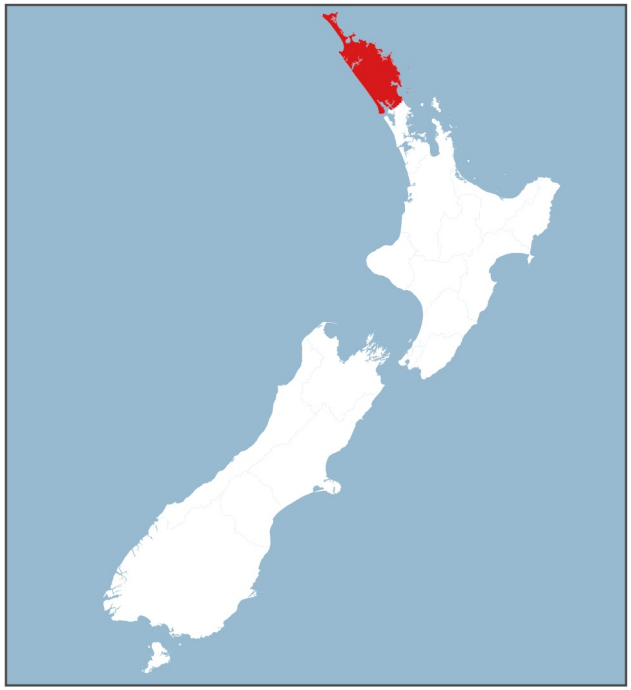
2018 New Zealand Index of Multiple Deprivation

# Northland District Health Board

The **2018 New Zealand Index of Multiple Deprivation (IMD18)** is a set of tools for identifying concentrations of deprivation in New Zealand. The IMD18 comprises 29 indicators grouped into seven domains of deprivation: Education, Income, Crime, Housing, Health, Education, and Access to Services. IMD18 is the combination of these domains, which may be used individually or combined.

IMD18 measures deprivation at the neighbourhood level in custom-designed 2018 Data Zones that have an average population of 761 people. Data Zones are designed to produce better small area information without losing their contents to suppression or confidentiality. In 2018, the New Zealand land mass was divided into 6,181 Data Zones.

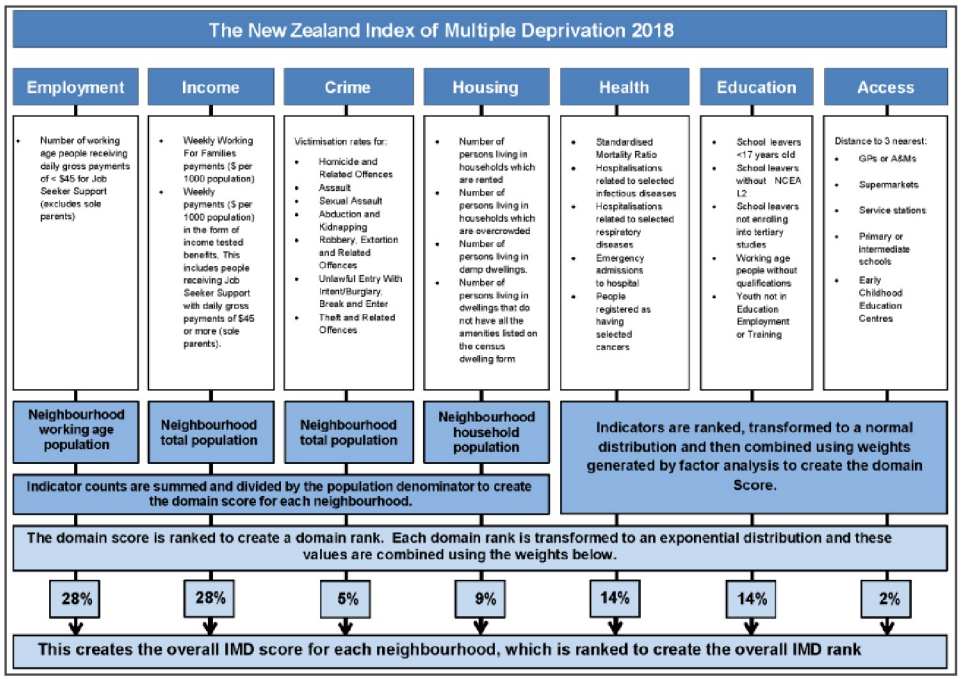


1. Northland DHB

This atlas presents Overall Deprivation and 7 domains of deprivation for the **Northland** District Health Board on the following pages:


Pg 2. **Overall Deprivation**
Pg 3. **Employment**
Pg 4. **Income**
Pg 5. **Crime**
Pg 6. **Housing**
Pg 7. **Health**
Pg 8. **Education**
Pg 9. **Access to Services**


The IMD provides a richer, more nuanced view of area level deprivation in New Zealand. Our vision is for the IMD and the data zones to be widely used for community advocacy, research, policy and resource allocation, providing a better measurement of area deprivation in New Zealand. For more information on the IMD18, visit: www.fmhs.auckland.ac.nz/imd




2. Overview of IMD2018 Domains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THE UNIVERSITY OF AUCKLAND NEW ZEALAND
MEDICAL AND HEALTH SCIENCES SCHOOL OF POPULATION HEALTH
Auckland Medical Research Foundation

