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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

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- Globally acknowledged that perceived safety is main barrier
  - Infrastructure is key
  - Physical separation

Christchurch Research

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

Source: Kingham S, Koorey G and Taylor K, 2011, Assessment of the type of cycle infrastructure required to attract new cyclists. NZTA Research Report 449.

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Christchurch Research

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- 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)

– van den Dool, D. (2013). *Cycling Infrastructure - getting the right bang for your $$$$.* Asia Pacific Cycle Congress. Gold Coast, 2013

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Major Cycleways

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- $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!

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Major Cycleways

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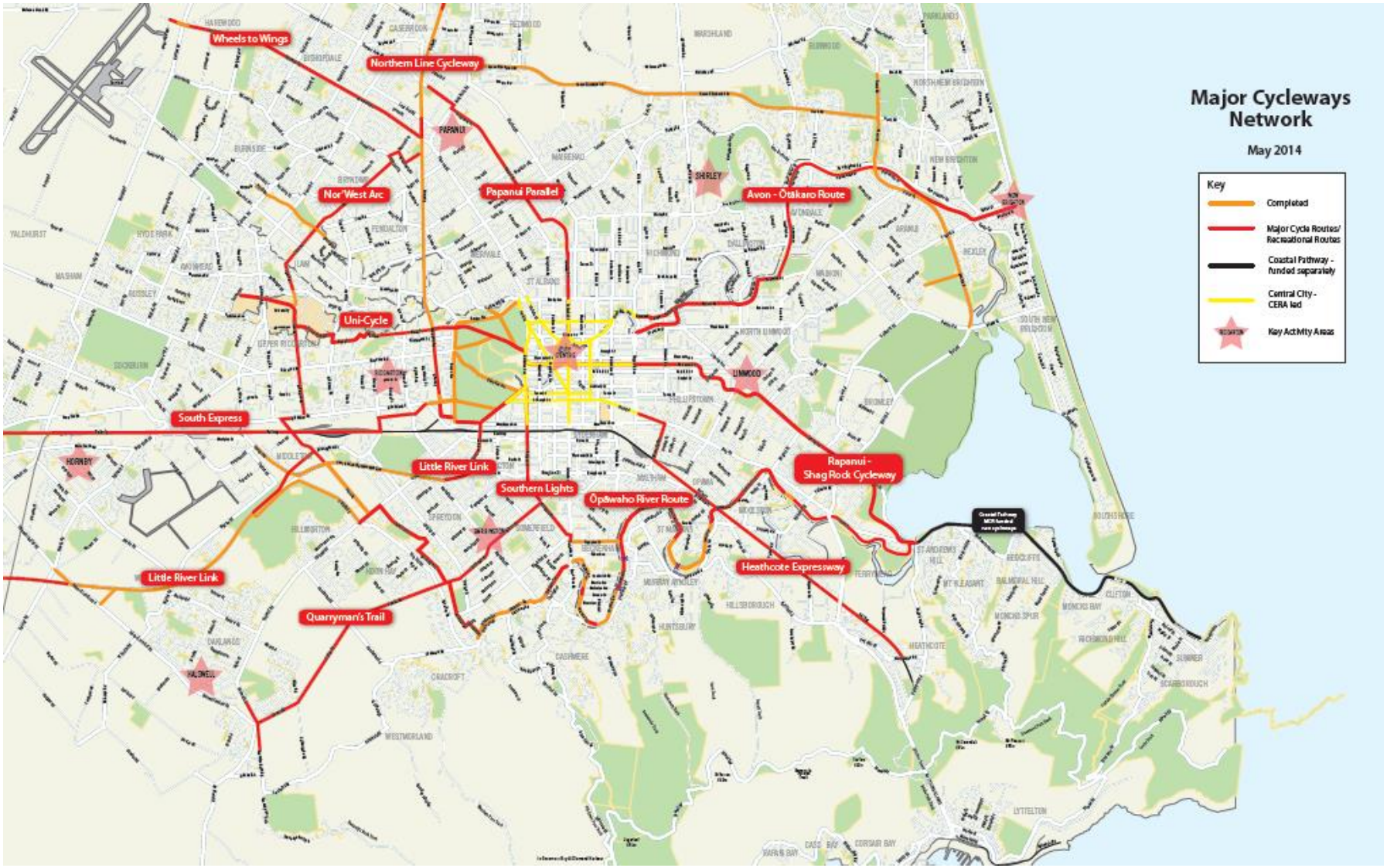

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Key Questions

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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

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Network Proximity and Placement

