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# RoadWise



Australia's First Road Safety Journal  
5th year of publication



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## ROADWISE

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FRONT COVER: The original building of the University of New England, about to offer tertiary courses in Traffic Safety and providing the National Road Safety Resource Centre.

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## EDITORIAL

The Australian College of Road Safety approaches its fifth anniversary in February 1993. It was established as a professional organisation for individuals and organisations (government, industry and community).

Another project is proceeding to provide the second important mechanism for achievement of professional status for people working in traffic safety pursuits, technically and administratively. This is the development of tertiary courses in Traffic Safety. The courses will be delivered by distance education from the University of New England. The studies will include articulated Certificate, Graduate Diploma and Masters components.

The aim is to integrate components of educational curricula previously developed for engineering, behavioural sciences, urban and environmental planning, management, legal and health disciplines in a multidisciplinary approach to traffic safety. Concomitant with this unification is the need to expand the principles of road engineering and traffic planning with the knowledge and resources of social, behavioural and environmental sciences.

The co-ordination of the project is being funded by the Federal Office of Road Safety. The Certificate course will be offered during 1993, with the other course to follow at a later stage.

## HEAVY TRUCK SAFETY

## INTRODUCTION

In Australia there are over 2,000 serious crashes involving rigid and articulated trucks every year. In these crashes about 400 people are killed and 1700 seriously injured. Improvements in fatal accident rates involving trucks which were shown in the early eighties are now not being shown year by year. Over recent years improvements in accident rates have only just kept pace with increases in truck travel.

More than half of those killed or injured in crashes involving trucks are occupants of passenger cars. Just over a quarter are occupants of trucks.

Australia appears to have about twice as many truck crashes in terms of kilometers travelled as that in other developed countries.

The average cost of a truck crash in Australia resulting in casualties is about \$130,000 (1991). This is double the cost of a casualty accident not involving a truck. Overall, a conservative estimate of the cost of truck crashes in Australia is about \$500 million every year.

This paper reviews factors shown to be associated with the occurrence and consequences of truck crashes. It then outlines countermeasures and research issues that have been applied or suggested. The emphasis is on heavy trucks and passenger-carrying buses and coaches are not included.

## THE MOVEMENT OF GOODS AND SERVICES

A vast amount of freight is carried by road. About two-thirds of all vehicle movement is related to the carriage of freight in commercial vehicles. Most freight carriage is in urban surroundings, about two-thirds of light commercial and rigid truck movements being in urban conditions and about one-third being articulated truck movements.

Because of the nature of cargo, its source and its destination, a large proportion of the freight in urban areas can not be carried efficiently by rail. Where road and rail compete on similar routes, the efficiency of the door to door service for perishable commodities offered by road transport is perceived to be higher than transport by rail. Because a proportion of all freight will always be carried by road, the task is to minimise the risk of such carriage to the general population.

## THE TRUCK DRIVER AND HIS TASK

Driver behaviour resulting from fatigue is a major cause of truck crashes. The estimates provided by research range from 5% to 41%. There is strong circumstantial evidence that the longer the hours of driving, the greater the risk of fatigue. Medical literature establishes a link between fatigue and a capacity to react to emergencies. Prolonged hours at the wheel can lead to fatigue. More information

is required on the relationship between acceptable driving hours and fatigue and the extent to which legislation on driving hours can reduce the incidence of fatigue.

There is a clear link between the use of alcohol and a reduction in the ability to drive safely. There is no research specifically aimed at truck driving, but it may be reasonably concluded that alcohol affects the ability of a truck driver adversely. Skilled performance decreases as a result of very small amounts of alcohol. Research indicates that small amounts of alcohol can combine adversely with other influences such as fatigue.

Most research indicates an increased risk of crashes for younger drivers. Studies point to the relatively high percentage of young drivers involved in truck crashes, ranging from 12% over long distances to 25% in all crashes. However, the relationship of factors such as the type of driving task, experience and distance travelled is not well established.

