Ten years back and ten years forward: Are we smarter and safer?

Prof Mary Sheehan
CARRS-Q
2006 Australasian Road Safety Research, Policing and Education Conference
25 – 27 October 2006
Overview

- Safer in the last 10 years!
- Are we smarter?
- Where did we go from 1997?
- ITS developments: the really smart solution
Safer in the last 10 years!
"Since 1992 there has been no advance in reducing the level of road trauma in Australia. On present trends we are unlikely to reduce the 1996 national road toll rate of 10.79 (fatalities) per 100,000 of population to the year 2001 target of 10.0 or less."

Executive Summary of the National Road Safety Package prepared by a sub-group of the National Road Safety Strategy Implementation Taskforce, May 1997.
## Road traffic fatalities

<table>
<thead>
<tr>
<th></th>
<th>1997 per 100,000 persons</th>
<th>2005 per 100,000 persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSW</td>
<td>9.18</td>
<td>7.65</td>
</tr>
<tr>
<td>VIC</td>
<td>8.20</td>
<td>6.93</td>
</tr>
<tr>
<td>QLD</td>
<td>10.60</td>
<td>8.27</td>
</tr>
<tr>
<td>SA</td>
<td>9.99</td>
<td>9.60</td>
</tr>
<tr>
<td>WA</td>
<td>10.97</td>
<td>8.11</td>
</tr>
<tr>
<td>TAS</td>
<td>6.76</td>
<td>10.30</td>
</tr>
<tr>
<td>NT</td>
<td>32.10</td>
<td>27.12</td>
</tr>
<tr>
<td>ACT</td>
<td>5.50</td>
<td>8.0</td>
</tr>
<tr>
<td>Australia</td>
<td>9.54</td>
<td>8.05</td>
</tr>
</tbody>
</table>

## Injuries and Fatalities: Australia

### Deaths from Road Transport Accidents

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Drivers</td>
<td>776</td>
<td>741</td>
<td>820</td>
<td>852</td>
<td>776</td>
<td>785</td>
<td>747</td>
<td>761</td>
<td>787</td>
</tr>
<tr>
<td>Passengers</td>
<td>431</td>
<td>468</td>
<td>428</td>
<td>450</td>
<td>407</td>
<td>422</td>
<td>420</td>
<td>360</td>
<td>347</td>
</tr>
<tr>
<td>Pedestrians</td>
<td>328</td>
<td>318</td>
<td>299</td>
<td>287</td>
<td>290</td>
<td>249</td>
<td>232</td>
<td>220</td>
<td>223</td>
</tr>
<tr>
<td>Motorcycle riders &amp; pass</td>
<td>177</td>
<td>181</td>
<td>176</td>
<td>191</td>
<td>216</td>
<td>224</td>
<td>188</td>
<td>196</td>
<td>233</td>
</tr>
<tr>
<td>Cyclists</td>
<td>52</td>
<td>44</td>
<td>40</td>
<td>31</td>
<td>46</td>
<td>34</td>
<td>26</td>
<td>43</td>
<td>41</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1767</strong></td>
<td><strong>1755</strong></td>
<td><strong>1764</strong></td>
<td><strong>1817</strong></td>
<td><strong>1737</strong></td>
<td><strong>1715</strong></td>
<td><strong>1621</strong></td>
<td><strong>1583</strong></td>
<td><strong>1636</strong></td>
</tr>
</tbody>
</table>

Among the OECD nations for which 2004 data were available, Australia had:

- 11th lowest rate in terms of road deaths per 100,000 population (7.9)
- 9th lowest rate in terms of road deaths per 10,000 registered vehicles (1.2 deaths)
- 4th lowest rate in terms of road deaths per 100 million vehicle kilometres travelled (0.8 deaths)
Factors most often leading to road crashes: total mentions, 1997 - 2005

Source: Wave Survey CR227, 2005
Percentage exposed to RBT in the last six months, 1997 - 2005

Source: Wave Survey CR227, 2005
Percentage booked for speeding in the last 2 years and last 6 months, 1997 - 2005

Source: Wave Survey CR227, 2005
Percentage having ever fallen asleep while driving, 2001 - 2005

Source: Wave Survey CR227, 2005
Percentage agreed that level of seat belt enforcement has increased over the last 2 years, 1997 – 2005

Source: Wave Survey CR227, 2005
Percentage involved in road crashes over the last 3 years, 1997 - 2005

Source: Wave Survey CR227, 2005
Are we smarter?
Then and now

1997 Road Safety Research and Enforcement Conference
Road Safety to the year 2000 and beyond

2006 Australasian Road Safety Research, Policing and Education Conference
Smarter, Safer
Vision and challenges - 1997
Jim Longford, Peter Makeham and Peter Vulcan

"As a community, we can have virtually any level of road trauma we like, depending on the price we are willing to pay." P.M.

