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**ehinz**

Environmental Health  
Indicators New Zealand

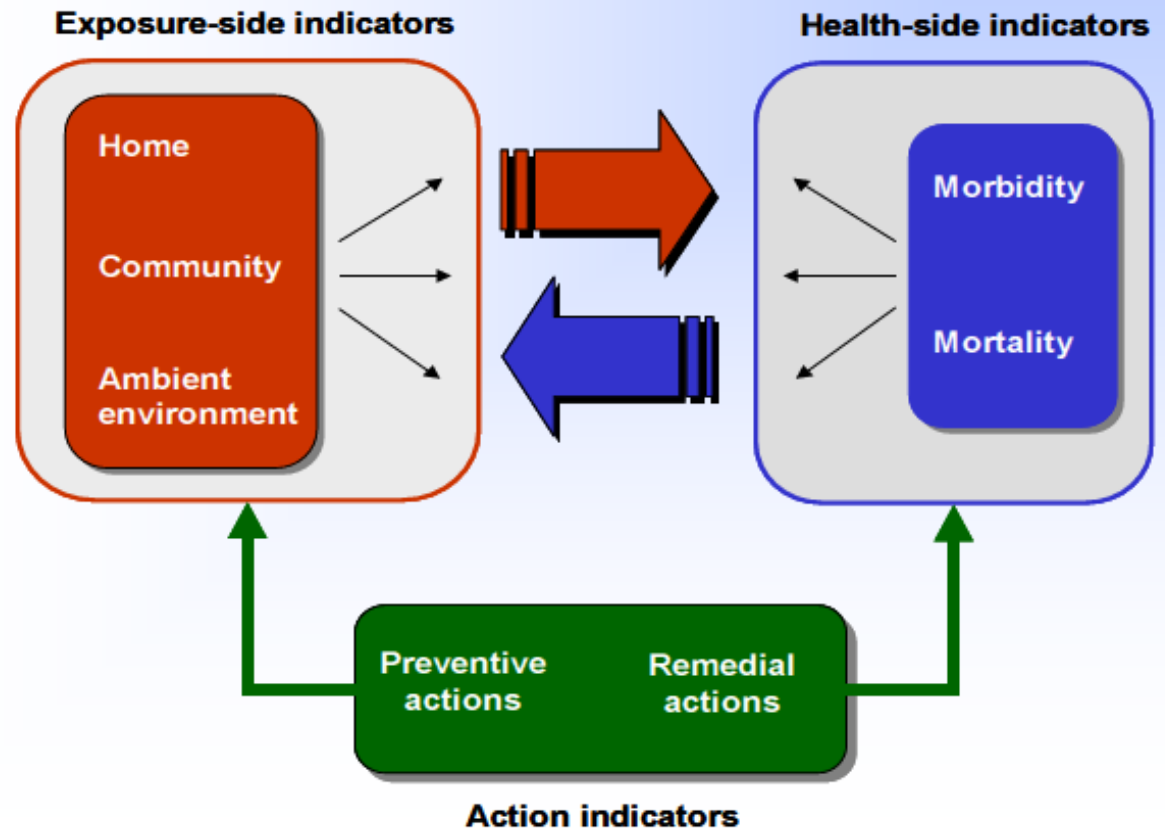


## Developing Environmental Health Indicators for transport and health in New Zealand

Kylie Mason, 31 July 2018

## What is an environmental health indicator?

- Describes the link between the environment and human health
- Provides information for action



## Over 60 environmental health indicators in 10 domains



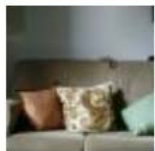
Air quality



Recreational water



Drinking water quality



Indoor environment



Hazardous substances



Climate change



Population vulnerability



Border health



UV exposure



Transport

## Overview

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1. How we developed the transport indicators
2. EHI transport indicators: What is the data telling us?
3. What is the overall health impact of road transport in NZ?
4. Summary

## How we developed the indicators: a three-stage process

### Scoping stage

Understand the issue (size of problem, who is affected and how)

Understand the key users and their needs

### Selection stage

Create a conceptual framework

Identify potential indicators

Evaluate indicators

### Design stage

Design the indicators (eg technical aspects)

Produce and publish the indicators

# How does transport affect health?

Traffic injuries and deaths



Road safety

Increased physical activity



Use of active transport

Health effects (heart and lungs)



Vehicle emissions

Climate change impacts



Noise pollution



Health effects (eg high blood pressure)