Factors whose association with safe performance have not been clearly established include driver training and selection, monitoring and control. Also, the evidence on the relationship of compliance with the law with accident rates is not clear.

The balance of "fault" in truck to car collisions tends more heavily towards car drivers than truck drivers. Car drivers have been found to be the controllers more at fault in 70-75% of such collisions.

## ROADS AND TRAFFIC

The standard of road has a major effect on crash rates. In particular, freeways with full access control, grade separated interchanges, high design speeds and safe roadsides are very much safer than other forms of road. Freeways are at least four times as safe as other roads and may be twenty times as safe as other arterial roads. For trucks, freeways are at least two to three times as safe as other roads and this advantage may be particularly evident in rural areas. Newer freeways are safer than older freeways.

One of the safety advantages of freeways is control of access. Controlling access on existing roads through the use of service roads can be an effective safety device.

Another characteristic of the freeway is the provision of median and other barriers between opposing traffic lanes. To replace a two-lane highway by a four-lane divided highway will reduce crashes by 30% to 80%.

Lane widths of less than 3 metres contribute to multi-vehicle crashes. Also, to a more limited extent, the width (continued on page 4)

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of the road shoulder is related to crash rates. However, a more important feature of shoulders is whether they are sealed or unsealed. The greatest gains come from a combination of main and shoulder improvements.

Poor **sight distance** is associated with crashes. There is some evidence that existing road design guidelines do not give adequate emphasis to the needs of truck drivers in this regard, particularly on vertical curves. Although, to some extent, the greater eye height of a truck driver compensates for the generally poorer braking ability of trucks, there is still considerable hazard when features such as bends in the road closely follow after steep crests.

The **alignment of roads** has a greater effect on trucks than on cars. Trucks have real difficulty on some horizontal curves because of their relative lack of stability, high centre of gravity and poor torsional rigidity.

**Safety guard fences** do not protect truck drivers as well as drivers of small vehicles, mainly because of the greater tendency of a heavy vehicle to roll over.

Trucks are in much more danger than cars from **narrow bridges and culverts** and from collisions with substandard **overhead bridges**. Trucks are over-represented in crashes at such sites.

**Overtaking** is associated with crashes on rural roads. A particular overtaking problem for trucks is that of overtaking a caravan.

#### TRAFFIC MANAGEMENT AND DESIGN

Good **delineation** has safety benefits and is at least as important for trucks as for cars.

Establishing and maintaining a clear zone free of **roadside obstacles** has safety benefits, including benefits for trucks. For roads with heavy volumes of truck traffic the slopes of the roadsides should be minimised in order to reduce truck roll-overs.

**Sealed shoulders** reduce crashes. Drops between the pavement and the shoulder are a particular problem for trucks and may lead to loss of control.

**Street lighting** contributes to road safety for trucks, especially in urban areas and at isolated intersections in rural areas. The location and type of lighting poles can represent a hazard.

**Direction and warning signs** convey significant safety benefits at least as high for trucks as for cars.

**Rumble strips** reduce run-off-road crashes but their effectiveness for trucks is not known.

Truck **escape ramps**, when properly designed are effective in stopping runaway trucks that use them. However, the scope of application is limited.

#### Road construction and maintenance

Trucks face hazards on slippery or rough pavements. The probability of jackknifing before a crash is about ten times greater on a wet pavement than on a dry one. The problem is particularly critical for lightly loaded trucks.

Trucks face problems when they approach and travel through work zones because of their lower level of controllability under emergency conditions.

#### Speeds and speed limits

To the extent that speed limits affect travel speed, speed limits should affect crash rates. Crash rates are related to the variance of speed of vehicles in the traffic stream. While this supports the argument that there should be no difference between the speed limits for cars and trucks, car drivers may still attempt to overtake trucks travelling at the speed limit. Also, trucks generally have poorer maximum braking capabilities than cars.

#### VEHICLE FACTORS

##### The risk of crashing

Even the best **braking systems** do not have the capacity to decelerate trucks as effectively as cars. The brakes on truck prime movers and trailers may be poorly matched. In addition to straight line braking ability, trucks are liable to instability in braking due to jackknifing, swinging of the trailer and roll-over.

