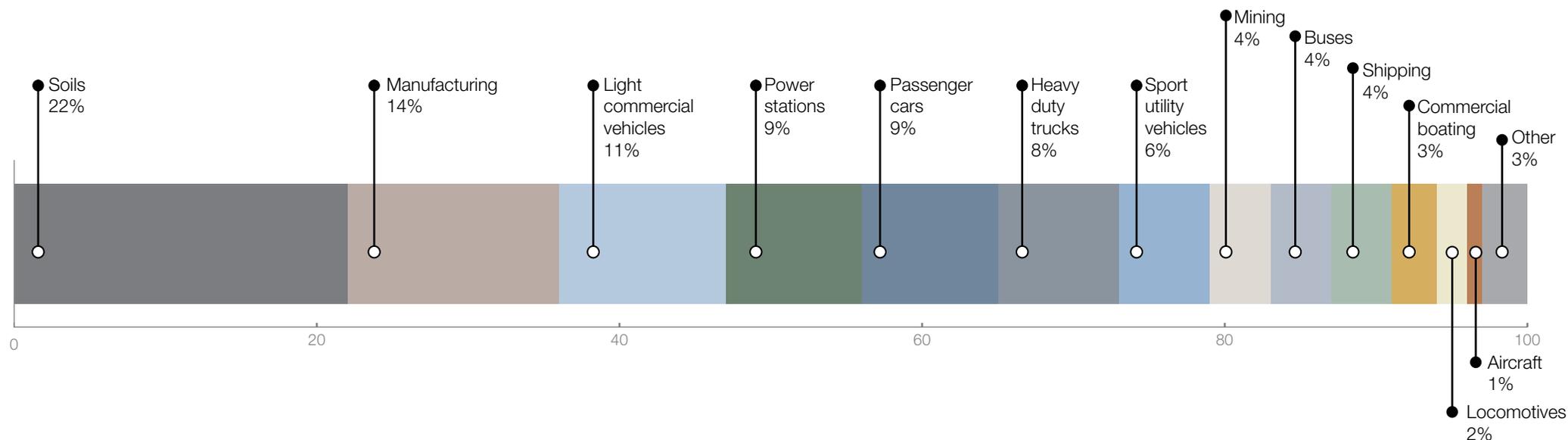




Perth Air Emissions Study 2011–2012: Oxides of nitrogen (NO_x)

The Perth Air Emissions Study 2011–2012 estimated emissions from natural and man-made sources, and assessed the significance of these emissions. Emissions were also spatially allocated to identify major emission source areas.

Oxides of nitrogen (NO_x) are a mixture of gases composed of nitrogen and oxygen. The two most significant compounds are nitric oxide (NO) and nitrogen dioxide (NO₂). It is a common pollutant produced from combustion of fuel, coal, gas and wood. High temperature combustion produces greater emissions of NO_x.



► What is an air emissions inventory?

Air emission inventories assess the emissions that occur in an area. While some emissions are measured directly, others are estimated by combining activity data with scientifically developed emission factors.

► Biggest oxides of nitrogen source?

Soils were the one of the largest sources of NO_x emissions in Perth.

Emissions from soils were dependent mostly on land use, with grassland, pasture and agricultural soils producing substantially more NO_x than forests or urban soils.

Vehicles produced 39% of all NO_x emissions.

Diesel vehicles were the primary source of NO_x with the commercial fleet (heavy duty and light commercial) contributing the most.

Commercial and industrial emissions of NO_x are produced entirely from fuel combustion.

