What happens when a country falls behind its strategic road trauma reduction target: Lessons from Australia

Professor Barry Watson

Road Safety Authority Annual International Conference: International Best Practice in Road Safety Strategy Development
13 June 2019
Overview

• Australia’s approach to road safety strategic planning
• National Road Safety Strategy 2011 - 2020:
  ➢ Underpinned by the Safe System Approach
  ➢ Included a fatality and serious injury reduction target
  ➢ Monitored by a suite of safety performance indicators
• Growing concerns about deteriorating performance relative to target
• Commissioning of independent inquiry
• Government response to inquiry
Snapshot of Australia

Federation of:
- 6 states
- 2 territories

Population = 25.3 million
Land area = 7.7 million km$^2$

Reg. vehicles = 19.2 million
Driver’s licences = 18.2 million
Australia’s long-term performance in road safety

Fatality rate = 4.59 per 100,000

Source: Australian Automobile Association
First ten-year strategy: 1992 - 2001

- Framework for coordinating road safety efforts across the States & Territories
- Integrated approach involving engineering, education and enforcement activities
- Positioned road safety as a public health issue
- Included a goal to reduce fatalities per 100,000 to below 10 (and a similar reduction in serious injuries)
- Supported by State-level strategies
Second ten-year strategy: 2001 - 2010

• Stronger focus on the use of research to inform strategy by:
  – benchmarking Australia’s performance
  – identifying crash reduction priorities and potential countermeasure directions
  – determining an appropriate fatality reduction target

• Included a target to reduce fatalities by 40% relative to population = to below 5.6 fatalities per 100,000

• 34% reduction was achieved
Role of supporting Action Plans

• Two-yearly Action Plans were released to:
  – monitor performance toward the fatality target
  – identify priority actions for the period
  – identifying emerging issues

• The 2005 – 06 Action Plan was the first to include specific reference to the Safe System Approach
Third ten-year strategy: 2011 - 2020

• Underpinned by the Safe System Approach

• Research again undertaken to inform selection of actions and targets

• Included targets to reduce both fatalities and serious injuries by 30% (in absolute terms)

• Incorporated high-level and risk factor related performance indicators

• Supported by periodic Action Plans and State-level strategies
Emergence of the Safe System Approach

• The Safe System Approach emerged in mid-2000s, drawing on elements from:
  - the Dutch Sustainable Safety
  - Sweden’s Vision Zero

• It was further refined and incorporated into:
  - ITF’s 2010 report *Towards Zero: Ambitious Road Safety Targets and the Safe System Approach*
  - 2011 *Decade of Action for Road Safety Global Plan*
  - Various national, state and city level strategies

Source: ITF, 2016
Principles of the Safe System Approach

• Humans inevitably make mistakes that can result in road crashes

• The human body has physical limits, in terms of the forces it can tolerate

• The responsibility for the safety of the system needs to be shared by all those involved in the design, building and management of the system, as well as road users

• A holistic approach is required to managing the system to build in redundancy and thereby optimise the safety of road users

Source: ITF, 2016
The Safe System Approach
## Safety performance indicators

### High level outcome measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Baseline (2008-2010)</th>
<th>2017</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of deaths resulting from road crashes</td>
<td>1,426</td>
<td>1,226</td>
<td>-14.00%</td>
</tr>
<tr>
<td>Number of road crashes resulting in deaths</td>
<td>1,297</td>
<td>1,130</td>
<td>-12.90%</td>
</tr>
<tr>
<td>Number of deaths per 100,000 population</td>
<td>6.6</td>
<td>5</td>
<td>-25.40%</td>
</tr>
<tr>
<td>Number of deaths per 100 million vehicle-kilometres travelled</td>
<td>0.63</td>
<td>0.48</td>
<td>-24.20%</td>
</tr>
<tr>
<td>Number of deaths per 10,000 registered vehicles</td>
<td>0.91</td>
<td>0.65</td>
<td>-28.30%</td>
</tr>
</tbody>
</table>

