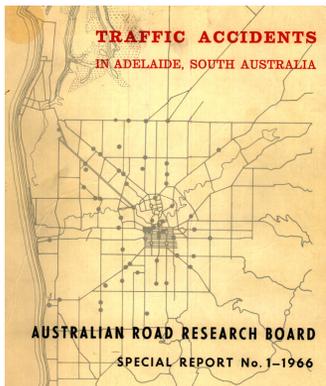




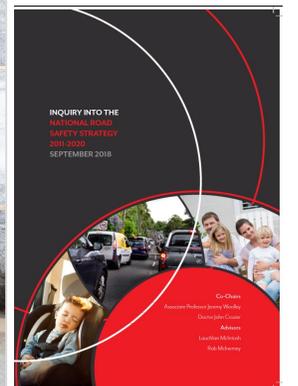
A/Prof Jeremy Woolley

Eliminating harm from road use

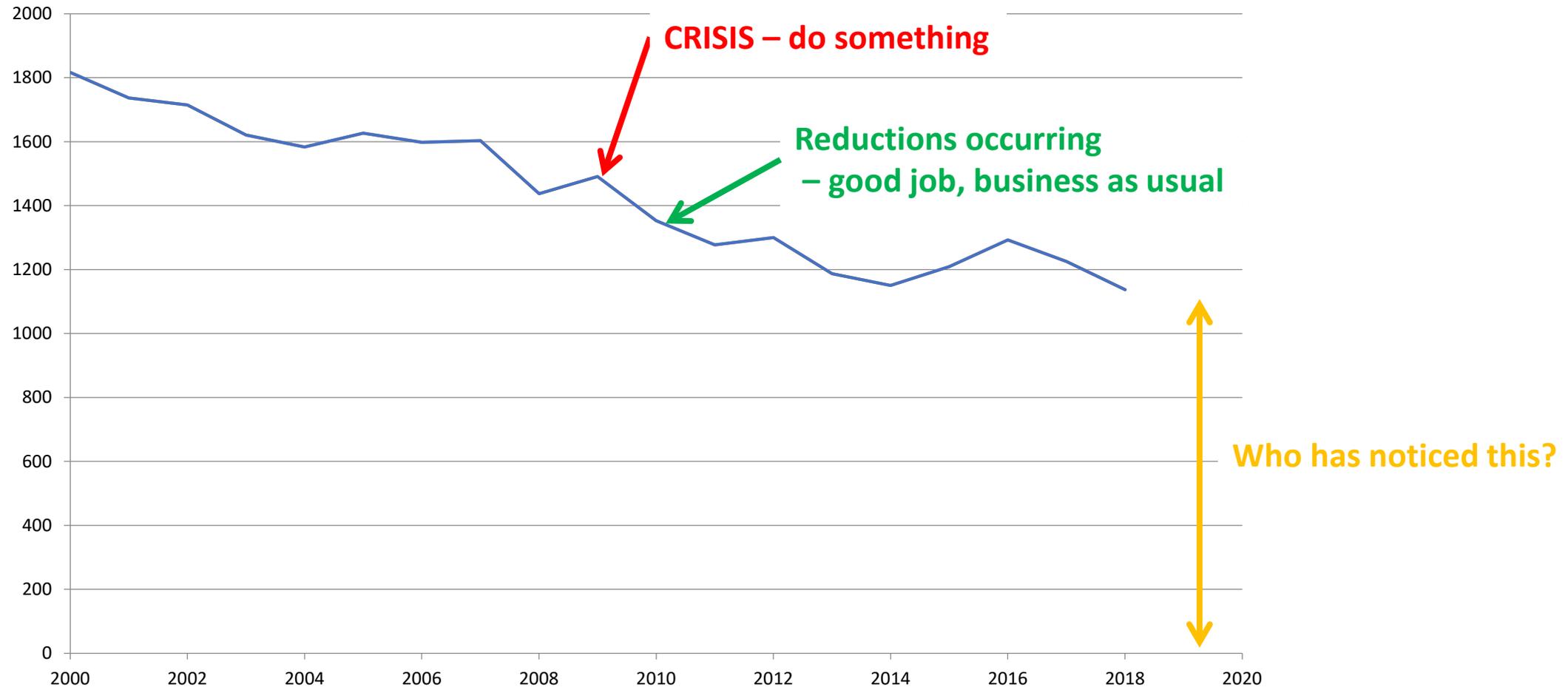
1963



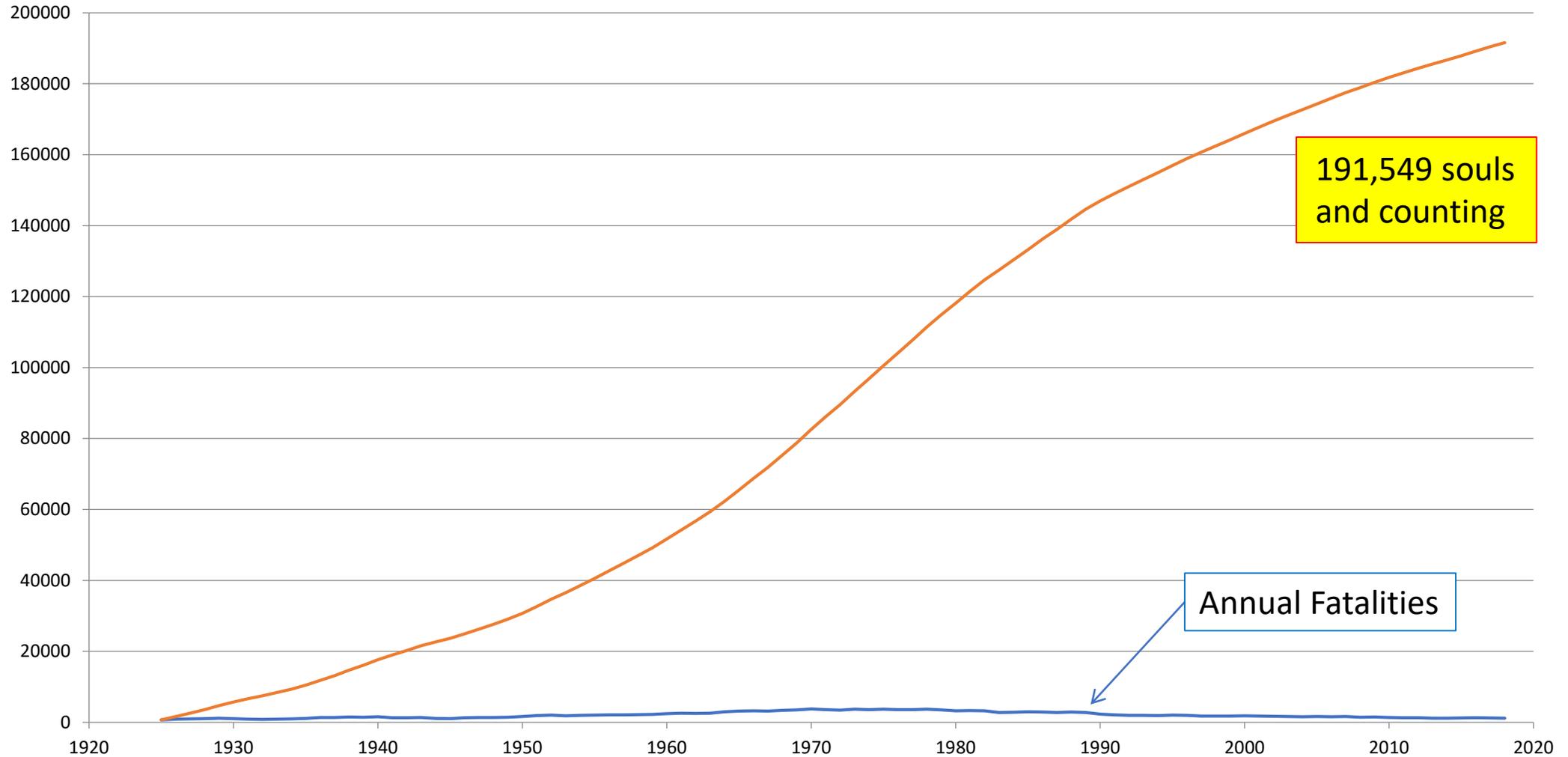
2019



Road deaths in Australia last 20 years



Nat. Cumulative Fatalities since 1925



A key perspective is being missed

There is still a disaster heading our way

A drip feed of trauma with no end in sight

10 yrs: 12,000 killed and >360,000 admitted at a \$300b drag to the economy

Aside from past victims, we are harming future generations

We need to *move from coping to fixing*

Our task is not to make roads **safer**,
our task is to make the road transport system **SAFE**



Safer Behaviours

Keeping the pressure on must remain a key priority to contain the situation:

- Speed compliance
- Seat Belts
- Helmets
- Alcohol and Drugs
- (Suicides)
- Deliberate risk taking

- Inattention and due care



... but acknowledge that the road system sets people up to fail in repeatable and common ways