- Price:
  - monetary
  - sacrifice of personal liberty
  - discomfort and inconvenience
  - sacrifice of pleasure
  - risk of looking silly
Recommendations for improvement

- Development of a national approach including consistent implementation of enforcement measures

- Improved vehicle design (cars)
  - advanced occupant protection
  - pedestrian protection
  - vehicle compatibility
Recommendations for improvement

- Road improvements
- Seat belt wearing improvement (100%)
- Alcohol
  - Intensive and strategic RBT
  - Interlocks
  - Vehicle impoundment, etc
- Speed management and intensive enforcement
- Improvement of emergency medical services
Challenges
(The very hard basket)

- Young novice drivers
- Car driver fatigue
- Drugs other than alcohol
- Demand management and model shifts
Where did we go from 1997?
## Conference Topics: 1997 vs 2006

<table>
<thead>
<tr>
<th>1997 – 2006 major focus</th>
<th>1997 minor focus</th>
<th>1997 major focus</th>
<th>2006 major focus</th>
<th>2006 minor focus</th>
<th>2006 new topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Younger drivers &amp; graduated licensing</td>
<td>Motorcycles</td>
<td>Alcohol</td>
<td>Emergency services &amp; road safety</td>
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<td></td>
</tr>
<tr>
<td>Older drivers</td>
<td>Rural &amp; remote drivers</td>
<td>Drugs</td>
<td>Cultural factors</td>
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</tr>
<tr>
<td>Crash studies/testing</td>
<td>Road safety engineering</td>
<td>Speeding</td>
<td>Vision &amp; safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offenders/penalties</td>
<td>Enforcement</td>
<td>Indigenous safety</td>
<td>Child restraints</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle safety (not motorcycles)</td>
<td></td>
<td></td>
<td>Heavy vehicle safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pedestrians</td>
<td></td>
<td></td>
<td>Fatigue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyclists</td>
<td></td>
<td></td>
<td>ITS</td>
<td></td>
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<tr>
<td>Education &amp; community programs</td>
<td></td>
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</tbody>
</table>
The Safe System Framework

Safer travel

Alert and compliant road users

Safer speeds

Human tolerance to physical force

Safer vehicles

Safer roads and roadsides

Admittance to system

Education and information supporting road users

Understanding crashes and risk

Enforcement of road rules

Source: National Road Safety Action Plan, ATSB
National Road Safety Strategy

- Target: annual number of road deaths per 100,000 population below 5.6 by the end of 2010
- Indicative estimates of the contribution of different types of measures to the target:
  - Improvements in roads (19%)
  - Improved road user behaviour (9%)
  - Improved vehicle occupant protection (10%)
  - New technology to reduce human error and its consequences (2%)
- By August 2006, progress towards achieving the NRSS target was well behind the required pro-rata rate

Source: National Road Safety Strategy 2010, ATSB
# Road traffic fatalities

<table>
<thead>
<tr>
<th>Country</th>
<th>Rate per 100,000 persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>7.9</td>
</tr>
<tr>
<td>France</td>
<td>9.2</td>
</tr>
<tr>
<td>Germany</td>
<td>7.1</td>
</tr>
<tr>
<td>Japan</td>
<td>6.7</td>
</tr>
<tr>
<td>New Zealand</td>
<td>10.7</td>
</tr>
<tr>
<td>United States</td>
<td>14.5</td>
</tr>
<tr>
<td>Sweden</td>
<td>5.3</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>5.6</td>
</tr>
<tr>
<td>Netherlands</td>
<td>4.9</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>13.5</td>
</tr>
<tr>
<td>Hungary</td>
<td>12.8</td>
</tr>
<tr>
<td>Slovenia</td>
<td>13.7</td>
</tr>
<tr>
<td>Greece</td>
<td>n.a.</td>
</tr>
<tr>
<td>Portugal</td>
<td>12.3</td>
</tr>
<tr>
<td>Spain</td>
<td>11.0</td>
</tr>
</tbody>
</table>

SUNflower + 6 Recommendations

- Driving under influence
  - address heavy and persistent drinkers
  - introduce alcolocks
  - consider drugs in traffic
- Improve seatbelt wearing rates to 100%
- Speed reduction
  - better harmony between road layout and speed limits
  - lower speed limits – 30kph in areas with high vulnerable road users
  - well-targeted enforcement
  - ISA applications
Sunflower + 6 Recommendations

- Major problem with increasing use of mopeds and motorcycles
  - compulsory crash helmets
  - risk awareness and defensive driving as part of training
  - improved moped and motorcycle vehicle design
- Young motorists
  - graduated introduction to traffic
  - police enforcement
  - develop targeted ITS applications
- More emphasis on road safety policy at the regional and local level
ITS developments: the really smart solution
...but...

- Equity concerns regarding restricting access (and mobility) to new, safer, toll paying roads
- Heterogeneity of users of ITS solutions
- The truly smart solution will be tailored to the particular needs of particular users, e.g. the older driver, the rural and remote driver
- Community acceptance will need to be gained for interventions such as ISA
- Impact of global warming and oil availability on vehicle mix
Acknowledgements

Tanya Smyth
References

Road Deaths Australia 2005 Statistical Summary, Australian Transport Safety Bureau.

Executive Summary of the National Road Safety Package prepared by a sub-group of the National Road Safety Strategy Implementation Taskforce.