Barriers due to lack of transport

Social isolation      Reduced access to services

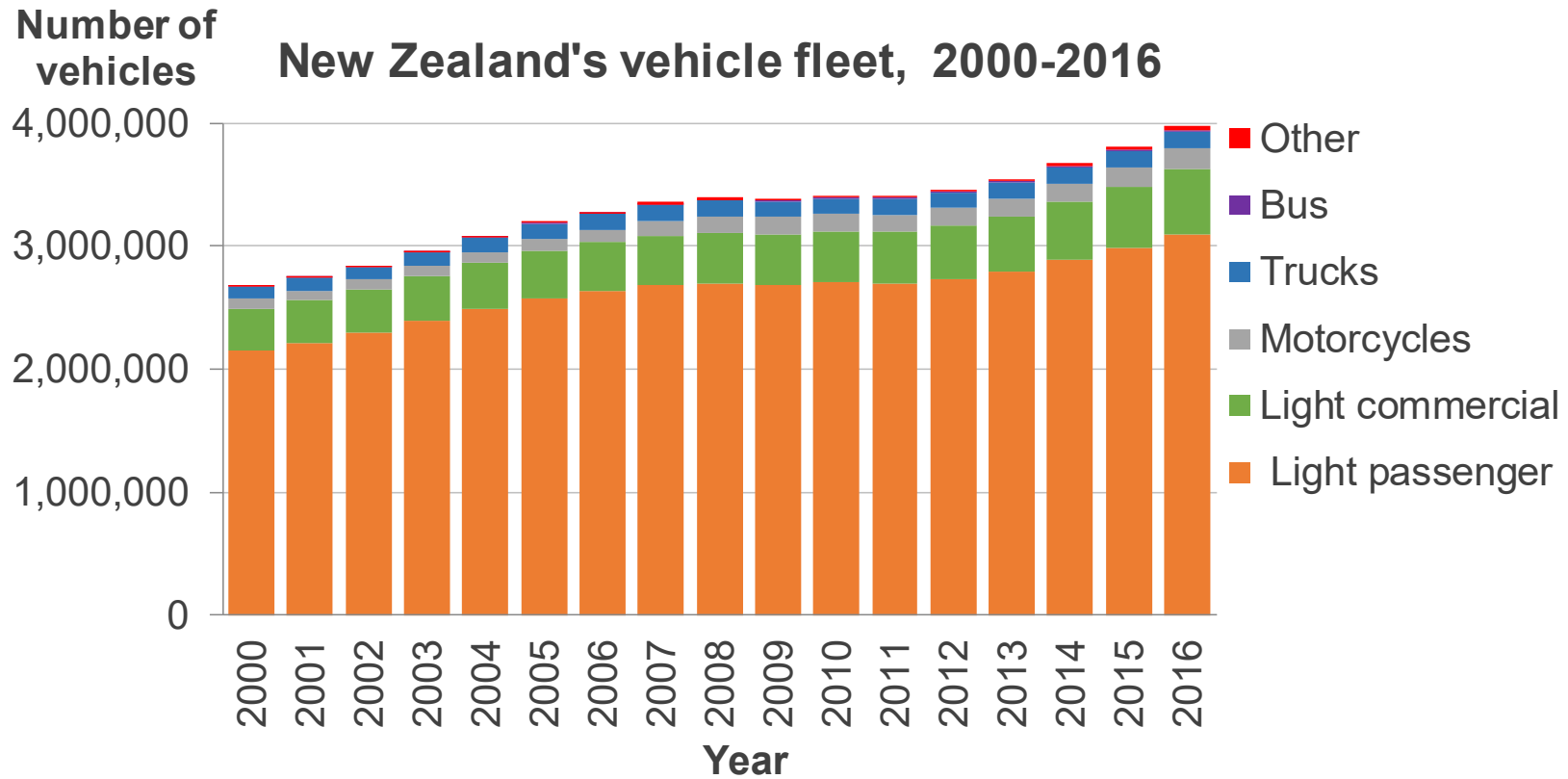


## EHI transport indicators

- Number of motor vehicles
- Active transport to and from school
- Main mode of transport to work on Census day
- Household travel time by mode of transport
- Unmet need for GP services due to lack of transport
- Road traffic injury deaths
- Road traffic injury hospitalisations



