Network Safety Plans for Local Government: C’mon Aotearoa!


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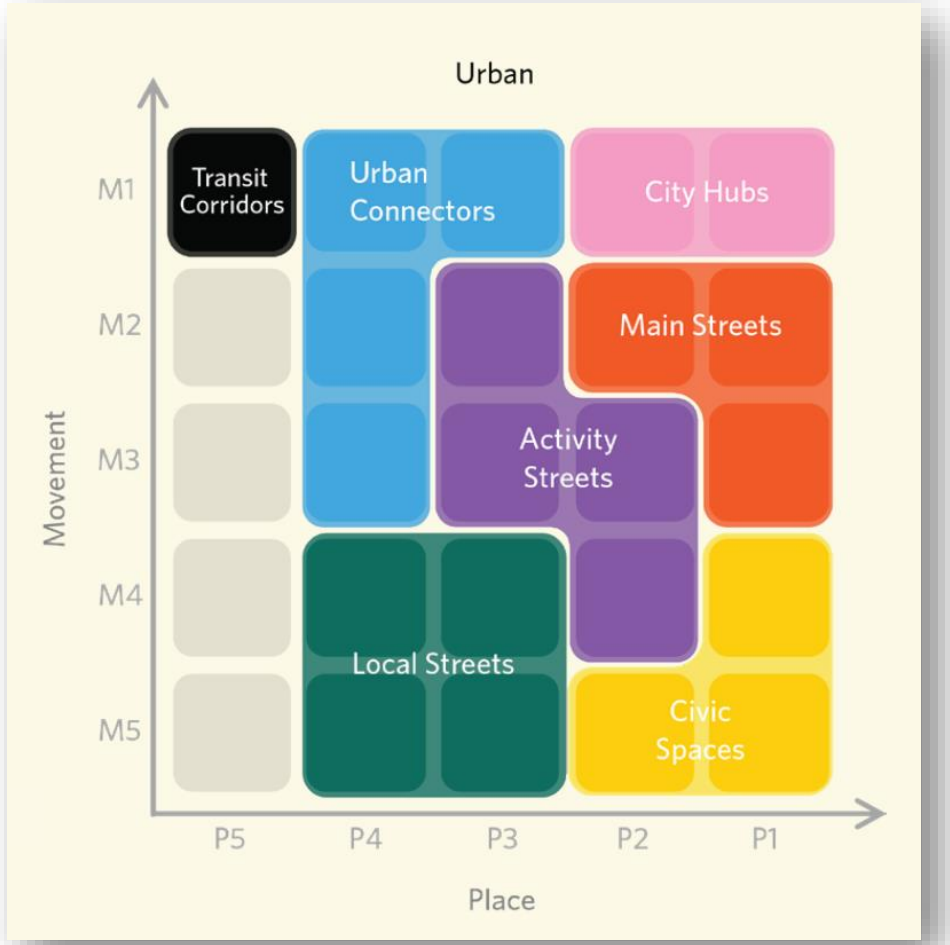
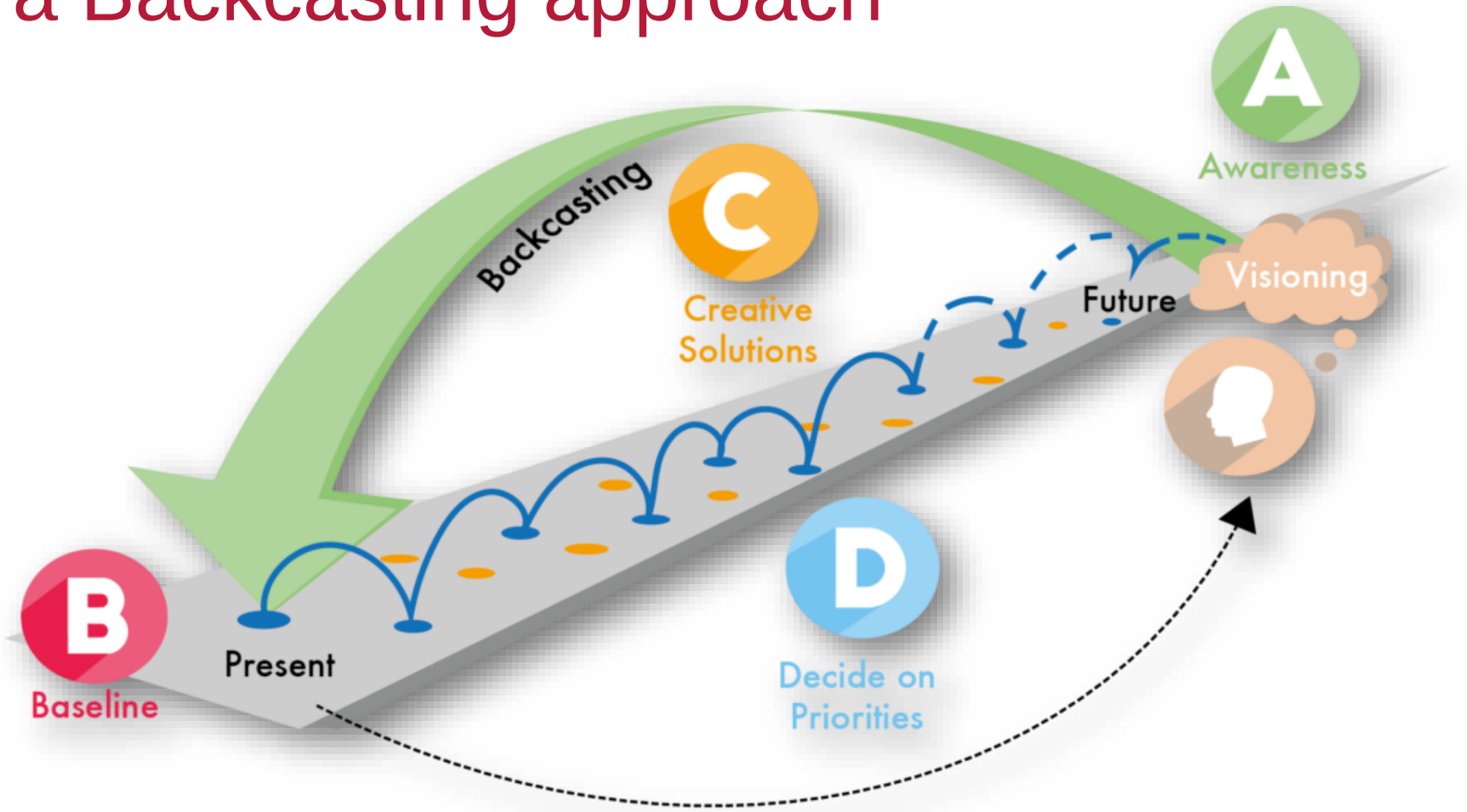
What are Network Safety Plans?

