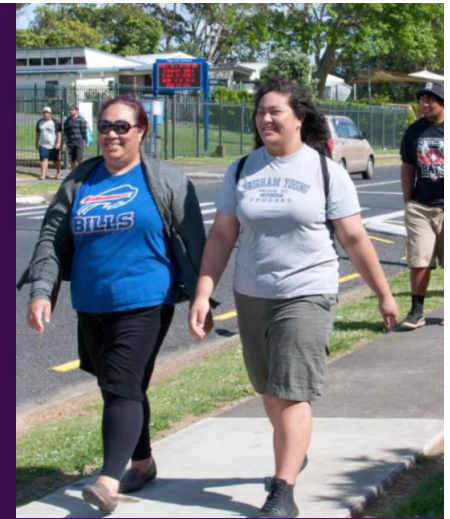


Health impacts of transport policies: a case study of the Future Streets project in Māngere, Auckland

NZAIA conference
26 November 2014

Jamie Hosking
The University of Auckland



This presentation

- Health impacts of transport
- Examples of assessing the health impacts of transport
- Case study: Te Ara Mua – Future Streets project, Māngere

Transport has large health impacts

People who cycle to work are *about 25% less likely to die* (of any cause) compared with people who do not cycle to work



References: Andersen et al 2000, Matthews et al 2007

Image source: V. Collazos, http://www.who.int/dietphysicalactivity/factsheet_adults/en/

Slide source: World Health Organization (Europe) training module

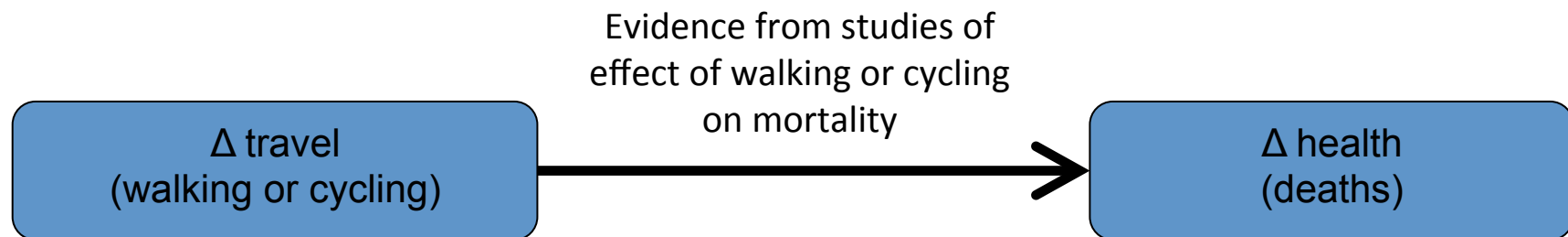
Goals of healthy transport

- To give people *access* to things they need for wellbeing
 - e.g. employment, education, health and other services
 - For all people, not just those owning a car
- ... in a way that maximizes the *benefits* of transport
 - Physical activity and social interaction
- ... and minimizes the *risks* arising from transport
 - Emissions of air pollutants, greenhouse gases and noise
 - Road danger and social severance
 - Sprawling, car-focused urban development patterns

Simple quantitative HIA

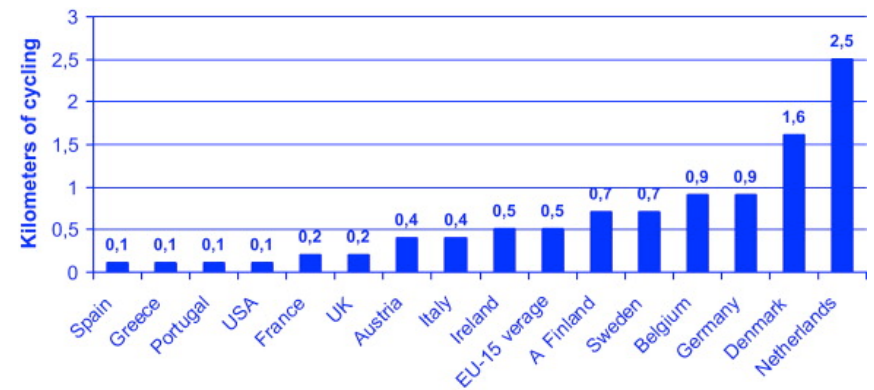


- HEAT tool a good example: www.heatwalkingcycling.org
- Based on studies on risk of death for people who walk/cycle regularly, compared with those who do not
- Calculates changes in mortality from changes in walking or cycling
- Also calculates economic value of mortality changes