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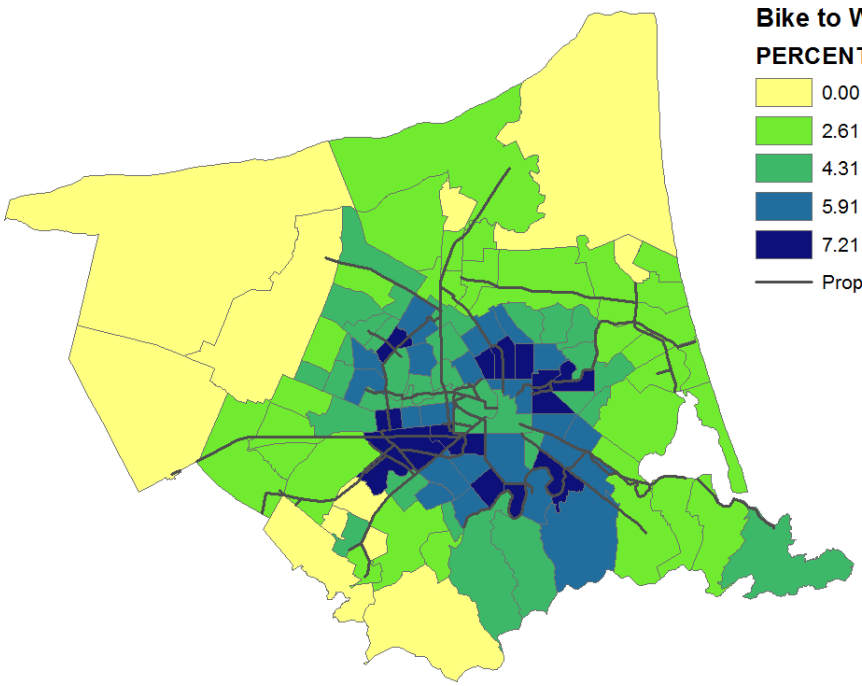

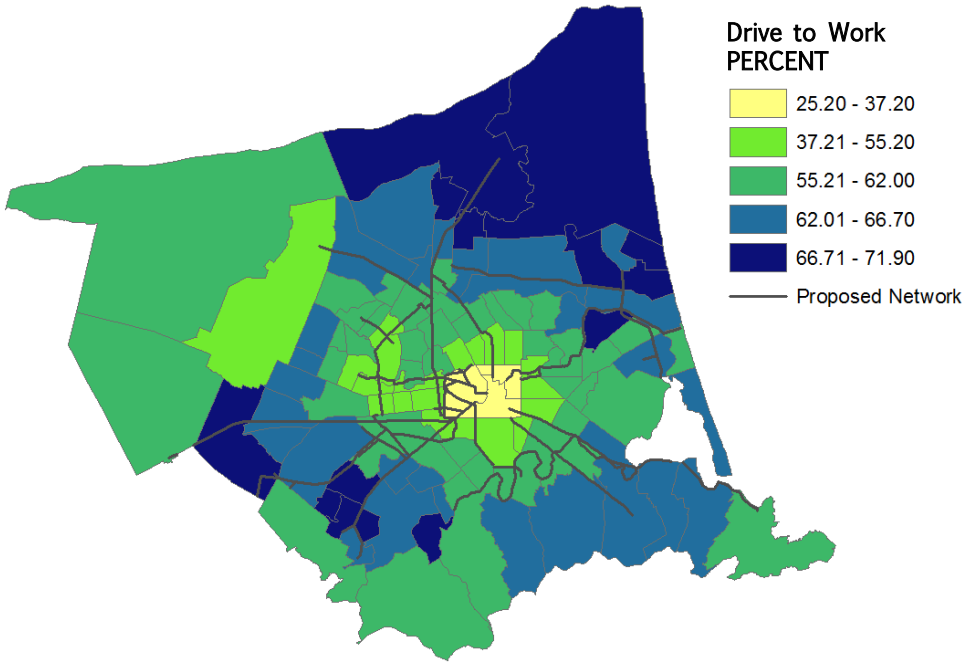

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Existing Origins and Destinations

