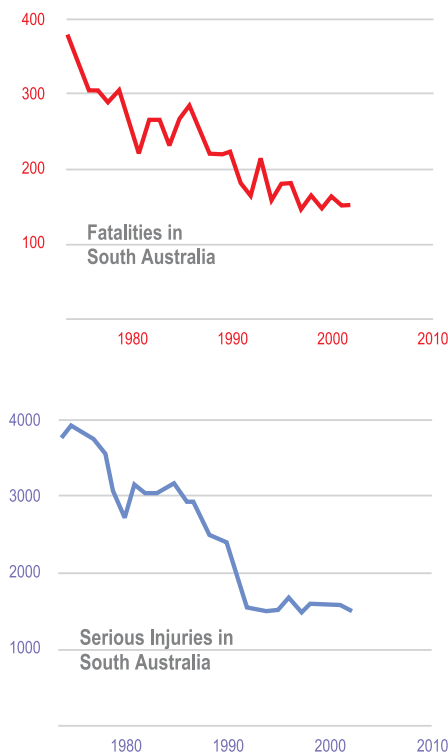




# Reducing Road Trauma ...

## The South Australian Road Safety Strategy, 2003 – 2010



Since the early 1970s — when nearly 400 people were killed and more than 4000 people seriously injured on South Australian roads — there has been a substantial decline in the number of casualties. This has occurred despite an increase in the number of people and vehicles on our roads.

In recent years this improvement has flattened out. Now, relative to our population, South Australia has one of the highest fatality rates in the country — 15% worse than the national average. Clearly we have to do things differently and try innovative measures to lower the road toll.

Australia's National Road Safety Strategy 2001-2010 aims to dramatically reduce death and injury on Australian roads. The National Strategy has set the target of a 40% reduction in road fatalities by the end of 2010. Road safety improvements which can achieve this reduction will also reduce serious injuries.

This will be a challenging target to reach but we believe it is achievable. According to the National Strategy, the reduction is most likely to come from the following measures:

- **Construction, upgrading and maintenance of our road systems to improve road conditions**
- **Legislation, education and enforcement to improve road user behaviour**
- **Improvements in vehicle design to aid drivers and protect occupants**

The South Australian Government has established two Councils to assist it in reducing the road toll — a Road Safety Ministerial Council, which will set policies relating to road safety, and a Road Safety Advisory Council, which has developed the strategies contained in this document and which will monitor and evaluate their implementation.

In April 2003 the Government released South Australia's first published draft Transport Plan since 1968, outlining a series of directions to address transport challenges over the next fifteen years. Road safety is a fundamental challenge highlighted within the Plan and one higher-level initiative to address it is the development of a detailed strategy. The publication of this Road Safety Strategy is one of the next tier of plans and strategies.

Road safety is an issue that affects us all. I urge you to become involved in striving to save lives and reduce injuries on our roads so that, as a responsible and caring community, we can be assured of a much higher level of personal safety whenever we use the road system.

Hon Michael Wright MP  
Minister for Transport

### **We *must* reduce casualties!**

**In 2002 the total financial cost to the South Australian community of road crashes was more than \$1 billion**

**The personal pain, loss, sorrow and tragedy is incalculable**

### **We *can* reduce casualties!**

**From 1974 to 2002 the rate of deaths on South Australian roads dropped from 30.9 to 10.1 per 100 000 people**

**This has been achieved despite a huge increase in vehicle use**

**Over the same period our fatality rate per 10 000 registered vehicles has fallen from 6.6 to 1.5**

# What do we know about crashes?

An understanding of where and how casualties occur in South Australia has enabled us to develop strategies which will focus our efforts on those areas with the greatest potential to save lives and reduce serious injuries.