# The number of motor vehicles is increasing



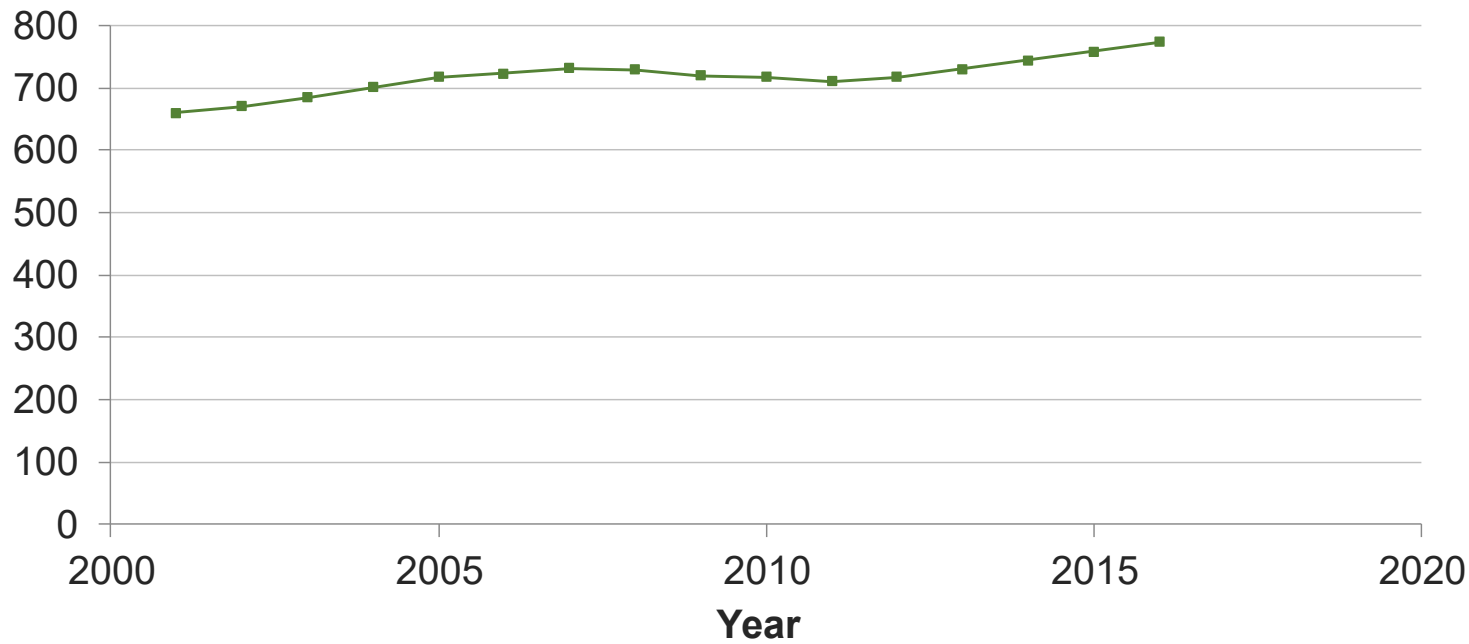
Source: Ministry of Transport



## Car ownership rate per capita is also increasing

Number of light vehicles per 1000 people

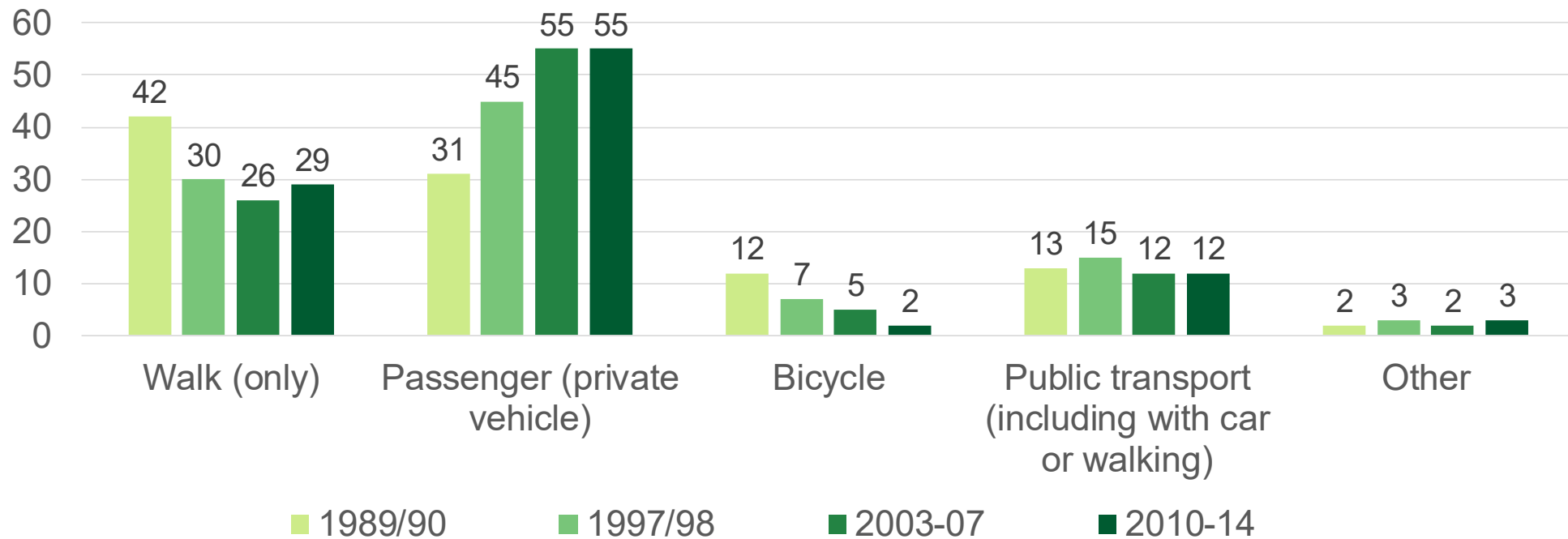
Light vehicles per 1,000 population, New Zealand, 2001-2016



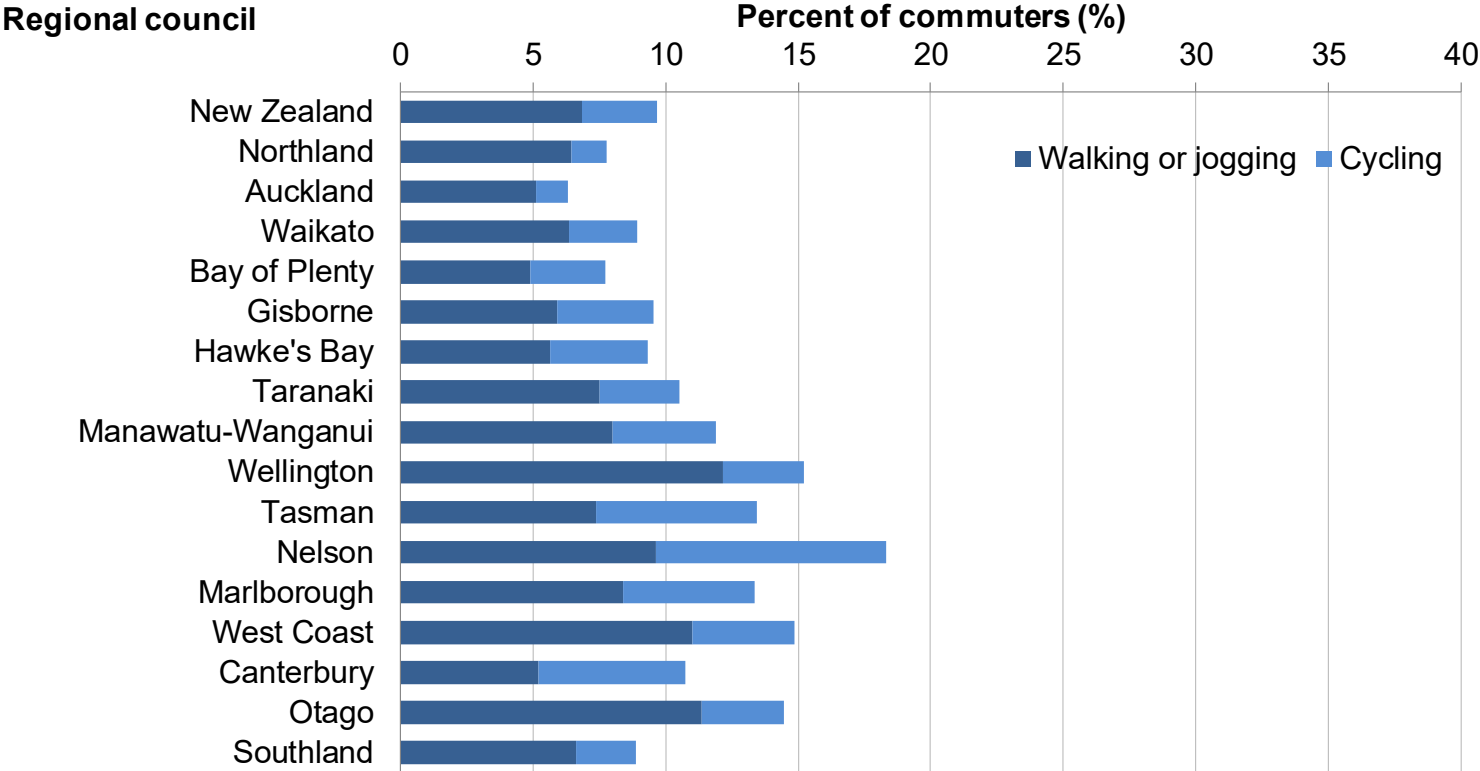
In 2014, New Zealand had the **highest** car ownership rate per capita in the OECD

