

'Cycling Deserts' Where are they?

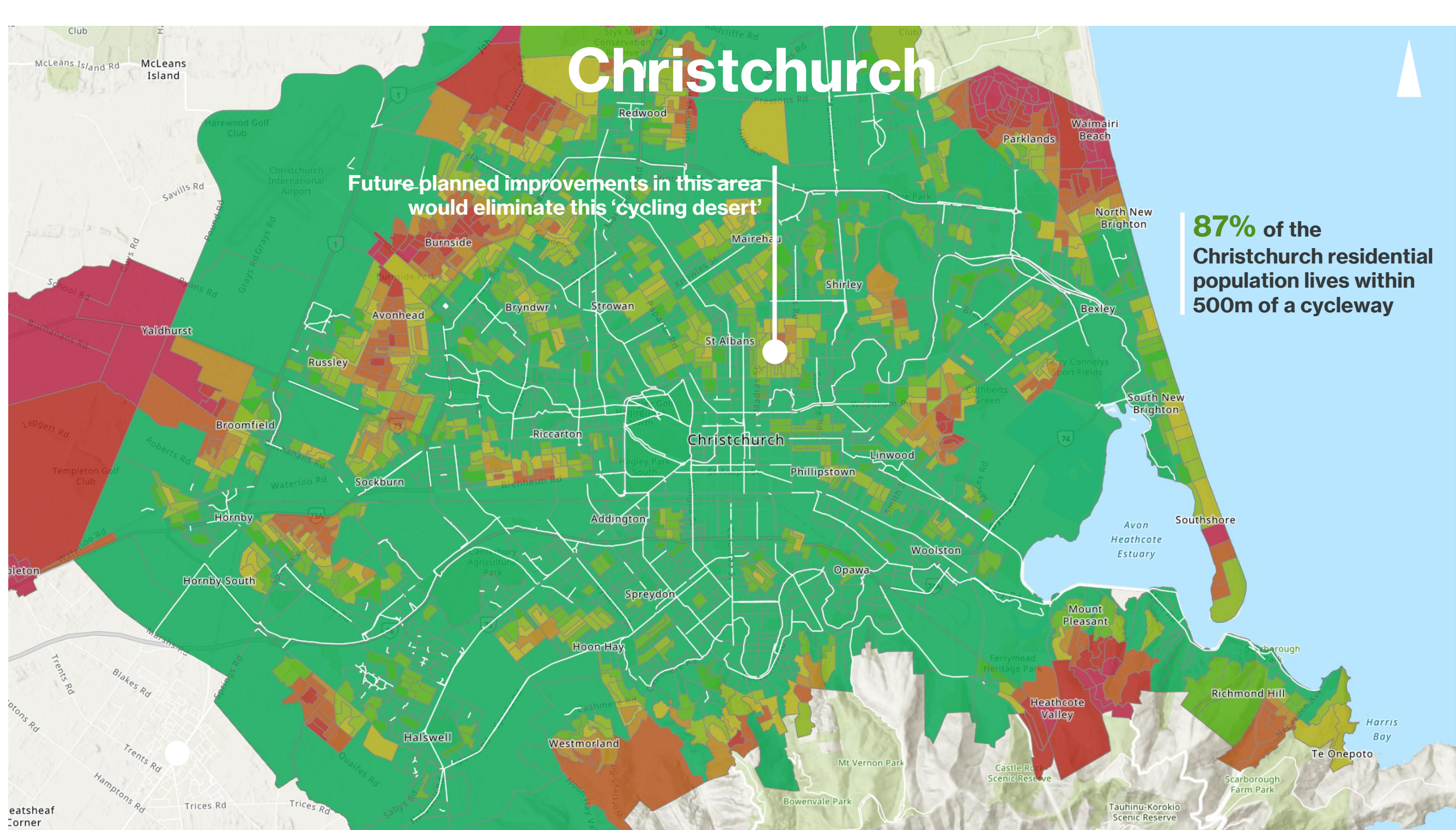
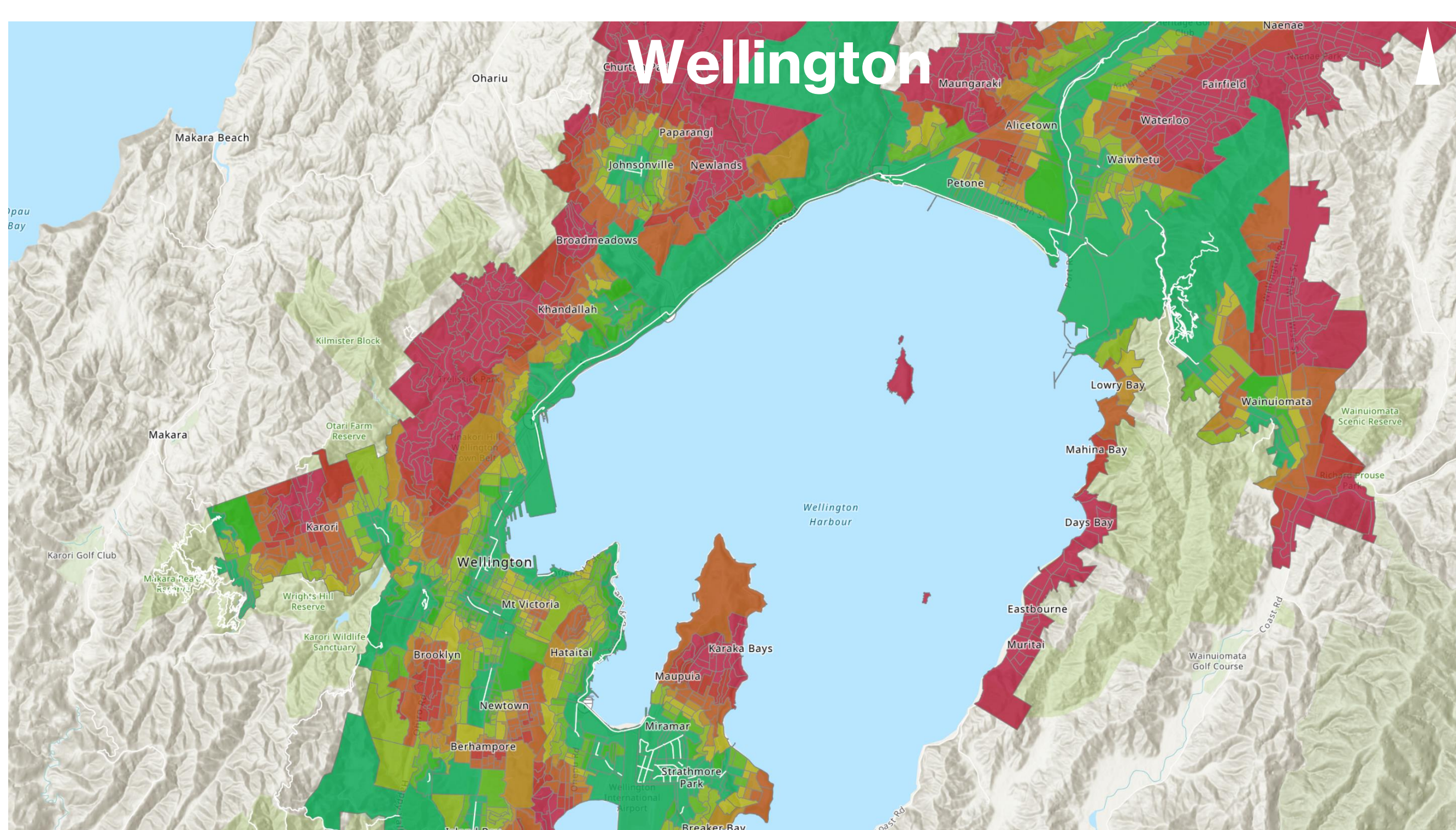
