TOWARDS ZERO TOGETHER

SOUTH AUSTRALIA'S ROAD SAFETY STRATEGY 2020

Government of South Australia

FOREWORD

This strategy is about you.

It's about every driver, every motorcyclist, every pedestrian, every cyclist all having respect for each other.

It's about thinking safely and changing our behaviour every time we venture onto our roads.

It's about admitting to ourselves that creeping over the speed limit - even just a little – is not acceptable, that driving after drinking is just not on, that running a red light is risky dangerous driving.

It's about not taking drugs and driving, not texting, taking or making a mobile phone call in the driver's seat.

We all think we're good drivers. Most of us are, but we all make mistakes, sometimes only minor inattentive errors of judgement, momentary lapses in concentration - mistakes which can have disastrous consequences on the lives of those around us.

We've seen some encouraging reductions in deaths and serious injuries on our roads over the past decade, but progress has slowed. It is time for us to set new and ambitious targets and make difficult decisions.

This strategy aims to reduce our annual road toll to less than 80 fatalities and 800 serious injuries by 2020.

I believe this is an achievable target.

We could go a long way to getting there right now if every driver and their passengers automatically buckled up their seat belts as soon as they sat down, because over one third of vehicle occupant fatalities involve people not wearing a seat belt. The decisions people make when they get in a car are important.

We will need to make some decisions that not everyone will agree with, but we must do everything possible to remove dangerous driving behaviour from our roads.

I believe we can collectively all make a difference, but every dollar and every decision needs to count.

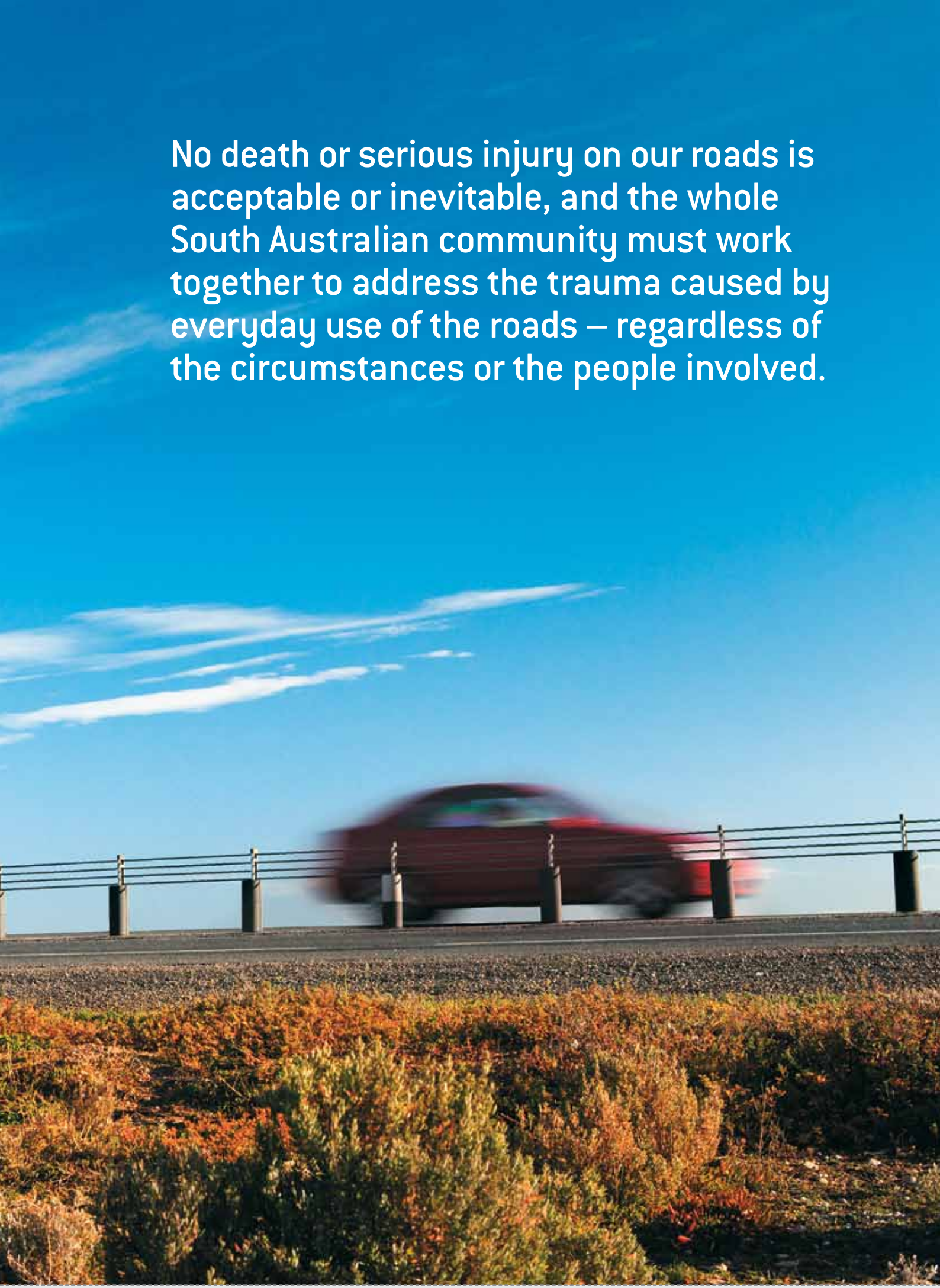
This strategy was developed in a spirit of shared responsibility with contributions from your communities, local government, road safety experts and interest groups.

I commend the strategy to you and ask that you take the time to read it and make a conscious decision to help us all bring down the road toll through your own personal attitude towards your driving behaviour.

Hon Tom Kenyon MP
Minister for Road Safety

Port Wakefield Road

No death or serious injury on our roads is acceptable or inevitable, and the whole South Australian community must work together to address the trauma caused by everyday use of the roads – regardless of the circumstances or the people involved.



TOWARDS ZERO TOGETHER

No death or serious injury on our roads is acceptable or inevitable, and the whole South Australian community must work together to address the trauma caused by everyday use of the roads – regardless of the circumstances or the people involved.

Road safety is a challenge for everyone involved in using, designing and managing the road transport system - not just people involved in crashes. Some changes can be made immediately but others may take many years to achieve.

Crashes may still happen on the road as people using the road transport system make mistakes or poor choices. However, safe choices should be the easiest ones to make and mistakes should not result in death or serious injury.