- Framework that defines what the transport network should look like (infrastructure and speed) to achieve zero deaths and serious injuries by a fixed date (End State)
- Network-wide approach that builds on the Movement and Place framework
- Determines and prioritises infrastructure and speed management measures to reach the End State, including allowance for expected advancements in vehicle technology



Adopts a Backcasting approach



Key Steps of the Backcasting approach

1. Defining the 'End State' of the network
2. Evaluating the 'Current State'
3. Measuring the 'Gap' between the End State and Current State
4. Identifying possible solutions to bridge the Gap
5. Prioritising interventions

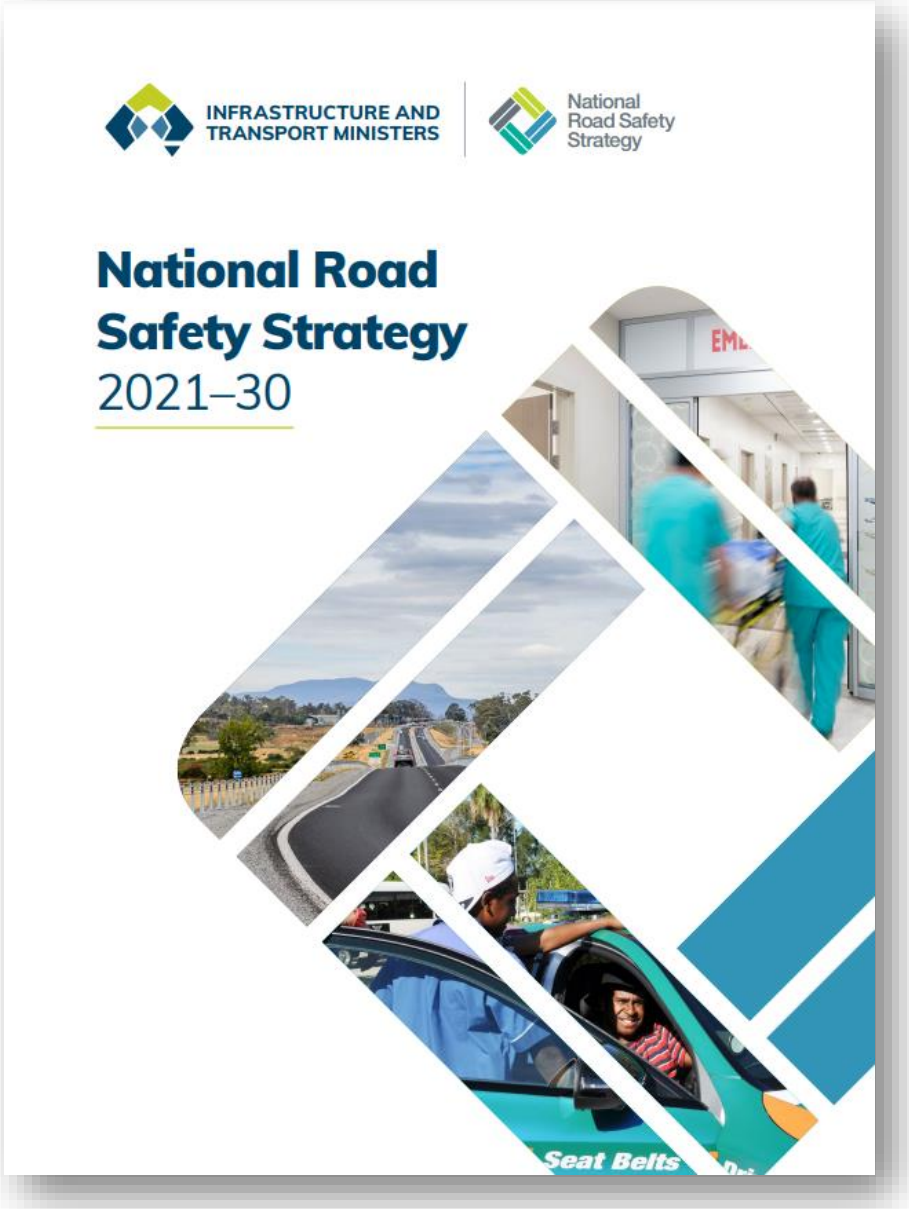
Where is the guidance on Network Safety Plans?

