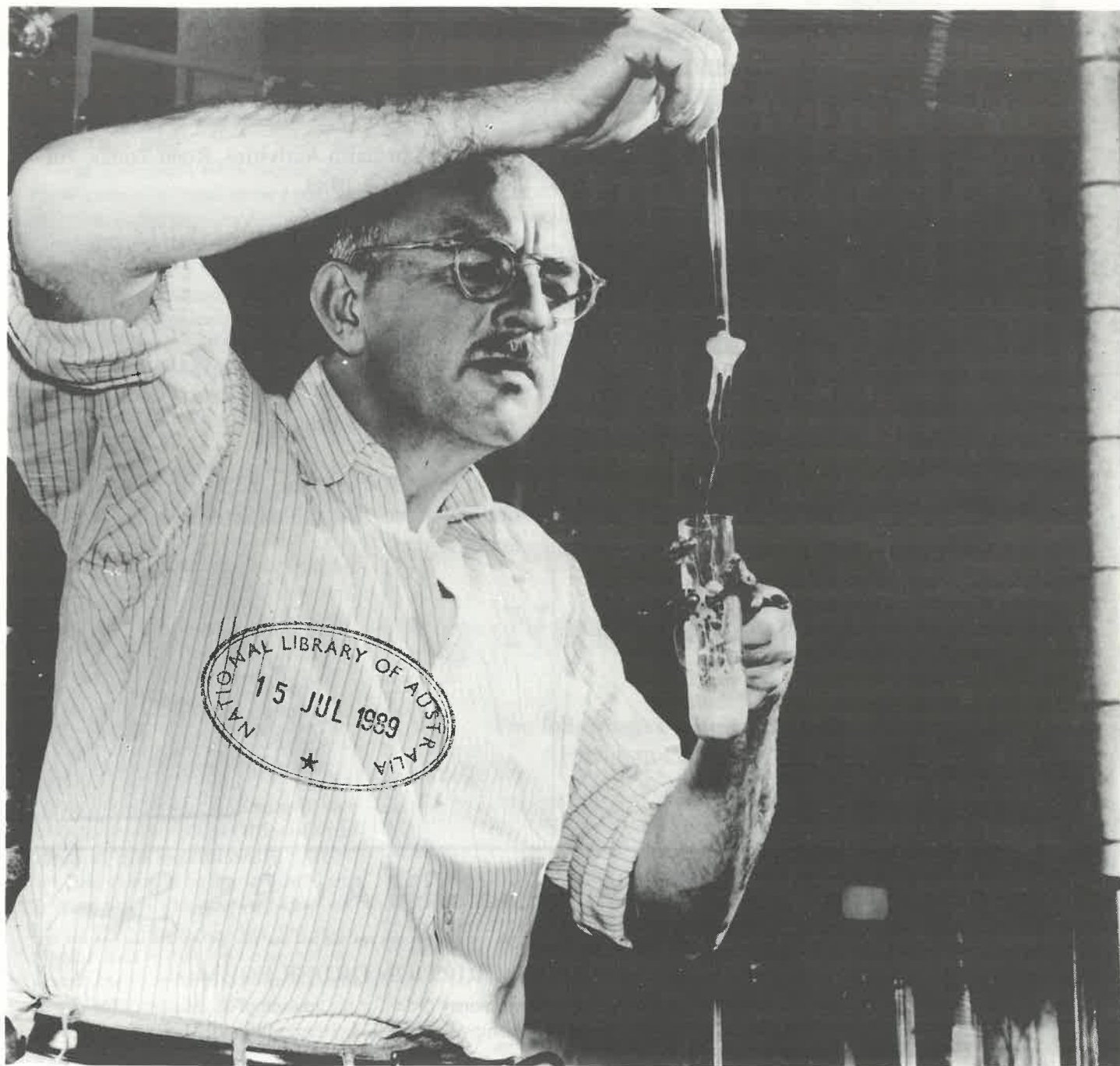


# Du Pont Celebrates the 50th Anniversary of Nylon



The discovery of nylon led to man-made materials that have dramatically enriched the quality of life in many areas including clothing, the home, recreation, electronics, communications, transportation, construction and health care.



