

IPWEA Public Works Conference

Safety Audits of High Use Assets

by

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Agenda

- Asset Management/Road Management Act
- Safety Audits
- Examples
 - Guard Rails
 - Shared Paths
 - Public spaces

Asset Management

- Preserve / Maintain Assets
- Asset Management Systems
 - Roads, Pavements, Drains, Signs, Footpaths
- Risk Management (last 5 – 8 yrs +)
 - Risk matrix, probability & consequence

Road Management Act

- Road Management Plan
 - List of roads
 - What you will do
 - How / when you will intervene
- Standards / Balance Priorities / Budgets
- Liability

Safety Audit

- Council Asset Review – same but different
- Guide to Road Safety Pt 6: Road Safety Audit
(AustRoads 2009)
 - More than checking standards
 - Fitness for purpose
 - Is it safe?
 - Improve safety

Examples

- Guard Rails
- Shared Paths
- Public spaces - Shopping Centres

Guard Rail Audit

- South East Metro Council
- Approx. 200 sites reviewed (council 50 sites)
 - 85 sites upgrade/repair
 - 86 sites remove (no hazard to protect/or more hazardous)
- Priorities
 - 9 sites immediate intervention (\$115,000)
 - 83 sites high priority (\$370,000)
- Council can now develop management strategy

Guard Rail Audit - Issues

Major Findings

- Safety barriers don't comply with standards (short lengths = spear hazard)
- No 'hazard' to protect
- Steel W beam Guard rail deflects up to 1 m – can't provide full protection from hazard
- Used in low speed/volume environments

Guard Rail Audit - Issues



Guard Rail Audit - Issues



Guard Rail Audit - Issues



Guard Rail Audit - Alternatives



Omni Stop Bollards



Crash cushions

Raptor



Shared Paths Audit

- SE Metro Council
- Recent court cases
- Approx. 115 km of path
- (predominately arterial roads)
- Risk Management Strategy to be formulated



Shared Paths Audit

Coronial Findings

Councils must adopt a proactive role. Councils cannot ignore bicycle paths which were designed or constructed many years ago when light or moderate usage was expected.

The increased bicycle traffic and usage of bicycle paths requires councils to monitor or audit bicycle paths in their municipality in an endeavour to eliminate hidden traps, as part and parcel of its duty not to expose users of its land to unnecessary risk of injury.

Shared Paths - Issues

Major findings

- Cycling envelope compromised
 - Vegetation
 - Power poles
- Lack / clarity of signage
- Poor visibility / restricted sight distance
- Bollards at path terminals

Shared Path - Issues



Dangerous



Better



Shared Path - Issues



Gaps in bridge deck – trap cyclist



Vegetation obstructs view

Shared Path - Issues



Rear of guard rail has been
made safer with 'rub rail'
(approx. \$3,000 per 100 m)

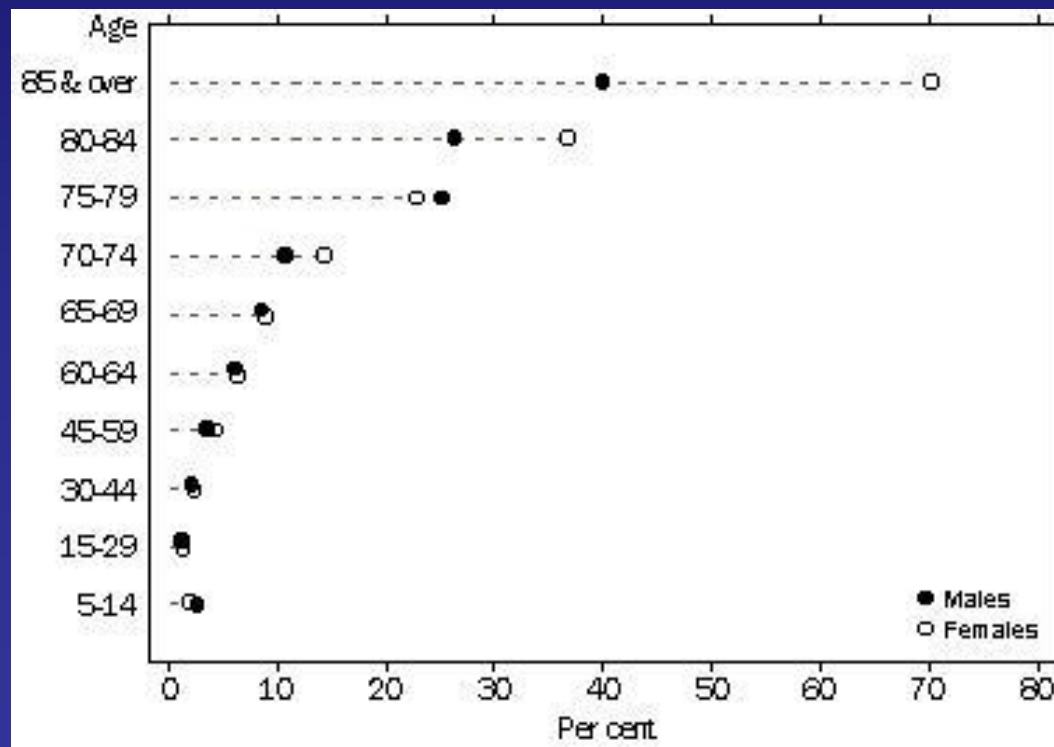


Public Spaces

- Disabilities – impacts, what it is like?
- Design implications
(for streetscapes / open space)
- Examples – (good, bad, ugly)

Disabilities

- Approx. 20% of population have some form of disability (over 4 million people)



Disabilities

- Vision – vulnerable to tripping, colliding with objects
- Mobility – walking stick, frame, wheel chair, motorists scooters, (handrails)
- Hearing – visual warnings
- Intellectual – mental impairment

Designers – First steps

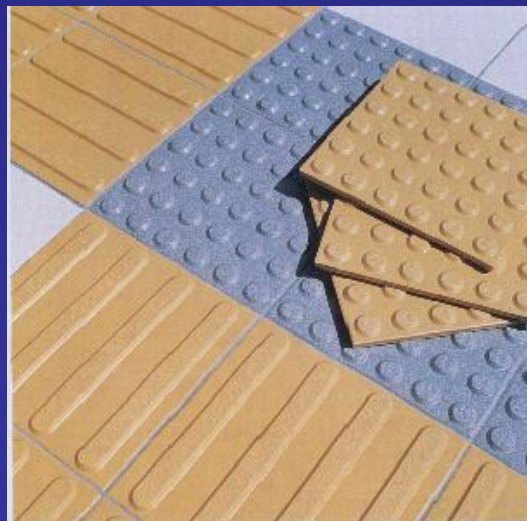
- Understanding of disability
- Empathy (put yourself in their shoes)
- One day, it could be you!

General Principles

- Simple, clear wide paths
- No obstructions
- Obstructions and hazards – clearly identified
- Ramps instead of stairs (where practicable)

TGSIs

- Tactile Ground Surface Indicators
- Assist visual impaired, provide guidance & warning of hazard
- Have been used in Australia over 20 years
- Evolving – new products & materials



TGSIs – Key Principles

- Only use as required – hazard or guidance
- Ensure luminance contrast



Examples – stair treatments



Examples – poor stair treatment



Examples – unclear path for visual impaired



Examples - clear, continuous path?



Examples – Pedestrian Safety?



Examples – Poor Accessibility



Conclusion

- Safety Audits are appropriate
- Formulate Risk Management Strategy
- Protects the community
- Protects you

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