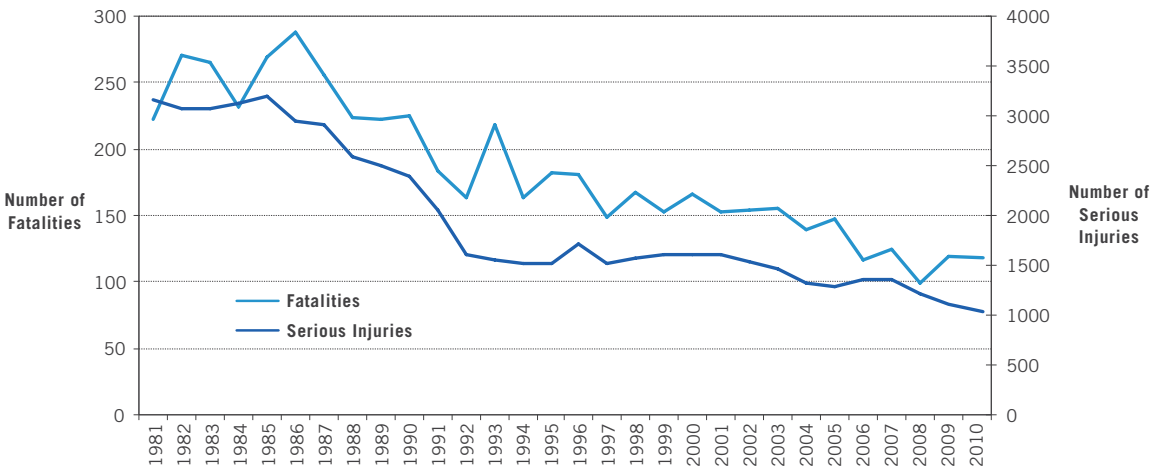
2020 Targets

This strategy sets the direction for reducing serious casualties during the decade by at least 30% – to less than 80 fatalities and less than 800 serious injuries per year by 2020. This is the minimum improvement, and we will strive to do better.

	2020 Targets
Fatalities	less than 80 per year (4.5 per 100 000 population)
Serious Injuries	less than 800 per year (45 per 100 000 population)

This strategy will be supported with action plans that set out priority actions that will be undertaken towards achieving the targets.

Figure 1 Road deaths and serious injuries, South Australia, 1981-2010



The average road toll for the years 1981-1983 was 252, which reduced to 155 for the period 2001-2003, then to 112 for the period 2008-2010. Similar reductions have been observed for serious injuries with an average of 3,104 from 1981 to 1983, reducing to an average of 1,126 between 2008-2010.

TOWARDS ZERO TOGETHER

Different mixes of intervention are possible, but infrastructure safety improvements, speed management and improved driver behaviour and compliance will have the greatest potential to significantly influence casualty reductions. Continual improvements in vehicle safety will also be felt over the course of the decade.

The National Road Safety Strategy 2011–2020 sets a target of at least a 30% reduction in deaths and serious injuries over the decade from an average 1,431 for the years 2008-2010. Drawing from the established safe systems approach to road safety, it challenges Australians to build a national culture of road safety by adopting a new vision of a safe road transport system. This strategy complements and supports the national strategy. It gives local expression to the vision and targets and discusses those areas where South Australia most needs to direct its efforts.

Figure 2 Fatalities and serious injuries by location, South Australia, 2008-2010 average

During the last 30 years, South Australia has seen a substantial reduction in the number of deaths and serious injuries due to road crashes. Many actions have contributed to these improvements including:

- Graduated Licensing Schemes for young drivers.
- Static and mobile driver testing for alcohol and drugs.
- Increased use of seatbelts and child restraints.
- Mandatory alcohol interlock program.
- The introduction of a 50km/h default speed limit in urban areas.
- Increased and better targeted enforcement.
- A network of safety cameras at high risk intersections.
- Black spot programs to improve sites with poor crash histories.
- Infrastructure safety programs such as road shoulder sealing.
- Increased numbers of 4 and 5 star safety rated vehicles that provide better protection for occupants.
- More vehicles fitted with Electronic Stability Control (ESC) to assist drivers to avoid crashes.

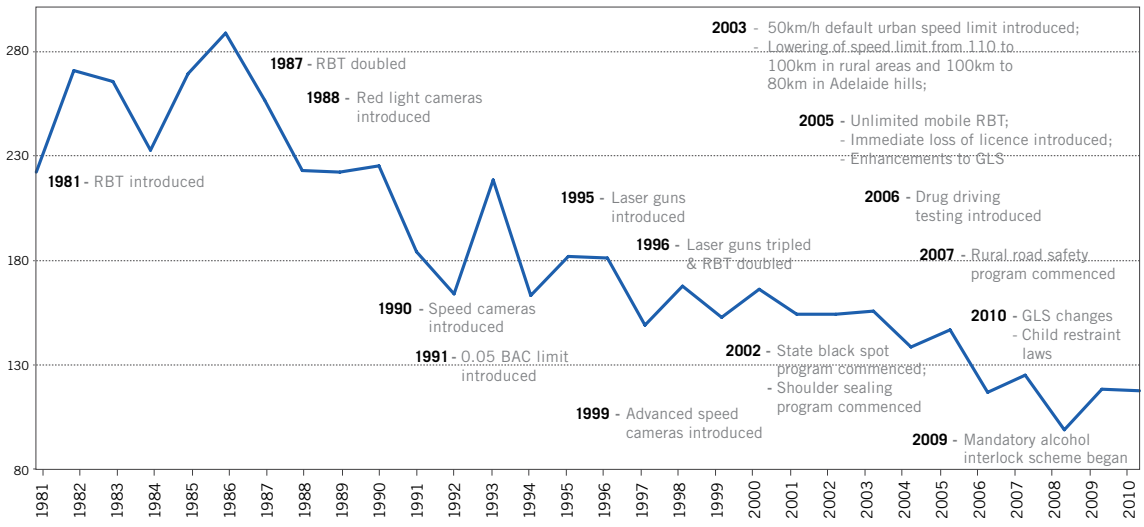
Despite improvements there is still much more to do with over 100 South Australians being killed and over 1,000 seriously injured on average each year. These figures represent an enormous amount of grief, suffering and loss as well as an economic cost of about $1 billion each year for the South Australian community.

Evidence-based, system-wide changes to speed limits reduced vehicle speeds and crashes that, together with other changes to the system, reduced road deaths by over 20% over the period of the last strategy (2003-2010).

The initiatives introduced in the last strategy will continue to deliver benefits for years to come, but substantial new initiatives that will significantly reduce crash risks to many road users in the community are now required to take us to the next level of trauma reduction.

Road safety is a state-wide challenge with a particular area of concern being the area outside metropolitan Adelaide but within 100km of Adelaide shown in Figure 2.

Figure 3 Fatalities with major initiatives, South Australia, 1981-2010



A NEW APPROACH

This strategy presents the view that road deaths and injuries are not inevitable and society has a responsibility to prevent them.

Road safety is a community issue and the strategy includes roles and responsibilities for everyone. It sets direction for a change in culture – a culture in which fatalities and serious injuries on our roads are not accepted as inevitable and which strives to prevent them from occurring. This change in culture includes every driver, every passenger, every pedestrian, every cyclist, every motorcyclist, every truck or delivery driver, every bus or taxi driver, every individual responding appropriately to safety rules and their ongoing enforcement. This change in culture also includes each organisation and part of society.

Those engaged in building and managing roads have a responsibility to provide a safe network, manufacturers have a responsibility to design and market the highest standard of safety in their vehicles. Organisations and businesses purchasing vehicles have a responsibility to own a safe vehicle fleet, road users have a responsibility to comply with the law, and enforcement agencies have a responsibility to increase compliance. Most importantly the community has the responsibility to demand safe travel on our roads and support the actions that will make a difference.

There is a belief in the community that road fatalities and serious injuries are the result of risk taking or extreme behaviour, and these crashes can receive extensive media coverage. However, research shows that in South Australia over half of all fatal crashes, and 90% of injury crashes, are the result of mistakes, inattention or common lapses in judgement. We want a system that minimises injuries and their severity in the event of road crashes.