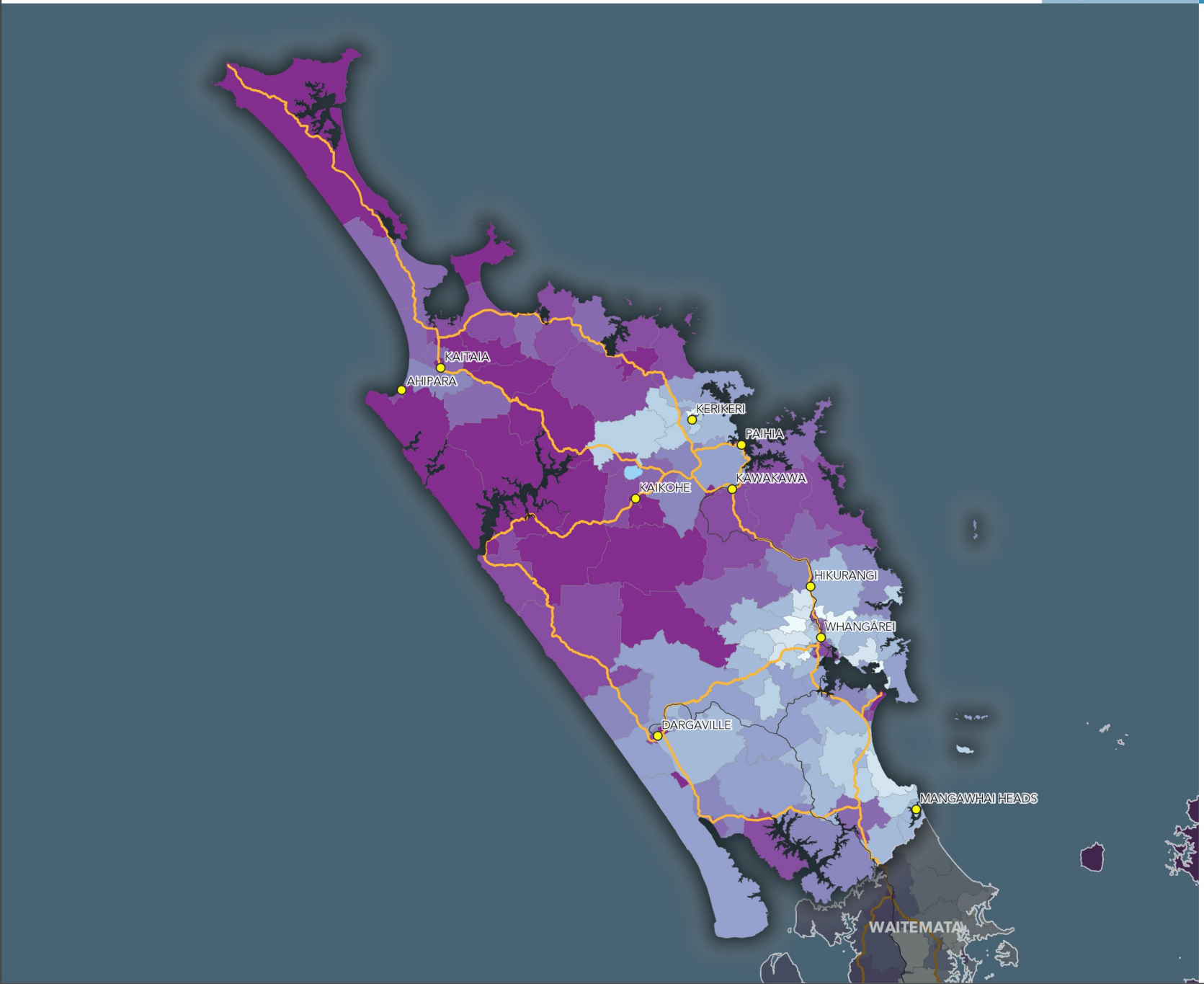
# 2018 New Zealand Index of Multiple Deprivation

# Northland

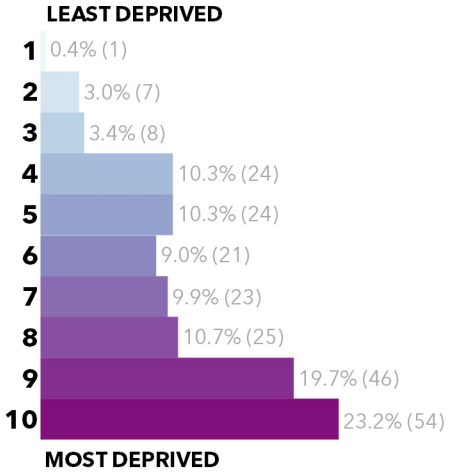
## Overall Deprivation

**Rank: 19 /20**

(1 = least deprived, 20 = most deprived)




## DHB Deprivation Profile




## About this map

This map shows relative overall deprivation in the **Northland** District Health Board by 2018 Data Zone (DZ). In 2018, DZs have an average population of around 760 people. The coloured bars above match those on the map, and show the proportion of DZs in Northland that fall within each national deprivation decile. DZs in Decile 1 are among the 10% least deprived in NZ, while DZs in Decile 10 are among most deprived 10%. "Rank" shows how Northland compares with other DHBs in New Zealand, based on the proportion of data zones that are within the most deprived 30% nationally. It is important to keep in mind that there will be many people living in the most deprived areas who may not be deprived. Conversely, there will be people living in less deprived areas who are deprived.

For more information on the NZ Index of Multiple Deprivation, visit the project website: www.fmhs.auckland.ac.nz/imd

City — State Highway
Town — Railway

Source: with thanks to Dr Robert Berry for sharing the code for his atlas based on the Welsh IMD (https://rpubs.com/rural_gis/634674)

