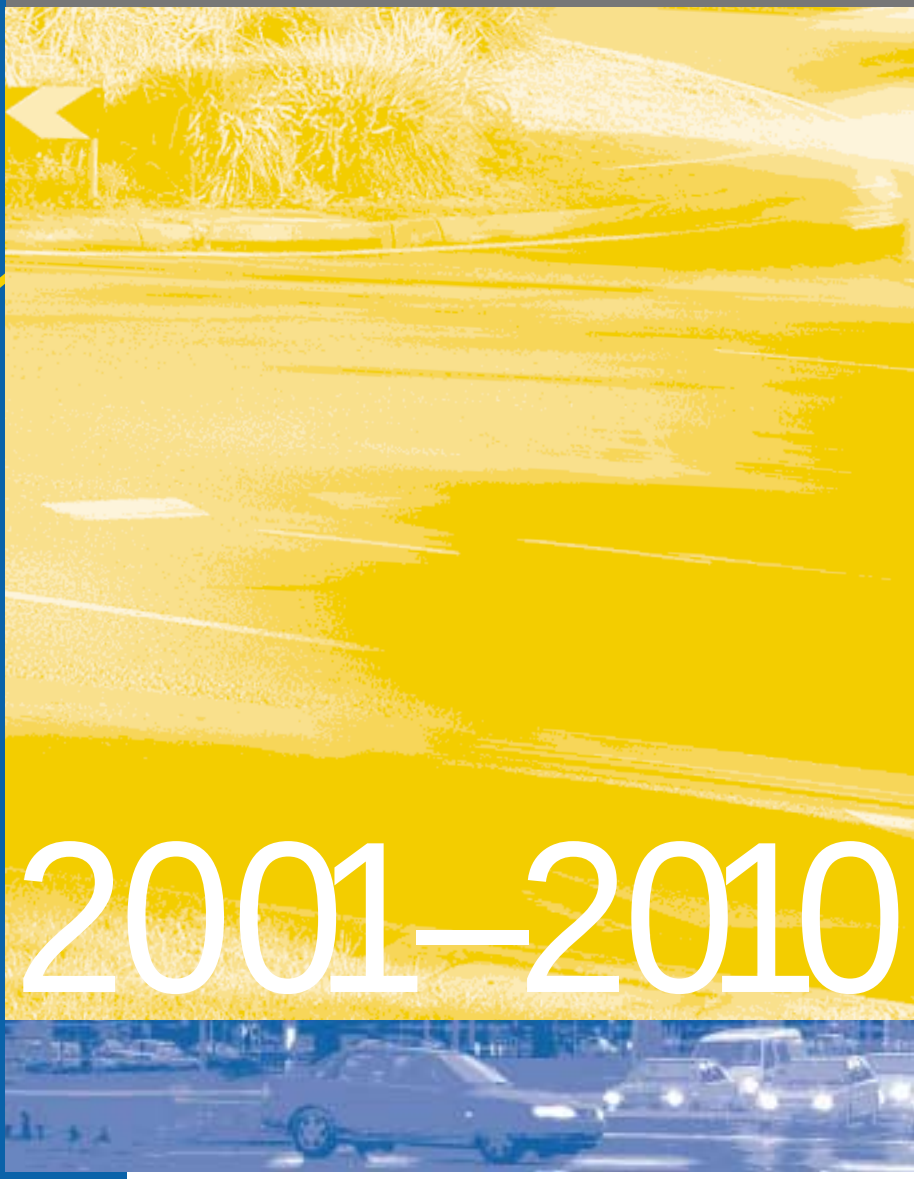
The National Road Safety Strategy



2001–2010

Australian Transport Council

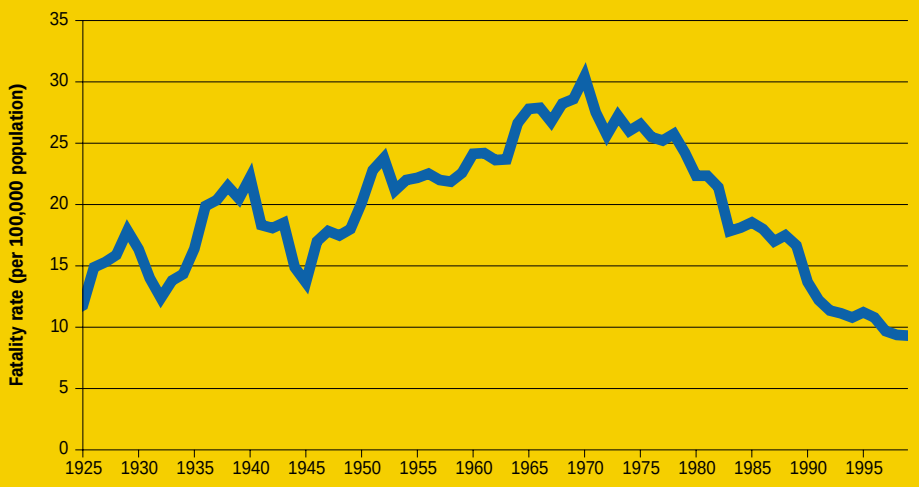
Organisations that contributed to developing this strategy

The development of the National Road Safety Strategy was coordinated by the Australian Transport Safety Bureau with the National Road Safety Strategy Panel and Taskforce. Contributions were also received from the following organisations:

Australian Automobile Association
ACT Department of Urban Services
Australian College of Road Safety
Australian Council of State Schools Organisations
Australian Driver Trainers Association
Australian Institute of Health
Australian Local Government Association
Australian Motorcycle Council
Bicycle Federation of Australia
Department of Health and Aged Care (Cwlth)
Department of Transport and Regional Services (Cwlth)
Department of Transport WA
Federal Chamber of Automotive Industries
Flinders University Research Centre for Injury Studies
Heads of Compulsory Third Party insurance schemes
Institution of Engineers, Australia
National Road Transport Commission
NSW Roads and Traffic Authority
NSW Police Service
NT Department of Transport and Works
Older People Speak Out
Qld Motor Accident Insurance Commission
Qld Police Service
Qld State Cycle Committee
Queensland Transport
Road Transport Forum
Royal Australasian College of Surgeons
RACQ
RACV Ltd
SA Police
Tas Department of Infrastructure, Energy and Resources
Transport SA
Victorian Police Force
VicRoads
WA Police

References in this document to 'driver' normally include 'rider'.