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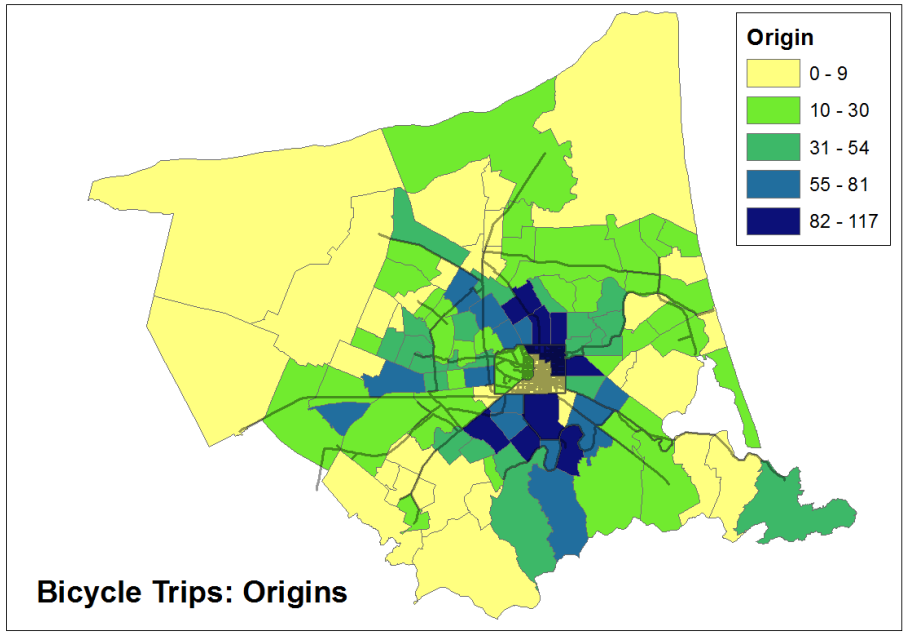

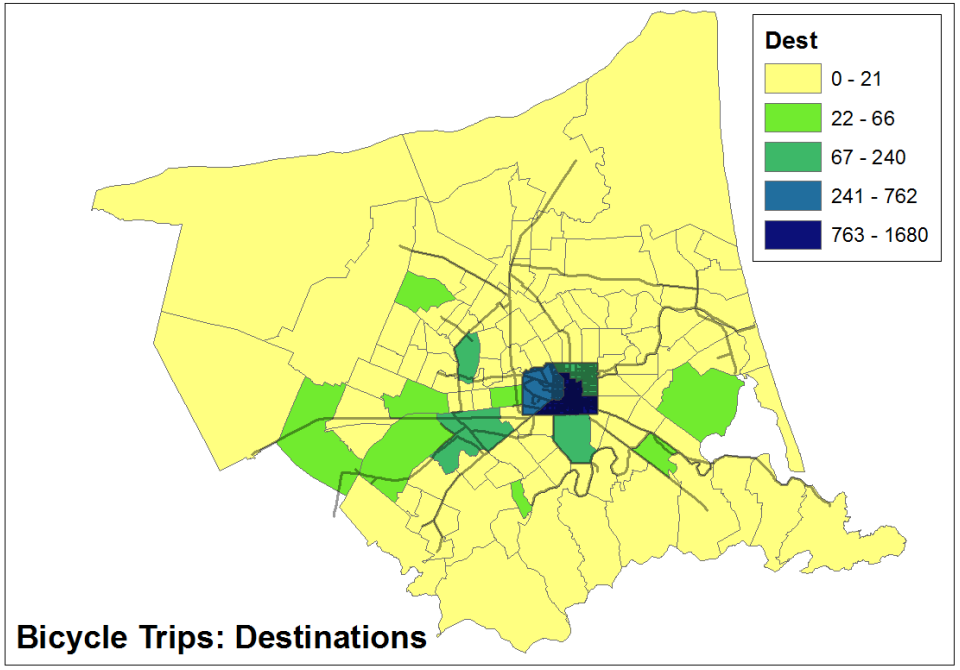

Number of commuter trips made from each origin/destination for bicycle journeys throughout Christchurch