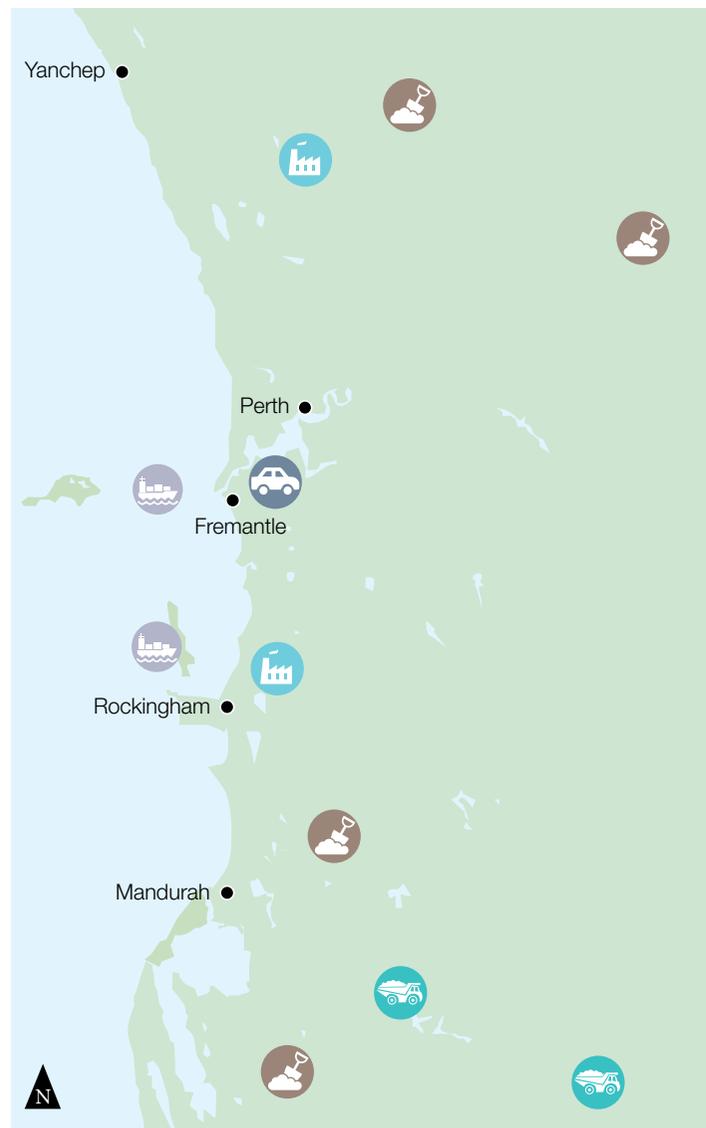
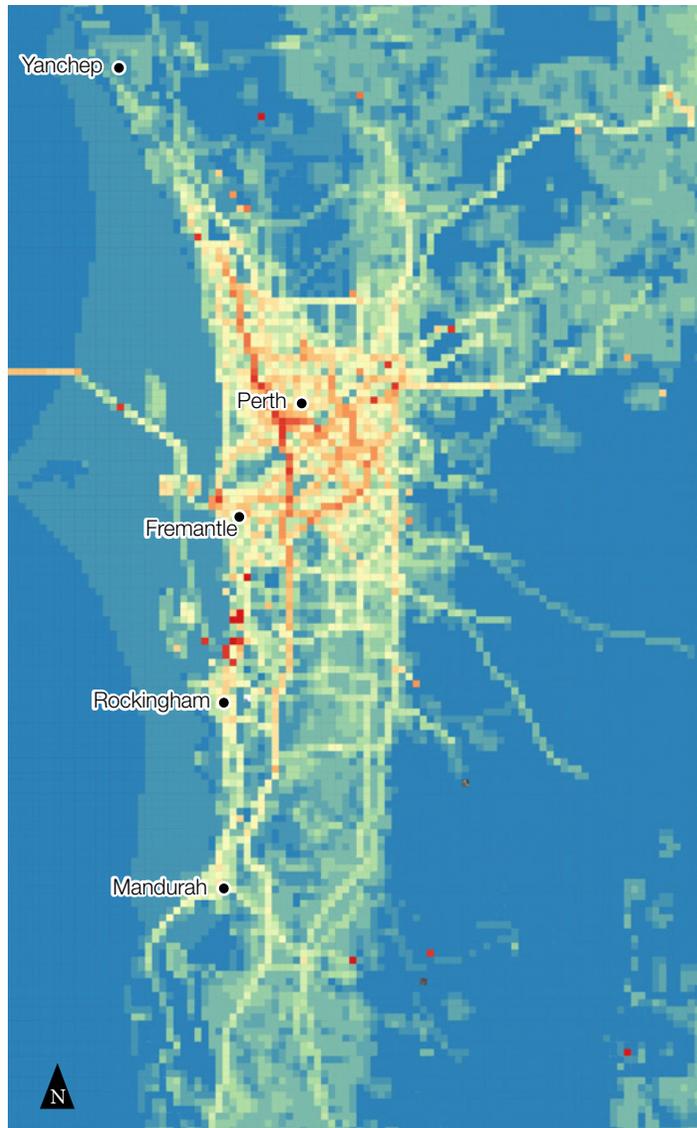
Power stations, metal refineries and cement product manufacturers were significant sources of NO_x due to their large fuel consumption.

► For more information

Visit: www.der.wa.gov.au/our-work/programs

Contact: npi@dwer.wa.gov.au

Emission Hotspots



Legend

-  Most NO_x emissions are concentrated along major roads (freeways and highways).
-  Emissions are more concentrated in industrial zones than surrounding suburban areas.
The Kwinana Industrial Area is home to several heavy industries that are major emission sources and report to the National Pollutant Inventory.
-  Shipping emissions are concentrated into a single channel. Anchorage zones, where ships 'park' until a berth is available, can also be seen.
-  NO_x emissions from soil are relatively low compared to other sources like vehicles or industry, but have extensive coverage over the study area.
-  These single points represent large industrial sources in those areas.