Austroads Network Safety Planning Principles

- **Apply a network-level strategy:** consistent standards for the same classification
- **Apply a financially sustainable approach:** employ infrastructure standards that are achievable based on funding
- **Use a medium-term timeframe:** deliver highest benefit treatments in shortest timeframe to maximise safety outcomes
- **Maximise the safety outcome:** develop solutions that are most effective for the available funding
- **Project standards inherit the corridor standard:** aim to deliver achieve consistent outcomes to produce self-explaining roads
- **Prioritise projects based on delivery:** focus on delivery efficiency across the programme

Why are Network Safety Plans important?

- Network Safety Plans are mentioned throughout Australia's National Road Safety Strategy and Action Plans



Why are Network Safety Plans important?

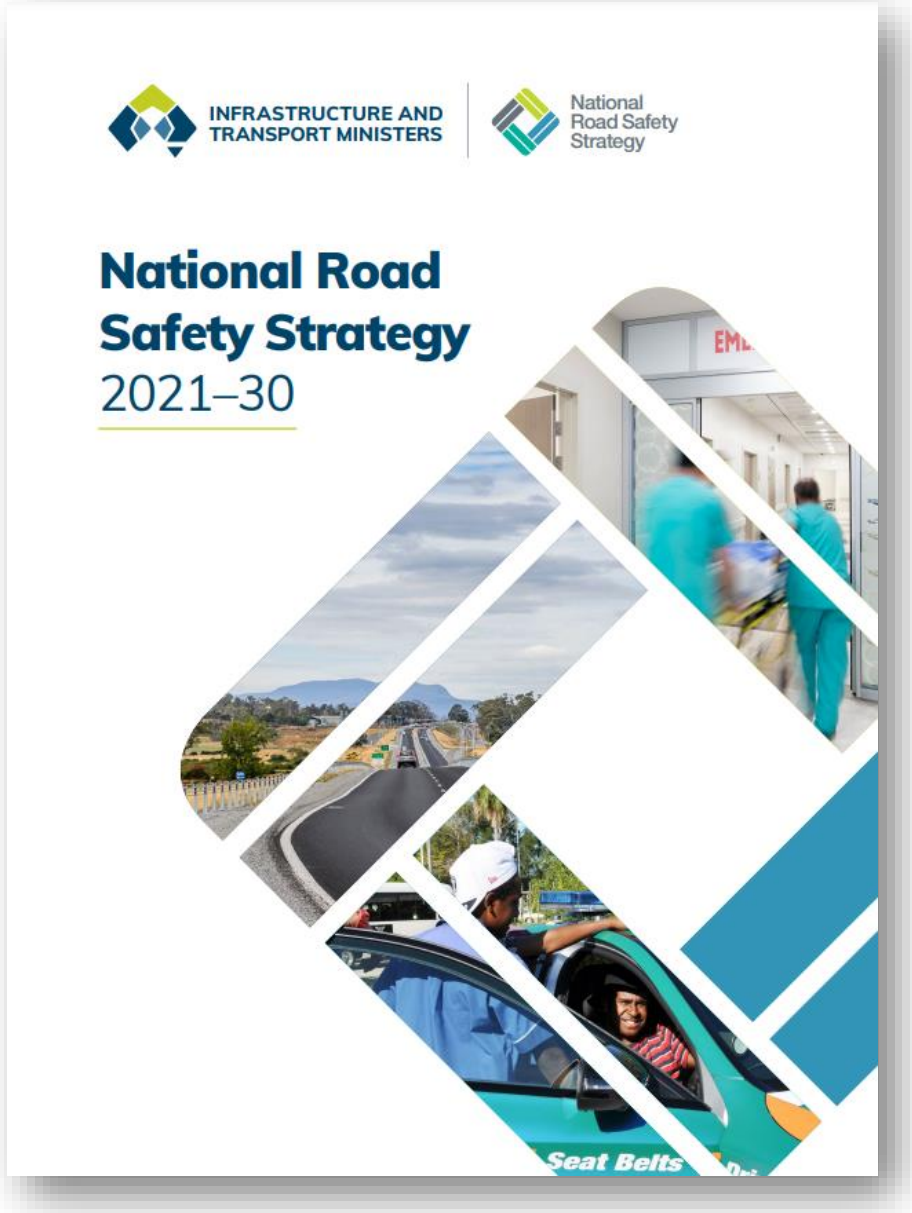
Infrastructure planning and investment

Governments will focus on designing a Safe System that is future focused.