FIGURE 1 — The history of road fatalities



COMMENTARY: There was a steady increase in the per capita road fatality rate, with the exception of the Great Depression and the Second World War, until 1970. Since 1970, the toll has trended downwards, although it has recently stalled.

Foreword

The Australian Transport Council, which comprises Federal and all State and Territory Ministers with transport responsibilities and includes an observer from local government, has adopted this National Strategy.

In Australia's federal system of government, road safety strategy and policy measures are principally driven by the States, Territories and local government who conduct their own comprehensive programs. The Commonwealth role is to collate statistics, conduct and coordinate research, fund National Highways and the treatment of black spots, regulate new vehicle standards and monitor vehicle safety recalls, and facilitate the sharing of ideas among stakeholders. Accordingly, this Strategy has been developed as a framework document which recognises the safety plans of the Federal, State, Territory and local governments and other organisations involved in road safety. Individual governments will continue to develop and implement their own road safety strategies and programs consistent with this Strategy but reflecting local imperatives.

The National Road Safety Strategy aims to dramatically reduce death and injury on Australian roads.

Road crashes are a major cause of human trauma. There have been over 163,000 road fatalities in Australia. In addition to the burden of personal suffering, the monetary cost of crashes has been estimated to be in the order of $15 billion per annum (in 1996).[1]

Improved road safety is achievable. From 1970 until 1999 the fatality rate dropped from 30.4 to 9.3 deaths per 100,000 population. The rate is now at its lowest since record keeping commenced in 1925. This reduction has been achieved in spite of a huge increase in motor vehicle use. From 1970 to 1999, the fatality rate per 10,000 registered vehicles has dropped from 8.0 to 1.5.[2]

This improvement has come at a price in terms of money and social responsibility. The Australian people have been asked — and have agreed — to pay for safety in vehicles and for better roads, and to accept tougher regulations and enforcement measures. Most importantly, people have heeded the call to drive more responsibly.

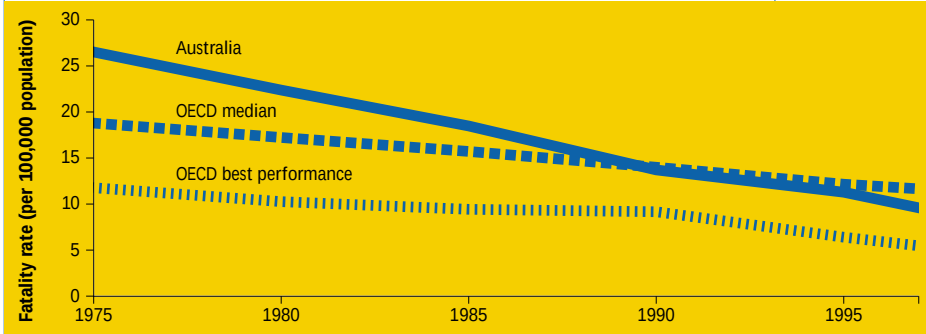
Australia achieved significant reductions in the road toll in the early and mid 1990s but since 1997 the road toll has remained constant. There is much more that we can and must do. Some other developed nations are achieving fatality rates of just 60% of our rate and these nations are working towards further ambitious reductions.[3]

Our target is to achieve a 40% reduction in the number of fatalities per 100,000 population by 2010. It is a difficult target, but an achievable one.[4] Achieving this target will save about 3,600 lives over the next 10 years. It is a target that will require strenuous effort by all parties involved in road safety. In addition to our own transport agencies we therefore ask for the continuing support of road users and user groups, the media, police, health care providers, schools, local government, vehicle builders, employers and the wider community.

The challenge is to move our thinking from ways to limit the toll to how to create a genuinely safe road transport system, and to work out how to achieve such a system.

This Strategy supersedes the National Strategy 1992–2001 which provided a national framework within which a large range of road safety initiatives were introduced.

FIGURE 2 — International comparison



COMMENTARY: Australia's road safety performance has improved from being 25% worse than the median of OECD countries in 1970 to now being slightly better. This has been achieved over a period when the performance of OECD countries has also been improving. Nevertheless Australia's performance remains substantially poorer than the best performing OECD countries. It should be noted that many OECD countries have experienced greater growth in vehicle ownership and usage than Australia over the last 30 years.

Vision

Safe road use for the whole community.

Principles

The road toll should not be accepted as inevitable.

The priority given to road safety should reflect the high value that the community as a whole places on the preservation of human life and the prevention of serious injury. The community, in turn, has an essential role in the development of positive approaches to safe road use, a role which requires its widespread support and participation.

There is a balance to be struck between furthering many legitimate community objectives and increasing exposure to the risk of road trauma:

- Health and environmental benefits exist through increased walking and cycling.
- Economic and employment benefits are associated with greater road freight cartage and other vehicular traffic.
- Quality of life benefits exist in affording personal mobility to young and older people.
- Smaller cars and motorcycles offer consumer and potential environmental benefits.