## Where do they occur?

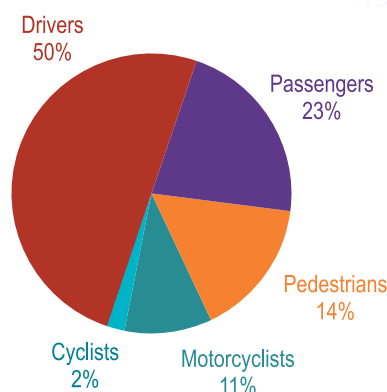
- 59% of all fatalities and 50% of serious injuries occur on rural roads
- More than two-thirds of country fatalities occur on straight sections of road
- More than 70% of crashes on open rural roads are single vehicle accidents such as rollovers or running off the road
- More than 30% of fatal and serious injury crashes occur when vehicles run off the road and hit fixed objects
- 31% of fatal crashes and 18% of serious injury crashes occur on roads with a speed limit of 110 km/h
- More than half of serious injury crashes occur on roads with a speed limit of 60 km/h

## Who is involved?

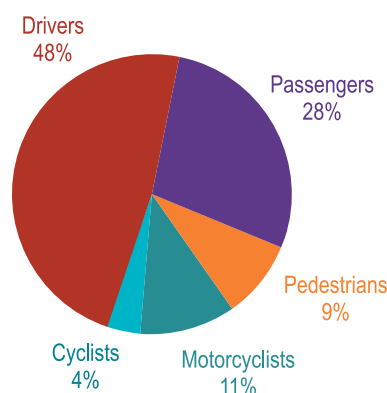
- Nearly 75% of the people killed in crashes and 62% of those seriously injured are males
- 67% of the drivers or riders killed or seriously injured in rural areas live in rural areas
- Young adults aged 17-24 make up only 11% of the total population but they account for 18% of all road fatalities and 28% of serious injuries
- People aged 70 and over make up 11% of the total population but are involved in 15% of all road fatalities and 7% of serious injuries

## What are the causes?

- 28% of all drivers, riders and pedestrians killed and 20% of those seriously injured had blood alcohol concentrations (BAC) equal to or greater than the legal limit of 0.05
- Excessive speed is a major factor in at least 20% of fatal crashes
- Fatigue is a factor in nearly 20% of fatal crashes
- 30% of vehicle occupants killed in crashes and 13% of those seriously injured were not wearing seat belts
- One-third of all crashes in SA are rear-end collisions



Who are the people killed in road crashes?



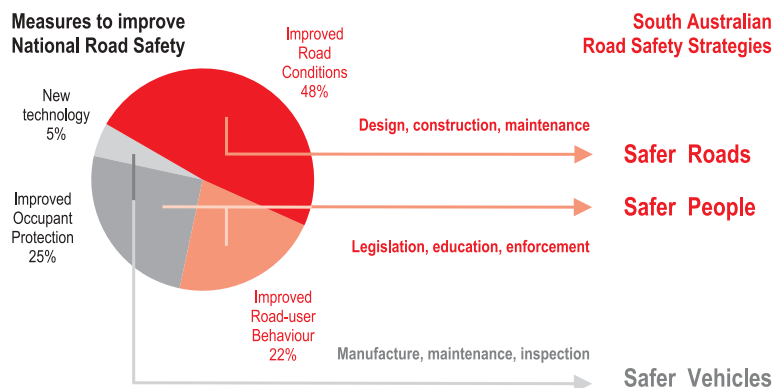
Who are the people seriously injured in road crashes?

# What can we do to stop crashes?

## A Road Safety Strategy for South Australia



Australia's National Road Safety Strategy 2001-2010 estimates that future improvements in road safety are most likely to come from the following measures:



### Our aim is to ensure ...

**Safer Roads** — planned, designed, and constructed to carry the expected traffic load and allowing traffic to move safely.

New roads and their associated environments complying with the latest design and safety standards, including those applicable to users with disabilities

Existing roads upgraded to remove or contain hazards

The road environment made less hazardous if drivers lose control of their vehicles

Road users provided with appropriate and timely information

Special needs of vulnerable road users addressed

**Safer People** — taking responsibility for their own safety and the safety of all other road users.

Community attitudes to road safety changed

Dangerous behaviour limited and controlled by appropriate legislation and enforcement

Road users educated in appropriate behaviour



**Safer Vehicles** — designed and built to provide the driver with the information and capacity to control the vehicle and to protect the occupants in the event of an accident.

