Number of motor vehicles in New Zealand

HIGHLIGHTS:

- **In 2015, there were almost 3.9 million vehicles in New Zealand – the highest number ever.**
- **Diesel vehicle numbers continue to increase, and now make up over 17 percent of all light vehicles in New Zealand.**
- **In 2015, there were 767 light vehicles per 1000 people in New Zealand.**

Relevance of motor vehicles to environmental health

Vehicle use can impact on human health through air pollution, motor vehicle crashes, road traffic noise and greenhouse gases. In particular, vehicle emissions from burning petrol and diesel affect outdoor air quality. Vehicles release carbon monoxide, particulate matter, nitrogen dioxide and other gases, which can lead to health problems (Kjellström 2004). Diesel vehicles are disproportionately more polluting than petrol vehicles in terms of particulate matter and total nitrogen oxides (Sridhar, Wickham and Metcalfe 2014). Recent evidence also shows that diesel engine fumes can cause lung cancer (Benbrahim-Tallaa et al 2012).

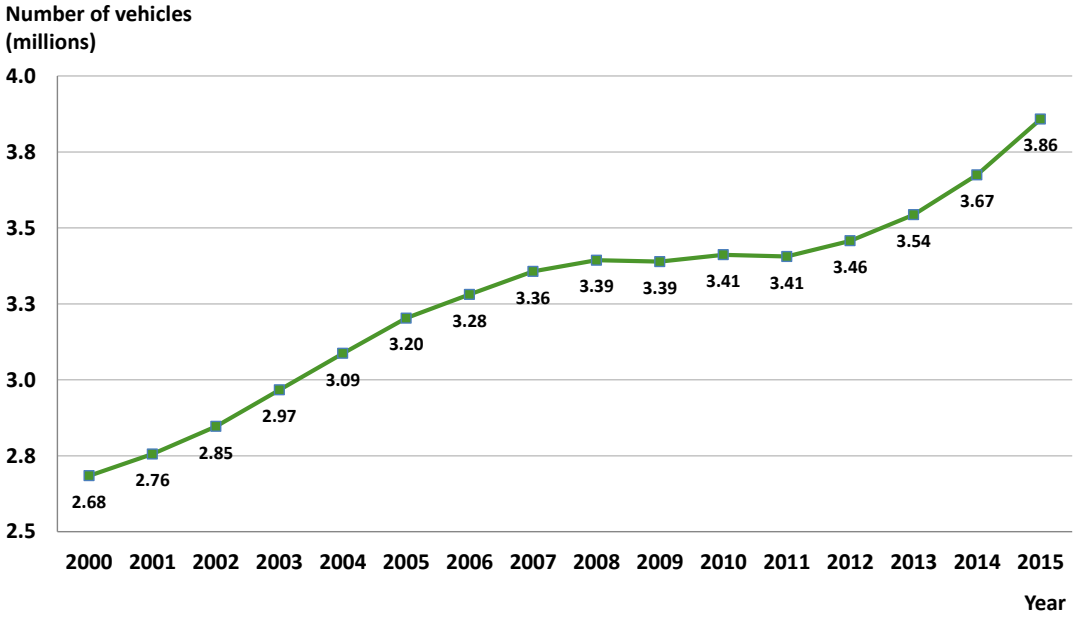
Additionally, vehicles emit carbon dioxide, contributing to climate change. Road traffic noise can also affect health, particularly through high blood pressure (van Kampen and Babisch 2012).

More vehicles on our roads

There were about 3,858,000 vehicles in New Zealand in 2015—the highest ever number, and a 5.0 percent increase from 2014 (3,675,000 vehicles) (Figure 1).

Between 2000 and 2015, the number of motor vehicles in New Zealand increased by 44 percent, from 2.7 million in 2000 to almost 3.9 million motor vehicles in 2015.

