

Inquiry into the Increase in Victoria's Road Toll

Presentation (Opening Statement) to the
Economy and Infrastructure Committee
Parliament of Victoria
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The main points

1. Fatalities: small numbers, so likely to fluctuate
Serious Injuries: bigger numbers; worrying increase
2. Shouldn't focus on Fatal & Serious Injury (FSI) crashes
(because of miscoding; chance outcomes; etc.)
Bigger reductions in FSIs happen by looking at ALL crashes
3. *Vision Zero* and the '*Safe System*' are flawed
 - they ignore 'human factors' knowledge **Instead: Do what we tell you**
 - focus on FSIs (which are only 1% of all crashes)
 - the aim of Zero FSIs is absurd (see Item 4.)
 - offer simplistic solutions, when detailed analysis is needed
 - rely on dogma, not science or knowledge or analysis

Do what we tell you

The main points

4. Zero 'deaths & serious injuries' is not possible
 - it's an "infantile fantasy". What next - zero suffering?
 - ignores mobility, the cost, other community objectives
 - better (more honest) simply to seek to reduce trauma

5. Understand the difference between . . .
 - focussing on high risk behaviours, vs.
 - seeking to shift the behaviour of the low risk majority
(The so-called *Public Health* approach) Do what we tell you

6. Speed
 - the speed limit \neq travel speeds
 - no automatic crash benefit in reducing a speed limit
 - 85th percentile speeds have been demonised

The main points

7. Transparency and honesty essential
 - dishonesty in *Towards Zero*. E.g. study results kept secret
8. My suggested approach (at odds with the Safe System):
 - there are no absolutes (no endless money, Zero is not possible)
 - most road users are reasonable: treat them so
 - reduce crash causes as well as crash consequences
 - encourage responsibility in key areas
 - actions need to be evidence-based (evidence of effectiveness)
9. Effective analysis needs good data
 - but we can't get access to the details that do exist
 - the data is poor (does not include non-casualty crashes)
 - the resulting projects are ineffective; money is wasted

Do what we tell you

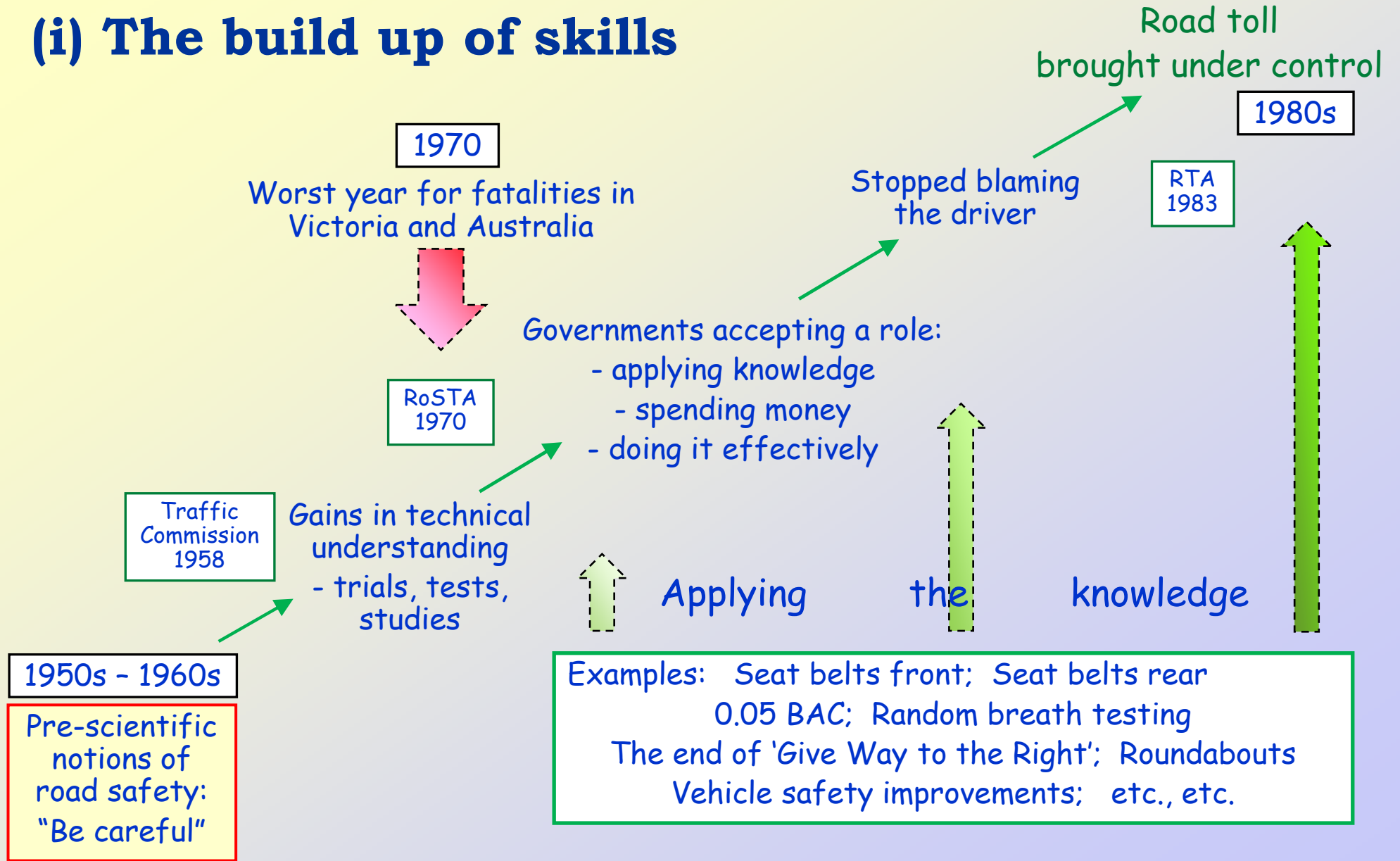
The main points

10. Loss of skills and experience
 - the value of technical experience is not appreciated (Managerialism)
 - not enough technical professionals employed in govt.

