Identifying the gaps – where are the gaps and what should be prioritised in Christchurch’s planned $70m cycle network

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Barriers to cycling

• Globally acknowledged that perceived safety is main barrier
  – Infrastructure is key
  – Physical separation
Assessment of the type of cycle infrastructure required to attract new cyclists

• Type of infrastructure needed to attract ‘new’ cyclists

• Investigate the barriers and motivations for cycling
  – Perceived danger is main barrier!
  – Physical separation was key

Christchurch Research

• Consistent infrastructure was wanted
  – continuous facilities

• People were prepared to cycle 5-10 minutes longer for a more attractive (off-road) route
100 metres

• The importance of the first and last 100 metres of a trip made by bicycle (van den Dool, 2013)

Major Cycleways

• $70m signed off as 5 year plan June 2013
• Names given March 2014
• But...April 2014 – Annual Plan out for consultation - proposed to extend to 8 years
• Public opposition to 8 years, 5 year plan confirmed!
Major Cycleways

Major Cycleways Network
May 2014

Key
- Completed
- Major Cycle Routes/ Recreational Trails
- Coastal pathway - funded separately
- Central City - CERA led
- Near Act/Key Areas
- -
Key Questions

1. Do Christchurch’s *Major Cycleways* provide good citywide coverage?
   – Or are there poorly serviced areas?

2. Where are there gaps within the Major Cycleways network?
   – The first and last 100m
Assumptions

• All streets within the four avenues are suitable and safe for cycling
• Those who live within 500 meters of the proposed cycle network have access to it
• The first and last 100 meters of a trip made by bicycle are of significant importance
• Potential new cyclists want trips less than 5km by bicycle *(initially)*
Proximity and Placement

• Mapped:
  – Key destinations (e.g. shops, schools, workplaces)
  – People who drive to work
  – People who cycle to work
  – Crash data

• Examined demographic and key destination coverage of proposed network
Network Analysis

• 2006 Census Trip Data
  – 296 trips used in analysis
  – A trip was assumed to be made directly between any two census area units (CAUs) within Christchurch
  – Origins and Destinations assumed to be CAU centroids

• Closest Facility Analysis
  – Cost measured in metres
  – Run twice
    • Road Network
    • Road Network and Proposed Cycle Network
Network Proximity and Placement

Bike to Work
PERCENT
- 0.00 - 2.60
- 2.61 - 4.30
- 4.31 - 5.90
- 5.91 - 7.20
- 7.21 - 8.9

Drive to Work
PERCENT
- 25.20 - 37.20
- 37.21 - 55.20
- 55.21 - 62.00
- 62.01 - 66.70
- 66.71 - 71.90

Proposed Network
Existing Origins and Destinations

Number of commuter trips made from each origin/destination for bicycle journeys throughout Christchurch
Network Coverage

Proposed Network Demographic Coverage

- 500m Buffer
  - Meshblock Centroids: In 500m Buffer
  - Meshblock Centroids: Outside 500m Buffer
Network Coverage

Proposed Network Facilities Coverage
Identifying Gaps in the Network

Location of origins, destinations and trips
Identifying Gaps in the Network

Location of trips that do not use any cycle infrastructure
Gaps in the Network

Next steps...

- Identify predicted commuter travel patterns in Christchurch 2041
- Examine future cycle infrastructure locations based for finer spatial units
- Suggest infrastructure prioritisation based on predicted demand
- Factor in perceived safety of routes