## Children's mode of transport to get to school (5-12 years)

Percent of children  
(%)



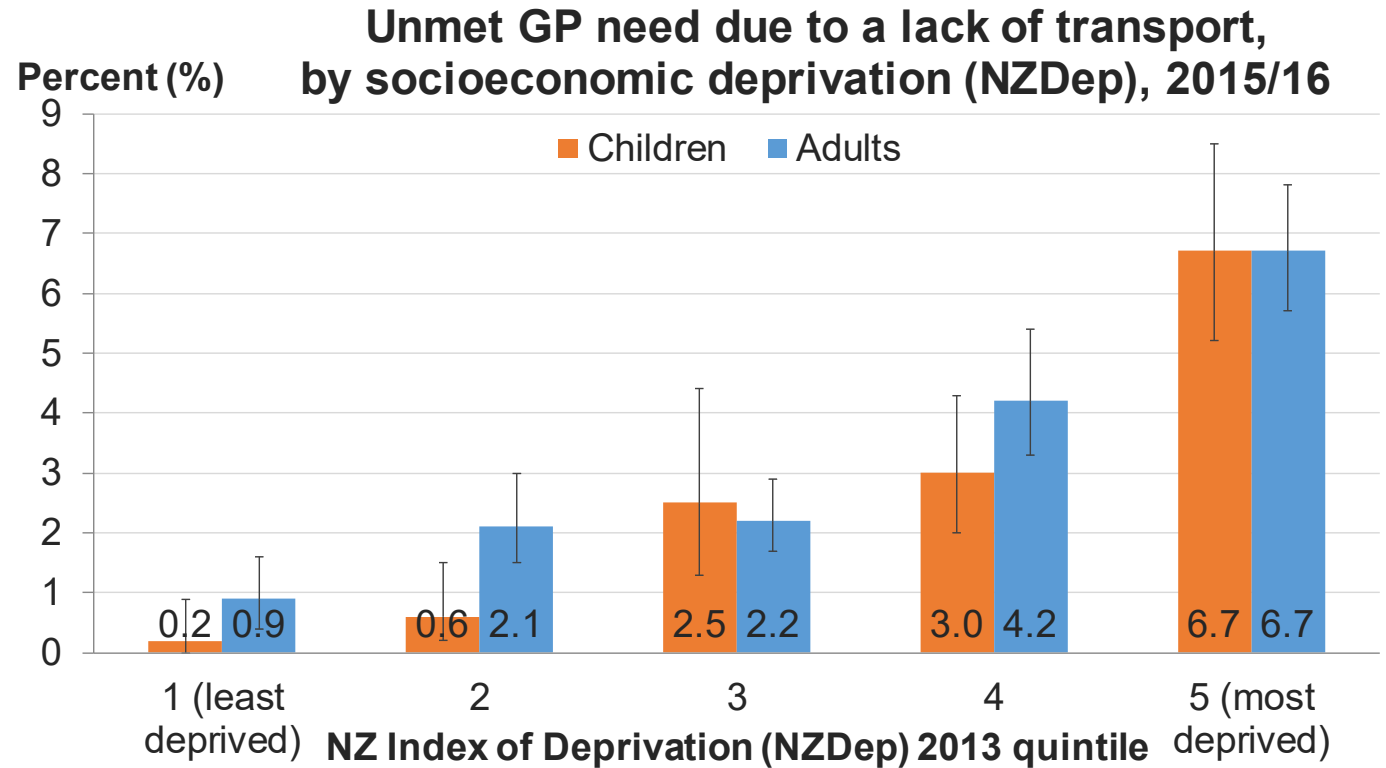
# Active transport as the main mode of transport to work on Census day