Vehicle safety standards improved to better protect occupants and minimise harm to other road users

The average age of vehicles registered in South Australia reduced

Adequate alternatives to private vehicle use provided

# ***Safer Roads ...***

## **Construction, upgrading, maintenance**

Suburban arterial roads have to carry a large volume of traffic which is expected to increase between now and 2010.

Outside the metropolitan area, we face the challenge of building and maintaining a rural road network over large areas of the State.

### ***Building Safer Roads ...***

New roads will conform with recognised standards and follow best practices in planning, design and construction. However, we must be confident that they will deliver the necessary improvements in road safety.

- **Ensure designs improve safety performance**  
Safety audits will be carried out at the planning and design stages of all new road projects as well as after completion to ensure designs comply with the latest design and safety standards.

It is easier and far more cost effective to change a line on a drawing than to remedy an unsafe feature once a road is built.

### ***Upgrading & Maintaining Roads ...***

The Government's efforts will also be directed to upgrading and maintaining existing roads to provide better standards of safety and protection. Along with improvements to road infrastructure and the road environment, Black Spot and Mass Action programs will also be carried out. Periodic safety audits of existing roads will identify deficiencies and help establish priorities for upgrading.

- **Black Spot programs**  
Black Spots are identified by higher than usual crash rates at particular locations. Addressing problems at these locations has proved to be highly effective with significant safety benefits for every dollar spent. Special attention will be paid to rail crossings.  
  
Federal and State Black Spot programs will be continued. A significant part of State funds will be spent in rural areas where more than half of all fatalities and almost half of all serious injuries occur. The State Government will continue to work with Local Government to provide additional funding to improve safety at black spots.
- **Mass Action programs**  
As well as identifying problems at specific locations, crash history data may also reveal problems with longer sections of road. These problems can be addressed by "Mass Action" programs which apply a number of road safety measures such as anti-skid treatments or improved road markings.



# *Safer Roads ...*

## Construction, upgrading, maintenance



- **Road infrastructure improvements**

Two infrastructure programs will be given particular attention in this Road Safety Strategy — shoulder sealing and constructing overtaking lanes.

**Shoulder sealing** on rural arterial roads has the potential to reduce crashes by more than 40% by providing additional margins when vehicles run off the road because of driver fatigue or errors in judgement.

**Overtaking lanes** reduce the likelihood of impatient or frustrated drivers attempting to overtake slower vehicles in dangerous locations. Overseas studies indicate that crashes can be reduced by up to 25% by providing overtaking lanes on existing two-lane highways. Even greater reductions are achieved in rolling or hilly terrain.

- **Road environment improvements**

Roadside hazards — objects such as trees and lighting poles — are a major factor in 40% of car occupant fatalities.

The Hazardous Roadside Tree Assessment methodology will be introduced and changes to legislation to place strict controls on roadside planting will be explored. New guidelines will be published for planting near roads as well as treating existing vegetation and hazardous objects.

- **Asset sustainment programs**

Improvements in road safety will also result from an increased priority for funding of asset sustainment programs covering routine maintenance work such as renewing pavement marking and replacing guard rails.



## *Managing Roads ...*

Effectively managing the existing road network can be just as important for road safety as the physical form and structure of the roads themselves. Well designed and properly placed markings, signs and signals can control traffic movement and provide drivers with the information they need to help them with the driving task.

- **Continue to improve traffic management systems**

Traffic management systems will be installed or upgraded to ensure traffic moves safely and efficiently.

# *Safer Roads ...*

## Construction, upgrading, maintenance

- **Implement new technologies**

New technology such as variable electronic message signs to provide timely warnings about road safety hazards or apply flexible speed limits in response to conditions will be considered.

Innovative safety aids, such as advisory signs activated by vehicles (eg, detecting and responding to a vehicle's speed), will also be evaluated.

