

Average age of motor vehicles

This report describes the average age of the registered motor vehicle fleet in Aotearoa New Zealand, between 2001 and 2022. These findings are an analysis of data published by the Ministry of Transport.

Key facts

- In 2022, 43.0% 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.
- In keeping with the steady increases over the past 20 years, the average ages of all types of vehicles in the fleet increased between 2021 and 2022.
- Motorcycles and trucks are the oldest vehicle types, being 18.2 and 17.9 years old, on average. Motorcycles have been rapidly ageing since 2007 and now have the highest average age that any vehicle class has ever reached.
- The New Zealand vehicle fleet is consistently around 2–4 years older on average than their counterparts in similar countries.

Why is the 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_{2.5} and PM₁₀), particularly from diesel vehicles – all of which can affect human health.

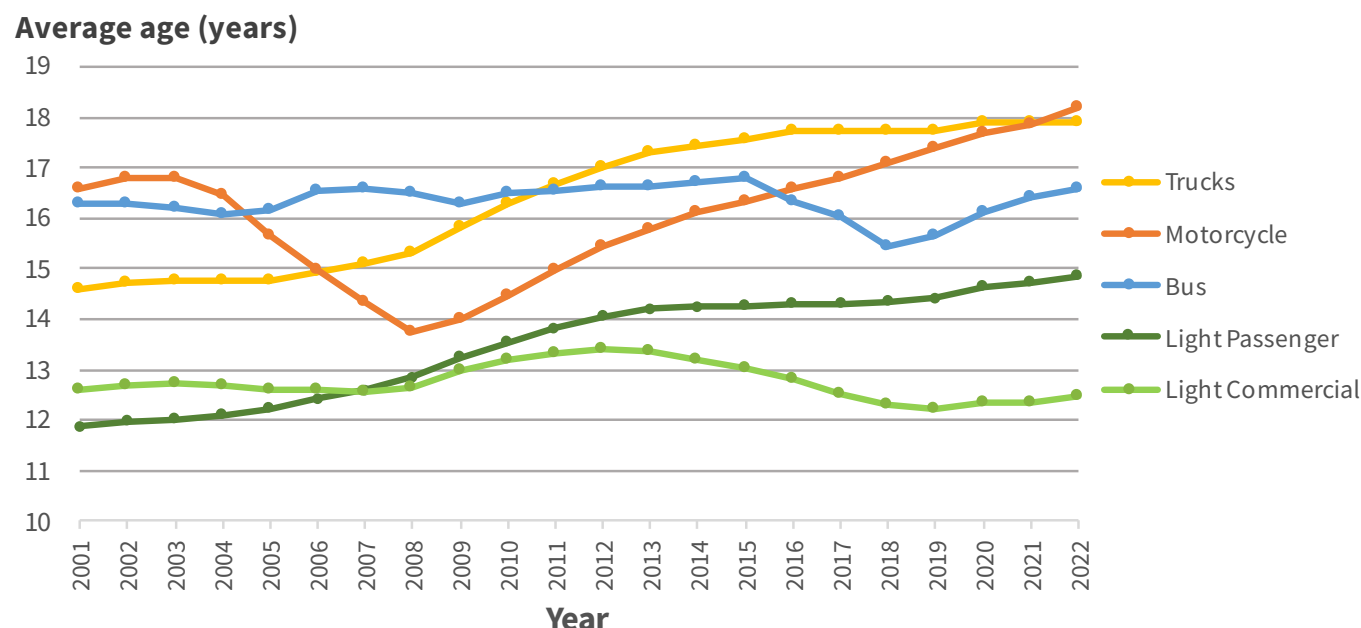
It has been estimated that motor vehicle emissions caused 2,247 premature deaths in 2016 (Kuschel et al. 2022) – compared to 327 deaths from road traffic accidents that year (Ministry of Transport 2023). Evidence also shows that diesel engine fumes can cause lung cancer (IARC 2023). Vehicle age is often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

The vehicle fleet continues to age

Between 2021 and 2022, the average age of all types of vehicles increased, though only marginally in the case of trucks (Figure 1). Trucks were the oldest type of vehicle from 2011 until 2021 and had an average age of 17.9 years in 2022. However, motorcycles replaced trucks as the oldest vehicle type after more than a decade of rapid ageing, reaching 18.2 years old on average in 2022. This makes motorcycles the first vehicle class to reach an average age of over 18 years.

