Propensity to Cycle Tool

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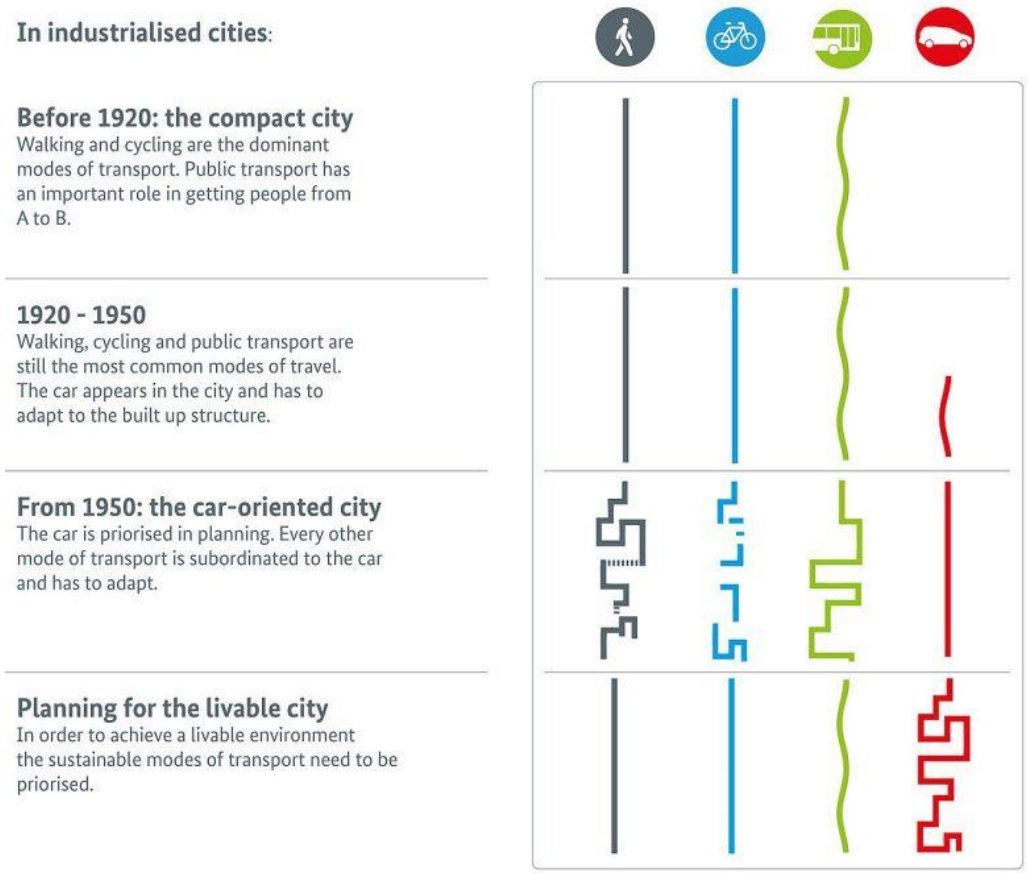
Content

