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Environmental Health Intelligence New Zealand
Rapu Mātauranga Hauora mo te Taiao – Aotearoa

Transport & Air Quality Domains

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Average age of motor vehicles

This factsheet presents information describing the average age of the registered motor vehicle fleet in Aotearoa New Zealand between 2001 and 2021. These findings come from statistics published by the Ministry of Transport.

The New Zealand motor vehicle fleet continues to age, in part due to fewer vehicles entering or leaving the fleet during the COVID-19 pandemic.

In 2021, 41.5% of light vehicles were at least 15 years old. This proportion keeps rising as vehicles enter the fleet at older ages and are kept in service for longer.

The New Zealand vehicle fleet is consistently around 2–4 years older on average than similar countries.

Trucks and motorcycles are the oldest vehicle types, being 18.0 and 17.9 years old, on average.

The average age increased for all types of vehicles in the fleet between 2020 and 2021.

Why is the average age of motor vehicles important for environmental health?

The average age of a country's vehicle fleet is an indicator of the efficiency of vehicles on the road. Older cars tend to be less fuel-efficient and produce more emissions. These emissions include carbon dioxide, carbon monoxide, nitrogen dioxide and particulate matter (eg PM_{10} and $PM_{2.5}$), particularly from diesel vehicles – all of which can affect human health.

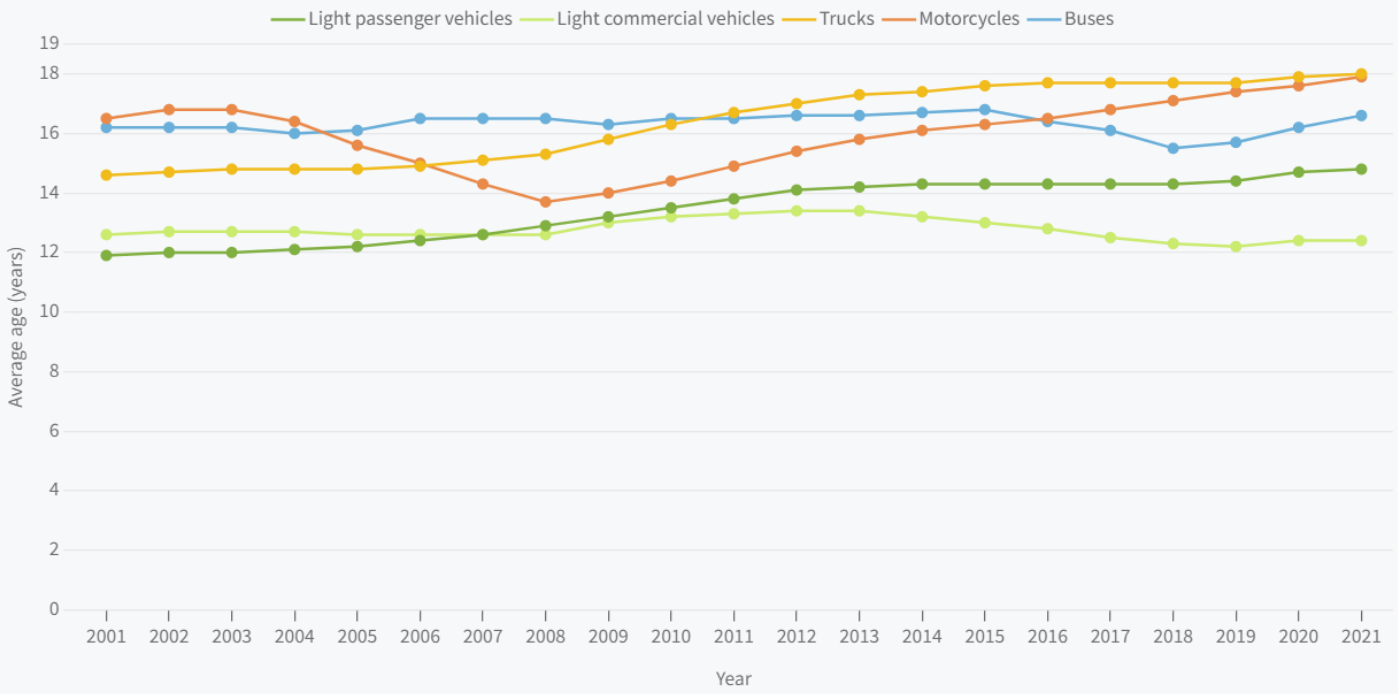
It has been estimated that motor vehicle emissions caused 2,247 premature deaths in 2016 (Kuschel et al. 2022) – compared to 327 deaths from road traffic accidents that year (Ministry of Transport 2023a). Evidence also shows that diesel engine fumes can cause lung cancer (IARC 2023). Vehicle age is often also related to vehicle safety, with newer models having more and better safety features installed.