DuPont  
Shaping the Future  
50th Anniversary of Nylon



## ROADWISE

The Journal of the Australian College of Road Safety



Vol. 2, No. 2, May, 1989

## The Human Factor In Traffic Accidents

by Irena Kubarek

Scientific work on accident prevention started in the 1920's and it was established decades ago that 80% of accidents were caused by human mistakes. Today, with the technology so much advanced and imposing still greater demands on the driver, human mistakes contribute to 90% of the causes of traffic accidents.

Well before the second World War, Psychologists, in co-operation with Engineers, had developed methods of detecting, in advance, the individuals who will cause accidents, because of certain psychological deficiencies. It is 10% of the population which causes 75% of accidents. Exclusion of those people from holding driving licences would prevent many accidents.

Education and traffic control measures are effective if they are directed towards people who have sufficient capabilities, aptitude and skills to perform at an acceptable level. But there are individuals who cannot attain this level of responsibility. In my work, I have seen a number of people who should not ride a bicycle on the streets and yet they work as taxi, bus and truck drivers.

Driver selection methods are well established and have achieved considerable success. Some 200 organisations in 51 countries claim up to 60% reduction in the number of accidents. This supports the effectiveness of psychological testing in comparison with other safety oriented measures.

*Irena Kubarek holds a Master in Psychology. She is the Manager of Industrial and Transport Psychology Laboratory in Brisbane. Before migrating to Australia, she had 10 years experience in accident prevention and some years working in a psychiatric hospital.*

Further evidence of success of the technique is provided by data from the Warsaw Institute of Road Transport for trucks and buses. This represents statistics for a 26 year period, during which various methods were tried, with the introduction of psychotechnical testing in 1974.

Prior to 1974, a number of measures had been introduced including:

(1) High standard training, with parallel theoretical and practical lessons, including defensive driving; the period was six weeks for amateurs and three months for commercial drivers.

*continued page 4*

## Objectives of the Australian College of Road Safety

The objectives of the Australian College of Road Safety are to:-

Foster closer communication, co-operation and support among all groups and individuals working at all levels in road safety and traffic education programs.

Provide a focus for dissemination of information on road safety and traffic education in Australia and from overseas.

Encourage community groups to work for the reduction of the road toll.

Encourage the professional assessment, evaluation and monitoring of road safety programs, and to promote those that are most effective.

Provide a forum for promotion of workable road safety initiatives through appropriate government and private bodies.

Encourage the provision of an environment of care and support for victims of road trauma.



**ROADWISE**

May, 1989

Vol. 2, No. 2

ISSN 1030 - 7168

Published quarterly as the official  
journal of the  
**Australian College of Road Safety**  
by:

**EMU Press,**  
P.O. Box 1213,  
Armidale NSW 2350  
Telephone (067) 72 3943

Editor:  
**Colin Grigg**

Publication design:  
**Paul Joseph**

Typeset by:  
**Pinnacle Promotions**

P.O. Box 1306,  
Armidale 2350  
Ph: (067)71 1099

Printing:  
**NMRA**

151 Clarence St Sydney 2000

Material in **ROADWISE** may be re-  
printed freely. Acknowledgement and a  
copy of the re-publication would be  
appreciated.

Send all editorial contributions and  
enquiries about publication to the pub-  
lishers.

Send all enquiries about member-  
ship applications to:

The Australian College of  
Road Safety  
P.O. Box 999  
Armidale NSW 2350

**EDITORIAL CONTRIBUTIONS**

Articles for publication in **ROADWISE**  
are invited from interested persons and or-  
ganisations.

The publisher reserves the right to reject  
submissions, modify or reduce the size of an  
article at its discretion, but with the approval  
of the author.