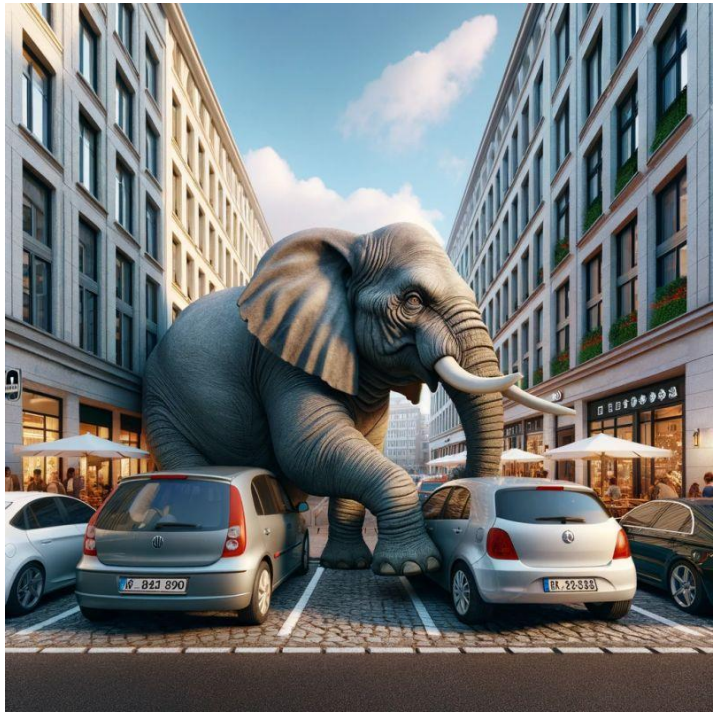
The Problem

PCT tool

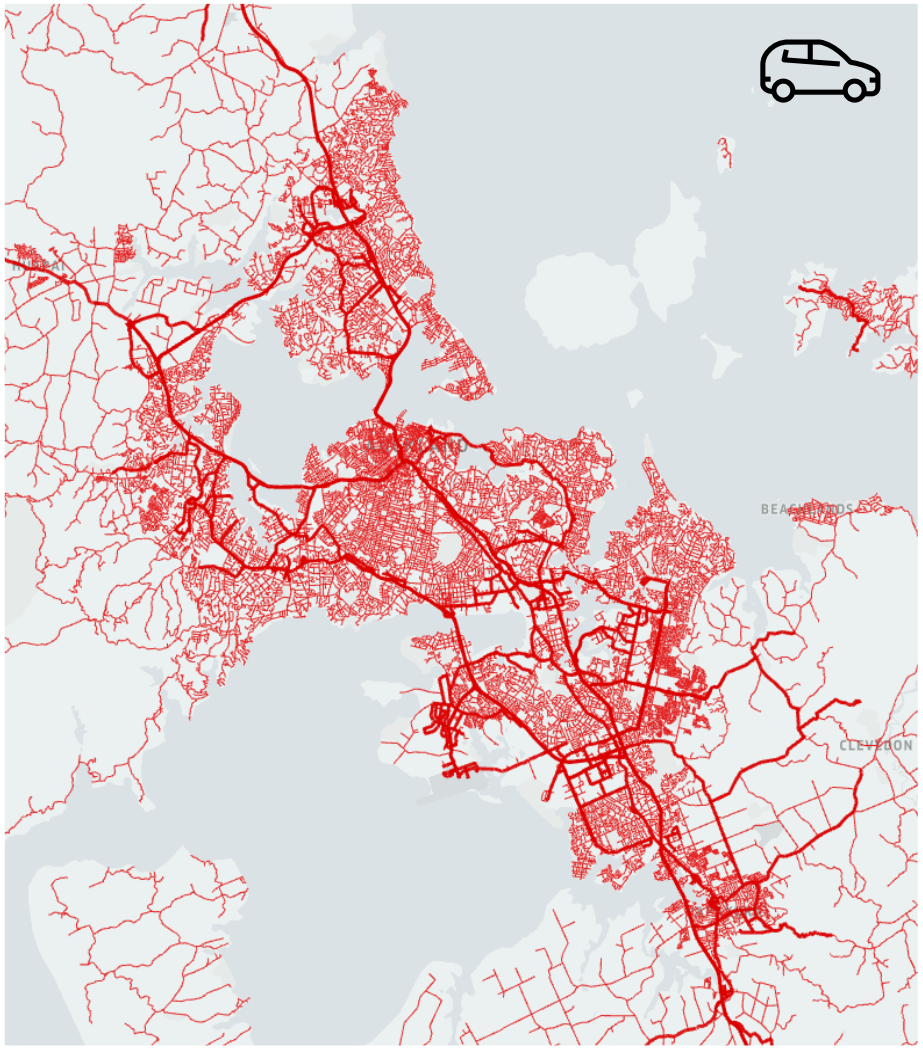
Application

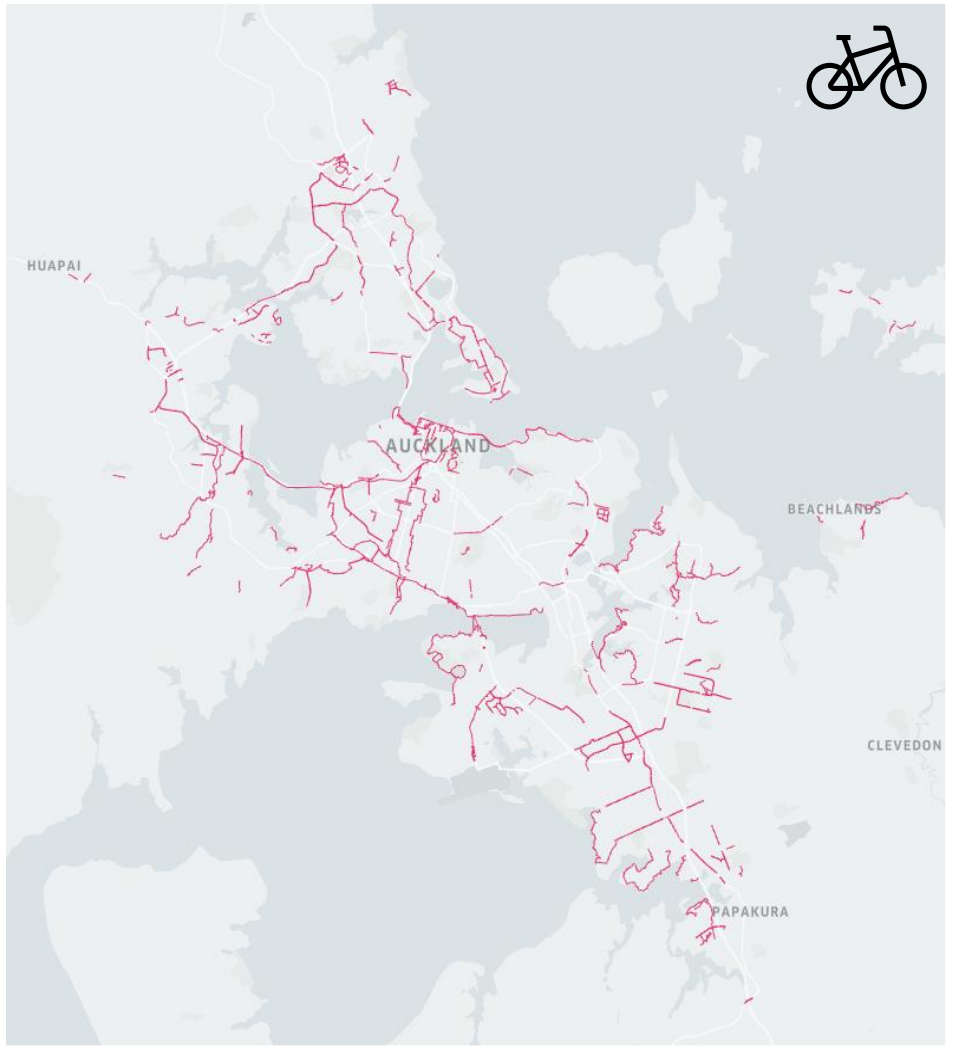
Planning problem





The grid



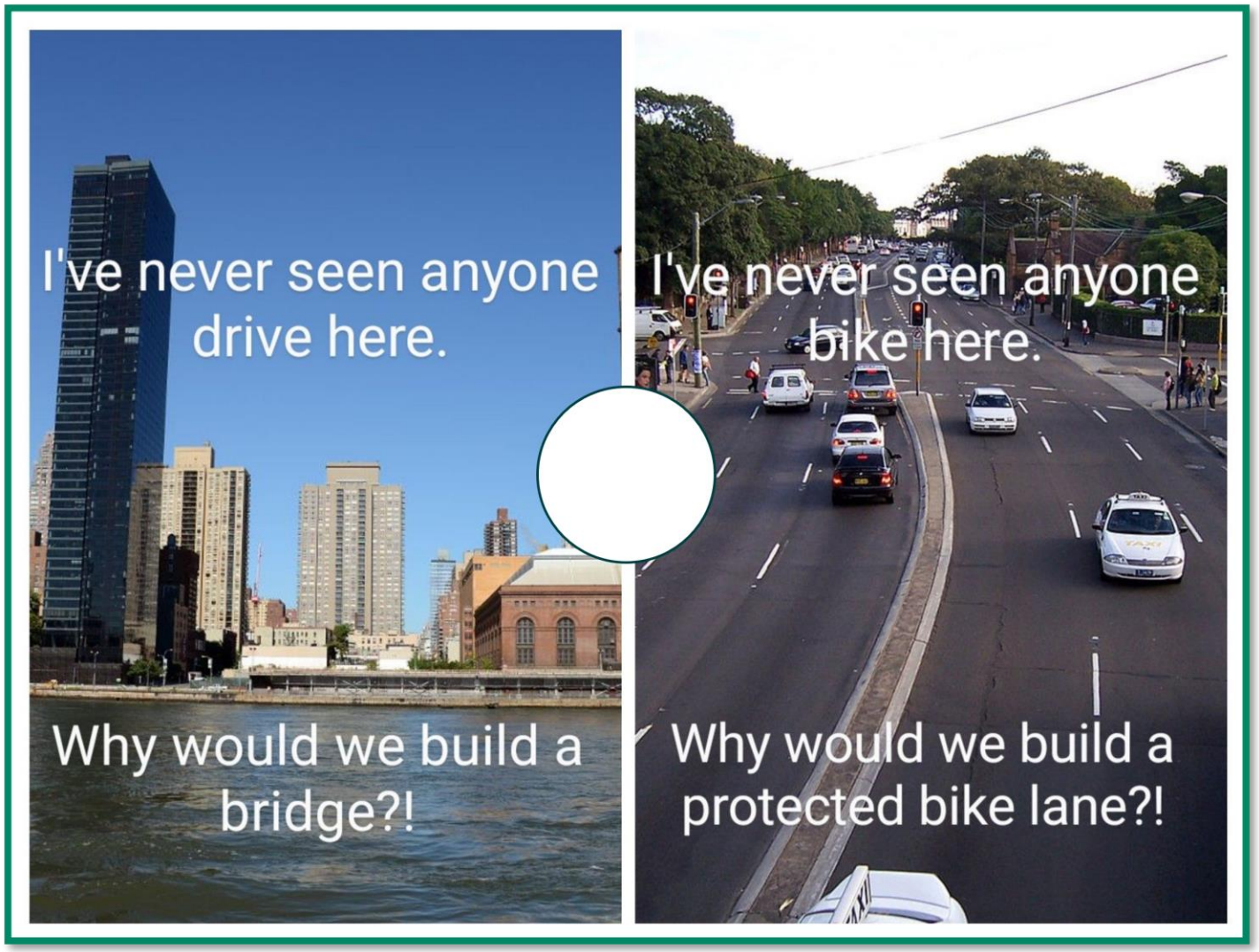


Good quality cycleways attract cyclists but unless they are connected to where people live and work, they will not increase mode shift within a city

