TOWARDS ZERO 2016//2020

VICTORIA'S ROAD SAFETY STRATEGY & ACTION PLAN

TOWARDS ZERO

VICTORIA
State Government

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Message from the Minister

When it comes to our own families and friends, we all want zero road deaths.

Minister for Road Safety
Luke Donnellan

Towards Zero involves the biggest effort ever to make rural roads safer, because a disproportionate number of country people are being killed.

Every two hours in Victoria, someone is killed or suffers life-changing injuries from a road crash.

People on country roads are being killed at almost four times the rate of people using city roads.

If we accept this "road toll" as the price of a rural lifestyle or getting from A to B, another 2,500 people will die in the next 10 years, and 50,000 people will be hospitalised with serious and life changing injuries.

It doesn't have to be this way and as Victoria's first dedicated Minister for Road Safety, I'm determined to do something about it.

Towards Zero is a bold new strategy and action plan that involves all of us – governments, communities, vehicle manufacturers, road authorities, transport companies and everyone on the road – getting serious about saving lives.

The strategy and action plan will bring together all that we know about how and where people are dying on our roads, with the best science, technology and feedback from the community to help bring down road deaths.

The Andrews Labor Government will invest over $1 billion to implement *Towards Zero*, with the aim of achieving our immediate five-year goal of reducing road deaths to 200 or below by 2020.

We also aim to reduce serious injuries by 15 per cent over this period and thereby improve the quality of life for thousands of people who survive traumatic road crashes.

A progress review will be conducted in early 2018 to ensure we are on track to achieve our ambitious targets.

Towards Zero involves the biggest effort ever to make rural roads safer, because a disproportionate number of country people are being killed.

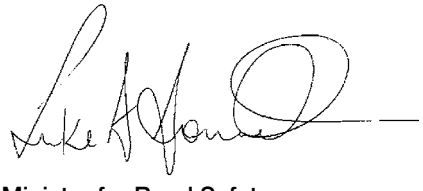
It embraces new technology that will make our cars, roads and our own driving safer. It puts our enforcement effort into the places we know will save the most lives. And it begins by investing $100 million to make cycling and walking an easier and safer way of getting around.

Nothing short of a culture change will get us *Towards Zero*. That's why we've been talking face to face with Victorians about possible solutions, and local and global road safety experts about what they know works.

We've heard clearly that we need consistent and locally relevant ways to share knowledge about how safe our roads are, how speed limits are set, how roads can be made safer, and how to encourage more people to behave safely on the roads.

This is only the start of a road safety effort that will motivate everyone to do what can be done to save lives. Whether it's buying the safest car we can afford, being less aggressive behind the wheel, making sure we separate drinking from driving, or considering the safest cycling route to work, we need Victorians to help one another to get home safely.

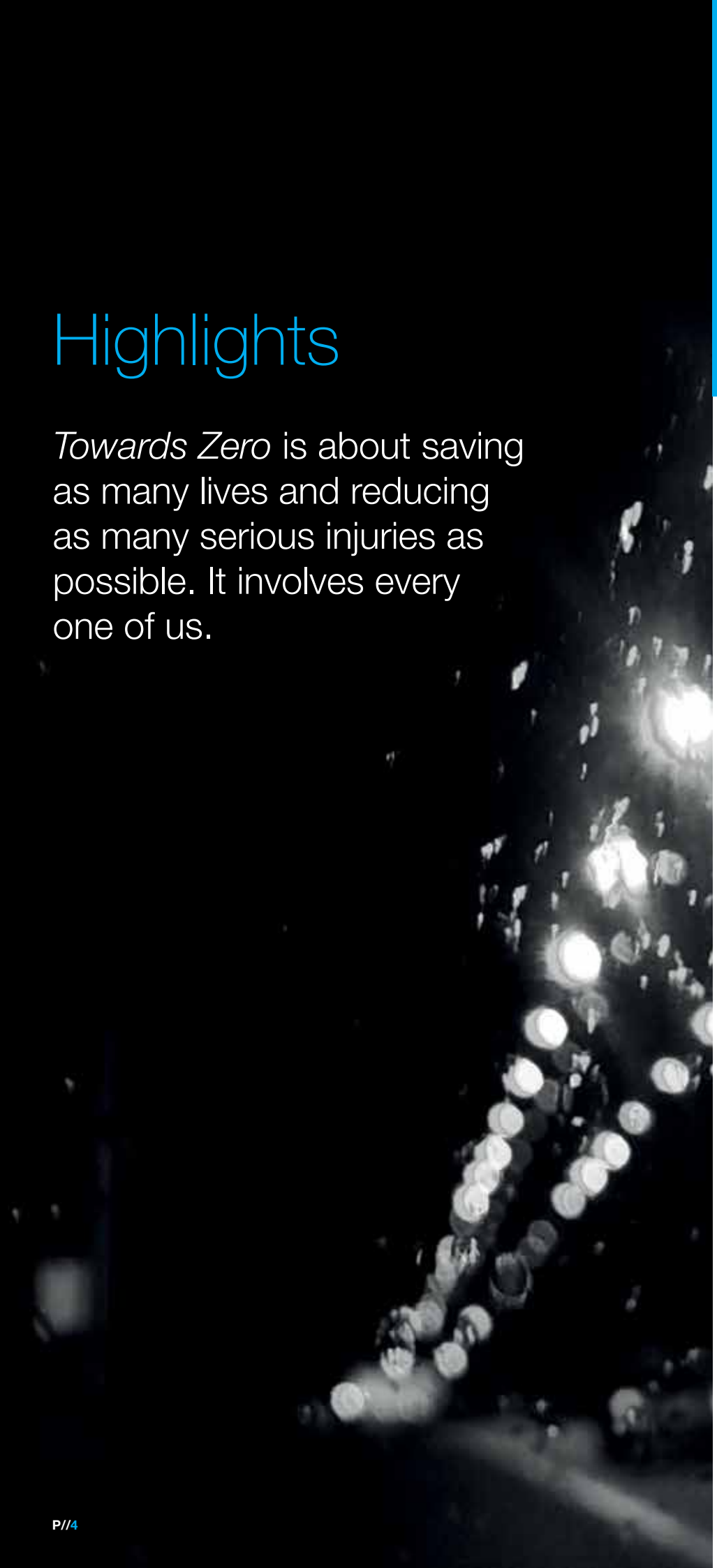
Together we can all work *Towards Zero*.



Minister for Road Safety
Luke Donnellan

Highlights

Towards Zero is about saving as many lives and reducing as many serious injuries as possible. It involves every one of us.



For our part, the Andrews Labor Government is investing a record $1.1 billion to implement *Towards Zero*. Key investment components include:

- $340 million directly towards safety infrastructure improvements on rural and regional roads
- $380 million on improvements to the road network across metropolitan and regional Victoria under the Safe System Road Infrastructure Program (SSRIP)
- $60 million to support safer intersections and traffic calming treatments at locations in the local street network
- $100 million on improved infrastructure for pedestrians and cyclists
- $146 million to implement the Government's Young Driver Safety Package election commitments, including additional booze and drug buses and drug testing
- $26.59 million on a range of vehicle, behavioural and research and safety development measures to improve road user safety.

A review in early 2018 will assess if road trauma trends are improving and consider what more could be done to achieve our ambitious target of fewer than 200 deaths by 2020.

There will be more effort where most fatalities happen – on country roads.

Over the next five years we will be making the largest investment ever to make rural roads safer through:

- Barriers or tactile centre and edge lines on more than 2,500 kilometres of the riskiest parts of the high-speed rural road network
- More motorcycle friendly road barriers on high-risk motorcycle routes
- The Towards Zero public engagement program in rural and regional areas to support safer speeds.

There will be a focus on the people most likely to become road casualties – younger and older Victorians, motorcyclists, cyclists and pedestrians by:

- Doubling the hours of supervised night time driving required by L-platers – going from 10 to 20 hours
- On-line medical reports to enable timely and high-quality assessments to help keep older drivers safe on the road
- Mandatory training for motorcyclists
- Incentives for the sale of motorbikes with ABS braking
- Dedicated cycling and pedestrian paths
- Traffic calming and pedestrian refuges to keep cyclists and walkers safer on local and busy streets.

New technology to make our cars, roads and our own driving safer:

- All drink drivers caught over the limit will have to drive vehicles with alcohol interlocks
- Police will more than double roadside drug testing to 100,000 a year
- The Government will work with developers to trial passive alcohol sensors in Victoria
- A groundbreaking trial of smart cars and new vehicle technology will support their uptake
- The Victorian Government will require its fleet to have the best available safety features as part of its overall purchasing policy.