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Network Coverage

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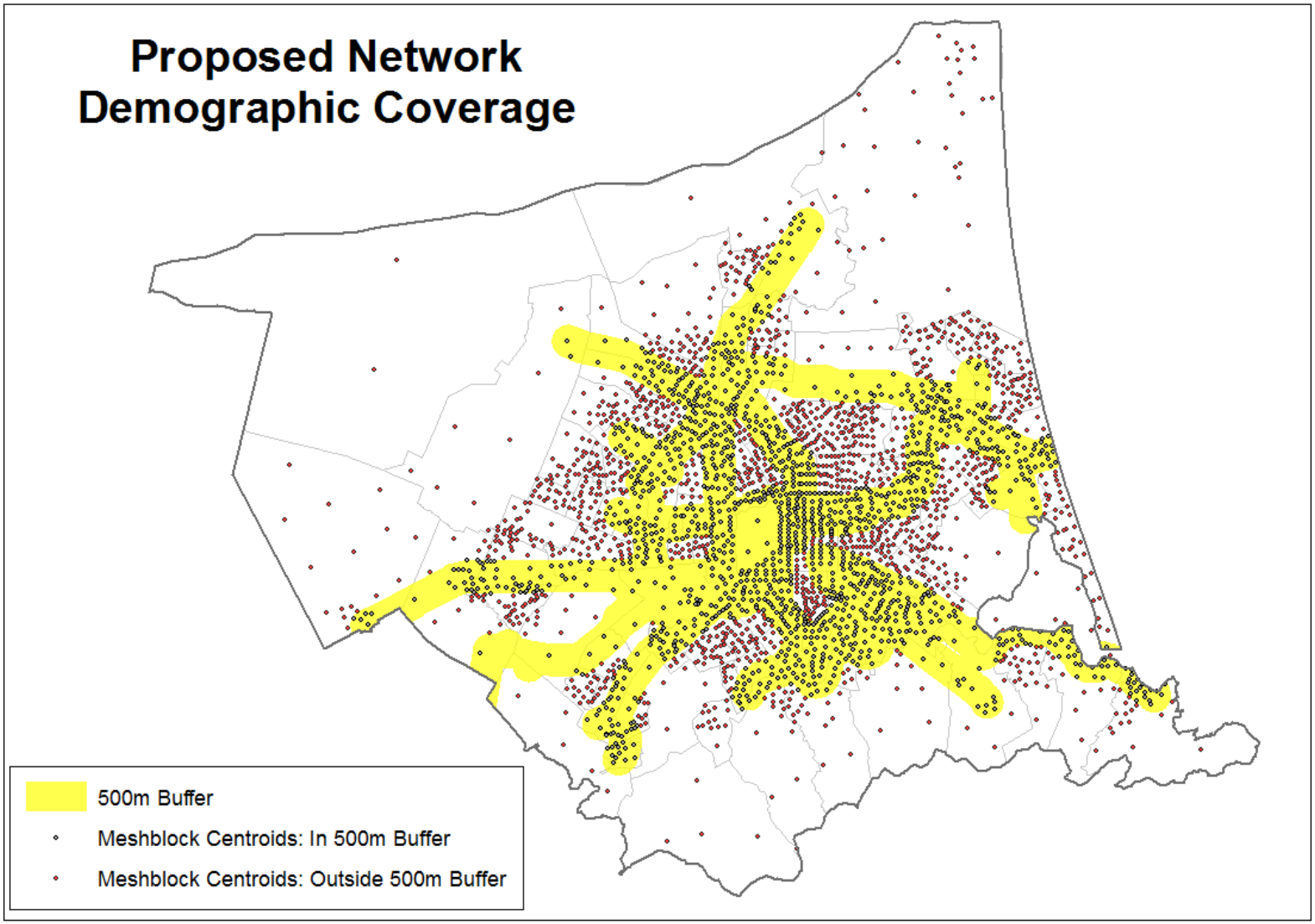