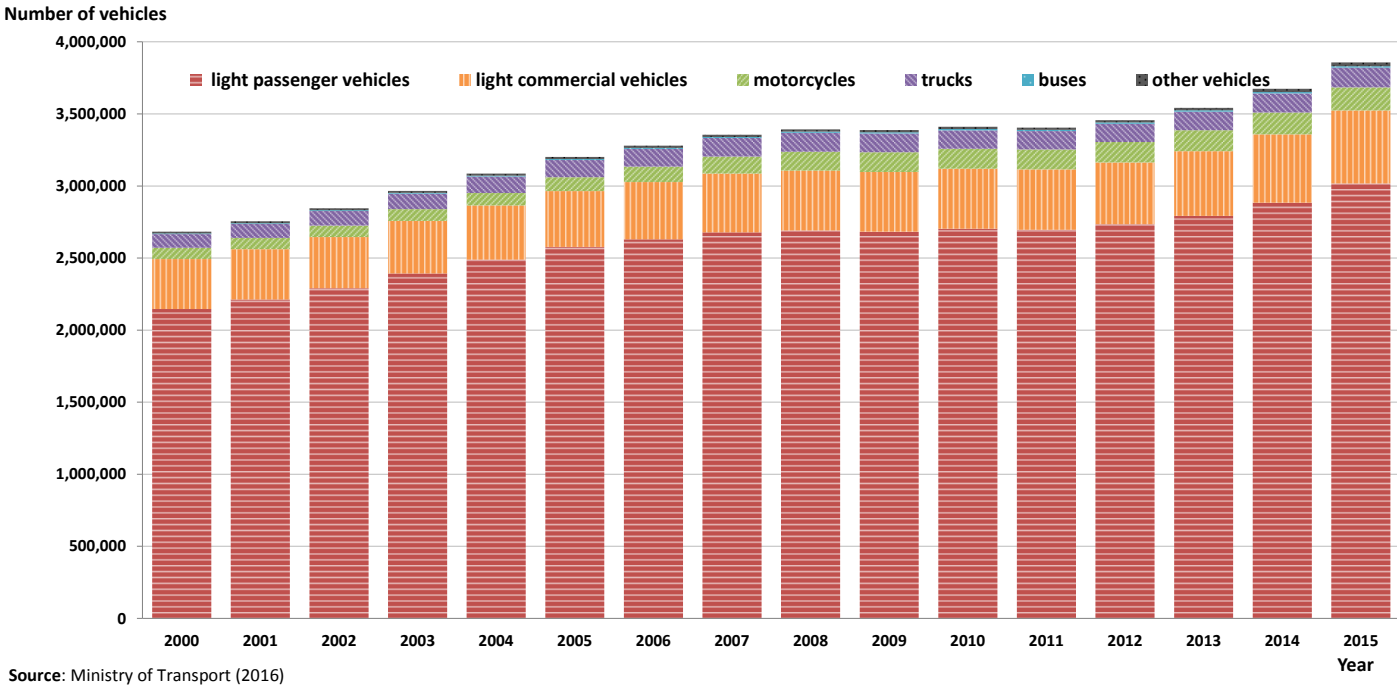
Figure 1: Number of motor vehicles in New Zealand, 2000–2015



Source: Ministry of Transport (2016)

Number of motor vehicles in New Zealand

Figure 2: Number of vehicles in New Zealand, by vehicle type, 2000–2015



Source: Ministry of Transport (2016)

In 2015, light passenger vehicles were the most common type of vehicle (3,018,000 vehicles, 78% of the fleet), followed by light commercial vehicles (507,000 vehicles, 13% of the fleet) (Figure 2). Together, light vehicles make up over 90 percent of the total vehicle fleet. Increases in numbers were seen for all vehicle types since 2011. Between 2000 and 2015, the number of light vehicles and trucks increased by over 40 percent. Motorcycles and buses had the largest growth, their numbers more than doubled between 2000 and 2015 (Figure 2).

Diesel vehicle numbers continue to increase

The number of diesel vehicles has increased steadily since 2000, particularly light diesel vehicles (Figure 3).

