Transport

Some of your most important decisions on the energy your household consumes relate to transport. Where will you live? Is there good public transport? Will you have to buy a second car?

You may have an energy efficient home but still be a high energy household if you rely heavily on your car. Transport is a crucial ingredient in the good design of homes, neighbourhoods and cities.

The quickest way to get from A to B is for B to be right next door to A. Live close to where you work and shop and you’ll save time and money.

If most places you need to go on a daily basis are within walking distance, imagine how much you can save!

To decrease energy use and improve quality of life, cities around the world are planning to reduce car use and encourage walking, cycling and public transport. The same can apply to your household.

The benefits of walking, cycling and using public transport are many:

▪ Enjoy meeting and interacting with people while walking or riding a bus or train.
▪ Save money on transport.
▪ Homes, neighbourhoods and cities look better with fewer cars.
▪ A brief walk to the bus or train each day can improve health and lower stress levels.

Urban villages

To reduce the environmental, social and economic impact of your transport, think carefully about where you should live. Avoid the sprawling car-dependent suburbs and choose an urban village with good access to public transport.

The main characteristic of an urban village is increased density of development around public transport facilities. Walking, cycling and public transport are used instead of cars. Road space and car parking are restricted, and traffic speed and volume are controlled.

In urban villages, street layout should be simple, facilitating the easy movement of pedestrians, cyclists and buses.

Community ties are strengthened by community interaction at meeting places near the village centre. Local shops and small businesses benefit from community support. Natural areas are protected and quality public spaces created and maintained. This kind of development can promote a sense of community and help reduce car use. (see the appendix Streetscape)

Australians produce more motor vehicle pollution per capita than almost any other country — twice as much as Europeans and many times more than people in Tokyo. (Turton 2004)

Older parts of cities that developed in the pre-car era exhibit many of the good qualities of urban villages. (see Choosing a site)

Problems of car dependency

The cost of car ownership is rising rapidly. On average, the cost of owning and operating a car in Australia is around $200 per week (RAA 2012).

Urban sprawl is associated with a number of problems, including a need for longer water and sewer pipes, power supply lines and roadways thus less efficient and more expensive infrastructure. Community relationships can also be lost partly due to excessive reliance on private transport that the very young, elderly, infirm and less able cannot use.

Car parking in this urban village includes a bike and utility shed, and is landscaped and designed to provide usable community space.
Energy
Transport

Promoting urban villages helps counter car-dependent sprawl and its many negative impacts. Some of these impacts are:

- greenhouse gas emissions, air and noise pollution
- pollution and waste from manufacturing and disposing of cars
- communities divided and fragmented by roads
- cost burden of car ownership and poor access for people who don’t own cars
- flooding and water pollution created by runoff from impervious road surfaces
- loss of valuable bushland and farmland to roads and car parks
- depletion of finite oil reserves
- high cost of roads and related services
- car accident deaths and injuries.

*Australian homes on average produce around 14 tonnes of greenhouse gases each year and more than a third of this comes from cars. (AGO 2005)*

Australian cities require five car parking spaces (e.g. at home, work, shopping centre, school, friend’s place) per vehicle on average. In Los Angeles, 70% of the surface area of the city is dedicated to the motor vehicle (Engwicht 2006).

Car share schemes

Car share schemes may be an option. They work in a similar way to car hire. Joining a scheme gets you the use of a car pool with a range of vehicles and each month you get an itemised account that covers mechanical, insurance, registration and cleaning costs. It works particularly well if you don’t commute by car, need a second vehicle only occasionally or don’t want to keep a large car garaged that isn’t used enough to make its cost worthwhile.

Electric and hybrid cars

Electric and hybrid vehicles produce less pollution and are more energy efficient than conventional cars. Although they are currently relatively expensive, their range and availability is gradually increasing and it is reasonable to expect their cost to gradually approach that of conventionally powered cars over the next few years.

The first electric car on the market in Australia is delivered with a cable for connection to a 15A household socket that is claimed to give a full charge in around seven hours. Normal maximum current capacity in Australia is 10A, so a 15A circuit needs to be installed — but is likely to become a standard requirement for electric vehicle home charging.

With sufficient photovoltaic panels you can collect and convert enough energy to power your electric car as well as your home.

- Future-proof your home by installing a 15A electrical circuit to your garage or carport. It should be more cost effective to include it in the overall electrical budget of a new build or home extension rather than be retrofitted. And it provides a general purpose heavy-duty power supply.
- Consider installing photovoltaic panels for charging an electric vehicle.
Deciding where to live and work

In deciding where to live and work, consider the following questions:

- Are you within walking distance of public transport, shops, schools and other urban services?
- Can you commute to work without a car? For most of us, the work commute is the most significant component of weekly travel.
- Are you close to work? If so you will save hours of travel and free up time for activities you enjoy.
- Is your community vibrant? Find opportunities to participate in community activities, from formal meetings on transport issues to local art classes or just chatting to neighbours.
- How busy is your street? On a street that has light vehicular traffic, there is generally more social interaction and neighbourhood activity. (see the appendix Streetscape)
- Is there ‘traffic calming’ in your street? Streets with traffic calming are safer and quieter (see the appendix Streetscape)

![Shared Zone Sign](image)

The closest thing in Australia to signage for a traffic calmed area is a ‘shared zone’.