Fair distribution of road space

Photo Credit: Melanie Skelany

Insufficient data

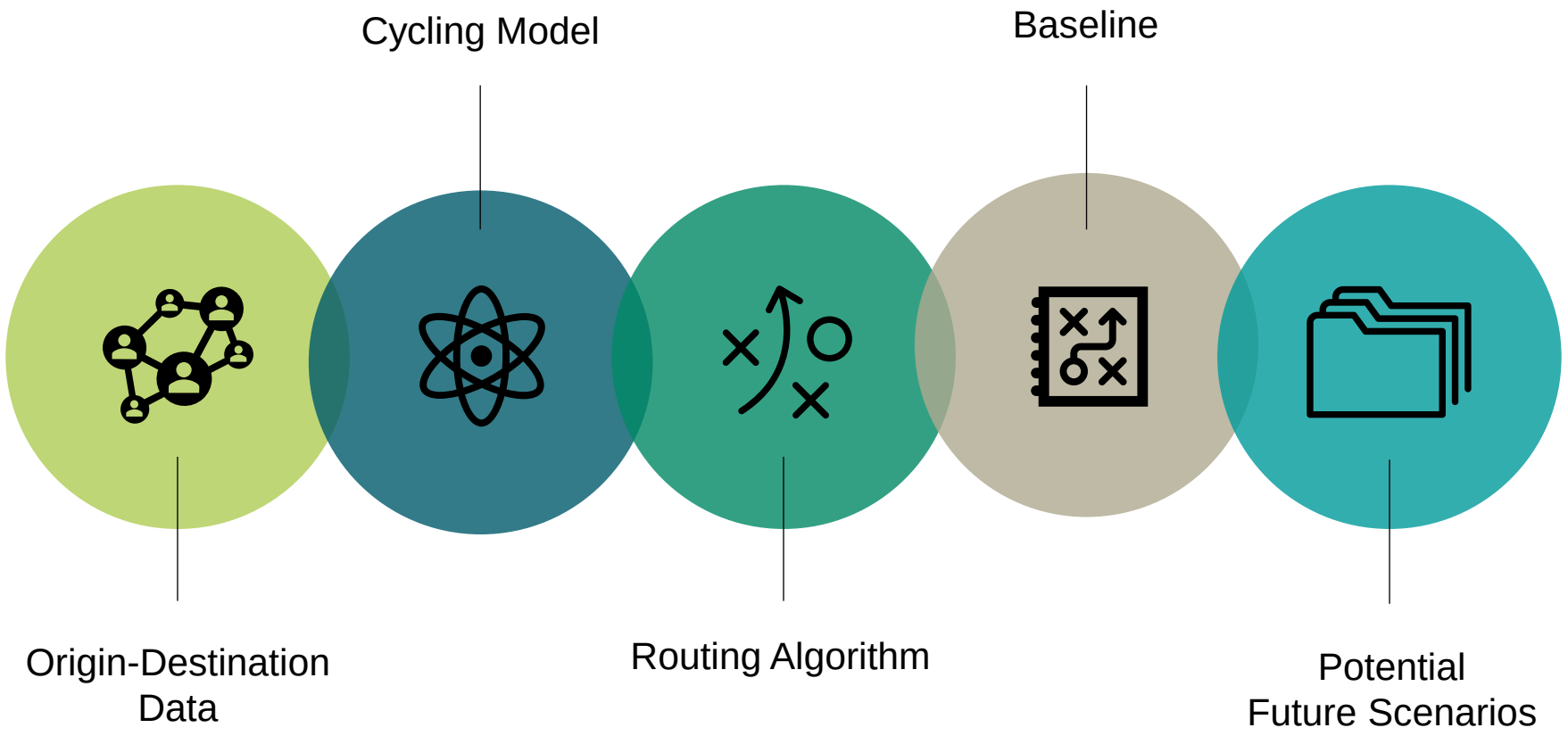


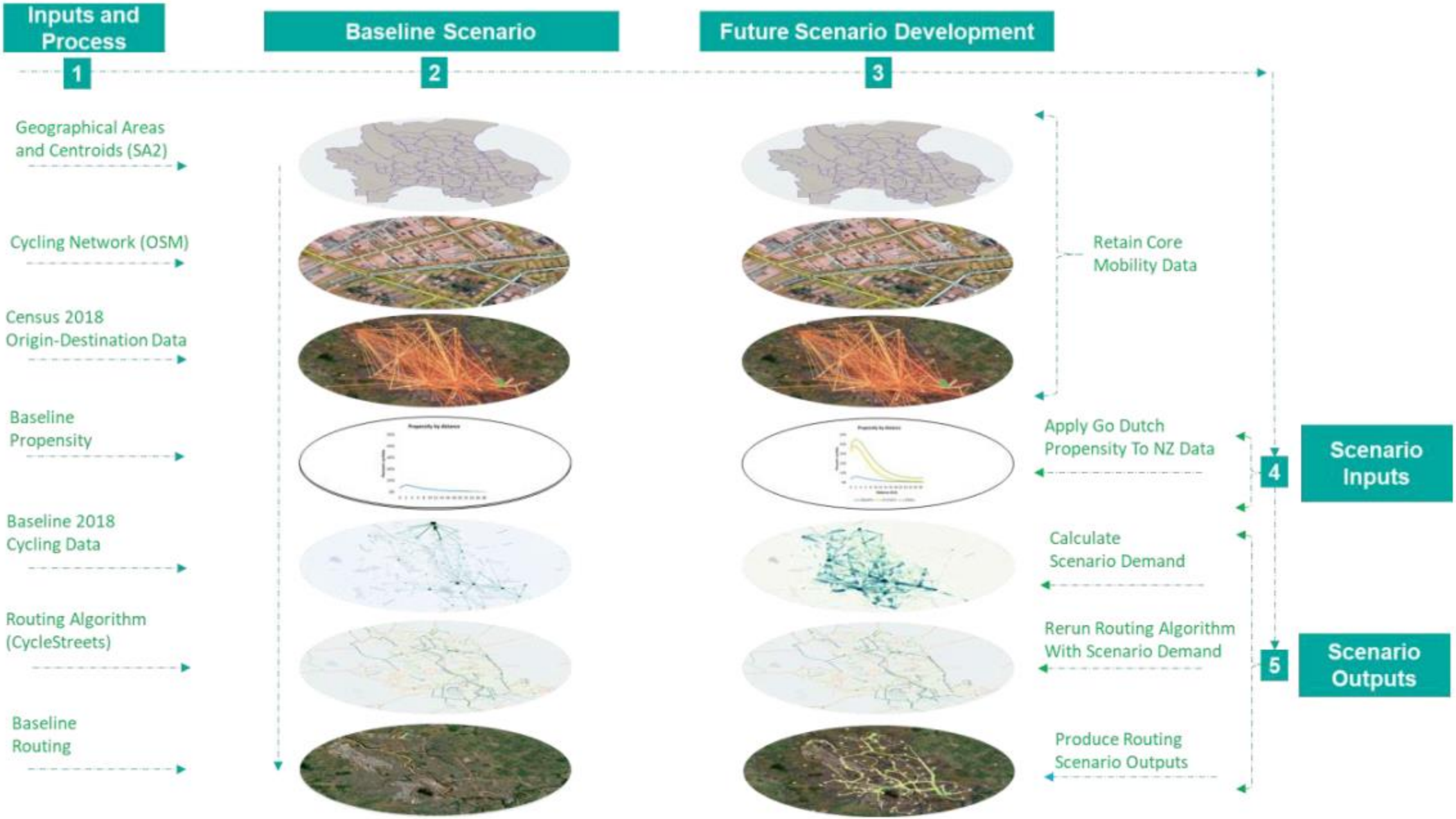
'You can't justify a bridge by the number of people swimming across a river'
~ Brent Toderian