HEAT tool – New Zealand

- NZ has low levels of cycling: ~ 1% of trips
- 70% of urban car trips under 7 km length
- What if some of these short trips were cycled?
- Used HEAT tool: effects of cycling on health
- Used other methods to estimate impacts on emissions and injuries
- Range of mode shift scenarios:
 - 1%, 5%, 10%, 30%



Source: Lindsay et al, 2011

HEAT tool – New Zealand (2)

- Findings for 5% shift from 'cars to bikes':
 - 116 deaths avoided per annum in NZ
 - Monetized benefit NZ\$200 million per year
 - Reduced emissions by 53 000 tCO_{2eq} per year: 0.4% of transport emissions
 - Benefits greater in disadvantaged social groups
 - Benefits many times greater than injury risks
- Benefits greater for higher levels of mode shift

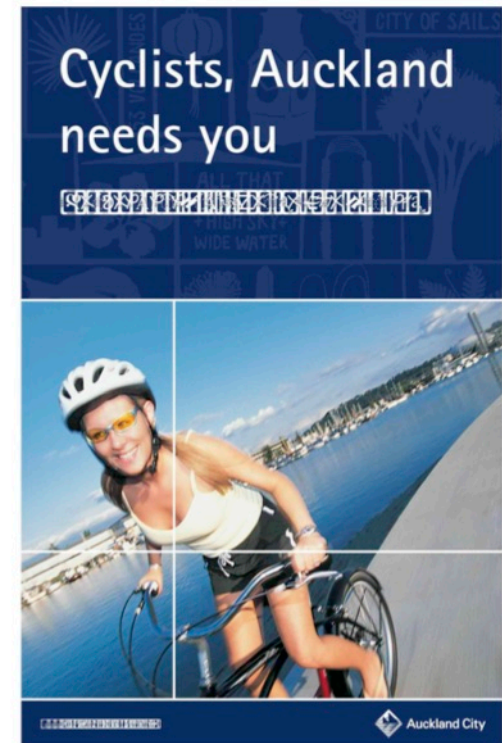


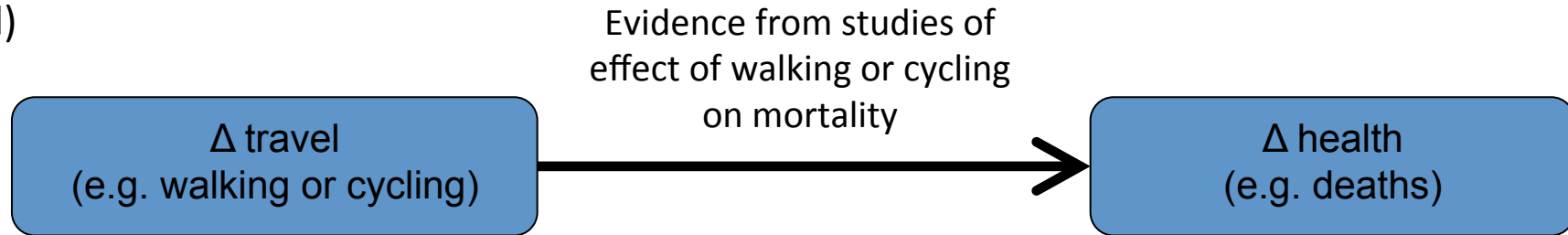
Image source: <http://archive.can.org.nz/awards/awards07.htm>