Source: Census 2013

# Unmet GP need due to a lack of transport affected 148,000

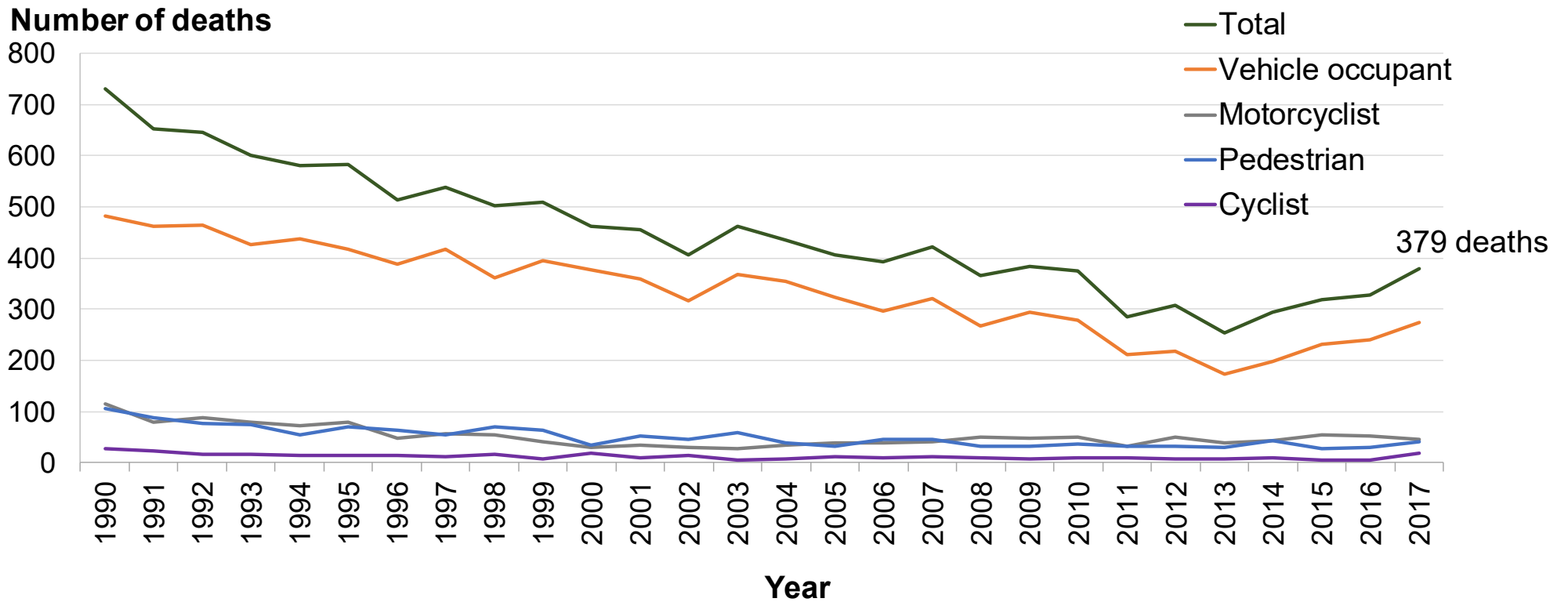
- Affected 148,000 New Zealanders in 2016/17 (~3%)
- More than 7% of Māori and Pacific adults affected



Source: New Zealand Health Survey

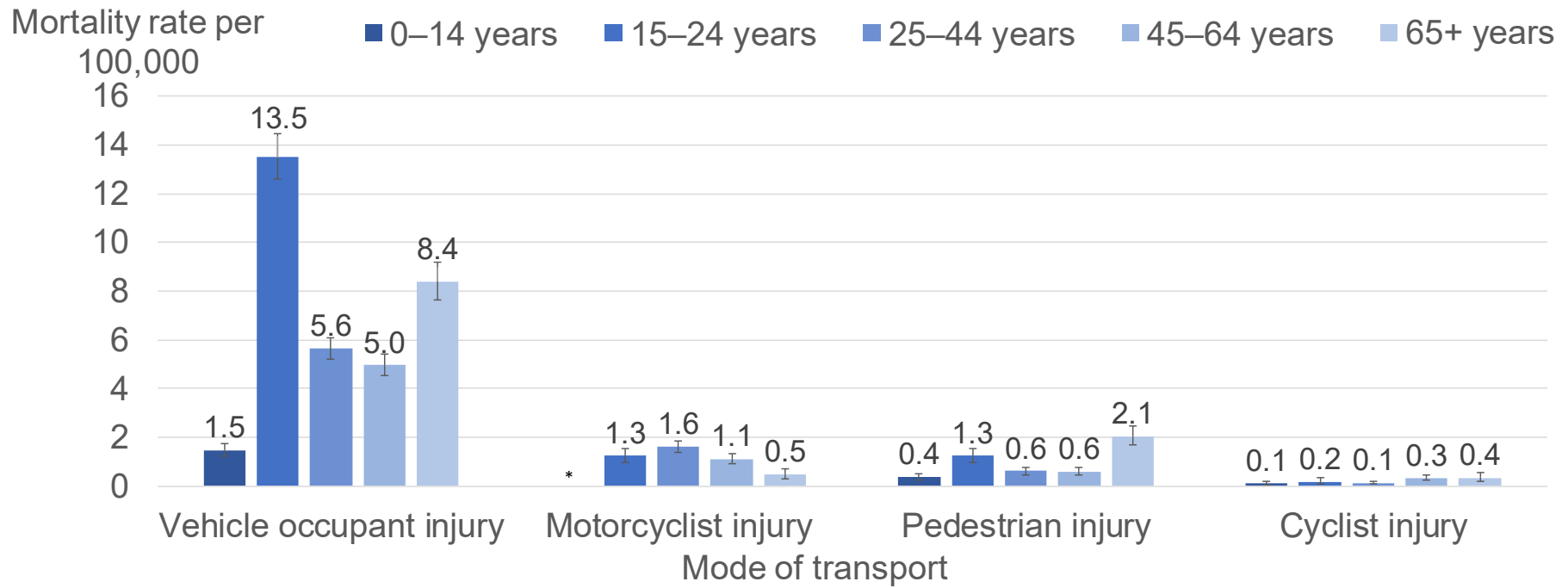
# Traffic crash deaths: An increasing road toll since 2013