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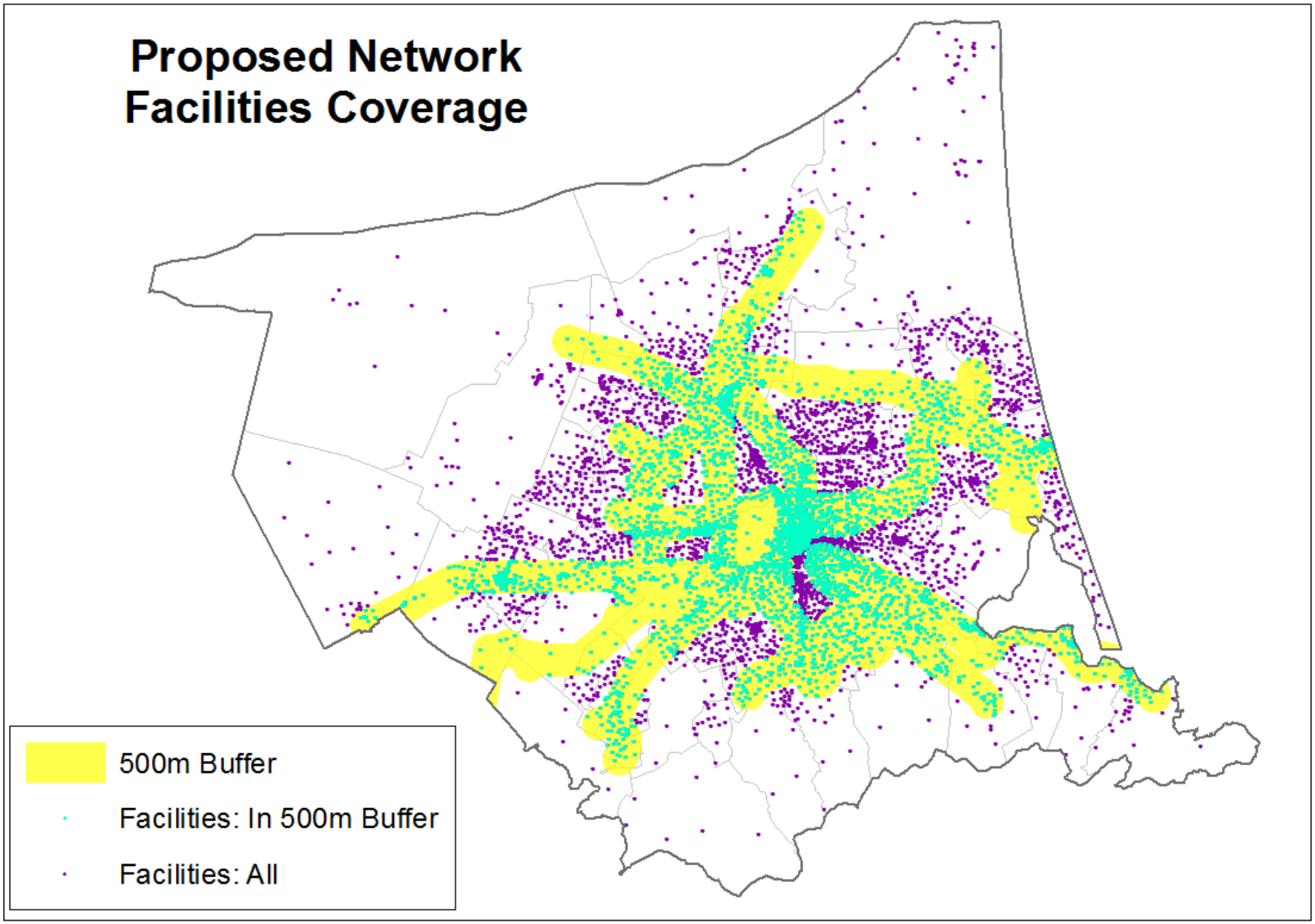