Crashes and errors will continue to occur regardless of training or skill

Solutions lie beyond improvements in road user performance

Injury crashes must be regarded as **system failures and not individual events**



Safety culture

Pathological

Up to everyone to protect themselves the best they can

Reactive

Solve safety problems as they come along

Calculating

Balancing safety and mobility

Proactive

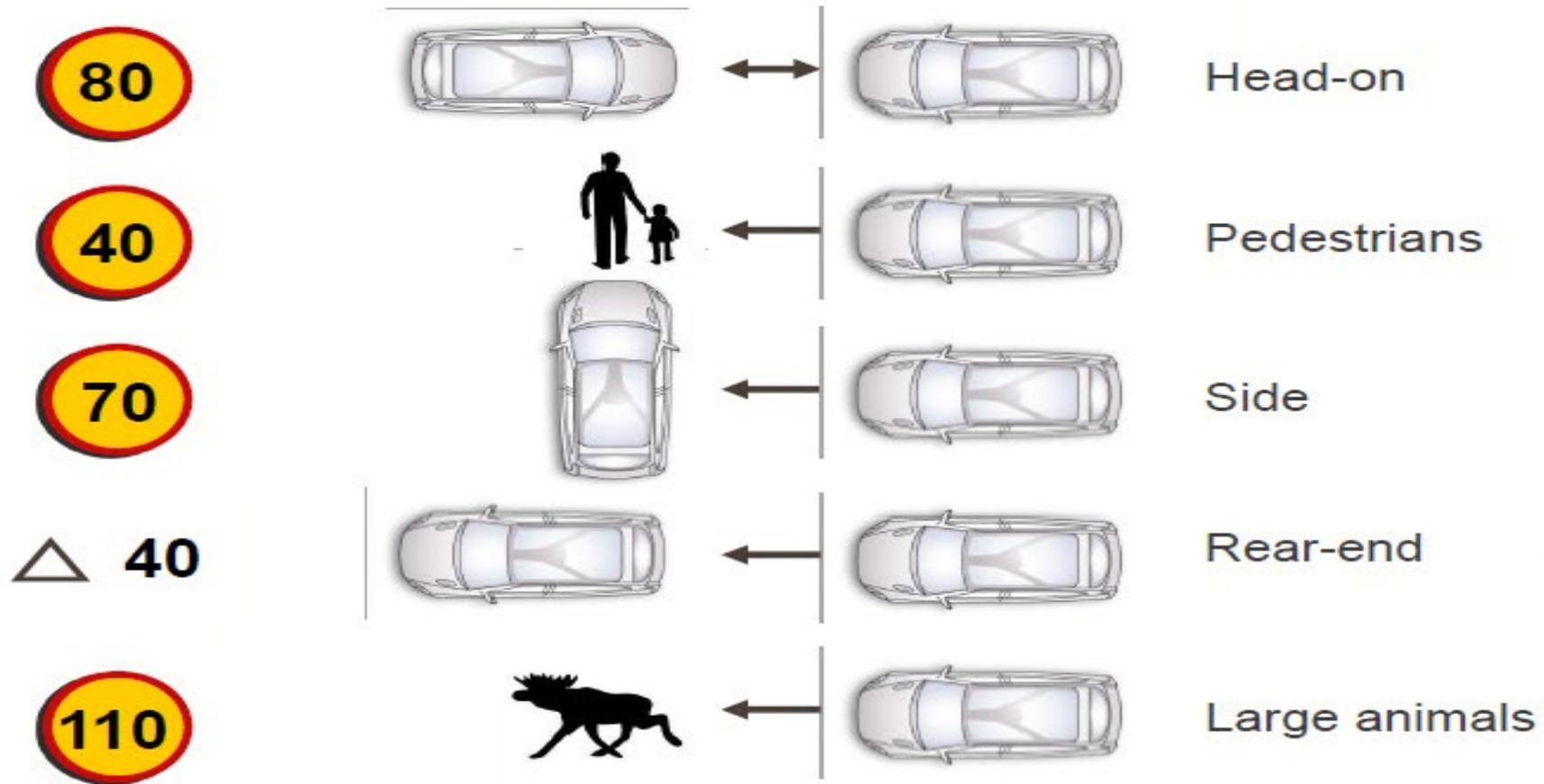
Safety sets the condition for mobility

Maintenance

Maintain a high safety level



Shared responsibility – boundary conditions and future vehicles



Note pole or tree side impacts not mentioned (~30km/h)