## *Sharing the Road ...*

Road design and management must take into account the needs of all road users, especially those at greater risk of injury such as pedestrians, cyclists, motorcyclists, older people, and those with disabilities. Where possible these road users will be separated from other traffic.

- **Improve pedestrian safety**

More facilities such as pedestrian crossings and centre-of-road refuge islands will be provided where appropriate to help pedestrians safely cross busy urban roads and provide safer access for those using mobility aids.

- **Ensure safe infrastructure near schools**

The safety of school children will remain a high priority. In conjunction with school communities and local government, modifications will continue to be made to the road environment in the vicinity of schools to provide safe access and road crossings.

- **Improve safety for cyclists**

Further investment will be made in shared and dedicated cycling facilities across the State with the aim of improving cyclist safety.

- **Ensure safe road use by people with disabilities**

Because of the increasing proportion of elderly people in the State's population, there will be a growing number of road users with disabilities such as vision impairment and limited mobility. The need for safe road use by these people, and particularly the requirements of the Commonwealth Disability Discrimination Act, will receive increased recognition in the building, maintenance and management of roads.



# Safer People ...

## Legislation, education, enforcement

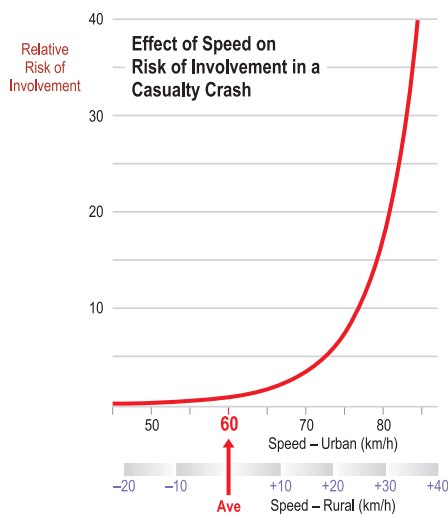


Human factors are the main causes of crashes and a wide range of legislation has been introduced to set limits to behaviour ranging from driving speed to alcohol consumption. The Government has developed a public education strategy to work in conjunction with police enforcement campaigns. Stronger penalties may be required to increase compliance but they must be fair and equitable.

### Speeding ...

Vehicle speed affects both the risk of a crash occurring and the severity of any resulting injuries. Excessive speed has been identified as a major factor in at least 20% of fatal crashes. However, the links between speed and road safety are complex and speed that is excessive could be the single most important factor in road crashes.

Increasing compliance with speed limits will require strategies aimed at changing community attitudes towards speeding, extending the use of education and publicity campaigns integrated with enforcement, improving enforcement practices, and changing penalties to increase their deterrent effects.



- **Review speed limits**

South Australian research has shown that crash risk on both urban and rural roads increases rapidly with increasing speed. On urban roads the risk of a casualty crash doubles for each 5 km/h above 60 km/h; on rural roads the risk doubles for each 10 km/h above the average traffic speed.

The lowering of inappropriately high speed limits on certain urban and rural roads and the continued provision of traffic calming treatments in local urban areas will assist in achieving significant reductions in casualties. A 50 km/h speed limit has been introduced on local streets in built-up areas and in the main streets of some country towns. Some sections of rural arterial roads have been re-zoned from 110 to 100 km/h.

Speed limits will continue to be reviewed and enforced.

- **Increase speed surveillance**

Measures such as fixed speed cameras installed at high risk locations and point-to-point cameras, which monitor speeds over long lengths of road, will be introduced. ITS technology to provide cameras with number plate recognition capability will be explored; this will also help identify unregistered vehicles.

- **Review penalties to provide greater deterrence**

Stronger penalties will be considered, including double demerit points for offences during high risk periods (generally times of higher than usual traffic volumes or poor crash history) and immediate loss of licence for serious speeding offences.





# *Safer People ...*

## Legislation, education, enforcement

### *Alcohol & Drugs ...*

#### **Alcohol**

For every increase of 0.05 blood alcohol concentration (BAC) above zero, the risk of crashing doubles. Many drink drivers are repeat offenders and some have alcohol dependency problems.

