

## Travelling by car

We like to use our cars for many reasons – travel time is usually faster, it's convenient and we're independent. In NZ, fuel costs were low until 2006 and our cars provide a reliable, comfortable way to travel. For many, their cars are a source of social status and people *perceive* driving as safer than walking.

### **Which of these aspects are most important for you?**

For most, car use is affordable and very popular. However, mass car use brings with it real costs, both for the planet and for society. Most of the benefits and some costs are felt by the owner-users, whilst many other costs affect all the population, including non-car users and the natural environment.

## 10 major costs of the car.

### 1. Car use dominates our cities

New Zealanders own over 60 cars per 100 people and car use has steadily increased over recent years. A road lane, typically 3 to 4 metres wide, can accommodate 1,800 people per hour in vehicles, or over 8,000 in buses and coaches, or 13,000 on cycles. If more people cycled or used buses congestion would be much lower.

### 2. Real costs for the owner

As much as 20% of a typical NZ household's income may be spent on transport, mostly on car ownership and use, and on average it's not just for one but two cars per working household. NZ has among the highest car-ownership levels in the world, similar to USA.

In 2001 the New Zealand Automobile Association calculated the real cost of owning a low-km family-size three-to-four-year old car at over \$20 per day.

### 3. NZ mostly imports older, less-efficient cars, not hi-technology

Cars are no longer constructed here in NZ - most of our cars are imported. Environment-friendly technologies, such as 'hybrid' petrol/electric cars, are already in use in Japan, but are still rare here.

### 4. Constructing roads, bridges and car parking space costs dearly in rates and taxes

There is huge annual 'public investment' in creating or repairing road space and parking facilities - compare with the much smaller sums of public money spent annually on public transport usually referred to as 'subsidies'.

Some cities are now designing for the post-car age. For example, London's bid for the 2012 Olympics included an undertaking for it to be the first sustainable,

car-free games - spectators are expected to travel by bus, train, underground or bicycle.

### 5. Car dependency in city suburbs

One third of vehicle journeys in NZ are under 5km and 11% under 2km. Most trips are made with just one person in the car. We are likely to feel less 'connected' to our local community when we drive everywhere as we don't meet and interact with people in the streets and local shops, as you do if you walk or cycle.

**Bus services may have improved since you last experienced a bus ride.** Suburban life habits become 'car-dependent' if no alternative ways to travel are experienced.

### 6. Health effects of driving

In addition to the exposure to toxic vehicle-exhaust fumes when in traffic queues, car users are missing out on exercise. Walking 3km in 40 minutes, or a cross-town cycle ride would qualify as sufficient 'moderate activity' to make a difference to heart health.

### 7. Cars are resource-hungry to build, and wasteful once 'scrapped'

About 26 tonnes of minerals and waste materials are 'processed' to make each car of under a tonne in weight. Large amounts of energy and water are also required in vehicle manufacture. Western Europe, USA and Japan, put together, scrap 38 million cars a year. *Each scrapped car represents, on average:*

- ▶ 3 tyres dumped (and one re-treaded)
- ▶ three litres of sulphuric acid in the battery, plus toxic lead battery plates
- ▶ three litres of petrol left in the fuel tank, plus engine and gearbox oils, if not drained
- ▶ five litres of cooling liquid (containing antifreeze chemicals) to pollute groundwater
- ▶ refrigerant chemicals (which may contain CFCs) in the air conditioning – if fitted
- ▶ many un-recyclable mixed plastics including PVC (toxic Dioxins released if PVC burned)
- ▶ steel, copper and aluminium
- ▶ laminated glass from car windows (which is not easy to recycle)

Only in very recent years have cars been designed that are capable of easy disassembly after use.

### 8. Running a car is resource-inefficient

Today's vehicles use energy inefficiently, compared with other modes of travel, typically using a litre of fuel for every 10 to 12km travelled. The majority of NZ oil imports (we import 12.1 barrels of oil per person per year) are used for vehicle fuels and lubricants. This was 40% of NZ's energy consumption by 1998 and is a growing proportion annually.

It's interesting to note that when a typical car is driven with just one traveller, 95% of the fuel energy is being used to *move the vehicle weight* and just 5% to move the weight of its passenger.