Study reference: Lindsay et al, 2011

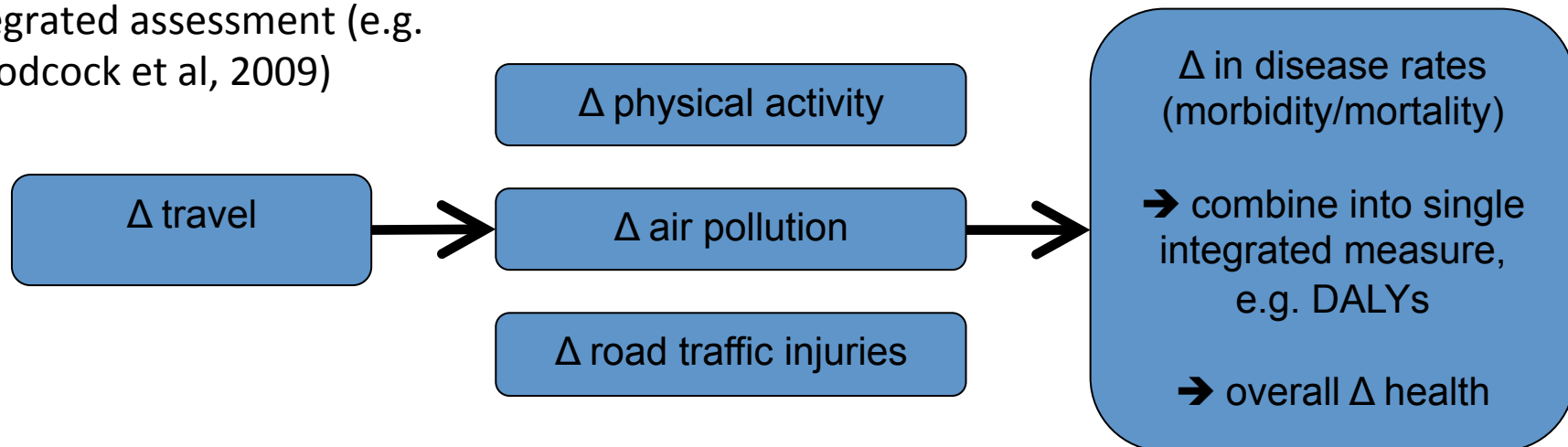
Slide source: World Health Organization (Europe) training module

More in-depth approaches

Simple assessment (e.g. HEAT tool)



Integrated assessment (e.g. Woodcock et al, 2009)





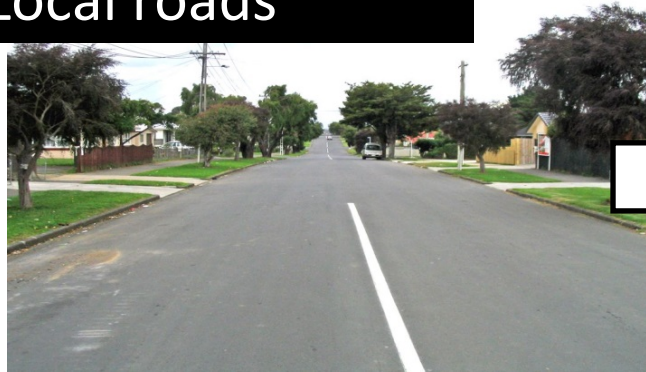
Some uses of neighbourhood streets

- Play/recreation
- Socialising
- Growing flowers, veges, fruit
- Walking
- Cycling
- ... and car use

