Cycle Safety at Roundabouts

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Introduction

- Roundabouts safe and efficient for Motorists
- Impacts on Cyclists?

Background (1)

- *LTSA Monitoring System (1995)*
  - 29% Crash Reduction for Cyclists
- *The Ins and Outs of Roundabouts (Transfund 2000)*
  - 1% of Crashes[1] at Signals involve Cyclists
  - 6% of Crashes[1] at Roundabouts involve Cyclists

[1]Injury and Non-injury Crashes

Background (2)

- *Koorey & Wilke (Transfund, 2001)*
  - Higher underreporting for Cycle Non-injury Crashes
  - 6% of Crashes[1] at Signals involve Cyclists
  - 26% of Crashes[1] at Roundabouts involve Cyclists

[1] Injury Crashes only

Methodology

- *Categorise Roundabout Layouts*
  - Deflection
  - Visibility
  - Single-Lane or Multi-Lane
- *Match Crashes to Study Sites*
- *Analyse Safety Performances of different Categories*

Data Sources

- *LTSA Monitoring System (98)*
- *LTSA Database 'Install Roundabout' (78)*
- *BECA Crash Prediction Model Study (51)*
- *2000 LTSA Roundabout Survey (113)*
- *Total = 300 Roundabouts*

Work Undertaken to Date

- *Database of Sites*
- *270 Sites Categorised (Single-Lane or Multi-Lane)*
- *Crash History*

Work To Do

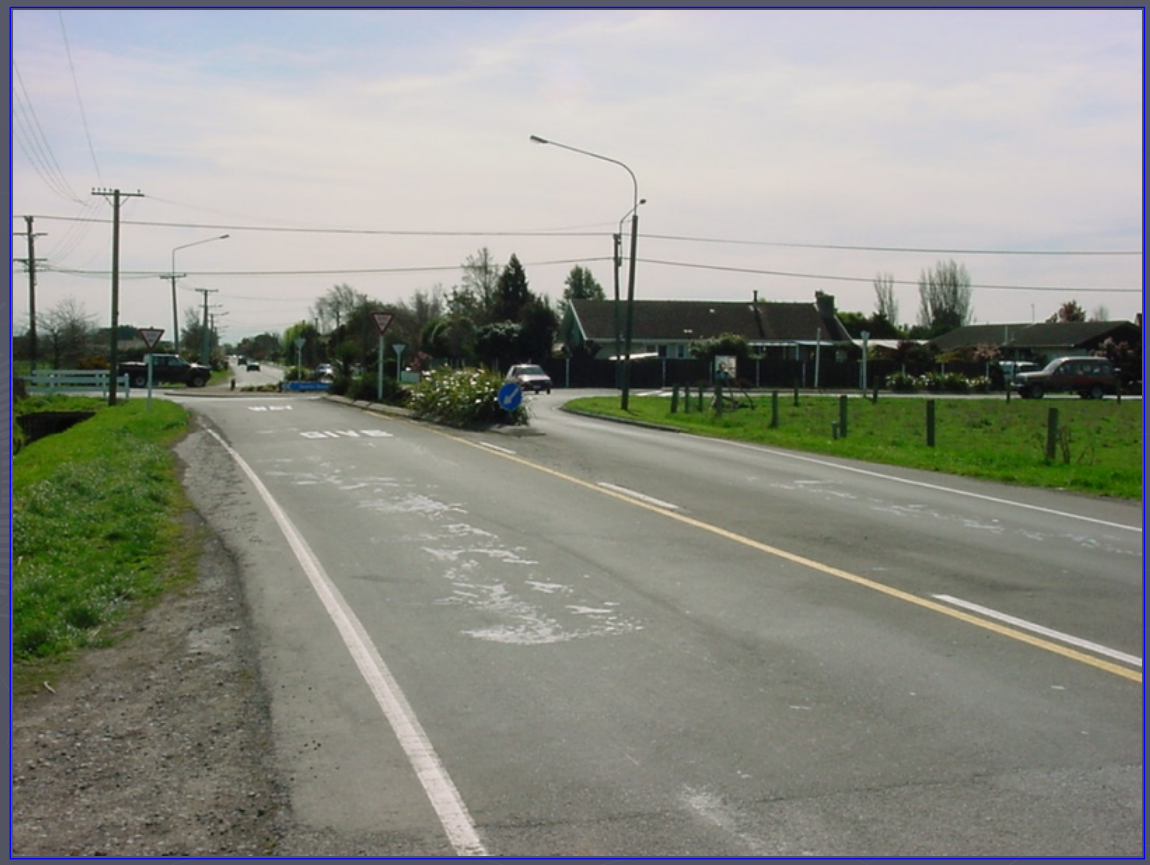
- *Match Crash List to Site Database*
- *Analysis*
- *Literature Review (for Cycle-Friendly Design)*