The Safe System approach adopts a holistic view of the road transport system and the interaction between people, vehicles and the road environment. It recognises that people will always make mistakes and poor choices often resulting in road crashes, but seeks to ensure that those actions do not result in a fatality or serious injury.

These principles do not abrogate the individual responsibility each one of us has to exercise due care whenever we enter into the road environment. We have made major gains in reducing road trauma and further behavioural improvements are required. Every driver is responsible and accountable not just the few drivers who engage in extreme behaviours. Every driver who creeps over the speed limit, answers or uses a mobile phone, drives after drinking or drug taking, does not wear a restraint or who drives while fatigued is a dangerous driver. Drivers who drive while unlicensed or disqualified demonstrate a total disregard for the safety of others. They need to be removed from the road. Further enforcement efforts are needed to detect drivers who engage in dangerous behaviours which we know contribute to serious casualty crashes.

Our traditional approach will not take us the rest of the journey. A new approach is necessary if we are to continue to make gains and move towards a truly safe road system.

A new approach is needed to fully recognise the road environment as the essential building block for a safe road transport system. Our new approach will seek to increase safety priorities in land use and transport planning decisions by building connections with the planning process. A major opportunity for integrating safety into planning is the development of the 30 Year Plan for Greater Adelaide. Important steps will be to increase the involvement of local government in building a safe system, and to ensure the road

The Safe System approach to road safety is built on several key principles:

Human Factors – no matter how well we are trained and educated about responsible road use people make mistakes and the road transport system needs to accommodate this.

Human Frailty – the finite capacity of the human body to withstand physical force before a serious injury or fatality can be expected is a core system design consideration.

Forgiving Systems – roads that we travel on, vehicles we travel in, speeds we travel at, and communities we live in need to be more forgiving of human error.

Shared Responsibility – everyone has a responsibility to use the road safely with organisations, businesses and communities taking responsibility for designing, managing and encouraging safe use of the road transport system.

environment provides the right signals to road users about the appropriate travel speed.

A new approach will assist in realising the benefits that technological advancements can offer to improve road safety. By accepting that humans are fallible, we encourage technology solutions that can dramatically reduce the chances of vehicle-to-vehicle, vehicle-to-infrastructure and vehicle-to-pedestrian collisions, improving the quality and timeliness of safety information to road users.

A new approach requires many different organisations to integrate road safety into their priorities and activities. An important part of this strategy is to build the partnerships and connections necessary to make this happen. Within Government the existing partnership between the Department for Transport, Energy and Infrastructure (DTEI), the South Australia Police (SAPOL) and the Motor Accident Commission (MAC), will continue and be strengthened, as will the important roles of the health, education, research and local government sectors.

We will look for new opportunities and new partners to address road safety from as many directions as possible. Private organisations all have a major role to play in building a safe system. A priority of this strategy will be to form partnerships with those organisations with large fleets of vehicles to find ways to prioritise safety in vehicle purchasing. A new international standard under development (ISO 39001 Road Traffic Safety Management) is expected to assist organisations to build road safety plans suitable for their business.

Safer Roads

SAFER ROADS

While new road construction and safety focussed retrofits are expensive when well planned, designed and managed they can provide lasting safety benefits to road users. Research in Victoria and South Australia has shown that expenditure can produce crash savings with a value at least 10 times the cost of the infrastructure.

Planning

A safe road transport system starts with better planning. Urban planning decisions in particular, have the potential to influence how the road network is used and what infrastructure investments are required. Liveability and sustainability are becoming more important to the community and are priorities for the 30 Year Plan for Greater Adelaide. The changes to Adelaide envisaged in the 30 Year Plan particularly the priority afforded to investment in public transport, has the potential to produce significant road safety benefits. These benefits could be further increased if road safety criteria were explicitly included in the planning process so that safe road environments are provided for pedestrians, cyclists, light and heavy vehicles and for South Australia's ageing population (for example by 2020 approximately 20% of the State's population will be aged 65 and over).

It has not always been clear to the road user that different roads in South Australia's road network perform different functions. Applying a clear functional hierarchy of roads that is more deliberately articulated to the community, would assist road users to understand the road environment.

Roadways serve a variety of functions including but not limited to the provision of direct access to properties, pedestrian and bicycle paths, bus routes and catering for through traffic. Regardless of their main function all roads need to be managed with the safety of the road users as a priority.

In the long term greater consistency in the road network will support better compliance with speed limits, which are ideally set to be consistent with the function and design standard of the road. During the life of the strategy we will move closer to consistent speed limits for roads with similar functions, design standards and access management.

Investment

Infrastructure investment is expensive and it is important that funding is applied where it will achieve the most benefits. South Australia will continue to improve its methods for developing and targeting effective infrastructure programs, including regular safety assessments and audits of the network and monitoring of the effectiveness of new programs.

More investment in safety focussed improvement programs will be needed to support achievement of the new safety targets, and the continual dedication of fine revenue to safety programs in South Australia will continue to support this. Irrespective of the level of investment the greatest share will be allocated to where the greatest potential trauma and risk reductions are possible. The investment will also be focussed on the most effective treatments that can be applied to the key crash types, consistent with safe system principles.

Run-off-road crashes

Most South Australian rural roads are two-way, two lane roads with unforgiving roadsides. In 2008-2010, 59% of all fatal and serious injury crashes on rural roads involved losing control of the vehicle, the majority hitting a fixed object or rolling over. South Australia is applying a number of measures which have been proven to reduce the trauma resulting from run-off-road crashes. This includes sealed shoulders and audio tactile edge lines which reduce the risk of vehicles leaving the roadway, and clear zones and safety barriers to prevent vehicles from striking roadside objects.

Priority will be given to treating those sections of the road network where most run-off-road crashes occur, or a risk assessment has indicated they are likely to occur. Giving initial priority to treating curved sections of roads has been shown to provide higher risk reductions for each dollar invested.

Treatments which reduce run-off-road crashes will also reduce head-on crashes, which often result from a loss of control situation when vehicles leave the road to the left, over-correct and enter the opposing traffic lane. This also means that median treatments including wire rope barriers, wide painted medians and audio tactile lines have a significant role to play.

Run-off-road crashes particularly those involving a fixed object are also a major issue in urban areas where the main types of objects struck, are trees and stobie poles. While expensive, safety considerations will be given greater priority in the program to replace stobie poles.

Intersections

Almost half of serious casualty crashes in metropolitan areas, and 21% in rural areas, occur at intersections. One of the most difficult tasks undertaken by drivers, is to judge gaps in the opposing traffic when turning right, or entering a major road from a local road. Effective treatments will reduce the frequency at which drivers need to make these individual judgements.

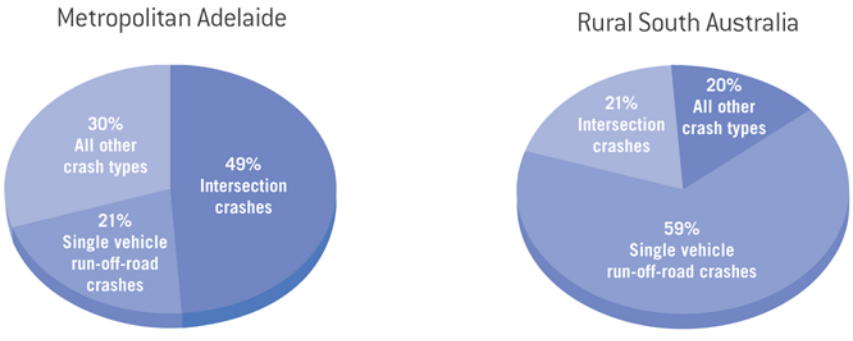
Appropriate treatments for urban intersections can be complex to develop and implement. The best site-specific mix is dependant on the type and volume of traffic and factors, such as the space available for redesign and the land use around the intersection. A program of intersection treatments will be developed including installing roundabouts at suitable locations and reducing uncontrolled right turns. In some cases the most appropriate treatment to improve safety may be to use engineering treatments or speed limit changes. The aim is to reduce speed through the intersection, particularly where there are high volumes of pedestrians or cyclists. 21% of rural serious casualty crashes also occur at intersections where the most effective solution is often the installation of a roundabout.