Propensity to Cycle Tool

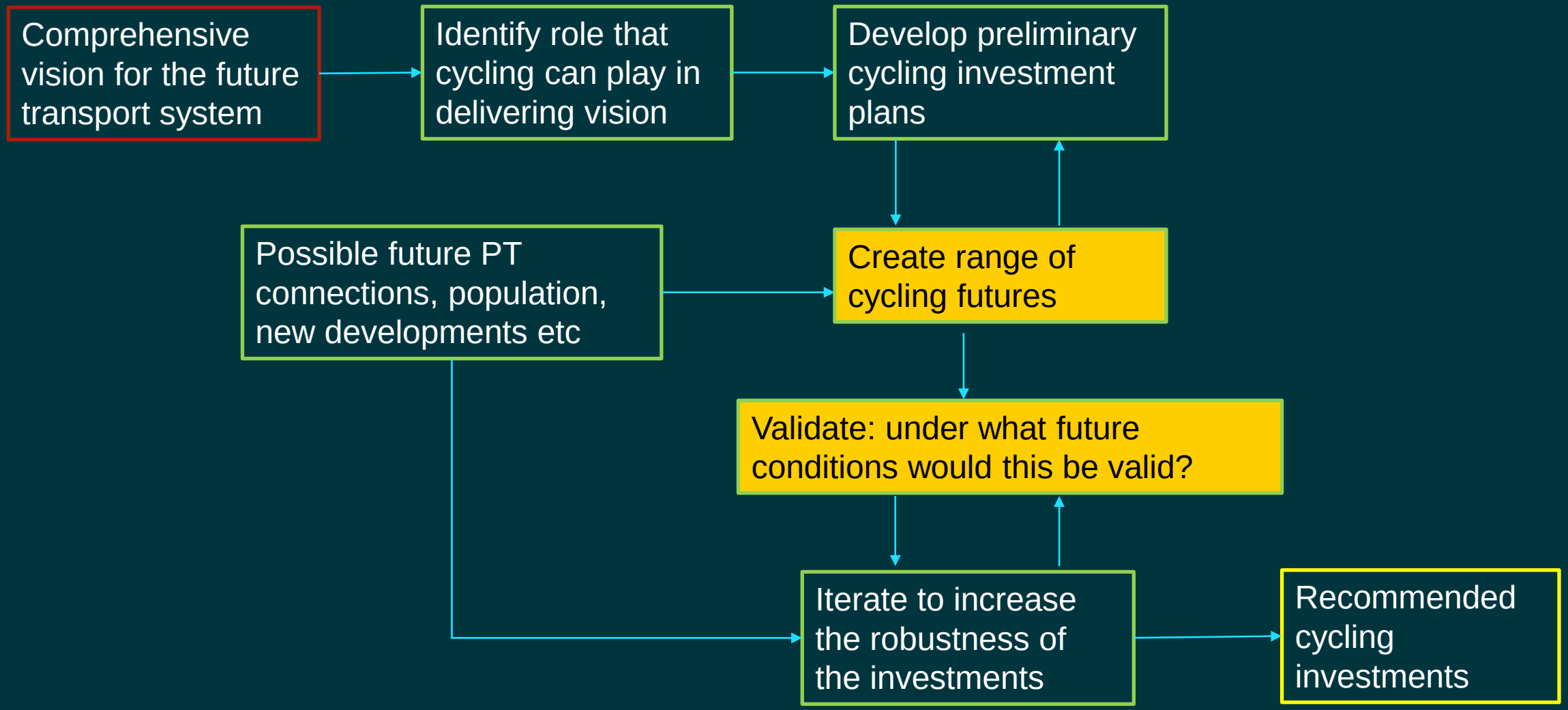
There are some great examples of smart, innovative cycling and walking schemes happening across the world, right now. We have lots to learn from and aspire to.

PCT Approach




Inputs and Process
1
Baseline Scenario
2
Future Scenario Development
3
Geographical Areas and Centroids (SA2)
Cycling Network (OSM)
Census 2018 Origin-Destination Data
Baseline Propensity
Baseline 2018 Cycling Data
Routing Algorithm (CycleStreets)
Baseline Routing
Retain Core Mobility Data
Apply Go Dutch Propensity To NZ Data
Calculate Scenario Demand
Rerun Routing Algorithm With Scenario Demand
Produce Routing Scenario Outputs
4
Scenario Inputs
5
Scenario Outputs

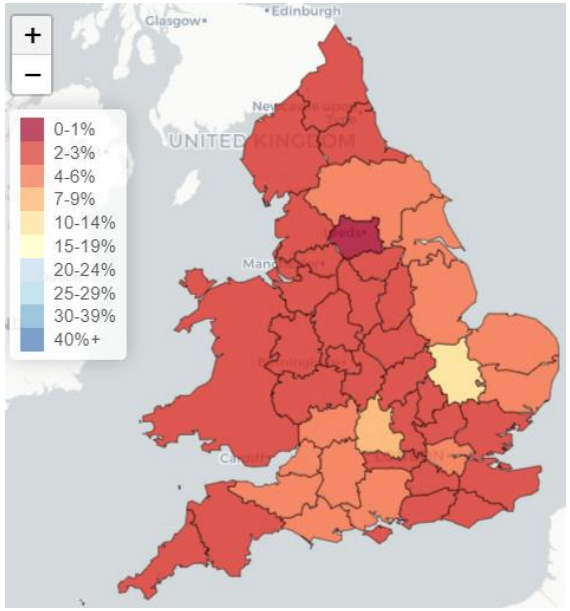
The ‘Vision & Validate ’ Process



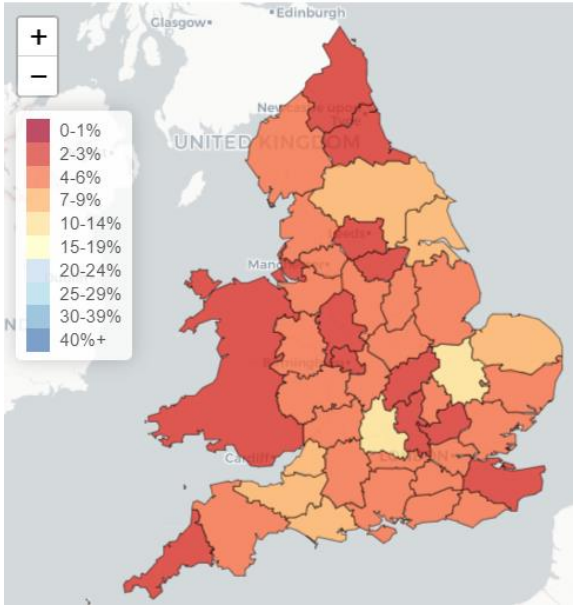
Adopted from- Transport Planning: Turning the Process on its Head, Peter Jones