### Safety performance indicators

**Outcome Measures—Australia**

**Safe roads**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Baseline (2008-2010)</th>
<th>2017</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of deaths from head-on crashes</td>
<td>271</td>
<td>223</td>
<td>-17.8%</td>
</tr>
<tr>
<td>Number of deaths from single-vehicle crashes</td>
<td>651</td>
<td>521</td>
<td>-19.9%</td>
</tr>
<tr>
<td>Number of deaths from intersection crashes</td>
<td>301</td>
<td>269</td>
<td>-10.6%</td>
</tr>
<tr>
<td>Number of deaths from crashes on metropolitan roads(^4)</td>
<td>515</td>
<td>432</td>
<td>-16.1%</td>
</tr>
<tr>
<td>Number of deaths from crashes on regional roads</td>
<td>766</td>
<td>705</td>
<td>-7.9%</td>
</tr>
<tr>
<td>Number of deaths from crashes on remote roads(^5)</td>
<td>136</td>
<td>82</td>
<td>-39.6%</td>
</tr>
</tbody>
</table>

## Safety performance indicators

### Safe people—responsible road use

<table>
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<th>Baseline (2008-2010)</th>
<th>2017</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of young driver and motorcycle rider deaths (aged 17-25 yrs)</td>
<td>223</td>
<td>182</td>
<td>-27.4%</td>
</tr>
<tr>
<td>Number of deaths from crashes involving a young driver or motorcycle rider (aged 17-25 yrs)</td>
<td>470</td>
<td>340</td>
<td>-27.7%</td>
</tr>
<tr>
<td>Number of older driver and motorcycle rider deaths (aged 65+ yrs)</td>
<td>114</td>
<td>152</td>
<td>-24.1%</td>
</tr>
<tr>
<td>Number of deaths from crashes involving an older driver or motorcycle rider (aged 65+ yrs)</td>
<td>208</td>
<td>234</td>
<td>36.3%</td>
</tr>
<tr>
<td>Number of motorcyclist deaths</td>
<td>232</td>
<td>212</td>
<td>-5.6%</td>
</tr>
<tr>
<td>Number of cyclist deaths</td>
<td>32</td>
<td>39</td>
<td>21.9%</td>
</tr>
<tr>
<td>Number of pedestrian deaths</td>
<td>186</td>
<td>157</td>
<td>-10.2%</td>
</tr>
<tr>
<td>Number of deaths from crashes involving a heavy vehicle</td>
<td>254</td>
<td>214</td>
<td>-15.7%</td>
</tr>
</tbody>
</table>

### Safe people—irresponsible road use

<table>
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<th>Baseline (2008-2010)</th>
<th>2017</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of drivers and motorcycle riders killed with a blood alcohol concentration (BAC) above the legal limit</td>
<td>149</td>
<td>110</td>
<td>-26.2%</td>
</tr>
<tr>
<td>Number of deaths from crashes involving a driver or motorcycle rider with a blood alcohol concentration (BAC) above the legal limit</td>
<td>214</td>
<td>150</td>
<td>-29.9%</td>
</tr>
<tr>
<td>Number of deaths from crashes involving an unlicensed driver or motorcycle rider</td>
<td>143</td>
<td>99</td>
<td>-30.8%</td>
</tr>
<tr>
<td>Number of vehicle occupants killed who were not wearing a restraint</td>
<td>215</td>
<td>128</td>
<td>-40.9%</td>
</tr>
</tbody>
</table>

### Safe speeds

<table>
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<th>Baseline (2008-2010)</th>
<th>2017</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of deaths from crashes where speed was a contributory factor</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Mean free speeds at designated sites across the network</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Percentage of vehicles speeding by vehicle type and offence category</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Safe vehicles

<table>
<thead>
<tr>
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<th>Baseline (2008-2010)</th>
<th>2017</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average age of the Australian vehicle fleet (years)</td>
<td>10.0</td>
<td>10.1</td>
<td>1.0%</td>
</tr>
<tr>
<td>Average age of passenger vehicles</td>
<td>9.7</td>
<td>9.8</td>
<td>1.0%</td>
</tr>
<tr>
<td>Percentage of new light vehicles sold with a 5-star ANCAP rating</td>
<td>56% (2010)</td>
<td>91%</td>
<td>62.5%</td>
</tr>
<tr>
<td>Percentage of new vehicles sold with key safety features</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

How has Australia performed?

