Number of motor vehicles

This factsheet presents data for the two indicators 'Number of motor vehicles, by vehicle type and fuel type' and 'Number of motor vehicle registrations, by vehicle type and fuel type' between 2000 and 2018.

Key facts

In 2018, there were about 4.3 million motor vehicles in New Zealand, the highest number ever.

802

There were 802 light vehicles per 1,000 people in 2018. This represents one of the highest car ownership rates in the world

Light electric vehicles accounted for 2.1% of all light vehicle registrations in December 2019, compared to 0.03% in January 2014.

Why is the number of motor vehicles important for environmental health?

The use of motor vehicles can impact human health through air pollution, crashes and accidents, climate change as well as through noise. In particular, motor vehicle emissions from the combustion of petrol and diesel affect outdoor air quality and human health. In 2015, motor vehicle emissions, largely from diesel vehicles, were the main source of nitrogen dioxide in our air (Ministry for the Environment and Stats NZ 2018). Evidence shows that diesel engine fumes can cause lung cancer (Benbrahim-Tallaa et al 2012). Road traffic noise can also affect health, particularly through high blood pressure mainly caused by stress (van Kempen and Babisch 2012).

Electric vehicles in New Zealand

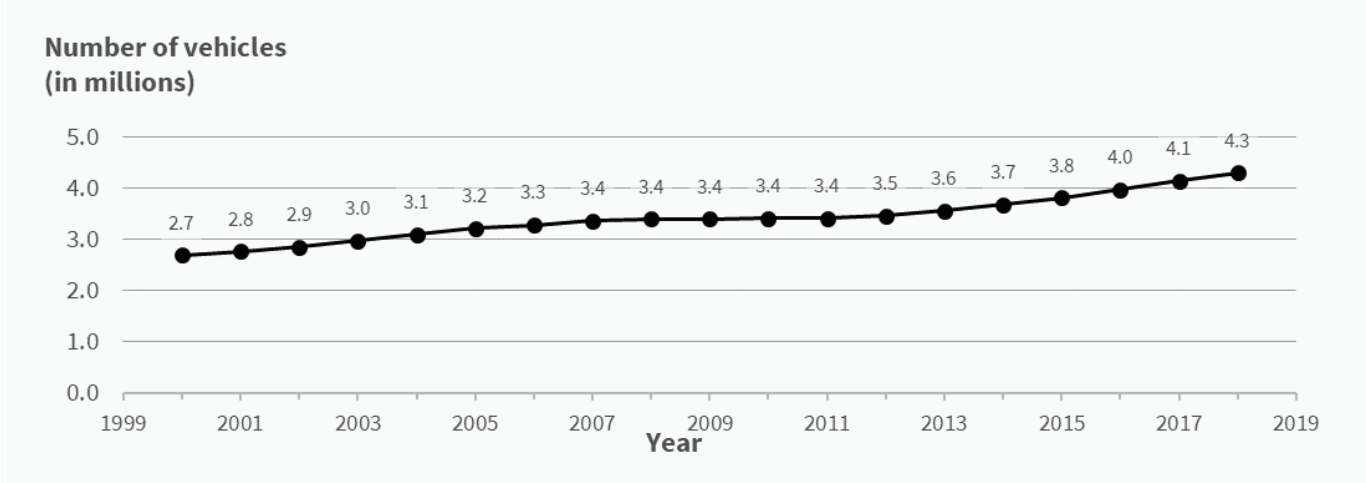
Electric vehicles (EVs) are charged externally from an electricity source. Pure electric vehicles are powered solely by electric batteries, while plug-in hybrid vehicles use a combination of batteries and a conventional engine. More than 80% of electricity in New Zealand is generated from renewable sources, so EVs emit 80% less CO2 than a similar petrol motor vehicle. EVs are cheaper to run than petrol and diesel cars, and pure EVs also have lower maintenance costs (EECA 2019).

For more information, please visit **www.energywise.govt.nz/on-the-road/electric-vehicles**

More vehicles on our roads

There were almost 4.3 million motor vehicles in New Zealand in 2018—the highest ever number (Figure 1). Between 2000 and 2018, the number of motor vehicles in New Zealand increased by 60%, from 2.7 million in 2000 to 4.3 million motor vehicles in 2018.

