



The Economic Value of Investing in Road Safety on Local Roads

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THE UNIVERSITY
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Innocent bystanders

Proportion of people killed or seriously injured in crashes in South Australia assessed to be in the wrong place at the wrong time

Fatal or serious injury	2012 to 2015		% "wrong place at the wrong time"
	Not responsible	Responsible*	
Type			
Driver	325	1291	20.1%
Rider	330	526	38.6%
Passenger	620	0	100.0%
Pedestrian	116	214	35.2%
Total	1391	2031	40.6%

Note: * Road users judged responsible for a crash if they were in the responsible unit and were not a passenger.

Source: CASR

Extreme Behaviour or System Failure?

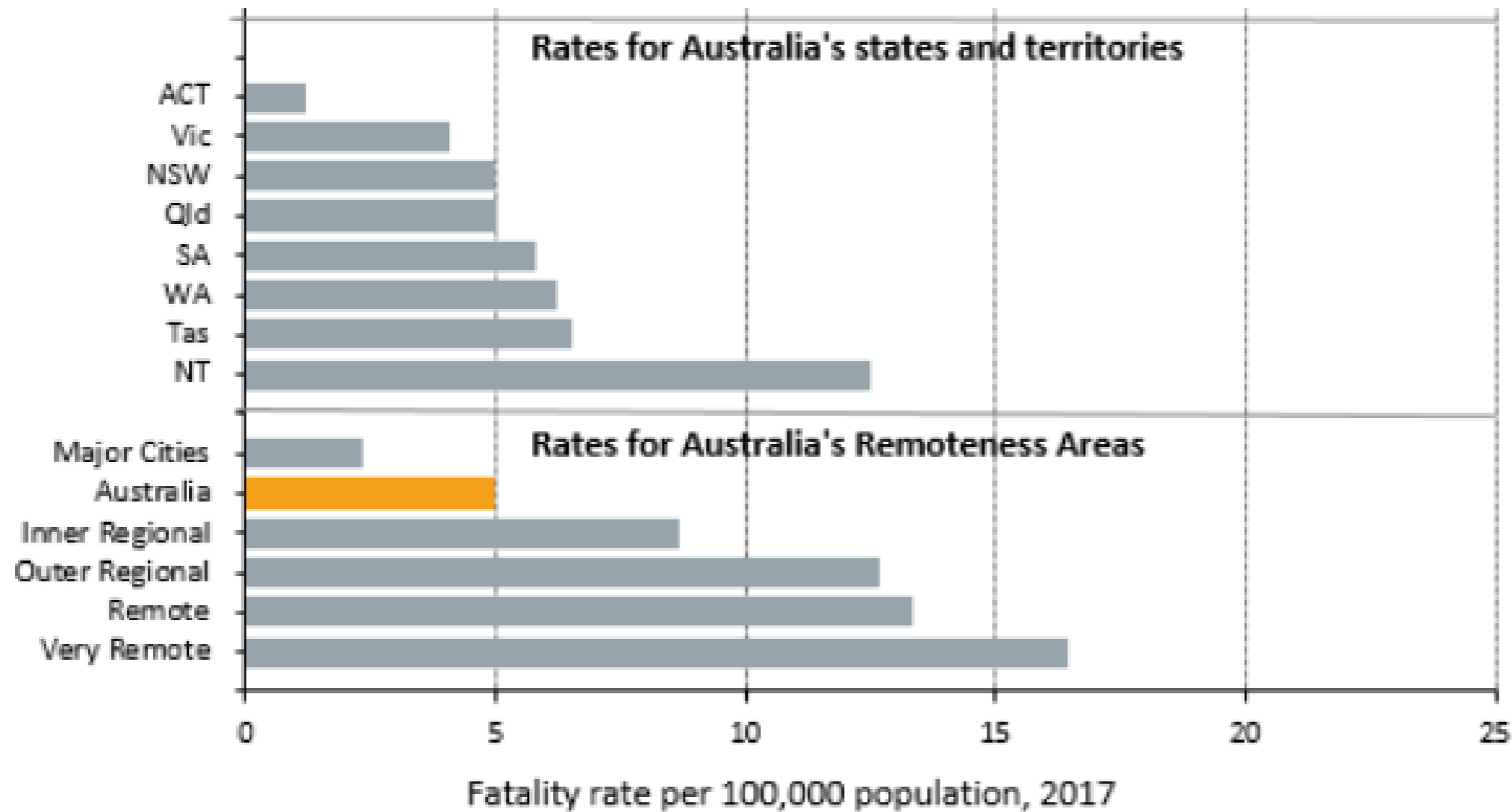
Crash Causation	Fatal crashes (N=157)		Injury crashes (N=235)	
	N	%	N	%
Extreme behaviour	47	29.9	16	6.8
Illegal system failure [*]	35	22.3	50	21.3
System failure	75	47.8	169	71.9