Scenarios- what if

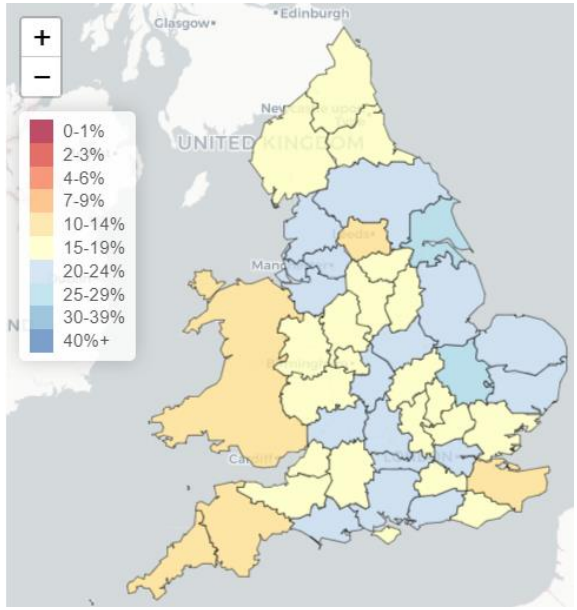
Baseline



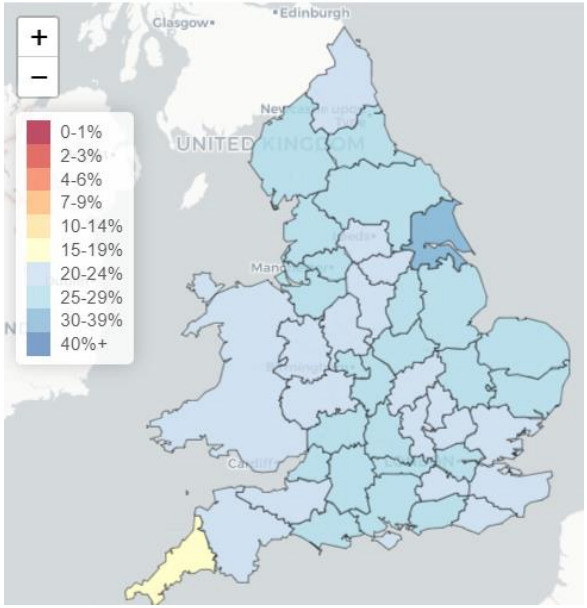
Gender Equality



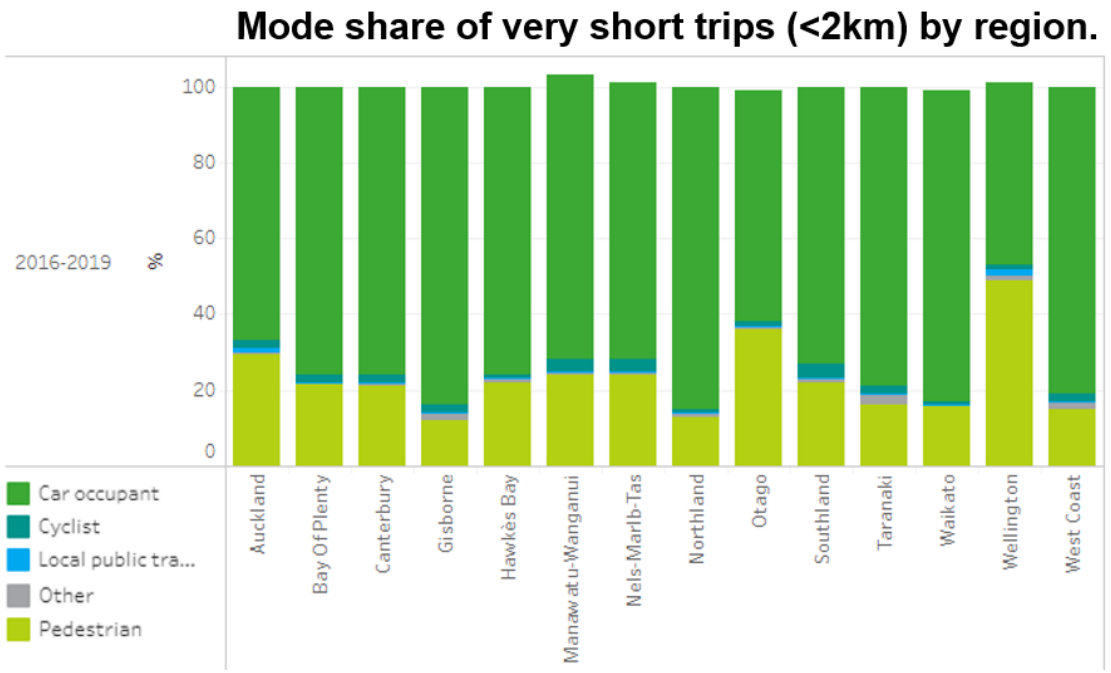
Go Dutch

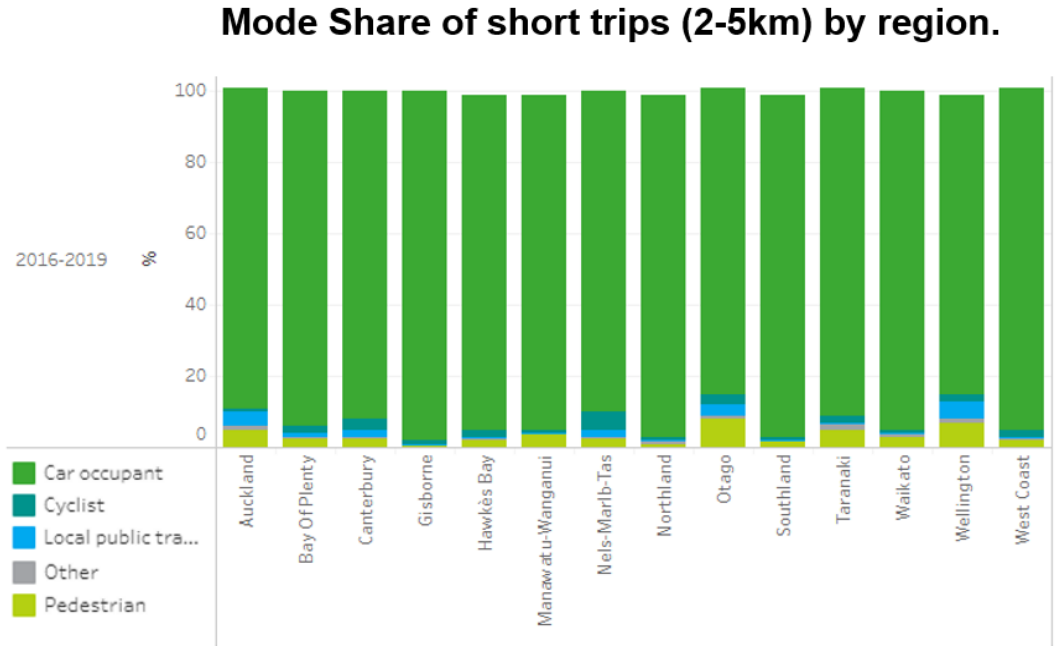