A positive approach to support local communities and drive local change:

- A new and intensive community engagement campaign will help lift understanding of the impact speed has - from the small time savings to how vulnerable our bodies are to vehicles travelling at speed
- A fresh approach to advise drivers and riders who travel over the limit in new speed zones on key major routes about why safer speeds are important
- Localised road safety campaigns to bring new voices to road safety issues.

Road trauma hurts us all

In 2015, 252 people died on Victorian roads and, over 2014/15, the lives of another 4951 people were turned upside down after surviving crashes, many with life-changing injuries.

Along with the irreplaceable loss of life, the physical and mental trauma and emotional heartbreak, preventable road crashes conservatively cost the Victorian community more than $3 billion a year.

Victoria's population is growing, meaning more people and traffic are sharing the roads.

In the next five years, 1,250 more people could die, and more than 25,000 people will be hospitalised, many with traumatic injuries if nothing changes.

DANIELLE'S STORY:

Danielle lost 'the best big brother you could ever ask for.' She reminds drivers to 'think before you get into the car – you're not invincible'.

JASON'S STORY:

Jason broke 72 bones and was left a double amputee after his motorbike accident. He encourages other riders to 'slow down and think about what you're doing'.

MELANIE'S STORY:

Melanie, whose sister was killed by a drink driver, pleads 'if you're drinking get a cab, it's cheaper than a life.'

Moving ahead

The Andrews Labor Government has set a target to reduce deaths to below 200 in the next five years as its first steps *Towards Zero*.

The immediate goal is to reduce Victoria's road toll to fewer than 200 deaths by 2020 and reduce serious injuries by 15%.

We also want much better outcomes for people who survive serious crashes. This is the "hidden road toll", affecting about 5,000 people a year whose lives are suddenly upended by the physical and mental trauma of road crashes.

Victoria is one of the best performing states in Australia when it comes to road safety, but if we had the same trauma rate as the UK or Sweden, 80 fewer people would be killed on our roads each year.

For the first time, Victoria has a dedicated Minister for Road Safety to drive generational change, with a big emphasis on establishing safer driving behaviours from a young age to keep people safe for life. From the Starting Out Safely program for pre-schoolers, to Bike Ed for primary school students and Fit to Drive workshops for Year 11 students, Victoria is building a comprehensive program for road safety education.

A state-wide network of community groups under a VicRoads community partnership program are addressing local community safety problems with local solutions, further supported by the TAC *Towards Zero* Grants Program.

The Andrews Labor Government is building strongly on this approach with the development of the $146 million Young Driver Safety Package which includes:

- $80 million to establish the world's first dedicated Road Safety Education Complex
- $24 million for a practical safe driving program for secondary school students
- $16 million to help disadvantaged teenagers get the experience and support to meet the mandated 120 hours of driving practice with the L2P program and
- incentives for young drivers who have an unblemished safety record.

Parents of primary school children are being targeted for the first time in a new campaign to highlight the driving habits that children might pick up from the back seat.

With illicit drugs involved in fatal crashes and the increasing use of ice in the community, the Government has invested $17.9 million for 10 new purpose built booze and drug buses and for Police to conduct 100,000 drug tests each year.

With increasing numbers of cyclists and pedestrians on the road, $100 million will be invested to create a network of paths for cyclists and pedestrians to improve safety.

The removal of 50 of Melbourne's congested and dangerous level crossings will make many roads safer.

All of these initiatives go towards building a safer road system. But we can and will do more.

Towards Zero is a bold and fresh approach to improving every part of the road system.

What is different about *Towards Zero?*

Striving for a zero road toll is not a new goal – but the way we're going about it is. This strategy and action plan zeroes in on our biggest road trauma challenges, having studied crash trends from multiple angles.

Experts in health and human behaviour, justice, police, and road and traffic authorities along with overseas experts from places where trauma is low have come together to share their knowledge of what works and what doesn't.

This specialist knowledge has been overlaid onto the Victorian crash data of every fatal and serious collision since 2010.

We then talked about the problems and possible solutions with Victorians across our cities, towns and suburbs, about what can realistically be done to save lives.

Saving more lives depends on the community understanding the challenges and embracing change.

Victoria has led the world before in introducing mandatory seat belts, random breath testing, the bike helmet law and safety cameras that helped bring down the road toll from 1,061 deaths in 1970 to 252 in 2015. Now we must lead again.

With our population growing and ageing, and more cyclists, pedestrians and drivers sharing the roads, Monash University Accident Research Centre (MUARC) forecasts that trauma levels could rise in the next five years unless we take bolder approaches to road safety.

Towards Zero is a fresh approach with three guiding truths at its core:

- We all make mistakes, but no-one should die because of them
- Our bodies can only withstand so much crash force before being seriously injured or killed, with some people being more vulnerable
- Everyone shares the responsibility to make our road system safer.

The immediate goal is to reduce Victoria's road toll to fewer than 200 deaths by 2020 and reduce serious injuries by 15%.

Actions in this strategy will help achieve major and sustained trauma reductions in the future with:

- improvements to road and roadside infrastructure
- community engagement on speeds that better protect people should they or someone else make a mistake
- efforts to improve behaviour, and
- the uptake of safer vehicles.

By continuing to share with the public what we know and what is possible, Victoria is moving *Towards Zero.*

Safe System Approach

Towards Zero **is what the road experts call a "safe system" approach. It invests in safety at the most dangerous areas in the road network; supports people who are much more vulnerable to become casualties on certain roads at certain speeds at certain times of day; and builds in second chances for when we inevitably slip up.**

So if a distracted parent turns their head for a split second to see why their child is crying in the back, tactile edge lines or a lane departure warning device may alert them in time to recover. Where there is no time to recover, a roadside barrier can prevent them from hitting another vehicle head-on or running off the road, hitting a tree and being killed.

Towards Zero **accepts that people will make mistakes but no one should die because of them.**

Making rural roads safer

Death rates on country roads are four times higher than on metropolitan roads.

Nearly half of all road fatalities in Victoria happen on 100 and 110 km/h rural roads, killing a disproportionate number of country people.

Two out of three people killed or seriously injured on country roads are country people.

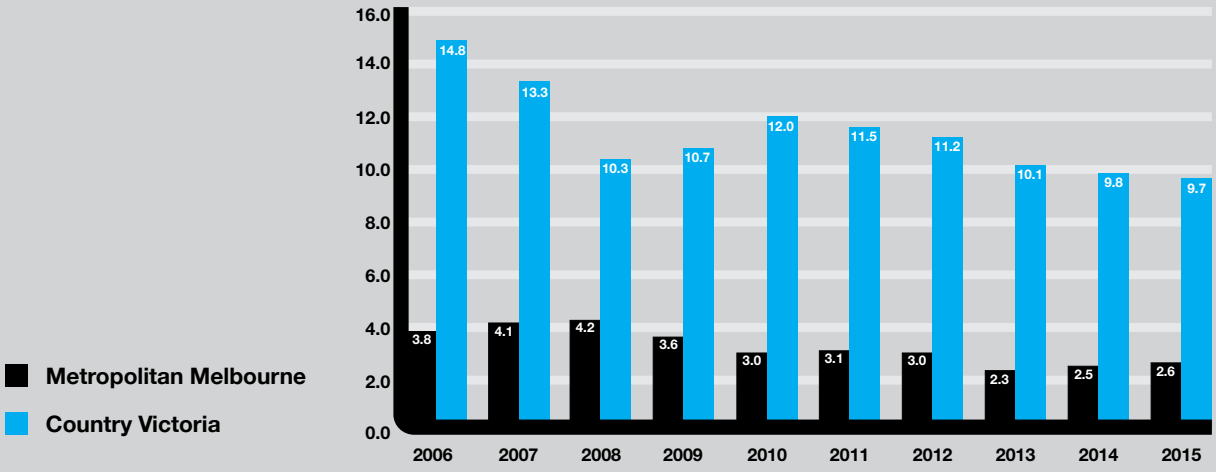
By mapping the fatality figures over four years, we know that the biggest problems are when vehicles run off the road or hit other vehicles head-on.

In 64% of these lethal crashes, vehicles have crossed the centre line of the road.