^a Does not meet the criteria for extreme behaviour but involves non-compliant behaviour.

Wundersitz and Raftery (2022) *in press*

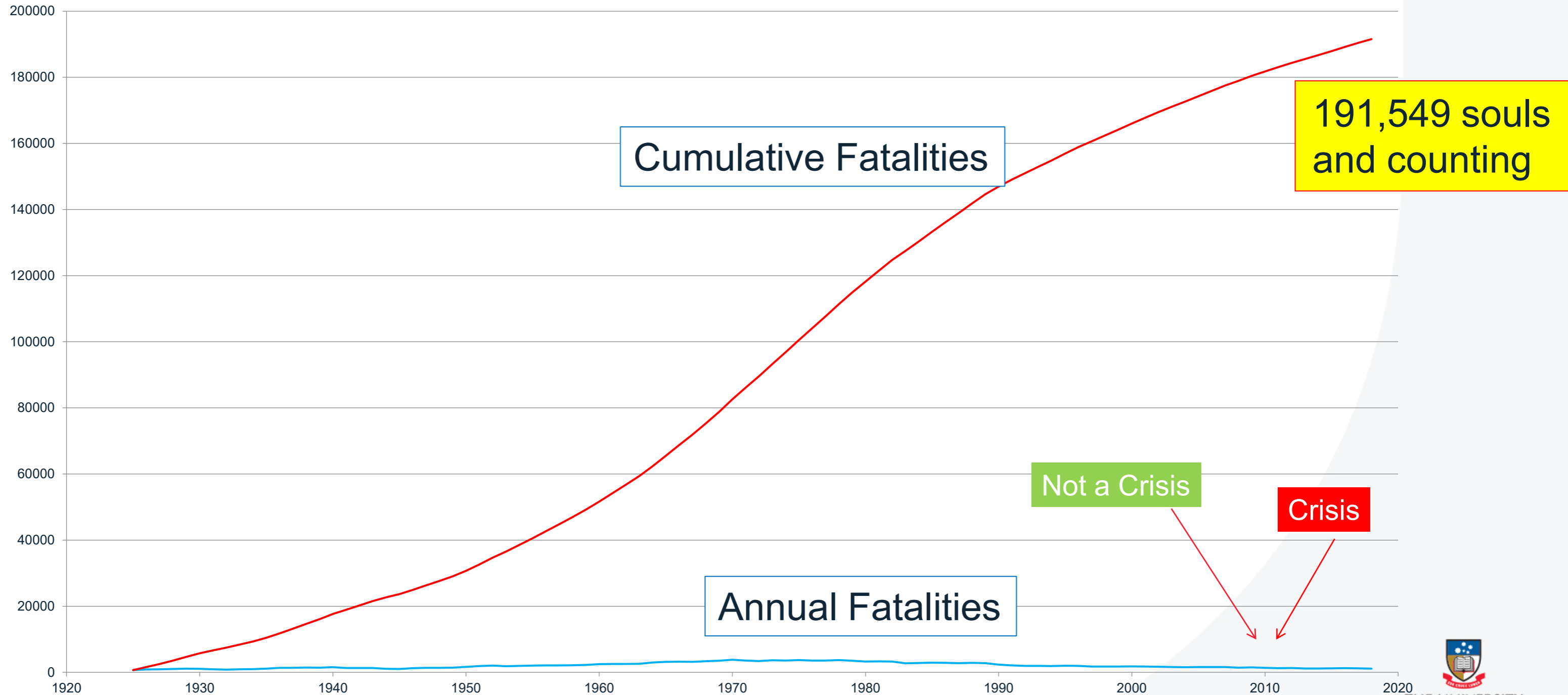
Fatality rates by remoteness

Fatality rates (per 100,000 population) by remoteness in Australia, 2017 (Source: BITRE)



Fatality and injury rates increase with remoteness

Perceptions are important – level out the red curve!