## Annual road toll in New Zealand, by transport mode, 1990-2017



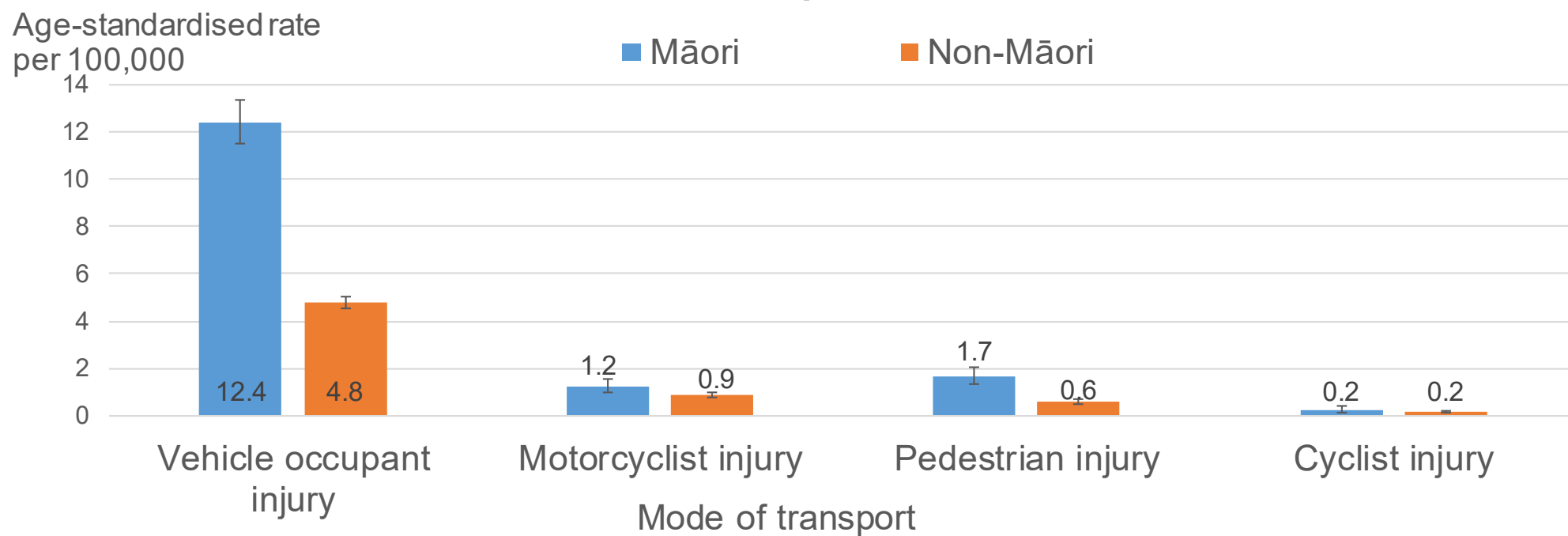
# Age group patterns in mortality rates vary by mode of transport

Road traffic injury deaths, by age group and mode of transport, 2005-2014



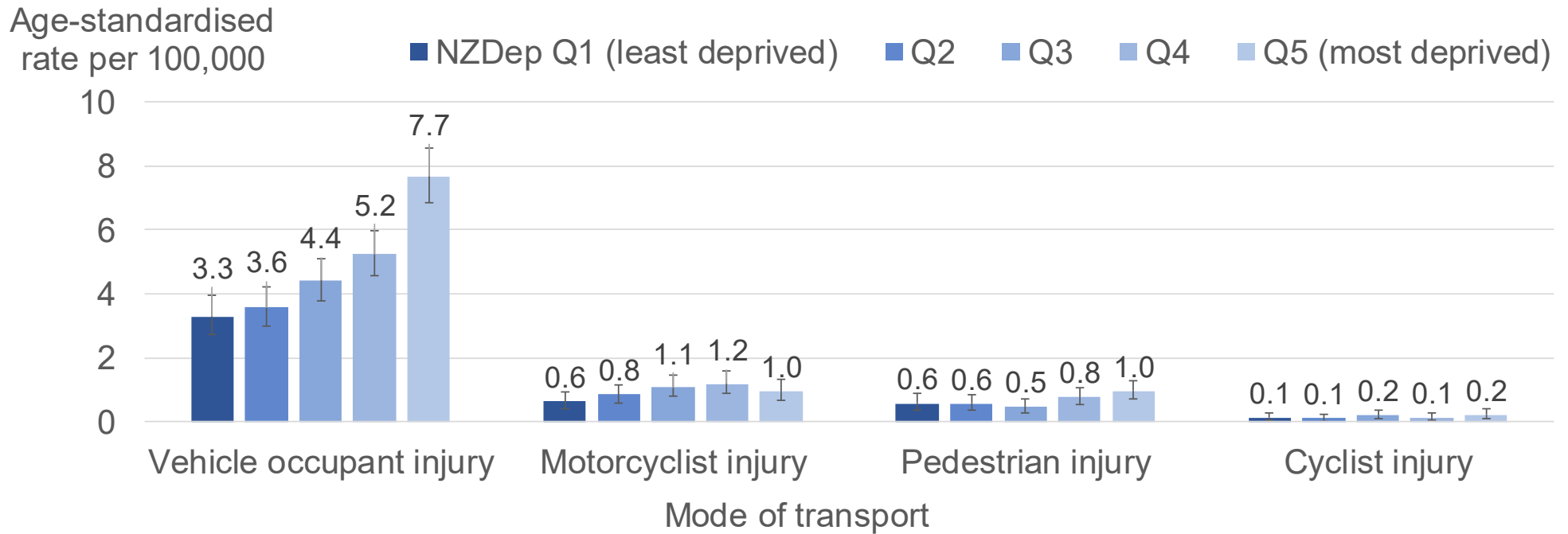
## Traffic injury death rate is higher for Māori than non-Māori

