

# AUCKLAND REPORTING AREA 2018

2018

# STATE OF AUCKLAND AIR QUALITY REPORT CARD



## WHAT CAUSES OUR AIR POLLUTION?

Most air pollution comes from burning fuels such as diesel, petrol, wood, gas and oil. The burning process releases chemicals and small particles (particulates) into the air that are harmful to humans, lead to brown hazes and cause unpleasant odours.

In summer, transport is the biggest cause of air pollution, but in winter, home heating is the biggest problem; in fact, the amount of PM<sub>10</sub> (tiny solid and liquid particles) in the air is tripled. This is mainly caused by the wood burners many of us use to heat our homes.

## DID YOU KNOW?

Auckland Council in collaboration with Metservice and the University of Auckland are developing an early warning pollution index for Auckland.

## QUICK FACTS

**1 IN 4**  
CHILDREN SUFFER FROM ASTHMA IN NZ

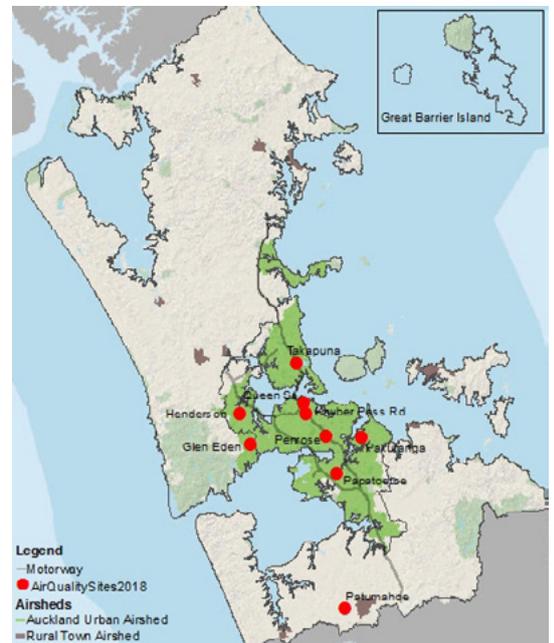
**80% OF NO<sub>2</sub> ACROSS AUCKLAND**  
COMES FROM TRANSPORT EMISSIONS

**AROUND 260**  
PREMATURE DEATHS IN AUCKLAND OCCUR EACH YEAR DUE TO AIR POLLUTION

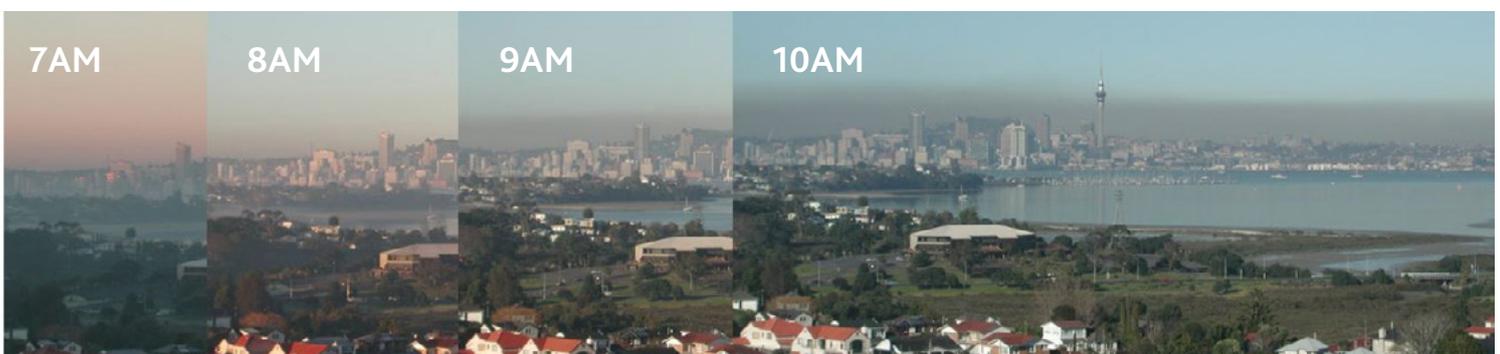
COMPARED TO MANY OTHER INTERNATIONAL CITIES, AUCKLAND HAS RELATIVELY **CLEAN AIR**