Pedestrians, cyclists and motorcyclists

In urban areas provision for people walking and cycling is important and in some locations these modes should be given priority over motorised traffic when designing the road network. Infrastructure initiatives to address the particular needs of vulnerable road users will include the provision of safe and separate facilities for people walking and cycling, as well as the provision of a safe speed environment when separation is not possible. We cannot continue to define cycle lanes as a painted white line that peters out when it gets too hard. Promotion and facilitation of safe shared-use pathways for cycling and walking and safer speeds will help encourage people to move away from the dominant car culture and re-establish active transport as an attractive and healthier alternative to driving.

Motorcyclists are also vulnerable to greater injury when involved in a crash and high use motorcycle routes will be identified and the feasibility of hazard protection assessed. Funding this motorcycle infrastructure investment through a motorcycle safety fund will be explored, along with consideration of the relative costs of compulsory third party insurance premiums.

Figure 4 Serious casualty crashes, by crash type, South Australia, 2008-2010



A large number of crashes occur at intersections in both urban and rural areas but single vehicle run-off-road crashes account for around two thirds of all rural crashes. For minor injuries, the most common crash type is a rear-end crash.

Key strategies for Safer Roads

- Integrate safety into all stages of urban/rural and transport/corridor planning processes.
- Form stronger partnerships between State and local government to apply safe system principles to South Australia's road network.
- Target infrastructure safety investment with the most effective safe system treatments at locations with the highest volumes or greatest risk of crashes.

Performance indicators	Average 2008-2010
Number of single vehicle run-off-road serious casualty crashes	465
Number of intersection serious casualty crashes	368

Safer Speeds

SAFER SPEEDS

An overall framework for safe and credible speeds requires a stronger functional approach to the management of the road network.

Reductions in travel speeds save lives and injuries and these benefits have been clearly demonstrated on South Australian roads. The 2003 reduction in urban speed limits to 50km/h produced a reduction of over 20% in urban crashes. Other targeted speed limit reductions, such as in parts of the Adelaide Hills where the speed limit was reduced to 80km/h and selected 110km/h rural roads reduced to 100km/h have produced similar results.

Reductions in average travel speed across the network is the most effective and swift way to reduce road trauma and would produce significant and immediate road safety benefits. A reduction of 5km/h in average travel speed would reduce rural casualty crashes by about 30% and urban casualty crashes by about 25%. A blanket application of the 100km/h default speed limit on rural roads (excluding national highways) would be projected to save over 20 fatalities and serious injuries combined each year.

Travel speeds have consequences for crash risk and also for injury severity when a crash occurs. Biomechanical research into the capacity of the human body to absorb crash energy without significant harm suggests that safe travel speeds would ideally be less than 30km/h in areas where conflict with people walking and cycling is possible, less than 50km/h where side impacts are possible, and less than 70km/h on roads where head-on collisions are possible (see figure 5). This illustrates the need to address speed within a functional approach to road management.

Reductions in speed and speed limits can also be the most publicly contentious way to reduce road trauma. Sustained improvement in speed management will only occur with the support of the community and other stakeholders and the adoption of a total change management approach. It will be vital for all stakeholders to understand and be able to explain, the importance of speed management to a safe system, along with the community gains that can be achieved from even small reductions in travelling speed.

The safety benefits of small speed reductions are not always intuitively obvious and more public information will be provided to address the community's overestimation of related costs and underestimation of related benefits. For example, approximately 5 minutes is added to a 100km trip when travelling at 100km/h, rather than 110km/h, travelling at 100km/h uses on average 8% less fuel than travelling at 110km/h.

The wider benefits of reducing speeds including better fuel consumption, lower greenhouse gas emissions, less traffic noise, and better support for active travel modes contribute to South Australia's environmental, sustainability, and wellbeing objectives.

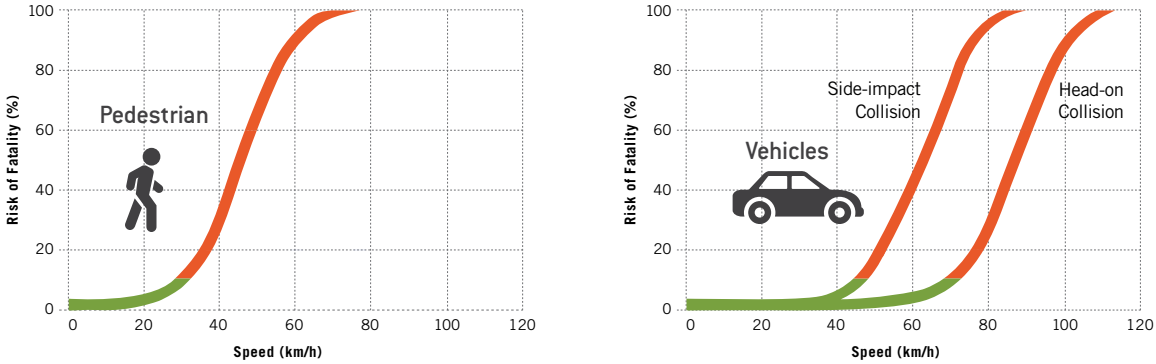
Appropriate speed limits

International work has shown that to achieve our vision, speed limits need to be set and enforced taking into account potential crashes and the likely outcomes of these crashes given the physical impact on the human body.

The default speed limit in South Australia is 50km/h in urban areas and 100km/h in rural areas. Speed enforcement and speed limit reductions will be targeted to roads above the default limit with high crash rates or risk, and where land use and infrastructure planning does not justify a limit above the default.

Projects for retrofitting safe and credible speed limits will be progressed in rural and metropolitan areas, taking into account:

Figure 5 Collision–force and risk of fatality



Research into the capacity of the human body to absorb crash energy indicates that speeds would ideally be less than 30km/h in where conflict with people walking and cycling is possible, less than 50km/h where vehicle side-impacts are possible and less than 70km/h where head on collisions are possible.

Speed is a critical factor in every serious crash, and speeding was directly attributable in an estimated 37% of fatal crashes for the 2008-2010 period.

- sustainability and liveability aims of the 30 Year Plan for Greater Adelaide, and the need to support safe movement for pedestrians and cyclists
- the concentration of trauma in rural areas close to Adelaide including fringe areas undergoing changes in traffic volumes and demographics
- increased understanding of the impact of a rural road network of two-way two lane roads with speed limits of 110km/h, which is out of step with countries with the best road safety record.