Even relatively low speeds can kill or seriously injure unless the vehicle, road, and roadside environment are designed to take account of the physical vulnerability of all road users. In urban areas there are many serious injuries to vehicle occupants and vulnerable road users that can be prevented. The Movement and Place approach informs infrastructure planning to manage the risk of conflict.

Action summary

- Deliver measurable improvements in safety through infrastructure funding at all government levels and support local governments to embed and deliver road safety into their business as usual
- Deliver systematic safety improvements on a road corridor basis against baseline assessment network safety plans, which scope safety gaps across the network
- Manage speeds where there are conflicts between vehicles and road users and where infrastructure and roadside hazards are likely, to avoid crashes resulting in death or serious injury



Why are Network Safety Plans important?

Regional road safety

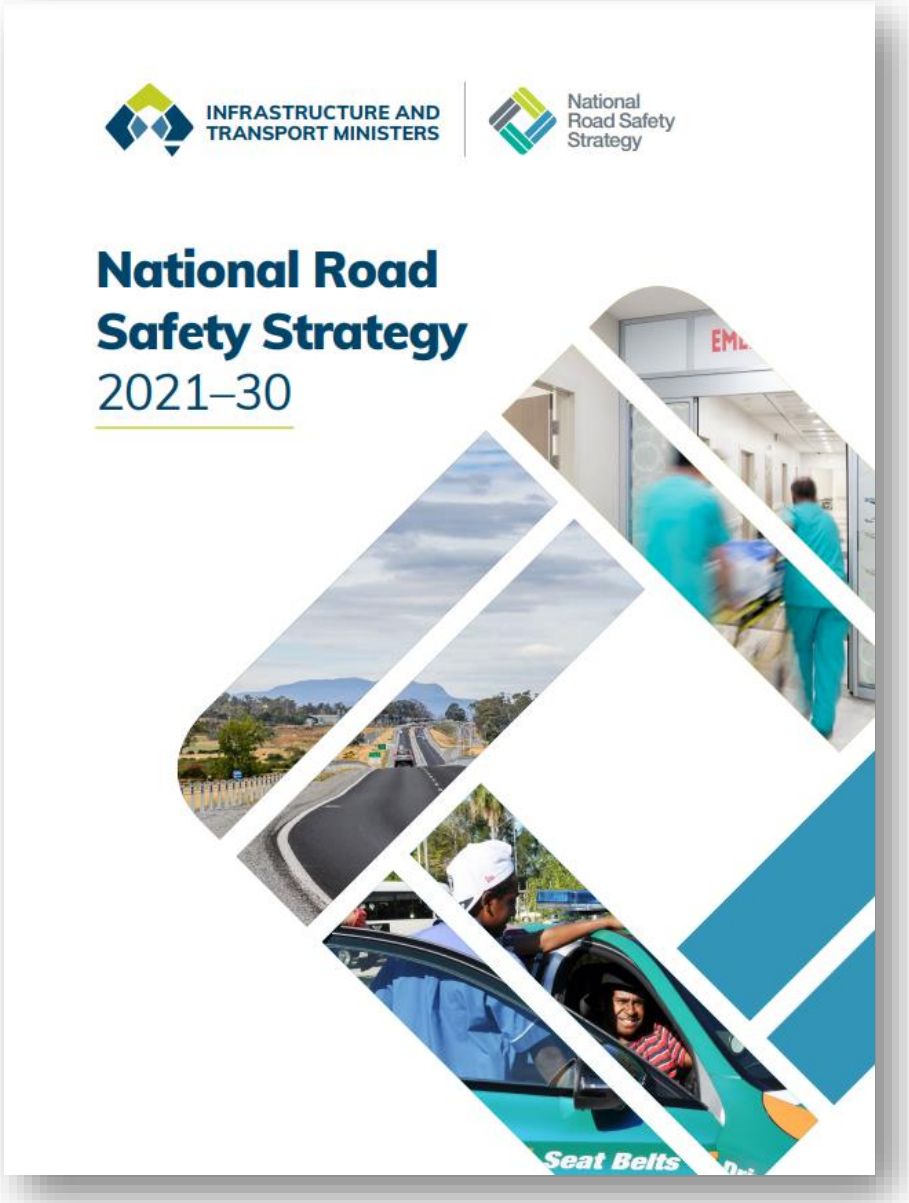
Governments at all levels will plan and implement network-wide safety improvements.