This road safety Strategy seeks to realise these community objectives by making travel safer. Recognising that safety must be integrated with other legitimate community objectives, all safety measures that can be justified in terms of overall community benefits should be implemented.

Target

This Strategy aims to reduce the number of road fatalities per 100,000 population by 40%, from 9.3 in 1999 to no more than 5.6 in 2010.

Strategic objectives

Research indicates that many current measures have not reached the limit of their cost-effective potential for all groups and areas. The Target of this National Road Safety Strategy is to be achieved by:

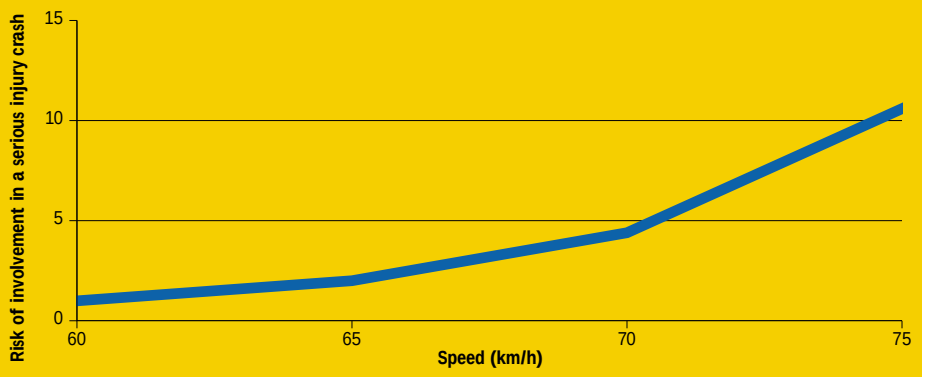
- ¬ continuing existing effective measures;
- ¬ enhancing and/or achieving wider implementation of measures with further potential; and
- ¬ introducing new measures;

through pursuit of the following strategic objectives:

- ¬ improve road user behaviour;
- ¬ improve the safety of roads;
- ¬ improve vehicle compatibility and occupant protection;
- ¬ use new technology to reduce human error;
- ¬ improve equity among road users;
- ¬ improve trauma, medical and retrieval services;
- ¬ improve road safety policy and programs through research of safety outcomes; and
- ¬ encourage alternatives to motor vehicle use.

Improve road user behaviour

FIGURE 3 — Speed and the risk of involvement in a serious injury crash



COMMENTARY: Changes in travel speeds of only a few kilometres per hour have been shown to have a major influence on the incidence of serious crashes. On urban main roads with 60 km/h speed limits, the risk of involvement in a serious injury crash has been found to double with each increase of 5 km/h above the speed limit.

Strong synergies exist between education, enforcement and information in developing safe behaviour in road users, and each is of limited effect alone. Education is needed to develop an understanding of why certain behaviour is safe and other behaviour unsafe. Education will be more effective in combination with enforcement which provides incentives for appropriate behaviour. Public information campaigns can refresh the education message and reinforce the benefit of enforcement. Information and education also maintain public support for enforcement action.

EDUCATION

Young road users need to be educated in road safety in order to develop the knowledge and attitudes that lead to responsible behaviour on the road. This process includes parents, school-based programs and novice driver training.

The behaviour of experienced road users will be improved through an on-going series of coordinated public information initiatives.

Local government will provide local advocacy for road safety and be a catalyst for community involvement and participation in local road safety projects.

These campaigns, in conjunction with better training and licensing practices, will lead to better attitudes and knowledge among road users, including greater:

- ability to perceive hazards;
- awareness of safe and responsible practices;
- sensitivity to all road user groups; and
- knowledge of, and compliance with, road rules.

DRIVER TRAINING AND LICENSING

The training and testing of novice drivers will be further improved to reduce the over-representation of this group in road trauma. This can be achieved by improving the competence and attitudes of novice drivers by:

- increasing supervised driving practice;
- trialing, and if proven, expanding school-based learning initiatives and competency-based continuous-assessment programs;
- developing programs focusing on cognitive skills such as hazard perception and conflict prediction.

Further measures are provided in Austroads' *National Action Plan for Youth Road Safety*.[5]

ENFORCEMENT

Police officers have a key role in encouraging improved road-user behaviour. Police performance will continue to be enhanced through the development and application of improved management methods and new technology. This will involve greater use of both widespread and targeted intelligence-based enforcement campaigns (more often coordinated with public information programs), effective cross-border operations (especially in relation to interstate heavy-vehicle operators) and enhanced activities in rural areas.

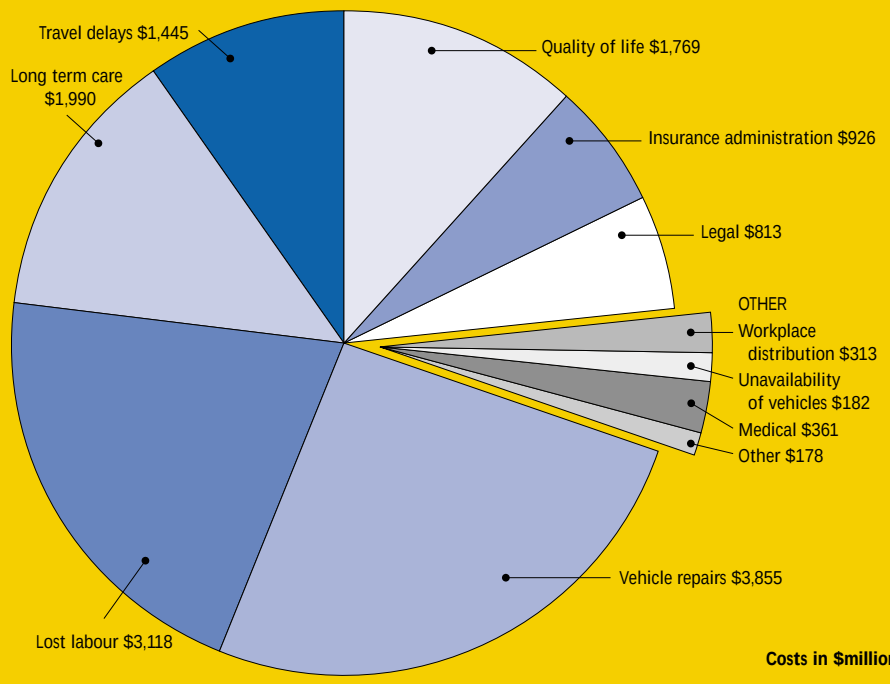
These measures will increase the general deterrence provided by police operations and will promote the public perception that compliance "everywhere, all the time" is the best way of avoiding penalties and improving safety.