The average age of buses continued to rise sharply, rising to 16.6 years in 2022. 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 three years and was 14.9 years in 2022. Light commercial vehicles continued to have the lowest average age, at 12.5 years old on average.

Figure 1: Average age of the New Zealand vehicle fleet, by type, 2001–2022

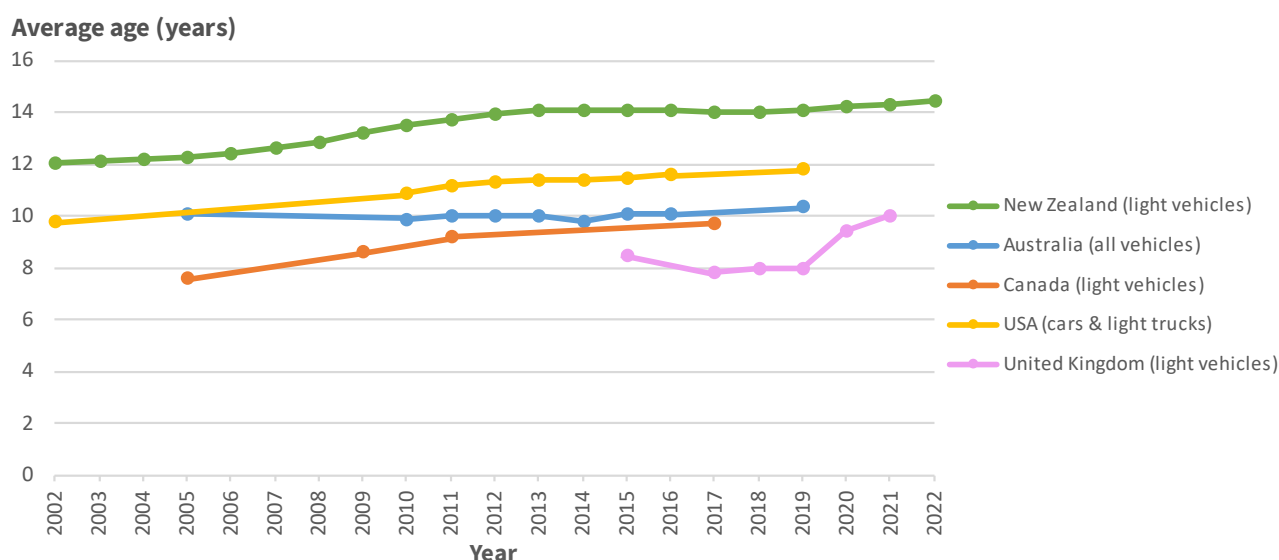


Source: Ministry of Transport 2024

New Zealand's 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, Canada and the United Kingdom (Figure 2).