Compliance with speed limits

Whatever the speed limit improved compliance with and enforcement of the limit plays a vital role in improving the safety of all road users. The current network of fixed safety cameras in urban areas will expand and include mid-block and pedestrian crossing cameras. These automated enforcement approaches will continue to be supplemented by targeted deployment of SAPOL personnel operating a range of technologies including mobile cameras and mobile radars at their disposal, and targeting roads with high crash risk.

New technologies have the potential to increase the range and effectiveness of enforcement resources. Average speed cameras that measure the speeds of all vehicles between relatively distant points on the road can be more effective and fairer than one-point speed cameras. They can monitor all vehicles over a long section of road continuously as they do not penalise momentary breaches of the speed limit. Focusing on major regional and interstate routes, the development of a comprehensive point-to-point speed enforcement system will initially focus on the key routes into and out of Adelaide.

The penalties in place to deter users who may otherwise flout the law and create unacceptable risk to others are a critical part of the mix of speed compliance interventions. The current range of penalties for speeding offences does not match the fundamental safety risk associated with the offence, whether for lower or higher end offending. Changes will be made so that the penalties for higher level speeding more closely correlate with the road safety risk.

Over the life of this strategy, it is expected that new vehicle technologies, such as intelligent speed adaptation will begin to provide the ultimate support for the vast bulk of drivers who have no intention of breaking the law, but may inadvertently travel above the speed limit. Speed limiting devices could also be targeted to recidivist offenders.

Key strategies for Safer Speeds

- Align speed limits to the function, standard and use of the road, and increase consistency in their application across the State.
- Strengthen public information explaining the impact of speed and speed limits on crashes.
- Target speed limit reductions for roads according to crash rates and a functional road hierarchy.
- Increase the use of new technologies to boost speed limit compliance.
- Increase the penalties for speeding to better match the risk posed.

Performance indicators	2010
Average metro traffic speed*	56.1km/h
Average rural traffic speed*	102.7km/h
Percentage of vehicles exceeding stated speed limit	23.4%

* Free speed with 4 second headway

Safer Vehicles

SAFER VEHICLES

Improvements in vehicle safety are helping drivers avoid crashes and protecting occupants and other road users when crashes happen. Vehicle technology is developing at a rapid rate with new technologies on the rise. However, as the average age of the South Australian vehicle fleet is just over 11 years, it will take considerable time for those technologies to be available to the majority of road users.

A major aim of this strategy is to accelerate the take-up of proven safety technologies into the vehicle fleet. Some such as intelligent speed adaptation (ISA) and alcohol interlocks can be retrofitted to existing vehicles so quicker benefits may be possible. On the other hand, important technologies such as stability control and occupant protection measures are not suitable for retrofitting.

Over the next ten years many of the innovations in new vehicles will become more commonplace for South Australian drivers. For example, more than 50 per cent of vehicles will have electronic stability control and about the same proportion will have a 5-Star Safety Rating (based on today's standards). Because of the slow turnover of vehicles, many of the advances in new vehicles made in the past decade are only now beginning to become commonplace. Therefore, part of the benefit of newer vehicles will come from momentum already in the vehicle system.

Consumer driven safety

The safety of new vehicles varies considerably, so if buyers are to choose safer cars, they need reliable, understandable and accessible information.

The Australasian New Car Assessment Program (ANCAP) assesses the crashworthiness and safety

features of new vehicles, assigning stars based on safety performance, setting a de-facto standard for many manufacturers.

The Used Car Safety Rating (UCSR) program provides real world data about the safety of different vehicles in the used market. These star rating programs allow all buyers to make informed decisions, encouraging levels of safety that exceed those required by regulation. Taking every opportunity to promote and explain ANCAP and UCSR results is an important part of this strategy.

A large proportion of the private vehicles now travelling on South Australian roads were first registered as part of a private or Government fleet. Encouraging fleet buyers to adopt safe buying practices will have strong flow-on benefits and over time, improve vehicle safety in the total fleet. There are a number of possible approaches for influencing fleet buyers that need to be investigated. These approaches include provision of better information, public recognition for safe fleets and incorporation into occupational health and safety requirements.

Educating young people about vehicle safety features as part of the broader educative approach to driver training will help change attitudes, behaviours and practices which affect young people's safety on the road. The benefits of buying safer vehicles to protect the most inexperienced drivers will also be encouraged.

New technologies

New technologies are available, such as ISA, which provide information about road and traffic conditions to both the driver and the vehicle. These technologies rely on vehicle-to-infrastructure and vehicle-to-vehicle communication. It will be our focus to provide the necessary digital mapping and fixed technology for take-up of these vital innovations.

Research confirms that there are currently important emerging technologies, which have the potential to significantly reduce road trauma.

The best current example is frontal collision avoidance technology, which allows the vehicle to automatically brake or reduce speed to avoid a collision or reduce its severity. Accelerating its introduction into the fleet would save further injury. Another example is anti-lock braking systems (ABS) on motorcycles, which have improved the safety of motorcycles and reduced out of control crashes.

The frontal design of vehicles can have a major effect on the severity of injuries to pedestrians. ANCAP tests the pedestrian friendliness of vehicles, but while the ANCAP star rating for occupant protection has improved considerably, there has been little change in vehicle safety ratings for pedestrian collisions in the same period. South Australia is well placed to explain and promote the importance of the pedestrian rating as the relevant crash testing is conducted in Adelaide.

The health sector plays a major role in improving road safety. Timely and effective post crash care is clearly vital and cooperation is needed between health, road designers and vehicle regulators to ensure advantage is taken of new technologies, which allow more rapid and accurate reporting and locating of crashes.

The National Road Safety Strategy 2011-2020 includes a number of vehicle-related initiatives including extending ANCAP, streamlining the vehicle regulation system and strengthening vehicle regulations for heavy vehicles and motorcycles. South Australia will actively support these initiatives.

Key strategies for Safer Vehicles

- Promote adoption of safest vehicle fleet buying policies by public and private fleet owners.
- Continue to support and promote the Australian New Car Assessment Program and the Used Car Safety Rating.
- Accelerate the introduction of a range of new vehicle technologies such as frontal collision avoidance and intelligent speed adaptation.

Performance indicator	2010
Percentage of new vehicles sold in SA with a 5 star safety rating	40.9%

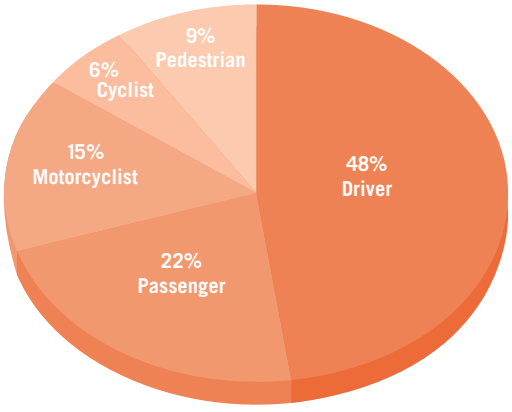
Safer People

SAFER PEOPLE

Influencing the behaviour of road users is critical if we are to prevent death and serious injury on our roads. Road users need to comply with the road rules, remain alert and safety conscious and accept that continual improvement in their behaviour and that of others is vitally important if road safety is to be improved.

As a community, it's important that we have a road safety culture where the loss of life and injury on the road is not accepted as inevitable and where the cost and inconvenience of making significant improvement in safety is accepted.