Road traffic injury deaths, by Māori/non-Māori and mode of transport, 2005–2014



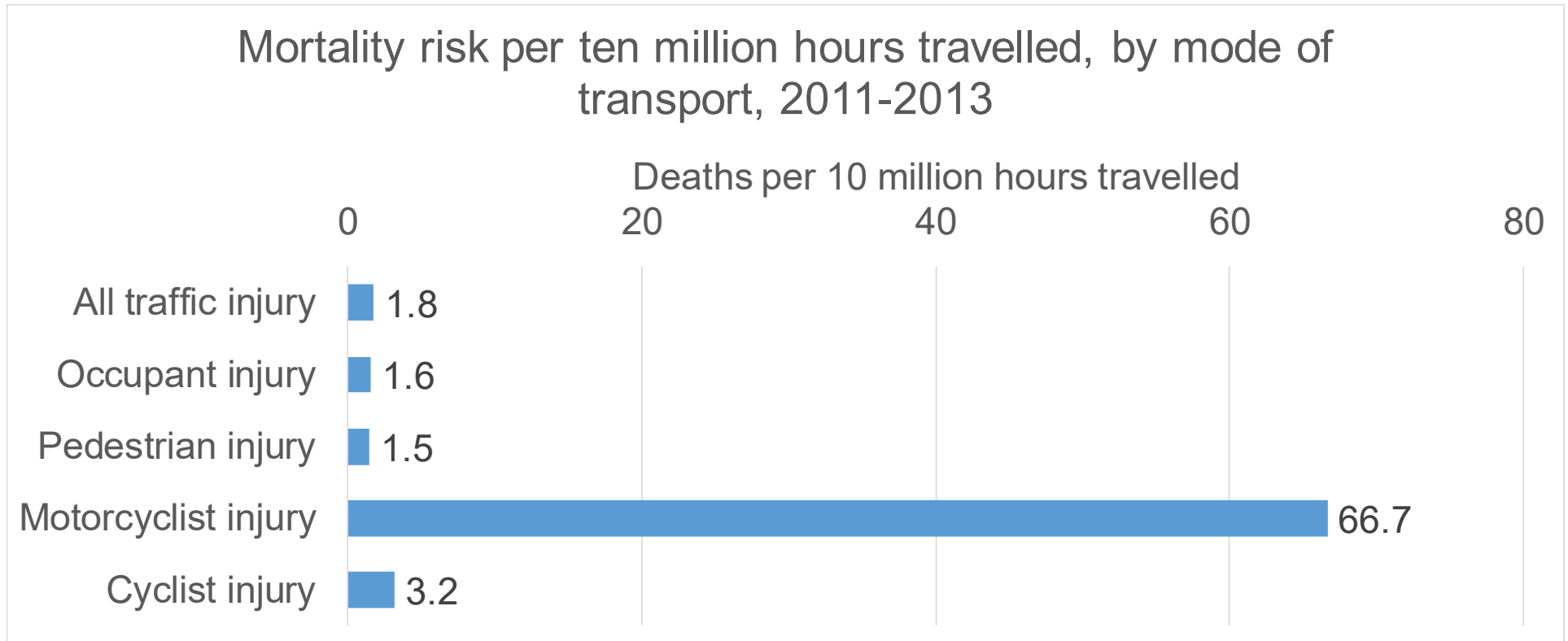
# Highest rate of traffic injury deaths in most deprived areas

## Road traffic injury deaths, by NZDep2013 quintiles and mode of transport, 2010-2014





## Motorcyclists at more risk of death, per time spent travelling

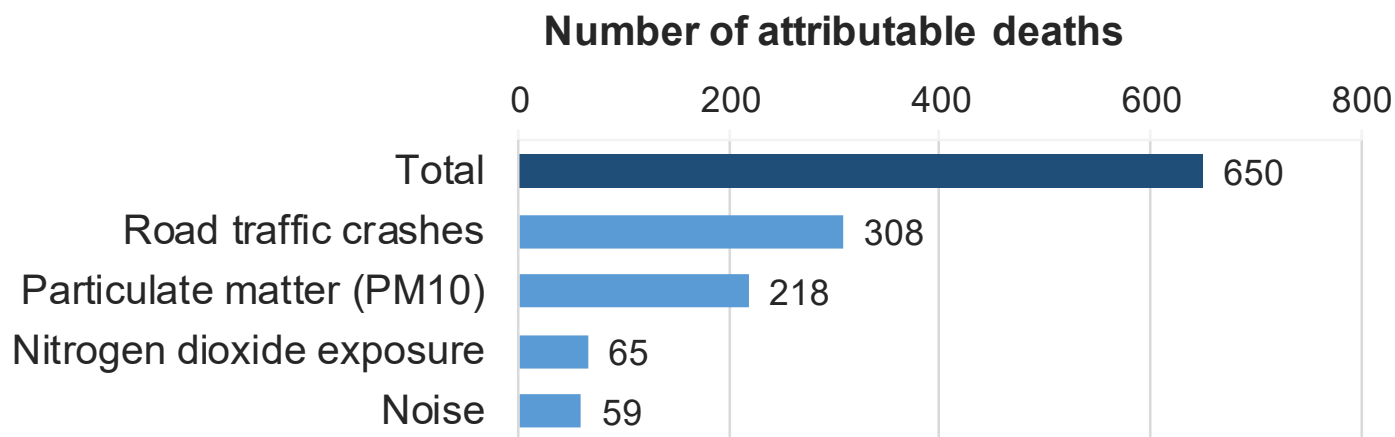


## Research project to explore overall health impact of road transport

- Aims to answer the question: ‘How many deaths in NZ are attributable to road transport?’
- Estimated the health burden from:
  - Motor vehicle traffic crashes
  - Air pollution (PM<sub>10</sub>, NO<sub>2</sub>)
  - Noise pollution
- Used an ‘environmental burden of disease’ method