The vehicle fleet continues to age

Between 2020 and 2021, the average age of all vehicle types increased, although only marginally for light commercial vehicles and trucks (Figure 1). Trucks have been the oldest type of vehicles on the road since 2011 and had an average age of 18.0 years in 2021, followed closely by motorcycles (17.9 years).

The average age of buses increased sharply from 2018, rising to 16.6 years in 2021. After a period of only very slight increases between 2014 and 2019, the average age of light passenger vehicles increased in each of the past two years and was 14.8 years in 2021. Light commercial vehicles continued to have the lowest average age, at 12.4 years old on average.

Figure 1 Average age of the New Zealand vehicle fleet, by type, 2001–2021

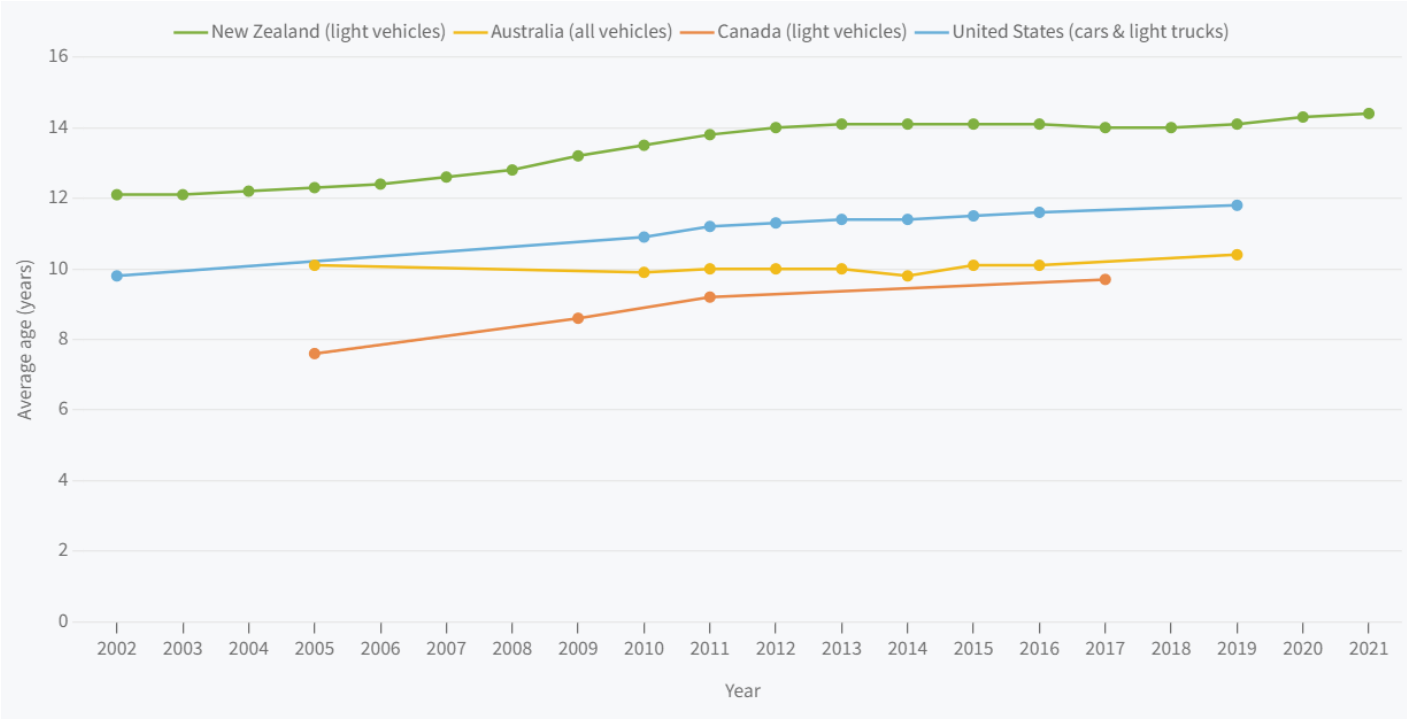


Source: Ministry of Transport, 2023b

The light fleet is old by international standards

The New Zealand light vehicle fleet has consistently been around 2–4 years older on average than its counterparts in the United States, Australia, and Canada (Figure 2).

Figure 2 Average age of vehicle fleets, international comparison, 2002–2021



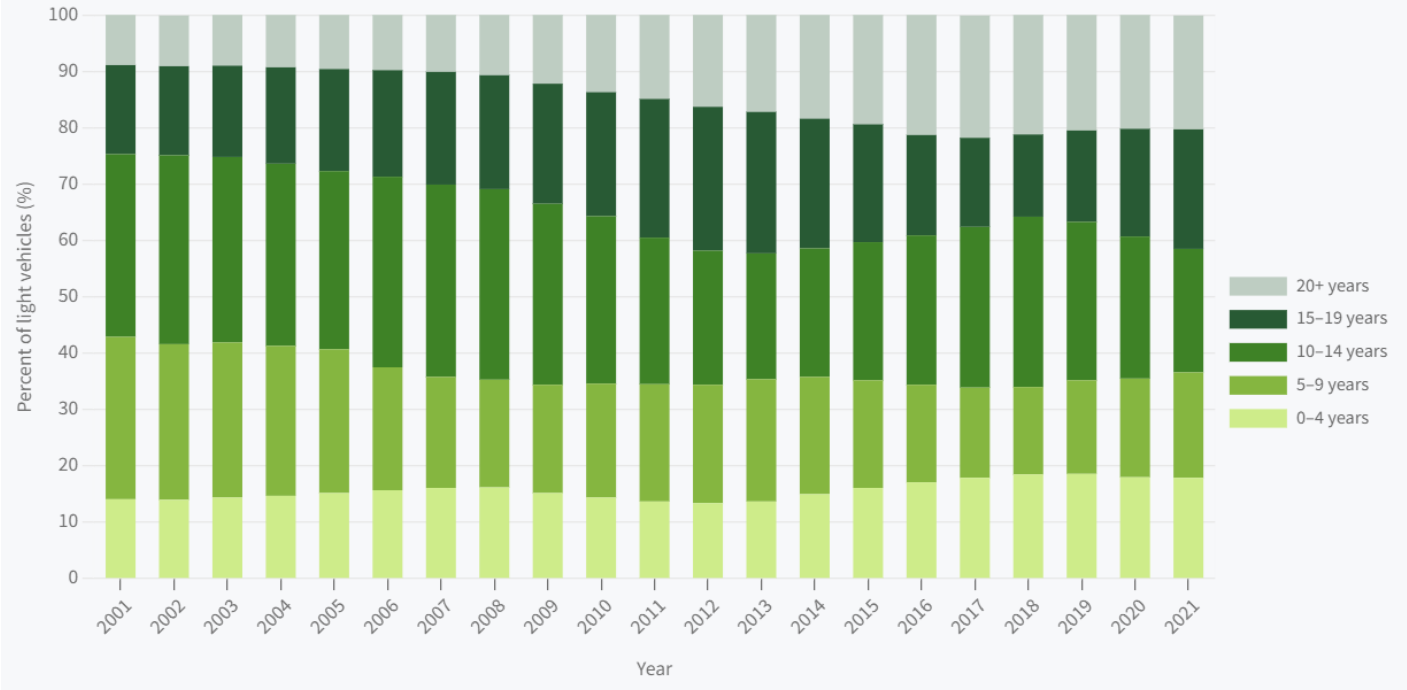
Note: The comparisons above are limited to countries with high levels of motorisation and similar patterns of development as New Zealand.

