



<kiwi cars

NEW ZEALAND HAS A LOVE AFFAIR WITH CARS.

**WE LOVE ALL TYPES OF CARS,**

AND WE'RE BUYING MORE AND MORE



## Kiwi Cars

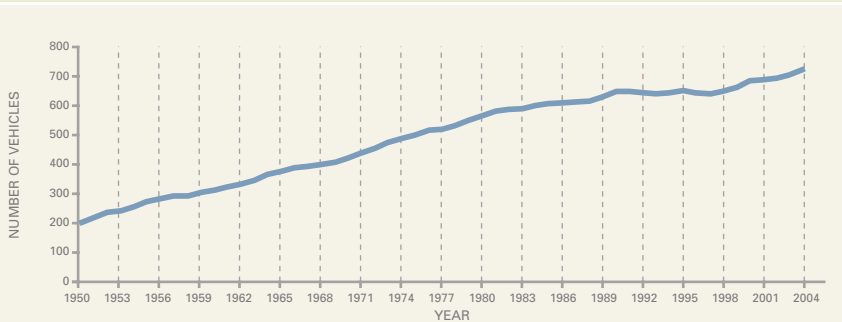
We love our cars. But not that long ago we had a 'third world' collection of old cars. In the 1960s, many New Zealand families could not afford a car. To buy a new car you needed overseas funds, or the patience to sit out a long waiting list.

If we could afford a car, it would be either tiny (think Morris Minors and Fiat Bambinas) or really big and bulky with masses of chrome (think Chevrolet Bel Airs and the Vauxhall Velox). We drove on narrow, winding and often unsealed roads with no safety belts, no safety glass, poor brakes and lousy handling.

Times have changed. We are now close to world leaders in car ownership, ranked fourth in a recent AC Neilson Survey. Only the United States of America, Italy and Australia have more cars per person than we do.



VEHICLES (INCLUDING CARS, VANS, TRUCKS, BUSES, MOTOR CARAVANS, MOTOR CYCLES AND MOPEDS) PER 1000 PEOPLE



Source: Ministry of Transport, 2005

Our car ownership has soared to 620 cars per 1000 people. We keep buying more – there are 230,000 new car registrations every year, seven times more than in 1960. About 70 percent of these are used imports.

Today, 92 percent of trips are by car. One-third of all car rides cover less than two kilometres, and two-thirds are shorter than 5 kilometres. It seems we don't like to walk.

**A MOTORISED LIFESTYLE**

IN 1960s NEW ZEALAND MOST CHILDREN WALKED OR CYCLED TO SCHOOL.

Now, being driven by car is the most common way of getting to both primary and intermediate schools. The number of trips has almost doubled from about 19 million trips in 1989/90 to about 37 million trips in 1997/98.

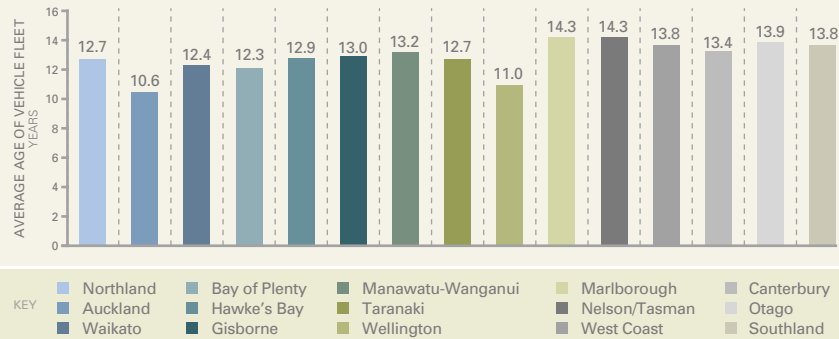
**We love them, but what are our cars like?**

The educated opinion of the car boffins in government is that we like big engines.

In the 1960s, a typical family car would have a 1.5-litre engine. By 1990, the average engine size was 2.4-litres. In 2005 it hit 3-litres. Our biggest selling brand-new cars in 2004 were 4-litre Ford Falcons and Holden Commodores starting at 3.6-litres, followed by the 1.8-litre Toyota Corolla.

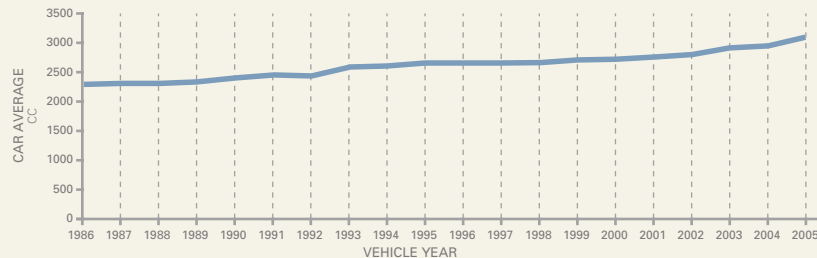
Some growth in engine size has been driven by manufacturers – models that began as small cars in the 1980s have evolved into medium or large cars. Take the Honda Accord – in 1986 the Accord was a 2-litre car that consumed 9.5-litres of fuel every hundred kilometres. In 2003, a standard model had a 2.3-litre engine and consumed 10-litres of fuel for every 100 kilometres. The V6 3-litre model consumes 11.5 litres of fuel over the same distance.