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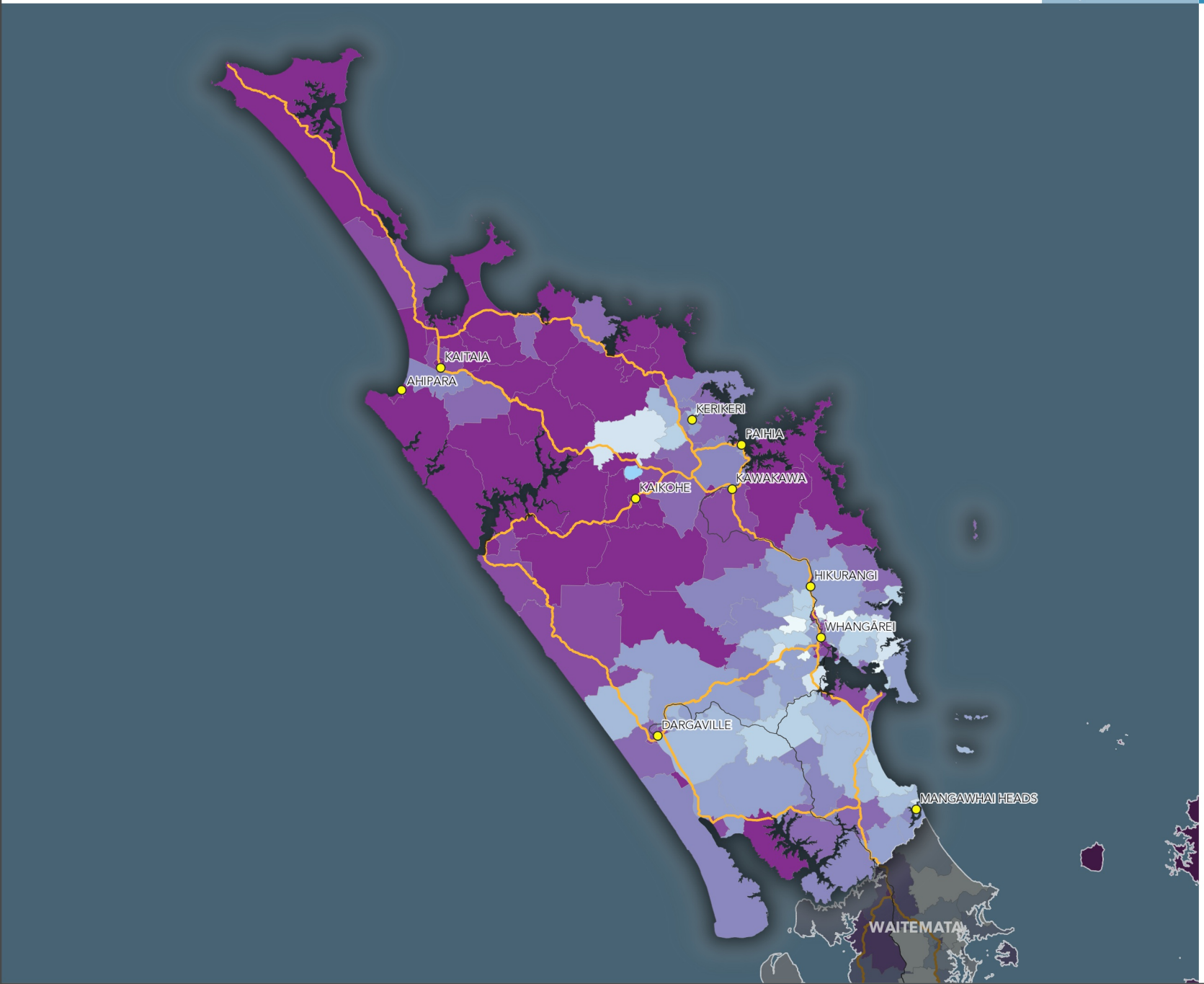
# 2018 New Zealand Index of Multiple Deprivation

# Northland

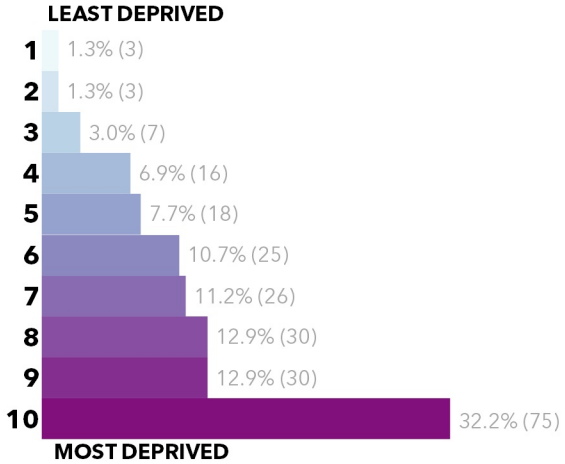
## Employment

**Rank: 20 /20**

(1 = least deprived, 20 = most deprived)




## DHB Deprivation Profile




## About this map

This map shows relative employment deprivation in the **Northland** District Health Board by 2018 Data Zone (DZ). In 2018, DZs have an average population of around 760 people. The coloured bars above match those on the map, and show the proportion of DZs in Northland that fall within each national deprivation decile.

The **Employment Domain** provides valuable insights into enforced exclusion from employment. 'Employment deprived' people are defined as working age people who want to work but are unable to do so. Data from the Ministry of Social Development was used to measure the proportion of working age (aged 15-64) people in each neighbourhood who were receiving Jobseeker Support at a rate of $44.99 per day or less in March 2018 (the threshold excludes caregivers of older dependent children). Proportions for data zones are ranked in order of increasing employment deprivation.

- City
- Town
- State Highway
- Railway

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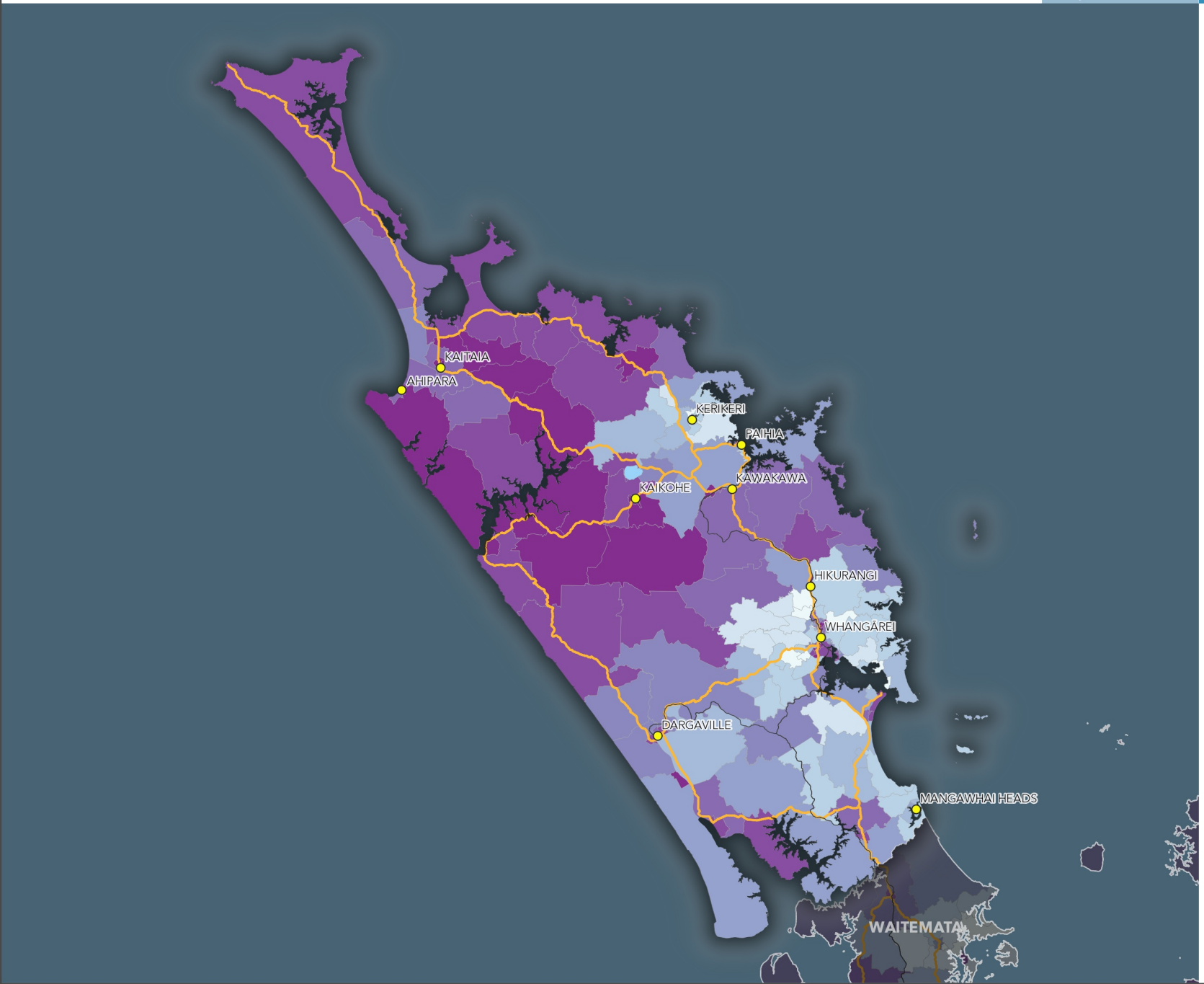
# 2018 New Zealand Index of Multiple Deprivation