Remember:

The road toll of 1970 was conquered by
the scientific approach:
the development and application of
knowledge and skills within government

(i) The build up of skills



(ii) The loss of skills

VicRoads created:
The 'Road Builders'
took over the Road
Safety people and
the Traffic people

End of
the RTA
1989

Downsizing (repeatedly)

Loss of
skills

KNOWLEDGE
VACUUM

The rise of Managerialism:
Managers don't need specific
technical experience & skills

Safe System
invented

2004

Dogma replaces
detailed analysis

Do what
we tell you

Back to blaming
the driver

Now

Return to
Pre-scientific
notions of
road safety:
"Slow Down"

1985 - 1990

- Neo-liberalism
- Chicago School of Economics
- 'Governments are Businesses'
- 'Small government is good'

Diminishing skills within government:
Residual experience initially props up the system,
then less and less so, until it **finally collapses**

Examples

I would be pleased to discuss examples, such as:

Bell Street

- Speed limit reduced from 70 to 60 km/h
- Crash causes not investigated

40 km/h outside every school

Excellent treatment
when sparingly applied

- Solving a problem that did not exist
- \$\$\$ wasted; \$\$\$ in pointless fines

Elsternwick shopping strip

- Speed limit reduced from 60 to 40 km/h
- Pedestrian crashes increased by 60%

TAC-funded wire rope roll out

Excellent treatment
when correctly applied

- Installed where not needed (one size fits all)
- No detailed analysis
- Broken down cars close to passing traffic

Examples

40 km/h Shopping Centre Speed Limit - Greythorn

"Boroondara has been given \$300,000 to install a 40 km/h shopping centre speed limit on Doncaster Road"

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The Age,
24 July 2020



Crashes (in 5 years):

- 16 total
- 2 pedestrians
- 5 cyclists
- No detailed crash analysis



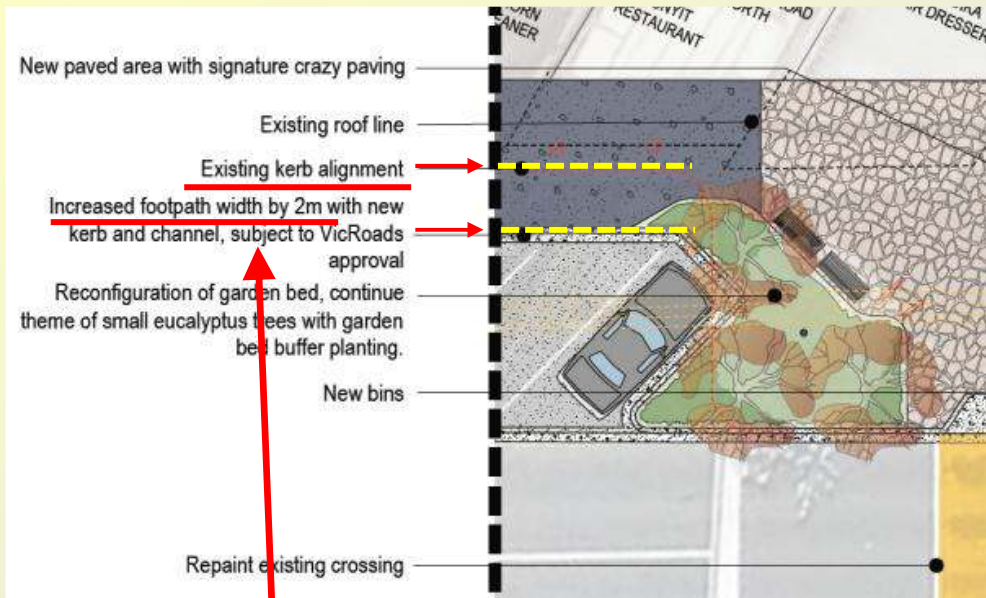
Speed limit signing costs ~\$50,000

What is the rest to be spent on?

Examples

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40 km/h Shopping Centre Speed Limit - Greythorn



Boroondara CC website

Footpath to be 2 m wider
= buffer behind
angle parking is removed

Assessment:

- The devil is in the detail
- No guarantee a lower limit
= lower speeds/more safety
- No buffer behind \angle parking
= more cyclist &
other reversing crashes
- VicRoads guide requires \angle
parking buffer on arterials
- Loss of skills >> reliance on
the dogma of low speeds
- 'Safe System' is not the only
dogma now: there's also
'Movement & Place'

Road Safety Actions need to be:

- Evidence-based (needs skills, experience & good data)
- Effective (at reducing crash numbers and severities)
- Cognisant of other community objectives
- Cost-effective

Thank you

The following pages are not part of my presentation

They include:

- *additional examples*
- *larger copies of diagrams in my submission*
- *other notes that may be of assistance*

Example 1

Bell Street:
70 km/h reduced to 60 km/h



"Speed was determined to be the major factor in 152 of these crashes" [on 70 km/h road]
Minister's spokesperson on advice from VicRoads

(Odd, as the total no. of crashes was 139)

Outcomes:

- Crash numbers were wrong, then used to justify action ('199 in 5 years'. Actual = 139)
- Detailed crash data not used (just summary info.)
- Crash causes not investigated. The issues remain
- Later road safety audit by me & RACV not actioned
- Except at speed cameras, some go at 70 km/h, others go at 60 km/h

Example 1

Bell Street:
70 km/h reduced to 60 km/h

Causes:

Loss of skills in VicRoads:
can't do crash analysis,
blind faith in lower limits

Not enough staff: too busy

This outcome was
predictable from earlier
studies done by MUARC
for VicRoads

Outcomes:

- Crash numbers were wrong, then used to justify action ('199 in 5 years'. Actual = 139)
- Detailed crash data not used (just summary info.)
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Example 2

40 km/h outside every school



Bulleen Road, Bulleen.

- Students rarely seen on this footpath
- Students never cross this road
- 99% of access is via a local street, off a different arterial road

Outcomes:

- Safety not improved (There was no general problem. Action was needed only at problem sites).
 - Traffic slowed for no good purpose.
 - A waste of money
 - Money not available for worthy projects.
- \$50,000 - \$60,000 per site

Do what
we tell you

Example 2

40 km/h outside every school

Causes:

Detailed analysis was done.
Ignored by VicRoads

Safe System dogma:
Mobility has no value

Safe System dogma:
'Likelihood' is unimportant:
if it *could* happen, it must
be prevented at all cost
(to achieve Zero)

Outcomes:

- Safety not improved
(There was no general
problem. Action was needed
only at problem sites).
- Traffic slowed for
no good purpose.
- A waste of money
- Money not available for
worthy projects.

Do what
we tell you

Example 3

40 km/h Shopping Centre Speed Limit - Elsternwick

	Motor vehicle only	Motor-cycle	Bicycle	Ped-estrian	Total in 5 years
Before 40 km/h limit	26	5 (incl. 2 'doored')	16 (incl. 9 'doored')	15 (15 people)	62
After 40 km/h limit	11	3 (none 'doored')	14 (incl. 5 'doored')	24 (26 people)	52
Change in no. of crashes	Down 60%	Dooring eliminated Other - no change	Dooring - down 44% Other - up by 30%	Up by 60%	Down 16%

Casualty Crashes per 5 years

Between Nepean Hwy & Hawthorn Rd, excluding the intersections at each end.