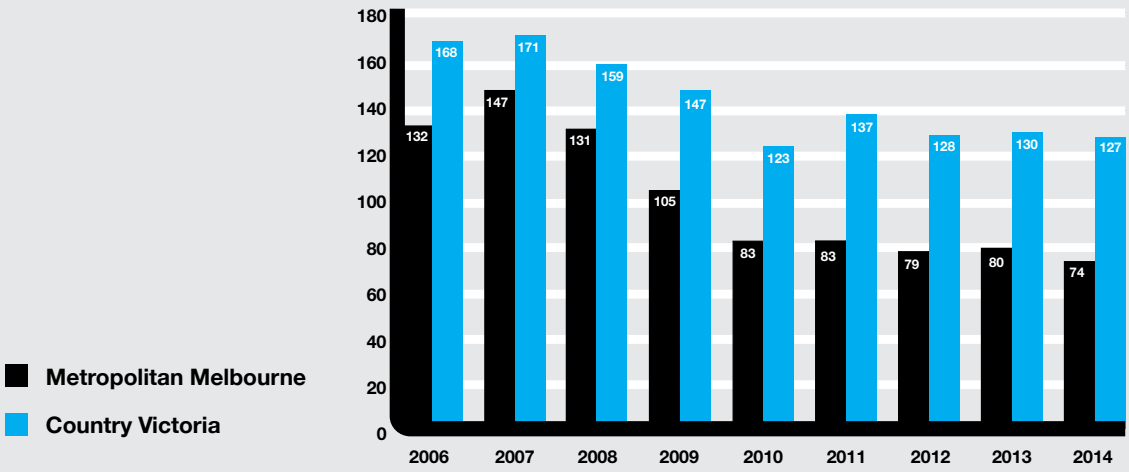
High speed rural roads account for:

- 44% of deaths and 20% of serious injuries
- 121 deaths and 1,036 serious injuries a year.

Fatality rates per 100,000 head of population



Serious injury rates per 100,000 head of population



Making rural roads safer

What we will do

An unprecedented initial investment of $340 million will be dedicated to saving lives on risky high-speed rural roads. This will prevent and reduce road trauma where it happens most with effective road safety interventions.

While infrastructure investment has been targeted to local black spots periodically in the past, there has never been a holistic approach of this scale, rigour or reach.

More flexible barriers

For every 100 km stretch of high-volume, high-speed road in Victoria, 17 people are killed or seriously injured every year.

Flexible roadside and centre line barriers have been shown to reduce run-off-road and head-on crashes by up to 85%.

Barriers are important for safety because most people who die on these roads leave the road or hit another vehicle head-on. These barriers will be installed on the riskiest high-speed rural roads where the volumes of traffic are highest, to save the most lives.

On high-risk motorcycle routes, padded posts and under-run protection will be used to make barriers motorcycle friendly.

Safety in the middle

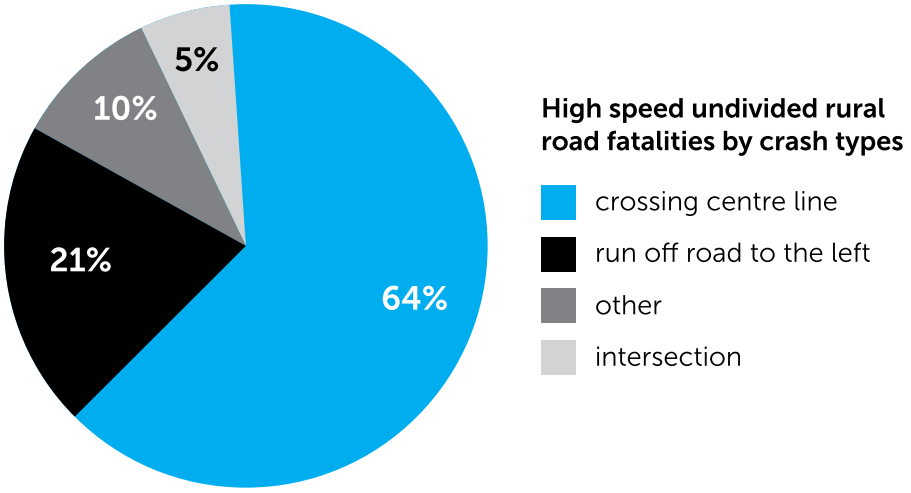
Strong and consistent feedback from Victorians is that they value tactile edge-lines to help stay alert on the road. The Government will invest more on tactile edge-lines, as well as tactile centre-lines, knowing that crossing the centre road strip is involved in more than six out of 10 rural tragedies.

Wide tactile centre and edge-lines and more road safety measures on the most dangerous curves along 100 km/h roads with moderate traffic volumes will further help save lives.

For it is these roads that are killing or seriously injuring 10 Victorians a year, on every 100 km stretch.

Flexible roadside and centre line barriers have been shown to reduce run-off-road and head-on crashes by up to 85%.

Crossing the centre road strip is involved in six out of 10 tragedies.



High standard & primary link roads

Safer travel speeds

There is an extensive network of narrow, lower quality, high-speed roads spread across rural Victoria that provide vital local connections and help rural economies thrive. But for every 100 km stretch of this type of road, three people will die or be seriously injured every year. Building local knowledge of the danger of these roads will help people understand the need to drive at safer speeds.

More effective road safety camera operations

Victoria will continue to operate a comprehensive road safety camera program that uses different camera types on different road environments. Intersection cameras are placed at known blackspots. Fixed freeway cameras, including static and point to point cameras, reduce crashes on high volume and high speed roads. Mobile cameras operating anywhere at any time provide across-the-board speed deterrence.

These different camera operations have been remarkably effective in reducing road deaths and injuries in Victoria over the long term. Evaluations by Monash University Accident Research Centre show that casualty crashes are reduced by 21-32% in Victoria by mobile safety cameras. Overseas experience also shows reductions in casualty crashes following installation of point to point safety cameras. As such, camera operations are a major plank of this Strategy.

Over the life of this Strategy we will investigate new, more effective camera technologies, and ensure all cameras are operated in a manner that maximises safety for all Victorians.

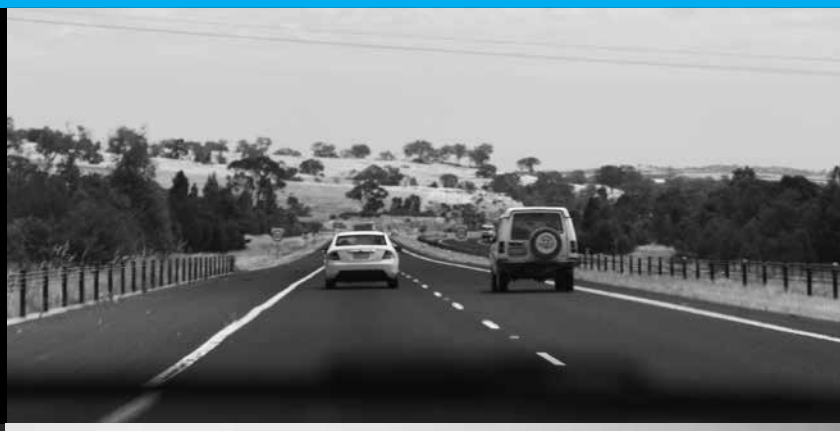
Making rural roads safer will begin with addressing sections of 20 of the State's highest risk road segments:

Princes Hwy West	Little River to Corio
Geelong Ring Rd	Corio to Waurn Ponds
Bass Hwy	Lang Lang to San Remo
Princes Fwy East	Traralgon to Sale
Mornington Peninsula Fwy	Mount Martha to Rosebud
Princes Fwy East	Longwarry to Traralgon
Calder Fwy	M80 Ring Rd/Keilor Park to Bendigo
Hume Fwy/Hwy	M80 Ring Rd/Thomastown to Wodonga
Western Fwy	M80 Ring Rd/Sunshine West to Ballarat
Goulburn Valley Hwy	Yea to Molesworth
Midland Hwy	Ballarat to Creswick
Anglesea/Great Ocean Rd	Bellbrae to Anglesea
Geelong-Bacchus Marsh Rd	Geelong to Bacchus Marsh
Beechworth-Wodonga Rd	Beechworth to Yackandandah Rd
Melbourne-Lancefield Rd	Sunbury to Lancefield
South Gippsland Hwy	Leongatha to Meeniyan
Midland Hwy	Shepparton to Byrneside
Paynesville Rd	Bairnsdale to Paynesville
Maffra-Sale Rd	Sale to Maffra
Princes Hwy East	Sale to Bairnsdale

High speed, high volume roads

For every 100 km stretch of this type of road in Victoria, 17 people are killed or seriously injured every year.

Flexible roadside and centre-line barriers will help reduce run-off-road and head-on crashes by 85%.