No payment is offered for articles sub-  
mitted.

All articles should be clearly expressed  
and should be interesting to read. They  
should relate to matters of road safety, opera-  
tion of mobile equipment or vehicles or  
traffic education.

The publisher requires indemnity from  
contributors against damages or liabilities  
that may result from publication of all mate-  
rial.

**CONTENTS**

The Human Factor in Traffic Accidents	1
Editorial	2
Server Intervention	3
Abroad	3
Advanced Driving Centre	4
Traffic Trauma and Time	5
Briefly	6
Publications	7

**Editorial**

It is an adage that what we can get out of something depends on what we put into it. The extent and value of what we receive depends on the effort we contribute.

The Australian College of Road Safety will be an implement for alleviation of human tragedy and concomitant monetary costs if there is widespread participation in furthering its objectives. The community will benefit, with greater safety, if there is sufficient input in a co-ordinated campaign.

In his address to the second National Traffic Education Conference in which he proposed the establishment of the College, Dr Brian Connor suggested that membership, "would be restricted only by a capacity for concern". The potential for participation is enormous if the general concern about road trauma is reinforced by action.

Existing members of ACoRS and readers of "Roadwise" are encouraged to personally enlist other people to the organisation. This will ensure strength in terms of the union of diverse expertise and experience.

The executive committee is preparing a strategy which deserves community support. It includes the following projects/programmes:

- Establishment of a national defensive driving campaign.
- Establishment of national sponsors.
- Introduction of fellowships and scholarships to encourage work in road safety.

Proudly sponsored by **NMRA**

**Server Intervention**

by Brian Connor

In its 1987 Report "Death and Injuries on the Road: Critical Issues for Legislative Action and Law Enforcement" (by Ross Homel and Paul Wilson), the Australian Institute of Criminology identified Server Intervention as a strategy worthy of closer investigation as a positive way of helping the community in general and car drivers in particular deal with the consumption of alcohol in a more socially acceptable way.

Server Intervention is a training program for workers in places where alcohol is served. It is based on the philosophy that alcohol may be used responsibly, that people in the industry can be advised about the use of alcohol and that this may help put the establishments in which they work on a sounder management basis. Australian initiatives in this area have centered on Queensland where work in this field over the past decade resulted in the world's first International Conference on Responsible Hospitality Practices being staged in Brisbane in mid 1988. At that conference a national network relating to responsible hospitality practice was formed and this has representation across Australia. As part of the policy of the Commonwealth Department of Community Services and Health national guidelines for server behaviour are being drawn up this year.

The Australian work has paralleled that in the United States of America initially and now in Canada where Government promotion of responsible hospitality practice has important legal implications for any liquor outlet in terms of liability and training of servers. The Surgeon General's Workshop on Drunk Driving produced guidelines for Business Practices in terms of staff behaviour (December, 1988) and another international conference about these matters is to be held in California. The Australian network will meet in Brisbane in the middle of this year. (Contact Russell Carvolth, Georgina Watt, Patron Care Program PO Box 8161, Brisbane 4001; Phone: 07 2362400).

At present the Armidale group (representatives from the Dependency Resource Unit, Armidale and New England Hospital; the Armidale and District Community Consultative Committee

and the NSW Traffic Education Centre) are investigating implementation strategies for a server intervention program in a rural New South Wales setting.

**About the Author**

Brian Connor graduated MBBS, University of Melbourne in 1962. He pursued post-graduate studies in paediatrics and obstetrics. His work in a Mission Hospital in South Africa from 1967-1970 is an example of his working life commitment to serving other people.

Apart from his regular work as a medical practitioner, he has also worked to improve health education, aboriginal health care, country medical service and road safety.

His dedicated efforts have been to the fore in establishment of the Traffic Safety Committee (an Advisory Committee of Armidale City Council) in 1976 and the New South Wales Traffic Education Board in 1981. He has been Vice-Chairman of the former and Education Director of the latter since their formation.