'After' is 2011 - 2016.

For details see Morgan (2018)

Outcomes:

Most vulnerable road users are worse off:

- Motorists: very helpful
- Motorcyclists: helpful
- Cyclists: a mixed blessing
- Pedestrians: a disaster

Assessment:

- A lower speed limit is no guarantee of better safety
- Need to look at the details in the data

Example 3

40 km/h Shopping Centre Speed Limit - Elsternwick

Causes:

Detailed analysis was done.
Ignored by Council

Unscientific
Safe System approach:
blind faith in lower limits

'Solution' unrelated to
the crash causes

Note: a 40 km/h limit in Johnston St.,
Abbotsford was an effective solution
as it relates to the crash causes

Outcomes:

Most vulnerable road users
are worse off:

- Motorists: very helpful
- Motorcyclists: helpful
- Cyclists: a mixed blessing
- Pedestrians: a disaster

Assessment:

- A lower speed limit is no
guarantee of better safety
- Need to look at the
details in the data

Example 4

TAC-funded wire rope barrier program



Geelong Road

- Barrier shielding no hazard
- Barrier ~3 m from traffic increases risk when vehicle is stopped

Outcomes:

- Installed where not needed
- Stopping close to traffic is a needless risk (get run into)
- Not every impact with the barriers is 'a life saved' - it may just be 'a barrier hit'
- A waste of money (i.e. part of project cost was wasted)
- Money not available for worthy projects

E.g. fixing Victoria's worst accident blackspot at Springvale Junction

Example 4

TAC-funded wire rope barrier program

Causes:

Managerialism / Skill loss:

- urgent rollout
- one size fits all
- no detailed analysis

Dishonesty (skill loss):

- spin in lieu of substance

Safe System dogma:

'Likelihood' is unimportant:
achieve Zero at all cost

Outcomes:

- Installed where not needed
- Stopping close to traffic is a needless risk (get run into)
- Not every impact with the barriers is 'a life saved' - it may just be 'a barrier hit'
- A waste of money
(i.e. part of project cost was wasted)
- Money not available for worthy projects

Note: wire rope is an effective (and cost-effective) treatment where correctly applied.

Well-placed wire rope barrier



Princes Freeway, Moe
- Room to stop, well away from passing traffic

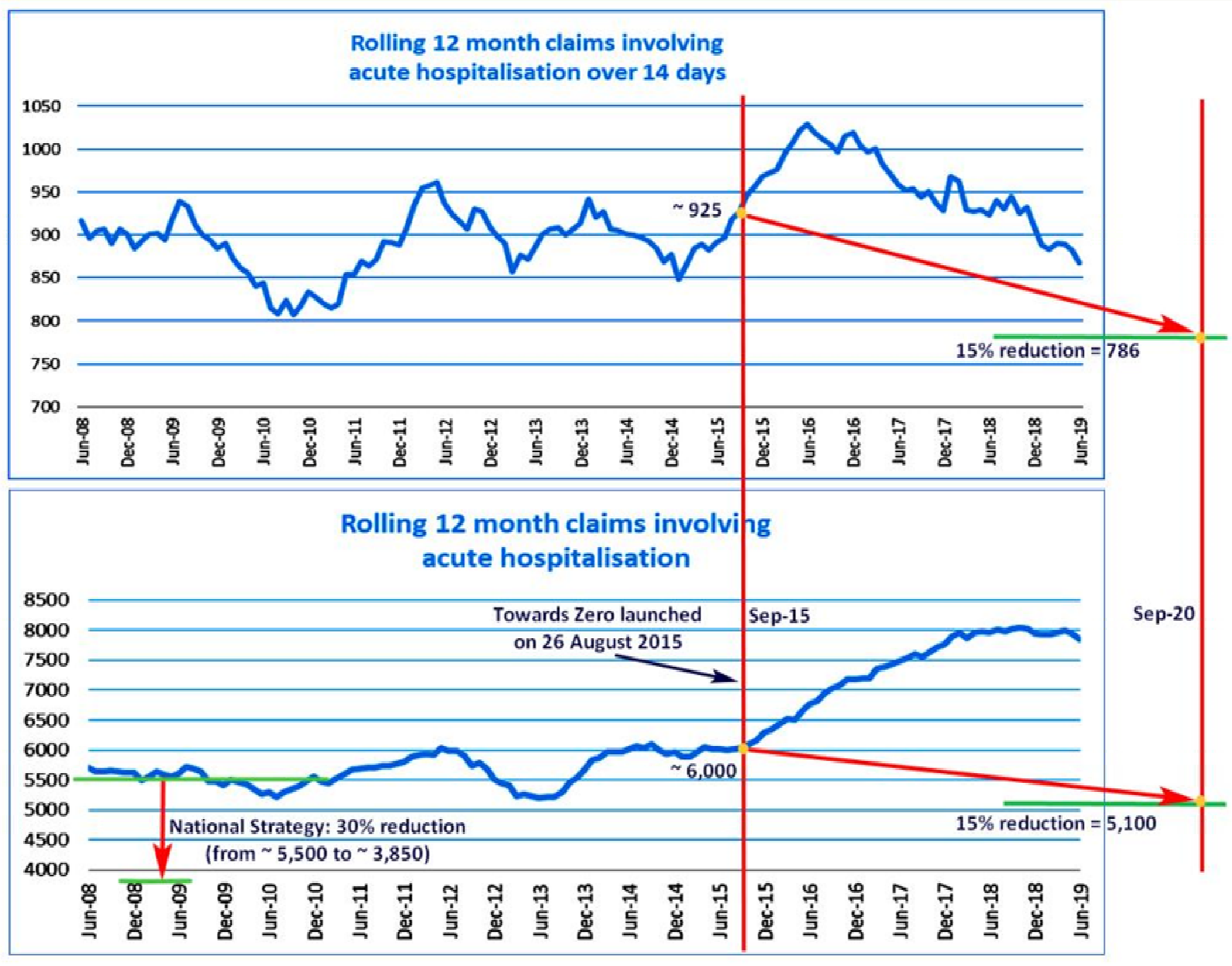
Money for wire rope barrier;
No money to fix the edge drop-off ?