The **conspicuity** of trucks has been related to crash rates, although data are poor. Water splash and spray have been associated with an increased risk of crashing.

Excessive truck **speed** for the circumstances has been related to nearly 30% of crashes investigated in research studies, and in many cases the crashes could have been prevented or their severity reduced by limitation of top speed.

##### The consequences of crashing

The **instability** of trucks affects the consequences of a crash because of the increased likelihood of roll-over and the loss of hazardous goods.

In crashes where cars run into the rear of trucks, **truck trays** account for many fatal head injuries. In addition, many injuries result from impact with the side of truck trays.

Truck drivers tend not to wear **seat belts** although research shows that seat belts provide protection for the occupants of truck cabins.

Many trucks on Australian roads have lightweight cabins which have poor crashworthiness and would not meet European requirements for cabin strength. The resistance of cabins to intrusion and shifting loads is poor.

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#### Vehicle maintenance

Vehicle maintenance issues tend not to affect the exposure to crashes or their consequences. They do have a significant effect on the crash risk. Mechanical failures, including brake defects, appear to be involved in between 2% and 12% of truck crashes.

#### COUNTERMEASURES AND RESEARCH

##### Driver and organisational measures

Many countermeasures suggested in this category are not well supported by research evidence. Those employed on the basis of informed opinion should be subject to rigorous evaluation.

The extent to which **freight** can be transferred to **rail** directly affects the risk of truck transport.

The **National Road Safety Initiative** includes the following features:

- \* a national computerised database for heavy vehicle licences;
- \* a national uniform points demerit scheme;
- \* introduction of a national logbook system;
- \* introduction of speed limiters on all new vehicles, with selective retrofitting to pre-1991 vehicles

**Alcohol and drug use** could be countered by pre-employment and in-service tests for drivers, and medical examinations could include screening for alcohol and drug use problems. Drivers with such problems could be counselled.

**Truck driver education** could be improved. Issues to be addressed include fatigue, alcohol and drugs and their effects. Education on the use of seat belts could be included.

**Truck driver training** could also be reviewed and improved. Research to identify the best methods of training could be intensified.

**Employers** could have access to drivers' driving records. Schedules and work practices could be reviewed with a view to greater accord between industry demands and human capacity and performance.

**Research** is needed into driver exposure, risk related to drug use, driver education and training, driver selection, licence graduation and accident/offence histories.

The industry is contributing to road safety efforts on a national basis through the **Road Transport Industry Forum**. The Forum supports national commercial driver licensing and measures to strengthen testing requirements and standards associated with driver licences. It has

recommended prequalification training for drivers and regular revalidation through training programmes. It strongly supports a national single set of rules on hours of driving.

##### Road and traffic measures

There is a wide disparity in expense among the several measures to be considered in this category. There is therefore a particular need to consider cost-effectiveness as a factor in decisions on those to be employed.

"**Safety audits**", with an emphasis on truck use, could help to identify problems along particular routes and in particular locations.

**Weight-specific advisory speed signs** could be introduced, at least on an experimental basis.

While **divided roads** can not always be justified on safety grounds alone, they do provide substantial safety benefits. These could be added to potential benefits for efficiency and the environment. **Overtaking lanes** are of special importance where trucks are limited to the same top speeds as cars.

Existing Austroads standards for **lane and shoulder widths** could be applied as quickly as possible throughout the road network. Programmes for **shoulder sealing** could be accelerated.

**Research needs** include access control in development corridors, cost-effectiveness of geometric design standards and their relationship to accidents, truck stability, delineation and speed differentials.

##### Vehicle design and maintenance

For long-distance transport, the use of **double combination vehicles (B-doubles)** allows more freight to be carried without increasing crash rates. However, the potential diversion from rail needs to be monitored.