High speed, medium volume roads

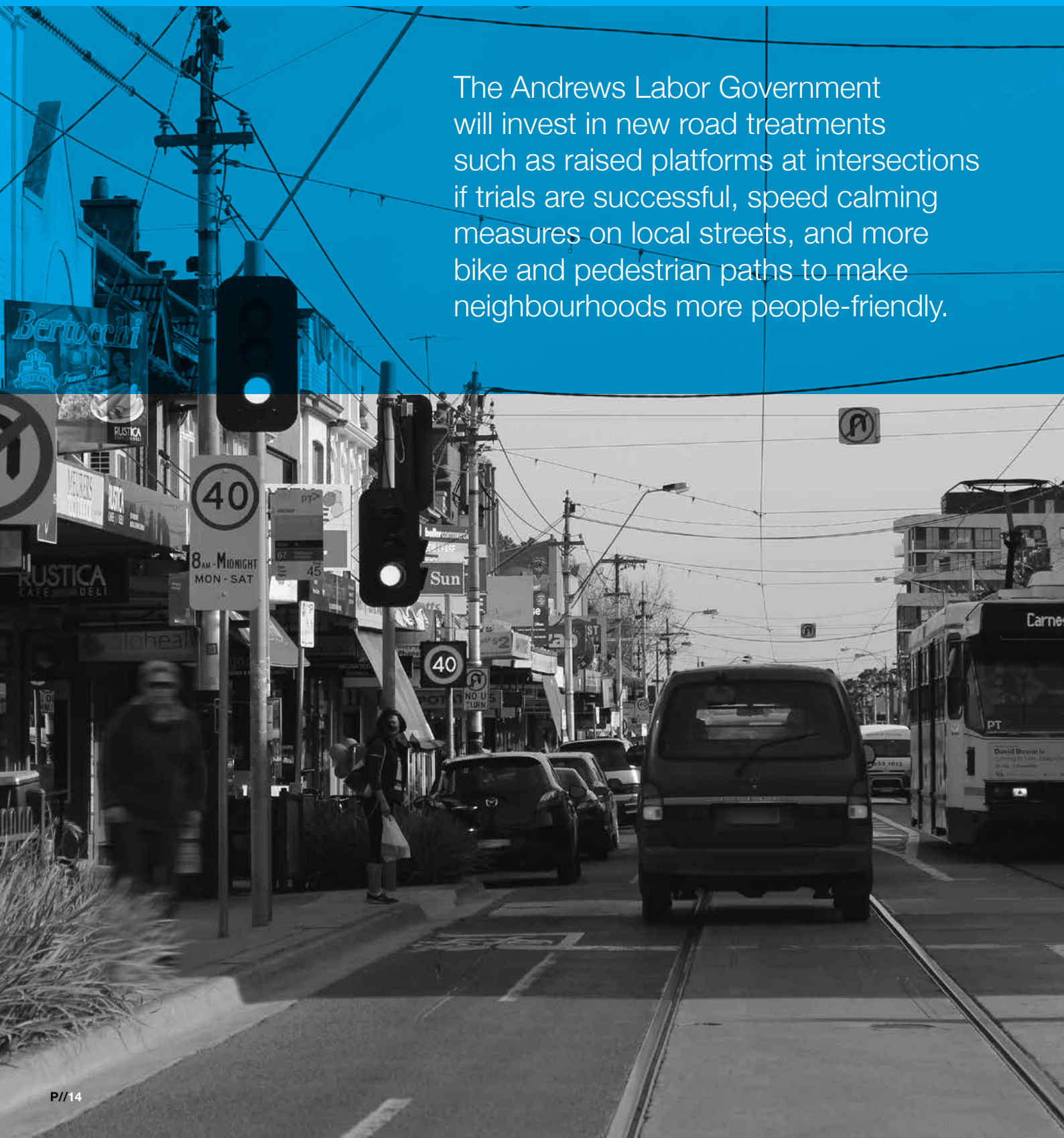
Ten people are killed or seriously injured every year for every 100 km stretch of this type of road.

More wide tactile centre and edge-lines, especially on dangerous curves, will help save many lives.

High speed, low volume roads

These narrow and low quality roads are the lifeblood of rural Victoria, but they claim or seriously injure three people for every 100 km stretch.

Building local understanding of the need for safer speeds on these roads is essential to reducing country road deaths.



The Andrews Labor Government will invest in new road treatments such as raised platforms at intersections if trials are successful, speed calming measures on local streets, and more bike and pedestrian paths to make neighbourhoods more people-friendly.

Making local and busy places safer

Cyclists and pedestrians are the most vulnerable in busy areas, representing almost one in five serious injuries.

We know that:

- 60/70 km/h intersections are where 12% of deaths and 23% of serious injuries happen
- 40/50 km/h local streets are where 9% of deaths and 18% of serious injuries happen.

Our bodies cannot withstand high speed impacts and we are at greater risk of death and injury if hit at impact speeds above 30km/h. Children and older people are most at risk if hit above those impact speeds.

What we will do

The Government will invest $60 million to support safer intersections and traffic calming treatments at locations in the local street network.

There will be a stronger focus on making busy areas safer for people, whether they are travelling on two wheels or four, or by foot, to help save lives and prevent injuries.

The Government will invest in trialing treatments such as raised platforms as at the Surf Coast Highway and Kidman Avenue in Geelong. Continuation of these trials will be dependent on safety outcomes and community feedback. The Government will invest in other traffic calming measures on local streets such as mini-roundabouts and kerb outstands, along with more bike and pedestrian paths to make neighbourhoods more people-friendly.

At community forums held across Victoria, there was strong support for measures that encourage slower speeds in high pedestrian and cycling areas. Community understanding of what speeds the human body can tolerate in a crash is an important start towards safer streets.

Making intersections safer

Signalised intersections and other dangerous intersections will be targeted by:

- innovative safety treatments and upgrades such as raised platform treatments, subject to successful trial, and roundabouts to create safer traffic speeds and manage traffic, pedestrians and cyclists more safely when passing through them
- installing and upgrading safety cameras to reduce serious trauma at risky intersections; speed and red light cameras at intersections have shown a 47% reduction in casualty crashes on the road facing the camera.

Safer speeds on local streets

In partnership with local government, the Government will engage local communities about the need for safer speeds on local streets where a lot of pedestrian and cyclist deaths and serious injuries happen.

Traffic calming measures will also slow down vehicles in local streets, encouraging more people to walk or ride. Over the next five years, local streets will be made safer with further investment in local safety measures.

Kerb outstand

Safer roads for cyclists and pedestrians

The $100 million package of cycling and pedestrian investment will see an increase in separate bike paths and lanes on principal and priority bicycle networks and routes to help protect cyclists from traffic.

Cyclists will also be encouraged to use local, low-speed alternative streets and safe cycling routes rather than major arterials.

Prioritised signalling for bicycles at intersections on key cycling routes will give riders a safer and clearer crossing, without competing with cars.

Pedestrians will also benefit from investment in kerb outstands, mid-block refuges and raised pedestrian crossings making it safer to walk around busy streets.

Where there is high pedestrian and cyclist activity such as shops, town centres and transport hubs, efforts to slow down traffic will help keep people safe.

Using our roads more safely

Some people take more risks on the roads, some people are more vulnerable to crashes, and all of us make mistakes.

That's why understanding people – our frailties and behaviours – is critical to designing a safer road system.

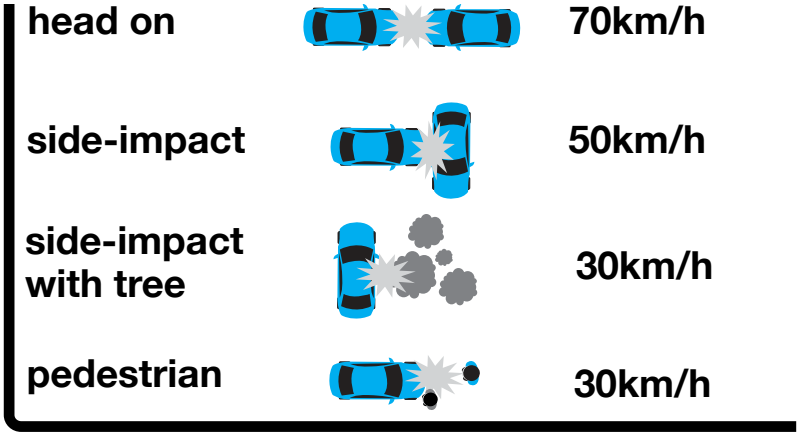
Drink and drug driving, speeding, drowsy and distracted drivers and not wearing seat belts remain deadly problems on our roads.

A lot of Victorians admit to speeding, even though they know it is a major cause of crashes and increases their severity.