Ebike



Latent Demand opportunities

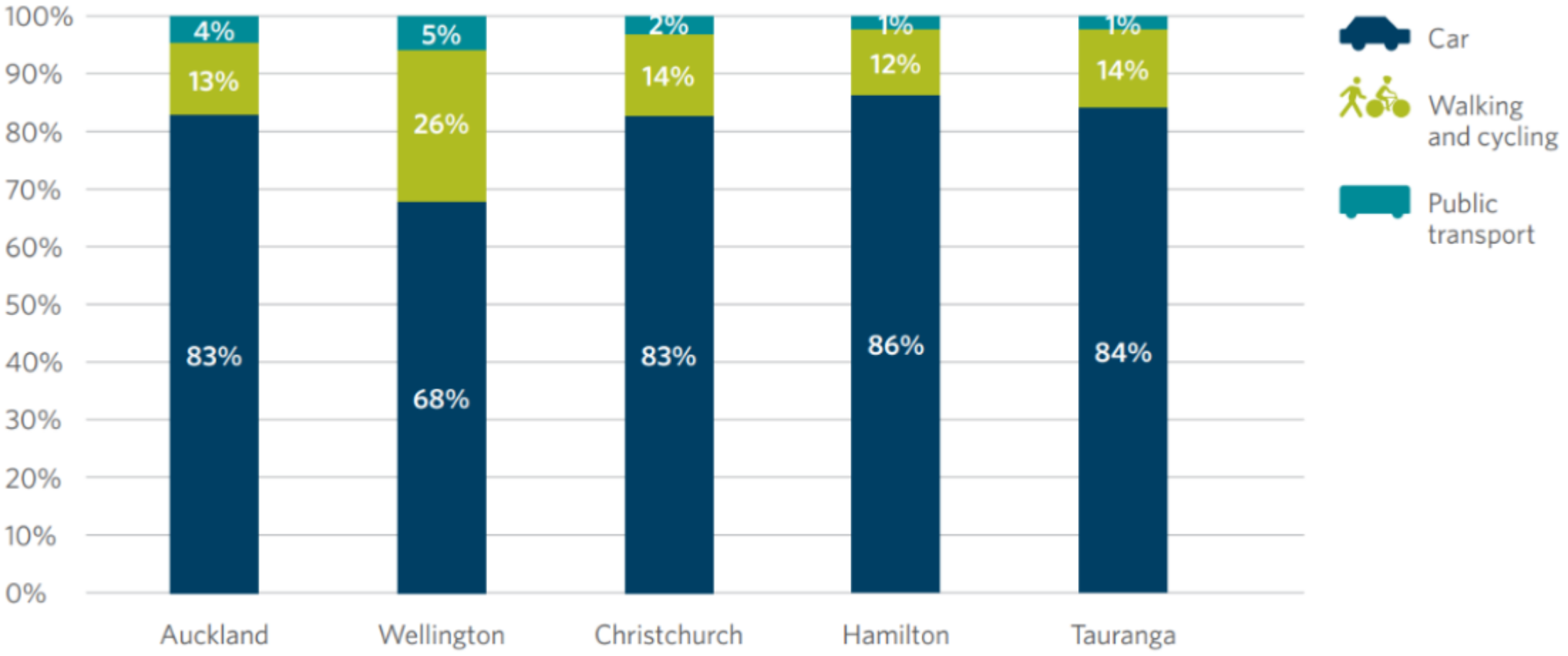




<2km

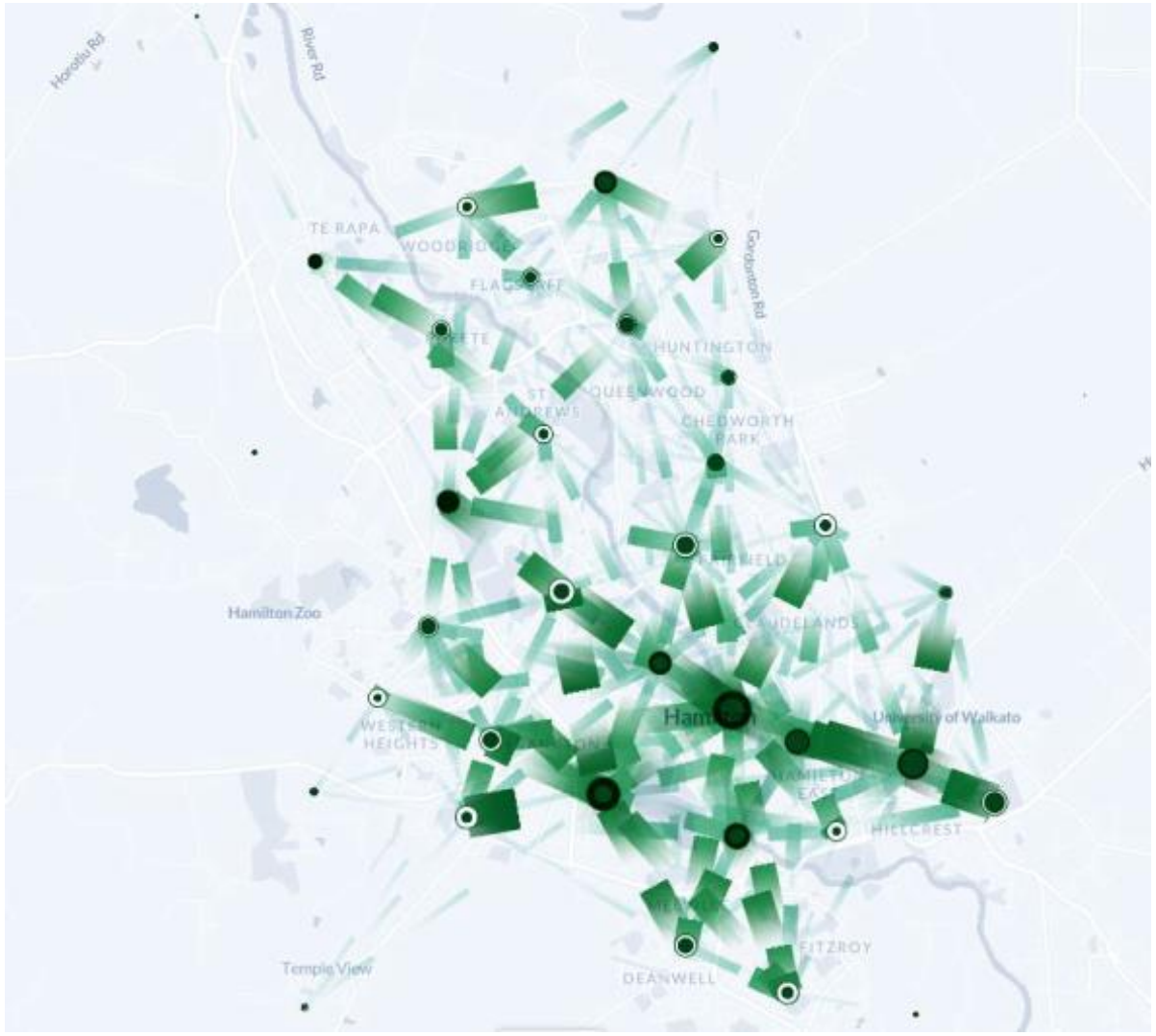
2-5 km

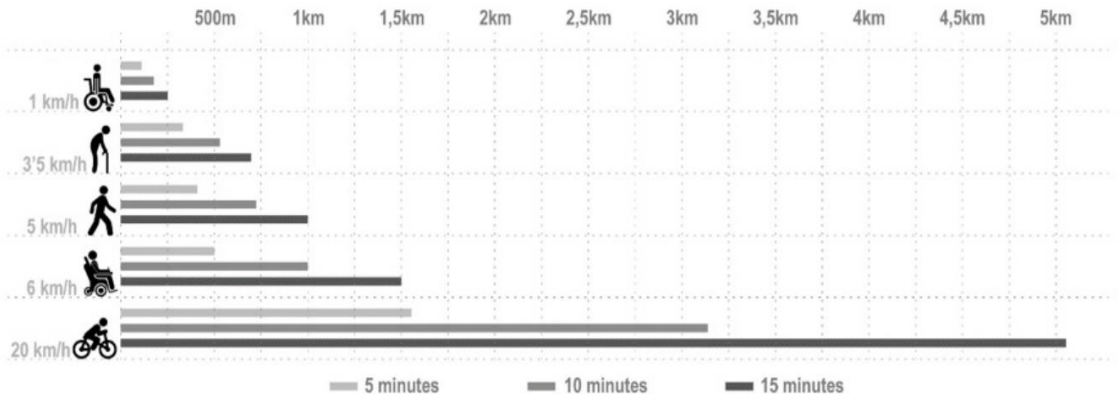
Study area



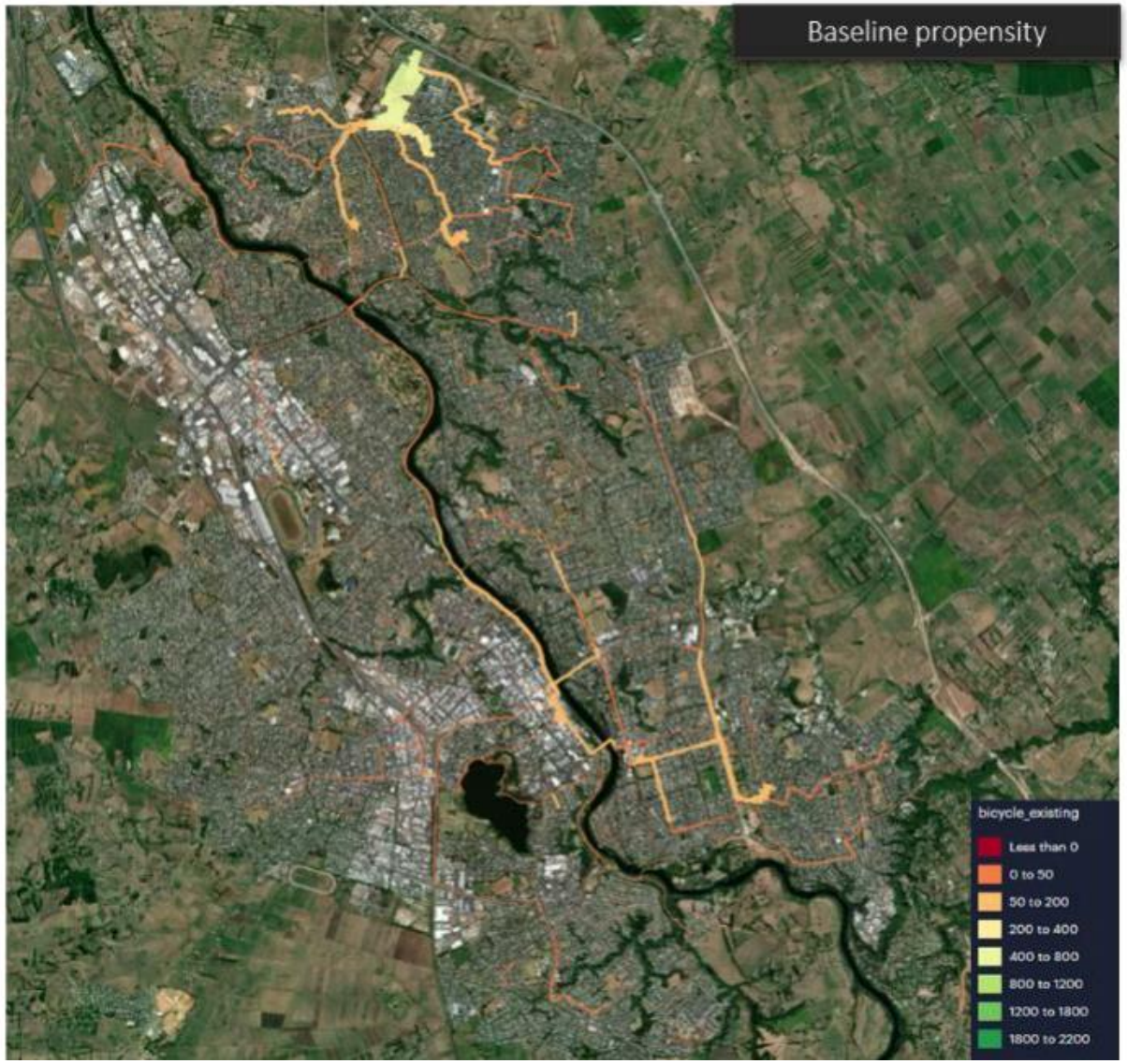