New perspectives in road engineering priorities

- Speed (as a design variable)
- Mass
- Impact configuration

- Redundancy

- Number of road users / extent of travel
- Opportunities for conflict

Crash Severity



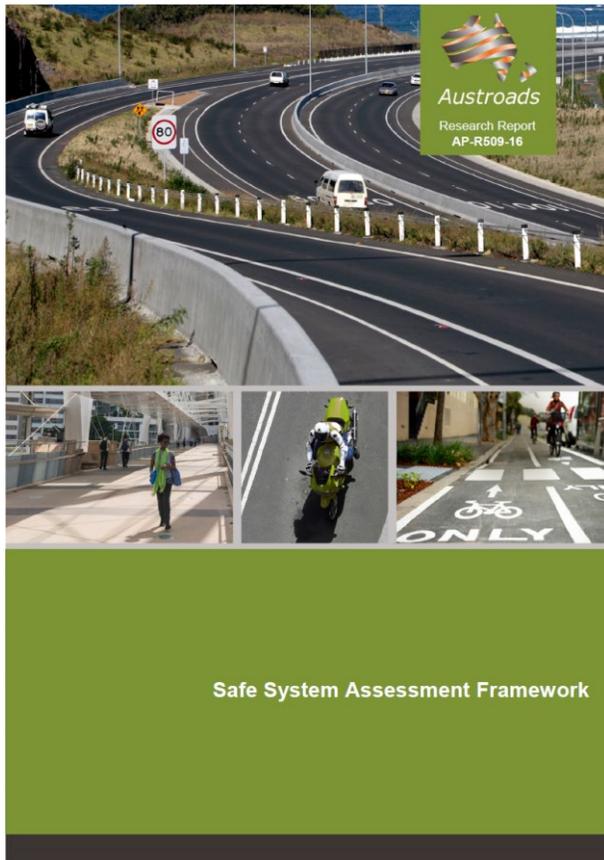
Crash Likelihood



Road User Exposure



Evolving engineering safety knowledge and processes

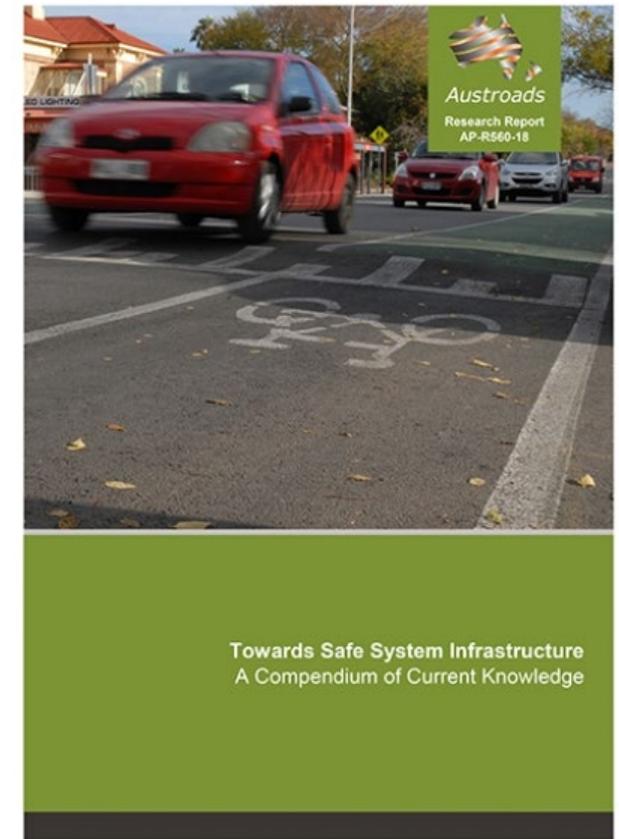


Compliance with standards and guidelines does not guarantee survivable impacts

Design process should also include the scenario when a crash does occur

Austrorads has some guidance on evolving Safe System practices

Become familiar with the Safe System Assessment Framework – do not just rely on road safety audit



Assessing Safe System alignment

Table 4.2: Safe System assessment framework for infrastructure projects

	Run-off-road	Head-on	Intersection	Other	Pedestrian	Cyclist	Motorcyclist
Exposure	AADT; length of road segment	AADT; length of road segment	AADT for each approach; intersection size	AADT; length of road segment	AADT; pedestrian numbers; crossing width; length of road segment	AADT; cyclist numbers; pedestrians	AADT; motorcycle numbers; length of road segment
Likelihood	Speed; geometry; shoulders; barriers; hazard offset; guidance and delineation	Geometry; separation; guidance and delineation; speed	Type of control; speed; design, visibility; conflict points	Speed; sight distance; number of lanes; surface friction	Design of facilities; separation; number of conflicting directions; speed	Design of facilities; separation; speed	Design of facilities; separation; speed
Severity	Speed; roadside features and design (e.g. flexible barriers)	Speed	Impact angles; speed	Speed	Speed	Speed	Speed