Hypotheses

- *Multi Lane Roundabouts significantly less safe for Cyclists*
- *Not meeting Sight Triangle Criteria (Urban Roundabout) increases Safety of all Users*

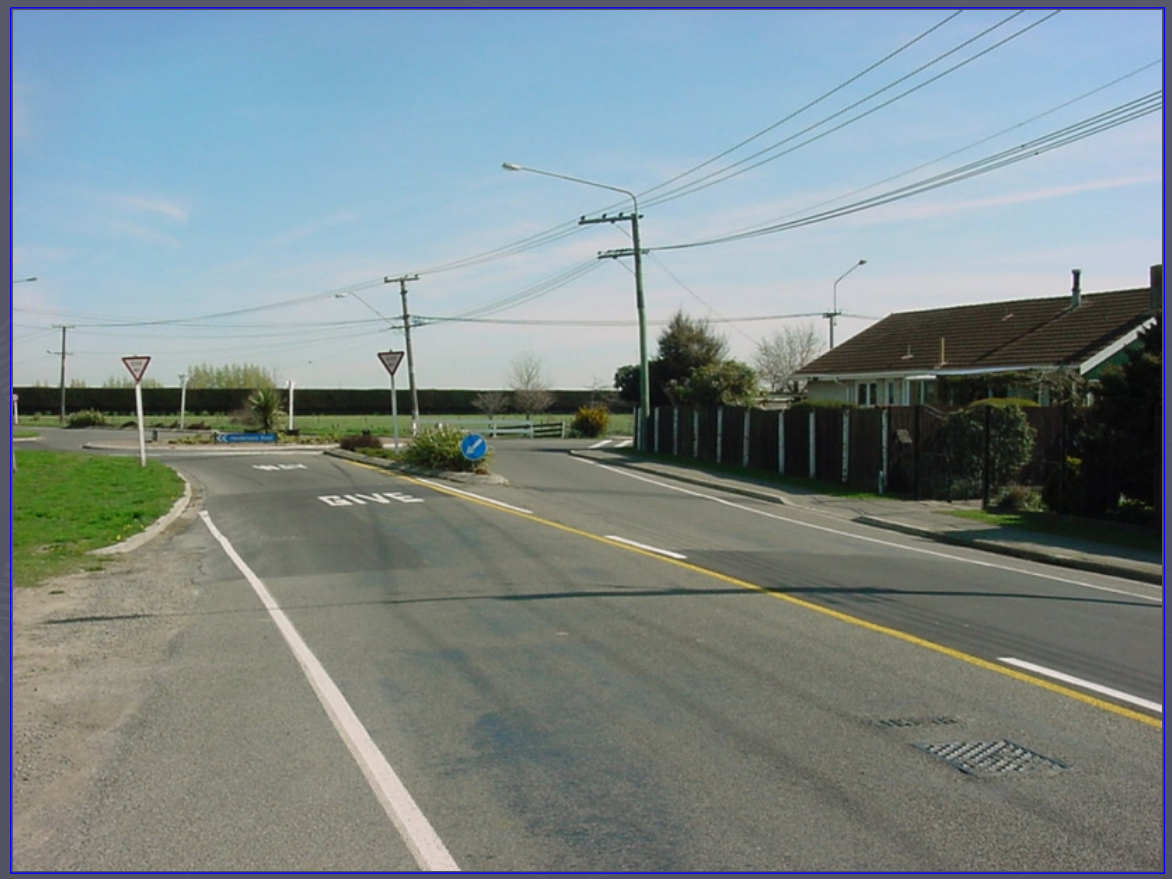
Sight Triangle Example (1)

- *Good Visibility (meeting Code Requirements)*



Sight Triangle Example (2)

- *Poor Visibility (not meeting Code Requirements)*



Results

- *Results to be published*
  - Transfund & Transit Publications
  - Transportation Group Newsletter
  - Traffic Management Workshops
- *Input to Road Controlling Authority Forum and other Groups as Appropriate*

Preliminary Recommendations

- *Segregated Pathways above 15,000 Vehicles / Day*
- *Do NOT provide Cycle Lanes in Circulatory Ring*
- *30 km/h is Safe Design Speed*

Good Example