## Health burden of road transport in New Zealand

Road transport accounted for an estimated 650 deaths in 2012, due to traffic injuries, air pollution, and noise



Briggs, D., Mason, K., Borman, B. (2016). Rapid Assessment of Environmental Health Impacts for Policy Support: The Example of Road Transport in New Zealand. *International Journal of Environmental Research and Public Health*, 2016; 13(1): 61

## In summary – what the indicators show

- High reliance on cars in New Zealand
- Road transport has a substantial impact on health in NZ
  - Traffic crashes, air pollution, noise pollution, barriers to accessing services
- Unequal impacts of transport on health
  - Motorcyclists, and to a lesser extent, cyclists
  - Māori and Pacific peoples, people living in high deprivation areas

## Evidence supports moving towards more walking and cycling

Active and public transport have multiple benefits

- less air pollution, noise pollution, greenhouse gases
- more physical activity

➔ improvement in the health and wellbeing of NZers





Home

### Monitoring New Zealand's Environmental Health

Our Environmental Health Indicators give you information and statistics on how the environment affects the health of New Zealanders. Our team is part of the Centre for Public Health Research, Massey University, and offers research, training and consultancy services.

#### Environmental Health Indicators



AIR QUALITY



RECREATIONAL WATER



DRINKING-WATER QUALITY



INDOOR ENVIRONMENT



TRANSPORT



HAZARDOUS SUBSTANCES

#### Latest News

**Updated factsheets for transport** 24/01/2018  
In 2016/17, 2.6% of children and 3.2% of adults had an unmet GP need due to a lack of transport (about 148,000 New Zealanders). About 49% of children used active transport (walking, cycling etc) to get to school in 2016/17. For more information, see the transport indicators webpage.

**HSSS 2017 report released** 12/01/2018  
This latest report (2017) on the adverse health effects of exposure to hazardous substances in New Zealand has been released and can be found here

**Christmas Newsletter (13th) released** 07/12/2017  
We have released our 13th EHI newsletter. To find out more about our recent work, click here.

#### Tweets by @EH\_NewZealand

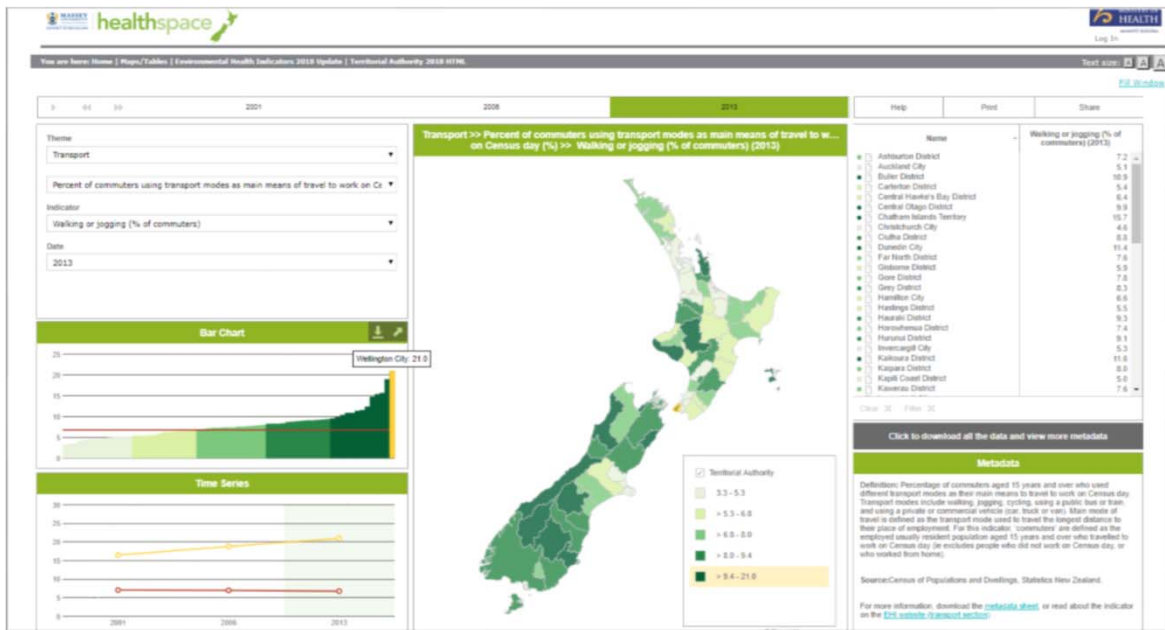
**EHINZ** @EH\_NewZealand  
Launch of new online health data website - healthspace - Massey University - massey.ac.nz/massey/about-m...  
Jan 30, 2018

**EHINZ** @EH\_NewZealand  
This latest report (2017) on the adverse health effects of exposure to hazardous substances in New Zealand has been released and can be found here bit.ly/2mtpoXK

# Thank-you for your time!

For more info,  
visit our websites:  
[www.ehinz.ac.nz](http://www.ehinz.ac.nz)  
[healthspace.ac.nz](http://healthspace.ac.nz)

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Thank-you for your time!

For more info,  
visit our websites:  
[www.ehinz.ac.nz](http://www.ehinz.ac.nz)  
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