He received the Armidale Citizen of the Year Award in 1982 and was the recipient in 1985 of the Graeme Grove Medal presented by the Royal Australasian College of Surgeons.

**Abroad**

The shareholders of Daimler-Benz will be holding their annual meeting in Berlin in June 1989.

Some major strategies are predicted to emerge in the company that invented the motor car. Some of these relate to safety features. For reasons known to itself, its promotion over several decades has not highlighted the innovation in vehicle safety which it has achieved. eg In the USA, progressively from next year, USA authorities will make air bags mandatory. Benz developed this driver's air bag as a survival device some ten years ago.

Some of their research has shown horrifying results, particularly in relation to the "survival space" theory which is the basis of all crash testing of new vehicle designs. Vehicles designed to meet the required test (a 100% overlap or the crashing of a vehicle head-on into a concrete block and observing dummy survival and passenger module intrusion) would result in death or severe injury to passengers in real life.

The reason is that the occurrence of offset head-on collisions (45% overlap) is three times more frequent than direct head-on collisions (100% overlap) and the former have more drastic effects. In offset head-on collisions, less than 50% of the front corner of the vehicle is impacted.

It has been pointed out that no safety legislation in the world refers to the most common type of crash - the offset collision. The National Highway Traffic Safety Administration in USA has, as its requirement, a 100% head-on impact into a concrete barrier of a vehicle travelling at 56 km/h. It has been estimated at Daimler-Benz that this test represents only 2% of all real life crashes.

**Diary**

The Third Biennial National Traffic Education Conference will be held on February 16 & 17, 1990 at the Campus Conference Centre, University of New England, Armidale NSW.

The second annual general meeting of the Australian College of Road Safety will be held in conjunction with the conference.



continued from page 1

(2) Regular education through the media since 1867.

(3) Permitted blood-alcohol level reduced to 0.02 in 1968-1970.

(4) Mobile radar traps have functioned since the early 1970's.

The dramatic and permanent improvement in road safety occurred in 1975, following the introduction of psychotechnical fitness-to-drive assessment scheme. The Transport Act now reads:

"Road Safety depends on a driver's ability to act appropriately and promptly to a road situation. The ability for such behaviour depends on an individual's psychological features. The aim of psychotechnical examination is assessment of psychological fitness to operate a vehicle, to exclude those candidates or

drivers who are physically fit but, due to psychological deficiencies should not be allowed to drive".

Some 450 Psychologists are licensed to carry out the testing and 160,000 - 180,000 commercial drivers undertake the test every year. Other private drivers involved in accidents are tested before continuing as drivers after an accident.

If we are serious about decreasing the number of accidents, we have to look at the people who are permitted to drive. Do we have to learn the hard way? Cannot we learn from others' experience.

Lots of money has been spent on research work to find an effective method of accident prevention.

It does exist.

## ADVANCED DRIVING CENTRE

Jim Murcott's ADVANCED DRIVING CENTRE is an Australian company, based near Melbourne, which operates driver training courses across the country.

The courses are mainly practical defensive driving programmes, operated for large companies and Government departments to reduce collisions and their costs.

The ADC's CAR CONTROL COURSE is a full-day programme which combines theory and discussion. Practical driving manoeuvres, undertaken at legal town driving speeds, increase driver skills steadily through the day to achieve a dramatic overall improvement.

The course has been designed progressively over more than 15 years, with the assistance of driver training specialists around the world. Input by psychologists on tuition techniques has been extensive. Improvement in driver attitude and awareness is the key factor in this programme's effectiveness.

