

Visualising public transport accessibility for walking and cycling

Anthony Leung, Lennart Nout and Alexander Raichev

IPENZ Transportation Group Conference,
Tuesday 8 March 2016



MRCagney

Overview



“First mile, last mile”

- High growth in Public Transport (PT) patronage
- Most PT journeys start or finish by walking or cycling
- Targeted investment to improve PT journeys
- Using GIS/visualisations to prioritise investment

“First mile, last mile”

- **Using digital tools, we analyse:**
 - How accessible are the stations from a walking and cycling perspective?
 - What is the quality of this walking and cycling trip?
 - Any potential improvements to reduce distance and increase the PT catchment?

Our approach

GIS analysis



Visualisation



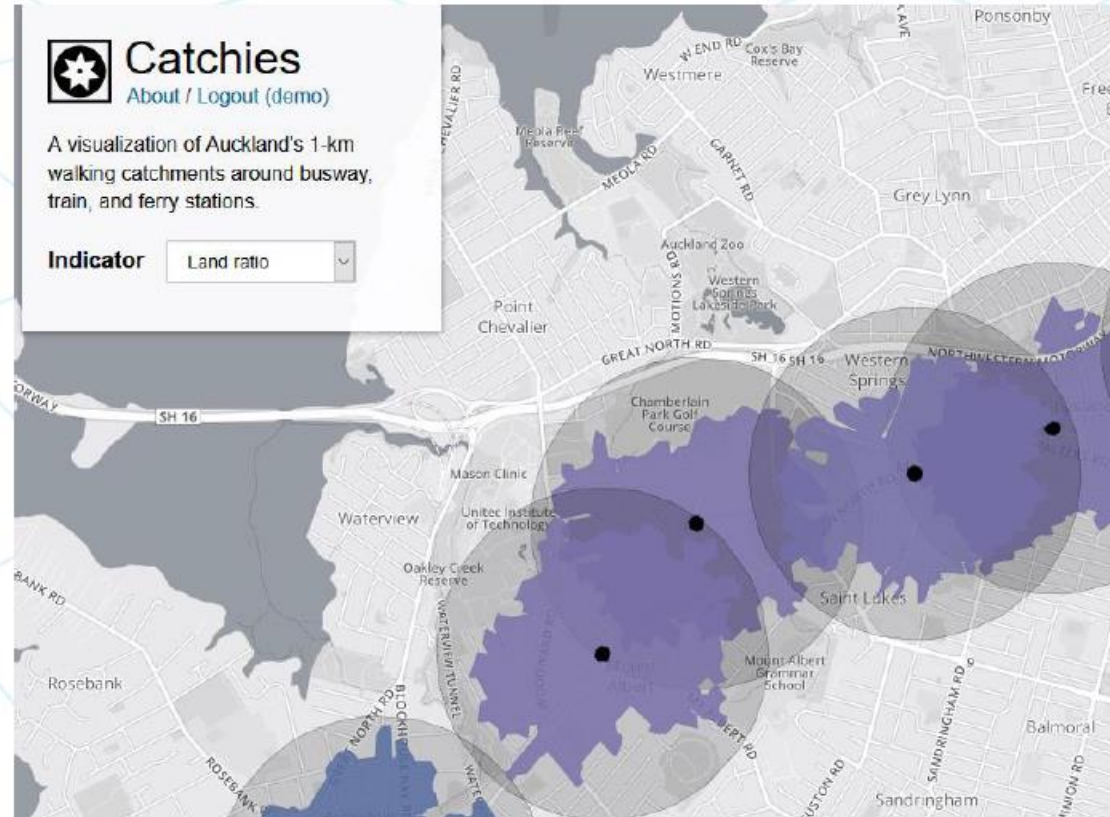
Site
investigation

GIS analysis

- **Routable walking/cycling street network from OpenStreetMap**
- **Free, open data, created by the online community**
- **Easy to make changes**

- **1.0 km walking catchments, reflects typical walking distances to stations in Auckland**
- **Demographic data, crash data and patronage data within each catchment**