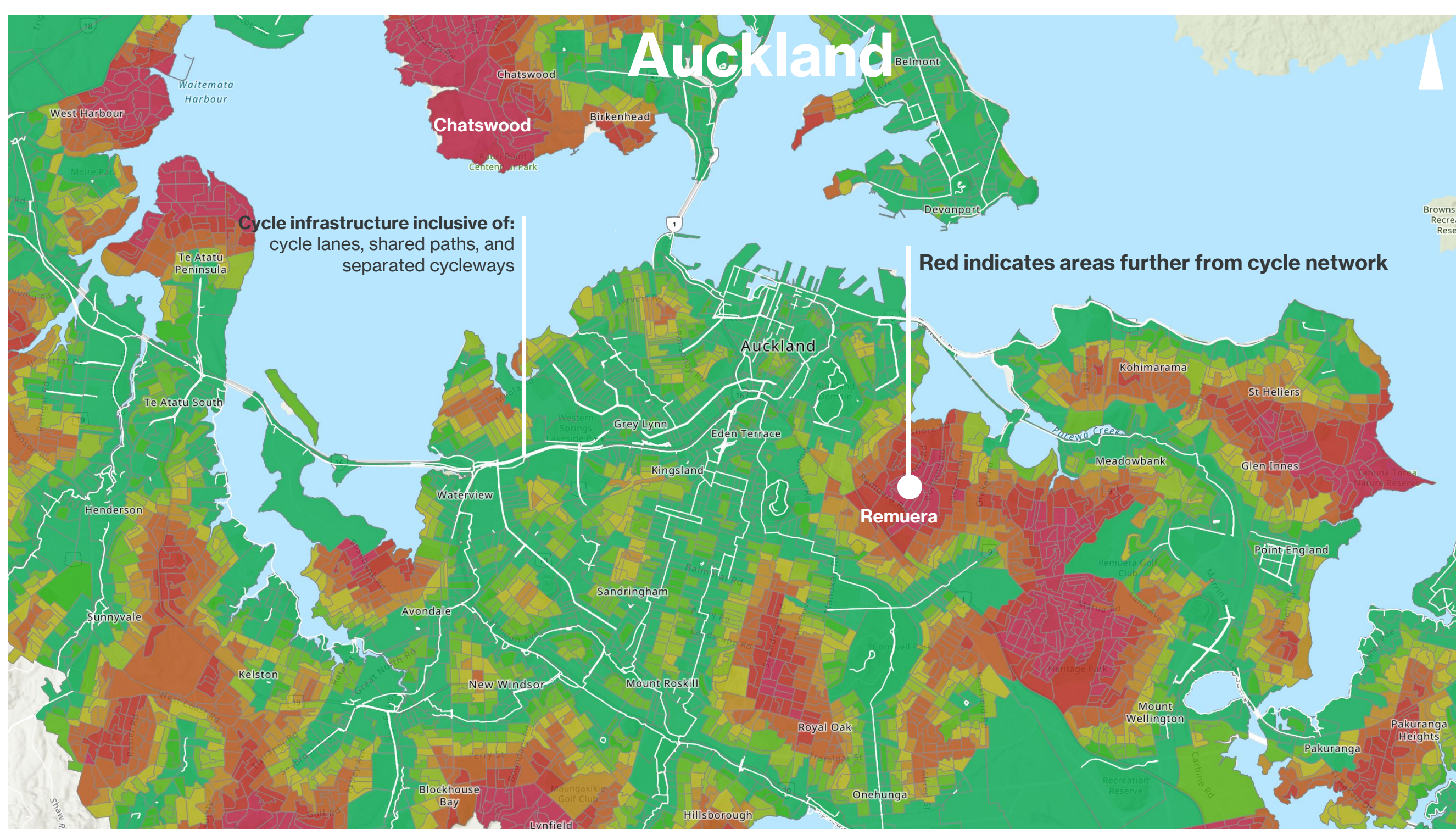
The last 10 years have seen increased investment in New Zealand's cycling infrastructure. This research aims to identify any remaining urban areas that do not have good access to the cycling network.