191,549 souls and counting

Cumulative Fatalities

Annual Fatalities

Not a Crisis

Crisis



The key perspective being missed

There is 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 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



Financial Scale

Road Safety **\$22-30 billion annual drag** on productivity and economic growth
\$3.9b social costs – 76% Fed; 22% State/Territory; 2% LGA (ANU, 2022)

But this is the cost given the network we choose to operate

The key question is what is required to get to virtually zero harm by 2050?

Tax base for LGA is around 3.6% yet maintains one third of non-financial assets (ALGA, 2017)



What is required to get to Zero by 2050?

- Communication and a shared vision on end states
- Adequate scale of response
- Long term planning to zero and investment profiles
- Strategic planning and coordination
- Capacity and capability building in leadership and professions
- Adequate sustained resource commitment
- Better gap identification and risk analysis (esp LGA roads)
- Systemic change supporting human error and survivability



Example Jurisdiction

	State Roads				Non-State Roads			
	Sealed roads		Unsealed roads		Sealed roads		Unsealed roads	
	< 80 km/h	≥ 80 km/h	< 80 km/h	≥ 80 km/h	Metro	Regional	Metro	Regional
Length of roads*	1.3%	11.9%	<0.1%	9.8%	7.6%	12.0%	0.4%	57.0%
Number of intersections	5.5%	4.7%	0.1%	1.7%	71.6%	5.0%	1.6%	9.8%
Vehicle km travelled per year	36.5%	33.6%	<0.1%	0.6%	21.1%	4.8%	0.1%	3.3%
FSIs per year (2013-18 average)	29.9%	34.8%	0.1%	1.4%	15.2%	10.8%	0.2%	7.6%

Source: CASR

A Possible Safety Regional Road Investment Profile over 10 years

	State sealed roads (≥ 80 km/h) (knowing what has been treated to date)	Non-state sealed roads (Treatments to date unknown)
Midblock treatments (\$m)	\$5,000	\$3,500
Intersection treatments (\$m)	\$2,000	\$1,800
FSIs reduced per year	124	32
FSIs reduced (% of 2013-18 average)	45%	38%