Visualisation - Catchies



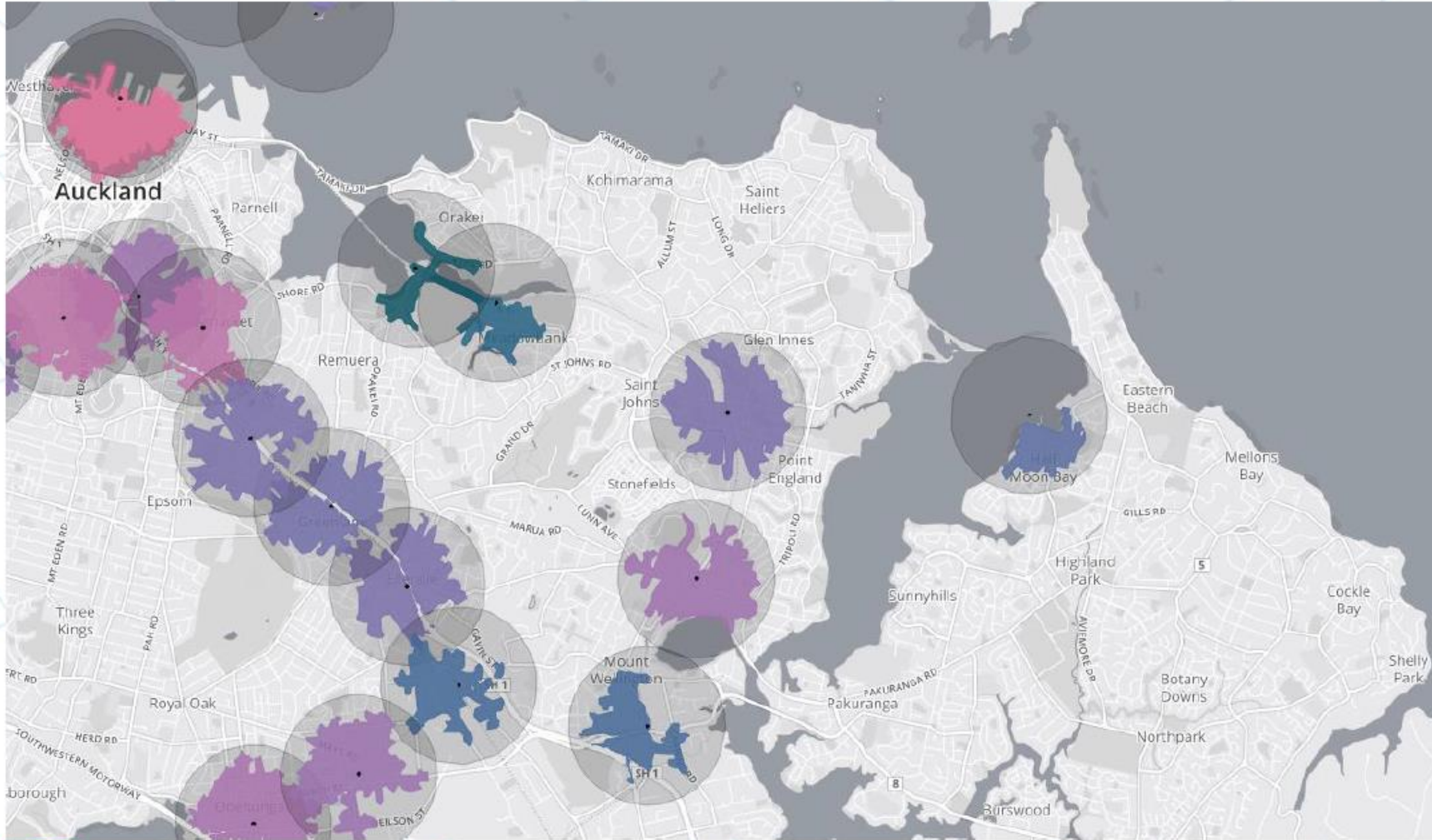
Catchies

- **Crowdsourced suggestions and improvements:**
 - Internet
 - Twitter
 - E-mail
 - Updates to OpenStreetMap and the Catchies website