Source: Ministry of Transport 2023b

More than a third of cars are 15 years old or more

In 2021, 41.5% of the light vehicle fleet was aged 15 years or more, a much higher percentage than in 2001 (24.8%) (Figure 3). In 2001, just 9.0% of the light vehicle fleet was older than 20 years; by 2021, this had more than doubled to 20.2%. A further 21.2% of the fleet was aged 15–19 years in 2021.

Figure 3 Age structure of the light vehicle fleet, 2001–2021



Source: Ministry of Transport 2023b

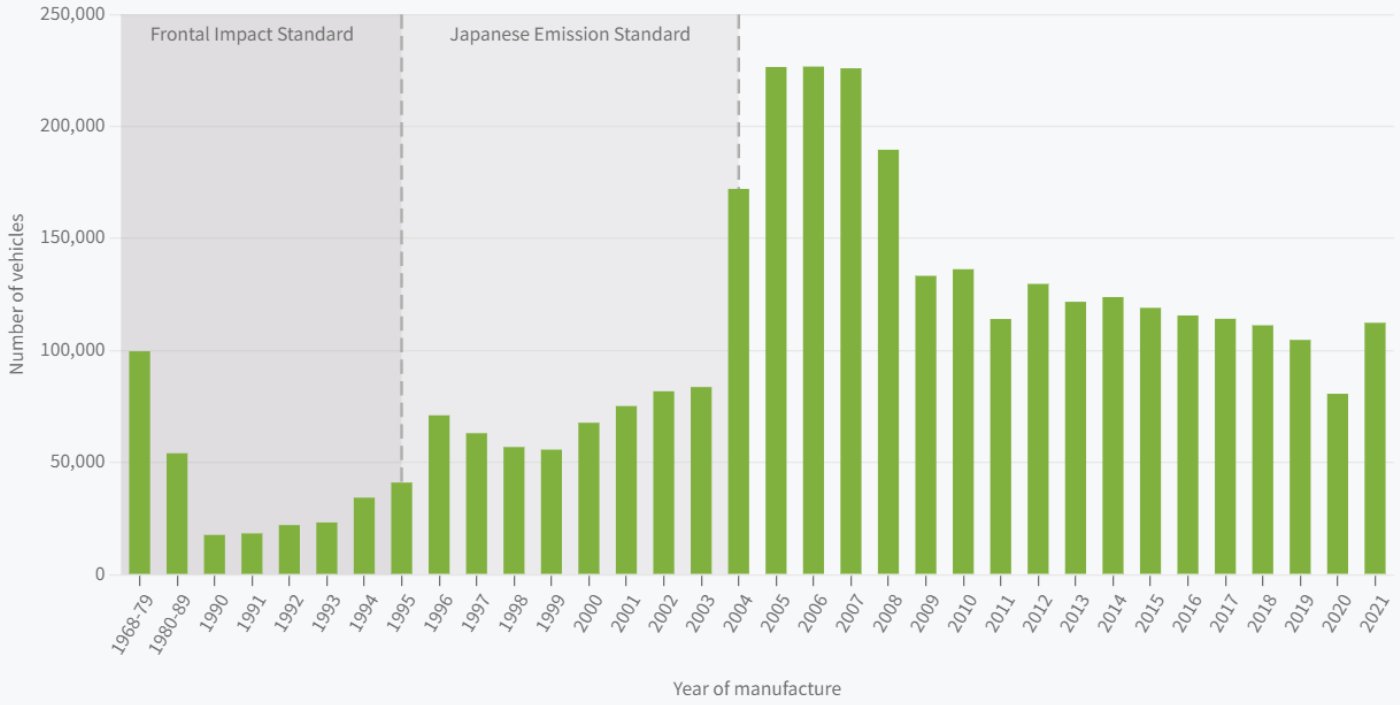
New Zealand has many vehicles dating from the mid-2000s

The age distribution of the light passenger fleet as at December 2021 shows that many vehicles were manufactured in the mid- to late-2000s (Figure 4).