Improve the safety of roads

Improving the safety of roads is the single most significant achievable factor in reducing road trauma. Further investment in safer roads is highly justified on both social and economic grounds. Road investment improves road safety through general road improvements — typically, 'new' roads are safer than 'old' roads — as well as through treatment of black spots.

General road improvements have been found to reduce fatalities by two lives per annum per $100 million invested and provide benefit/cost ratios averaging 3.3. Black spot programs have been found to reduce fatalities by over 20 lives per annum per $100 million and produce high average benefit/cost ratios of around 4. As these findings were made prior to the estimated annual monetary cost of crashes being revised from $6 billion to $15 billion, they are likely to now be conservative. Investment in roads, and especially in black spot programs, therefore offers excellent returns over the period to 2010.[6]

FIGURE 4 — The financial cost of road trauma



COMMENTARY: The cost of road crashes in Australia in 1996 has been conservatively estimated at approximately $15 billion. The potential saving in the cost of crashes is a factor to be taken into account in determining the quantum and allocation of road expenditure.

Investment in roads will be maintained by all three spheres of government and will be better targeted to road safety by:

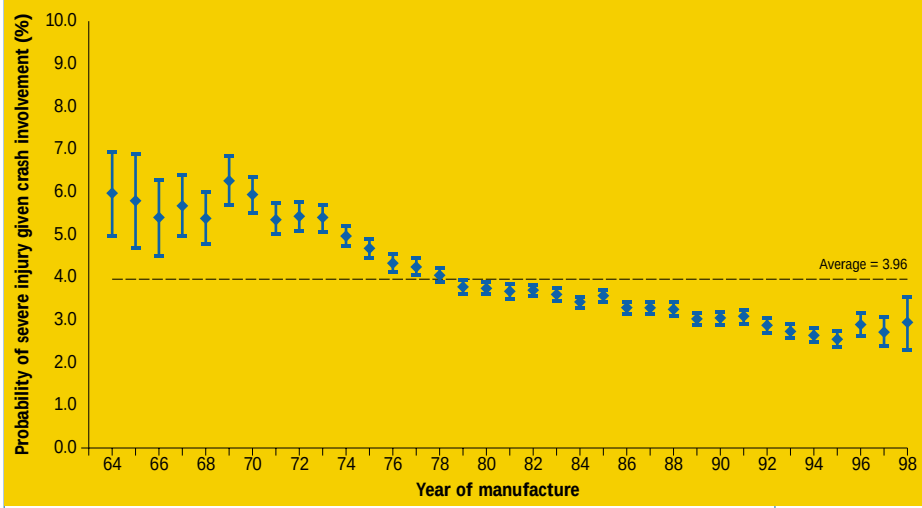
- improving the estimation of the cost of crashes used in the economic evaluation of road improvement options;
- widespread use of road safety audits in assuring safety outcomes from road improvement projects and in designing and planning proposed major developments;
- conducting safety investigations on the existing road network, taking into account the needs of all road user groups, giving priority to sites with a crash history and identifying significant remedial opportunities; and
- improving road design and traffic engineering measures to create a safer environment for pedestrians, cyclists and motorcyclists.

Roadside hazards are a major factor in 40% of car occupant fatalities. Road authorities will review their management of roadside hazards to reduce the danger these pose.[7]

Improve vehicle compatibility and occupant protection

Vehicle safety standards and vehicle design will be improved to further increase the protection provided to occupants and minimise the hazard to non-occupants struck by a vehicle. This will include designing vehicles so that they cause less damage to other vehicles and road users in a crash. For example, in a crash involving a small sedan and a large four-wheel drive (4WD) recreational vehicle, the small sedan occupants are at greater risk. This is because the 4WD is higher off the ground, causing it to strike the smaller vehicle at a more vulnerable place, instead of at a bumper-bar or door sill. In addition the 4WD is likely to be heavier and, as it is usually built on the chassis of a light truck designed to carry heavy loads, much stiffer. These factors will cause the 4WD to penetrate further into the other vehicle. Pedestrians, cyclists and motorcyclists are similarly at greater risk.

FIGURE 5 — Newer vehicles are safer



COMMENTARY: The improvement in occupant protection provided by vehicles over time is substantial.

Improvements in vehicle design to achieve these objectives will be driven by consumer demand for safety and by regulation. Consumers will be assisted by making available meaningful information about the relative safety of new and used vehicles.

Use new technology to reduce human error

Emerging technology will be used to improve road safety.