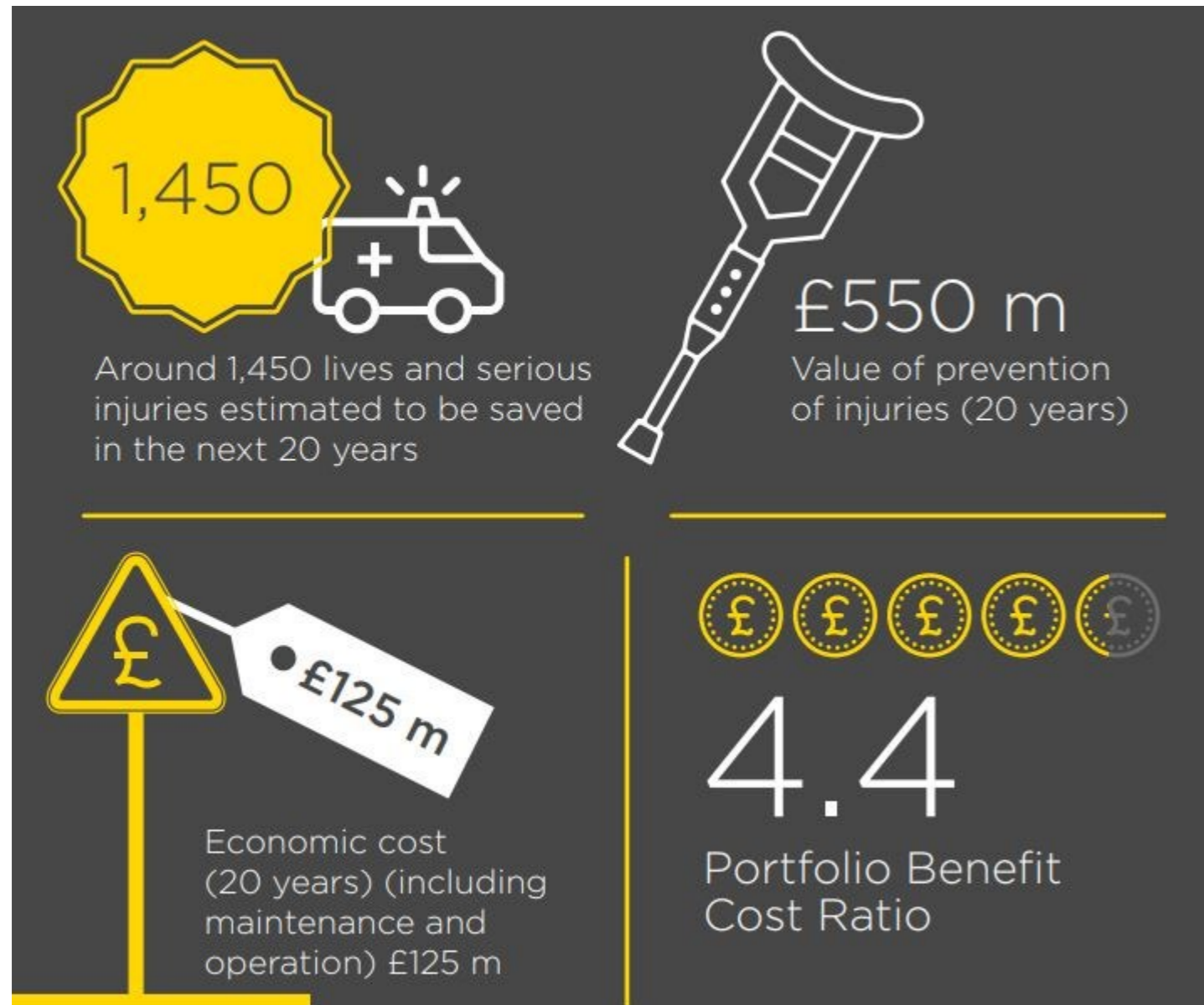
Source: CASR

“Fix the roads” and “Fix the potholes” – understand what this actually means