The small number of vehicles manufactured before 1996 (9%) is associated with the Frontal Impact Standard, which restricted used imports to those manufactured during or after 1996.

The mid-2000s peak is linked to the Japanese Emission Standard, which came into effect in 2012 and prevented most vehicles manufactured before 2005 from being registered in New Zealand. Just over 30% of the light passenger fleet was manufactured before 2005.

Figure 4 Light passenger vehicle fleet as at December 2021, by year of manufacture (1968 onwards)



Source: Ministry of Transport 2023b

Used imports are older

A key driver of the age of the vehicle fleet is the age of used imports. Over time the average age of used imports entering the fleet has increased for all vehicle types except buses, while new imports of all types have become younger (Table 1).

Table 1 Average age in years of new and used imports on arrival in New Zealand, 2001 vs 2021

Vehicle type	Used imports (average age)		New imports (average age)	
	2001	2021	2001	2021
Light passenger vehicles	7.6	9.9	1.3	0.9
Light commercial vehicles	8.1	9.7	1.4	0.9
Motorcycles	14.0	17.6	5.0	2.2
Trucks	9.2	9.4	2.6	1.0
Buses	10.8	9.8	1.0	0.6

Source: Ministry of Transport 2023b

Used imports are staying in service longer

Used vehicle imports of all types are remaining in service for longer (Table 2). In 2001, the average age on exit from the fleet was 15.1 years for used light passenger imports, and 16.0 years for light commercial imports. In 2021, the average age was 19.4 years for light passenger imports and 21.3 years for light commercial imports.

The increase in average age on exit was even greater for heavy vehicle imports. In 2001, the average age on exit from the fleet was 15.9 years for used truck imports, and 17.6 years for used buses. In 2021, this increased to 25 years and 26.2 years, respectively.

The persistence of older vehicles in the fleet can be attributed to the improved survivability of vehicles built after the late 1990s and owners possibly deferring the replacement of older vehicles in poor economic times.

Table 2 Average age in years of new and used imports on exit from the fleet, 2001 vs 2021