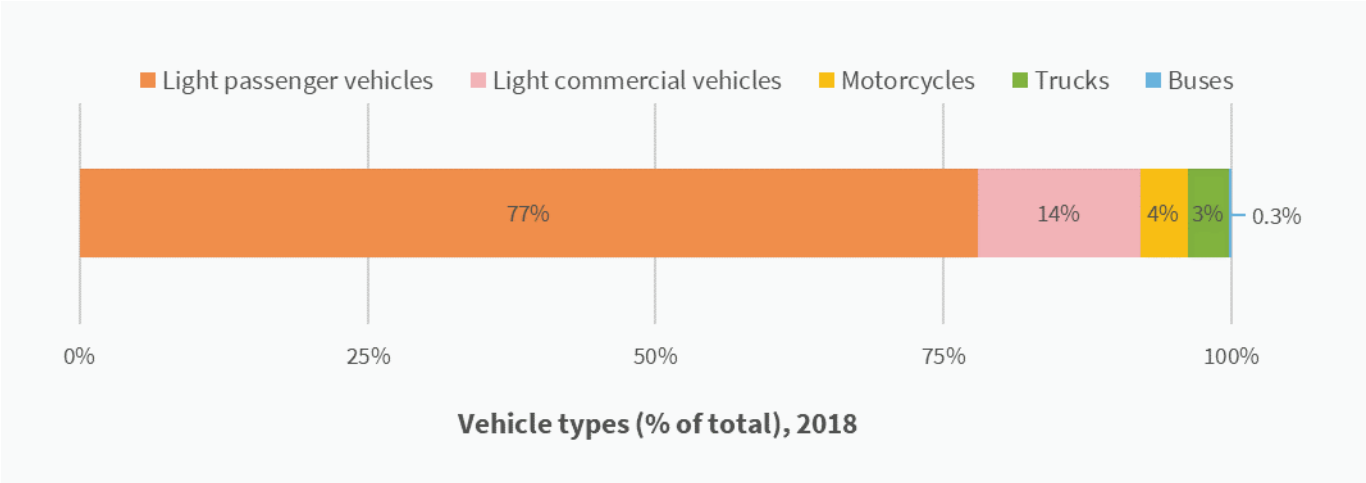
Figure 1: Number of motor vehicles, 2000-2018



Source: Ministry of Transport 2019

In 2018, light passenger vehicles were the most common type of vehicle (3.3 million vehicles, 77% of the fleet), followed by light commercial vehicles (622,000 vehicles, 14% of the fleet) (Figure 2). Together, light vehicles made up over 91% of the total vehicle fleet. The rest of the fleet was made up by motorcycles (177,000, 4.1%), trucks (149,000, 3.5%), and buses (11,000, 0.3%).