# Northland

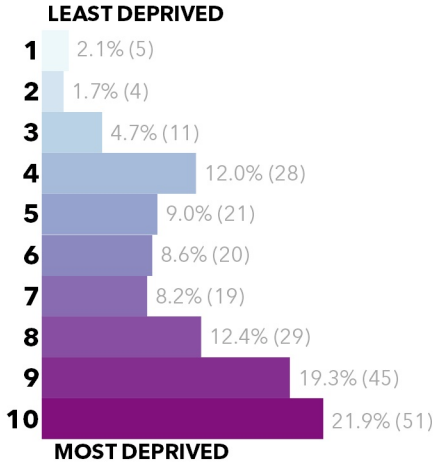
## Income

**Rank: 20 /20**

(1 = least deprived, 20 = most deprived)




## DHB Deprivation Profile




## About this map

This map shows relative income deprivation in the **Northland** District Health Board by 2018 Data Zone (DZ). In 2018, DZs have an average population of around 760 people. The coloured bars above match those on the map, and show the proportion of DZs in Northland that fall within each national deprivation decile.

The **Income Domain** uses two indicators to capture the extent of income deprivation in a neighbourhood by measuring the financial assistance provided by the State to those whose income is insufficient. One indicator measures financial assistance provided to beneficiaries by the Ministry of Social Development (MSD) in the form of income-tested benefits and Working for families (WFF) Tax Credits. The other indicator measures financial assistance provided to working people by Inland Revenue in the form of WFF tax Credits, Child Tax Credits and Paid Parental Leave.

City
Town
State Highway
Railway

Source: with thanks to Dr Robert Berry for sharing the code for his atlas based on the Welsh IMD (https://rpubs.com/rural_gis/634674)

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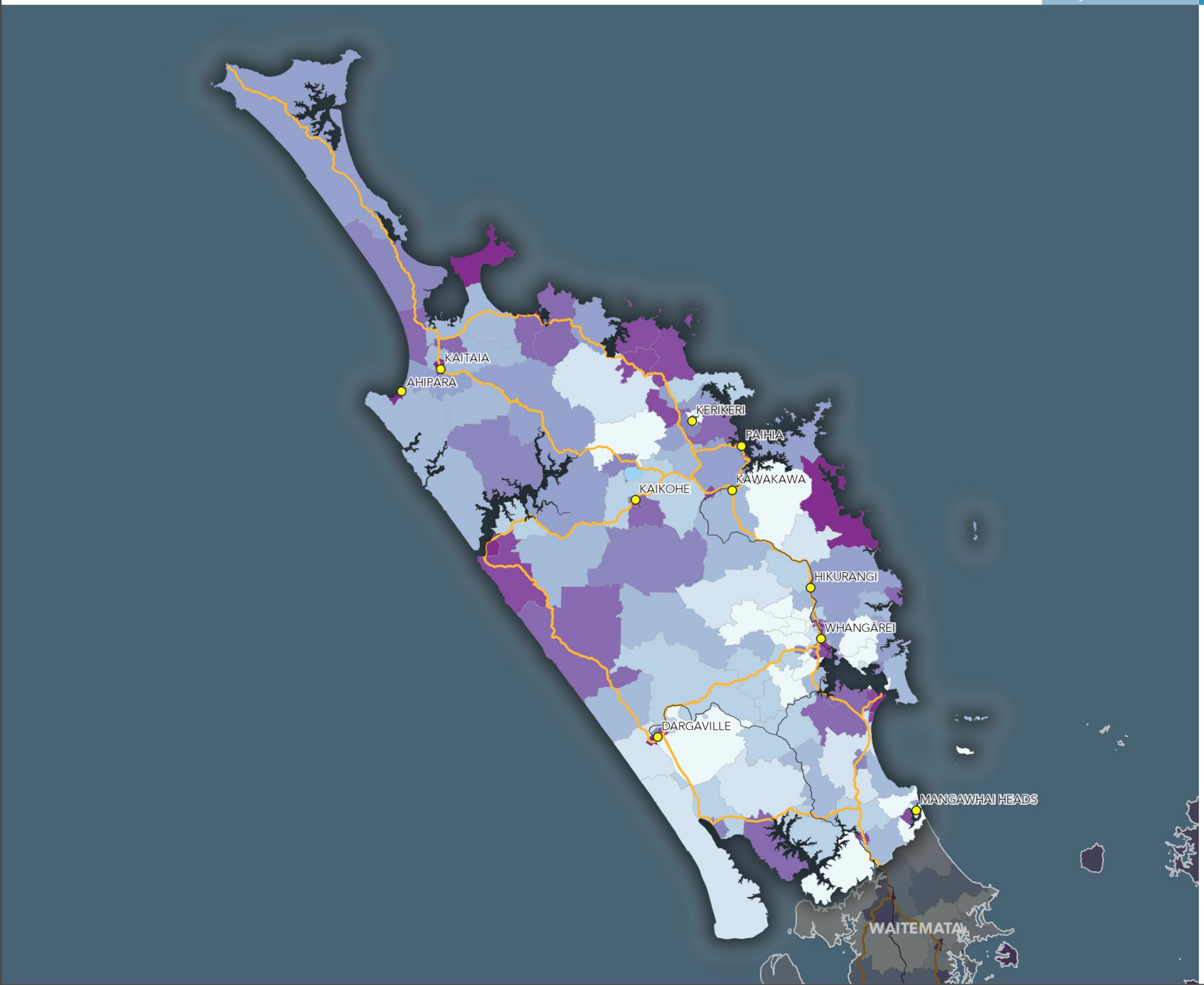
# 2018 New Zealand Index of Multiple Deprivation