SOURCE: New Zealand Household Travel Survey data (2014-2018)

Distance profiling all demand (<5km)

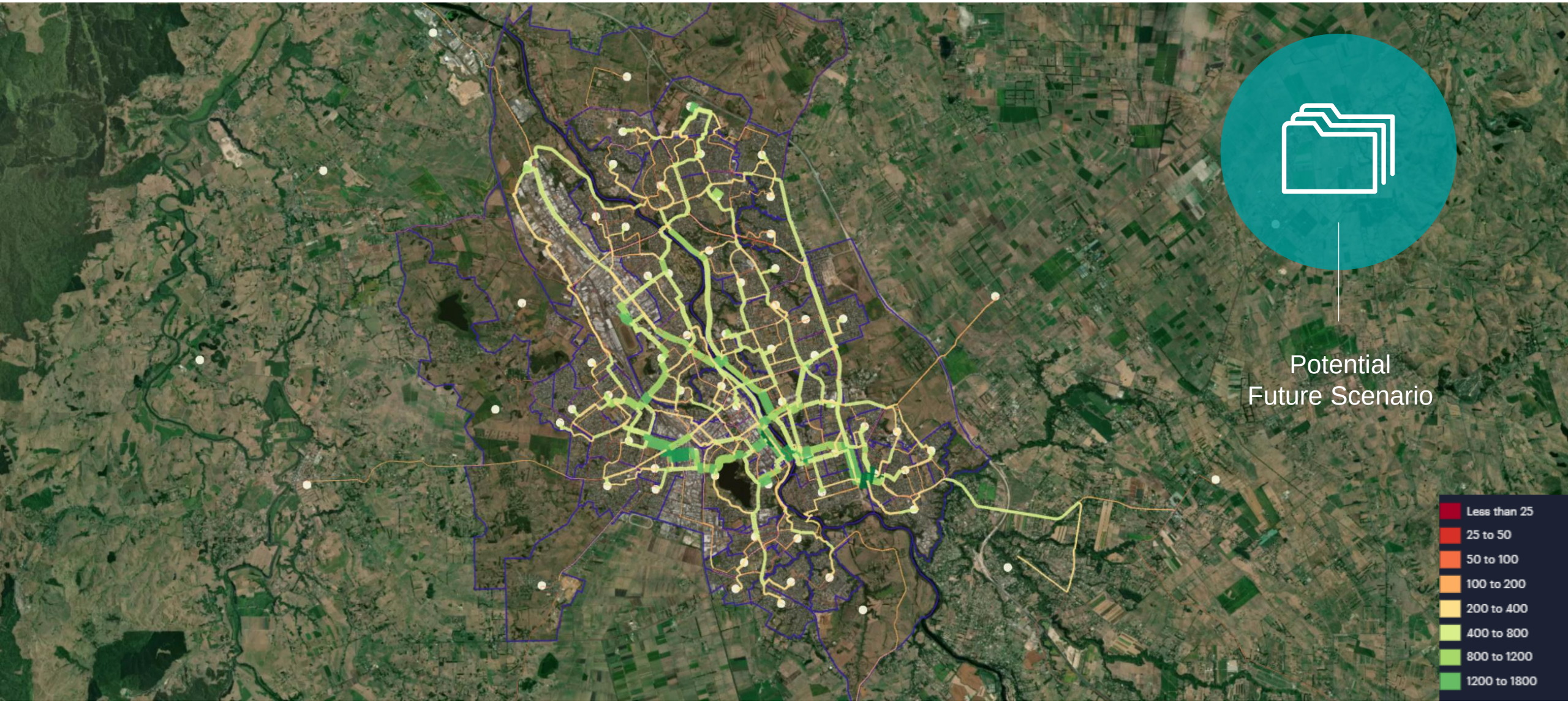




Baseline Census 2018 (Work and Education) + Strava (HCC)

