CURRENT AND FUTURE ISSUES IN SKID RESISTANCE MANAGEMENT IN AUSTRALIA

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Presentation Overview

- Brief background
- Overview of skid resistance management in Australia
- The main issues / challenges
- The way ahead
- Closing remarks
Terminology

• ‘Current’ (since May 2011)
Acknowledgement

• New Zealand
‘The Lucky Country’
### A few facts.......

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>23.5 million (est. May 2014)</td>
</tr>
<tr>
<td>Population density</td>
<td>7 persons / sq.mile</td>
</tr>
<tr>
<td>Number of vehicles</td>
<td>17.2 million (2013)</td>
</tr>
<tr>
<td>Average age of vehicles</td>
<td>10.0 years (2013)</td>
</tr>
<tr>
<td>Road length</td>
<td>815,074 km (2007)</td>
</tr>
<tr>
<td>Length of sealed roads</td>
<td>41%</td>
</tr>
<tr>
<td>% spray / chip seal</td>
<td>Approx. 70%</td>
</tr>
<tr>
<td>No. of states/territories</td>
<td>8</td>
</tr>
<tr>
<td>Fatalities p.a per 100k population</td>
<td>5.2 (2013)</td>
</tr>
<tr>
<td>Number of road fatalities</td>
<td>1,188 (2013)</td>
</tr>
</tbody>
</table>
2 Of Our Major / Key Crash Types
Management of Australia’s Highways

- **Federal**
  - National road network
  - AusLink
- **State**
  - 8 SRAs (see map)
- **Local**
  - Over 80% of network
  - 560 local councils
  - Many < 2,000 residents
  - Competing demands!
Standardisation Issues?

**Triple Gauge for Australia**

- 1435mm (4'8.5'')
- 1600mm (5' 3'')
- 1067mm (3' 6'')
- 299mm (8' 6'')

**GaPS**

- G1 = 533mm (1'9'')
- G2 = 360mm (1'2.10'')

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**How Standards Proliferate:**

(See: A/C chargers, character encodings, instant messaging, etc.)

**Situation:**

- There are 14 competing standards.

**14?! Ridiculous! We need to develop one universal standard that covers everyone's use cases. YEAH!**

**Situation:**

- There are 15 competing standards.
Management of Australia’s Highways
Rainfall

[Map of Australia showing rainfall distribution]

Australian Rainfall Analysis (mm)
1 July 2004 to 30 June 2005
Product of the National Climate Centre
Our Skid Resistance Journey
Our Skid Resistance Journey

- No mandatory requirement to measure / manage (‘duty of care’)

1996 – 2005
Data Collection Guides Followed (2009)

GUIDE TO ASSET MANAGEMENT

Part 5F: Skid Resistance

GUIDE TO ASSET MANAGEMENT

Part 5G: Texture

Austroads

Austroads
Barriers to (Wider) Implementation

- **Despite compelling arguments for !!!**
- No statutory requirement
- ‘True skid crashes very rare’ (more pressing needs)
- Not for us (SRAs only, & not all SRAs are doing it)
- Have to collect test data?
- So much to do ..... too expensive, inc. vast & remote road networks
- Must be ‘all or nothing’?
- Little knowledge or expertise
- **Still remain!**
Technical Issues
Historical Issues (2006-2011)

- Test equipment availability and correlation
- Post crash testing (inc. Police tests)
- Post-lay / QA skid resistance testing for surfacings
- Macrotecture as a surrogate for SR
- Seasonal variation / correction in SR data
- Rainfall (need to test?)
- First Rainfall Skidding Accidents (FRSA)
- Aggregates – availability & QA (PAFV)
- Flushing of spray seals
- Data analysis and processing – standardisation
- Developing ‘local’ ILs
Further Guidance (2011)
Further Guidance 2011-2013

- AP-T177/11: AUSTROADS TECHNICAL REPORT
  Review of Skid Resistance and Measurement Methods

- AP-R444-13: AUSTROADS RESEARCH REPORT
  Review of Variability in Skid Resistance Measurement and Data Management

- AP-T233-13: AUSTROADS TECHNICAL REPORT
  Development of Safety Related Investigatory Level Guidelines: A Worked Example of Methodology
Current and Emerging Issues

• Despite the success of further guidance, some historical issues remain or have evolved in scope and/or priority

• Some new and emerging issues:
  – identifying ways to effectively ‘sell’ network level SR management
  – development of national / regional equipment calibration protocol
  – identify and pilot a suitable post-lay (QA) SR test
  – prediction of in-service performance of aggregates
  – risk management methodology to address aggregate availability
  – how best to manage extensive spray seal network
  – further evaluation of remedial treatments
  – greater understanding of principles and considerations in setting a local suite of ILs and assigning ILs at site level
  – best practice in use of warning signage
Austroads 2013/2014 Program

Guide to Asset Management
Part 5F: Skid Resistance

Review & Update
In Mitigation ....

- Level of interest in, commitment to SR issues varies considerably

- What hasn’t helped us?
- Extensive, major weather events
- Austerity measures
- ‘The Departure Lounge’ (loss of vital KSE)
  - Messrs. Pratt, Weligamage, Baran, Mackey, Cossens, Hickson etc.
What’s Needed?

(author’s opinion)
What’s Needed?

- Realisation were are not going to get there in 5 minutes
- Renew interest
- Create a new momentum
- Don’t discard what we have in place – review and improve
- Grow and encourage new talent
- Awareness (e.g. ARRB webinars / workshop on ILs at 2014 conf.)
- Active state road agencies to promote and mentor local government
- ‘Sell’ - even a modest, fit-for-purpose local strategy makes a difference
- [A mandatory requirement?]
- [A high profile incident / legal case?]
Thank You!

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