Self-explaining roads, Pt England



Local roads



Before



After

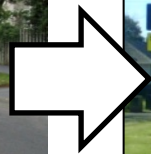


After

Collector roads

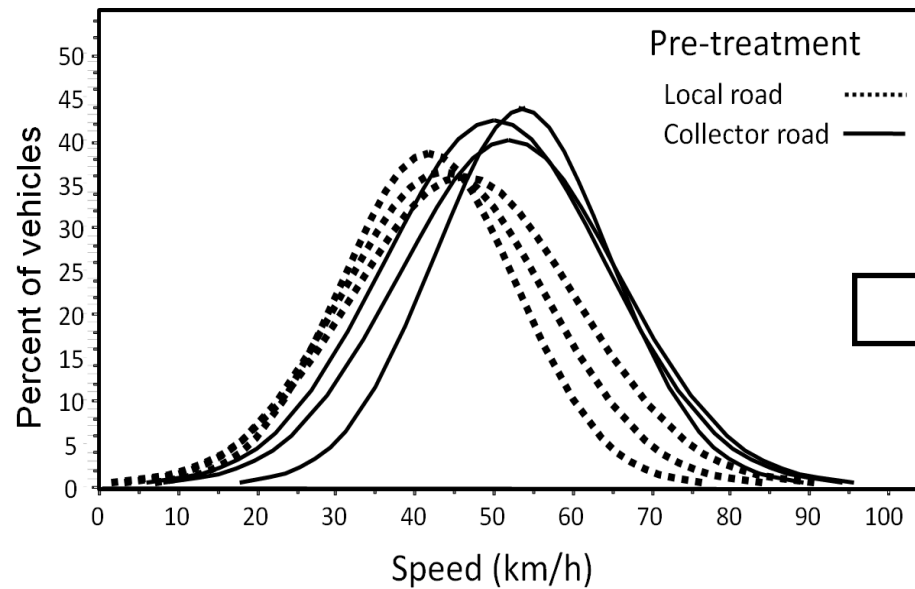


Before

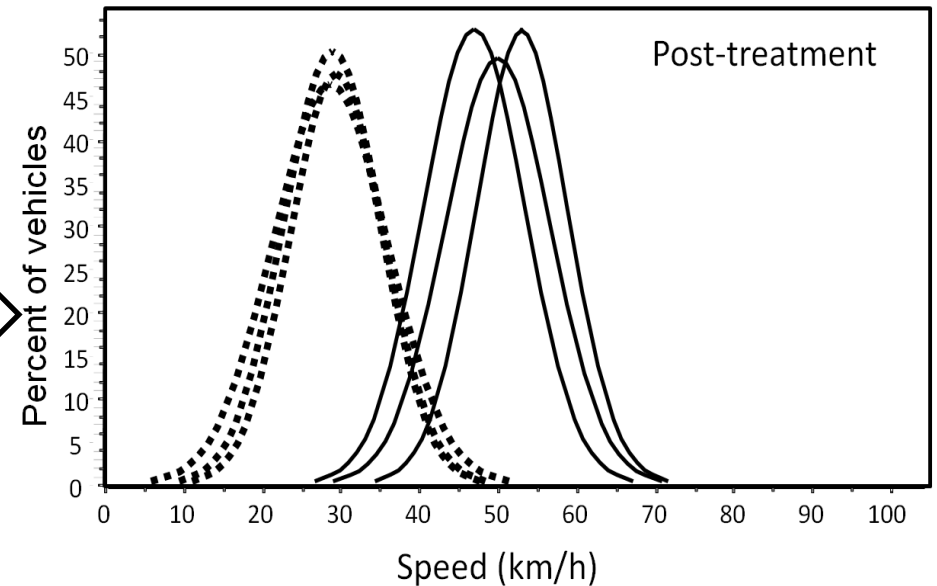


After

Self-explaining roads, Pt England



Before



After

Future Streets