Figure 2: Vehicle types (% of total motor vehicles), 2018

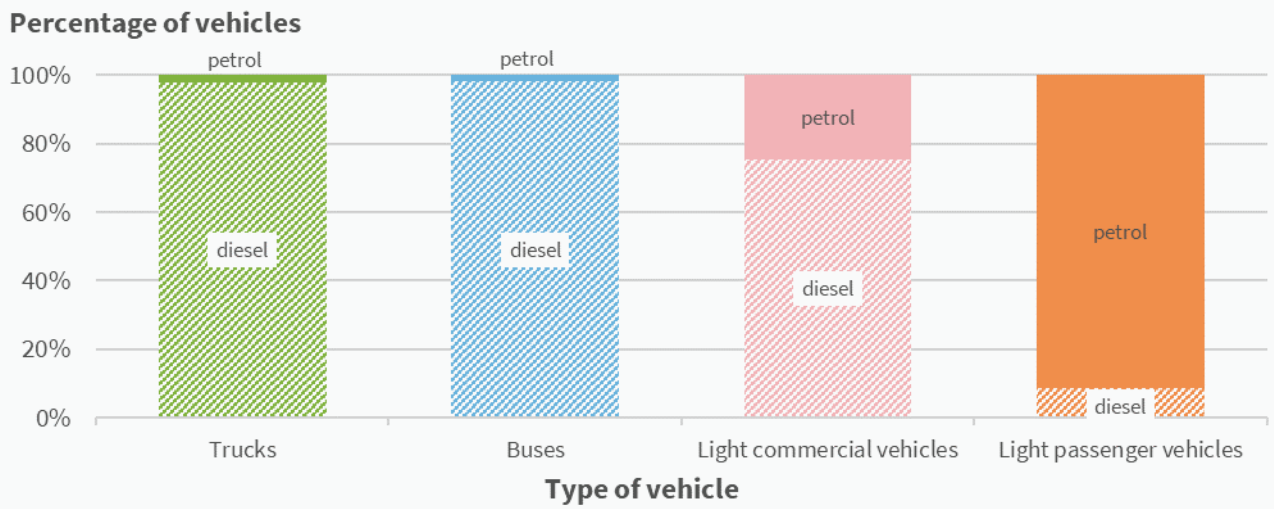


Note: Values might not add up to 100% due to rounding.
Source: Ministry of Transport 2019

Diesel vehicle numbers continue to increase

The number of diesel vehicles has increased steadily since 2000, particularly within the light commercial vehicle fleet. In 2018, 75% of light commercial vehicles and 9% of light passenger vehicles were diesel (Figure 3). About 20% of the total light vehicle fleet was diesel in 2018. The truck and bus fleet almost entirely consists of diesel vehicles.

Figure 3: Percentage of diesel and petrol vehicles, by vehicle type, 2018

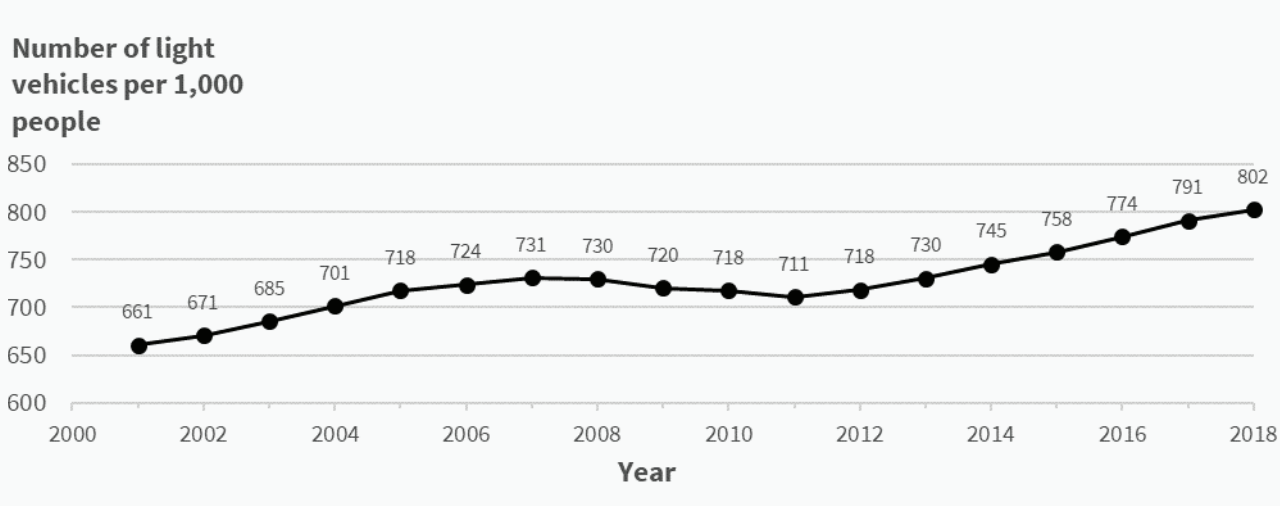


Source: Ministry of Transport 2019

Car ownership per capita continues to increase

Between 2001 and 2018, the number of light vehicles per 1,000 people increased from 661 to 802 (Figure 4). This rate represents one of the highest levels of car ownership in the world (Ministry of Transport 2019).