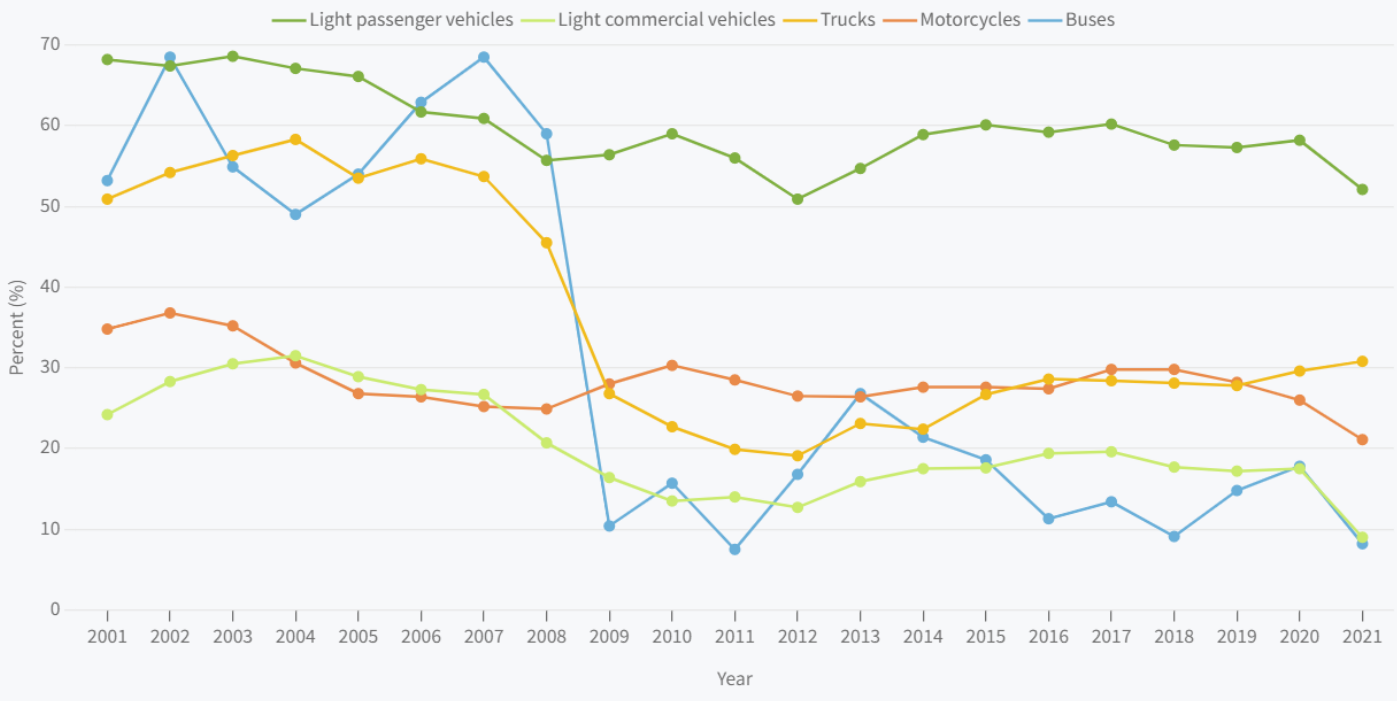
Vehicle type	Used imports (average age)		New imports (average age)	
	2001	2021	2001	2021
Light passenger vehicles	15.1	19.4	18.1	17.3
Light commercial vehicles	16.0	21.3	18.7	15.7
Motorcycles	17.3	18.2	13.9	9.7
Trucks	15.9	25.0	21.1	21.2
Buses	17.6	26.2	26.3	17.6

Source: Ministry of Transport 2023b

About half of imported light passenger vehicles were used vehicles

Light passenger vehicles are the only vehicle class where used vehicles make up more than half of those entering the fleet annually (Figure 5). In 2021, used vehicles made up 52.1% of imported light passenger vehicles, down from 58.2% in 2020. Used vehicles made up a much smaller percentage of vehicle imports in 2021 for trucks (30.8%), motorcycles (21.1%), buses (8.2%) and light commercial vehicles (9.0%). Since 2009, the majority of vehicles of other types have been imported new.

Figure 5 Used vehicles as a percentage of all vehicle imports, by vehicle type, 2001–2021

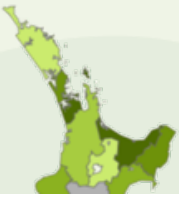


Source: Ministry of Transport 2023b

Summary

Vehicle emissions are a contributor to poor health and, generally, older vehicles have a greater impact on air quality and safety. The New Zealand vehicle fleet is older than similar countries and continues to age. Key contributors to fleet ageing in New Zealand include the increasing age of used imports and the longevity of older vehicles in the fleet.

Dashboards - Transport & Air Quality



Data for this indicator

This factsheet is an analysis of the most recent data from the Ministry of Transport's annual vehicle fleet statistics, published in March 2023.

The following categories of vehicles are used:

- Light vehicles, which includes:
  - Light passenger vehicles (passenger vehicles weighing up to 3,500 kg)
  - 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, utility vehicles, and motor caravans)
- Buses (those over 3,500 kg, including minibuses)
- Motorcycles (including mopeds and quadbikes/ATVs)

The data includes all vehicles on the Motor Vehicle Register, excluding those that are exempt from having a license (not used on roads) and those that have an expired license (if the license has not been renewed within 6 months).

Vehicle imports are counted as 'new' if they haven't been registered in any country prior to New Zealand, or 'used' if they have been registered before.

For descriptive information about the data, see the **Metadata Sheet.**

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Previous factsheet(s):

2022 | 2021 | 2020

Other related topics include:

Number of motor vehicles | Particulate matter | Other air pollutants
Health effects of air pollution | Household travel time by mode | Main mode of transport to work

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