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