Figure 6 Serious casualties by user type, South Australia, 2008-2010



48% of people killed or seriously injured in crashes, are drivers and another 22% are motor vehicle passengers. Pedestrians, cyclists and motorcyclists make up the remaining 30%.

Dangerous behaviours

Everyone has a role to play in the safe use of the road network. Road users need to uphold the standards and laws that have been designed to provide protection for all who use the road system. Providing regular and comprehensive information that leaves no doubt as to the level of compliance required, is usually all that's needed for most road users.

Dangerous drivers engage in behaviour which we know contributes to serious road crashes. Behaviours such as exceeding speed limits, drink and drug driving, non-use of restraints, in vehicle distractions, driving whilst fatigued and driving whilst unlicensed or disqualified are all dangerous behaviours. There are also drivers who are repeat offenders for this type of dangerous driving behaviour. Not all crashes result from these types of behaviours however dangerous drivers are over-represented in serious road trauma and unnecessarily put other South Australian road users at risk.

The reality is that if people obeyed speed limits, didn't drink or take drugs and drive, wore a seatbelt and were not distracted when driving - the road toll would significantly reduce. To make a real impact on death and serious injury on our roads our efforts must be focused towards stopping dangerous driving behaviour and removing dangerous drivers from our roads. Every driver is accountable and responsible not just a select few.

Impairment due to alcohol and drugs continues to be a major contributor to death and serious injury with on average 34% of drivers and riders killed recording blood alcohol concentration (BAC) levels above the legal limit. The majority of driver and rider fatalities that test positive to an illegal BAC are more than three times the legal limit. The increased use of technological solutions, including the use of alcohol ignition interlocks, will need to be further explored as a mechanism for recidivist offenders who are not responsive to mainstream deterrence methods. Drug driving also plays a significant part in fatal crashes. Detection of drink and drug driving offenders will be increased.

In more than a third of all vehicle occupant fatalities between 2008-2010 seatbelts were not being worn at the time of the crash. This rate of non-compliance amongst fatalities is generally higher in rural areas than in metropolitan Adelaide. Research shows that wearing a seatbelt doubles your chances of surviving a serious crash yet amazingly there are a small number of road users who continue to travel unrestrained, putting themselves and others, at much higher risk of death and injury.

SAPOL will adopt a combination of enforcement approaches as well as improving awareness and education and will seek to improve their knowledge of what is happening, where it's happening and who is involved. SAPOL will rely heavily on an intelligence-driven and problem solving approach which not only determines where serious crashes are happening, but also identifies the dangerous drivers who continue to commit offences which make the roads unsafe.

Graduated Licensing Scheme

Licensing age, consumption of alcohol, excess speed, carriage of passengers, and driving at night are all factors which significantly increase the risks for young drivers. Addressing these factors through the Graduated Licensing Scheme (GLS) will have a substantially positive effect on road safety and help young people to drive in the safest way possible. This can set the scene for a lifetime of safe driving behaviours. Good training, practice, road safety awareness and safe

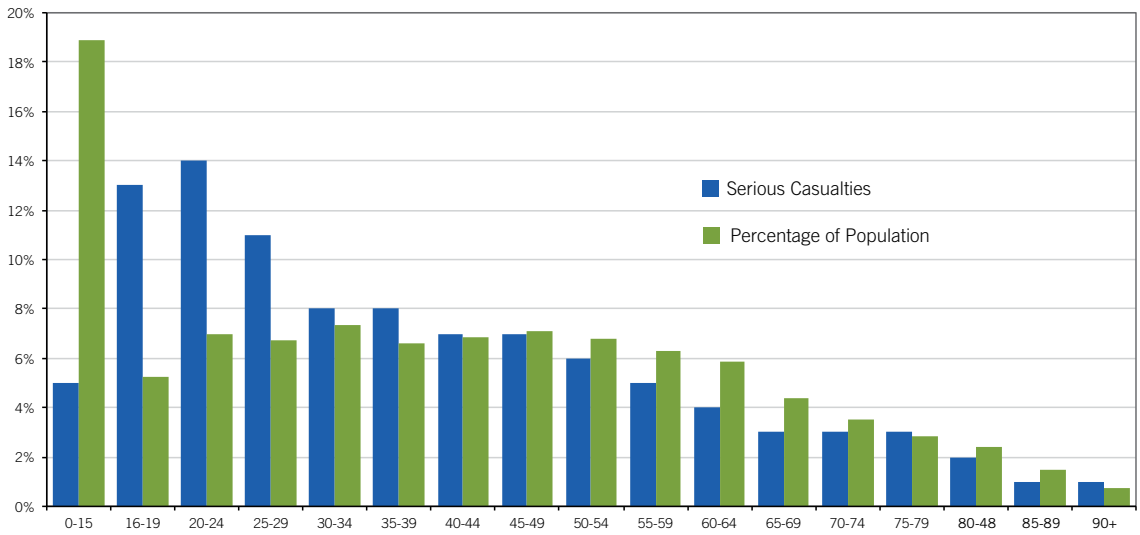
34% of fatally injured drivers and riders had a blood alcohol level over 0.05 (2008-2010).
37% of vehicle occupants killed were not wearing a restraint (2008-2010).

experience for young drivers will also continue to be important. It is generally established in the literature that a young person's brain is still developing and maturing and that this has implications for risk taking. Road safety education programs targeting causal factors of risk taking behaviour show promise, but research indicates that programs that promote early licensing increase exposure to crash risk.

Further enhancements to the GLS for young and novice drivers and motorcyclists alike will be considered as part of this strategy, especially those that have proven benefits and provide for restrictions that are progressively lifted as experience and maturity is gained. We will also continue to increase and improve educational support for young people who enter the licensing system and we will use new media options that give the best chance of engaging young people.

Fatigue has been identified as a major factor leading to crashes, with estimates of the number of crashes involving fatigue varying between 15% and 30%. The only solution to fatigue is rest. Further work needs to be undertaken to highlight the risks associated with fatigue to the driving community. We also need to keep monitoring technological advances that may assist drivers. This will continue to be complemented by infrastructure treatments that are known to be effective such as audio tactile line marking.

Figure 7 Serious casualties by age group, South Australia, 2008-2010



Road users aged between 16-24 account for approximately 27% of those killed and seriously injured but only 12% of the population.

Education

Road safety education is a lifelong learning process linked appropriately to various life stages and contexts. Formally, it includes programs and curriculum that are explicitly delivered in schools. Less formal learning is gained through family, peers, community and media influences, along with awareness developed as a result of personal experiences.

School-based road safety education will continue to be supported according to our current knowledge of best practice. It will be important to provide schools and students with clear information about what road safety education programs are available to them and how those programs measure against best practice principles. This way decisions can be made at the local school level based on sound information and the school context.

Road safety marketing

Road users need accurate, current and well delivered road safety information to be able to play their part in a safe system of behaving responsibly, in accordance with the standards and road rules. If public education campaigns are to succeed we need to provide influential information to our target audience.

MAC will continue to plan, coordinate, implement and evaluate comprehensive road safety marketing programs to support the reduction of road trauma. These will focus on road safety priorities and building community understanding of road safety and support for road safety measures. Mass media campaigns will continue to be coordinated with enforcement and the implementation of new safety measures, so that maximum benefits are obtained. The range of other promotional activity conducted by a variety of stakeholders will be better co-ordinated.