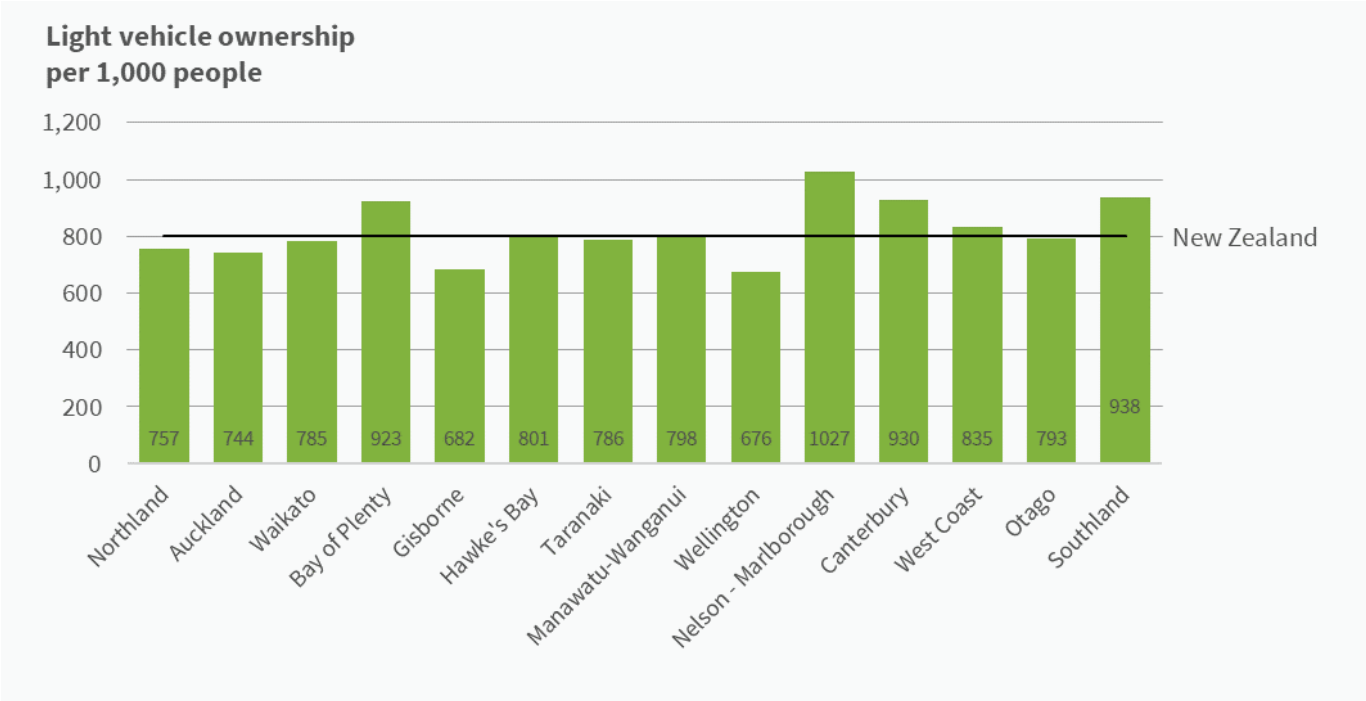
Figure 4: Light motor vehicle ownership, 2001-2018 (rate per 1,000 people)



Source: Ministry of Transport 2019

Light vehicle ownership rates varied across the country (Figure 5). The region with the highest ownership rate was Nelson-Marlborough (1,027 light vehicles per 1,000 people) and the region with the lowest light vehicle ownership rates was Wellington (676 light vehicles per 1,000 people).

Figure 5: Light vehicle ownership, by region, in 2018 (rate per 1,000 people)