**Daytime running lights** increase conspicuity.

**Speed limiters** reduce the risk and severity of a proportion of crashes.

The use of **seat belts** reduces the risk of truck occupant injury, especially in rollovers.

With careful regard for cost-effectiveness, and supported by necessary **research**, the following measures could also reduce risk to truck users and other road vehicles:

- \* new braking technology, including antilock braking systems (ABS);
- \* better design and fitment of occupant restraint systems;
- \* increased cabin strength and crashworthiness;

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- \* better under-run protection for the rear and sides of trucks;
- \* more compliant truck fronts;
- \* rollover and fatigue warning devices.

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*The revision of Discussion Paper No 6 Heavy Vehicle Safety was written by Dr Michael Henderson. Appreciation is expressed to those who have participated in the development of this paper.*

#### Discussion Papers

1. *Road Safety - An Interdisciplinary Problem*, Vol 5 No 1
2. *Bicycle Safety Education*, Vol 5 No 2
3. *Driver Training*, Vol 5 No 3
4. *Bus Safety*, Vol 5 No 3
5. *Policy on Programme Evaluation*, Vol 5 No 3
6. *Heavy Vehicle Safety*, this issue

The Executive Committee of ACRS encourages members to submit suggestions and criticisms about any of these papers. It is anticipated that the ongoing modification may lead to the College being able to issue a set of position statements.

### NATIONAL ROAD TRANSPORT COMMISSION

The National Road Transport Commission was set up following a decision by a Premiers' Conference. It was part of a resolve to improve road safety and transport efficiency by adopting nationally uniform or consistent transport legislation.

Three Commissioners were appointed to the NRTC. They were Mr Gordon Amedee (former Chairman and Managing Director of Borg Warner), Dr John Taplin (former Director General of Transport in Western Australia) and Mr John Stanley (economist and transport consultant). The Commissioners are supported by a team of transport economists, planners and transport operators headed by the Chief Executive, Mr Neil Aplin (former Deputy Head of the Tasmanian Department of Roads and Transport).

The Commission's responsibilities and functions include:

- \* Developing policy for road transport
- \* Preparing and issuing guidelines on the administration of road transport legislation and overseeing that legislation
- \* Providing information on road transport legislation
- \* Making recommendations to a Council of federal, state and territory Transport Ministers on road transport legislation, heavy vehicle charges and charging principles

The three major areas on which the Commission is concentrating are:

- \* Technical standards for heavy vehicles and vehicle operation
- \* Registration of heavy vehicles and licensing of drivers
- \* Charges for heavy vehicles

Industry and the whole community have been invited to make some input into the work of the Commission.



This is No 14 in a series of interesting road safety signs. It was prepared by school children in response to many truck crashes which have occurred in the Moonbi-Kootingal area. It has been erected beside the New England Highway.

### Road Trauma - A Rural Public Health Problem

**The following is an extract from a paper presented by Dr Brian Connor at a recent Rural Nurse Conference.**

Road trauma discriminates against the young, the old and the rural members of our community. Approximately half of all road deaths come from rural Australia and rural crashes differ in character from urban crashes. They are more severe and more costly than those occurring on metropolitan roads and more likely to be a single vehicle losing directional control on a straight stretch of road. The cost of road crashes in rural areas in some situations is almost twice that of equivalent crashes in urban settings.

Much more research is needed into the specifics of rural road trauma and especially the medical implications of road crash injuries. A particular sinister problem is that of head injuries with 200-300 people admitted every year because of head injury from every 100,000 people in the community. The long term effects on families in these situations is horrendous and is compounded in rural Australia by distance from specialist treatment centres.

Rural Australians are also disadvantaged by a serious lack of public transport, the concentration on road transport for moving heavy freight, the distances required for travel by young people when playing competitive sport and the amount of time spent on car travel by country-based professionals, especially members of the nursing profession.

The reasons for this epidemic of modern society are complex and involve many sections of our society. Attempts to solve the problem of road trauma tend to be fragmented and the Australian College of Road Safety has been formed in an attempt to overcome this problem by networking road safety individuals and groups with the aim of increasing their professionalism.