Technology capable of enforcing compliance with road regulations and good practices is being developed. This technology, commonly known as Intelligent Transport Systems, will typically involve engineering systems built into the vehicle and/or the road that intervene when users suffer lapses of concentration or make unsafe decisions. It has the potential to:

- ensure that restraints are used;
- maintain safe following distances between vehicles;
- prevent speed limits being exceeded;
- control cornering response to maintain adherence with lane markings and stability on wet surfaces;
- ensure that the driver's licence conditions are adhered to;
- monitor driver alertness (preventing driving while fatigued or intoxicated);
- require the driver to perform a breath test before starting a car (e.g. alcohol interlock); and
- detect the occurrence of a serious crash and automatically notify emergency services of the location and severity of the crash and the number of occupants involved.

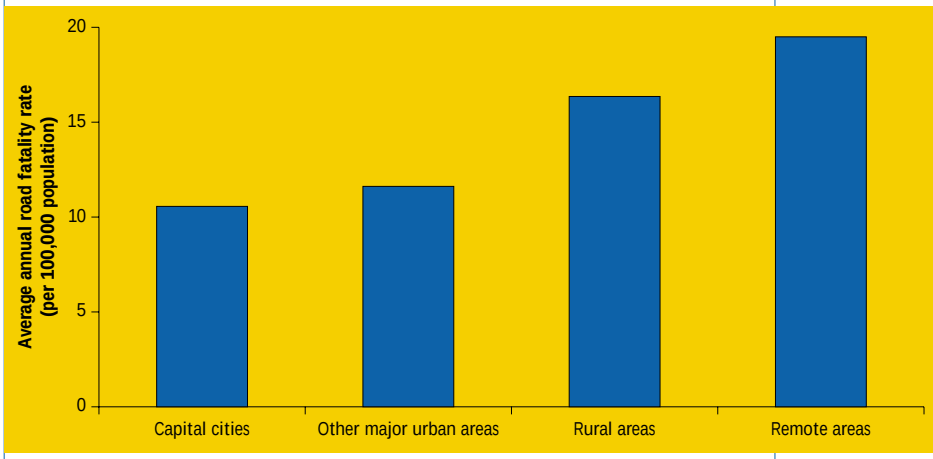
Austroads' *e-transport — The National Strategy for Intelligent Transport Systems* estimates that an overall reduction in the total cost of crashes, congestion and vehicle emissions of at least 12% is achievable by 2012 from using ITS.

Improve equity among road users

Not all road users enjoy the same level of safety. There are particular issues of concern for:

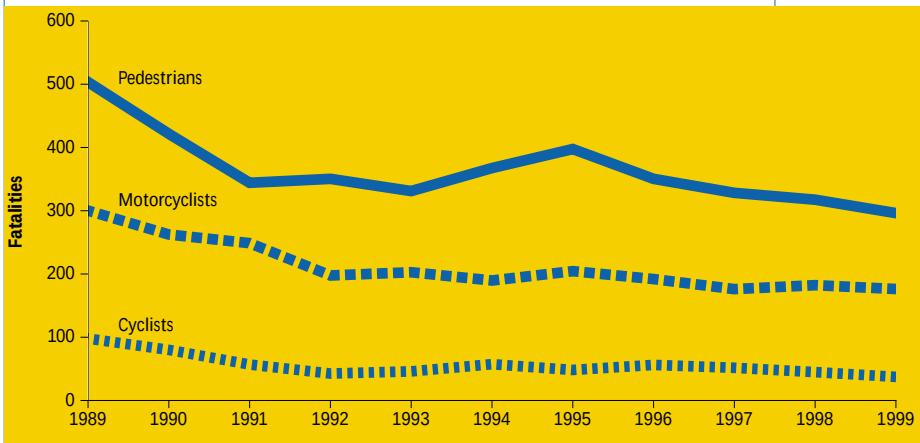
- youth;
- indigenous people;
- older people;
- inhabitants of rural and remote areas;
- some occupants in crashes between vehicles of different mass and features;
- pedestrians;
- cyclists;
- motorcyclists;
- people of non-English speaking background;
- people with disabilities;
- tourists; and
- those facing socio-economic disadvantage.

FIGURE 6 — Rural risk



COMMENTARY: The risk of dying increases with the distance from capital cities.

FIGURE 7 — Recent trends in fatalities among vulnerable road users



COMMENTARY : After some ups and downs, the reduction in fatalities among vulnerable road users may have stalled.

Targeted programs will be used to address the issues faced by such groups. These include implementing the Austroads' *National Action Plan for Youth Road Safety* and the road safety aspects of *Australia Cycling — The National Strategy*.

This Strategy aims to achieve a continual reduction in the casualty rates for each of these groups.