REMOVING 10,000 CARS FROM CITY CENTRE ROADS REDUCES NO<sub>2</sub> BY **15%**  
THIS REDUCTION WOULD EXTEND RESIDENTS' LIVES BY **32 DAYS**

## MONITORING SITES



## TIME-LAPSE OF BROWN HAZE FORMATION OVER AUCKLAND



## PM<sub>10</sub> AND PM<sub>2.5</sub> PARTICLES

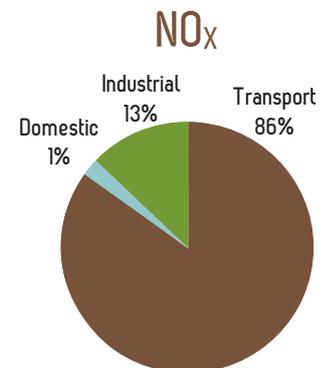
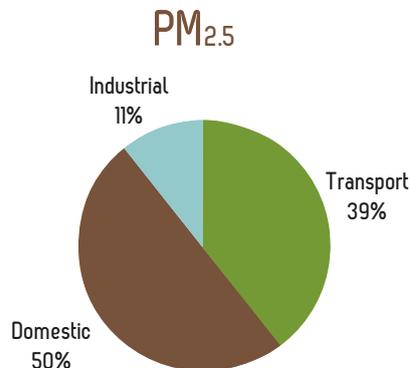
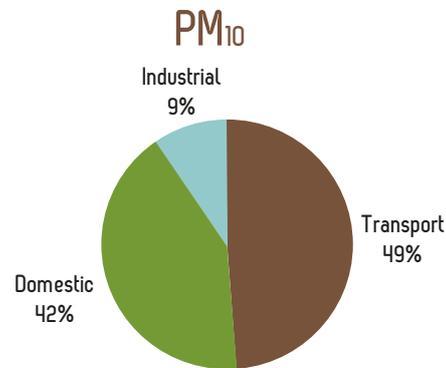
PM<sub>10</sub> are particles less than 10 microns in diameter and PM<sub>2.5</sub> particles are less than 2.5 microns in diameter. These particles come from human activities, such as burning fuels and natural sources, including sea spray (salt) and pollen.

Each year about 3000 tonnes of PM<sub>10</sub> is emitted into Auckland's air.

In Auckland, PM<sub>10</sub> and PM<sub>2.5</sub> concentrations sometimes exceed air quality targets. Over the years, the average concentrations

of PM<sub>10</sub> have decreased, but PM<sub>2.5</sub> concentrations have remained relatively stable. This reduction is the result of advances in industrial and vehicle technology and better fuel standards.

Of the air pollutants that we measure, the levels of fine particles are still of most concern; fine particulates are easily inhaled and can lodge deep in the lungs where they adversely affect human health.



## NITROGEN DIOXIDE (NO<sub>2</sub>)

In Auckland, vehicles are the main source of nitrogen dioxides with concentrations at peak traffic sites exceeding air quality targets. Although the amount of NO<sub>2</sub> in the air is declining, levels are still of concern and cause adverse health problems.

Nitrogen dioxide (NO<sub>2</sub>) can irritate the lungs, increasing susceptibility to asthma and lowering resistance to respiratory infections. Long-term exposure to low levels of NO<sub>2</sub> can affect lung growth in children and cause damage to plants.

The maps show average NO<sub>2</sub> (left) and PM<sub>10</sub> (right) for 2017 across the Auckland region. All units are in microgram per cubic meter



### FIND OUT MORE

This report card is part of a series prepared by the Auckland Council's Research and Evaluation Unit, which undertakes monitoring and research to provide information and evidence to inform the council's activities and reporting. More report cards can be found at: [aucklandcouncil.govt.nz/environment](http://aucklandcouncil.govt.nz/environment). The report card series includes reporting on freshwater, terrestrial, marine, air, soil, capacity for growth, demographics and quality of life.

For more information: e-mail [rimu@aucklandcouncil.govt.nz](mailto:rimu@aucklandcouncil.govt.nz) or call us on 09 301 0101.

### GET INVOLVED

Auckland Council provides more than 20 environmental programmes across the region that you can get involved in. To find out more on how you can help visit: [aucklandcouncil.govt.nz](http://aucklandcouncil.govt.nz)