An important factor in the past has been the domination of the road safety debate by engineers who have had greater access to funds through Departments of Transport because of their ability to produce more cost-effective and visible solutions than those propounded by educators. Thus we have a major public health problem where funds for its research and prevention do not come from the budget of the Department of Health. Any attempts to generate funds for much needed private research have been thwarted by the fact that the Commonwealth Government has consistently refused taxation deductibility for funds donated for this purpose. This has helped maintain the present monopolies of public sector power over research and public utility construction while the private sector has built the vehicles.

This extraordinary set of circumstances, in relation to a major public health issue, has meant that

implementation problems, in particular as they relate to road safety initiatives, tend to be poorly monitored and community funds wasted as road safety professionals "reinvent the wheel"!

We know that we could make a major impact on road trauma just by adequately implementing those solutions which we already know are effective.

This is a situation which most health care workers, and in particular, members of the nursing profession, would find quite bizarre.

While admitting that our attitude to the role and use of the motor car needs to change, there seem to be three major reasons why road trauma continues at its present level.

Firstly, there are institutional problems in relationship to ownership of the problem. The Government - at Commonwealth and State levels - is promoting greater community ownership of the problem and this is to be encouraged. The Australian College of Road Safety is working across institutional boundaries and needs more support from health care professionals. Medical practitioners - surgeons and family doctors - are involved and it now seems an appropriate time for greater input from the nursing profession, particularly the Association for Australian Rural Nurses who have a vested interest in ensuring the safety of their members.

Secondly, the road safety debate must become more closely linked with the health care agenda in Australia. The issue must always be included when better health programmes are initiated, especially when so many factors of road safety in the broadest sense can be part of a healthy communities concept. It is essential also that some introduction to these challenging issues be included in the training of nurses, doctors and other health care professionals.

Thirdly, there are problems with the implementation of solutions which already have been found to be effective. Encouragement and monitoring of these measures can be handled most effectively at community level in rural Australia. This complements Government attitudes to road safety and the "Local Government Good Practice in Road Safety at Community Level" Awards Scheme which was launched nationally by the Australian College of Road Safety in 1991.

Health professionals are ideally placed in rural communities to act sensitively towards the environment and, by their personal example, demonstrate safer ways of dealing with the transport system. They can encourage community initiatives to improve road safety and be well informed advocates on behalf of those who are disadvantaged by road trauma and inadequate public transport. []

## DRIVER EDUCATION

This is a review of a paper entitled "*Driver Education; Does It Need To Change; Can It Change?*", October 1992, written by Alex Jerim, Chief Driver Instructor, New South Wales Traffic Education Centre, Armidale, NSW.

The paper identifies various items of literature, published over the last decade, which are critical of driver education "with a view to challenging conventional thinking in this area". The introduction begins with the claim that "there is overwhelming evidence to suggest that driver education is not effective as a countermeasure to road trauma.. While it is apparent that fleet running costs may be reduced through training coupled to incentives, in terms of motivating crash-free behaviours, the evidence would suggest driver educators have not been successful".

It is suggested that the current status is that the average practitioner measures success in terms of observed course behaviour rather than by accurate assessment of post-course behaviour.

The background to existing driver education is discussed. "The two main stream approaches to driver training can be generalised as defensive driving courses and evasive driving courses. The former focusses on averting harm; the latter evading it."

It is claimed that the majority of defensive driver training programmes used in Australia are some form of a 1934 British Police model commonly referred to as *Roadcraft*. These are described as having evidence of "a rote, passive, relatively inflexible, draconian in some cases, approach to learning". "Roadcraft is, in fact, a particularly good theoretical model of driving. However, it breaks down when used as a model for teaching drivers to behave".

In terms of evasion - the learning skills which evade harm, reference is made to the techniques of car racing participants, viz., brake-evade skills, based on psychomotor skills. The author points out that the latest entrant to this area is the skid car. This is a device which can be fitted to a car to teach skid control at low speed in restricted areas. "While this device has a number of attractive advantages, used

in isolation it would be nothing short of irresponsible". The scepticism expressed about methods solely relying upon these devices is based on the potential for a learner driver to develop optimism bias as a result of experiencing improved car control.