Improve trauma, medical and retrieval services

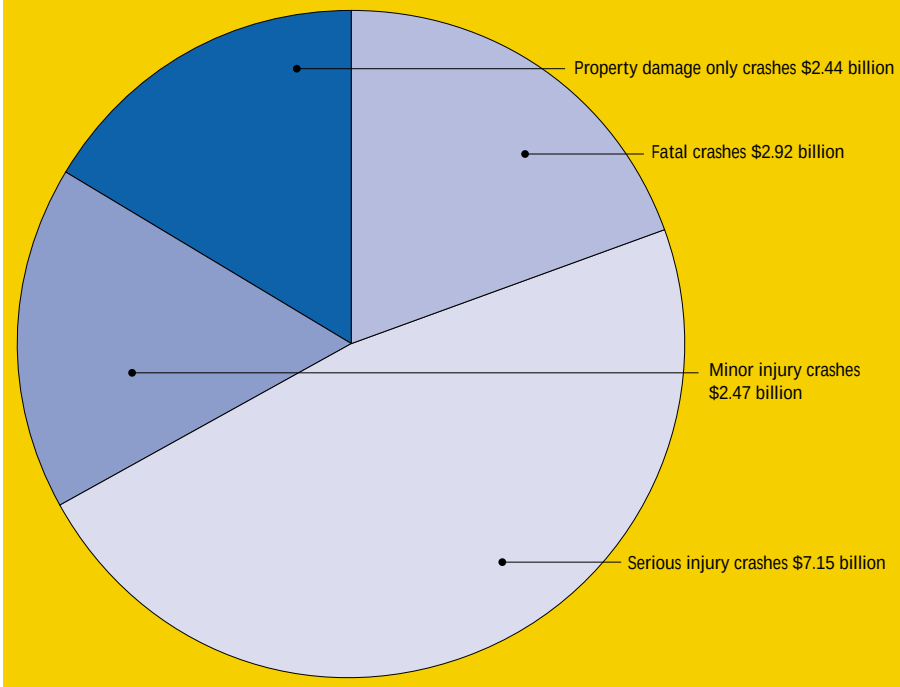
While prevention will always be the ideal solution to the problem of road trauma, an effective trauma care system is essential to treat the injured. The physiological consequences for victims of road crashes need to be reduced through more rapid notification of crashes and provision of primary treatment, and through more effective medical and rehabilitation services. All health care providers will therefore be encouraged to further improve their casualty treatment operations and distribution of trauma treatment centres to reduce the disabling consequences of trauma and to conserve life.

To support research and decision making a trauma system must include the collection of data concerning the causes and prevention of injury and the outcomes of injury management. It is therefore important to overcome the current lack of reliable and consistent data to systematically link crash types with injury and treatment outcomes. Action will be taken to investigate ways to address this issue in 2000/2001.

Coordination among all services, medical and non-medical, is essential to ensure that there is effective linkage between acute medical care, family support and ongoing rehabilitation and return to community life. Trauma care in rural areas is especially difficult because generally:

- rural crashes involve higher speed and are therefore more severe;
- the time taken for emergency services to be notified and to reach the site is greater;
- the standard of initial care at the site is lower as rural ambulances are less well equipped to deal with severe trauma; and
- rural hospitals are less equipped to provide appropriate care to severe trauma cases.

FIGURE 8 — The financial cost of road trauma by injury category



COMMENTARY: The serious injury crashes category is the largest contributor to the cost of road trauma.

Attention will be given to investigating, with relevant parties, improvement to all components of trauma management systems including better transport and communications, better systems and better training. For example:

- provision of in-vehicle emergency alert systems that automatically notify emergency services of the location and severity of a crash;
- common procedures for treatment to streamline the transfer of patients from rural to major hospitals;
- better availability and training of doctors, paramedics and other emergency service personnel in early management of severe trauma; and
- training of the general public in first aid.

Improve road safety programs and policy through research of safety outcomes

Evidence from road safety outcomes must be collected and analysed so that more effective road safety programs and policies can be developed.

Since the easier gains in road safety tend to be made first, future gains may become increasingly hard, and require a more informed approach. Research will provide the foundation for a new generation of road safety measures and will ensure that the road safety effort is not misdirected into ineffectual strategies.

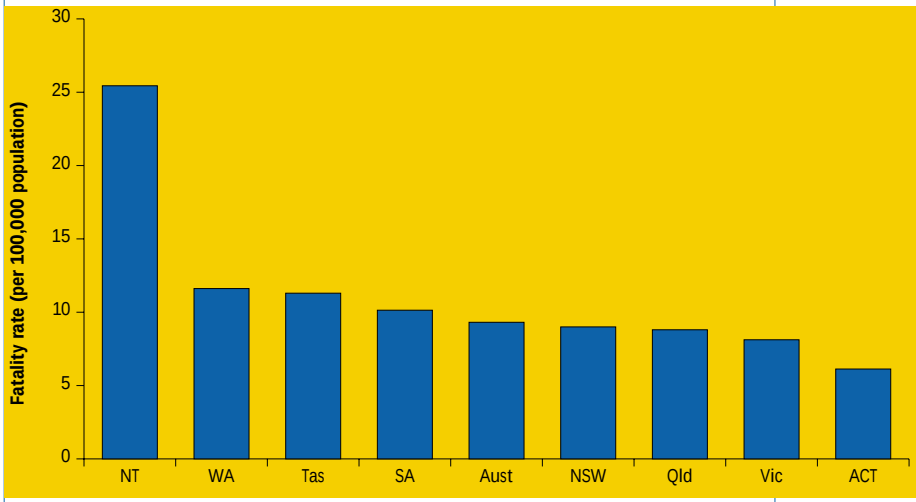
A well-focused research effort is required to support the Target of this National Strategy. Through comprehensive, well-resourced research a more thorough understanding will be available of:

- the causes of road crashes;
- the consequences of road crashes;
- the effect of existing counter measures in reducing the number and severity of road crashes; and
- the likely effect of potential counter measures in reducing the number and severity of road crashes.

A better understanding of these factors will assist in identifying and targeting high-risk and high-incidence groups.

Road safety will be further assisted by improving the process through which State, Territory and local governments learn from each other and from overseas practices through a process of benchmarking.

FIGURE 9 — State/Territory comparison



COMMENTARY: Benchmarking will help focus future initiatives and efforts.

A strength of Australia's federal system of government is the flexibility it provides to individual governments to apply innovative measures to improve road safety. Benchmarking will be used to help assess the benefit of these measures and to assist other governments to adopt worthwhile practices.

The National Road Safety Strategy Panel will continue to provide a forum for government agencies and other organisations to identify and promote best practice in road safety and to prioritise and coordinate the research efforts.