Police play a key role in deterring drink driving. Potential offenders have to be convinced that they run a very real risk of being detected and punished. This requires intensive enforcement through random breath testing (RBT) stations and other policing strategies. Rural areas pose a special challenge because of the difficulties in applying effective enforcement programs and the lack of transport options (public transport, taxis).

Pedestrians affected by alcohol also risk being killed or injured by vehicles.

- **Maintain integrated publicity and enforcement campaigns**

The Government will review operational strategies to ensure effective enforcement of drink driving legislation. Responsible serving policies in hotels and clubs will continue to be encouraged and enforced.

- **Review penalties to provide greater deterrents**

Harsher penalties will be considered, including double demerit point penalties for offences during high risk periods and immediate licence suspensions for serious drink driving offences.

#### **Drugs**

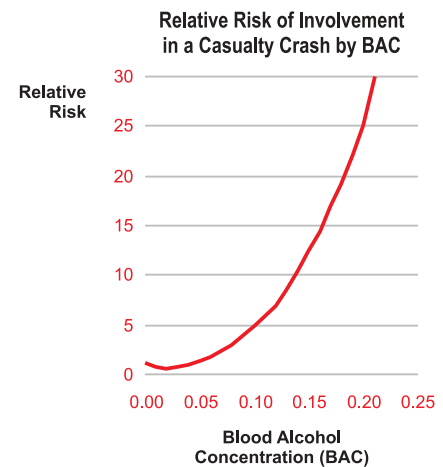
Many drugs, legal or illegal, can affect the skills and attitudes needed for safe driving. The problem can be exacerbated if a drug is taken in combination with alcohol or other drugs.

The legitimate use of some prescription drugs can also cause drowsiness or a lack of concentration and lead to faculty impairment.

The long-term use of stimulants by transport-industry drivers can have adverse effects on their health and driving ability. This problem will be approached through enforcement and work-place safety reforms.

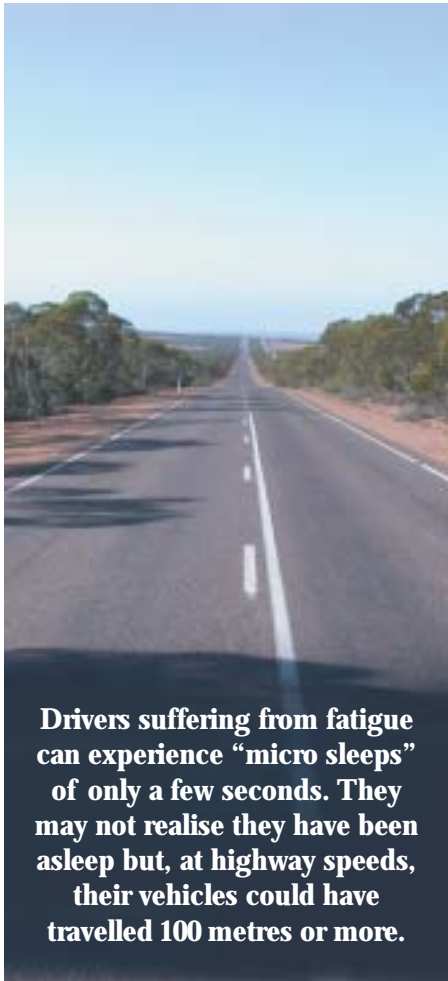
- **Introduce publicity campaigns**

Public information campaigns will highlight the effects of drugs and prescription medications.



# *Safer People ...*

## Legislation, education, enforcement



- **Examine detection and enforcement options**  
Interstate and overseas experience will be examined to determine appropriate options, including legislation, to enable Police to identify people driving under the influence of drugs.

### *Fatigue ...*

Fatigue could be just as dangerous as alcohol. Research indicates that it could be a factor in more than 20% of fatal crashes and the major cause of single vehicle crashes on open rural roads where two-thirds of our rural fatal and serious injury crashes occur.