Some of Australia's largest compa-

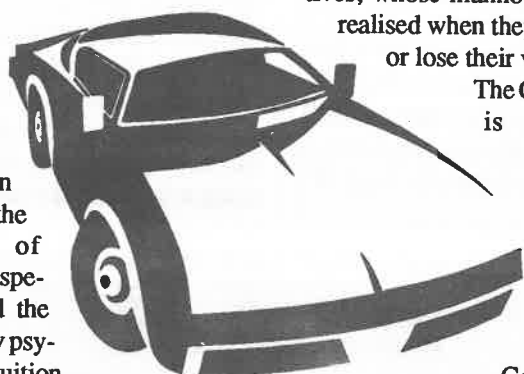
nies have reported reductions of 75 to 80 per cent in collision statistics after this course has been undertaken.

Huge savings in on-costs are also reported in areas affected by collisions - such as lost work time, increased insurance premiums, replacement and hire vehicles, internal paperwork and injury risk.

Not only do companies send their on-road sales staff to the course, but also maintenance technicians and executives, whose manhour values are only realised when they are incapacitated or lose their vehicles.

The Car Control Course is Australia's only truly standardised national programme. ADC's Melbourne instructors have travelled as far as Perth and Collie (Western

Australia), Port Augusta and Mount Gambier (South Australia), Tamworth and Wagga Wagga (NSW), Rockhampton and Mackay (Queensland).



## Briefly

### Funding for NSW Roads

Funding for the State's roads will be increased because of the Government's recent "Accelerated Road Safety and Road Improvement Programme".

The revenue is to be raised by a three cents per litre levy on petrol and used for several urgent initiatives. These include \$50 million for a state-wide traffic safety programme; \$12 million for replacement of timber bridges; \$314 million will be allocated to major arterial roads; \$124 million will be used to enhance major road rehabilitation and local projects; freeway development will be expedited with \$100 million.

### Home Safely

A new campaign has been launched by the Distilled Spirits Industry Council of Australia, supported by NCADA as part of the National Drug Offensive. It is called "Home Safely" and is a campaign to encourage responsible family discussion on the issue of driving and alcohol.

The campaign is dealing with the issue that road accidents, involving young people affected by alcohol, are a major factor in the road toll. Its strategy is to encourage families to discuss the subject and take steps to prevent occurrence of alcohol affected driving. It is relying on parents to take a major role in educating their children to understand the many risks in driving while affected by alcohol.

The proposed family activities include objective discussion; acceptable family behaviour decisions; discipline within the family; alternative transport; and suitable parental role models.

Details of the programme are available from the: Co-ordinator Home Safely, PO Box 417, Port Melbourne 3207 Victoria.



## TRAFFIC TRAUMA AND TIME

### Time as a Dimension in Road Safety

The time dimension holds the answers about the extent to which the trauma, resulting from road traffic crashes, can be brought under control. Matters related to time are not limited to comparisons of past and present road crash statistics or predictions about the extent of road trauma in the future, as developing countries of the world become more motorised. Time is a factor in the implementation of road safety programs.

Without reasonable co-ordination some programs may be politically expedient but economically wasteful. Improving the road environment may be only a partial short-term solution to the problem. The education of young children, in order to influence attitudes towards safe behaviour could be a long-term strategy. Also, technology brings new horizons for the future which may bring solutions not known at present.

Technology has taken man to the moon and enabled many other amazing achievements which, in former times, were unbelievable. How much belief can we place in the claims for technology in making the road toll a thing of the past?

### Technology for the Future

Some new development are not yet in general use and are installed only in "mobile laboratories" or vehicles affordable only by the very wealthy.

These include:

An infra-red "night vision" system, developed by General Motors, which detects objects at five times the distance of headlamp penetration.

Japanese systems which stop a vehicle when a driver is too drunk or sleepy to be in control.

On-board computer monitors to show tyre pressure; some American systems can adjust pressures automatically.

Some microchip innovations related to vehicle safety and driver decision making.

It has been predicted that electronics will be used to take control of the vehicle from the driver. The major research in this area is based on remote guidance systems which operate with sensors submerged in the roadway. The concept uses a combination of sensing technologies - laser, infra-red, radar, visual and ultrasonic to monitor the space in conjunction with an electronically controlled engine, brake, suspension and transmission systems, instantaneous information and indicators are available for decision making about safe overtaking and avoidance of collision.