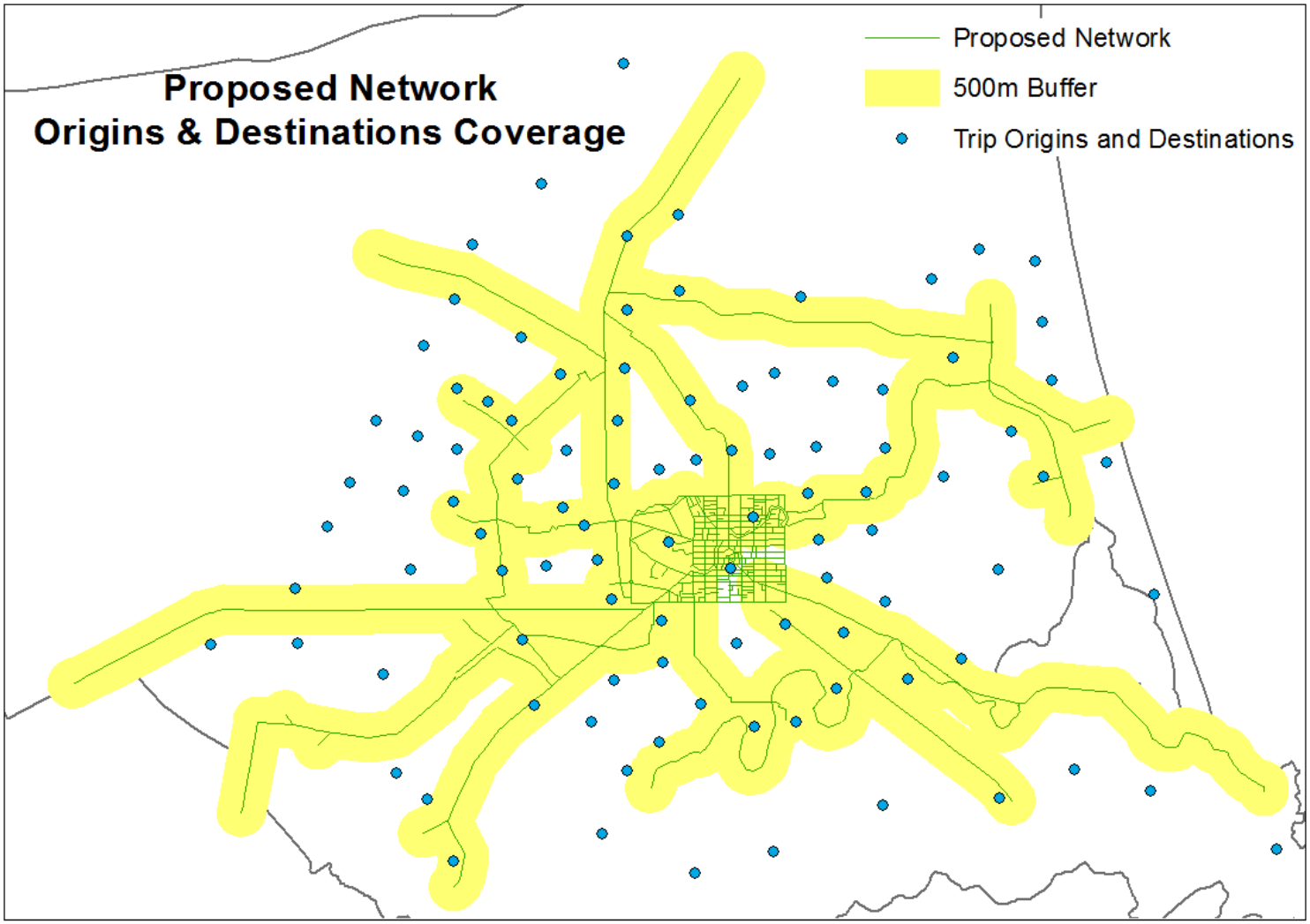
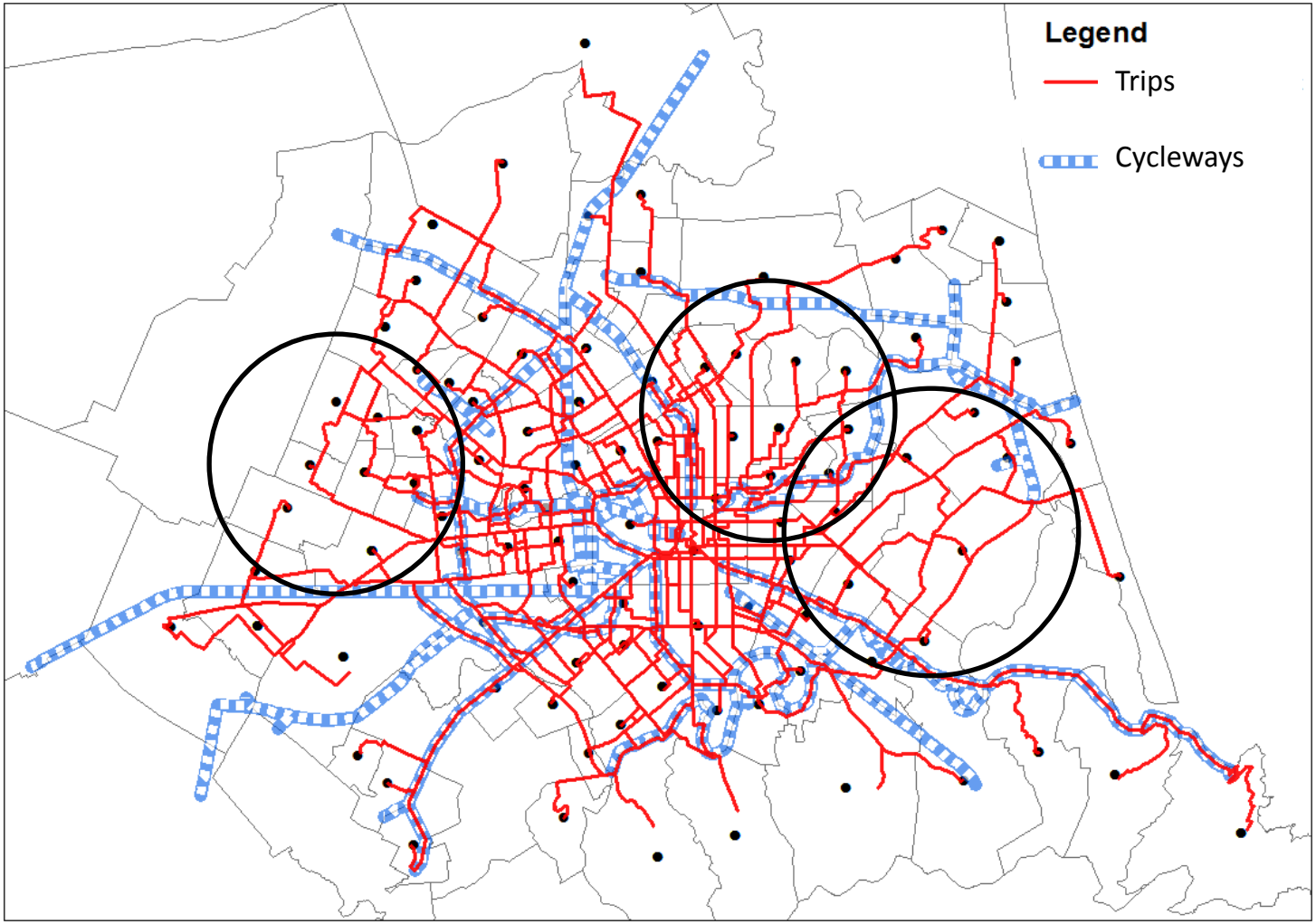