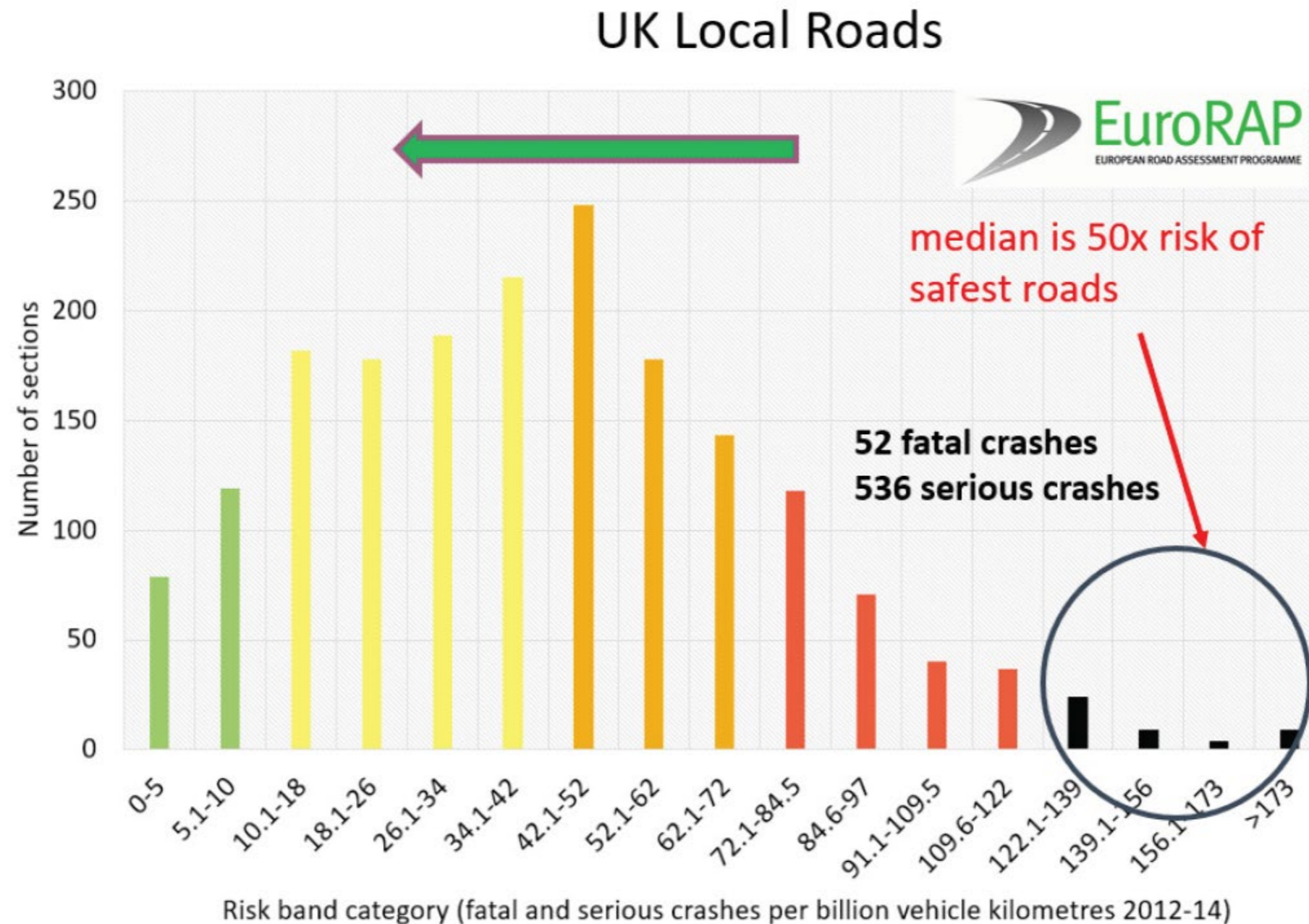
A specific combination of treatments is important to make roads more survivable