Figure 2: Average age of vehicle fleets, international comparison, 2002–2022



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

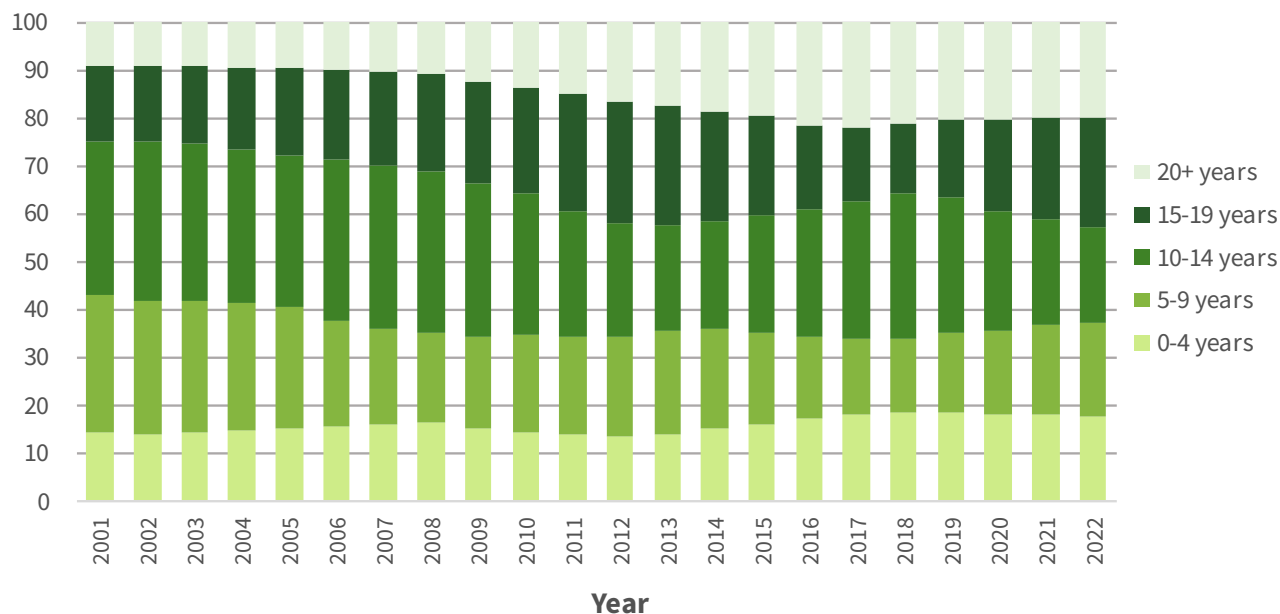
Source: Ministry of Transport 2024, ACEA 2023

Almost half of all cars are 15 years old or more

In 2022, 43.0% 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 2022, this had more than doubled to 19.9%. A further 23.0% of the fleet was aged 15–19 years in 2022.

Figure 3: Age structure of the light vehicle fleet, 2001-2022

Light vehicle fleet age structure (%)



Source: Ministry of Transport 2024

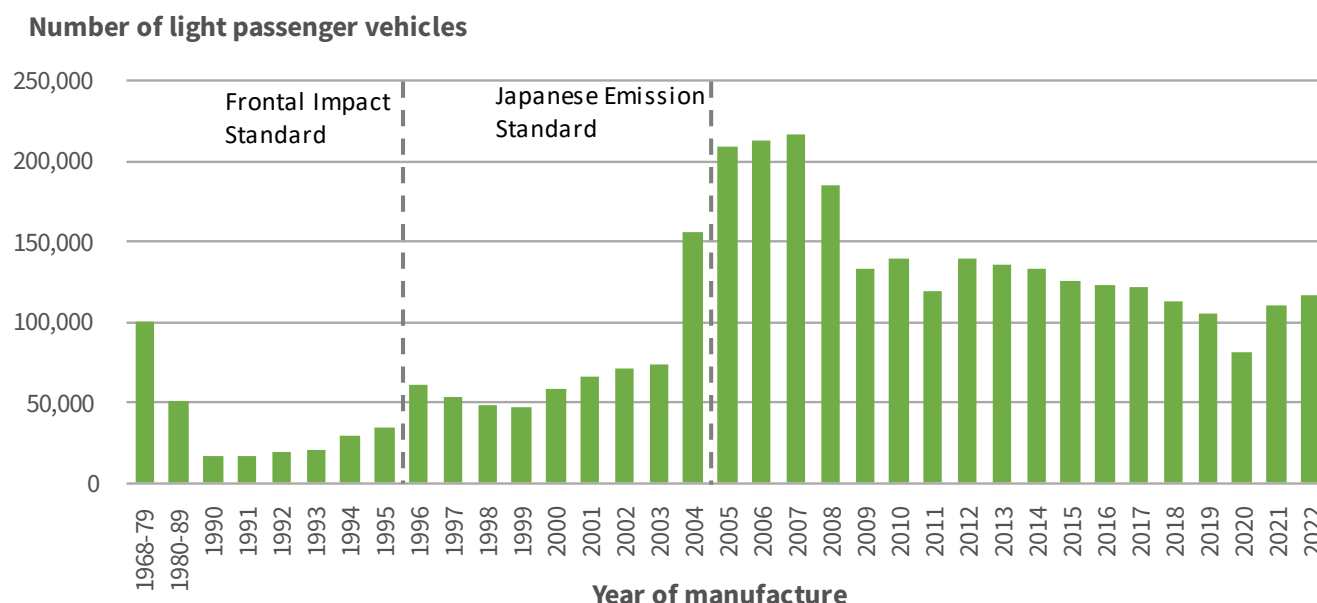
New Zealand has many vehicles dating from the mid-2000s