Your day-to-day travel behaviour

*The design of your home, choice of neighbourhood and your day-to-day travel behaviour are important elements of your lifestyle.*

In built-up areas during peak periods, trains and bicycles can be faster than cars — particularly if the time taken to find parking is considered.

Here are some ideas for improving your lifestyle while reducing the impact of your transport needs:

- Use your car less. Where location demands that you own a car, limit the number of cars in your household. You’ll reduce parking impacts and compel members of the household to plan their trips more carefully.
- Share car ownership and car trips: take on passengers, ride as a passenger with others or participate in formal ride-sharing schemes.
- Combine multiple car trips into a single trip and, with a little planning, significantly reduce the extent of your car travel.
- When buying a new car look for the fuel consumption label that tells you how economical the car is. This label is now mandatory for all new cars, four wheel drives and light commercial vehicles. A more economical model saves money and usually reduces your greenhouse gas emissions. Consider a hybrid petrol/electric car to further reduce your emissions.
- Drive smoothly and minimise acceleration and braking to reduce noise, air pollution and accidents. Erratic, aggressive driving creates stress and danger.
- Maintain your car regularly. You will reduce noise and air pollution if you ensure that your car’s engine and muffler are operating effectively.
- Choose a small car. Driving an unnecessarily large and heavy car such as an off-road vehicle in the city wastes fuel and creates unnecessary noise and air pollution. Rent a specialised car for the occasions when you need to carry a large load or drive off road.
- Use the most environmentally friendly fuels. Petrol creates more greenhouse gases than LPG and ethanol.
- Shop locally and buy locally made goods to reduce the extent of your travel and help create urban villages by reinforcing local social and economic linkages.
- Ride a bike. You don’t have to work out or don the lycra — electric bicycles are making it easier for many people to think about getting back on a bike and using it for everyday transport, especially within urban areas.
- Work from home — avoid the commute every now and then by ‘telecommuting’. It reduces stress levels, adds variety to your work routine and lets you perform some home duties and spend time with your children while working. It’s good for your neighbourhood with your surveillance against crime during weekdays.
Working with your neighbourhood and local council

Work with your local council and neighbours to reduce car use and promote a healthier community:

- **Traffic calming** — Wider footpaths, speed humps, roundabouts, landscaped strips, local speed restrictions and road closures slow traffic and can transform your traffic-ravaged street into a friendly and attractive space shared by local residents, pedestrians, cyclists and motorists alike.

- **Street parties, markets and festivals** — These festivities are fun, allow residents to reclaim their streets, strengthen the community, promote pride of place and increase opportunities for social interaction.

- **Neighbourhood traffic reduction plan** — Residents can reorganise their travel behaviour to reduce car use. By first making an effort to reduce your car travel on others’ streets, you can encourage others to reduce car travel on your street.

- **Strategic planning** — Councils have to consider a wide range of issues in making decisions and a decision that is right for one part of the community could be wrong for another. They continually develop strategic plans and policies that influence transport and your environment, such as pedestrian and cycle-way plans and car parking policies. Your participation can help council in its decision-making processes.

- **Local car sharing scheme** — If there isn’t one already in your area, why not start one yourself?

- **Avoid short car trips** — Your car generates 40% more greenhouse gases per kilometre when cold. Walk or ride a bicycle instead.

- **Development proposals** — Your council is also continually approving new developments that can significantly influence your neighbourhood. You can comment on how (or whether) developments should be approved in the interests of promoting more livable communities.

  *Every year, around 1,500 people die on Australia’s roads from car related accidents.*
  
  *(DITRDLG 2009)*

Designing a house or apartment building

If you are building or renovating a house or apartment, consider the following transport-related design elements:

- Design associated landscapes (e.g. driveways) for the characteristics and abilities of the human body rather than 1.5 tonnes of machinery.
- Consider a carport rather than a garage.
- Avoid a line-up of garage doors along the street.
- Minimise the number of on-site spaces or, best of all, eliminate the need for on-site parking by not owning a car or parking on the street if possible. Less on-site parking means less paved area and more garden space. Fewer driveways crossing footpaths is safer for children and pedestrians generally.
- Design car movement and parking areas around the comfort and needs of pedestrians. Car parks can be treated as courtyards and provide amenity for the surrounding community.

This carport and car park is designed to fit unobtrusively into a tight urban context and is landscaped with visual and tactile evidence that pedestrians are in command.
• Minimise the extent of paving. Keep driveways as short and narrow as possible and only partially paved to minimise stormwater runoff.

• Locate on-site spaces appropriately. While parking at the side or rear of a house is recommended to avoid an unsightly line of garages facing the street, it does add to the extent of driveways and paved areas (except with rear access). Minimise on-site parking for apartments and locate it underground, even though it adds to the embodied energy of construction.

• Allow space for bicycle storage such as a dedicated bicycle storage area or space in the garage. Consider space saving, inexpensive options for storing and securing your bicycle, such as wall mounted bicycle racks.

• Front yards without car parking areas create a more attractive streetscape. (see the appendix Streetscape)

• Siting shops and residences instead of car parking at the street level frontage of apartment buildings retains activity on the street and enhances the streetscape.

References and additional reading

Contact your state, territory or local government for further information on sustainable transport options in your local area:
www.gov.au


GoGet Car Share. www.goget.com.au


Royal Automobile Association of South Australia. 2014. Running costs. www.raa.com.au


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Bicycle storage is an essential part of modern urban living.