Data verification

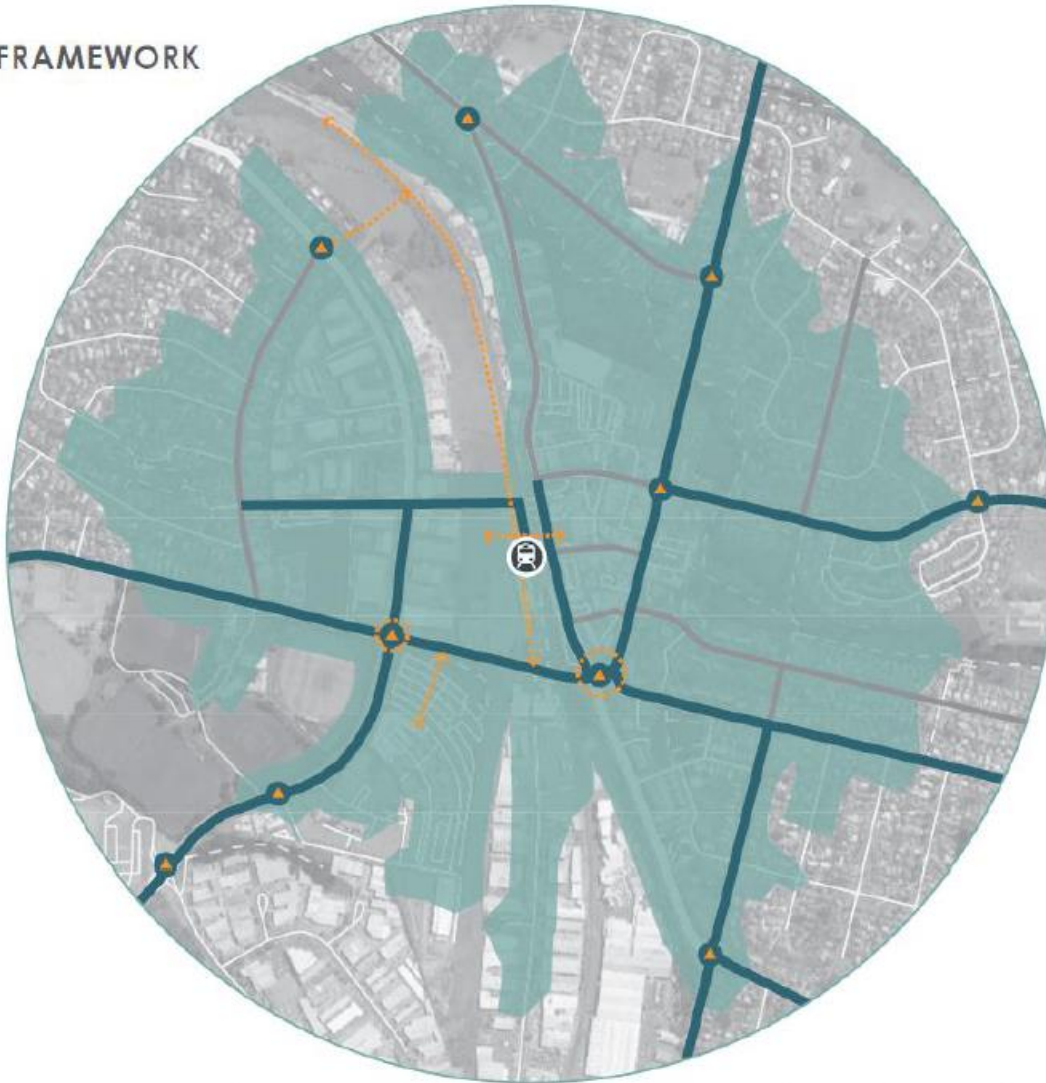
- OpenStreetsMap as a base
- Ground-truthing required
- First hand experiences in walking & cycling
- Highlight deficiencies, safety hazards and obstacles

City wide perspective



High level access framework

STATION ACCESS FRAMEWORK



Site investigation



Interventions to address barriers

INTERVENTION CONCEPT – MORRIN ROAD

POPULATION ESTIMATE: 5,000



Takeaways

1. Value of digital tools in accessibility assessments
2. Information on all scale levels to target investment
3. Value of open data
4. Importance of human scale assessment of accessibility