Consider treatments on their potential to eliminate harm

Primary – (should be the default starting point)

- Barriers, Roundabouts, crash cushions, survivable operating speeds

Supporting

- Wide Centrelines, shoulders and clear zones, speed controls (ITS, vertical and horizontal deflection)

Not Safe System

- Uncontrolled at-grade cross roads with high operating speeds

Speed Management (Safer Speeds)

Has the most potential to make a quick difference

Can improve efficiency and productivity

Compliance with speed limits (Behaviour)

Setting more survivable speed limits (Engineering)

-> energy management to prevent injury



Speed remains the true silver bullet in road safety

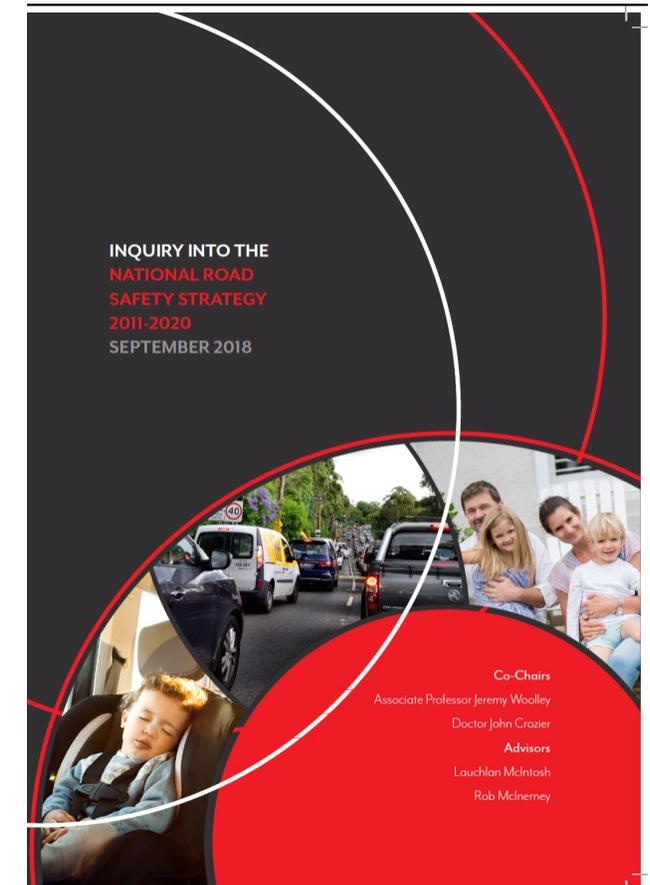
Inquiry into the National Road Safety Strategy 2011-2020

Delivered Sept 2018

12 recommendations

Wake up call regarding an ability to achieve step change in national performance

Local government concerns given a high profile and emphasis



LG Perspectives

Submissions: WALGA and LGAQ

Round Tables: Mackay and Wagga Wagga

Interviews: ALGA

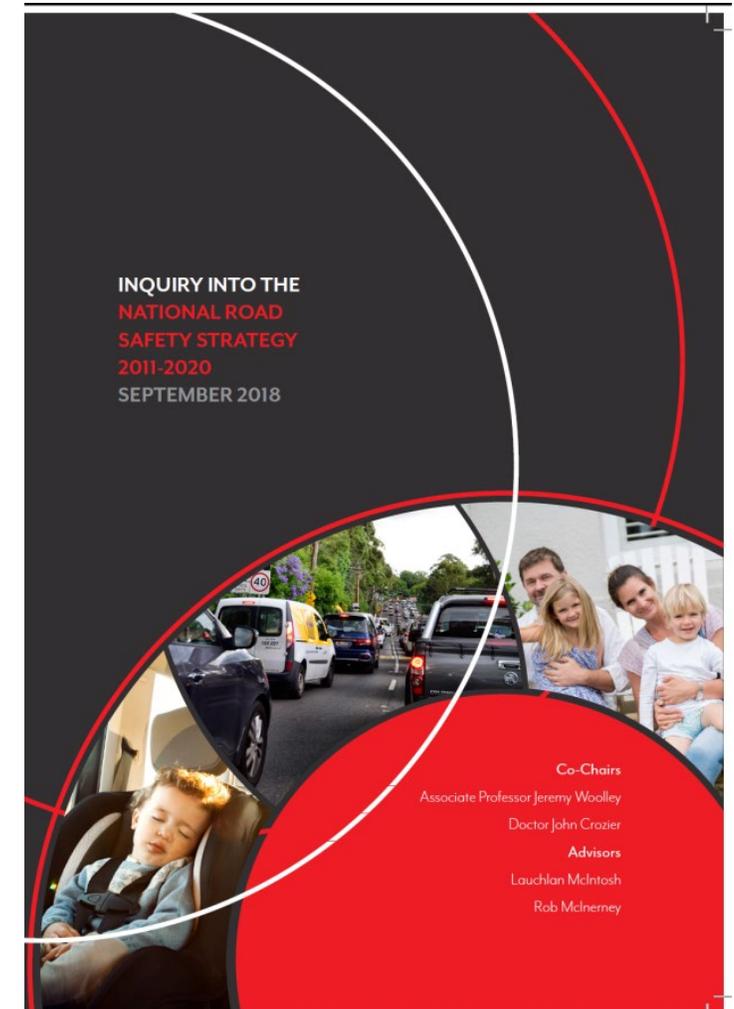
“Local governments will need support to apply the Safe System approach and to find and apply cost-effective and innovative solutions.” NRSS p53