These 'cycling deserts' could be used to inform decisions regarding future network investment, ultimately leading to a more equitable network.

Results

All seven of New Zealand's major urban areas were analysed.

Auckland, Wellington, and Christchurch are presented below, with the others available for viewing via webmap.



Process

In order to create a nationwide map, the source data, or cycle network layer, must be consistent, complete, and accurate. While some cities publish their individual cycling network datasets, OpenStreetMap (OSM) provides a worldwide dataset that is frequently updated and freely available for download.

OSM cycle data was extracted, carefully selecting any street or way with cycling infrastructure associated with it. This included:

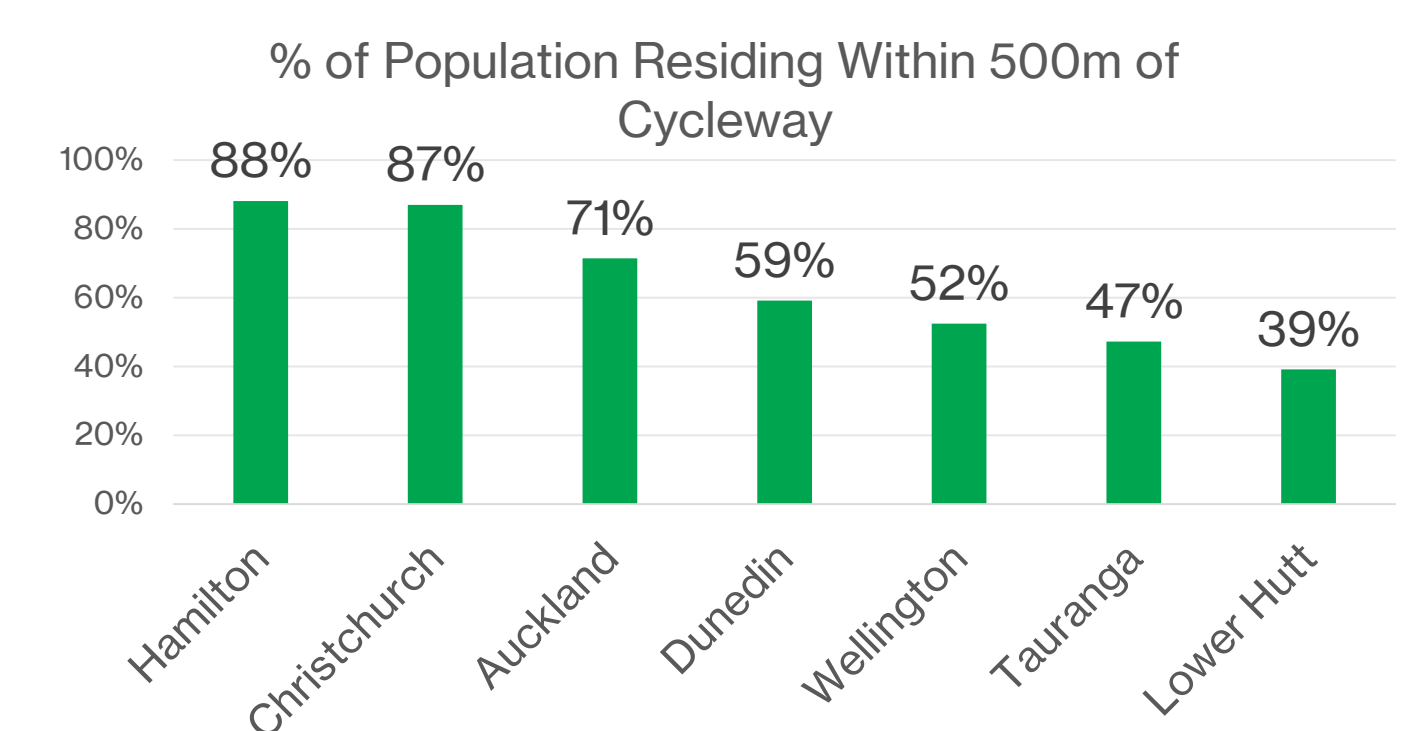
- Cycle lanes
- Shared paths
- Separated cycleways

The distances between the cycling network and 2018 census tracts were calculated and presented on the left-hand side. This free and publicly available data has also been loaded into a web application for detailed viewing and analysis.

City Comparison

This analysis was performed on all of New Zealand's major urban areas, and we can evaluate the true reach of the current cycling network. When compared to Auckland and Wellington, Christchurch appears very green, with only a few orange/red areas left to connect.

Adding population data enabled the percent of population within 500m of a cycleway to be calculated for each urban area.