Key strategies for Safer People

- Enhance the Graduated Licensing Scheme to further protect young road users.
- Reduce the involvement of alcohol and drugs and non-restraint use in crashes through increased enforcement measures, integrated with public education campaigns and supported by new technologies.
- Support deployment of enforcement efforts to areas of high crash risk.
- Align road safety education with safe system and best practice education principles.

Performance indicators	Average 2008-2010
Number of young people (16-24) killed or seriously injured	318
Number of drivers/riders killed with BAC above legal limit	22
Number of drivers/riders tested positive for alcohol	12,115
Number of drivers/riders tested positive for drugs	1,181
Number of people killed or seriously injured not wearing a seatbelt	77
Number of new CTP insurance claims*	6024

* Excludes minor claims

Aboriginal road users

Aboriginal people make up 1.7% of the State's population but on average account for 4.6% of the total number of South Australian residents in road crashes in Australia, indicating an estimated fatality rate three times greater than for non-Aboriginal people. Significant numbers of Aboriginal crash casualties are vehicle passengers, and factors for this may include: failure to wear seatbelts, travelling in the rear of utilities or trucks and in some instances, over-crowding of vehicles. Also, almost as many Aboriginal pedestrians as drivers, are admitted to hospital each year. Many crashes involving Aboriginal people are not reported.

Many Government policy statements recognise that driver licensing, custodial sentences, employment and life expectancy for Aboriginal people, whether in urban, rural or remote situations are inextricably linked. Systematically increasing the numbers of Aboriginal people who obtain, as well as retain, their driver's licence through a dedicated Aboriginal Driver Licensing Program would be a powerful start.

These and other approaches, all serve to raise the profile of road safety as a key issue of concern in Aboriginal communities. Infrastructure treatments such as road sealing and maintenance within and around Aboriginal communities, together with improved road signage, help reduce road trauma for all drivers as well as Aboriginal drivers.

Older road users

During the last 10 years 162 people over the age of 70 were killed and 904 seriously injured while using the South Australian road network. Those killed included drivers, motorcycle riders, vehicle passengers, cyclists and pedestrians.

Research has shown that although older drivers are involved in a small number of crashes, these crashes are of higher severity, probably because of the frailty of these older users. Older drivers have been shown to be more cautious and to exhibit less illegal and dangerous driving behaviour than other age groups, and there is evidence that older drivers self-regulate to avoid risky situations and times of day.

Common crash types for older drivers, are right turn crashes and crashes due to disobeying a traffic signal or sign. The use of safer vehicles could provide benefits for older drivers particularly in providing increased protection when a crash occurs. Improvements to the road environment are also important, for example lower speed limits and controlled phases at traffic signals would prove beneficial for older drivers. Improved safety for pedestrians and improved public transport will be important to older drivers, to maintain mobility and access to services, without the need to drive a private motor vehicle.

Young road users

Over the last ten years almost 4,000 young people aged between 16 and 24 have been killed and seriously injured on our roads. Young drivers are over represented in crashes and the resulting deaths and injuries are a serious loss for South Australia. People aged 16 to 19 make up 5% of the population, but in 2008-10 accounted for 13% of fatalities and 14% of serious injuries in South Australia each year. On average, in South Australia 31% of deaths of people aged between 15 and 24 are attributed to road crashes.

It is generally acknowledged that age and inexperience are important factors in young driver crashes. Younger drivers have a significantly higher risk of death relative to the number of kilometres they drive, compared to other driver age groups. Young drivers are at a high risk of crashing and also often have a high exposure at higher risk times of day. The combination of these factors result in young drivers accounting for a significant proportion of the total South Australian road toll.

Research has shown that young drivers are at most risk of crashing during their first year of driving independently. Measures to limit exposure to high-risk situations during this first year have the potential to significantly reduce trauma for younger drivers.

In the early months of driving independently, young drivers are involved in high numbers of right turn and run-off-road crashes which would suggest skill and judgement issues. However, drivers aged 16 to 24 are also involved in crashes involving excessive speed and illegal alcohol levels at much greater rates than older drivers, which would suggest an involvement of greater risk-taking behaviour.

Cyclists

During the last 10 years 37 cyclists have been killed and 631 seriously injured in road crashes on South Australian roads. Seriously injured cyclists were predominantly male and included all age groups. Most bicycle crashes occurred in Adelaide where high bicycle and motor vehicle numbers coincide. Cycling in South Australia is increasing and data shows that of any Australian State capital city, Adelaide has the highest percentage of people cycling to work.

The most effective counter measures to improve bicycle safety are by providing lower speed environments where motor vehicles and bicycles travel at comparable speeds, or by providing separation between vehicles and cyclists where there is significant speed differential. Providing a low speed environment reduces both the likelihood of collisions occurring and reduces crash severity.

Separation can be achieved by having separate operating spaces on-road in the form of bicycle lanes, or through the use of off-

road bicycle paths. New approaches for on-road bicycle lanes are being considered which provide greater physical separation than a painted line. Comprehensive, safe bicycle networks are required so as to meet the diverse needs of the range of people who cycle, from athletes in training to family groups and children riding to school.

Pedestrians

Pedestrians are involved in about 16% of serious casualty crashes in metropolitan Adelaide and 5% of serious casualty crashes in the rest of South Australia. During the last 10 years 153 pedestrians have been killed in road crashes and 1133 seriously injured. Although the number of child pedestrian injuries has reduced in recent years, still more than 9% of pedestrians injured in a road crash are aged under 15. Pedestrian crashes can happen to people of any age or gender with the young and the old being at greater risk. Those who have high blood alcohol levels are also at greater risk of being involved in a crash.

A key aim of the 30 Year Plan for Greater Adelaide is to design our city and suburbs so as to encourage more walking and cycling through a range of measures including more 'walking and cycling friendly' streetscapes and neighbourhoods.

Pedestrian safety can be increased by providing lower speed environments where there is both high pedestrian activity and motor vehicle numbers, and by providing separation between vehicles and pedestrians in higher speed areas.

Motorcyclists

Motorcycling is a high-risk mode of travel with motorcyclists being at more than twenty nine times the risk of being involved in a crash than car drivers. During the last 10 years, 167 motorcyclists have been killed and 1666 seriously injured in road crashes in South Australia. Nearly all of the serious casualties were male and crashes occurred in both metropolitan Adelaide and in rural areas.

In South Australia motorcycle registrations have been steadily growing and in recent years, scooters have become more popular. Motorcycle crashes are also rising due to this increasing exposure. The most common types of motorcycle serious casualty crashes are single vehicle, run-off-road crashes (especially on curves) and multi-vehicle crashes involving right of way violations by other road users. Recent research has shown that new riders and those returning to riding after a number of years, are at a higher risk of being involved in a crash.

Protective clothing has been shown to be beneficial in reducing serious injuries in motorcycle crashes. Highly conspicuous clothing and daytime headlights use have also been shown to be useful in reducing crashes, by assisting other road users to see motorcycles before a collision occurs. International research is showing safety benefits from fitting motorcycles with anti-lock braking systems (ABS). There are also a range of infrastructure treatments that can assist motorcyclists.

Heavy vehicle drivers

Heavy vehicles are involved in 14% of fatal crashes and 7% of serious injury crashes on South Australian roads. The crash rate per kilometre for heavy vehicles is lower than for other road user types, but because of the high kilometres travelled and the high severity of crashes, they are significant contributors to the total cost of road trauma. Just over half of heavy vehicle serious casualty crashes occur in rural areas. Most heavy vehicle serious casualty crashes involve rigid trucks or semi trailers with only small numbers of B-Doubles, road trains and buses involved.