Network Coverage

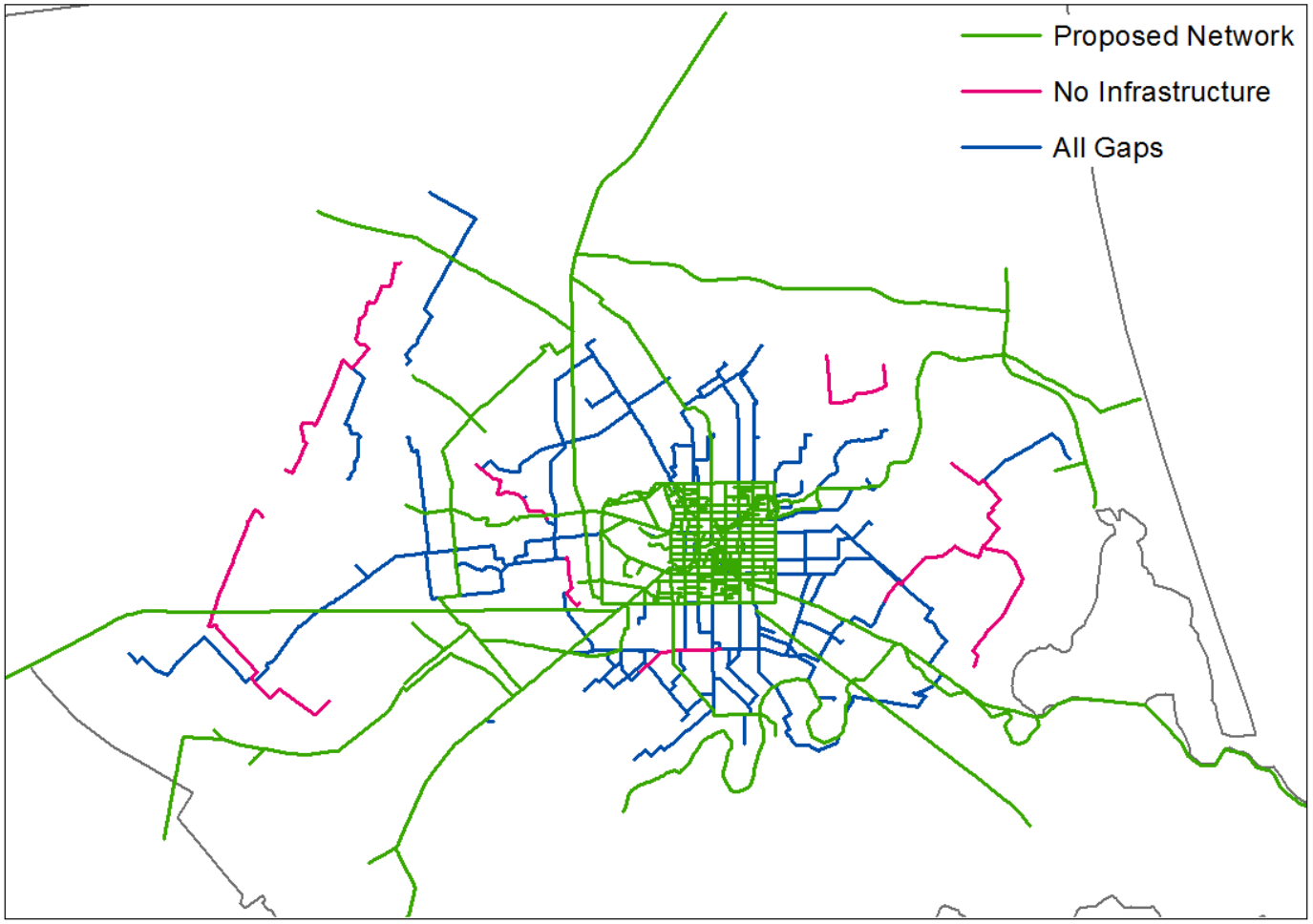


Identifying Gaps in the Network



Location of origins, destinations and trips

Identifying Gaps in the Network



Location of trips that do not use any cycle infrastructure

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Gaps in the Network