Inquiry into the Australian National Road Safety Strategy

Headlines

- Implementation Failure
- Lack of a harm elimination agenda
- Loose strategic definition and accountability
- Indicators (KPIs) do not reflect system transformation
- **Safety not integrated into business as usual**
- A need for stimulus and scale
- Lack of capability to get to zero (and timeframe)
- \$3b annual road safety fund (LGA needs assistance)



Some Common LGA Challenges

Lack of Local Government **resource, capacity and capability** (80% roads / 3% tax base)

Perspective needs to shift to the **strategic response for the next 30 years** and how the network might be transformed

Practices are being maintained that **continue to contribute to the problem** or divert resources from the solutions required (eg offset T junctions)

Some innovation is evident but **no effective mechanisms for knowledge sharing**

Room to **improve coordination** within council business units (eg planning, maintenance and traffic management)

The view that **road users are primarily to blame** is entrenched in the community, organisations and the political sphere

The Inquiry and next strategy - now is a good time to make noise about empowering the LG sector to find more realistic solutions

Mildura Rural City Council (Davis, 2019)

Network data (AusRAP and ANRAM modelling)

Speed review – 40 & 80km/h

1 star from 28% to 9%

2 star from 42% to 29%

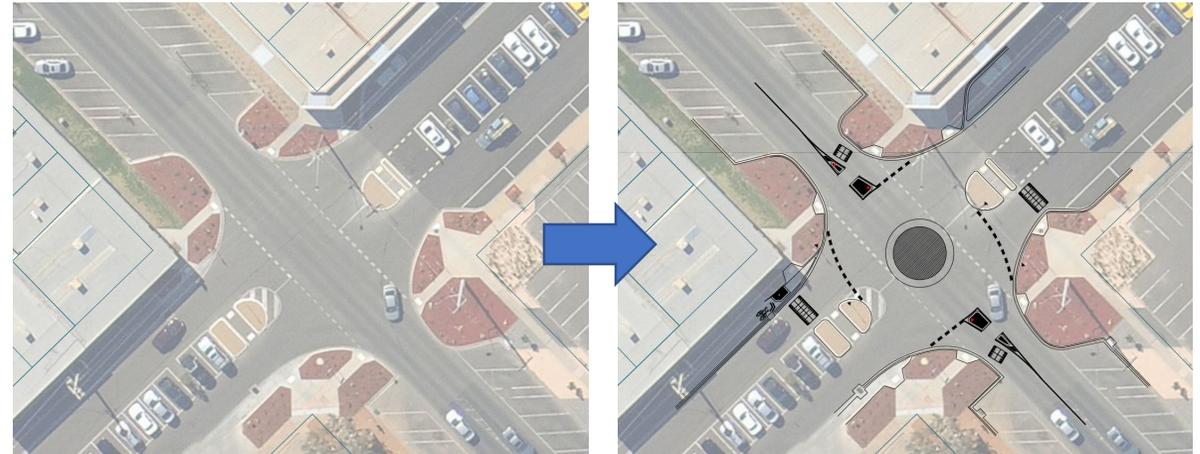
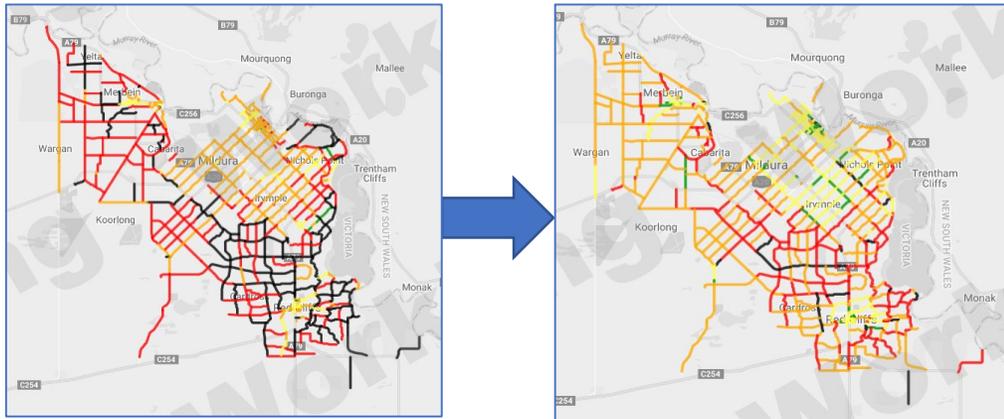
34% FSI reduction