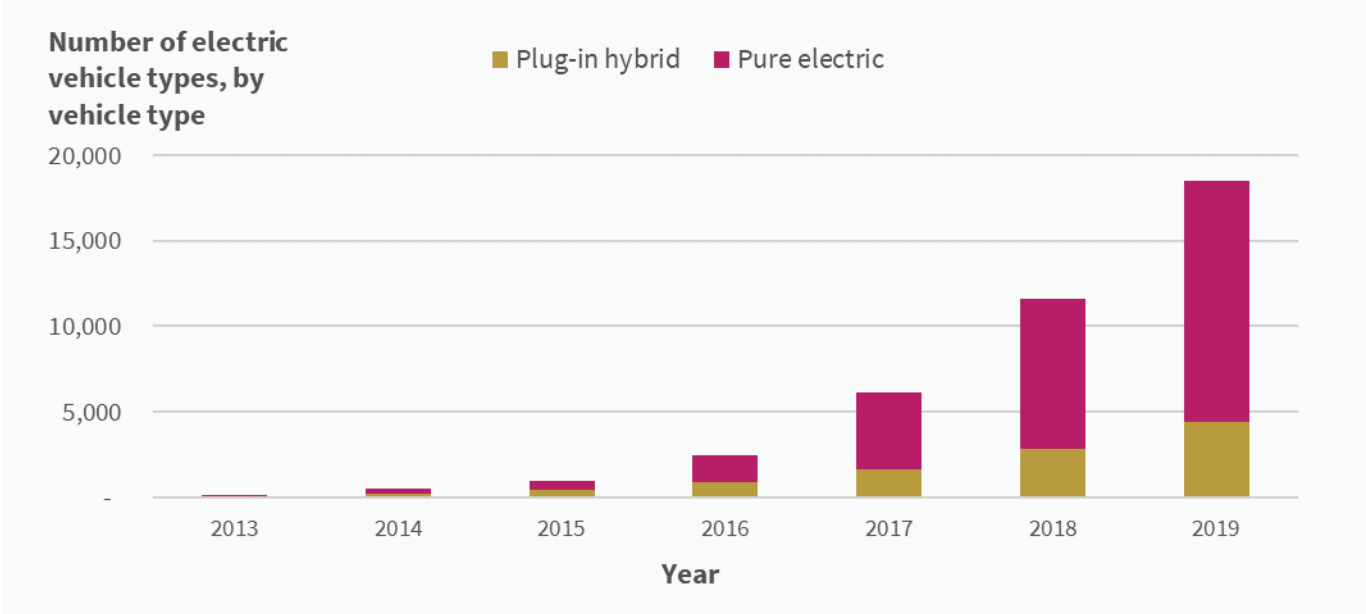


Source: Ministry of Transport 2019

Number of EVs is increasing rapidly

The electric vehicle fleet in New Zealand is mainly made up of light vehicles. In 2019, there were over 18,500 EVs, up from only 161 in 2013 (Figure 6). Over 75% of the light electric vehicle fleet is made up of pure EVs; the rest of the fleet consists of plug-in hybrid vehicles.

Figure 6: Number of light EVs, 2013-2019



Source: Ministry of Transport 2019

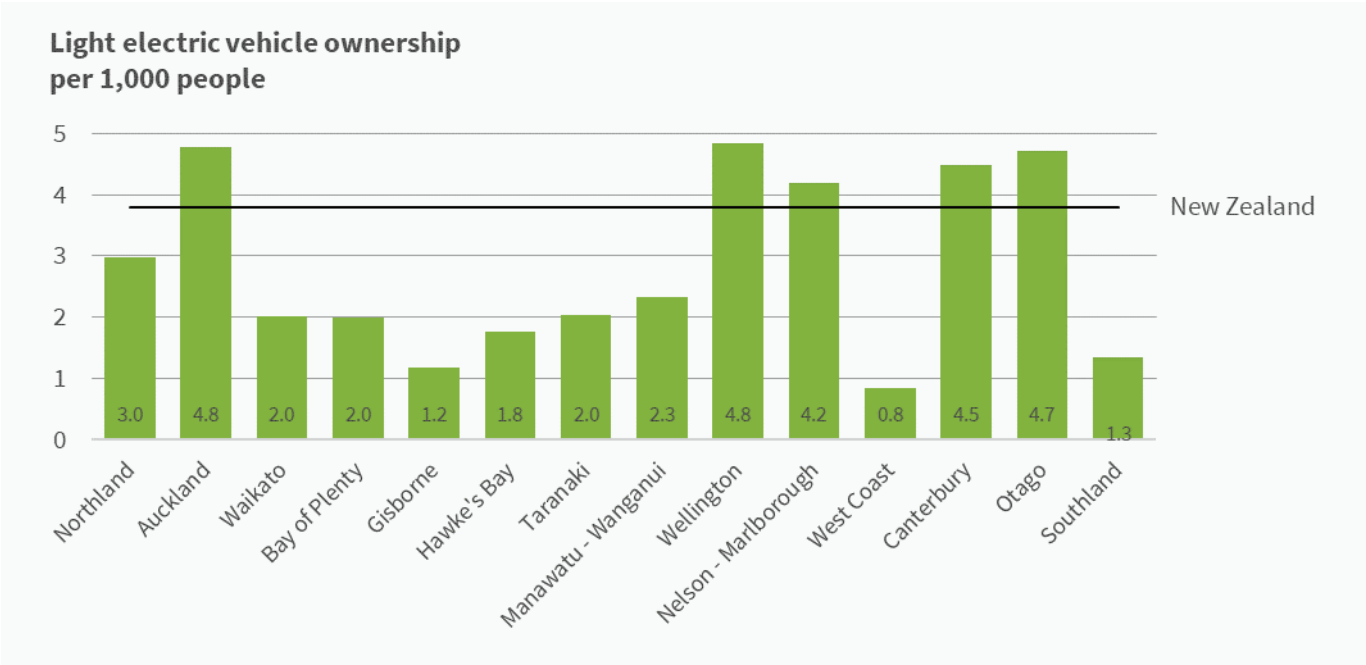
Light EVs are increasingly becoming a larger percentage of light vehicle registrations (Figure 7). In December 2019, light EVs accounted for 2.1% of all light vehicle registrations, compared to 0.03% in January 2014. However, the light vehicle fleet is still dominated by fossil fuels.