# Northland

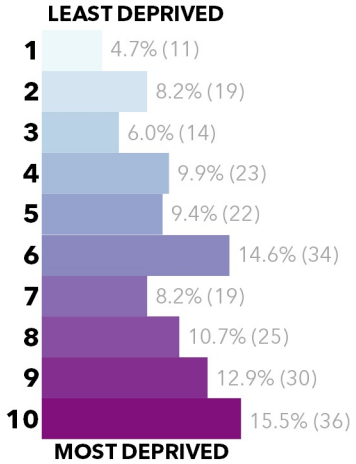
## Crime

**Rank: 16 /20**

(1 = least deprived, 20 = most deprived)




## DHB Deprivation Profile




## About this map

This map shows relative crime deprivation in the **Northland** District Health Board by 2018 Data Zone (DZ). In 2018, DZs have an average population of around 760 people. The coloured bars above match those on the map, and show the proportion of DZs in Northland that fall within each national deprivation decile.

The **Crime Domain** was constructed using data from the NZ Police's Recorded Crime Victimisation Statistics (RCVS) dataset, which counts victims for the following seven major offence types: homicide, assault, sexual assault, abduction, robbery, burglary, and theft. Counts of victimisation were collected after 30 days of investigation and subsequently allocated to data zones using the Meshblock of the scene of the offence. An overall victimisation rate (per 1,000) was calculated for each data zone and then ranked in order of increasing victimisations.

City — State Highway
Town — Railway

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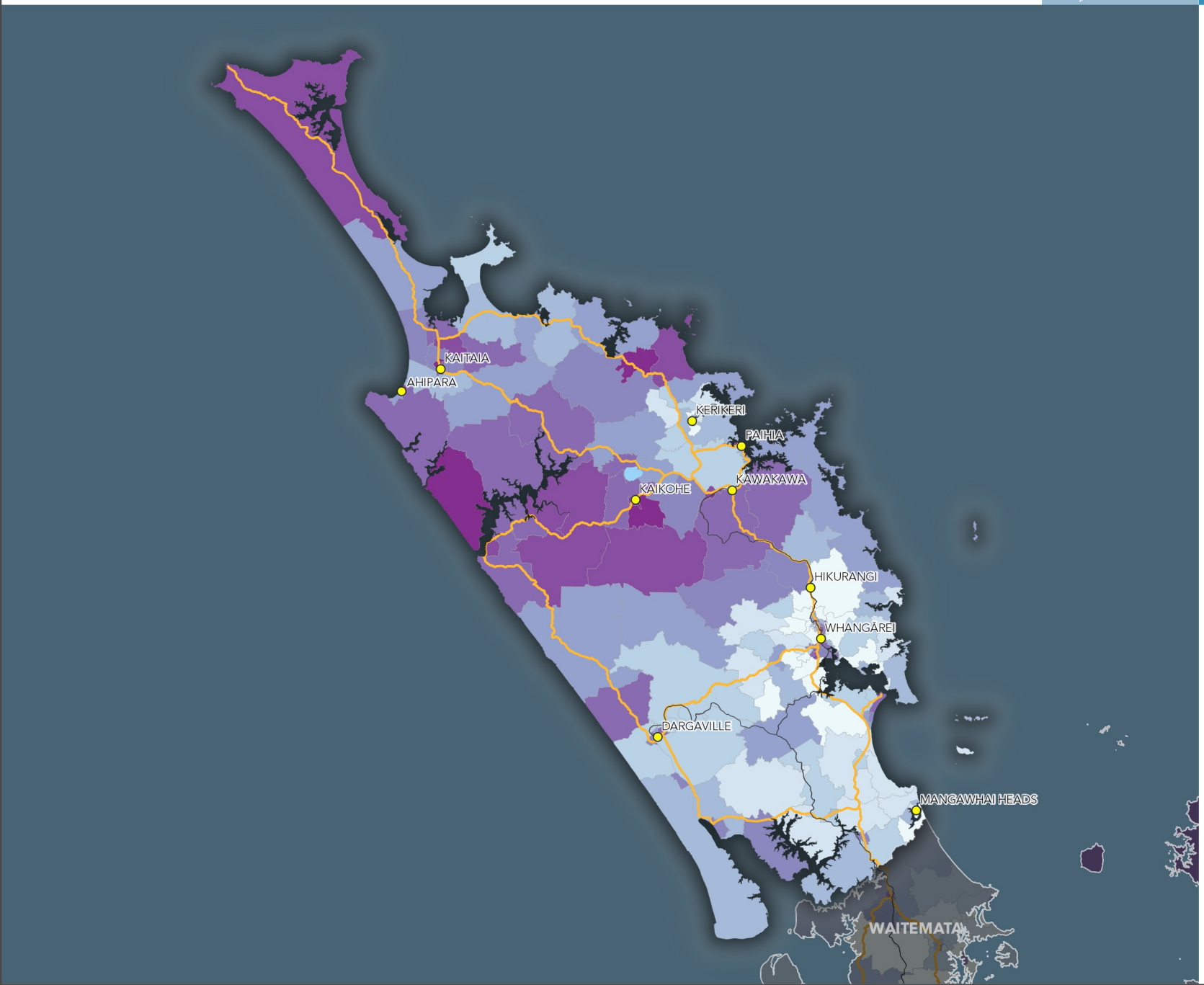
# 2018 New Zealand Index of Multiple Deprivation