Northern Highway, Elmore

- Worthwhile barrier installed (shielding a pole)
- Adjacent shoulder has significant drop-off (reduces effectiveness of wire barrier)

Copies of diagrams in my submission:

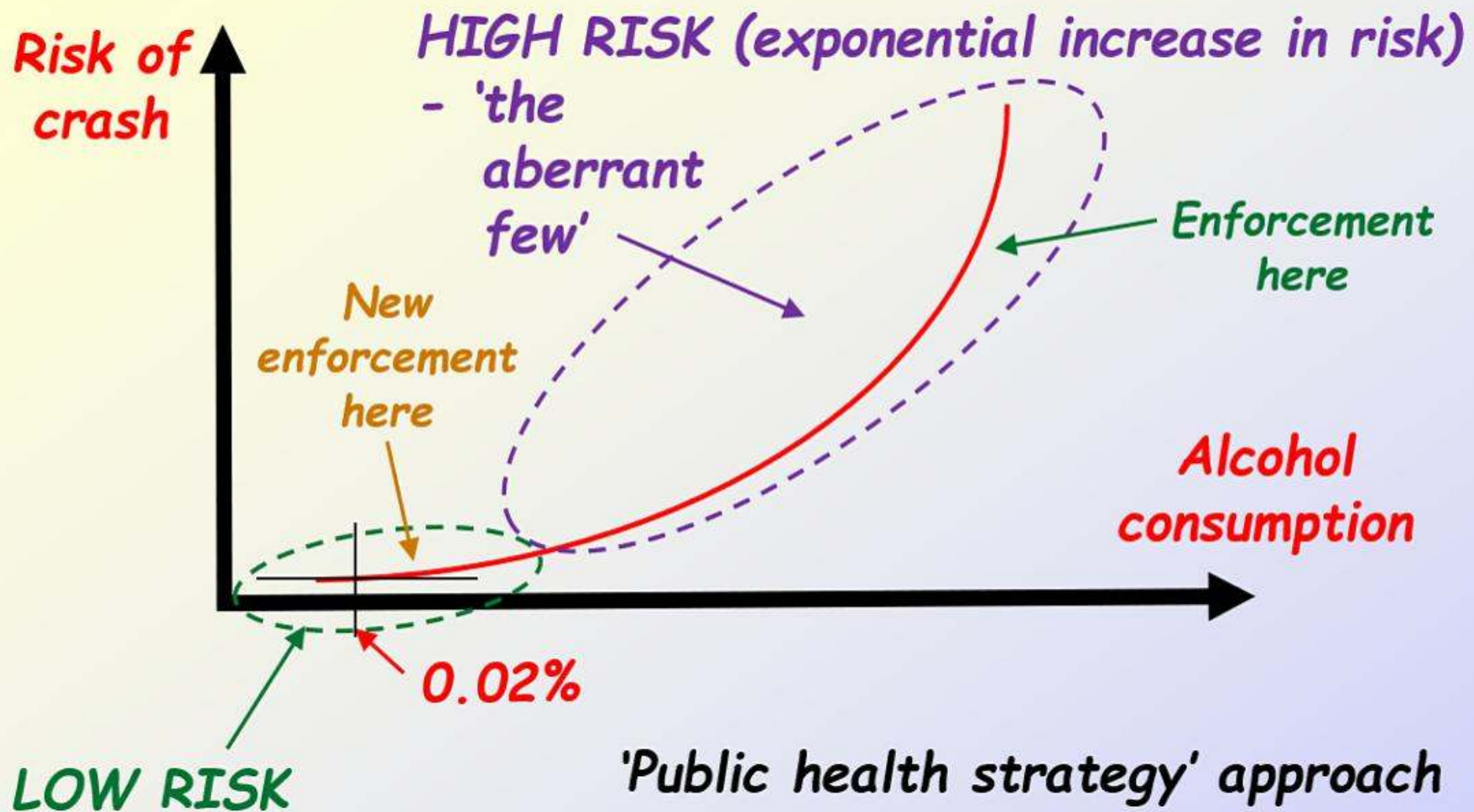


Crash Category in data bases	Outcome	% of crashes	**Crash costs \$	% of crash costs	The 'SAFE SYSTEM'	Traditional approach, e.g. crash reduction, audits, safe design
FATAL	Death or disability	0.2%	3.87 bn	21.7%	Area of concern	Areas of concern
SERIOUS INJURY (Hospitalisation)		0.6%	7.76 bn	43.5%		
NON-SERIOUS INJURY (See GP, Outpatient or First aid)	Complete or near-complete recovery	3.3%	1.24 bn	7.0%	Reducing the crash severity	Reducing the crash severity
		28.8%	0.61 bn	3.4%		
NO INJURY (Property damage only)	Financial cost, inconvenience, nuisance only	67.1%	4.36 bn	24.4%	Reducing the crash severity	Reducing the crash severity
NO CRASH (Incident only or No incident at all)	No event	99.2% of crashes		34.8% of costs	Avoiding the crash	Avoiding the crash