Figure 7: Percentage of light vehicle registrations that are EVs, January 2014-December 2019

Source: Ministry of Transport 2019

In 2019, there were 3.8 light electric vehicles per 1,000 people in New Zealand (Figure 8). Auckland and Wellington regions were the areas with the largest ownership rate (4.8 light electric vehicles per 1,000 people in both regions) whereas the West Coast region had the lowest ownership rate (0.8 light electric vehicles per 1,000 population).

Figure 8: Light electric vehicle ownership, by region, in 2018 (rate per 1,000 people)



Source: Ministry of Transport 2019

Data for these indicators

Number of motor vehicles, by vehicle type and fuel type
This indicator presents the number of vehicles in the New Zealand vehicle fleet. The following categories of vehicles are used:

- Light vehicle fleet includes:
  - Light passenger vehicles (passenger cars and vans)
  - Light commercial vehicles (the following if under 3,500 kg: goods vans, trucks, utilities, buses, and motor caravans)
- Trucks (the following if over 3,500 kg: goods vans, trucks, utilities, and motor caravans)
- Buses (those over 3,500 kg)
- Motorcycles (including mopeds)
- Light electric vehicles (plug-in hybrid and pure electric)

Data for this indicator comes from the Ministry of Transports Annual vehicle fleet statistics and the monthly electric vehicle registrations. Data for each year is a snapshot of the month December. For additional information, see the metadata link below.

Number of motor vehicle registrations, by vehicle type and fuel type
This indicator presents the number of vehicle registrations in New Zealand. Two categories of vehicles are used:

- Light electric vehicles (plug-in hybrid and pure electric)
- Light vehicle fleet (light passenger vehicles and light commercial vehicles)

Data for this indicator comes from the Ministry of Transports monthly electric vehicle registrations.
For additional information, see the metadata link below.

References

EECA (Energy Efficiency & Conservation Authority). 2019. URL: **https://www.energywise.govt.nz/on-the-road/electric-vehicles/** (accessed 13/02/2020).

IARC (International Agency for Research on Cancer), Working Group on the Evaluation of Carcinogenic Risks to Human. 2014. *Diesel and gasoline engine exhausts and some nitroarenes*. Volume 105. Geneva: WHO.

Ministry of Transport. 2019. *Annual vehicle fleet statistics 2018*. Wellington: Ministry of Transport.

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

Other air quality topics include:

Wood and coal fires | **Other air pollutants** | **Particulate matter** | **Health effects of air pollution**

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Further information

For descriptive information about the data number of motor vehicles **Metadata Sheet**

Number of motor vehicle registrations **Metadata Sheet**

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