UK Safer Roads Fund (£100m)

Top 50 high risk Council A category roads



UK Top 50 LG high risk roads – risk rather than crash density



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%

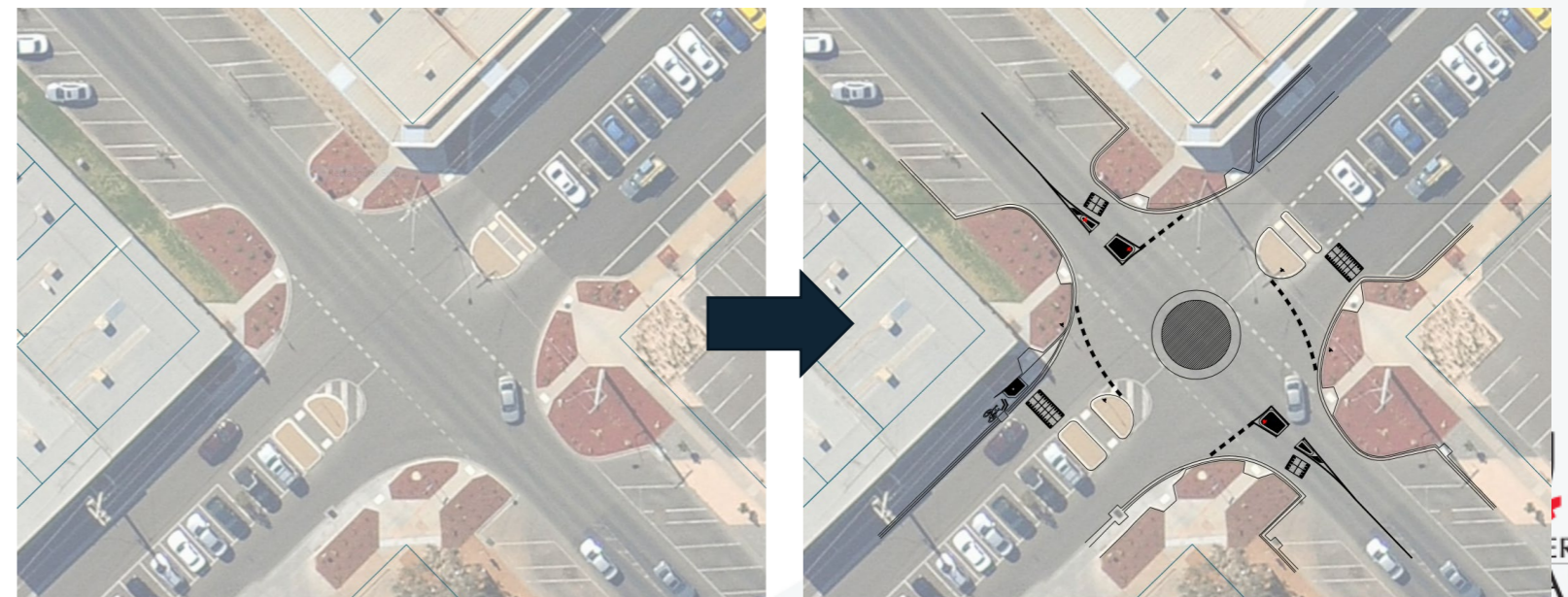
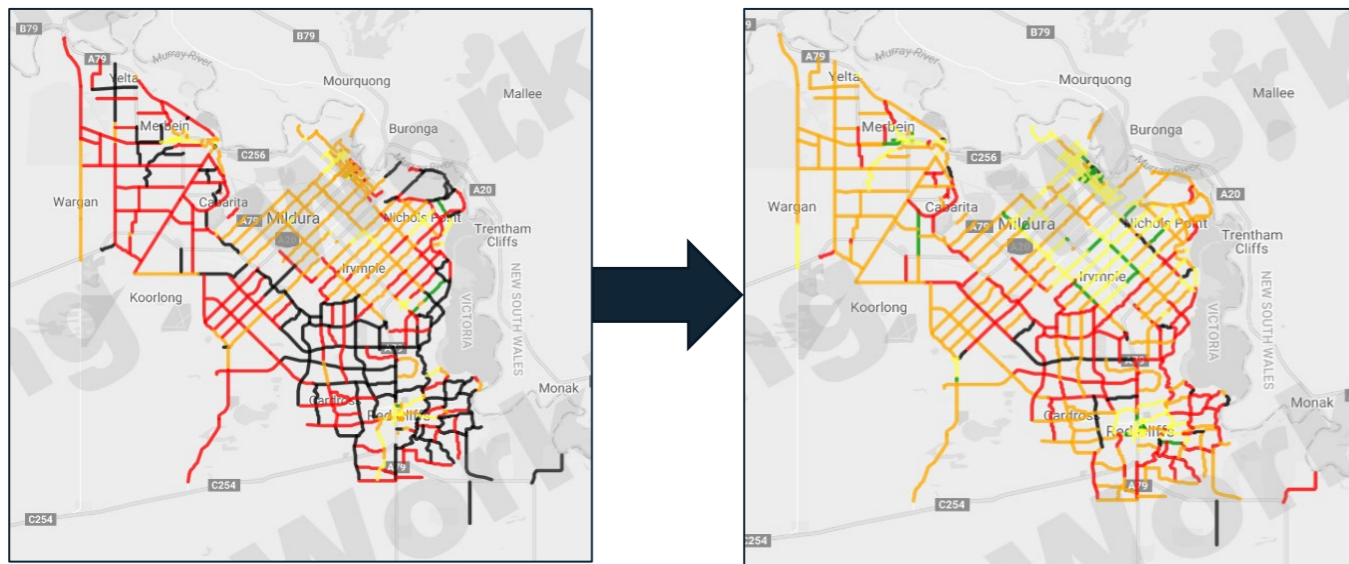
34% FSI reduction

