Transport, Health & Safety

Driving better public health outcomes

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May 2010

Overview

➢ Transport in Australia
➢ Transport Health and Safety
➢ Transport and Industry
➢ Safe Systems
How Important is Transport?

- Transport is 9% of the national economy (GDP)
- Transport & logistics (T&L) is 14.5% of national GDP
- Transport & logistics (T&L) is 24.1% of WA's economy
- Transport & logistics (T&L) is largest of any sector in the Australian economy
- Transport is essential for communities and the Australian economy

Source: Australian Logistics Council Reports 2007

Perth’s Transport Future?

- By 2020 for Perth it is estimated that
  - population will increase by 13%;
  - road freight transport will increase by 34%;
  - traffic delays will increase by 28%;
  - congestion costs will rise by 69%
    to $1.2 billion per annum.

Source:
Estimating Urban Traffic and Congestion Cost Trends for Australian Cities
About 1500 people die on Australian roads each year and more than 30,000 are injured (DITRDLG)

Cost of road crashes in Australia is over $29.6 bn pa (updated from BITRE Report R118)

Approx 30% of lost time at work is due to road crashes (not necessarily occurring in the workplace)
## Passenger Transport Safety by Mode

<table>
<thead>
<tr>
<th>Indicator (2007)</th>
<th>Mode</th>
<th>Road</th>
<th>Rail</th>
<th>Marine</th>
<th>Air</th>
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</thead>
<tbody>
<tr>
<td>Fatalities</td>
<td></td>
<td>1616</td>
<td>37</td>
<td>52</td>
<td>22</td>
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<tr>
<td>Number of deaths</td>
<td></td>
<td></td>
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<tr>
<td>Fatality Rate</td>
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<td>7.69</td>
<td>0.18</td>
<td>0.25</td>
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<tr>
<td>Deaths per 100,000 population</td>
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<tr>
<td>Injury Rate</td>
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<td>150.7</td>
<td>0.84</td>
<td>0.57</td>
<td>0.21</td>
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<tr>
<td>Serious injuries per 100,000 population</td>
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<tr>
<td>Fatality Rate</td>
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<td>5.36</td>
<td>2.8</td>
<td>0.42</td>
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<tr>
<td>Deaths per billion passenger km</td>
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</tbody>
</table>

Source: BITRE
Australian Transport Statistics Yearbook 2009

## Transport and Health

- Australian transport fuel use, emissions and transport infrastructure are amongst the highest per capita in the world.

- Transport emissions annually result in:
  - the deaths of over 1500 people
  - over 4,500 cases of asthma and other sickness (but could be 40% higher)
  - cost of death and sickness by transport emissions exceeds $2.3 billion annually (BITRE Report WP63)

- More people die from transport emissions in Australian cities than from road crashes.

- Fuel efficiency of passenger cars has not improved.
The whole system of motorised transport, mobility patterns, land uses, government intervention and large company support has deprived society of realistic alternatives to the motor car and bequeathed a deficient technology with several societal disbenefits.

Long term solutions to the problem of road traffic accidents involve basic change to the systems design.

Anything less will reinforce the present trajectory.

Whitelegg, AAP, 1982
Is a crash between a minerals train and a grain truck a transport, resources or agricultural industry incident?

Safety in the transport industry is important.

In 07/08, the Transport & Storage industry recorded:

- 68 fatalities, the highest number in any sector, 52 were in road freight transport
- the highest number (9945) and percentage (7.6%) of total Serious Claims for any occupation subcategory
- the highest fatality incidence rate, 15.1 compensated fatalities per 100,000 employees

Transport - Occupational Safety Issues - Any Industry

Transport safety in any industry is important

- Up to a third of all road traffic accidents involve somebody who is at work at the time (UK DoT, HSE 2003) (not everyone involved in transport works in the Transport and Storage Sector)
  - vehicle crashes are the 2nd highest cost per insurance claim
  - transport work is 2nd highest frequency of serious claims
  - level crossing crash reported to cost $20m.
Overview

- Transport in Australia
- Transport Health and Safety
- Transport and Industry
- Safe Systems
The government's view of the economy could be summed up in a few short phrases:

- If it moves, *tax it.*
- If it keeps moving, *regulate it.*
- And if it stops moving, *subsidize it.*

- Ronald Reagan

*What's the government's view of health and safety?*

**Safe Systems**

- **Gordon** (1949)
  - Host-Agent-Environment
    (physical, biologic, socio-economic)

- **Haddon's Matrix** (1970's)
  - **Phases:** precrash, crash, postcrash
  - **Factors:** human, vehicles & equipment, physical environment, socio-economic environment
  - **Results:** damage to people, vehicles & equipment, physical environment, society

- **Safe Systems** (2000's - current)
Recognise that users make mistakes
Recognise the limits of the human body to withstand energy
Integration and collaboration between contributing parties and authorities.
Whole System Safety

- Incident Safety
  - vehicles, drivers & users, energy (speed), roads & infrastructure

- Response Safety
  - emergency, health, traffic

- Structure Safety
  - governance - government, companies, individuals, associations

- Context Safety
  - economic policy and influence, social systems, transport & land use system

C-MARC

- Outcome focussed
- Multi-disciplined
- Strong analytical base
- Independent
- Multimodal

History

- 1525 - Anabaptists
  - Menno Simmons
  - Jakob Ammann
- Ohio Road Safety
  - 63 horse and buggy crashes per year
  - 1% fatal, 51% injury
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