# Northland

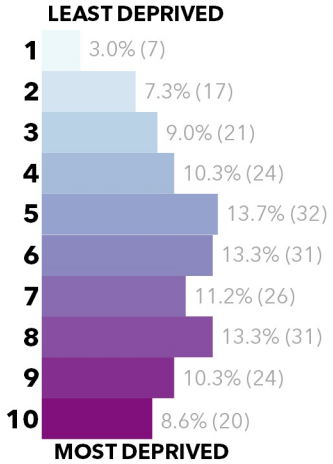
## Housing

**Rank: 16 /20**

(1 = least deprived, 20 = most deprived)




## DHB Deprivation Profile




## About this map

This map shows relative housing deprivation in the **Northland** District Health Board by 2018 Data Zone (DZ). In 2018, DZs have an average population of around 760 people. The coloured bars above match those on the map, and show the proportion of DZs in Northland that fall within each national deprivation decile.

The **Housing Domain** comprises of four indicators derived from 2018 Census Data: the proportion of the household population living in (1) overcrowded households, (2) rented accommodation, (3) damp dwellings, and (4) dwellings lacking basic amenities. The indicators were combined using weightings based on exploratory factor analysis to form a domain score, which was then ranked.

City
Town
State Highway
Railway

Source: with thanks to Dr Robert Berry for sharing the code for his atlas based on the Welsh IMD (https://rpubs.com/rural_gis/634674)

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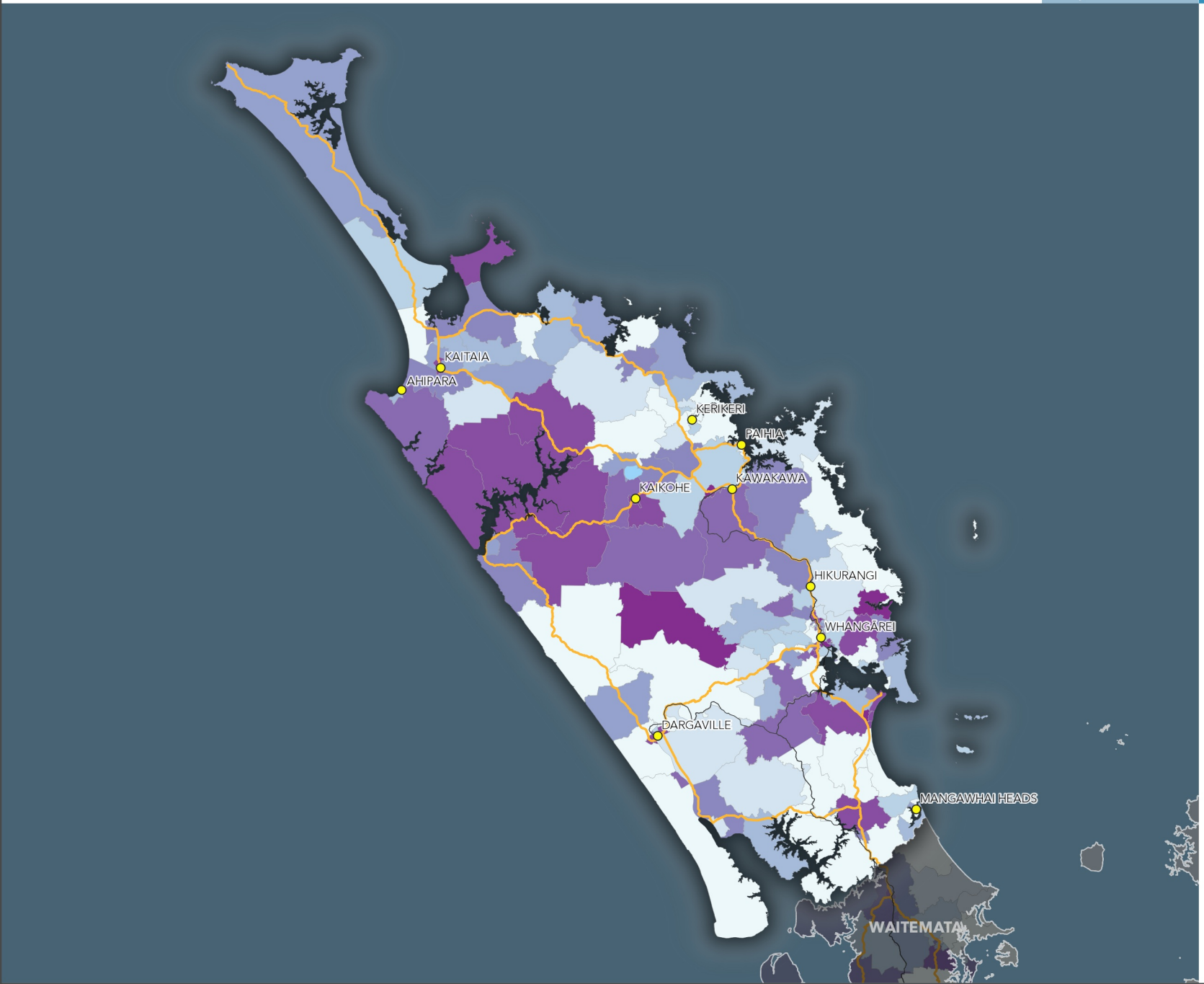
# 2018 New Zealand Index of Multiple Deprivation

# Northland

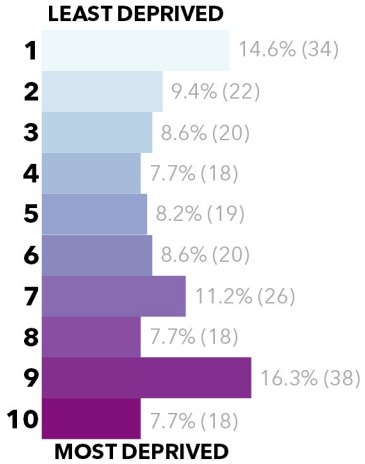
## Health

**Rank: 7 /20**

(1 = least deprived, 20 = most deprived)




## DHB Deprivation Profile




## About this map

This map shows relative health deprivation in the **Northland** District Health Board by 2018 Data Zone (DZ). In 2018, DZs have an average population of around 760 people. The coloured bars above match those on the map, and show the proportion of DZs in Northland that fall within each national deprivation decile.