The Remoteness Areas used by the Australian Bureau of Statistics (ABS) divide Australia into 5 categories of remoteness on the basis of a measure of relative access to services. Around 55 per cent of road crash deaths are in regional areas (ABS Inner and Outer Regional Areas) – with the majority of people killed on these roads from regional areas.

The majority of these deaths result from lane departure crashes – run-off-road and head-on crashes.

Action summary

- Develop network safety plans, to prioritise road safety treatments that will have the most impact
- Implement staged Safe System treatments for roads with higher traffic volumes, including median and roadside flexible safety barriers
- Implement staged risk-reduction treatments for roads with moderate to high traffic volumes, including audio-tactile line markings (rumble strips), median treatments, targeted stretches of barrier treatment, shoulder widening and sealing, intersection treatments, and protection on curves and from roadside hazards
- Reduce speed limits for some roads, particularly undivided roads and where infrastructure improvements may not reach the whole network within the life of the Strategy
- Develop a Regulation Impact Statement on reducing the open road default speed limit



Why are Network Safety Plans important?

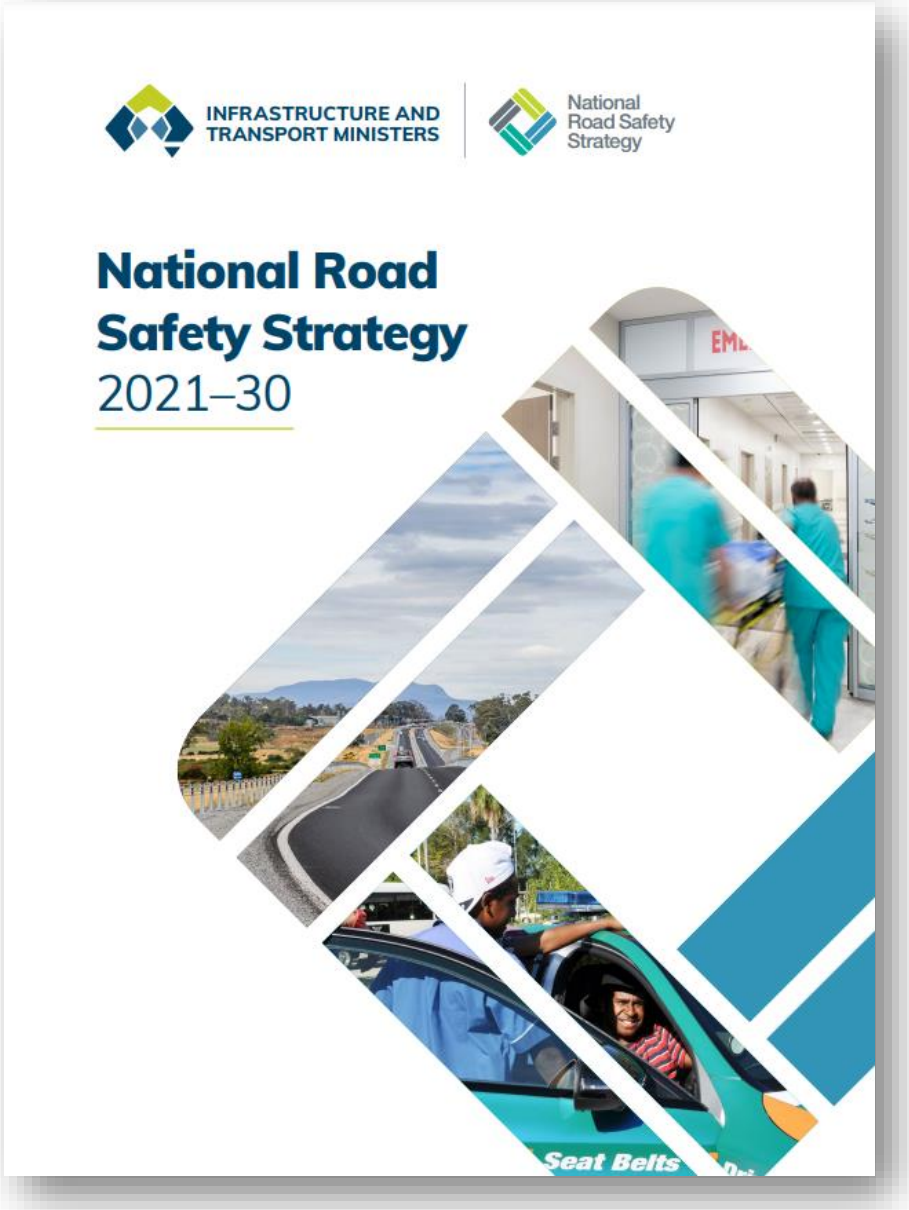
Remote road safety

Better transport options and assistance.