A glimpse of the high technology potential was possible at the 1989 Brisbane International Motor Show. Making its first Australian appearance was the Mitsubishi HSR Coupe (HSR is High Speed Research). This vehicle is equipped with a computerised operational control system which collects information from road sensors to monitor G-forces, driver reactions, road conditions, side winds and distances between vehicles. The information is used for the co-ordination of the running, steering, braking and navigation of the vehicle. The purpose is to allow all drivers to drive safely under any type of conditions. The manufacturers claim that it has become possible for a driver of average skills to drive safely at 300 km/h, which is beyond the speed of human response.

Apart from wondering why such speed should not be confined to aerodynamic transport, questions of time span arise once more. How long will it take to reduce the cost of the Mitsubishi HSR from \$750,000 to an affordable level? How long will it take for some Government to invest in the infrastructure which provides the sensing facilities?

### Education or Technology

For decades, Australian Governments have favoured programs which modify the vehicles (crash-proof features) or the environment (traffic systems, flexible roadside "furniture"). Governments have been less supportive

of education programs which attempt to start with pre-school children and provide them with training in knowledge, skills and attitude throughout the period of their education. In some quarters, the effectiveness of road safety education has been held in suspicion. Yet, the effectiveness of such a long term program has hardly been tested - this also needs time.

Are we likely to go the path of technology for technology's sake? Is it a costly alternative to follow the technology path? If the cost of new technology cannot be kept to a reasonable level (ie, absorbed in such a way that the future cost of vehicles and traffic systems is not more than what it would otherwise be with current technology and prices adjusted only by inflation) what can be achieved with the additional cost? If a more expensive system is adopted, is this the price that society, through its economic system, has to pay to permit incompetent, careless, intoxicated and illegal drivers on the road as an alternative to developing a society of competent, caring and responsible people?

Perhaps life-long education of users of traffic systems (drivers, riders, passengers and pedestrians) is more achievable, more cost-effective and more desirable.

Editor

## Letters to the Editor

Dear Editor,

For years now, I have experienced anger and frustration at the sloth of politicians in failing to deal with our greatest national tragedy.

All of us, directly or indirectly, have been affected by the slaughter. Yet it seems to attract far less attention and a lower public response than drugs, rainforests, land rights or Pine Gap.

No one marches in the streets and no one carries placards.

Why not?

Yours sincerely,

P C Wilson  
39 Deagon Drive  
Anglers Paradise 4216



## Briefly

### Cancellation of Driver Licences

The NSW Parliamentary Standing Committee on Road Safety has presented a report to the Government entitled, "Immediate and Certain Loss of Licence for Extreme Drink Driving".

The report provides some alarming facts about people who consume alcohol and then drive:

- In 1987 some 6476 people were found guilty of a blood-alcohol reading of 0.15% or higher.

- Research shows that drivers with a reading of 0.15% or higher are 25 times more likely to have an accident.

- High blood-alcohol in drivers, "is a crucial factor in about 2000 deaths and about 1000 hospital admissions each year", and medical costs resulting from serious drink driving are \$200 million each year.

The Committee has recommended amendments to the NSW Motor Traffic Act modelled on similar provisions in Victoria. Under the new proposal, drivers with 0.15% blood-alcohol reading or higher, or who refuse a breath test, will be required immediately to surrender their licences. (A reading of 0.15% is three times the legal limit in NSW).

### Road Crash Statistics

A survey which summarises data collected by the Federal Office of Road Safety on fatal road crashes in 1984-85 has been released by the Federal Land Transport and Shipping Minister, Mr Brown. Mr Brown said that the study provides information which has not previously been available and which could now be used to plan initiatives to improve road safety. Some of the findings include:

- Half of fatal road crashes occurred in rural areas.
- More pedestrians over 60 years of age were killed than any other single age group.
- 60% of motorcycle fatalities occurred in urban areas - most at weekends
- 10% motorcyclists killed were not wearing safety helmets and most motorcyclists were males aged less than 25.