Hybrid Roundabout

<\$50k (\$37,000)

5 day construction period

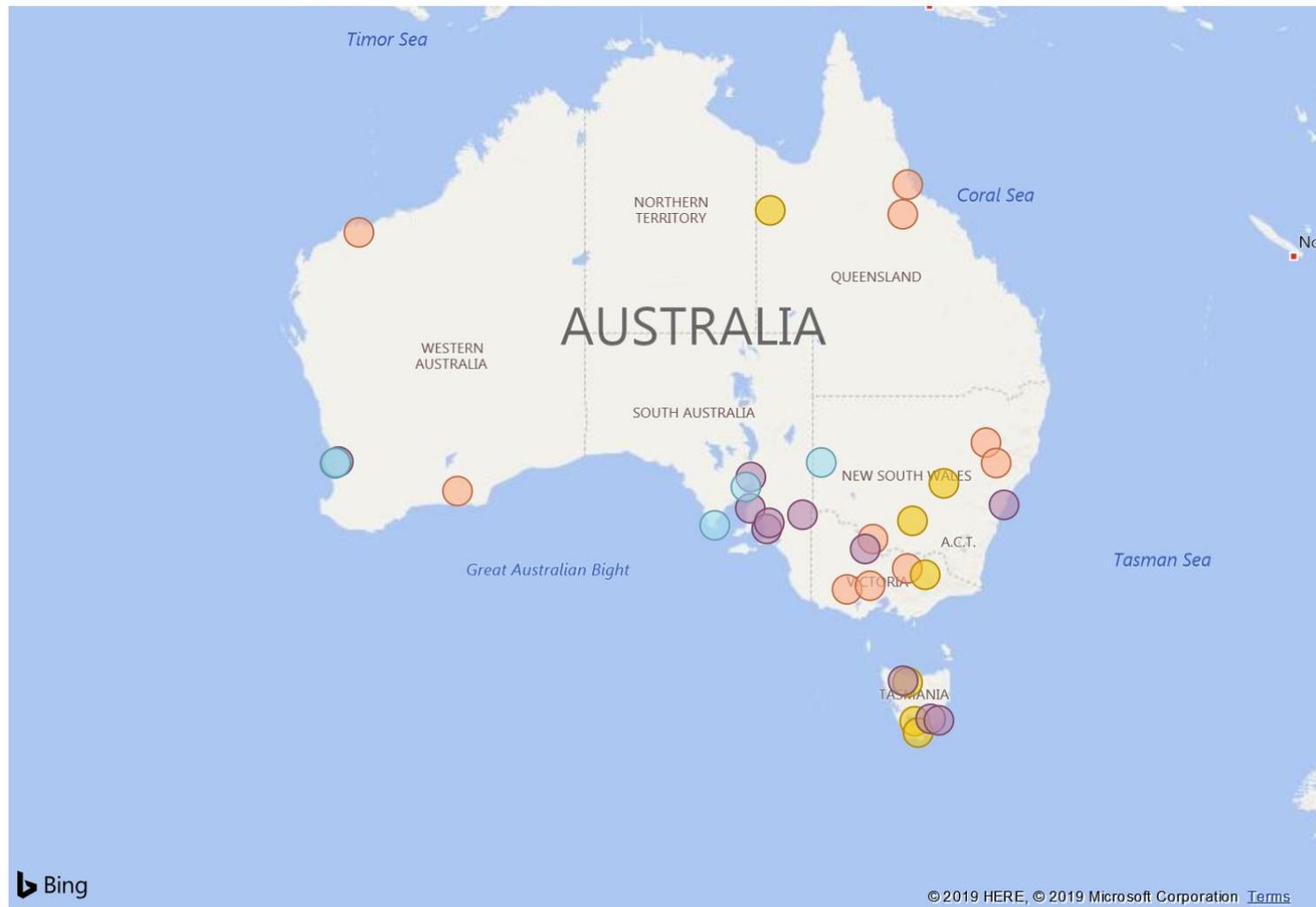
99% of veh enter <25km/h



Australian road deaths by Local Government Area: Number of years with zero deaths* 2008 to 2017