Based on the rate of deaths per 100,000 people, the risk to an individual of being killed on a road in a remote area (ABS Remote and Very Remote Australia) is 11 times the risk of living in a major city. Of the 1,136 people killed in 2018, 116 were in remote areas of Australia. There is a greater proportion of unsealed roads and other lower quality roads with lower traffic volumes and relatively high speed limits in remote areas.

Action summary

- Implement Safe System treatments on roads with higher volumes of traffic and comprehensive risk reduction on roads with moderate volumes, in line with network safety plans and priorities
- Develop a Regulation Impact Statement on reducing the default speed limit for unsealed roads across both remote and regional areas
- Explore options to address the sustainability of community transport for remote communities
- Improve access to driver licensing programs and other transport assistance



Austroads Charting a Path to Zero

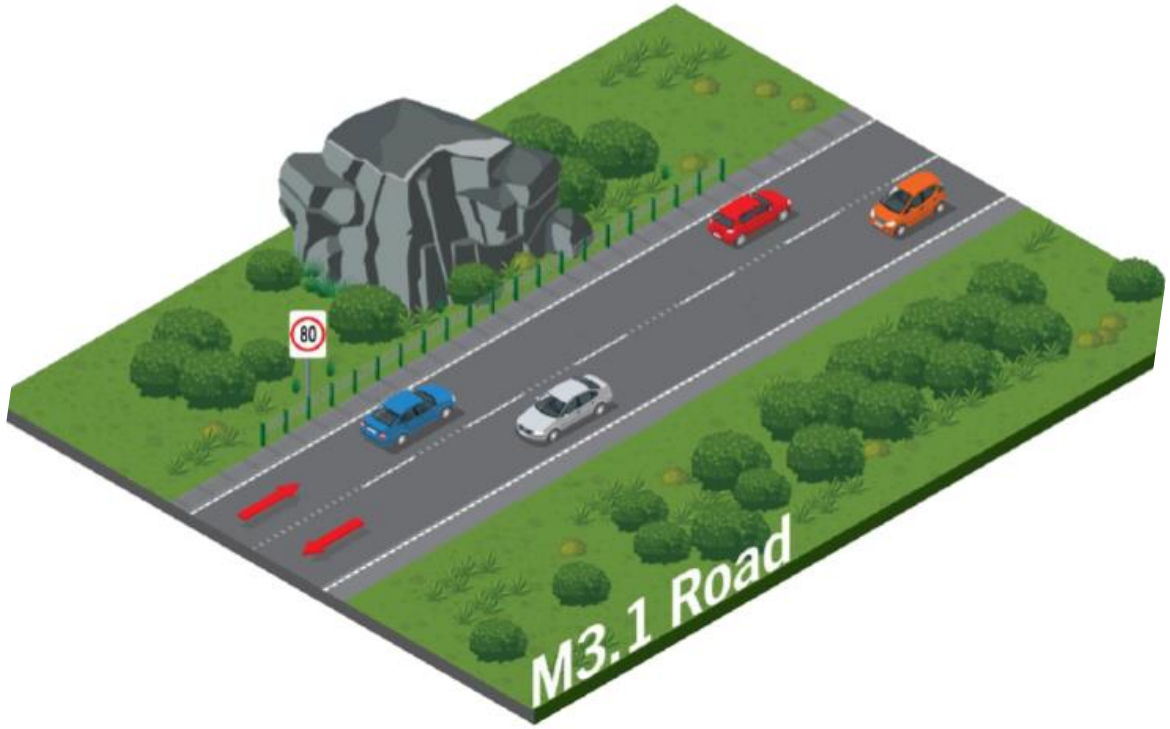
- New project focused on developing a path to zero deaths and serious injuries through a holistic approach to the safety of all people using the road.
- Stream 1 is underway. Objective is to develop a Zero Planning Framework for all Austroads jurisdictions.

What is Victoria doing?

- Strategy to halve road deaths by 2030
- Action Plan includes initiative to develop a Network Safety Plan
- Purpose of the Network Safety Plan is to inform and guide decisions at a corridor and network level
- Will be used to set and measure interim trauma reduction targets

What are the expected outcomes?