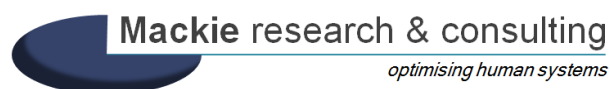
Goal:

- To make streets in Māngere Central safer and easier for people to travel around, especially by walking or cycling, while reflecting local identity

Future Streets – partners

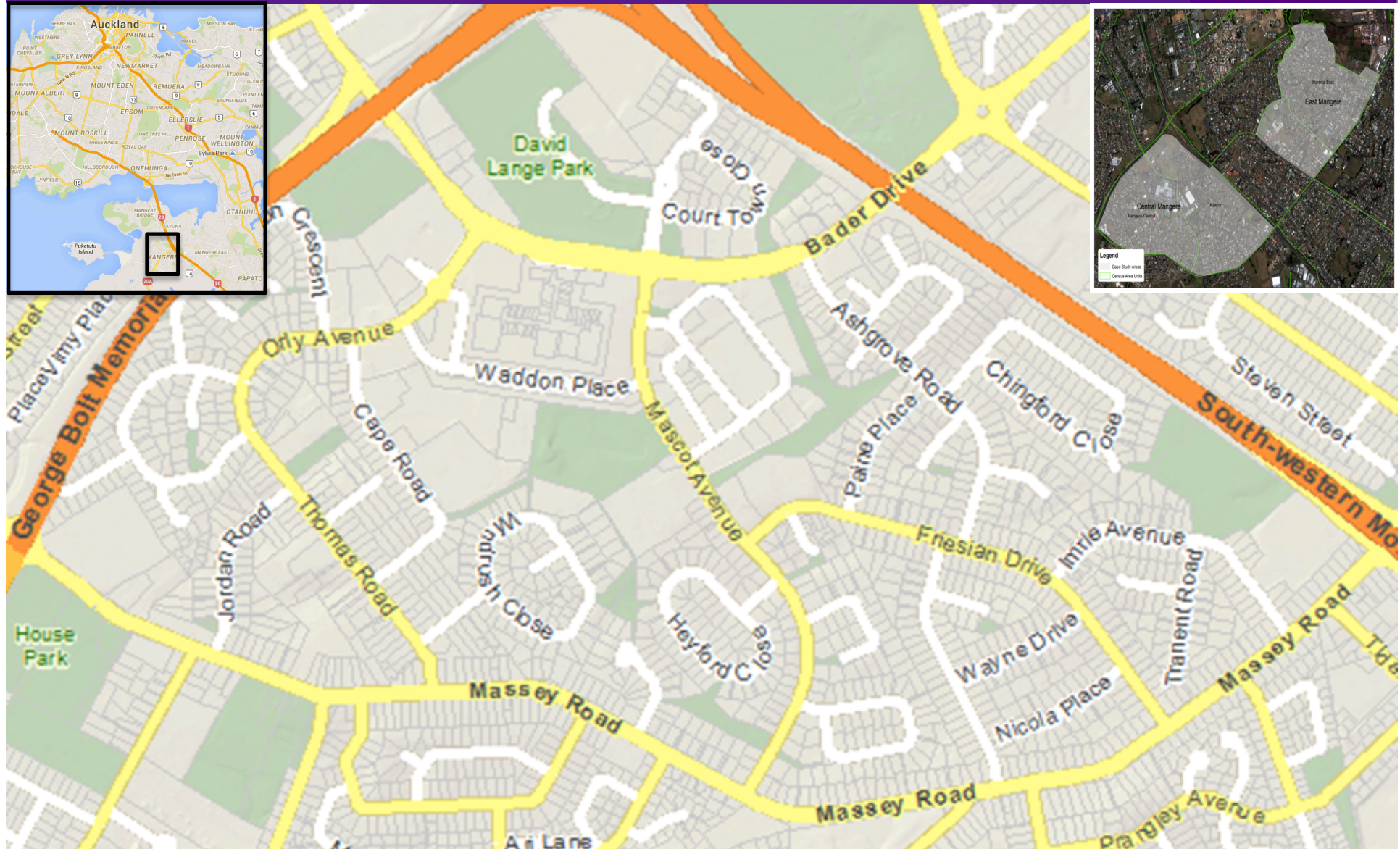
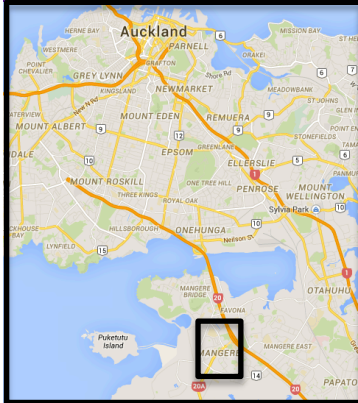