### 9. Cars are physically dangerous

When moving, they are a danger not just for drivers and other road users, but also for pedestrians. When stopped, car drivers suddenly opening doors risk injuring passing cyclists on crowded streets.

### 10. Cars pollute the atmosphere and waterways

Worldwide, motor vehicles contribute **15% of the carbon dioxide emissions from human activity**,

contributing to 'global warming'. Each moving car releases about 74 million cubic litres of polluted air in its lifetime. Pollutants from vehicles include: CO<sub>2</sub>, Carbon monoxide, soot, nitrogen oxides and sulphur compounds, and also tiny particles of worn tyre rubber and brake linings left on road surfaces.

In NZ our cars are predominantly older vehicles with less efficient pollution controls. A study released by the NZ Ministry of Transport in March 2002 estimated that nearly 400 people over the age of 30 die prematurely each year as a result of exposure to particles emitted by vehicles.

## Travel Actions – escaping the car habit

Could we become satisfied with **wanting to travel by car less often?**

**Step 1** If you live in a city with some alternative transport available, can you afford to own a car?

Typically it costs **\$200 each week** to own and run a 4 year-old car. Consider how much public transport, cycling or car hire you could afford for that amount of money. Your own car costs may be less, or even significantly greater on a new vehicle, so why not calculate the real costs of running your car?

**Step 2** Start keeping a record of what your car *really* costs you to run. Include depreciation (up to 20% each year), interest, insurance, WOF, registration and parking fees as well as fuel costs and maintenance - tyre and windscreen wiper replacements, oil, repairs and regular servicing. Might be 60c per litre on top of fuel cost, says the AA.

**Step 3** Sample your travel for a week. Consider if you really needed to use your car(s) for all of these journeys? Could some trips be combined or better planned? Is there scope to share with other travellers? Could you have walked, cycled or used a bus?

**Step 4** Reduce your unhealthy/inefficient car journeys first. Ask yourself 'Do I need to make this trip at all?' Can I use the phone or internet? If you have to use the car avoid peak travel times when traffic is worst and combine several errands in one journey if possible?

Rather than using the car how about:

- ▶ Walking on short trips
- ▶ Catching buses or trains or cycling

Consider cycling – it's door-to-door, has no parking costs, keeps you fit, and is often faster than queued city traffic. For encouragement visit [www.bikewise.co.nz](http://www.bikewise.co.nz) or [www.can.org.nz](http://www.can.org.nz)



If a car is the best option how about:

- ▶ Car pooling and sharing travel with others.
- ▶ Sharing the capital cost of owning and maintaining a car with another household.

**Step 5** Become a smarter driver and save fuel!

1. Remove roof racks when you're not using them.
2. Remove excess weight from the boot.
3. Avoid engine idling, don't over-rev or leave the car stationary with engine running.
4. Limit cruising speed – 90km/h uses 20% less fuel than 110km/h.
5. Keep tyres correctly inflated - soft tyres can waste 10% of fuel and are also dangerous.
6. Tune the vehicle, so that it gets the optimum air and fuel mix.
7. Drive smoothly, avoiding sudden acceleration or braking.
8. Plan trip timings to avoid congested urban traffic and aggressive commuters.
9. Don't use the air-conditioner and save up to 10% of fuel on a hot day. Cool the car with open windows when you first move off after parking in sunshine. (Wide-open windows create air drag at speeds over 50 km/h).
10. Turn off the rear window de-mister once it has done its job, to save 3% of fuel.

**Step 6** Choosing your vehicle next time...

Remember regular preventative maintenance will assist longevity of a car and usually prove cost-effective. If you are looking at replacing your car, especially if it's a second car for your household, have you thought if you really need to – could walking, taxis, buses, cycles or a combination of other travel arrangements meet your travel needs?

If you are buying a car, could you share the purchase? What size of car do you need - will a small, fuel efficient model suit your needs? What type of fuel will you use? As well as petrol you could consider diesel, LPG or look at hybrid vehicles that run on a combination of petrol and stored electrical power. For background information on vehicles and fuels see the website: [www.eta.co.uk](http://www.eta.co.uk) and [www.fuelsaver.govt.nz](http://www.fuelsaver.govt.nz) [www.rightcar.govt.nz](http://www.rightcar.govt.nz)

For more detailed information refer to the website [www.sustainableliving.org.nz](http://www.sustainableliving.org.nz)