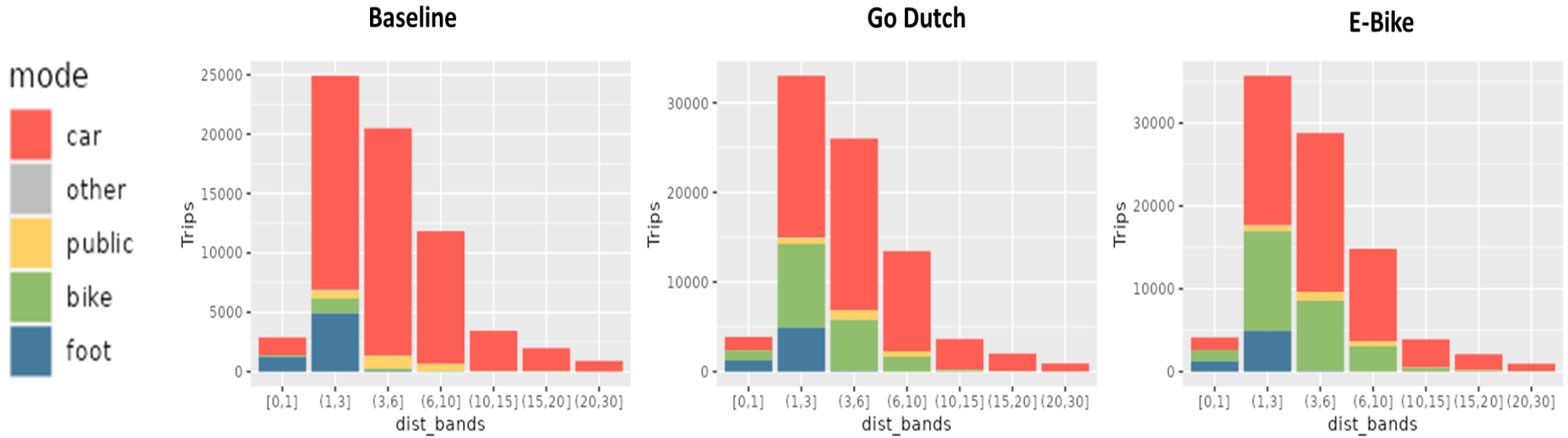


Ebike Fast Routes (using Census 2018 Data)



Key findings

- Opportunities to understand the different scenarios of cycling uptake to transition to a low-emission and climate-resilient future.
- Useful throughout cycling network planning and investment lifecycle.
- It provides strategic and smaller-scale insights about prioritising high-quality cycling infrastructure.



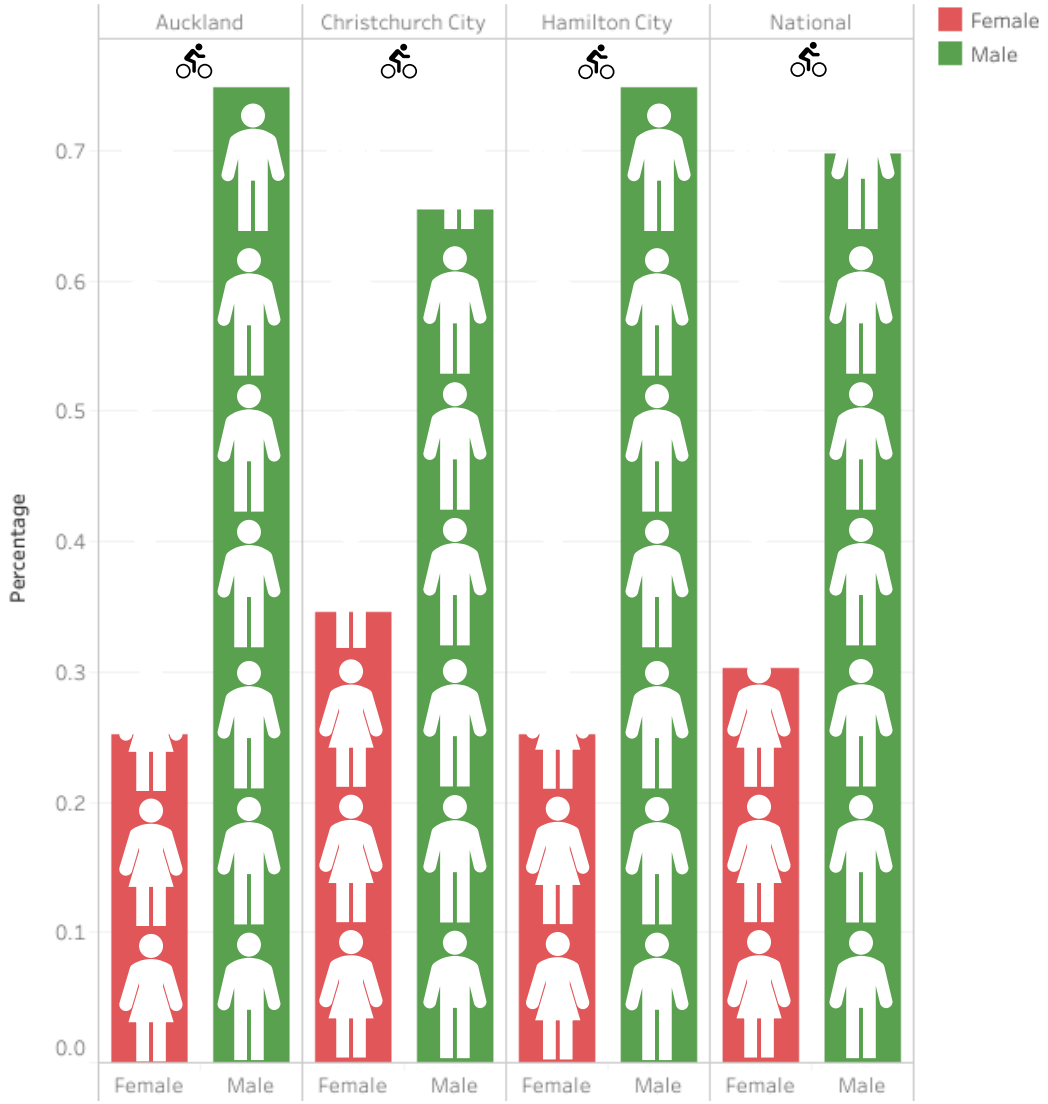
2% cycle mode share

23% cycle mode share

33% cycle mode share

Potential Next Steps

- Individual level approach where age, gender, ethnicity, car ownership and area level of deprivation affect likelihood to switch to cycling
- “Gender equality” approach which assumes women become as likely as men are currently to cycle within each O-D pair
- Develop corresponding health and CO2 benefits for each scenario
- Expand to Auckland, Tauranga, Wellington and Christchurch or Nationwide



Make the change

- Provide the infrastructure, both push and pull
- Tapping into transport synergies
- Educate and inform
- Implement cycling policy

Thank you.

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