Ministry of Business,
Innovation & Employment



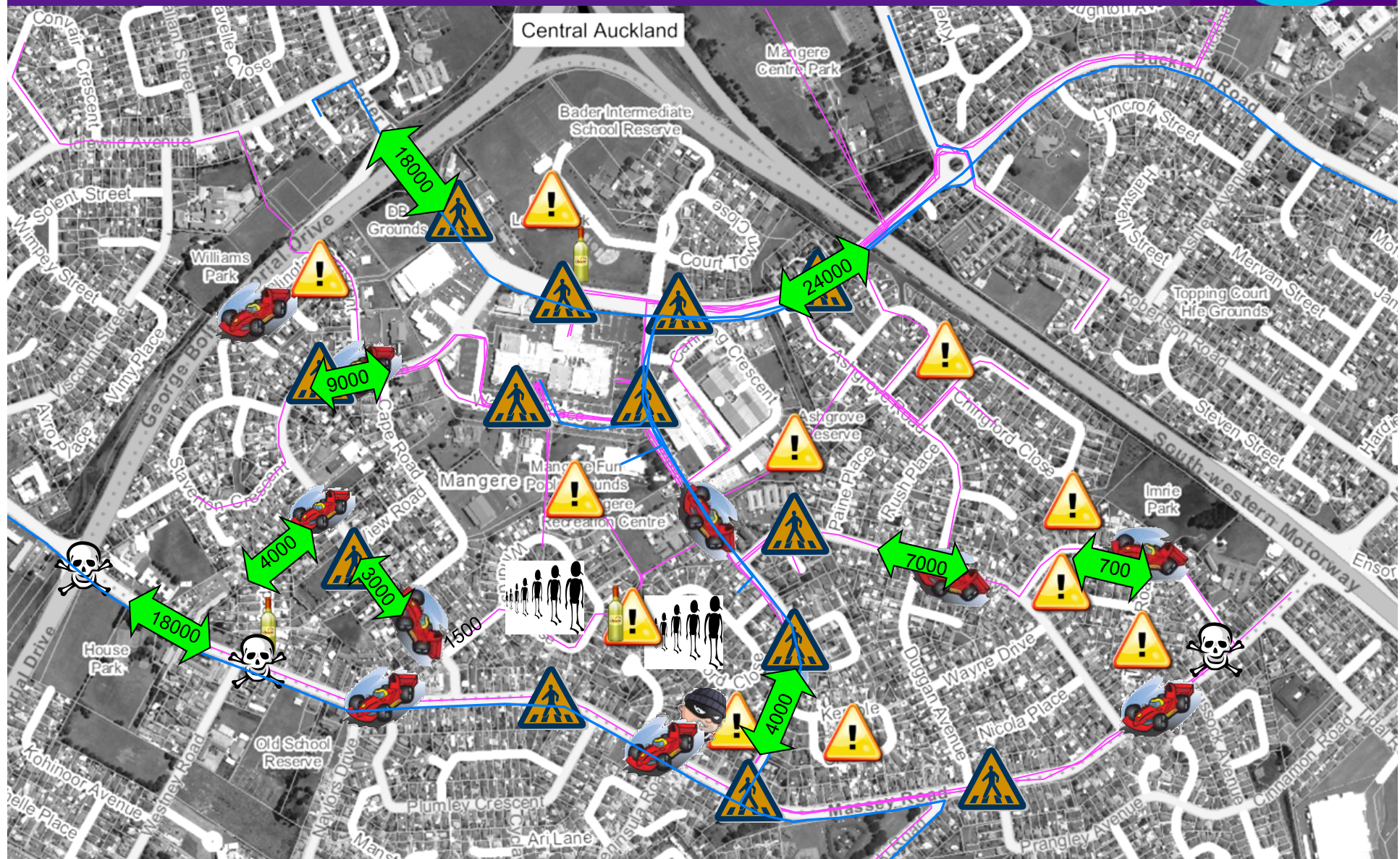
The people of
Māngere

Intervention area: Māngere Central

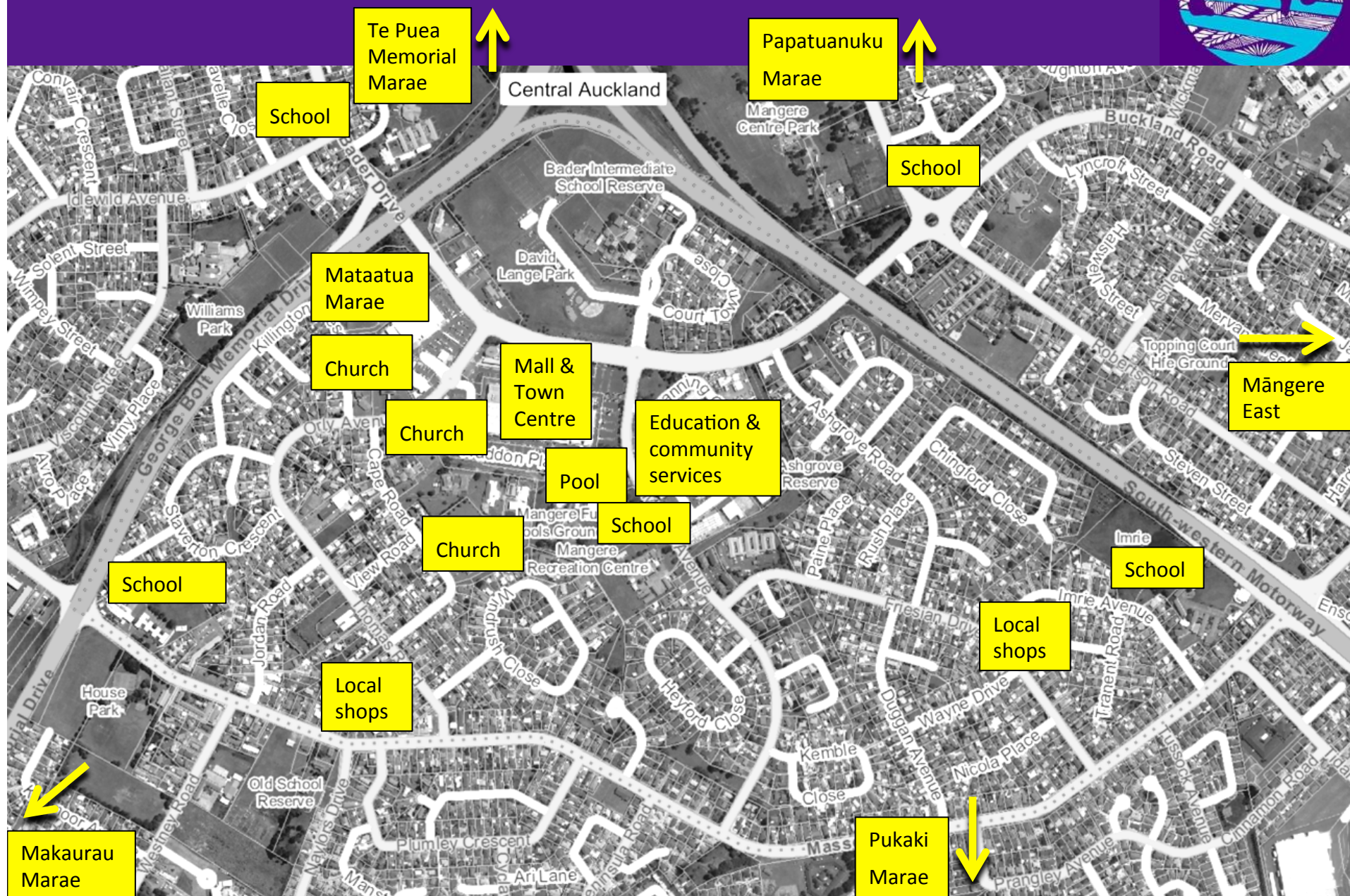


Community engagement





Key local destinations

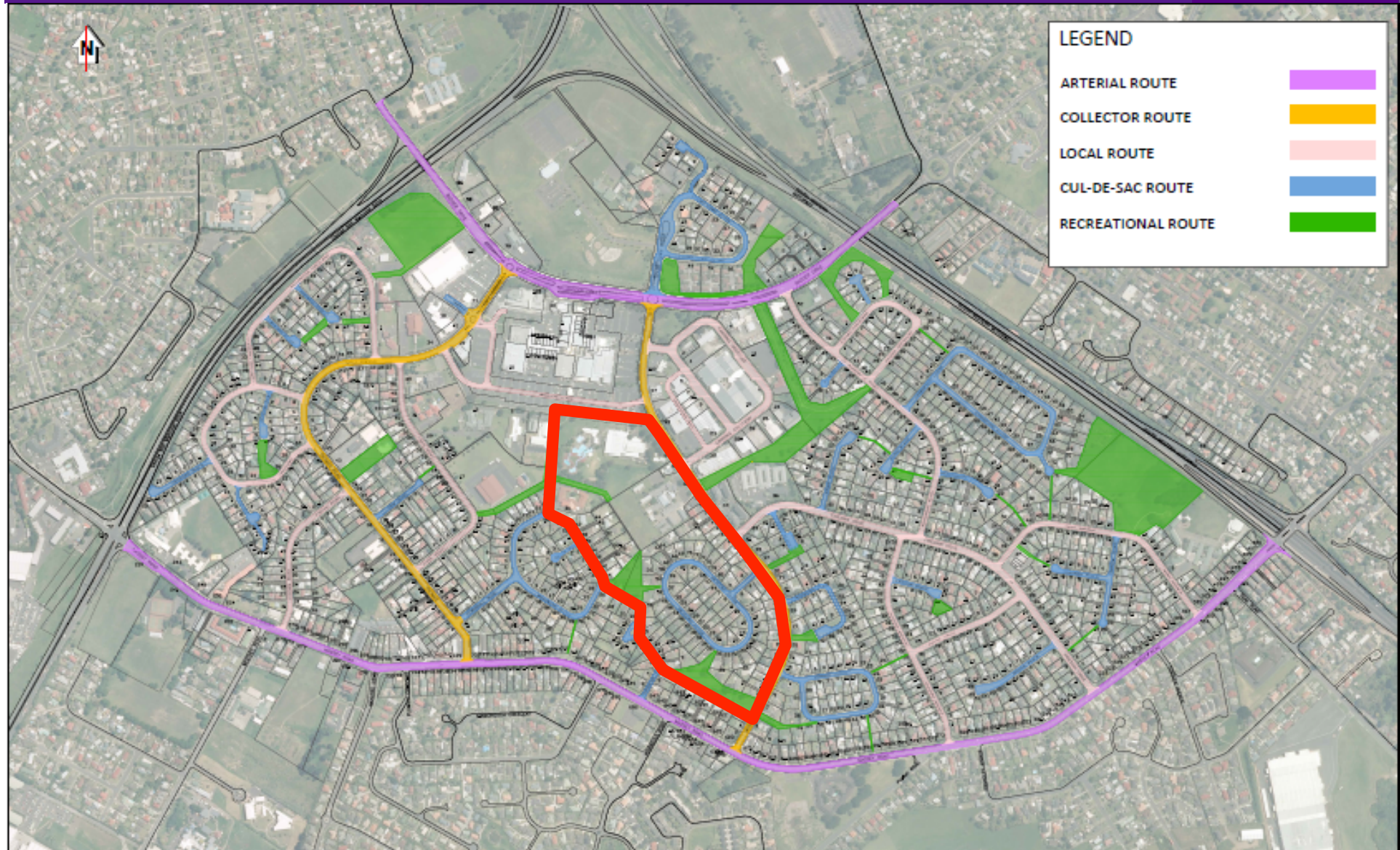


Design principles



1. Street/route hierarchy giving greater priority to pedestrians and cyclists
2. People feel safe on routes
3. Reduce traffic speed and make it more consistent
4. Improve people's ability to cross the road safely
5. Schools and the Mall are priority destinations for the walking and cycling network
6. An arterial separated bike network is important
7. Improvements reflect the identity of Māngere people