Encourage alternatives to motor vehicle use

Reducing the need for motor vehicle use can reduce exposure to road trauma, as well as achieving environmental and other benefits. This will be helped by:

- land-use planning that reduces the amount of transport necessary for people and goods;
- transport planning that integrates transport systems and improves the quality and effectiveness of transport;
- expansion of telecommuting and other measures that avoid the need to travel; and
- promoting the benefits of public transport, walking and cycling.

Measures to address the strategic objectives

A series of two-year Action Plans will be developed that contain specific measures available to address each of the Strategic Objectives. It is intended that governments and other parties to the Strategy will introduce measures selected from successive Action Plans suited to local conditions. The first Action Plan will be for the period 2001 and 2002.

Each Action Plan will be reviewed at the end of its two-year period and a further Action Plan developed. Both the review and proposed further Action Plan will be submitted for the approval of the Australian Transport Council.

Organisational relationships and accountability

This Strategy provides a framework for coordinating the road safety initiatives of the Commonwealth, State, Territory and local governments as well as other organisations capable of influencing road safety outcomes.

Achieving the Target of this Strategy will require the support of:

- the whole community as road users;
- specific groups of users and the associations that represent them;
- authorities responsible for providing and managing roads;
- the police and justice sector;
- vehicle manufacturers;
- employers of road users;
- parents and schools who need to keep young people safe and prepare them to be road users;
- planners and designers who influence transport systems, the road environment and the need for road travel;
- health care professionals who attend to injured people; and
- governments that allocate funding to road safety programs and health services.

The contribution of organisations listed on the inside cover to the content of this Strategy and the importance of their continuing contribution to road safety is acknowledged.

The National Road Safety Strategy Panel has been established by the Australian Transport Council to guide the implementation of the National Road Safety Strategy and to act as a forum for sharing information on road safety initiatives. The Panel's terms of reference are to:

- Monitor implementation of the National Road Safety Strategy and Action Plans.
- Develop and administer projects that enhance road safety and the transfer of best practice under the Austroads Road Safety Program.
- Identify and recommend areas of research which will assist in reducing the impact of causes of road trauma including input to Austroads' National Strategic Road Research Program.
- Provide a forum for the exchange of information between stakeholders on road safety matters.
- Ensure that effective linkages are in place so that road safety strategies and action plans at the jurisdictional level are consistent with overall national objectives.
- Assist in the harmonisation of road safety policies and practices between jurisdictions.
- Promote the development and implementation of road safety countermeasures based on research and national best practice.
- Assist in identifying emerging national road safety priorities.

The Panel will continue to serve these roles. It comprises representatives from the Commonwealth and all State and Territory transport agencies as well as police, health care providers, local government and user and industry groups.

The organisations represented on the Panel and, where applicable, their respective governments, are jointly responsible for the implementation of the National Road Safety Strategy.

Monitoring and reporting

The success of this Strategy will be assessed against the following criteria:

1. The trends in fatalities in comparison with the Target.
2. The actions taken in response to each Strategic Objective and the outcomes achieved.
3. The extent of take up of measures identified in the Action Plans and effectiveness with which these measures have been applied.

The frequency of and responsibility for reporting shall be as follows:

Criterion 1, the Target

— twice yearly, at meetings of the Panel and yearly to the Australian Transport Council.

Criterion 2, the Strategic Objectives and Criterion 3, the Action Plans

— biennially, by the Panel and reported to the Australian Transport Council.

The Panel will also provide Australian Transport Council with a report on progress with the Strategy annually.

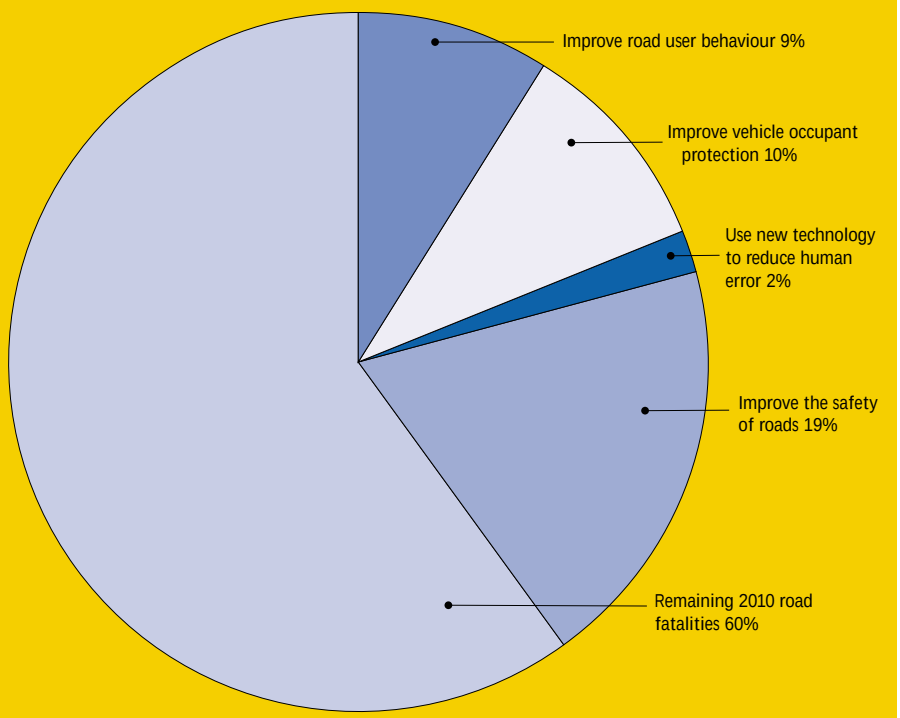
Performance indicators will continue to be developed and published to help monitor the success of the road safety initiatives associated with this Strategy. It is intended that these will be produced throughout the life of this Strategy and will be enhanced to provide more comprehensive data on road safety performance.