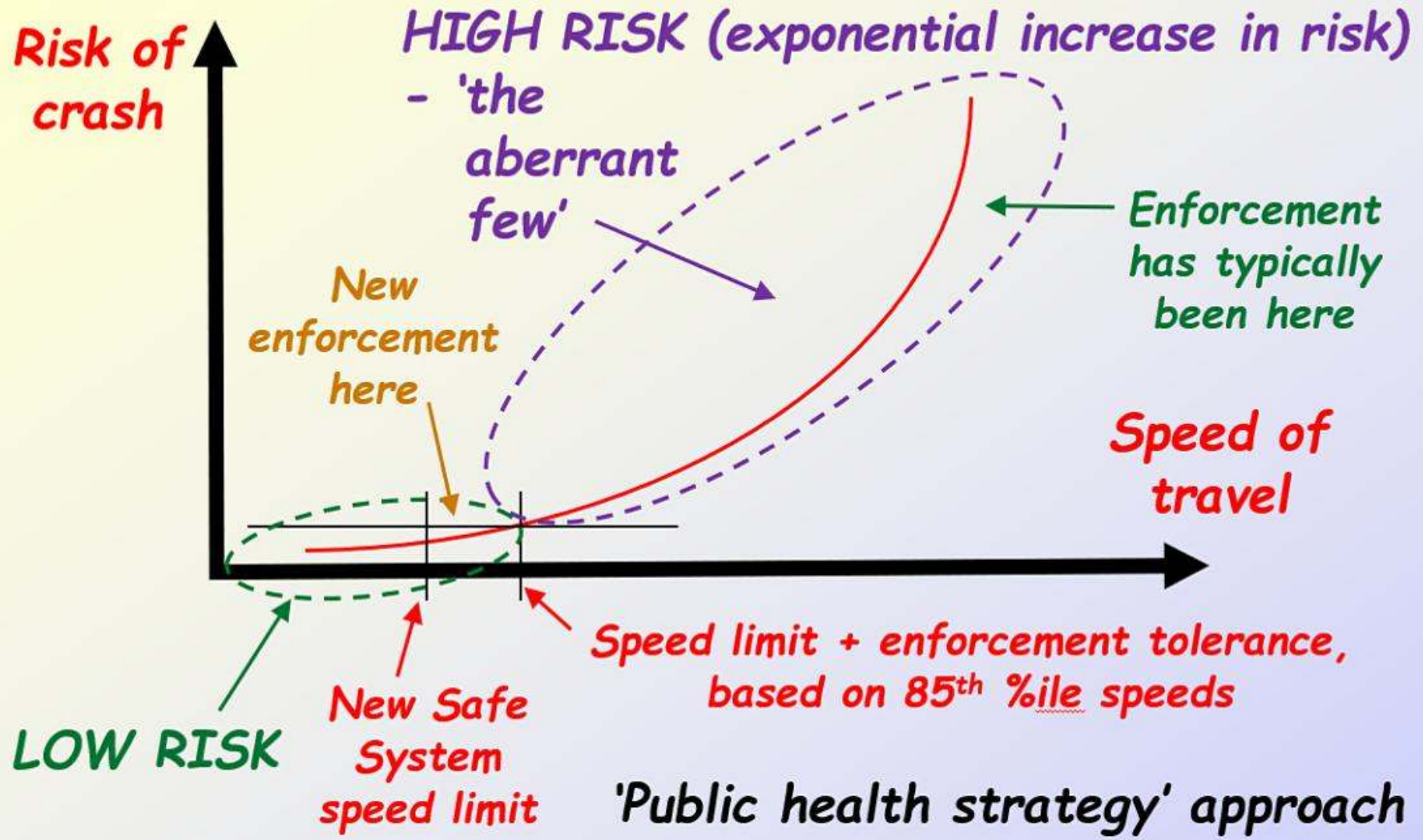
[** Crash costs are total for Australia per annum (BITRE, 2009). Adjacent columns also based on BITRE (2009)]

© Robert Morgan (2017)

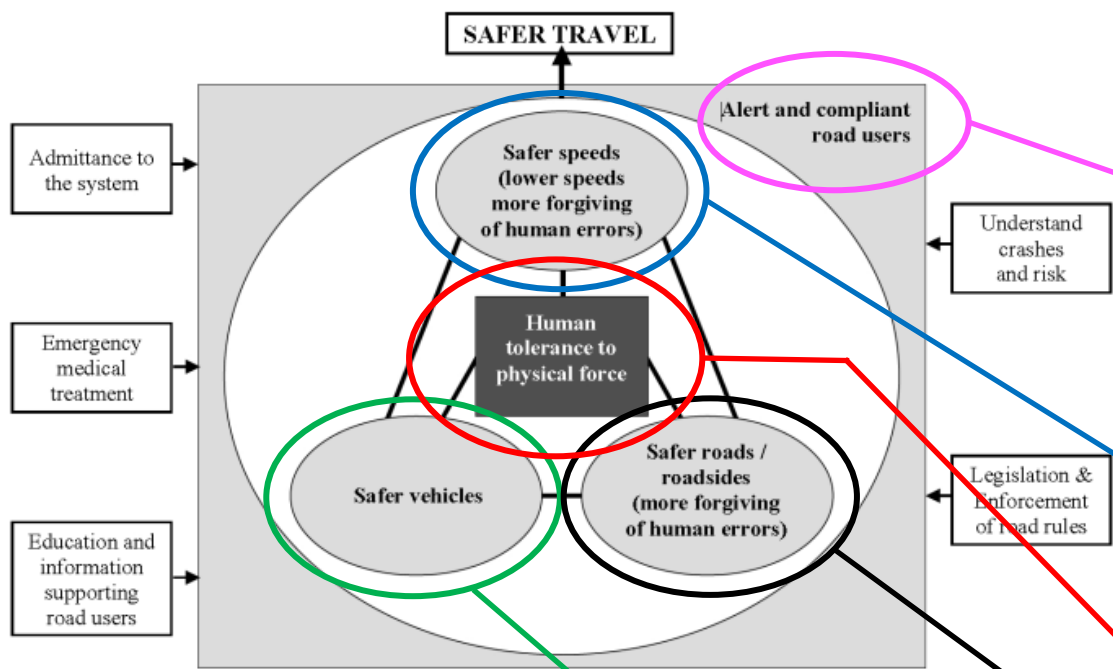
Drink driving (blood alcohol concentration)



Speed

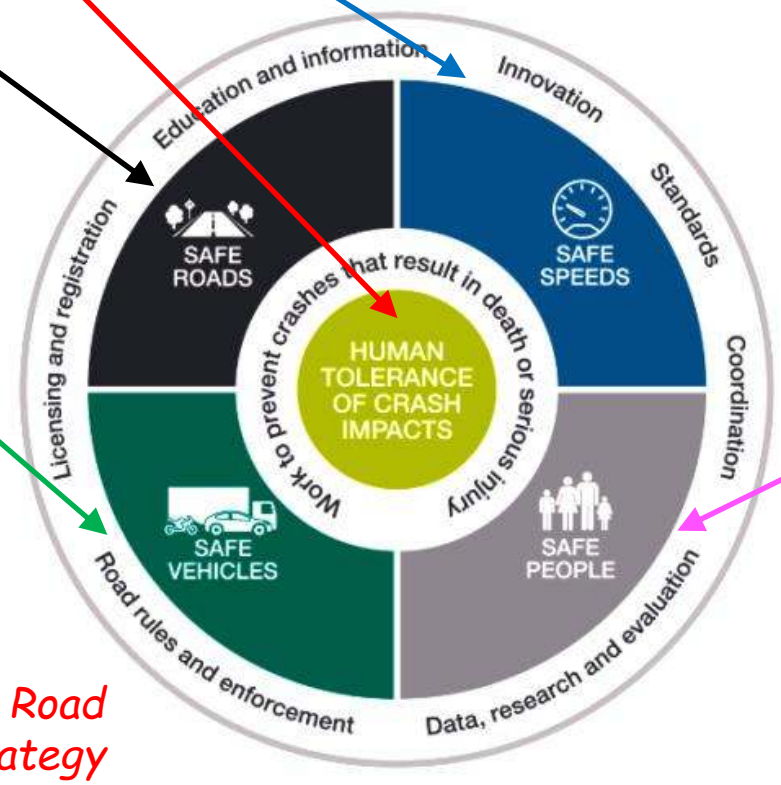


Australia's Safe System Framework



Original diagram

At its core:
The limits of the human body to withstand physical force (in a crash)