- End State (2050) solution for every road and intersection
- Visualisation of road safety gap
- Generating a pipeline of road safety projects
- Improved alignment between project scope and Safe System outcomes
- Clear system-based policy opportunities



Key Steps of Network Safety Planning

Determine systemic risks

Define Safe System End States:

- Define road stereotype
- Define modal priorities
- Determine future vehicle safety performance

Validation of End State:

- Calculate FSI residuals, in terms of both numbers and crash types

Gap Analysis:

- Define the gap between current and ultimate Safe System End States

Crash Data Modelling:

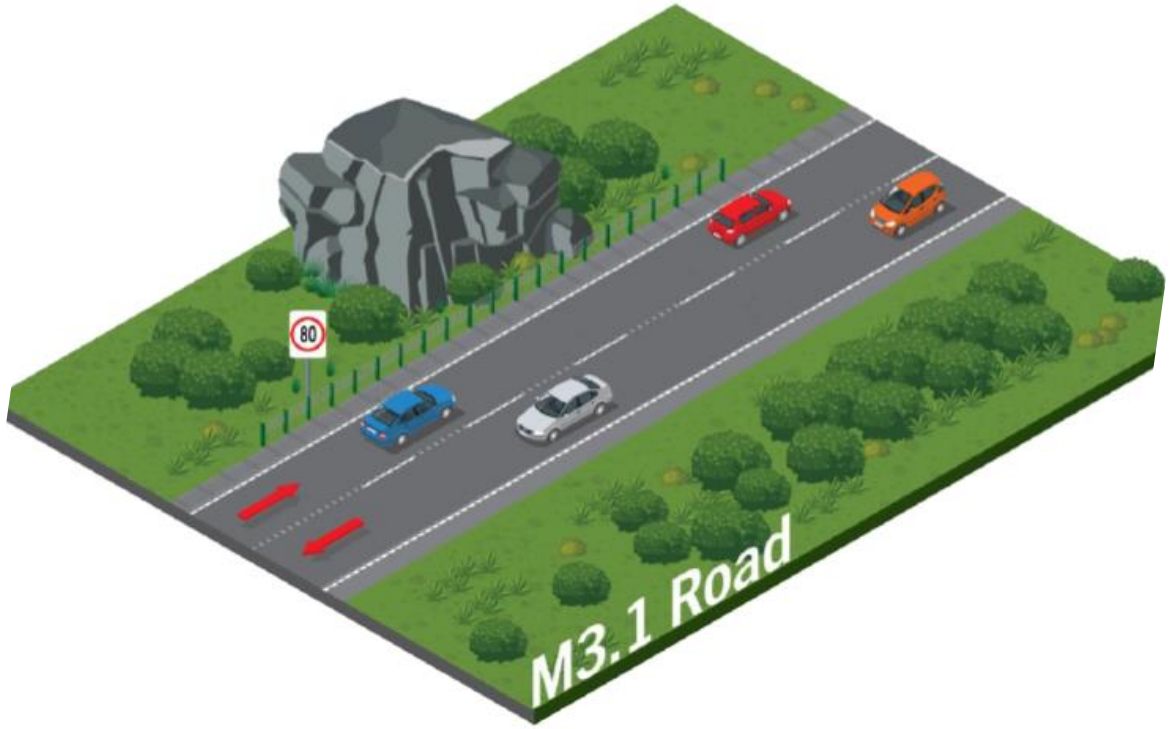
- Estimate FSI savings over time

Outputs:

- Investment plans
- Inform future policy

What is Victoria doing for Local Government?

- Part of Network Safety Plan objectives is to develop guidance and support material for Local Government Authorities (LGA) to develop their own Network Safety Plans
- Acknowledges LGA Network Safety Plans need to be owned by local government
- Leverage off outputs for DTP managed roads



Network Safety Plans for LGA

Three Streams of Work:

1. Local Road Systemic Network Risk Assessment
2. Methodology for Developing a LG Network Safety Plan
3. Supporting guidance for Implementing a LG Network Safety Plan

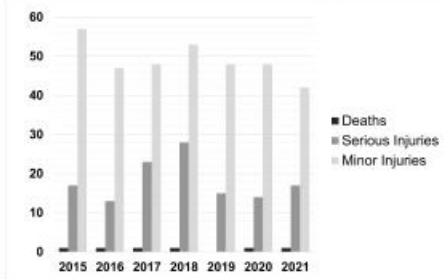
Road Trauma Fact Sheet
City of Banyule

Compared to other Metropolitan LGAs, the number of people killed and seriously injured on roads in the City of Banyule is much better than average on a per capita, network length and vehicle-kilometres travelled (VKT) basis. Vehicle occupants are over-represented in the crash data.