AVERAGE AGE OF VEHICLE FLEET BY REGION



Source: LTNZ; Covec analysis

INCREASING ENGINE SIZES



We hang on to our old cars for a long time. Because our cars are so old our vehicle fleet lags in efficiency and environmental technology. The average age of our vehicle fleet is 12 years and it's getting older. People in Nelson, Tasman and Marlborough hang on to their cars the longest – the graph on the previous page shows their cars have an average age of 14.3 years. The newest ones are on the roads in Auckland and Wellington – with average ages of 10.6 and 11 years.

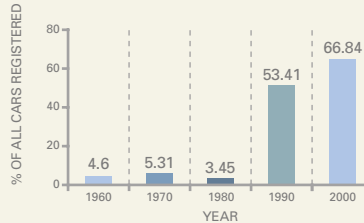
The big influence on the cars we drive has been the growth in imports of used cars. These make up 70 percent of all cars that roll off the docks. Used vehicle imports took off in the late 1980s when controls relaxed and duties and tariffs came off – in 1990, nearly five times as many arrived than just two years before.

### Why is this important?

Why do we care what our cars are like? It's not just because we want to look good in them.

The age of our cars, their engine size, their history and the way we drive them impacts directly on the quality of our air and our greenhouse gas emissions.

PERCENT NEW REGISTRATION OF EX-OVERSEAS CARS



Source: Land Transport Safety Authority, 2005

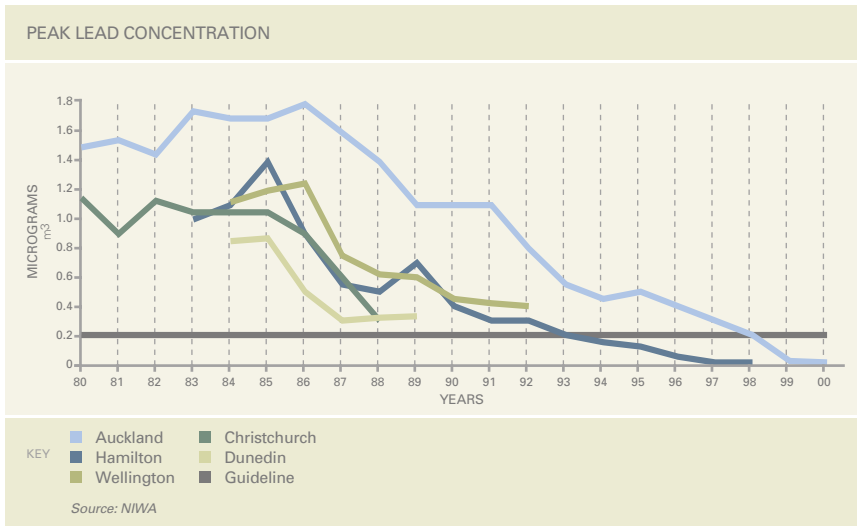


## Petrol and diesel

In 1960, fuel was cheap, but it was poor quality. Now we can be pleased that it is much cleaner. Levels of lead and sulphur from fuels were previously so high that it was a significant health risk to live and breathe next to a main road. Lead in the air is a poison that causes nerve and brain damage in children.

We used to add lead to petrol to lift the octane rating – to maintain power and prevent engine knock. We began removing lead from petrol in the early 1980s, and it was completely removed in 1996. The huge rise in Japanese imports in the late 1980s was a big incentive, as for the first time we had cars that were designed to run on unleaded regular petrol.

The graph shows just how quickly lead levels in the air dropped once it was taken out of petrol and hence out of exhaust emissions.



Also, we are cleaning up sulphur in diesel. When car engines burn fuel containing sulphur it creates an exhaust of fine particles into the air, which causes respiratory problems and even premature death.

Since 2001, sulphur levels in diesel have dropped from 3000 parts per million to 50 parts per million – a 60-fold decrease. The aim is to have diesel with near-zero sulphur by 2009.



## Where do old cars go to die?

About 125,000 vehicles are taken off the vehicle register each year. Of these, at least half are destroyed or permanently taken off the road; 13 percent because they've been written off by insurers. We abandon 25,000 each year, either on the sides of roads or out in nature, Cassells (2004).

We wear out three to four million tyres every year.

In 2004, a new voluntary collection scheme began called *Tyre Track*. In 2005, this scheme registered almost 1.3 million tyres. *Tyre Track* connects people with old tyres to people who want second-hand tyres and who will use them responsibly.





Photo courtesy of Toyota.

### Moving forward

The EnergyWise Rally 2004, run by the Energy Efficiency and Conservation Authority and Motor Industry Association, pitched petrol-electric hybrids against lpg, diesel and petrol-powered cars on a round trip between Wellington and Auckland to allow direct fuel consumption comparisons to be made.

On fuel use, adjusted to take account of different fuel types, the Toyota Prius hybrid was first – with only 4 litres of fuel used for every 100 kilometres travelled.

Hybrid vehicles have a petrol engine and an electric motor, and recharge their batteries by capturing energy through regenerative braking. When cruising or idling, some of the output from the petrol engine is used to charge the batteries.

Many vehicle manufacturers have developed concept cars powered by hydrogen fuel cells, but their price puts them out of range for most of us at the moment. Fuel cells convert hydrogen fuel and oxygen pulled from the air into water, producing electricity in the process – this is what powers the vehicle.

### In summary

We Kiwis now own more cars than most. We import large numbers of second-hand cars from Japan as they are quite affordable. Our cars have large engines and we keep them until they are old. Our fuels are much cleaner than they used to be.

With the continued price rise in fuel, will we be able to afford our love affair with the car or will we look differently at how we move goods, and ourselves, around? Will our love affair continue?