The purpose of the **Health Domain** is to identify areas with a higher than expected level of ill-health or mortality using routinely collected data from the Ministry of Health. Five indicators were given different weightings using exploratory factor analysis: (1) Emergency Department admissions to hospital, (2) Acute Hospitalisations related to respiratory diseases with a social gradient, (3) Acute Hospitalisations related to infectious diseases with a social gradient, (4) Standardised Mortality Ratio, and (5) Registrations for cancers with a social gradient.

City
Town
State Highway
Railway

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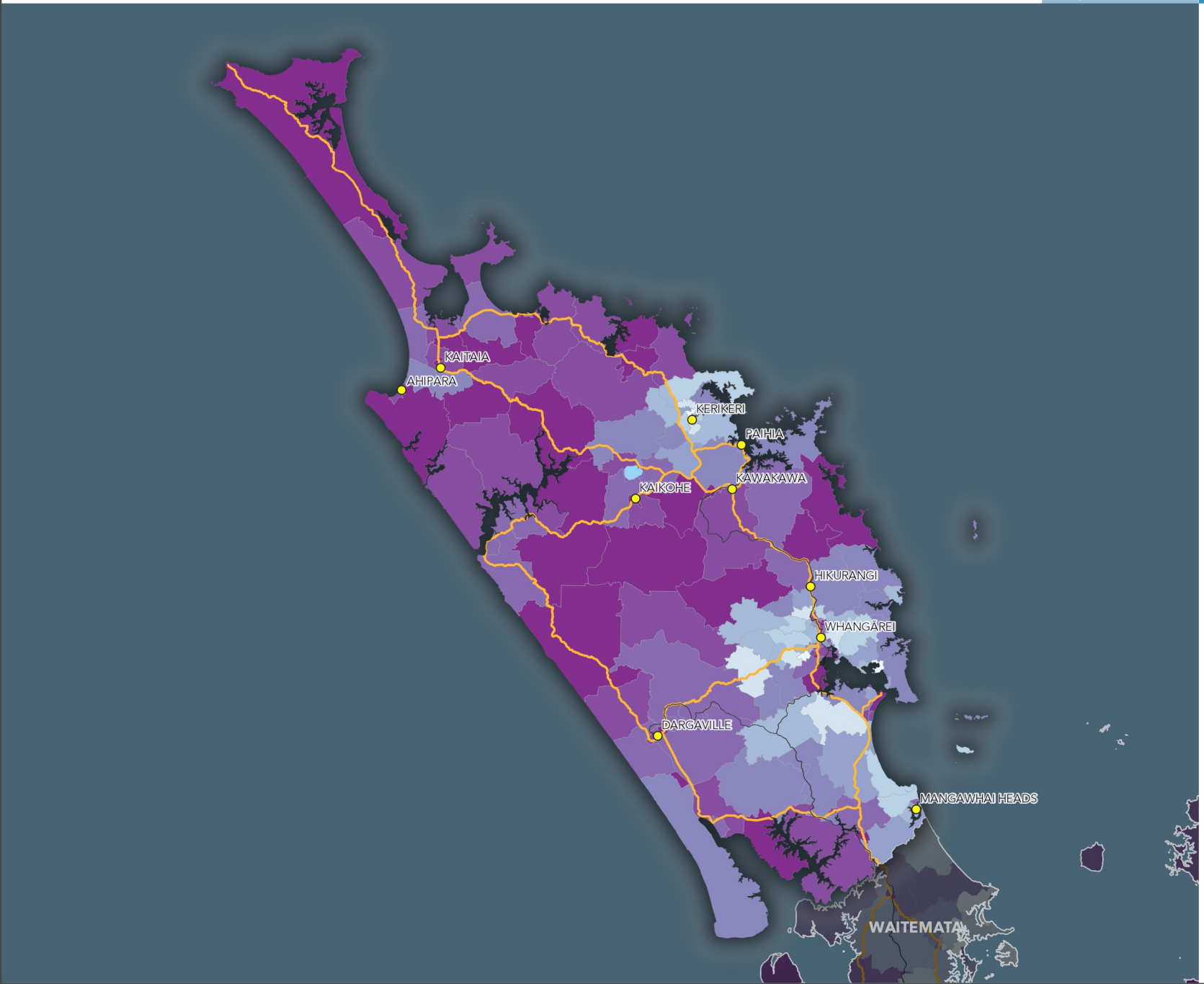
# 2018 New Zealand Index of Multiple Deprivation

# Northland

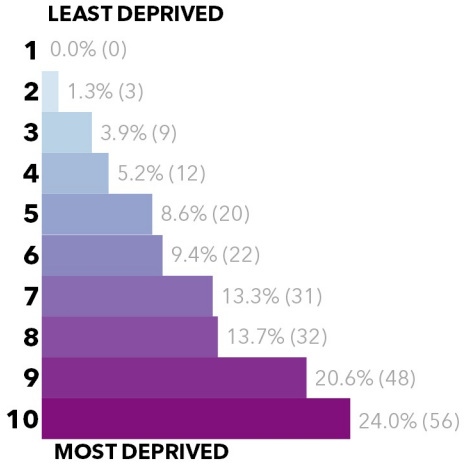
## Education

**Rank: 20 /20**

(1 = least deprived, 20 = most deprived)




## DHB Deprivation Profile




## About this map

This map shows relative education deprivation in the **Northland** District Health Board by 2018 Data Zone (DZ). In 2018, DZs have an average population of around 760 people. The coloured bars above match those on the map, and show the proportion of DZs in Northland that fall within each national deprivation decile.