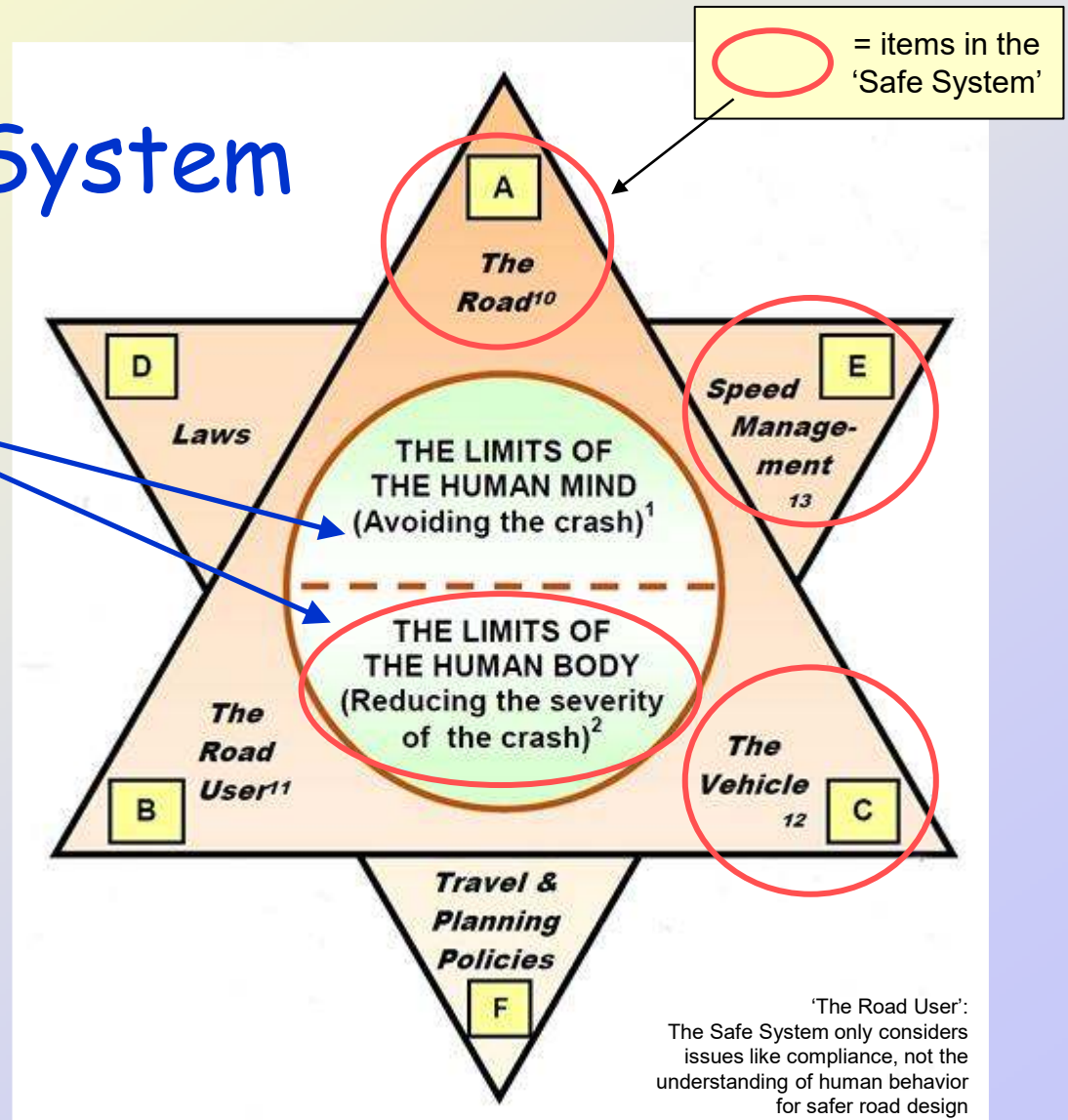
Current National Road Safety Strategy

An Alternative Framework

The Safety Star System

© Robert Morgan (2018)