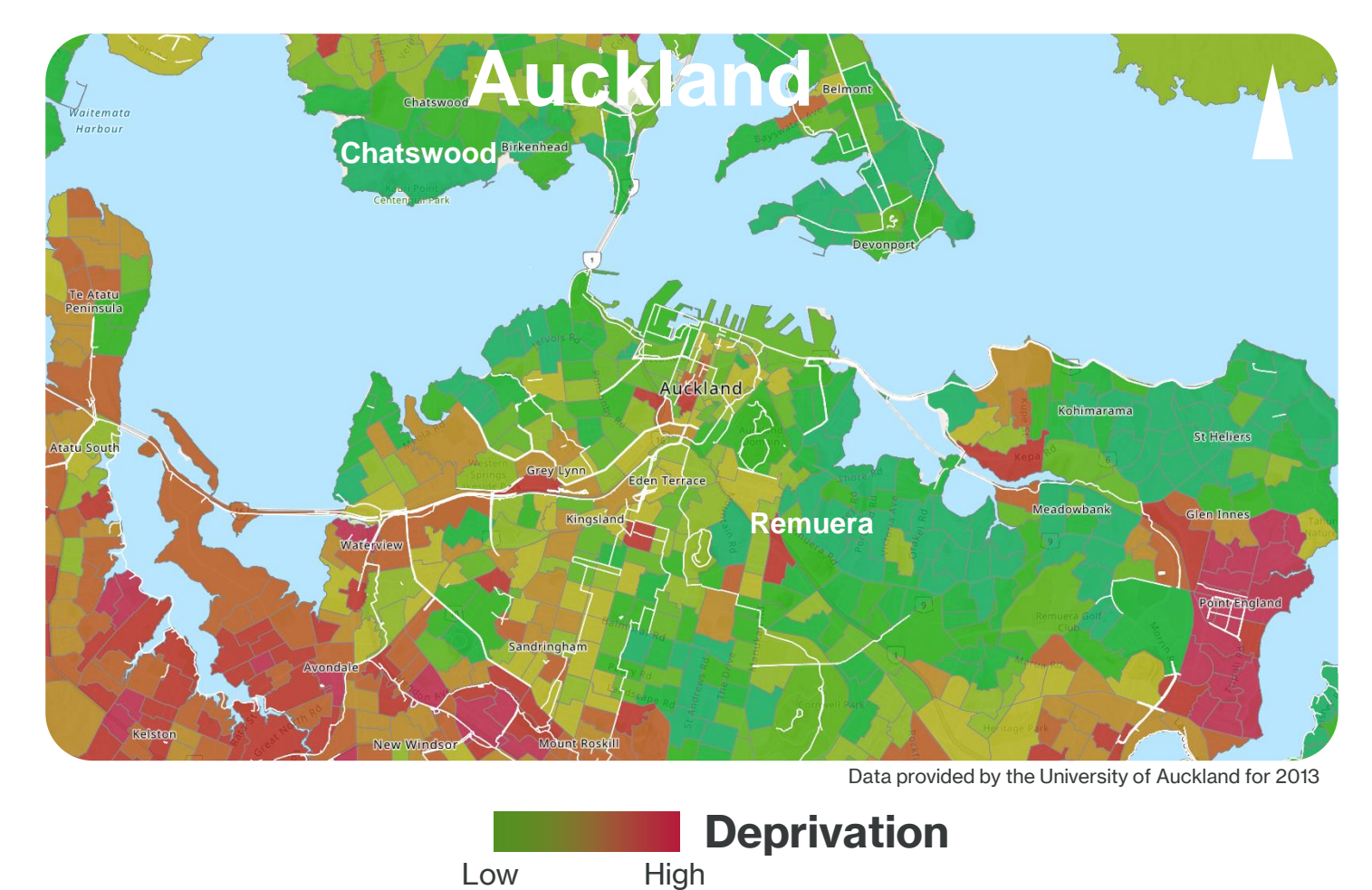
Equity

There is opportunity to spatially compare the proximity results with the New Zealand Index of Multiple Deprivation (IMD). The IMD harnesses multiple sources of data to measure different forms of disadvantage.

Shown right is an overall IMD map for Auckland, which combines the 7 domains of deprivation:

- Employment
- Income
- Crime
- Housing
- Health
- Education
- Access to services

A rough visual analysis **does not** reveal a correlation between cycle infrastructure proximity and deprivation.



Some areas in Auckland, such as Remuera and Chatswood, actually appear to be directly related. Or, they are areas showing both lower levels of deprivation and less cycle network access.

Future Opportunities

- Continuous updates to OSM allow for this data to be updated frequently
- Create a historical slider map comparing the impact of future cycle network expansion
- Determine methodology to determine how connected our cycle network is
- Combine and compare with journey to work data

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