How many people  
will die on  
Australian roads  
this year because  
of alcohol?

**Too many!** That's why we provide and support information and education programs to promote healthier, alcohol-free lifestyles. WE CARE.

## ANSVAR

Car and home insurance for non-drinkers only

Give us a call today

VIC (03) 650 9711	NSW (02) 683 4166
QLD (07) 221 8449	SA (08) 232 1272
WA (06) 321 6291	TAS (002) 28 6216



"NO THANKS...  
I'm insured with  
ANSVAR"

## New Members

The following new members have joined the  
Australian College of Road Safety.

### Corporate

National Safety Council of Australia (Mr Jim Whitney, Qld State Director)  
St John Ambulance Australia (Mr S Johnson, Training Manager)  
Cumberland College of Health Sciences  
Neurosurgical Society of Australasia Inc (Mr G A J McCulloch, Secretary)

### Personal

Dr D T Cass (Staff Paediatric Surgeon, Westmead Hospital, NSW)  
Dr R F S Job (Lecturer, Department of Psychology, Sydney University)  
Mr Alan McDonald (Thornlands, Queensland)  
Mr Scott Maclean (Research International Australia, Beaumaris, Victoria)  
Mr B Harvey (Gympie, Queensland)  
Ms Irena Kubarek (Industrial & Transport Psychology Laboratory, Indooroopilly, Queensland)  
Mr David Wrigley (Driving Instructor for Disabled, Drummoyne, NSW)



## Publications



"The Australian Driver's Handbook", E.A. Huxtable, John Fairfax & Sons Ltd, 1987.

"Bike Ed" (Kit), Road Traffic Authority of Victoria, Revised edition, 1988.

"Road Safety Resource Package for Community Groups" (Kit), Federal Office of Road Safety, 1988.

"Driver Education Program For Community Adult Education", Department of Education, Northern Territory, 1984.

"Northern Territory Code Book Supplement", Department of Education, Northern Territory, 1984.

"Street Sense" - Road Safety Education Program, Level Two, Years 3-6, Road Traffic Authority of NSW, 1988.

"Are You In Control?" - Health Activities, Road Traffic Authority of NSW, 1988.

"Belt Up" - Health Activities, Road Traffic Authority of NSW, 1988.

"Bike Safety - 1" (VHS Video), Video Factory, for Shire of Ballarat, 1988.

"Immediate and Certain Loss of Licence for Extreme Drink-Driving (Staysafe 13)", Joint Standing Committee Upon Road Safety, NSW Parliament, April 1989.

"Cuddling Babies Can Kill - Prenatal Version", (Video) Road Traffic Authority of New South Wales.



## SUBSCRIBE To RoadWise, JOIN A.C.R.S.

Simply fill in the coupon at right, clip it out and mail it with your contribution to:

EastAus Management Unit  
P.O. Box 1213 Armidale  
NSW 2350

- Personal membership to A.C.R.S. and subscription to RoadWise - \$15.00
- Public, Business or Community membership to A.C.R.S. and subscription to RoadWise - \$30.00
- Subscription to RoadWise for non-members - \$9.50

(Subscription rates include postage within Australia)

### SUBSCRIPTION ORDER FORM

I enclose my cheque/money order for the amount of \$.....for:

☐ Annual membership of A.C.R.S. & Subscription to RoadWise  
or ☐ Annual Subscription to RoadWise

Membership Class ☐ Public ☐ Business ☐ Community ☐ Personal

Dr/Mr/Mrs/Miss/Ms \_\_\_\_\_

Title \_\_\_\_\_

Organisation \_\_\_\_\_

Address \_\_\_\_\_

Postcode \_\_\_\_\_

Signature \_\_\_\_\_