The relative importance of attitudes and the relationship of attitudes and behaviour are discussed. "It would be difficult to accept that attitudes do not play a significant part in influencing driver behaviour. (However), we don't know what part, how they integrate with a driver's motivations and cognitive world, or what the appropriate strategies are for positively creating change".

The author states that it is misleading to claim that a driver training course aims to "give" drivers correct attitudes. The difficulty lies in the identification of the attitudes needed to motivate crash-free behaviour and the ability of the average trainer to impart them.

In addressing a possible answer to this overall problem of driver education, the author draws attention to several attempts, at an academic level, to define the driving task and present it in the form of driver behaviour models. "In very general terms, driver behaviour models fall into two categories: those of the information processing kind and those of the motivational persuasion. Each share common ingredients but the latter, as the name suggests, have varying degrees of motivational and affect-driven bias". It is suggested that traditional driver training methods tend towards the information processing type which have deficiencies in a number of aspects.

"Models for driving based on motivation are considered to be more useful in defining the driving task and, more importantly, driver behaviour. What motivates exposure to risk? Why don't people choose to protect themselves?" The selection of motivation models reflects the recognition that a driver is not a passive responder but an active participant, operating within a social context.

"In combination with motivational and affective issues, the role of cognition must also be clearly defined. Many of the elements, both central and peripheral to low risk driving, involve the need to know and understand. This understanding can be described in terms of a person's "world view". Research would suggest a person's "world view"

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will affect their perceptions and their behaviour".

The paper focuses on one cognitive theory which approaches human behaviour from the perspective of a person's "world view". This is the causal attribution theory. The essence of this theory is that an individual's behaviour corresponds with their interpretation of the cause of events in their experience. The causes are classified as internal (personal) external (environmental), stable or unstable. "Understanding the relative importance of each dimension in a person's "world view" permits an understanding of why that person responds to a particular situation in the way they do. In particular, a person's response to their failure in a skilled task will reflect the extent to which they place emphasis upon each of the four possible types of attribution [Martin, D.S., Price, I.R., and Fisher, B.G., *The Impact of a Driver Training Course on the Causal Attributions of Young Provisional Licence-Holders*, University of New England, 1991]".

An example is given of a person who does not consider themselves as a cause of the event such as another driver failing to give way. The tendency of this person is to not display protective behaviour.

"In learning experiences based around the theory, students reflect on their "world view" (in this case in relation to the cause of road crashes). This "world view" is then challenged in a non-threatening way, and finally an alternative view is presented. Critical to the success of the learning experiences is the way in which students allocate crash causes and analyse the driver's objective level of risk in any particular crash scenario".

"There are two extremely interesting things about this approach. One is that the behaviours themselves do not have to be taught as such - the change in the "world view" guides the students towards the appropriate behaviours. The other is maintenance of these behaviours does not rely on the student being highly motivated and self-disciplined".

It is pointed out that practical applications must be derived from theoretical elements of driver behaviour. Time and direction are required to identify both learning objectives and teaching strategies. "As teachers, we need a better understanding of the mechanisms which underlie human behaviour. We are skilled at improving driver performance but we have no evidence to suggest we can improve driver behaviour".

## New Members

## Corporate

NRMA (Ms Michelle Booth), Sydney, NSW.  
Moorong Spinal Unit, Royal Rehabilitation Centre,  
(Ms Donna Ritchie), Ryde, NSW.