We know that:

- Victoria Police report that one in four deaths are linked to excessive speeds
- Around 40% of drivers and riders killed and 28% of those injured have alcohol, illicit drugs or both in their system, and many weren't wearing a seat belt
- Mobile phones and other forms of mobile technology are a growing distraction in cars, contributing to 5% of deaths and 3% of serious casualties in police reports.

Impact speeds above which the risk of death and serious injury escalates



What we will do

A combination of public education, community engagement, enforcement, legislation, behaviour change measures and partnerships with industry and community will help bring about safer roads for everyone.

Making sense of safer speeds

At community forums held across Victoria, there was strong support for measures that encourage slower speeds in high pedestrian and cycling areas.

Community understanding of what speeds the human body can tolerate is a start towards safer speeds.

A new and intensive community engagement campaign by the TAC will educate Victorians about the impact that speed has on our lives. From the small time savings from speeding to the devastating impact that speed can have on our vulnerable bodies in a crash, the community campaign will involve TV, on-line and print media explaining the need for safer travel speeds.

Supporting drivers to travel at safer speeds

Supporting drivers to stay at safe speeds by understanding the reasons for local speed limits is behind a fresh approach to address speeding.

VicRoads and the TAC will proactively advise drivers and riders who travel over the limit in new speed zones on key major routes about why changes were made, and the importance of staying within the speed limit. Providing advice, such as through advisory letters, is part of a positive approach to education and information to build community understanding about safer speeds.

Using our roads more safely

Staying alert and alive

We will do more to support drivers to appreciate the role speed plays in causing death and serious injuries while making it easier to prevent and curb bad habits.

A smart phone app, with speed alerts when drivers exceed the speed limit, will be available for free download to make it easier for drivers to travel at safer speeds. Drivers who have been caught speeding will also be strongly encouraged to use speed alert technology.

Speed enforcement will help to protect road users from drivers who choose to speed.

Traffic calming explained

A number of engineering treatments, such as roundabouts, gateways at shopping centres, pedestrian crossing treatments and raised platforms can create safer speeds as vehicles approach dangerous intersections, to keep people safe.

More investment in low cost traffic calming measures will be made to help people understand and adjust their speed for the mix of people using the road, to suit local conditions as well as the safety standard of the road.

Local champions

'Local champions' will be supported to encourage public road safety debates and add new voices to shape local solutions.

The Towards Zero public engagement program in rural and regional areas will further support local ownership of the road safety challenge, while a TAC mass media campaign will help all Victorians make sense of the need for safer speeds.

VicRoads and local governments will work more closely together to increase community ownership and support for safer road initiatives and make changes tailored to local conditions and safety risks.

Alco-gate trial part of drug and alcohol crack down

The presence of illicit drugs found in drivers killed on Victorian roads has grown and drink driving remains a deadly problem.

A revised enforcement strategy will explore new ways of expanding the reach and deterrence effect of alcohol and drug testing in rural and metropolitan areas.

Ten new purpose-built booze buses will more than double the number of drivers drug tested to 100,000 tests a year, making it much more likely law-breakers will be deterred or caught.

To prevent more people driving their car when they are over the limit, 'alco-gates' will be trialled. This will involve a trial of alcohol sensors linked to exit boom gates within a car park.

Interlocks for all drink drivers

Interlocks prevent a car from starting if a driver has been drinking. A significant proportion of detected drink drivers continue to offend. To help break the cycle, all drink drivers over the legal limit, upon being re-licensed, will have to drive vehicles with alcohol interlocks to separate their drinking from driving. This was strongly supported at community consultations around the State and through on-line feedback.

A whole package of measures will be rolled out for drink drivers including assessment and screening for alcohol problems, more effective behaviour change programs and investigating a possible requirement for repeat offenders to have a zero blood alcohol limit for life.

Separating drinking and driving

A strong public engagement program will promote the benefits of all drivers separating drinking from driving. Planning ahead how to get home from a night out will be part of a broader public campaign for safe journeys.

Reducing heavy vehicle crashes

Heavy vehicles are involved in 18% of road deaths, and increase the risk of serious trauma for other road users. Rear-end crashes are the most common, followed by intersection crashes.

The Government will work with the transport industry to promote a raft of best management practices to help reduce heavy vehicle crashes, including management of driving hours, drug and alcohol use and monitoring of speeds.

VicRoads and Transport Certification Australia are assessing innovative proposals from the heavy vehicle, freight and logistics sector to trial technologies that will make the roads safer, while the Government is planning a major infrastructure investment to redirect thousands of trucks away from local streets in the inner west of Melbourne.

Less conflict

Ten motorists were severely injured after rear-end collisions involving trucks, side-swipes and run-off-road crashes at Glenrowan in Victoria's north-east.

The mix of fast cars on the Hume Highway merging with slow-moving trucks from the major service centre was a major safety problem.

Now an on-ramp radar traffic detector, linked to an illuminated sign advises motorists on the freeway to expect "Merging Traffic Ahead", and cars are moving to the right lane well ahead of the dangerous merging point.

Safer cycling

Relatively simple road treatments can make all the difference to keeping cyclists safer.

Once a feared stretch for 'car-dooring', busy Glenferrie Rd in Hawthorn is now a preferred bicycle riding zone. It took a 60cm-wide green strip that resulted in the number of drivers encroaching on the bike lane to drop dramatically, and so allowing riders to travel at a safer distance from parked cars.

The Beach Road and Balcombe Road roundabout at Black Rock is a black spot for cyclists. Now illuminated warning signs, triggered by cyclists riding along Beach Rd, allow drivers to react much earlier to their presence and cautiously enter the roundabout.

$100 million is being invested to create safer roads for cyclists and pedestrians.

Using our roads more safely

Safer motorcyclists

Motorcyclists are highly over-represented in road trauma and severe injuries. Although motorbikes are only 5% of registered vehicles, they are involved in 16% of deaths and serious injuries on the roads. Tragically, the average annual road toll for motorcyclists over the last few years has been 33 deaths. A further 870 were left with serious injuries on average each year, many life changing.

The Government will promote and incentivise the sale of ABS brakes on motorcycles to help reduce casualty crashes by up to 40%.

New mandatory training and testing requirements for novice motorcyclists will form part of a Graduated Licensing System for safe riding. A hazard perception test is one possible component of the new safety regime.

Promoting the use of protective clothing and footwear will also help reduce the impact of crashes. A 2012 Motorcycle Monitor found that only 68% of active riders owned a complete set of safety gear (helmet, riding gloves and boots, jacket and pants). While the gear can be expensive, the importance of protection needs to be part of every motorcyclist's effort to save their skin.

On high-risk motorcycle routes, padded posts and under-run protection will be used to make barriers motorcycle friendly.

Safer young drivers

Young drivers are one of the highest risk groups on our roads and night time is when half their crashes happen.

A quarter of the road toll results from crashes with young drivers – 55 people die and 1,245 are seriously injured each year in crashes with drivers under 25.

Inexperience, lifestyle factors, risk-taking and using older, less safe cars make young people far more vulnerable to crashes and injury.

The Government is investing in generational change to establish safer driving behaviours from a young age to keep people safe for life.

This includes $80 million to establish the world's first dedicated Road Safety Education Complex, $24 million for a practical safe driving program for secondary school students, $16 million to help disadvantaged teenagers get the experience and support to meet the mandated 120 hours of driving practice and free three-year licences for young drivers who are offence-free at the end of the P-plate phase.

The next steps in supporting safer young drivers will focus on the importance of safe driving at night, when half of serious crashes happen. Doubling the night time supervised driving hour requirements for learner drivers – going from 10 to 20 hours – is part of a new strategy for night driving.

Newly licensed P1 drivers will also be encouraged to keep their late night driving to a minimum, given the elevated risks, until they build up more driving experience.

Safer drivers over 60

Drivers over 60 are the fastest growing age group of drivers on the road and this partly explains recent growth in their serious injuries. Drivers over 60 are involved in 19% of deaths and 17% of serious injuries, and are more likely to crash in 60 and 70 km/h zones.

Important conversations are needed to encourage drivers to self-regulate or talk to health professionals about their ability to drive, whether some restrictions are appropriate, or whether they should retire from driving and get support for alternative transport. Communication tools and information that support drivers, families and health professionals reach sensible decisions will help.

An online medical report form will be introduced to help VicRoads and health professionals improve the quality and timeliness of fitness to drive assessment processes for older and other drivers in accordance with the national medical standards for licensing.

The benefits of drivers over 75 presenting to a customer service centre for renewing their driver licence will also be explored.

Using our roads more safely

Distracted and drowsy drivers

The Government will continue to engage the public in a much wider discussion about the dangers of driver distraction and drowsy driving. Being distracted for just two seconds dramatically increases your risk of crashing.