In 2015, diesel vehicles made up 17.4 percent (612,000 vehicles) of the light vehicle fleet , up from 11.8 percent in 2000 (Figure 4). The truck and bus fleet almost entirely consist of diesel vehicles.

Figure 3: Number of diesel vehicles in New Zealand, by vehicle type, 2000–2015

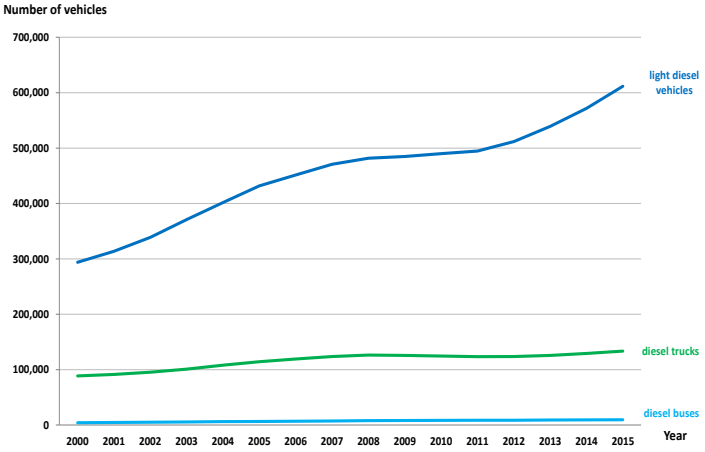
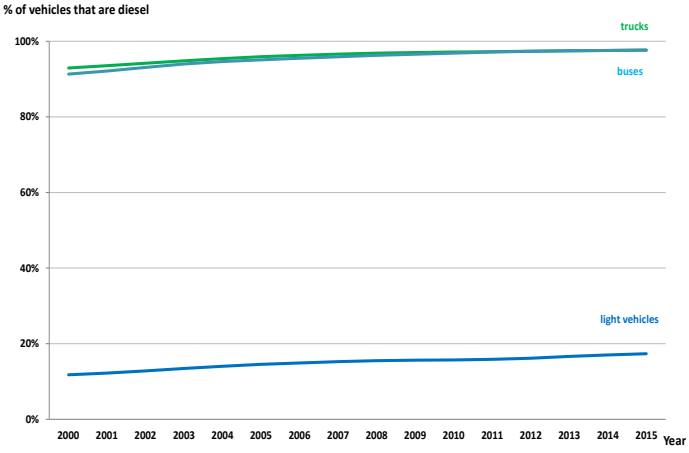


Figure 4: Percentage of vehicles that are diesel in New Zealand, by vehicle type, 2000–2015



Source for Figure 3 and Figure 4: Ministry of Transport (2016)

Note: Light vehicles include light passenger vehicles and light commercial vehicles.

Number of motor vehicles in New Zealand

Car ownership per capita continues to increase in New Zealand

Between 2001 and 2015, the number of light vehicles per 1000 people increased by over 16 percent. In 2015, New Zealand's car ownership rate was 767 light vehicles per 1000 people, the highest number over the 15-year period (Figure 5). This rate represents one of the highest levels of ownership in the world (Ministry of Transport 2016).

Ownership rates varied across the country. The three regions with the highest ownership rates were all in the South Island: Nelson-Marlborough (919 light vehicles per 1000 people), Canterbury (909 light vehicles per 1000 people) and Southland (896 light vehicles per 1000 people) (Figure 6).

The region with the lowest car ownership rate was Wellington, with 647 light vehicles per 1000 people in 2015.

