Pedestrian safety

• Pedestrians make up approximately 14% of the annual Australian road toll1.
• In Queensland in 2015, over one-third of fatally injured pedestrians were alcohol impaired2.
• Younger pedestrians are prone to distraction from smartphones, with 1 in 3 18-30 year olds reporting texting while crossing the road in Queensland3.

The Facts

1. Risk and consequences in three ways

Pedestrians and cyclists, influencing crash with increased injury severity and death for

Increased vehicle speeds are associated

Speed factors for pedestrian traffic injury include:

- Laws are inadequately enforced
- Further heightened in settings where traffic
- Susceptible to road traffic injury
- Planning, pedestrians are increasingly
- Needs in roadway design and land-use
- As well as the general neglect of pedestrian
- Vehicles and bicycles without lights;
- Child pedestrians being obscured by
- Parked cars or other objects due to their
- Smaller stature;
- Inadequate, or lack of, roadway lighting;
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the needs of pedestrians. Roadway designs in which facilities such as footpaths and signalised crossings are missing, are inadequate or in poor condition, create risk for pedestrians. Wider lanes and roads, with more traffic lanes and higher designated speed, tend to increase traffic speed and are more dangerous to cross. Vehicle-pedestrian collisions are 1.5 to 2 times more likely to occur on roadways without footpaths.

Broaden land use

• The frequency of pedestrian crashes is strongly influenced by the density of the resident population and the total population exposed to risk.
• Beyond design elements of the roadway itself, the design and use of the broader land for commercial, industrial, recreational, transport, conservation, agricultural, or a mix of purposes, can contribute to the occurrence of pedestrian injuries and fatalities.

HOW CAN PEDESTRIAN SAFETY BE IMPROVED?

Successful interventions to protect pedestrians and promote safe walking require an understanding of the nature of risk factors for pedestrian crashes, as well as the collection and analysis of local data.

Engineering and behaviour

Several engineering and behavioural interventions have proven effective in improving pedestrian safety including:
• Reducing exposure to vehicular traffic: provision of footpaths; installation of pedestrian signals, refuge islands and raised medians; vehicular diversion/ restriction from pedestrian areas; installation of overpasses/underpasses.

• Lowering vehicle speeds: speed limit reductions, speed management measures at intersections and high volume pedestrian areas e.g. school zones. At the 2016 Australasian Road Safety Conference, CARRS-Q led the case for local street speed limit in built-up areas to be reduced from 50km/h to 40km/h. For vulnerable road users such as pedestrians, the chance of being killed by a vehicle travelling at 50km/h is 50-80%.

• Improving sight distance and/or pedestrian visibility: crossing and lighting enhancements, further research and development into clothing involving biomotion configured reflective clothing.

• Improving pedestrian and motorist safety awareness and behaviour: provision of education and training; enforcement of traffic laws.

• Improving care for injured pedestrians: organisation of pre-hospital trauma care systems and early rehabilitation services.

Impairment from alcohol

• In the attempt to reduce potential harm to intoxicated pedestrians, improvements have been made to roadways around licensed premises (i.e. pedestrian fencing and signalised crossings) and legislative changes for the responsible service of alcohol.

• Countermeasures such as slower vehicle speeds and changing timings of traffic signals at high alcohol consumption times and locations have been implemented in Australia, but not yet evaluated for effectiveness.

Distraction by technology

• Countermeasures should target young people (under 31 years old) because distracted walking is most common in this group of pedestrians.

• Signs should be posted in high pedestrian volume areas (e.g. CBD and intersections) to reach as many pedestrians as possible.

• Road safety education targeting adolescents and young adults should be designed to influence attitudes and perceptions of risk associated with distraction by technology (e.g. smartphone use) while engaging in the tasks required of a pedestrian to stay safe.

Vehicle design

• There is an increasing effort to include vehicle design elements that reduce the likelihood of pedestrian collision and/or reduce the severity of pedestrian injury, including:
  o ‘Brake Assist’ - now fitted as standard to most new cars; and
  o Autonomous Emergency Braking (AEB).

CARRS-Q’S WORK IN THE AREA

• The effectiveness of biomotion configured reflective clothing, where retro-reflective materials are applied on moveable joints.
• Queensland-wide campaign “Watch your Pace when Sharing Space”.
• Distraction and attitudes towards safe pedestrian behaviour.
• Personality factors affecting pedestrian crossing behaviours.
• Examination of the related behaviour and attitudes of young people in Queensland; and the factors which influence drink walking intentions.
• Understanding pedestrian behaviour on railway crossings.
• Investigation of older pedestrians’ road crossing strategies.
• Trends in cycling patterns and interactions with pedestrians.
• Acoustic hazard detection for pedestrians with impaired hearing.
• Examination of driver, cyclist, motorcyclist and pedestrian situation awareness at intersections.

Be seen: wear light, bright clothing & add reflective materials to backpacks and clothing if walking in low light.

REFERENCES