Technology is also a growing source of distraction, linked to 5% of deaths on the roads reported by Police. A 2014 TAC Road Safety Monitor found that 56% of licence holders aged between 18 and 60 admitted to using a hand held mobile phone while driving.

Distractions are one of the top road safety concerns among people who shared their views during recent community forums and through an online survey.

Technology could just as easily be the answer to reducing distractions. The *Road Mode* phone app, available free of charge for android devices, can automatically respond to calls and texts, and log messages so that drivers aren't tempted to take calls while driving.

VicRoads will continue to explore technology and apps that may help to reduce distractions.

Safer cyclists

Victoria is encouraging more walking and cycling as the best way to stay healthy and get around. To make it safe, we need well designed and maintained paths that help to separate cyclists and pedestrians from vehicles in built up areas.

Cyclists and pedestrians are vulnerable to death and serious injury if involved in a crash.

With growing numbers of cyclists, we need to do more to prevent crashes at intersections, riders being hit by vehicles from behind, and car 'dooring'.

The government is investing $100 million in the Safer Cyclists and Pedestrians Fund for new, dedicated paths and routes across Victoria, as well as making places safer where people meet.

The focus is on improving routes to train stations and the CBD, creating new routes in regional areas, filling the 'missing links' in the existing bicycle network, and pedestrian crossings, markings and signs.

Spreading the word that you could be killed as a pedestrian or cyclist if hit by a car at speeds above 30 km/h will encourage people to think about where it is safe to cross the road, and the safest route to work or school.

New safe cycling resources for communities and schools will further reduce the risks of riding.

Seatbelts and transporting children safely

Victoria was the first in the world to introduce mandatory seatbelts, but there are still people who don't use them. People from diverse cultural backgrounds or whose first language is not English, teenage passengers, older drivers, people living in rural areas, and truck drivers more commonly don't belt up.

The Government will work with high-risk groups and communities to stress the importance of seatbelts in saving lives. Work will occur with early childhood services to make sure children and families are aware of the importance of using child safety restraints and that services have safe transport policies.

Safer vehicles and technology

If every driver could drive the safest vehicle in their class, death and serious injury would drop by an estimated 26%.

For the first time, road safety experts are envisaging a future where nobody dies on the road. Rapid advances in vehicle and road technology can help us deter drink driving, stay at safe speeds, avoid running off the road or crashing into objects.

There are solutions here and now that can help make roads safer for everyone.

Speed alerting Intelligent Speed Assist (ISA) can help reduce speeding by up to 40%; Auto Emergency Braking (AEB) can reduce rear-end crashes by 38% and Electronic Stability Control (ESC) can reduce single-vehicle crashes by 32% (this is now mandatory for cars).

Safer cars with good visibility and side curtain airbags make it much safer for all drivers and passengers.

In the longer term, technology that allows vehicles to detect other road users and either warn the driver or actively prevent collisions has great potential to improve safety.

What we will do

The Victorian Government will do what it can to speed up the transformation to a safer car fleet, by ramping up the safety performance for all cars in the government fleet.

This will flow through to the wider market, as government cars are progressively replaced.

Take the lead on safety

From 2018, the Government will require its car fleet to have the best safety features available as part of its overall purchasing policy. In addition to a five-star ANCAP rating, features may include a high pedestrian rating, Auto Emergency Braking, advisory speed alerting technology, Lane Departure Warning or Lane Keep Assist and seat belt warnings or technology to increase seat belt wearing.

The Government will also influence private transport and heavy vehicle companies to purchase or lease vehicles with advanced safety features, such as Electronic Stability Control to help maintain control of heavy vehicles, Lane Departure Warnings or Lane Keep Assist to stop vehicles straying from lanes, and Auto Emergency Braking to reduce the incidence of rear-end crashes.

Incentives for motorcyclists

ABS braking for motorcyclists can reduce casualty crashes by up to 40%.

Targeted promotions and incentives will encourage the take-up of motorbikes with life-saving ABS technology.

Accelerating demand for safer cars

Buying the safest car you can afford, new or used, is a key way of keeping you and other people safe on the roads.

Through public promotion and consumer education, we will encourage people to buy safer cars with life-saving safety features such as Auto Emergency Braking, speed alerting technology, Lane Departure Warning or Lane Keep Assist to stop the vehicle straying from the lane, seat belt reminders and side curtain airbags, which have been found to reduce the risk of driver deaths by 37%.

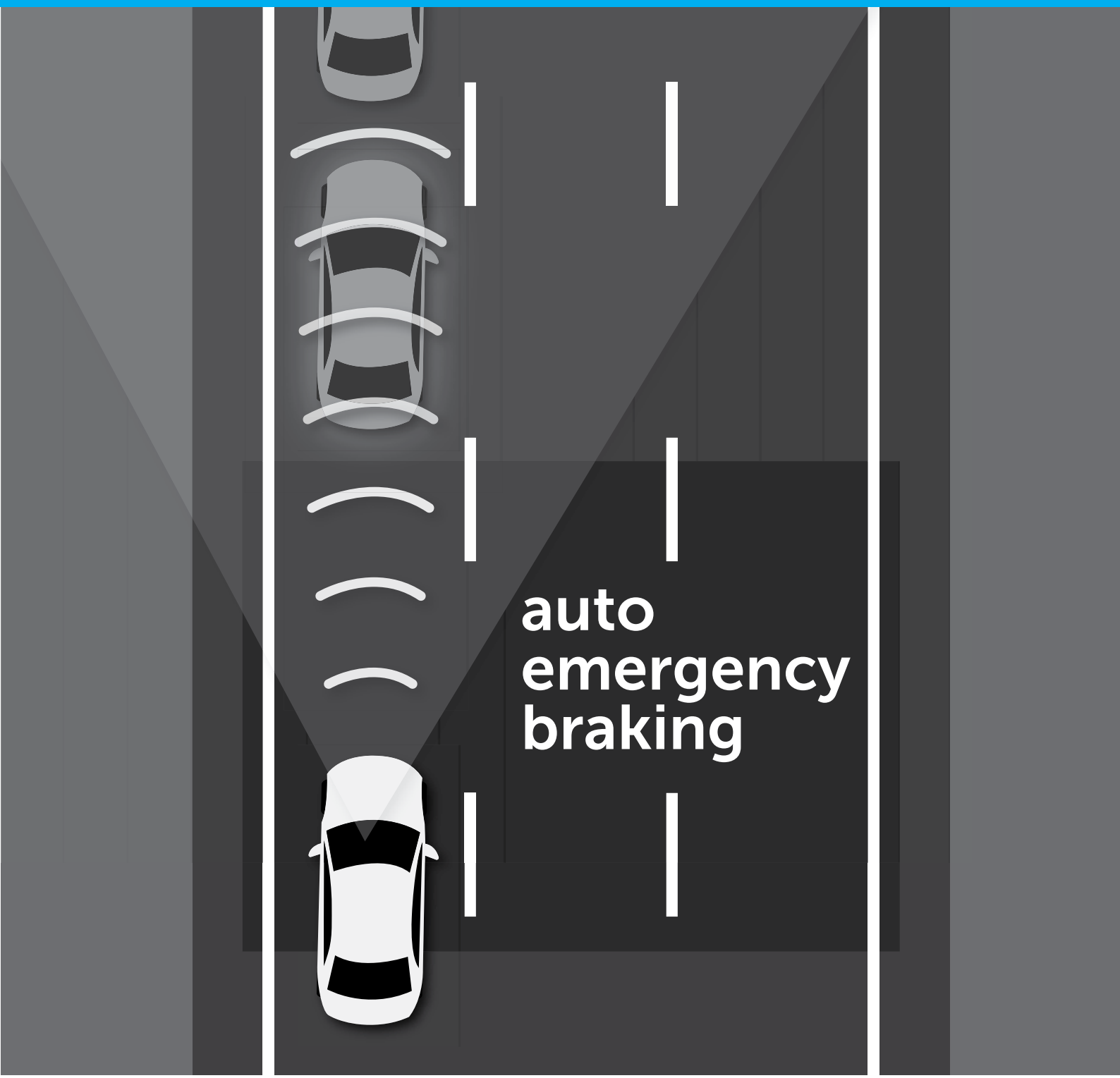
Parents and young people will also be the target of promotions to make car safety top of mind when buying their first car.

Victoria will also take a lead with national and international agencies to accelerate regulation to require advanced safety systems in vehicles sold in Australia.