In fatal crashes involving a heavy vehicle 22% of those killed are truck occupants. One contributor to these deaths is the low use of seatbelts by truck drivers with some studies finding wearing rates as low as 10%. Speed and fatigue have also been identified as key contributors to heavy vehicle crashes, with speed surveys showing high numbers of heavy vehicles travelling above the posted speed limit.

Vehicle technology has the potential to significantly improve heavy vehicle safety. Technologies such as intelligent speed adaptation, seat belt monitoring and advanced emergency braking systems would all be expected to reduce heavy vehicle crashes, as would the increased use of telematics to monitor vehicle and driver behaviour.

High risk and recidivist drivers

A small group of drivers are at higher risk of being involved in a crash because of the choices they make. These include motorists who drive with high BAC levels or when affected by drugs, those who frequently drive at inappropriate speeds and those who drive when not wearing a seatbelt. Driving while disqualified or unlicensed is linked to all of these behaviours.

Targeted enforcement and related road safety marketing are the key measures used to reduce the incidence of high-risk behaviours. These measures increase the awareness of enforcement and also the actual likelihood of offenders being caught. The willingness of high-risk drivers to continue to drive while disqualified is a major challenge in developing effective countermeasures. Loss of licence is the usual deterrence to continuing to offend but is obviously ineffective for those road users who do not value their licence. Use of automatic number plate recognition may increase the detection of unlicensed drivers but further work is required to develop other effective countermeasures.

In the longer-term, vehicle technology may be the best answer to reducing high-risk driving. Alcohol interlocks and mandatory intelligent speed adaptation for recidivist offenders have the potential to significantly reduce the two most frequent high-risk behaviours.

MANAGING FOR RESULTS

This strategy sets the direction for key interventions required to reduce road trauma, and the management functions necessary to support delivery of the strategy. The focus in all these aspects is on results that define the quality of the safety culture we have in South Australia, and our preparedness to create a safer community.

To oversee the initial implementation of a Safe Systems approach in South Australia a new Ministerial Safe Systems Task Force will be established under the leadership of the Premier and Minister for Road Safety. This will be supported by stronger coordination and accountability mechanisms for relevant heads of departments and a stronger connection with road safety stakeholders.

Coordination

The strategy is built on a platform of partnerships and many organisations and individuals will need to work together if we are to achieve its goals. Delivering reduced road trauma will require significant commitment by all levels of Government, stakeholders, private industry and the community.

The interconnection between various arms of Government will be important. Local government has an important role to play in road safety, primarily as an owner and manager of 85% of South Australia's road network, but also as representatives of and advocates for road safety in their community. The State Government is responsible for funding, planning, design and operation of the State's arterial road transport system, managing vehicle registration and driver licensing, road user education and enforcement activity and overall coordination and management of road safety. The Commonwealth Government plays vital roles in funding infrastructure programs for both local and State road networks and in regulating safety standards for new vehicles.

A closer partnership will be built between State and local government with the necessary support and tools provided for local government to develop local road safety plans in conjunction with their communities. Stronger relationships also need to be established with the wide range of private stakeholder interests. Longstanding business interest in reducing losses through improving safety may for example, be the platform for a stronger road safety presence within the community.

Promoting the strategy

The successful implementation of the strategy will require an ongoing and active partnership with the community. Measures identified in the strategy will need to be clearly explained and promoted to the community to encourage public discussion and understanding of the Safe System approach. Better information and tools will be provided to local councils, community road safety groups and other community and service groups which each have major roles to play in identifying and increasing the understanding of road safety issues in their communities.

Providing the resources

In order to succeed, the strategy will require additional investment, reallocation or reprioritisation of resources. This was recognised in the development of the National Road Safety Strategy 2011-2020. South Australia will continue to play its part in infrastructure funding and will

lobby for increased Commonwealth funding for safety programs on national highways and local road networks as a vital contribution to meeting our road safety targets.

Legislation, regulation and standards

Changes in legislation and regulation will be required to improve road safety performance and areas for legislative change will be identified in the associated action plans. Appropriate standards underlie safe road and vehicle design and ongoing development of these national standards will continue throughout the life of the strategy. South Australia will actively participate in the cooperative development of national licensing schemes for novice drivers, motorcyclists and older drivers.

Research and development

If we are to develop a truly safe road transport system we need to understand where the system is failing. State investment in local research and development will continue to be a priority. It will increasingly focus on understanding the links between road safety and other community objectives such as sustainability, mobility, amenity and liveability.

Knowledge transfer

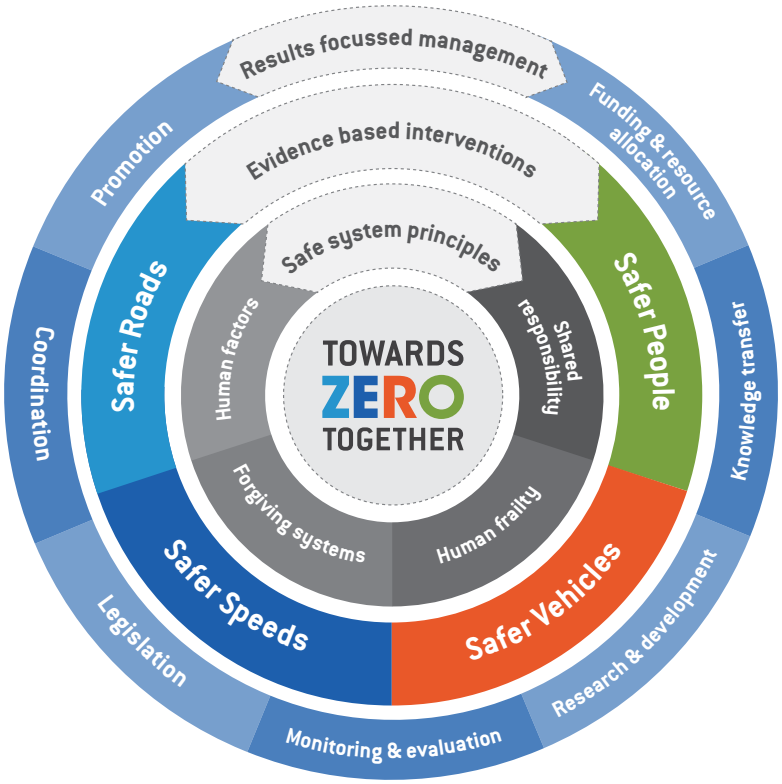
There is an extensive body of road safety research which needs to be better understood and applied throughout the community. Current processes for ensuring that existing knowledge is effectively transferred between key stakeholders will be strengthened in order to maximise the opportunity for effective initiatives to be implemented.

Monitoring progress

Regular public monitoring and reporting of performance indicators will assist organisations to evaluate which of their programs are working and where modifications or changes in resource levels may be required. A review of the strategy will be undertaken in 2014 to assess progress and make any necessary adjustments.

Progress towards meeting the targets will be reported on a quarterly basis.

Key performance indicators differentiated by road and crash type, travel speed, vehicle safety technology, as well as behavioural measures such as drink driving and restraint wearing will allow us to regularly assess the progress of our actions in these different areas. The delivery of key programs will also be reported.

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