The age distribution of the light passenger fleet as of December 2022 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. Around a quarter (27.7%) of the light passenger fleet was manufactured before 2005.

Figure 4: Age structure of the light vehicle fleet, as at December 2022



Source: Ministry of Transport 2024

Used imports are older and remain in service longer

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 motorcycles and buses, while new imports of all types have become younger (Table 1).

Table 1: Average age of new and used imports on arrival in New Zealand, 2001 vs 2022

Vehicle type	Year in:	Used imports		New imports	
		2001	2022	2001	2022
Light passenger vehicles		7.6	9.9	1.3	0.9
Light commercial vehicles		8.1	8.8	1.4	1.0
Motorcycles		14.3	14.1	5.3	2.5
Trucks		9.2	10.1	2.6	1.0
Buses		10.9	9.9	1.0	0.8

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 2022, the average age was 19.2 years for light passenger imports and 20.8 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 24.8 years and 28 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 of new and used imports on exit from the fleet, 2001 vs 2022

Vehicle type	Year out:	Used imports		New imports	
		2001	2022	2001	2022
Light passenger vehicles		15.1	19.2	18.1	16.5
Light commercial vehicles		16.0	20.8	18.7	14.1
Motorcycles		17.3	20.1	13.9	10.1
Trucks		15.9	24.8	21.2	19.9
Buses		17.6	28.0	26.3	21.2