Road trauma 2015-2021

Deaths	6
Serious injuries	127
Average FSI / year	19.0
Average FSI / 100,000 pop / year	15.1
Collective risk (network-level)	0.034
Personal risk (network-level)	12.85

Population	126,236
Road network length	565 km
– *Urban speed zone*	565 km (100%)
– *Rural speed zone*	-
– *Unsealed road*	<1%
Exposure (100 million VKT/yr)	7.39
LGA peer group	Metropolitan
Number of LGA in peer group	22



FSI by road user

Road user type	Total FSI	% Total FSI
Vehicle occupants	75	56%
Motorcyclists	21	16%
Bicyclists	20	15%
Pedestrians	16	12%
Other/unknown	1	1%

FSI location and crash types

Location	Top crash types (FSI)
Intersection 58 FSI (44%)	*Adjacent direction (22)* *Run-off road (straight) (13)* *Other (23)*
Midblock 75 FSI (56%)	*On road (23)* *Run-off road (straight) (16)* *Pedestrian (10)* *Other (26)*

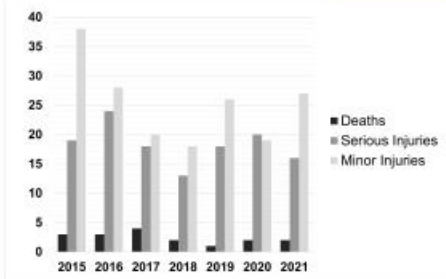
Road Trauma Fact Sheet
Shire of Moira

Compared to other Large Shire LGAs, the number of people killed and seriously injured on roads in the Shire of Moira is worse than average per capita, and average by network length and by vehicle-kilometres travelled (VKT). Vehicle occupants and crashes at intersections are significantly over-represented in the crash data.

Road trauma 2015-2021

Deaths	17
Serious injuries	128
Average FSI / year	20.7
Average FSI / 100,000 pop / year	67.9
Collective risk (network-level)	0.007
Personal risk (network-level)	7.86

Population	30,522
Road network length	3,055 km
– *Urban speed zone*	253 km (8%)
– *Rural speed zone*	2,802 km (92%)
– *Unsealed road*	2,027 km (66%)
Exposure (100 million VKT/yr)	13.17
LGA peer group	Large Shire
Number of LGA in peer group	19



FSI by road user

Road user type	Total FSI	% Total FSI
Vehicle occupants	118	81%
Motorcyclists	17	12%
Bicyclists	4	3%
Pedestrians	5	3%
Other/unknown	1	1%

FSI location and crash types

Location	Top crash types (FSI)
Intersection 53 FSI (37%)	*Adjacent direction (45)* *Other (8)*
Midblock 92 FSI (63%)	*Run-off road (straight) (60)* *Run-off road (curve) (13)* *Other (19)*

Road Trauma Metrics for Individual LGAs

Headline Metrics

- Fatalities, serious injuries and minor injuries by year,
- Fatalities and serious injuries (FSi) per 100,000 population,
- FSi per 1,000km road network length, and
- FSi per 100 million VKT

Supplementary Metrics

- Breakdown of FSi by road user
- Breakdown of FSi by road network location i.e. intersection and midblock
- Identification of main crash movement category (DCA code) for intersections and midblock FSi

Comparing Metrics to similar LGAs

Percentile	Description	Fact Sheet Colour Coding
0 – 20th	Much better than average for Peer Group	
20th – 40th	Better than average for Peer Group	
40th – 60th	Average for Peer Group	
60th – 80th	Worse than average for Peer Group	
80th – 100th	Much worse than average for Peer Group	

Interpreting the analysis

The council is:

- Performing **better than average** for motorcyclist and bicyclist FSI
- Performing **average** for FSI involving vehicle occupants
- performing **much worse than average** for pedestrian FSI

…compared to other LGA in this cohort.

FSI by road user

Road user type	Total FSI	% Total FSI
Vehicle occupants	107	48%
Motorcyclists	31	14%
Bicyclists	26	12%
Pedestrians	56	25%
Other/unknown	1	<1%

Interpreting the analysis

This council is:

- performing **much better than average** for FSI at intersection locations
- performing **much worse than average** for FSI at midblock

…compared to other LGA in this cohort.

FSI location and crash types

Location	Top crash types (FSI)
Intersection 77 FSI (35%)	*Adjacent direction (27)* *Pedestrian (19)* *Run-off road (straight) (10)* *Other (21)*
Midblock 144 FSI (65%)	*Pedestrian (34)* *Run-off road (straight) (34)* *Manoeuvring (26)* *Other (50)*

Challenge for NZ

- Let's embrace the Network Safety Plan approach
- So many benefits:
  - Defines an infrastructure and speed End State for all parts of the network
  - Improved alignment between projects and desired long-term outcomes
  - Continual progression towards the End State
  - Focus on quick wins and key issues
  - Stronger linkage between treatments, budgets and deliverability

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