Cars of the future

Safer, self-driving vehicles could become a reality with a number of universities in conjunction with vehicle manufacturers, road authorities and major corporations around the world trialling automated vehicles. These cars communicate with each other to help prevent collisions.

The Government will facilitate a trial in Victoria of connected vehicles and/or vehicles with automated technology and safety features to help inform its future development and adoption here.


auto
emergency
braking

Looking to the future

The pace of innovation in the road safety space is rapid, and the Victorian Government is determined to be out in front.

Some of the best research minds in road safety, nationally and internationally, will be applied to our most challenging road safety problems.

Tackling the "hidden road toll"

In 2014/15, 4951 people were hospitalised in Victoria after suffering serious injuries on Victorian roads. However we don't know a lot about the ongoing pain, suffering and impairment caused to individuals and their families.

Uncovering this "hidden road toll", to better measure and understand serious injuries, and support people through the long-term impacts, is a major area of future work.

A working group involving health, road safety bodies and police are looking at better information on serious injuries, linking crash data to measure the type of injuries occurring in different types of crashes, and the long-term impacts of road trauma.

This work builds on a world-first study underway by the TAC and world safety experts into the causes of serious injury crashes.

The $8 million Enhanced Crash Investigation Study (ECIS) is examining more than 400 serious injury crashes in detail, giving a team of international researchers unprecedented insights into the factors involved in these crashes.

This will inform future decisions about where best to invest money to save lives and prevent serious injuries, such as head and spinal injuries.

Understanding how drivers think and act

As well as studying road trauma data collected after an event by police, coroners, hospitals and road authorities, Victoria is partnering in a groundbreaking national study to help understand how drivers deal with everyday hazards.

The $3 million Australian Naturalistic Driving Study (ANDS) will reveal how drivers deal with daily hazards such as busy intersections that have no traffic lights and difficult driving situations such as pedestrians unexpectedly crossing the road or other drivers and riders engaging in risky behaviour.

Hundreds of volunteers of all ages will have their cars fitted with sophisticated technology including radar, GPS, video recorders and instruments to detect speed, lane position, swerving and sudden braking.

The research is expected to reveal new information on the main culprits in collisions, including making mistakes, distraction, inattention, speeding and tiredness – and help shape the next wave of road safety improvements.

Embracing safety innovation

Many drivers who attended road safety forums in their community expressed support for technology if it could save lives, such as alcohol sensors.

Passive alcohol sensors can warn drivers if they are over the legal blood alcohol limit, or stop you from starting the car. However, these devices are still under development and not yet available in Australia.

The Government will work with developers to trial passive alcohol sensors to ensure the technology will allow for a rapid and easy way to accurately determine a driver's blood alcohol level within a vehicle, to ensure that it works and can be used widely.

The same sensor technology will be used in a trial of "alco gates" that involve automatic alcohol testing of drivers linked to boom gates at exits to a licensed venue car park.

This innovation in passive testing holds major promise for reducing drink driving in the long-term.

Other safety innovations that are emerging nationally and internationally will also be considered to reduce death and injury on Victoria's roads.

New enforcement methods

Intensive and targeted law enforcement has proven to be an effective way of reducing death and injury on our roads.

To make sure Victoria stays at the forefront of effective developments, we will:

- explore and deploy existing and new technologies, such as Automatic Number Plate Recognition, to enhance enforcement activity
- explore the viability and impact of new camera technologies and operational approaches
- investigate the cost and effectiveness of using Safe-T-Cam operations that monitor driving times on long haul trips to support safe heavy vehicle operations
- evaluate the impact of the expanded roll-out of the 100,000 drug tests by Victoria Police.

Safe street layouts

New suburbs and towns present an opportunity to plan for safe streets from the outset. Design standards for new suburbs need to take into account the safety needs of all road users.

Distraction and other human factors

A driver awake for 17 hours has an equivalent impairment to driving at 0.05 and after 24 hours awake, the equivalent to a 0.10 blood alcohol level.

Victoria Police reports that 10% of deaths and 3.5% of serious casualties relate to drivers crashing from fatigue.

Victoria will investigate and trial possible testing to detect drivers who are impaired from fatigue or other causes.

Minimising distraction for drivers linked to current and emerging in-vehicle technologies will be investigated, as many more products come on the market.

Monitoring safety technologies and their uptake

Knowing what technologies are in vehicles helps government authorities monitor their uptake and how successful they are in preventing death and injury. We will work with vehicle importers, manufacturers and industry bodies to gain access to key information to improving the monitoring and evaluation of safety technologies.

Cycling safety inquiry

Cyclists are 34 times more likely than a car occupant to be seriously injured on the road and 4.5 times more likely to die in a crash. An inquiry into cycling safety will bring fresh insights into the scope of the problem and inform solutions to make cycling safer.

Accurate speed maps

Intelligent Speed Assist and other new safety technologies rely on effective speed limit and GPS data to be accurate. Work is needed to make sure Victoria's road maps are kept up to date for technology to be most effective.

Reducing casualty crashes on country roads

A 400 km length of highway in Gippsland has been upgraded because we know that high speed rural roads pose additional risks.

The improvements were tailored to meet specific safety issues. Safety barriers and tactile centre lines were installed to help prevent head-on crashes. Where run-off-road crashes were common, road side hazards have been removed or safety barriers installed.

The highway passes through towns and pedestrian crashes have become a significant issue. Traffic signal timing was changed and speed limits reduced to make crossing the road safer. "Gateway" treatments now alert drivers that there's a town ahead, reminding them to slow down and watch for walkers and cyclists.

The results are dramatic – there has been a 44% reduction in the number of serious casualty crashes in the two years since this work was done.

What the research tells us

Flexible barrier systems

Up to 85% reduction in run-off-road and head-on serious casualty crashes on Victorian roads.

Candappa, N., D'Elia, A., Corben, B. & Newstead, S. (2009) Evaluation of the effectiveness of flexible barriers along Victorian roads, MUARC Report 291, Clayton, Victoria.

On Swedish high-speed roads that were converted to alternating two lanes in one direction, one lane in the opposing direction with a central median cable barrier, fatalities reduced by 76% compared to the normal outcome for these road types without barriers installed.

At these same locations, serious casualty and fatality risks for motorcyclists were reduced by 40-50%.

Carlson, A. (2009) Evaluation of 2 + 1 roads with cable barrier: Final Report. Swedish Road Administration. VTI Report 636A.

While crash numbers were small, barrier protection programs in Victoria have resulted in a 74% relative reduction in fatal and serious injury crashes involving motorcyclists.

Cairney, P., Mitchell, B., Meyer, D., Van Dam, S., Makwashe, T. (2015) Evaluation of the Motorcycle Blackspot Program.
Project No. 010074, ARRB Group.

Tactile edge and centre-lines

Combined results from several studies - 29% reduction in single vehicle run-off-road crashes on rural, two lane roads where tactile edge lines were added on sealed shoulders.

National Cooperative Highway Research Program Report 641. Guidance for the design and application of shoulder and centre line rumble strips. TRB National Research Council, Washington D.C. 2009.

Combined results from programs in three U.S states - 26% reduction in run-off-road crashes and a 37% reduction in head-on crashes where tactile edge and centre-lines were installed.

Safety Evaluation of Center-line plus Shoulder Rumble Strips
FHWA Publication No.: FHWA-HRT-15-064, HRDS-20, (202) 493-3383. 2009.

In Australia, the use of raised tactile edge lines has reduced lane departures in the order of 49 per cent in New South Wales.

Road safety engineering risk assessment part 10: rural run off road crashes Published: Tziotis, M., Pyta, V. Mabbott, N.& Mclean, J.(2010), Austroads, Issue AP - T155/10, p80.

Roundabouts

Roundabout treatments consistently reduce casualty crashes by between 70% and 80%.

Evaluation of the National Black Spot Program: Volume 1. Bureau of Infrastructure, Transport and Regional Economics, Canberra (2012).

Safety cameras

Speed and red light safety cameras at intersections have resulted in a 26% reduction in casualty crashes at the intersections and a 47% reduction on the leg of the intersections with the camera.

Budd, L., Scully, J. & Newstead, S. (2011) Evaluation of the Crash Effects of Victoria's Fixed Digital Speed and Red-Light Cameras, MUARC Report 307, Clayton, Victoria.

Mobile safety cameras have reduced casualty crashes by 21-32%.

Cameron, M. (2009). Safety benefits of safety cameras. Fact Sheet No. 5. Curtin – Monash Accident Research Centre.

Overseas evaluations of point-to-point cameras show significant reductions in casualty crashes following installation.