Fatigue is a significant factor in crashes involving heavy vehicles and is also a major OHS&W issue for professional drivers, especially those driving long distances.

Fatigue can occur on short trips as well as long journeys, and can only be prevented by drivers getting adequate sleep beforehand and planning their journeys appropriately.

- **Maintain publicity and education campaigns**  
Drivers need to be aware of the three main causes of fatigue — driving when they would normally be asleep, insufficient or broken sleep, and driving after long periods of work or other activity. Advertising and promotional campaigns to remind people of the problems of fatigue will be intensified.
- **Promote travel planning and journey breaks**  
The “Drowsy Drivers Die” program, which started with advisory literature and was expanded to include roadside signage, aims to encourage motorists to better plan their journeys and take appropriate breaks. The program will continue to be promoted in conjunction with local Community Road Safety Groups. Further opportunities to educate travellers and encourage prudent travel planning, such as producing and distributing speciality guides and maps, will be explored.

A state-wide Rural Rest Areas program has commenced. Most rest areas will cater for cars and heavy vehicles; however, in some cases it may be necessary to provide separate truck parking bays within a reasonable distance if rest areas are not suitable for use by heavy vehicles.

- **Promote fatigue awareness through employers**  
The Government will contribute to the development of nationally consistent measures aimed at improving the road safety performance of the heavy vehicle industry.  
The Third Heavy Vehicle Reform Package, developed by the National Road Transport Commission’s (NRTC), includes a strong fatigue management component.

# Safer People ...

## Legislation, education, enforcement

### Use of Restraints ...

Although 95% of people travelling in vehicles use seat belts or child restraints, one third of occupants killed in crashes and 13% of those seriously injured were not restrained. This clearly demonstrates the effectiveness of restraints in preventing deaths and reducing injuries. The groups most likely not to be using restraints are young men in rural areas, rear seat passengers, young children, and heavy vehicle drivers.

- **Increase the fitting and use of restraints**  
Methods to improve and increase the fitting and use of restraints, including changes to legislation, will be considered.
- **Maintain education and enforcement campaigns**  
Advertising and promotional campaigns to remind people of the importance of restraints will continue.

### Groups at Risk ...

An analysis of the crash statistics reveals that there are three particular groups who are over-represented in casualties — young people, older people, and Aboriginal people.

#### Young Drivers

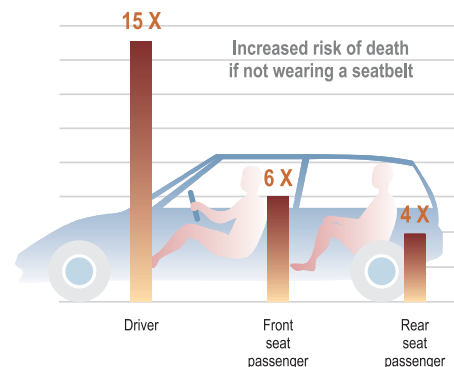
Drivers aged 17-24 account for only 11% of the total population but 18% of fatalities and 28% of serious injuries come from this age group. This over-representation is mainly due to inexperience or lack of skill during the initial period of unsupervised driving and then an increasing propensity for risk taking. Young drivers, their passengers, and other road users are all at risk.

Young people will be involved in the development of road safety measures aimed at their age group. These measures could be supported with advertising and promotional campaigns.

- **Review licensing for young drivers**  
Overseas studies show that extending the amount and variety of supervised practice by learners has led to lower crash rates.  
Consideration will be given to expanding the Graduated Driver Licensing scheme to include features such as staged provisional licensing, hazard perception tests, and a greater amount and variety of supervised driving experience.

#### Older Road Users

With increasing age, older drivers and pedestrians are at greater risk of death or serious injury if they are involved in crashes. Their high casualty rate is affected by increasing frailty and a reduced capacity to recover from injury. As the proportion of older people in the State rises, the number of older people involved in crashes is expected to increase.