Hybrid Roundabout

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

5 day construction period

99% of vehicles enter <25km/h



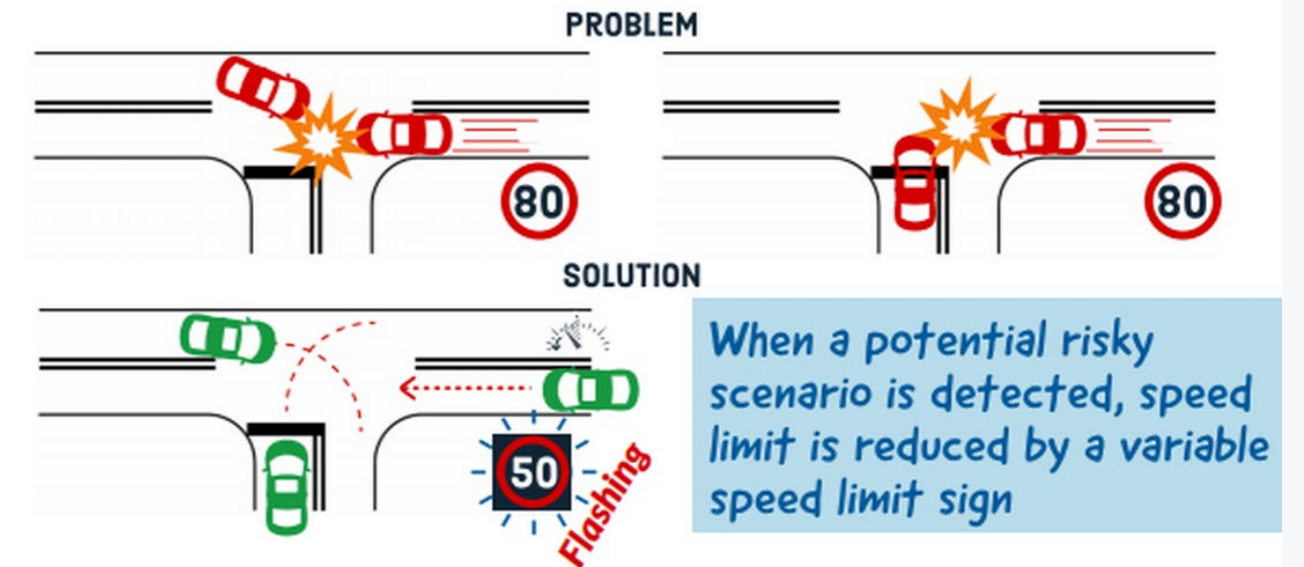
Rural Jcn Active Warning Sign (RJAWS lite)



RJAWS Lite

At least half the cost
2 days installation
Energy management safety principles

A SOLUTION FOR SAFER JUNCTIONS



RJAWS

Why Speed reform is the best thing LGA can pursue?

Table 4.3: Cost of obtaining reductions on state controlled roads in South Australia with infrastructure changes or speed limits (Doecke, Kloeden et al. 2011)

Speed limit	Treatment option	Serious casualty crash reduction	Cost of treatment (\$M)	Cost of 20% serious casualty crash reduction (\$M)
100 km/h	10 km/h speed limit reduction	20%	<1	<1
	Shoulder sealing	14%	104	NA
	Roadside barriers	18%	526	NA
	Median barriers	14%	2,142	NA
	Clear zones	9%	545	NA
110 km/h	10 km/h speed limit reduction	20%	<1	<1
	Shoulder sealing	25%	427	338
	Roadside barriers	35%	2,404	1,367
	Median barriers	26%	9,540	7,235
	Clear zones	18%	2,428	NA

Y

Reflections on LGA situation

- Current LGA funding base is not sufficient to make desired progress by 2050
- You can make the roads smoother but making them SAFE is a different proposition that needs to be better understood
- Identify and cease implementing outdated road engineering practices

Collaborations needed to:

- Derive Network Safety Plans and risk assessments
- Better understand the tools in the toolkit
- Create Strategic Plans and Actions



Reflections on LGA situation

Stimulus and Scale is needed around:

Safer Roads – become more strategic about investment (*vs ad hoc*)

Safer People – pursue cultural change and agenda setting

Safer Vehicles – fleet purchasing and procurement opportunities

Safer Speeds – this is the silver bullet

Post Crash – socialise information on the injury and cost burdens in your communities

Keep lobbying State and Commonwealth on the strategic benefits they can unlock through meaningful support and collaboration – get better at the business cases for doing so



Individually

Leaders:

- Take an interest in the quality of the road safety response
- Build knowledge, capacity and understanding of next steps
- Support the elimination of outdated practices
- Seek support for scaling up the response (organisation, region, state, nat)

Practitioners:

- Support cultural change with the community (esp on speed)
- Highlight and discuss shortcomings of professional practices (EA, IPWEA, AITPM, PIA etc)
- Share knowledge and experiences within networks



All the dummies out there may one day thank you!