## Personal

Snr. Sgt. Michael White, Albury, NSW.  
Mr David Piper, Sydney, NSW.  
Mr Barry Watson, Sydney, NSW.  
Mr Kenneth Hall, Sydney, NSW.  
Ms Lianne Donovan, Sydney, NSW.  
Mr Craig Coleman, Sydney, NSW.  
Mr Dick van den Dool, Sydney, NSW.  
Mr Russell Walsh, Sydney, NSW.  
Mr Andrew Macky, Sydney, NSW.  
Mr Dirren Suivi, Sydney, NSW.  
Ms Heidi McKeown, Sydney, NSW.  
Mr Colin Johnston, Sydney, NSW.  
Mr Grant Johnston, Sydney, NSW.  
Mr Peter Steele, Sydney, NSW.  
Mr Malcolm Daff, East Bentleigh, Vic.  
Mrs Deneva Bamber, Cambewarra, NSW.

The Australian College of Road Safety Inc. is the only organisation which has been set up specifically to link, on a personal and professional level, individual road safety workers and community organisations across the nation.



Corporate and personal membership of the Australian College of Road Safety Inc. is invited. Members are entitled to receipt of the quarterly journal *RoadWise*; other circulars; participation in conferences, forums and lectures; and links with other professionals.

The next Annual General Meeting will be held, in conjunction with the Australian Institute of Traffic Planning and Management, at the Gold Coast on June 10-11, 1993.

## Annual subscription:

Corporate	\$40
Personal	\$20

## TOMORROW'S DRIVERS

The NRMA has provided a \$80,000 sponsorship for an interactive, state-of-the-art, pre-driver education programme. It has been titled "Tomorrow's Drivers". The National Science and Technology Centre, Questacon, was commissioned to prepare the exhibition. It is being claimed as a world first.

It aims to capture the imaginations of primary and secondary school students aged between nine and fifteen. It is considered that this is an appropriate age group which is before children develop fixed images of themselves as road users, but when they are old enough to grasp the basic principles in using our roads safely.

The NRMA President, Mr Don Mackay said that "the NRMA believes that it is essential to foster safe attitudes and behaviour before young people actually get behind a steering wheel". The initiative is seen as important because it is based on the recognition that life-long habits are formed by impressionable minds.

"Practical skills will be ineffective unless they are matched by a responsible approach to driving and to road safety in general", he said.

The hands-on exhibits are designed to stimulate young people to be aware of the sensory interaction, concentration and co-ordination required to use the roads safely. There are tests involving eyesight and hearing which enable each child to individually check their own reactions and anticipation which are so important for road user behaviour.

Some of the things which participants learn are reasons for road rules, how to recognise hazards, how to respond to hazards, and how alcohol affects a person's senses and safety.

The exhibition was launched at the Newcastle Regional Museum in October 1992. Apart from its access to museum visitors, the Regional Department of School Education is supporting visits by school groups.

The set of exhibits lends itself to fitting into a mobile van. The NRMA has indicated that depending on the trial at Newcastle, decisions will be made about the future availability of the resource to children in other parts of New South Wales and the ACT.

## ROAD TO REALITY -A CRASH COURSE

This multidisciplinary education kit was reviewed at the Australasian Traffic Education Conference in Canberra, in February, 1992. Since then it has been endorsed as an important road trauma film by Victoria Police, Ambulance Service Victoria, VATSET, DECA, Australasian College of Surgeons and Shepparton Search and Rescue.

It is multidisciplinary in that it is applicable to health education, drama, English and media studies. It can be used in senior and junior secondary curricula.

The kit is a nationally consistent preventative tool comprising of a drink/driving video of 18 minutes duration and written support material, which reinforces the film's content. It deals with the issues of peer pressure, drink/driving, road misbehaviour, social responsibility, death and bereavement and road trauma prevention.

The plot involves a teenager who celebrates the gaining of his driver's licence at a hotel with friends. After some reluctance he is persuaded to take them for a "spin" around the block. A tragic accident occurs. The driver, friends and relatives have to cope with the loss.

The film has been given extensive trials with success and it has made a tremendous impact on students. The reason for the impact appears to be that there is realistic role portrayals by student-actors (actresses) whose ages are close to those in the audiences.

Details are obtainable and orders may be placed (\$95) with **Pronesti Productions**, 221 Archer Street, Shepparton, 3630, telephone (058) 218929.

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