# *Safer People ...*

## Legislation, education, enforcement



- **Assess fitness to drive**  
Appropriate procedures to assess the capability of older drivers to continue to drive safely will be examined.
- **Promote alternative forms of mobility**  
Older drivers will be encouraged to use alternative forms of transport, mainly public transport. Safe Walking programs for older pedestrians will continue to be offered.

### **Aboriginal Road Users**

Aboriginal people make up 1.5% of the State's population but account for 4.5% of fatalities — three times the expected proportional rate. Nearly two-thirds of the casualties among Aboriginal people occur on rural or remote roads.

- **Develop road safety initiatives for Aboriginal people**  
A range of culturally appropriate road safety initiatives will be developed in conjunction with major stakeholders. Aboriginal people will be trained to demonstrate correct fitting and wearing of child restraints, and as driving instructors.



## *Sharing the Road ...*

Pedestrians and cyclists are at greater risk of injury. Creating a safe environment for these road users is a high priority, especially where there are high concentrations (eg, near schools and in shopping precincts). Lower speed limits such as the recently introduced 50 km/h general urban limit are an important way of improving safety for these vulnerable road users while education is important for road users of all ages.

- **Examine lower speed limits**  
The benefits of lower speed limits, especially in areas of high pedestrian activity, will continue to be examined.
- **Incorporate road safety topics into school curriculum**  
Young children do not have a sufficient range of emotional, cognitive and physical skills to safely interact with traffic without adult supervision.

Appropriate age-specific road safety resources will be provided to pre-, primary and high schools, and a more concerted approach to road safety education by school communities will be encouraged.

Motorcyclists are also over-represented in crash statistics. Measures will be developed such as initiatives relating to other road users' awareness of motorcyclists, rider licensing, and education programs for motorcyclists.

# Safer Vehicles ...

## Manufacture, maintenance, inspections

Continued improvements in vehicle design and the incorporation of new technologies have increased the level of protection for occupants when vehicles are involved in crashes. These include better side impact protection, frontal crash protection, padded head areas, seatbelt interlocks, intelligent air bags and pedestrian protection.

Benefits from these improvements will continue to accrue as newer, safer vehicles progressively replace older vehicles on our roads.

### Vehicle Design ...

The design of safe vehicles is addressed through the national Australian Design Rules (ADR). New features are also developed and incorporated in new cars to make them more appealing to the market.

- **Promote vehicle safety ratings and safety features to new car buyers**

ANCAP — the Australian New Car Assessment Program — is a relative test of a vehicle's ability to protect its occupants in a severe collision. Vehicles are rated on a star system from one (minimum score) to four stars; however, buyers must be convinced that safety features should be given priority when they decide to buy.

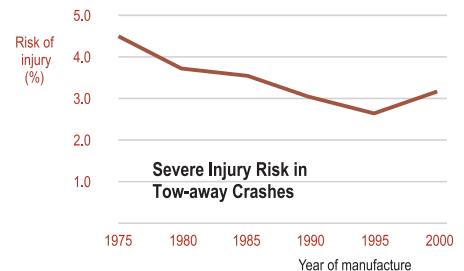
- **Adopt 4 Star safety ratings for Government fleet purchases**

The State Government can take the lead in requiring four star ratings in its own purchases. These vehicles will then be taken up by the community when they are subsequently sold.

- **Maintain a world-standard road safety research capability**

Most innovations in vehicle design come from Europe and America but vehicles sold in Australia significantly lag in the application of safety features. There are also significant differences between road systems and motoring in Australia compared with overseas (eg, long distances between towns, urban drivers exposed to outback conditions) and therefore a need to investigate and understand our own road safety issues.

The State Government has established a new facility incorporating the Road Accident Research Unit which was established at the University of Adelaide in 1973. The Centre for Automotive Safety Research (CASR) will add value to the State's car industry by conducting collaborative world-leading research in all areas of automotive road safety.