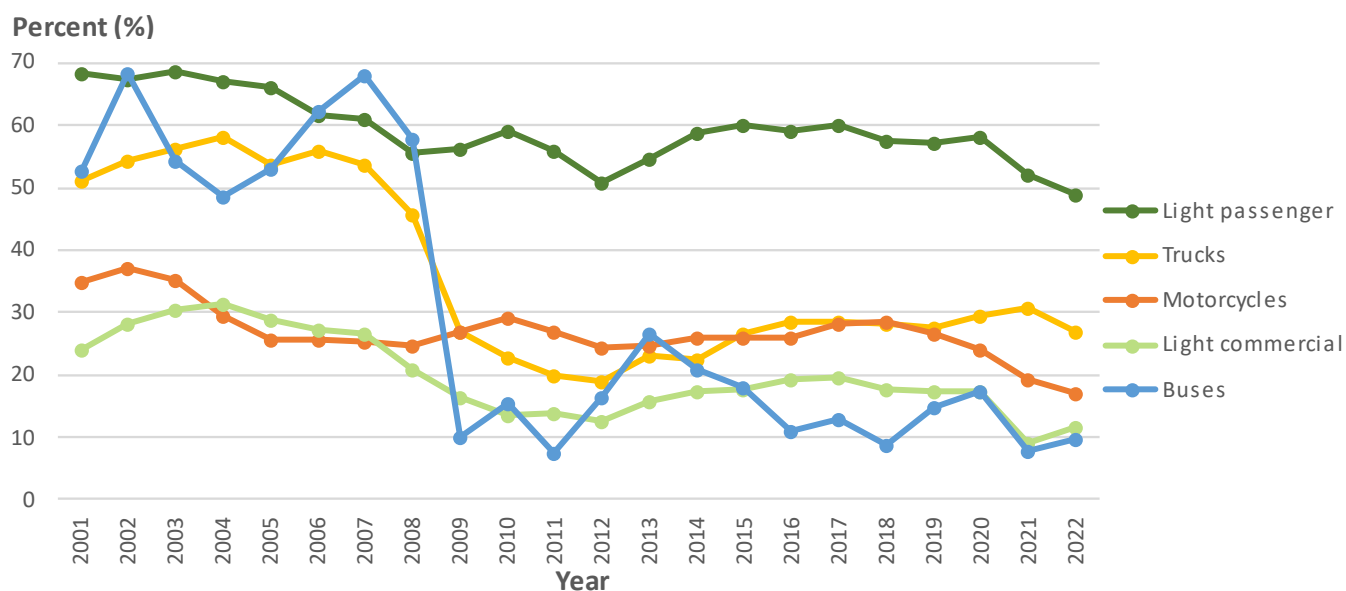
Source: Ministry of Transport 2024

About half of imported light passenger vehicles were used vehicles

Imported light vehicles are far more likely to be used than any other type, with 49% being 'used' in 2022 (Figure 5). 2022 marks the first time in this millennium that used vehicles comprised less than 50% of light imports.

Since 2009, most vehicles of other types have been imported new, so used vehicles made up a much smaller percentage of vehicle imports in 2022 for trucks (26.9%), motorcycles (16.9%), buses (9.6%) and light commercial vehicles (11.6%).

Figure 5: Used vehicles as a percentage of all imports, by vehicle type, 2001-2022



Source: Ministry of Transport 2024

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 February 2024.

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 exempt from having a license (not used on roads) and those with 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 before New Zealand, or 'used' if registered previously.

For additional information, see the [Metadata](#) sheet.

References

ACEA (European Automobile Manufacturer's Association). 2023. *Vehicles in Use Europe 2023*. Brussels: ACEA. URL: <https://www.acea.auto/files/ACEA-report-vehicles-in-use-europe-2023.pdf> (accessed 13/03/2024)

IARC (International Agency for Research on Cancer). 2023. *List of classifications by cancer sites with sufficient or limited evidence in humans, IARC Monographs Volumes 1–133*. URL: https://monographs.iarc.who.int/wp-content/uploads/2019/07/Classifications_by_cancer_site.pdf (accessed 11/03/2024)

Kuschel G, Metcalfe J, Sridhar S, Davy P, Hastings K, Mason, K et al. 2022. Report prepared by G Kuschel, J Metcalfe, S Sridhar, P Davy, K Hastings, K Mason, T Denne, J Berentson-Shaw, S Bell, S Hales, J Atkinson and A Woodward for Ministry for the Environment, Ministry of Health, Te Manatū Waka Ministry of Transport and Waka Kotahi NZ Transport Agency. Health and air pollution in New Zealand 2016 (HAPINZ 3.0): Volume 1 Findings and implications.

Ministry of Transport. 2023. Deaths on New Zealand Roads since 1921. Wellington: Ministry of Transport. URL: <https://www.transport.govt.nz/statistics-and-insights/safety-road-deaths/sheet/death-on-nz-roads-since-1921> (accessed 11/05/2023)

Ministry of Transport. 2024. *Annual vehicle fleet statistics 2022*. Wellington: Ministry of Transport. URL: <https://www.transport.govt.nz/statistics-and-insights/fleet-statistics/sheet/annual-fleet-statistics> (accessed 28/02/2024).

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