Figure 5: Number of light vehicles per 1000 population in New Zealand, 2001–2015

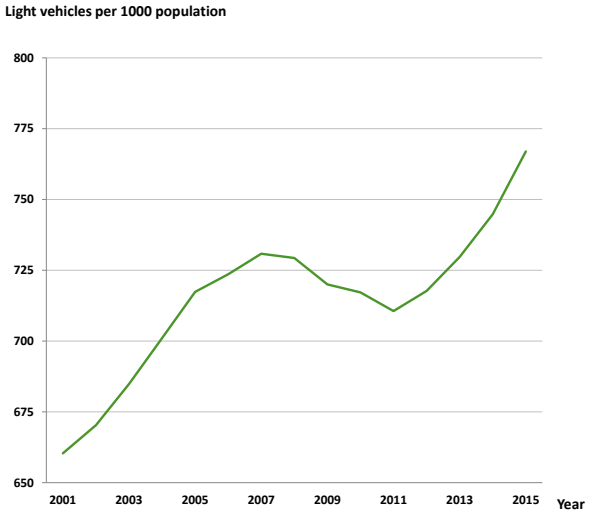
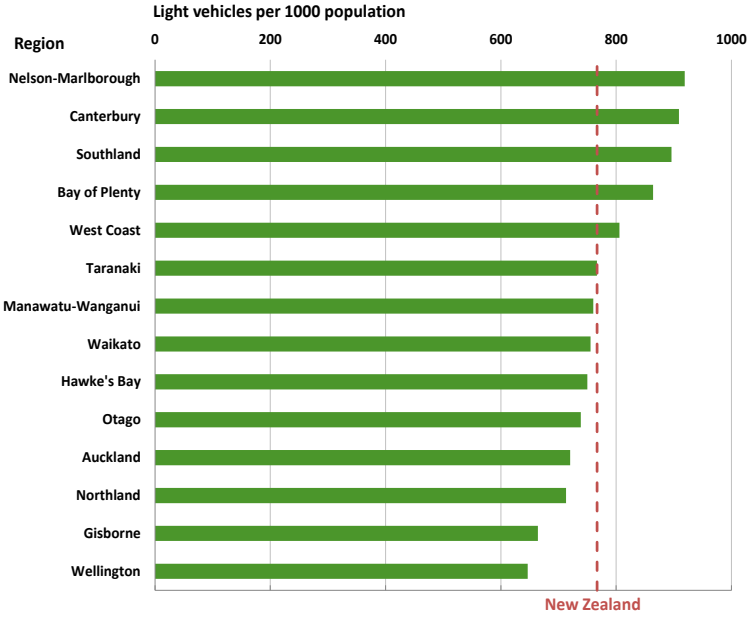


Figure 6: Number of light vehicles per 1000 population in New Zealand, by region, 2015



Source for Figure 5 and Figure 6: Ministry of Transport (2016)

Note: Light vehicles include light passenger vehicles and light commercial vehicles.

Notes on vehicle types

- Light vehicles include light passenger vehicles and light commercial vehicles:
  - 'Light passenger vehicles' include passenger cars and vans.
  - 'Light commercial vehicles' include the following, if under 3500kg: goods vans, trucks, utilities, buses, motor caravans.
  - 'Trucks' include the following, if over 3500kg: goods vans, trucks, utilities, motor caravans.
  - 'Motorcycles' include motorcycles and mopeds.
  - 'Buses' include buses over 3500kg.

REFERENCES

Benbrahim-Tallaa, L., Baan, R.A., Grosse, Y., Lauby-Secretan, B., El Ghissassi, F., Bouvard, V., et al. (2012). Carcinogenicity of diesel-engine and gasoline-engine exhausts and some nitroarenes. *The Lancet Oncology 13*(7): 663–664.

Kjellström T. (2004). Air Quality and Health. In Cromar N, Cameron S, Fallowfield H. (eds.). *Environmental Health in Australia and New Zealand* (pp.274–92). Melbourne: Oxford University Press.

Ministry of Transport. (2016). *Annual Fleet Statistics 2015.* Wellington: Ministry of Transport.

Sridhar, S., Wickham, L., and Metcalfe, J. (2014). *Future trends in motor vehicle emissions in Auckland.* Prepared by Emission Impossible Ltd for Auckland Council. Auckland Council technical report, TR2014/028.

Van Kampen, E., Babisch, W. (2012). The quantitative relationship between road traffic noise and hypertension: a meta-analysis. *Journal of Hypertension, 30* (6), 1075–1086.

For more information, please contact Carolin Haenfling on ehnz@massey.ac.nz