Number of years with zero road deaths ● 3 ● 4 ● 5 ● 6 ● 7



Select number of years with zero road deaths

- Select All
- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7

Select LGA (2016) population range

- Select All
- < 10,000
- 10,000 to < 25,000
- 25,000 to < 50,000
- 50,000 or more

What Local Government Area boundaries are used in this map?

Counts are derived using boundaries from the [Australian Bureau of Statistics 2017 Australian Statistical Geography Standard edition of the Local Government Areas structure](#)

There may be discrepancies with jurisdiction counts by local government area.

Based on crash data supplied by:

- NSW Centre for Road Safety
- Transport for Victoria
- Queensland Department of Transport and Main Roads
- Department of Planning, Transport and Infrastructure South Australia
- Mainroads Western Australia
- Department of State Growth Tasmania
- NT Department of Infrastructure, Planning and Logistics
- ACT Transport Canberra and City Services Directorate

* Counts include deaths on motorways

Source: National Crash Database.



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Department of Planning,
Transport and Infrastructure

Mainstreaming Safety

- Tools are evolving:
 - Network Safety Plans & Risk Assessment (AusRAP, ANRAM, IRR)
 - Safe System Assessment
 - Road Safety Audit -> understand the limitations
 - From black spot to system transformation
 - Ask industry to include Safe System in tendering responses
 - Specify LGA vehicle fleet safety and those of contractors
 - ISO39001 or hybrid solutions
 - Sharing innovation successes and failures
-

Take home messages

1 How the road safety response can be improved

- Adopt a holistic approach (Safe System) and start working towards zero harm by 2050

2 Not just additional resources but re-focussing on what we are already doing

- Make harm elimination a genuine part of business as usual (design, construction, management, maintenance -> placemaking & asset renewal)
- Adopt and develop supporting tools and processes
- Start addressing crash severity and consequence – not just likelihood

3 Knowledge and building capacity to get to zero

- More than just road safety audit - educate professionals on practices that support getting to zero
- Innovation and demonstration will be key – must start doing things differently, stop creating problems for the future
- Lobby for sustainable joint ventures that build capacity and share resources (eg Queensland, WALGA)
- Look at what other Councils are trying (eg Mildura, Mornington Peninsula, Auckland)

4 Long term strategic actions that keep building momentum

- Adopt longer term strategic approaches to reduce harm backed up by analysis and data
- Lobby for a program to conduct network risk assessment of entire LG network
- Seek a narrative around getting to zero by 2050 with the community
- Start with small parts of the system and make them fatality free (schools, village centres, shopping strips, suburbs, corridors, rural townships)
- Innovate, Innovate, Innovate and showcase the case studies

Recommendations

1. Appointing a **Cabinet minister with specific multi-agency responsibility** to address the hidden epidemic of road trauma including its impact on the health system.
 2. Establish a **national road safety entity** reporting to the Cabinet minister with responsibility for road safety.
 3. Commit to a minimum **\$3 billion a year road safety fund**.
-

Recommendations

4. Target of **Zero for 2050**; interim target Zero for all major capital city CBD areas, and high-volume highways by **2030**.
 5. Establish and commit to key performance indicators in time for the next strategy that **measure and report how harm can be eliminated in the system**, and that are published annually.
 6. Undertake a National Road Safety **Governance Review** by March 2019.
-

Recommendations

- 7. Implement rapid deployment and accelerated uptake of proven vehicle safety technologies and innovation.**
 - 8. Accelerate the adoption of speed management initiatives that support harm elimination.**
 - 9. Invest in road safety focused infrastructure, safe system and mobility partnerships with state, territory and local governments that accelerate the elimination of high-risk roads.**
-

Recommendations

10. Make road safety a **genuine part of business as usual** within Commonwealth, state, territory and local government.
 11. Resource key road safety **enablers** and road safety **innovation** initiatives.
 12. Implement **life-saving partnerships with countries** in the Indo-Pacific and globally as appropriate to reduce road trauma.
-