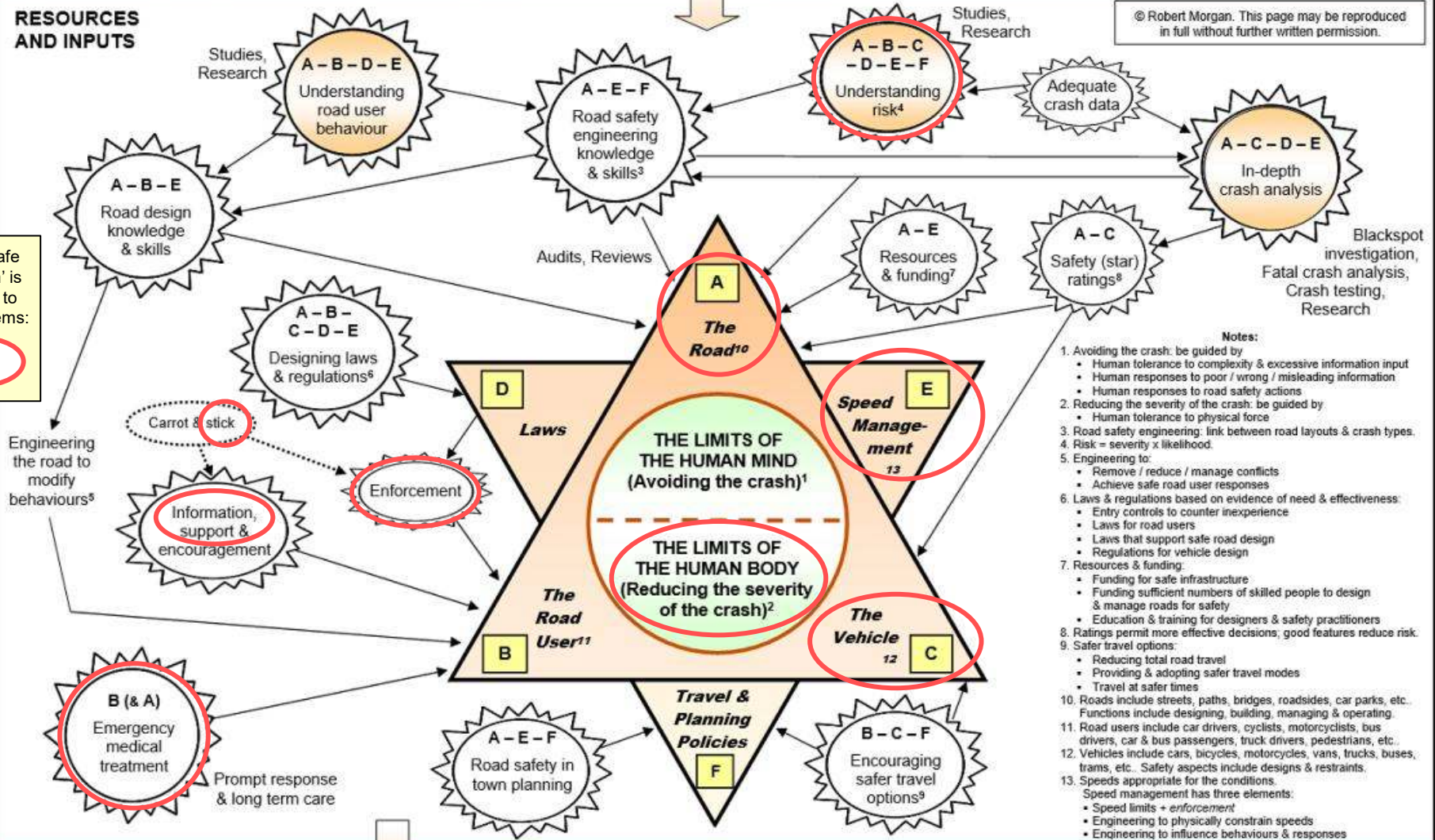
- Two core concerns
 - instead of Safe System's one
- Six star points / areas of action
 - instead of Safe System's three



OVER-ARCHING PHILOSOPHY:

1. There are no absolutes (Road safety is not the only consideration in life; there is no bottomless pit of money for road safety; life is most important but is not sacrosanct; zero is not possible)
2. Most road users are reasonable people (The 9 out of 10 Rule). Treat them so.
3. People make mistakes: reduce the causes of mistakes & reduce the consequences
4. Encourage responsibility in each of the six star points / areas of action, A to F
5. Actions to improve safety need to be evidence-based (Evidence of effectiveness)

RESOURCES AND INPUTS

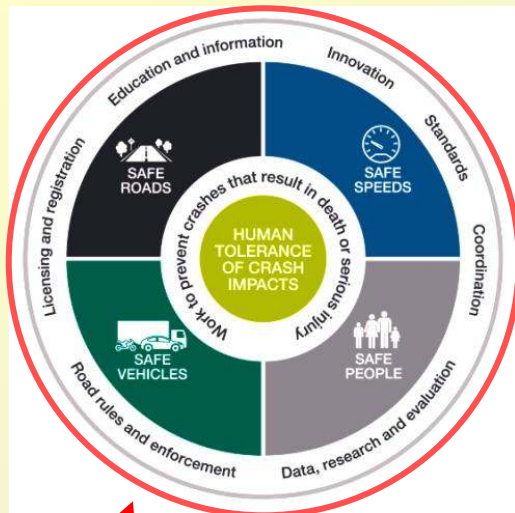


The 'Safe System' is limited to these items:



Avoiding dogma

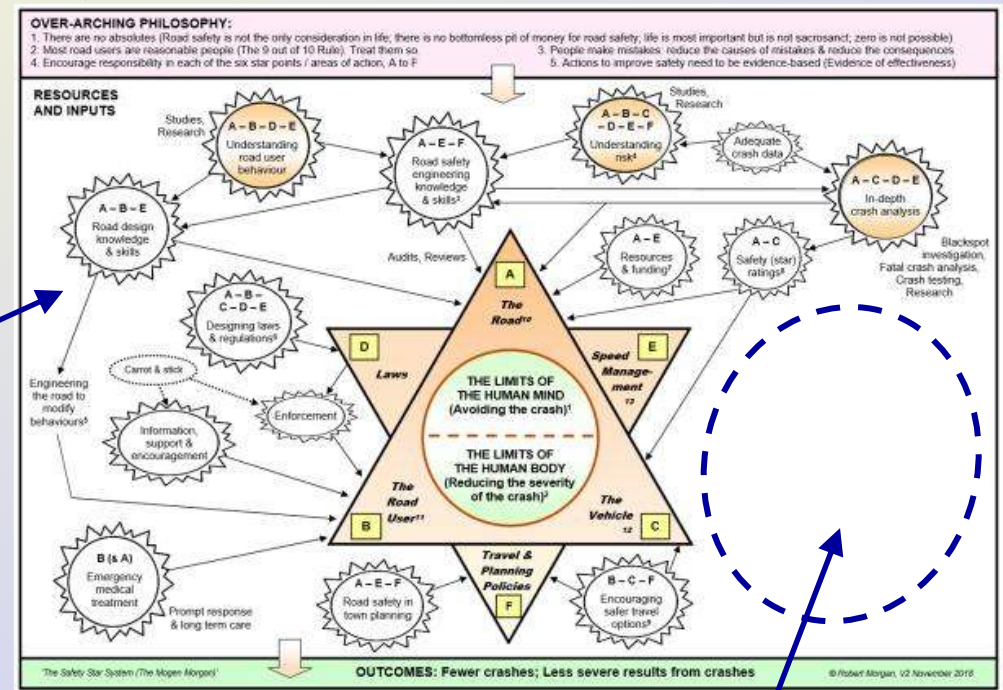
The Safe System view:



Everything we need to know to eliminate death and serious injury on our roads is contained within this circle (We have all the answers)

The Safety Star System view:

The philosophy:
No absolutes.
Be reasonable.
Actions to be evidence-based.