- Up to end of 2014, our road fatality performance was looking good
- Fatalities began to rise from early 2015
- By mid-2017, fatalities had decreased by only 13% (relative to target)
- No national system was in place to monitor serious injuries

  - Growing concern among stakeholders that the targets would not be achieved

Source: Australian Automobile Association (AAA) Benchmarking Report, June 2017
Example of ongoing advocacy
Australian Government response

• In September 2017, the Government announced an Independent Inquiry into the effectiveness of the National Road Safety Strategy

• Chaired by two independent experts:
  – Associate Professor Jeremy Woolley, Director of the Centre for Automotive Safety Research at the University of Adelaide
  – Dr John Crozier, Chair of the Royal Australasian College of Surgeons’ Trauma Committee

• Assisted by two Principal Advisers:
  – Mr Lauchlan McIntosh AM, President of the Australasian College of Road Safety (ACRS)
  – Mr Rob McInerney, CEO of the International Road Assessment Program (iRAP)

Independent Inquiry

• Terms of reference addressed:
  – factors involved in death and serious injury trends
  – effectiveness of the Strategy and Action Plans
  – priorities for consideration in development of a post-2020 strategy
  – management of road safety and coordination of partners

• Public submissions requested

• Consultation with key stakeholders

• Report released September 2018

Recommendations of Independent Inquiry

1. Create stronger national leadership
2. Establish a national road safety entity
3. Commit to a minimum of $3 billion a year fund
4. Set a vision zero target for 2050, with interim targets
5. Establish and commit to key performance indicators
6. Undertake a national road safety governance review
7. Accelerate deployment of proven vehicle safety technologies
8. Accelerate adoption of speed management initiatives
9. Invest in road safety focused infrastructure
10. Make road safety a genuine part of government business
11. Resource key road safety enablers and initiatives
12. Implement life-saving partnerships in Indo-Pacific and world
Where are we now?

• Independent Inquiry recommendations publicly supported by Australian Government (and the Opposition)

• Late 2018, Government announces:
  – Establishment of an Office or Road Safety (Rec. 1 & 2)
  – Review of National Road Safety Governance (Rec. 6)

• Progress slowed by Federal Election in May 2019

• Some progress has been made with developing a national system for measuring serious injuries

• Stakeholders remain concerned that fatality and serious injury targets will not be achieved
Australia’s road safety performance  
(As at March 2019)

**NRSS Target:**
30% reduction in fatalities and serious injuries by 2020

**Current performance:**
Fatalities have decreased by only 13%

Australian Trauma Registry (ATR) data suggests severe injuries are plateauing

Source: Australian Automobile Association (AAA) Benchmarking Report, March 2019
Lessons learned (1)

- A road safety strategy should be more than just a collection of possible actions and targets.

- Strategies should articulate a guiding vision to promote coherent and consistent decision-making (e.g. Safe System Approach).

- Long-term strategies (e.g. 10 years) build momentum, but should not be ‘set in stone’:
  - Need to be supported by Action Plans and/or reviews.
  - Independent Inquiry in Australia served a ‘resetting’ purpose, similar to mid-strategy review in Ireland.
Aspirational road trauma reduction targets are important to:

- provide a link between what is achievable in the short/medium term, with long-term goals
- create a sense of accountability and urgency
- drive improvements in management systems

However, the success of a strategy shouldn’t be judged solely on whether the target is achieved. Instead, a more nuanced approach is required focusing on key performance indicators.
Lessons learned (3)

• Key performance indicators are required at the:
  – Strategy level to assess overall performance
  – System-component level to prioritise efforts and identify emerging trends
  – Action level to assess intended benefits

• Ongoing monitoring needs to:
  – Be regular and transparent e.g. reporting on websites
  – Evolve over time to reflect enhancements in data collection and reporting
  – Involve benchmarking of performance across geographic areas and with comparable jurisdictions
Lessons learned (4)

• Actions need to reflect SMARTA criteria ie:
  – S pecific in terms of what needs to occur
  – M easurable in terms of the intended impact
  – A chievable within the current circumstances
  – R elevant to the overall success of the strategy
  – T ime-bound to reflect the period in question
  – A greed among key stakeholders

• Strategies and action plans should facilitate and coordinate the involvement of all stakeholders
Lessons learned (5)

• Setting a serious injury target:
  – Important to focus government and community attention on the scale of the injury problem
  – Can be problematic depending on data collection practices
  – Serves to drive improvements in data collection methods and data linking processes (i.e. reduce reliance on police reported crashes)

• Strategies should not only be based on research, but serve to facilitate and coordinate ongoing research efforts
Thank you

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Registration
is Open!