### Safer vehicles ...

**The probability of suffering an injury in a car has reduced from 6% for a car manufactured in 1975 to 3% for one manufactured in 2000**

**From 1970 to 2002 the fatality rate per 10 000 registered vehicles in Australia fell from 8.0 to 1.5**



# Safer Vehicles ...

## Manufacture, maintenance, inspections



### Roadworthiness ...

At present only B doubles, road trains and passenger transport vehicles (buses and taxis) have to be inspected regularly. Other vehicles, including most trucks and semi-trailers, are only inspected if their owners are seeking re-registration after a vehicle has been issued a defect notice.

- **Maintain roadworthiness standards of existing vehicles**  
The benefits of vehicle inspections will be considered, based on interstate and international experience, cost effectiveness and community impact.

### New Technologies ...

The National Road Safety Strategy sees long term benefits in new technologies such as interactive speed controls and interlocks which prevent a vehicle being driven unless certain conditions are met. Intelligent Transport System (ITS) technologies already available can address the three major causes of road fatalities and injuries:

|                       |                              |
|-----------------------|------------------------------|
| Drink driving         | Alcohol ignition interlocks  |
| Speeding              | Intelligent speed adaption   |
| Non-use of restraints | Seatbelt ignition interlocks |

The introduction of new technologies depends on the manufacturers' assessments of the market. However, governments can intervene to ensure the timely introduction of safety features to vehicles manufactured in or imported to Australia. Clearly this needs to be done at a national level.

- **Ensure safety technologies are available in the Australian market**

Expanded use of alcohol interlocks for convicted drink-drivers will be considered in the light of experience in other jurisdictions. Systems to prevent rear end crashes will also be considered for early introduction.

Possible future developments could include fitting Emergency Position Indicating Radio Beacons (EPIRBs) to vehicles used in remote areas to reduce trauma response times.

**South Australia was the first State to introduce alcohol interlocks as a control and rehabilitation measure for convicted drink-drivers**



**Seat belt interlocks and warning devices will be required on all new vehicles once national agreement is reached**

# Other Measures ...

## Trauma Response ...

The speed with which emergency and medical services respond has a major bearing on the number of people who survive road crashes. Given that 59% of all fatalities in South Australia occur on country roads, the capacity to respond quickly in rural and remote areas is a critical factor in reducing the road toll.

The Generational Health Review released by the Government in July 2003 provides a new direction for the delivery of a better health system in South Australia. A number of recommendations will result in better standards of treatment for road crash victims.

- **Increase agency collaboration**

Increased collaboration between Government agencies will ensure maximum effectiveness in the design and delivery of programs and services to reduce the road toll and treat road crash victims.

- **Provide medical response training**

Doctors and paramedics throughout the State, but especially in rural and remote locations, will continue to be trained in the treatment and management of severe trauma.

- **Support crash victims**

Effective and accessible counselling and support will continue to be provided to people injured in road crashes, their relatives and friends, and those who witness severe crashes.

## Community Involvement ...

Councils collectively maintain around 75% of the State's roads and their influence on the safety performance of those roads as well as the arterial road network is substantial. Councils also have an important role in undertaking community road safety projects or supporting community organisations undertaking such projects.

Community Road Safety Groups provide a real opportunity for residents to come forward and assist in projects to improve road safety in their communities. Service organisations and other bodies also undertake important road safety projects. Across the State, Local Government and community organisations will make an important contribution towards reaching our road safety target.

- **Local Government involvement in road safety**

Strategies for increasing the involvement of Councils in local road safety activities will be explored and put in place.

- **Community Road Safety Groups**

Community Road Safety Officers will continue to provide support to the work of groups. Funding assistance will be maintained for local road safety projects.



**The State Trauma System was launched in 1997 and integrates rural, remote and metropolitan trauma services — medical, rescue and retrieval — to ensure a prompt and high standard of attention. The risk of someone dying following their involvement in a major road crash has now been reduced significantly.**



**The South Australian Road Safety Strategy 2003 – 2010**

**[www.transport.sa.gov.au](http://www.transport.sa.gov.au)**

**September 2003**