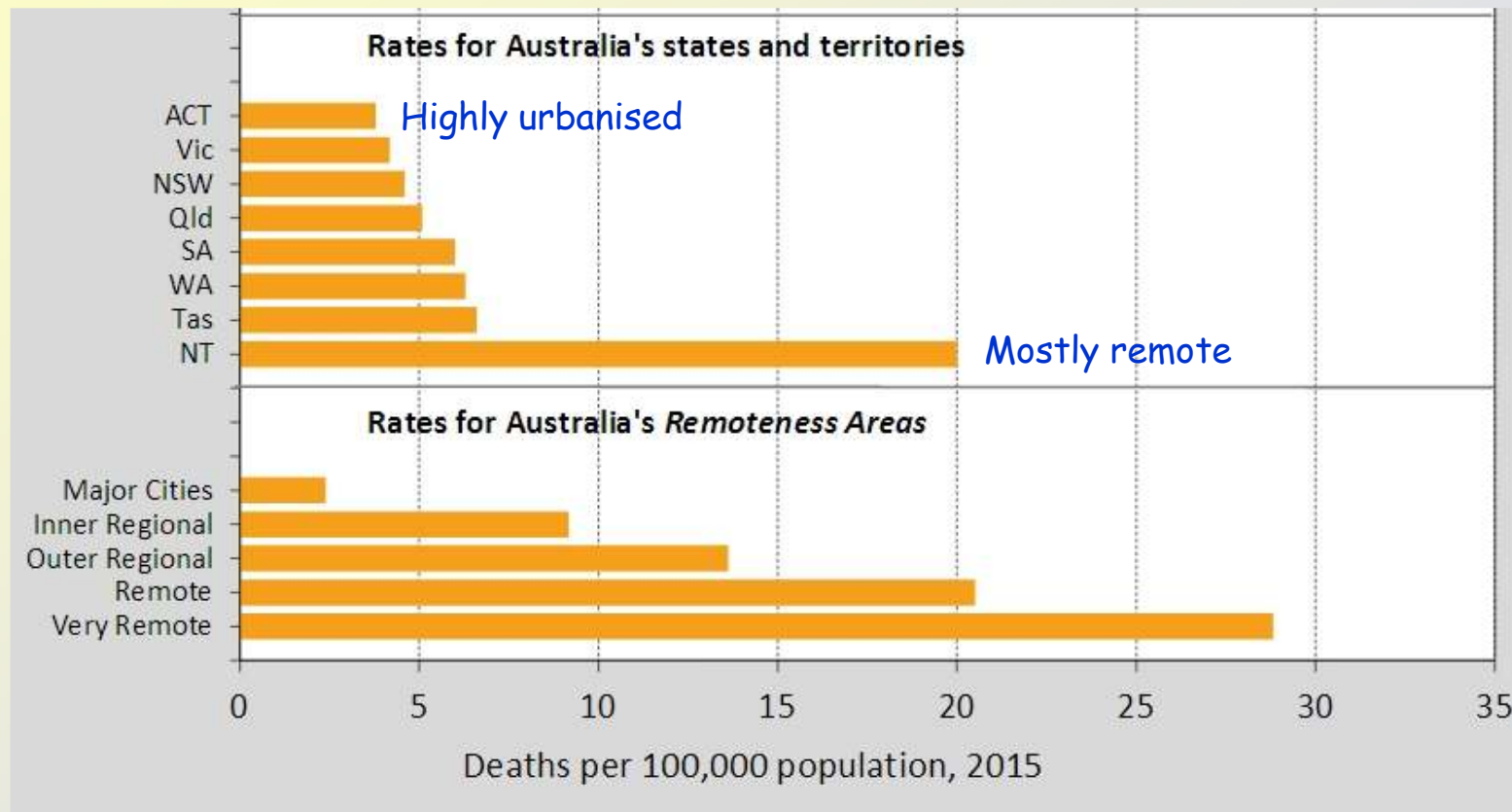
It's complex, with many interconnections. We don't have all the answers. Here's what we know so far (from evidence and experience to date)

... and as our knowledge grows, we can add additional effective elements, based on experience.

Other notes:

Crash Rates:

Within a jurisdiction, fatality rate differences are typically related to 'remoteness'



*Note: remoteness influences car ownership rates and options for alternative non-car modes.

BITRE (Bureau of Infrastructure, Transport and Regional Economics) 2017

Safe System

- has the vision of
zero deaths and serious injuries
 - from any collision on our roads

hence 'Vision Zero' and 'Towards Zero'

"If someone told you that society should set a literal goal of zero deaths from illness, how seriously would you take them? What about zero deaths from all causes?"

" 'Vision Zero' and the like have always been explicitly presented as achievable realities, and many people have accepted them as such. The movement has become a form of mass hysteria, an anti-reason, anti-reality cult based on raw emotion and public pressure to conform."

"How many deaths are acceptable? The grown-up answer is "everyone", including me and all my family. Mankind has accepted death for the whole of our existence . . . Death is painful and tragic, but it is not 'unacceptable'."

Matt Warren, Professional Engineer, Oklahoma, USA June 2018

Australia's Safe System

Despite its shortcomings, the Safe System has been adopted by all jurisdictions as the basis for all road safety actions.

'You can guarantee that when there is no expert disagreement on complex decision-making, a group-think process is occurring.'

Dr Mahomed Patel, Research School of Population Health, The Age 7 Apr 2020

'A pretty good criterion is that if some doctrine is widely accepted without qualification, it's probably flawed.'

Noam Chomsky in 'Global Discontents' (p. 56) Hamish Hamilton, 2017

> The 'new paradigm' of Vision Zero / Towards Zero and the Safe System has become dogma

(It's the accepted wisdom, with no critical appraisal)

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Australia's Safe System

Focuses on reducing the consequences of collisions ← ←

Safe System core:

The limits of the human body to withstand physical force (in a crash)

But what about avoiding the crash in the first place?

This requires us to think about → →

- Understanding human factors in design
- Complexity & scale of road layouts
- Self-explaining roads
- Consistency
- Design to achieve speed outcomes, etc.

The limits of the human mind to withstand complexity and poor, wrong or misleading information

This is missing in Australia's Safe System

Items missing from the Safe System

- The need to understand road user behavior (not just for behavioural programs, but for road design)
- The importance of road safety engineering
- Having adequate and accurate crash data available
- The need for adequate resources (people and money)
- Recognising that laws need to be effective & not all are (strict laws can be ineffective; good laws not enforced)
- Encouragement for road users (carrot as well as stick)
- Road safety in town planning (a case of lost knowledge)
- Travel policies that reduce more dangerous travel options

Safety vs. other community needs

✘ 'We have a Moral Obligation to put Safety First'

This approach inevitably leads to:

- A receding need for evidence
- A receding need to connect actions to road user responses
- Interim targets are set >>> Quick fixes needed
- Lowering speed limits (beyond likely compliance levels) instead of re-engineering the road / removing hazards
- When targets aren't met >>> more pressure for more Quick fixes