Soole, D.W., Watson, B.C., Fleiter, J.J. (2013) Effects of average speed enforcement on speed compliance and crashes: a review of the literature. Accident Analysis and Prevention. 54, 46-56.

Speed and risk of casualty outcomes

Small reductions in travel speeds result in significant reductions in casualties.

Doecke, S.D., Kloeden, C.J., McLean, A.J. (2011) Casualty crash reductions from reducing various levels of speeding. CASR Report Series CASR076, University of Adelaide.

Evidence from several countries has shown that a decrease of 1 km/h in mean traffic speed will result in a 3% decrease in the incidence of injury crashes (and a decrease of 4–5% for fatal crashes).

SWOV Fact Sheet (2012) The relation between speed and crashes. SWOV, Leidschendam, the Netherlands.

Reduced travel speeds and traffic calming in local streets

A review of 33 studies indicated that traffic calming measures in residential streets reduced injury crashes by 25%.

Elvik, R. (2001) Area-wide urban traffic calming: a meta-analysis of safety effects. Accident Analysis and Prevention, Vol 33. Issue 3, May 2001, pages 327-336.

Reduced local speed limit from 50 to 40 km/h in Edmonton, Canada with no traffic calming but local enforcement and supporting public education, led to a reduction of average speeds by 3.9 km/h after 3 months and by 4.9 km/h after 6 months.

Islam, M., El-Basyouny, K., Shewkar, E. (2014) The impact of lowered residential speed limits on vehicle speed behaviours. Safety Science 62 Elsevier. P483-494. 2014.

Impact speed and pedestrian vulnerability

Tefft estimated impact speed profiles for pedestrians in relation to the probability of death or serious injury occurring. While the results applied within the United States, the overall outcome is that relatively low impact speeds can result in serious injury to pedestrians.

Tefft (2011). Impact Speed and a Pedestrian's Risk of Severe Injury or Death, Foundation for Traffic Safety, Washington DC. September 2011.

The chances of surviving a crash decrease rapidly above certain impact speeds – for cars striking pedestrians, the threshold impact speed lies in the range 20 – 30 km/h.

Australian Transport Council (2014). National Road Safety Action Plan 2015 - 2017.

Vehicle safety

If each vehicle had a safety performance equivalent to the best vehicle in its market class, then safety could be improved by up to 26%.

Newstead, S., Delaney, A., Watson, L., Cameron, M. A model for considering the "total safety" of the light passenger vehicle fleet. Monash University Accident Research Centre.
Report No. 228, August 2004.

Alcohol ignition interlocks

A review of evaluation studies found an average reduction of 67% in re-offending during the interlock period.

Elder, R. (2011) Ignition interlock programs: From effectiveness to implementation. Paper presented at: Transportation Research Board, Alcohol, Other Drugs and Transportation Committee; August 15–16, 2011; Irvine, California.

Extension of interlocks to first-time drink-drive offenders has been successful in reducing repeat offence rates and crashes.

McCartt, A.T, Eichelberger, A.H. Effects of all-offender alcohol ignition interlock laws on recidivism and alcohol-related crashes. 20th International Conference on Alcohol, Drugs and Traffic Safety Conference, Brisbane, Australia, August 2013.

A Victorian study has shown a 79% reduction in drink-drive offending among repeat drink-drivers required to have an interlock fitted upon re-licensing.

Watson, A., Imberger, K., Cavallo, A., Healy, D., Freeman, J., Filtness, A., Wilson, H. and Catchpole, J. The impact of safety measures on the re-offence and crash rates of drink-drive offenders in Victoria. Proceedings of the 2015 Australasian Road Safety Conference, 14-16 October 2015, Gold Coast, Australia.

Side curtain airbags

Evaluation in the U.S. showed a 37% reduction in the risk of death in driver-side crashes for head-protecting side airbags.

McCartt, A. & Kyrychenko, S. (2007) Efficacy of Side Airbags in Reducing Driver Deaths in Driver-Side Car and SUV Collisions, Traffic Injury Prevention, 8:2, 162-170.

Auto emergency braking (AEB)

A study combining crash information from three countries enabled an evaluation of the effectiveness of AEB to be conducted; it found a 38% reduction in real-world rear-end crashes.

Fildes, B., Keall, M., Bos, N., Lie, A., Page, Y., Pastor, C., Pennisi, L., Rizzi, M., Thomas, P. and Tingvall, C. (2015) Effectiveness of low speed autonomous emergency braking on real-world rear-end crashes. Accident Analysis and Prevention, Vol.81, August 2015 p24-29.

A Swedish evaluation has shown that, for vehicles fitted with AEB, there has been a reduction of rear-end crashes of between 35% and 41%.

Rizzi, M., Kullgren, A. and Tingvall, C. (2014) Injury crash reduction of low-speed Autonomous Emergency Braking (AEB) on passenger cars. IRC-14-73, IRCOBI Conference 2014.

Intelligent speed assist (ISA)

Repeat speeders, who had their vehicles fitted with an advisory speed alerting ISA device, spent 40% less time over the speed limit compared to a group who did not have ISA fitted.

Young, K., Stephan, K., Newstead, S., Rudin-Brown, C., Tomasevic, N., Lenne, M. (2013) Repeat speeders trial – final evaluation report. Monash University Accident Research Centre. 2013.

A best estimate, based on multiple studies, of the reduction in fatal crashes as a result of using advisory speed alerting systems was 18%.

SWOV Fact Sheet: Intelligent Speed Assistance. Leidchendam., the Netherlands, January 2015.

ABS on motorcycles

Motorcycle ABS has been shown to reduce relevant fatal and serious injury motorcycle crashes by 39% in Australian conditions.

Fildes, B., Newstead, S., Rizzi, M., Fitzharris, M., Budd, L. (2015) Evaluation of The Effectiveness of Anti-Lock Braking Systems on Motorcycle Safety In Australia, Monash University Accident Research Centre Report No. 327., September 2015.

Evaluation across countries estimated up to a 42% reduction in severe and fatal crashes in Sweden (and up to 34% reduction for Spain).

Rizzi M., Strandroth J., Kullgren, A., Tingvall, C. & Fildes, B. (2013) Effectiveness of anti-lock brakes (ABS) on motorcycles in reducing crashes, a multi-national study. Proceedings of the 23rd International Technical Conference on the Enhanced Safety of Vehicles, May 27-30, 2013, Seoul, Republic of Korea.

Electronic stability control (ESC)

Vehicles fitted with ESC were involved in 32% fewer single-vehicle crashes and 59% fewer roll-over crashes that resulted in a driver injury.

Scully, J.E., Newstead, S.V. (2010) Follow up evaluation of electronic stability control effectiveness in Australasia. Monash University Accident Research Centre, Report No. 306.

Seat-belts

Wearing a properly adjusted seat belt reduces the risk of fatal or serious injury by up to 50%.

CARRS-Q Seat belts fact sheet (2012) Centre for Accident Research and Road Safety – Queensland.

Distraction

Using a mobile phone while driving is risky – especially if the task involves visual distraction or a manual task such as reaching for the phone, scrolling etc.

Fitch, G.M., Hanowski, R.J., Guo, F. (2015) The risk of a safety-critical event associated with mobile device use in specific driving contexts. Traffic Injury Prevention 2015; 16(2) J: 124-132.

Glances away from the road totalling more than two seconds increase the risk of a crash or near-crash by at least two times.

Klauer, S.G., Dingus, T.A., Neale, V.L., Sudweeks, J.D., Ramsey, D.J. (2006) The Impact of Driver Inattention on Near-crash/Crash Risk: An Analysis using the 100-car Naturalistic Driving Study Data. National Highway Traffic Safety Administration. DOT HS 810 594. April 2006.

Continuing the shared journey Towards Zero

This Strategy and Action Plan was developed with community input.

People who shared their views included drivers of all ages, motorcyclists, truck drivers, heavy transport owners, cyclists, taxi drivers, driving instructors, road trauma victim groups, and representatives from community road safety partnerships, local government, police and emergency services.

Close to 2,800 people have completed an online feedback form, sharing their views about road safety.

Face to face meetings have involved hundreds of people at large public forums and smaller gatherings in suburbs and towns held across Richmond, Cranbourne, Frankston, Coburg, Melbourne, Werribee, Benalla, Ballarat, Bendigo, Sale, Wodonga and Horsham.

Important conversations have started with people of all ages and places across Victoria about what we can do to reduce the road toll.

These conversations have shaped this five year strategy and action plan, and we will have more conversations as we work with communities Towards Zero.

As we know, the most important change happens when people are engaged.

Please, stay involved and help steer Victoria's new road safety strategy and action plan by joining us at towardszero.vic.gov.au

vicroads

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