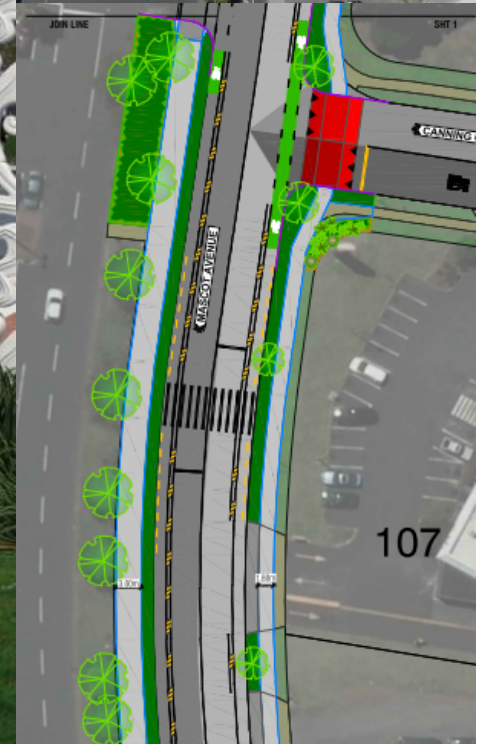
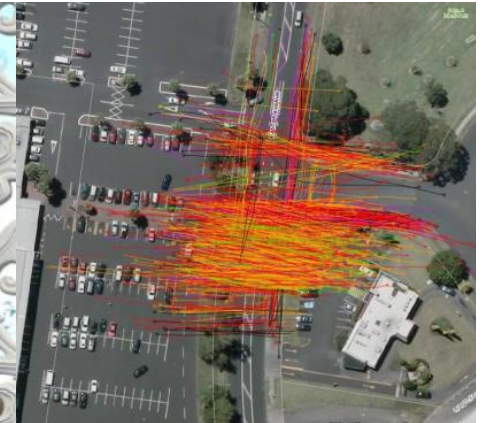
Proposed street hierarchy



Initial concepts – Mascot Ave (collector)



Initial concepts



Initial concepts – local roads



Pedestrian right-of-way

Gateways into local streets



Initial concepts - walk/cycle routes



Existing



Initial concepts



- Cater for all users (walkers, cyclists, mobility scooters) with a wider shared path, increased lighting & seating
- Points of interest such as community art, exercise equipment, fruit trees



Research methods



Quantitative

- Door-to-door survey of 2000 residents: physical activity, travel, social networks, perceptions
- Road user observations
- Crashes and injuries: routinely-collected data

Qualitative

- Adult 'go along' interviews
- Child focus groups
- Stakeholder focus groups

Modelling

- Effects on air quality and greenhouse gas emissions
- Wider implementation: costs, benefits, impacts on health and equity

Future Streets – next steps



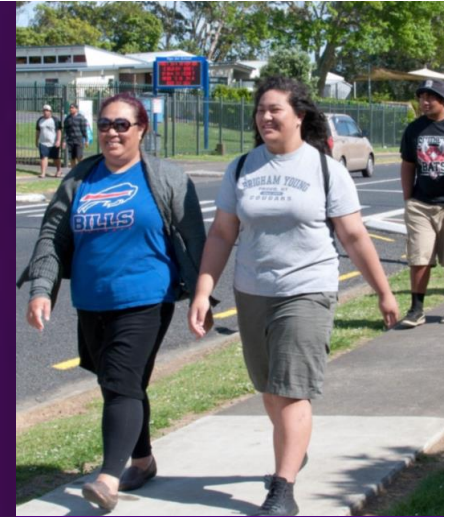
- Complete detailed designs and baseline surveys (2014)
- Construction (early 2015)
- Follow-up measures, modelling and economic analysis (2016)
- Dissemination
- Funding applications: long-term follow-up, disability research

Future Streets

Acknowledgements

- Research team
- Research advisors
- Auckland Transport
- Steering group
- MBIE
- NZTA, ACC
- Community members and stakeholders

www.futurestreets.org.nz



References



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