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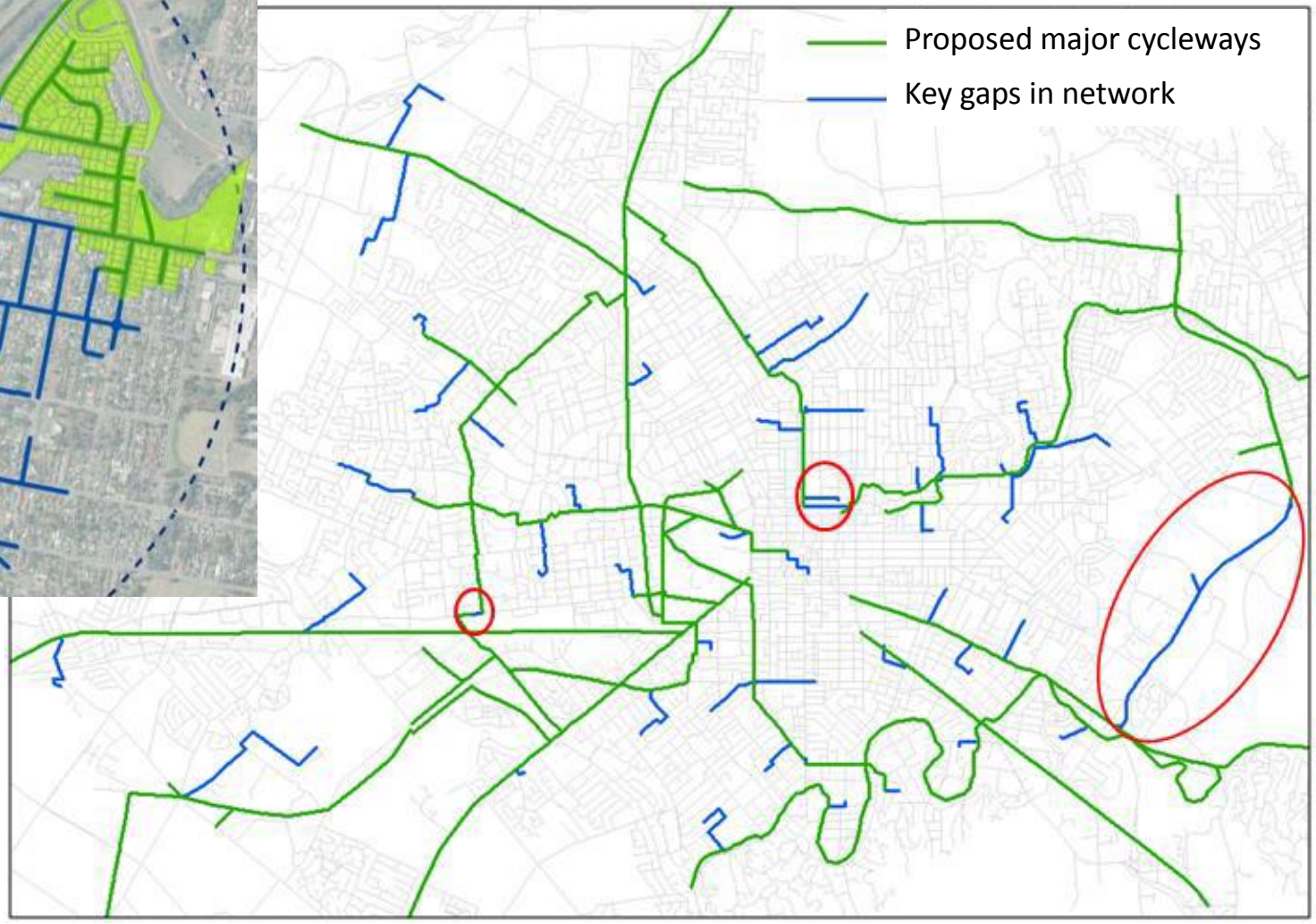

Lehman, R. (2013). *"One small step...." Adapting infrastructure to encourage active transport.* Melbourne: GTA Consultants.

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