Appendix 1

Estimated effect of measures selected to achieve the target

Figure 10 illustrates how currently known measures could contribute to achieving the Target of this Strategy (a 40% reduction in the fatality rate per 100,000 population).[8] This Strategy does not presume or necessarily advocate that all of the measures listed in this illustrative example be implemented — the specific mix of measures implemented should be selected by individual jurisdictions taking into account many factors including local circumstances.

FIGURE 10 — Estimated effect of possible road safety measures by 2010 (in terms of percentage reduction in fatalities per 100,000 population)



NOTE: The estimated effects for each individual measure in the original work by Vulcan and Corben were significantly higher. The percentages in this Figure have been adjusted downward to account for the overlap when measures are implemented simultaneously and for increased risk as a result of the expected growth in the road freight task in the period to 2010.

INCREASED EXPOSURE

Little growth is expected in per capita passenger vehicle usage and the effect of this growth will largely be offset by the effects of increasing urban congestion.

The road freight task is growing faster than either population or Gross Domestic Product. This will be partially off-set by moving freight on larger vehicles, which will moderate the growth in truck-kilometres, and by congestion. However some increase in risk is expected and is reflected in the figures contained in Figure 10.

IMPROVE ROAD USER BEHAVIOUR

Road safety benefits are possible through greater enforcement, especially of speed and alcohol limits and restraint use. Further benefits are possible through better driver training and licensing practices and lower travel speeds as a result of lower speed limits and/or better compliance. Of these measures, greater enforcement of speed and alcohol limits contribute nearly two-thirds of the expected reduction in the fatality rate from this category.

VEHICLE OCCUPANT PROTECTION

New Australian Design Rules for passenger vehicles will improve the protection provided to vehicle occupants in a crash. These rules will result in improved protection in side, frontal and off-set frontal crashes. The last of these measures is expected to contribute half the reduction achieved from this category. These rules are either in place or scheduled for introduction shortly and will produce benefits as the vehicle fleet is replaced.

NEW TECHNOLOGY TO REDUCE HUMAN ERROR

Potential measures selected in this category include speed limiters, application of alcohol interlocks to either vehicles driven by convicted drink-drivers or to all vehicles, and intrusive audible seatbelt reminders. The potential of measures in this category is considered large, however much of the technology required is still under development and some measures may be unpopular. Moreover, most of these measures would affect only new vehicles. Therefore, only a small increase in safety is expected from this category by 2010.

SAFER ROADS

Safety improvements are expected from continuing and/or expanding black spot programs and from general road construction. Although only a small part of the combined expenditure, black spot programs are estimated to contribute over one third of the reduction in fatalities from this category.

Endnotes

1. Bureau of Transport Economics, *Road Crash Costs in Australia*, Report 102, BTE, Canberra, 2000.
2. Federal Office of Road Safety, *The History of Road Fatalities in Australia*, Monograph 23, FORS, Canberra, 1998.
3. Australian Transport Safety Bureau, *Benchmarking Road Safety: The 1997 Report*, ATSB, Canberra, 1999.
4. Estimates of safety improvements from currently available measures are contained in Appendix 1.
5. F. Green, *National Action Plan for Youth Road Safety*, ARRB Transport Research report for Austroads, Austroads, Sydney, 2000.
6. P. Vulcan & B. Corben, Prediction of Australian road fatalities for the year 2010, paper presented to the National Road Safety Summit, Canberra, 1998. For benefit/cost ratio of black spot programs, see Bureau of Transport Economics, *Evaluation of the Black Spot Program*, Report 90, BTE, Canberra, 1995.
7. C. Kloeden, A. McLean, M. Baldock & A. Cockington, *Severe and Fatal Car Crashes due to Roadside Hazards*, University of Adelaide Road Accident Research Unit report to the Motor Accident Commission, Motor Accident Commission, Adelaide, 1999. See also Australian Transport Safety Bureau *Crashstats* database.
8. See especially P. Vulcan & B. Corben, *Options for a National Road Safety Strategy: Report to the National Road Transport Commission*, (unpublished), 1999.

Figures

1. Federal Office of Road Safety, *The History of Road Fatalities in Australia*, Monograph 23, FORS, Canberra, 1998.
2. Australian Transport Safety Bureau, *Benchmarking Road Safety: The 1997 Report*, ATSB, Canberra, 1999.
3. C. Kloeden, A. McLean, V. Moore & G. Ponte, *Travelling Speed and the Risk of Crash Involvement*, CR172, University of Adelaide Road Accident Research Unit report to the Federal Office of Road Safety, FORS, Canberra, 1997.
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5. S. Newstead, M. Cameron & C. Le, *Vehicle Crashworthiness and Aggressivity Ratings and Crashworthiness by Year of Manufacture: Victoria and NSW Crashes During 1987–98*, Monash University Accident Research Centre, Clayton, 2000.
6. National Road Safety Strategy Implementation Taskforce, *Australia's Rural Road Safety Action Plan 'Focus for the Future'*, FORS, Canberra, 1996.
7. Australian Transport Safety Bureau *Crashstats* database.
8. Bureau of Transport Economics, *Road Crash Costs in Australia*, Report 102, BTE, Canberra, 2000.
9. Australian Transport Safety Bureau *Crashstats* database.
10. Australian Transport Safety Bureau calculation drawing on P. Vulcan & B. Corben, *Options for a National Road safety Strategy: Report to the National Road Transport Commission*, (unpublished), 1999.

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