The **Education Domain** consists of five indicators. Three use Ministry of Education data and measure school leavers who; left before they were 17; left without an NCEA level 2 equivalent; did not enrol in tertiary studies within 3 years of leaving school. The other two indicators use 2018 census data and measure the proportion of youth (15-24) Not in Education, Employment or Training (NEET) and the proportion of the working age population without a formal qualification. Exploratory factor analysis using the maximum likelihood method was then applied to the indicators to generate weights which were used to combine indicators to form a ranked domain score.

City — State Highway

Town — Railway

Source: with thanks to Dr Robert Berry for sharing the code for his atlas based on the Welsh IMD (https://rpubs.com/rural_gis/634674)

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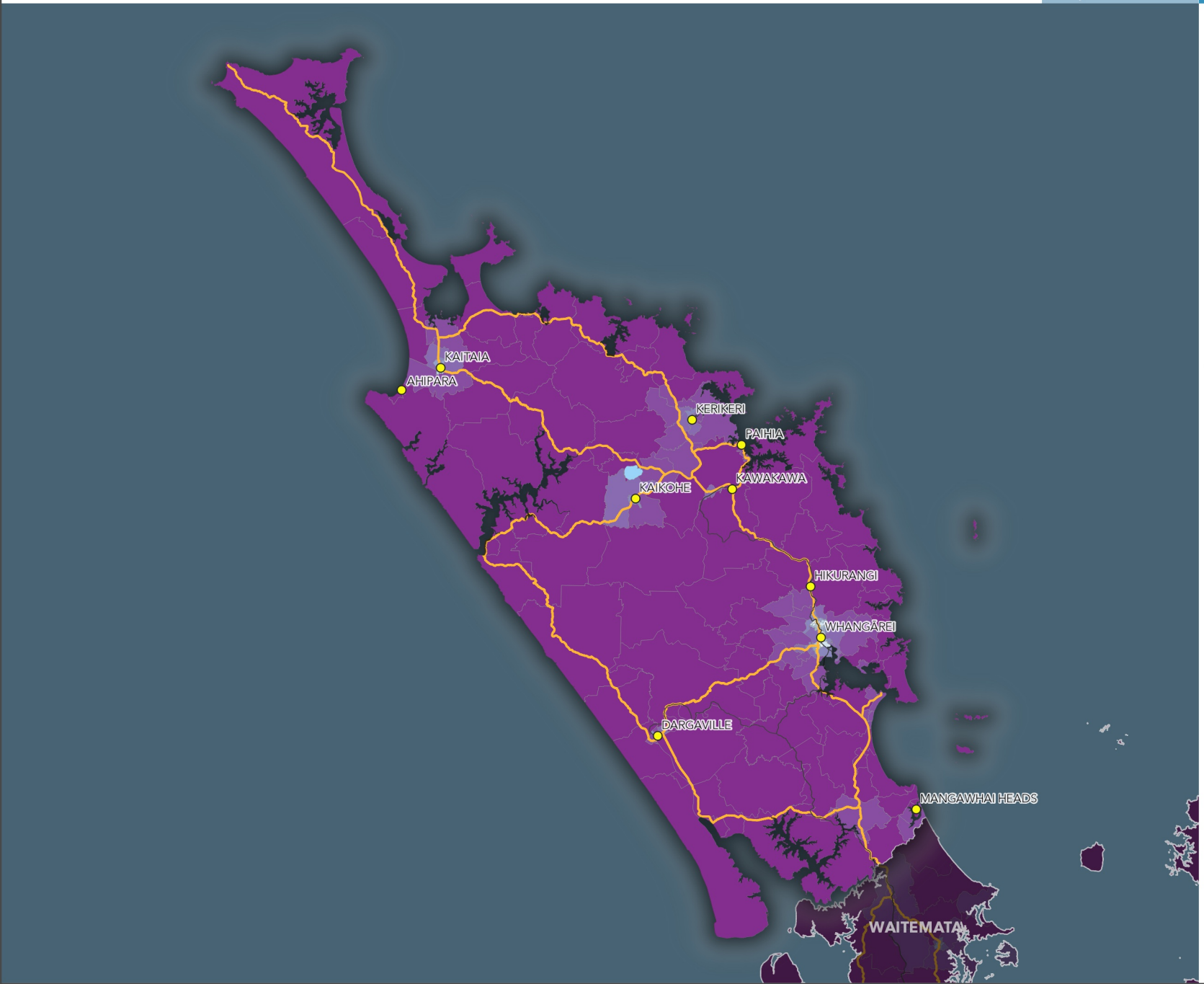
# Northland

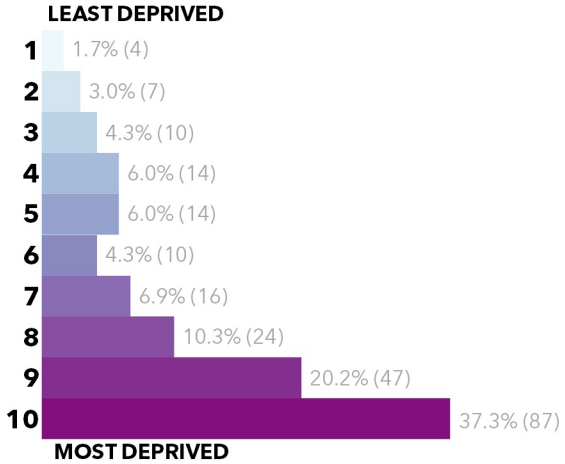
## Access to Services

**Rank: 19 /20**

(1 = least deprived, 20 = most deprived)




## DHB Deprivation Profile




## About this map

This map shows relative accessibility deprivation in the **Northland** District Health Board by 2018 Data Zone (DZ). In 2018, DZs have an average population of around 760 people. The coloured bars above match those on the map, and show the proportion of DZs in Northland that fall within each national deprivation decile.

The **Access Domain** measures the cost and inconvenience of accessing basic services, and includes five indicators: supermarkets, primary health care providers, service stations, early-childhood centres, and schools. The distance to the nearest three localities of a given service was measured and converted to a score following a negative exponential distribution. The scores of the three nearest localities for each service were summed and ranked. Exploratory factor analysis was then applied to the five ranked indicators to generate weights which were used to combine indicators to form access deprivation scores, which were then ranked.

- City
- Town
- State Highway
- Railway

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