



Transport Issues



Transport is an important part of human settlements. It can be divided into two broad categories:

- Passenger transport – the movement of people using vehicles such as cars, bikes, buses, trains, boats and on foot.
- Freight transport – the movement of goods through several stages, from the producer to the consumer by road, rail, sea or air.

Transport is a significant contributor to environmental pollution, in particular air and noise pollution and greenhouse gas emissions. Urban stormwater also carries oil and other vehicle and industry pollutants from the roads to rivers, streams and the sea, impacting on water quality. Oil spills from shipping can also have an impact on the environment.

The level of environmental impact varies depending upon the type of transport that is used. Road transport, in particular the private car, is a major contributor to pollution. Cars also consume the most energy per passenger-kilometre while metropolitan buses consume the least. From a South Australian perspective this makes our high dependency on the private car and our relatively low use of public transport a major environmental issue.

Trends



The number of people using public transport increased.



The average age of South Australia's vehicle fleet is in slight decline from 11.8 years in 2003 to 11.1 years in 2006.



The number of motor vehicles per 1,000 persons has increased 4% from 704 in 2003 to 732 in 2006.



The number of cyclists entering the city each weekday morning has increased 10.2% from 2003 to 2006.



Road freight task (tonne-km) increased 6.5% between 2002/03 to 2004/05.



Passenger-kilometres by car increased 2.6% from 2002/03 to 2004/05.



Total fuel consumption of all road vehicles increased 17.7% from 1994/95 to 2004/05.

“Transport is a significant contributor to environmental pollution.”

Transport



What is the Current Transport Situation?

Pressure indicators

Proportion of passenger trips undertaken by private and public transport

Passenger transport is the movement of people from one place to another. Private transport includes cars, motorcycles, scooters, bicycles and walking, while public transport includes taxis, trains, trams and buses. Around 88% of all passenger trips are undertaken by road, whether by private or public transport.

In South Australia, the majority of passenger trips during the week were journeys to work and/or study. The most common choice of transport was the private car and 75% of travellers made their journey as the driver only, while a further 4% travelled as a passenger only. If more people travelled together this would help to reduce air pollution as well as reduce traffic during peak travel times. Public transport was used by 11.2% of weekday travellers while the remaining 13.8% of trips were

undertaken by bicycles, motorcycles, taxis, scooters and walking. Our dependence on the motor car to meet most of our transport needs contributes to air, noise and water pollution. Adelaide’s urban form, which continues to sprawl to the north and south, is increasing our dependence on cars as travel distances increase.

Total annual passenger-kilometres travelled by private and public transport

Road-based transport accounted for nearly 88% of the total domestic passenger-kilometres travelled by passenger vehicles in South Australia in 2004/05. The rest of our travel was by air (10%), rail (2%) and sea (less than 1%). Total passenger-kilometres across all forms of transport were 30.6 billion in 2004/05 which is an increase of 23.4% since 1994/95. Passenger vehicles accounted for 77% of total passenger kilometres in South Australia in 2004/05 and the main purpose for this large amount of passenger vehicle travel was journeys to work or study.

Estimated Energy Use by Transport Mode

Passenger Transport Mode	Est. Energy Use MJ per Passenger-Kilometres	Freight Transport Mode	Est. Energy Use MJ per Tonnes-Kilometres
Car	2.73	Light Commercial Vehicle	18.72
Motorcycle	2.01	Rigid Trucks	2.94
Tram	1.74	Articulated Trucks	0.90
Rail (Train)	1.60	Rail	0.34
Bus	1.32		
Bicycle	Minimal		
Walking	Minimal		

SOURCE: Apelbaum Consulting Group, 2007

Transport

What is the Current Transport Situation?

Pressure indicators (continued)

Motor vehicle ownership and registrations

The number of vehicles on South Australia's roads is rising at a rate of around 1.8% per year since 2003 with a total of 1,156,961 registered motor vehicles in 2007. This equates to 732 motor vehicles for every 1,000 people. Cars are the most common type of registered vehicle, and since 1998 registrations of all vehicle types (except non-freight-carrying trucks) experienced growth. Recently the number of scooters registered has increased dramatically. Fuel price increases saw the sales of motorcycles and scooters jump to record levels during the last two years.

South Australia has the second-oldest vehicle fleet in Australia with an average age of 11.1 years. An ageing vehicle fleet has issues where vehicle efficiency and emissions from fuel use

are concerned. Newer model cars are normally more fuel efficient and less polluting than older vehicles. However, new cars require more energy to produce, and getting rid of old cars results in waste issues.

Freight vehicle tonne-kilometres travelled

Freight transport is the mechanism by which goods from the producer are delivered to a distributor or consumer. Freight transport is very important to South Australia's economic development, especially in the export markets of wine, motor vehicles, grain and aquaculture.

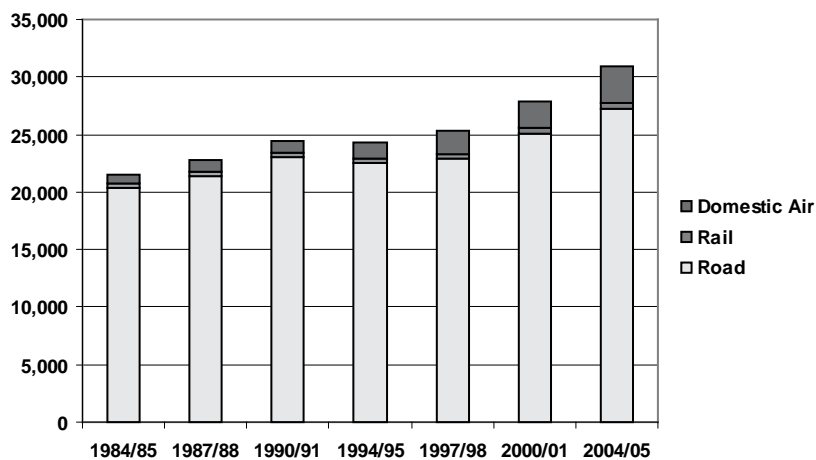
Freight transport can occur by road, rail, sea and air. Road transport is the favoured method for deliveries, and within Adelaide, virtually all freight movement occurs by road. Rail transport is used more for interstate freight transport. It is clear that to reduce greenhouse gas emissions from the road transport sector, different types of transport need to be used for carrying freight over longer distances wherever possible, as well as using cleaner fuel types and modern engine technology.



Taking Action for Population and Urban Form

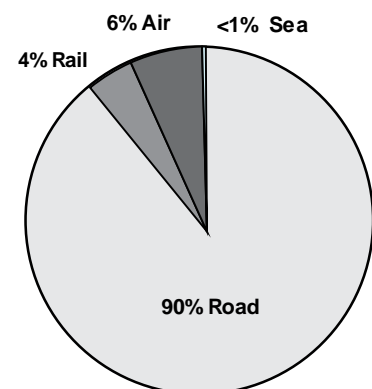
Consider the impacts of the built environment you live in. Think about the things you can do to reduce this impact, such as buying energy efficient appliances, planting locally native species in your garden or reducing the amount of waste you produce.

Domestic Passenger Transport Task (Millions Passenger-Kms)



Source: Apelbaum Consulting Group 2007

Percentage GHG Emissions CO₂e from Transport Modes 2004/05



Source: Apelbaum Consulting Group 2007



Responding to transport issues

Response indicators

Public transport patronage

The number of people using public transport has increased, particularly across metropolitan Adelaide. Total patronage was 65 million in 2006/07 which is an increase of 14% since 2000/01.

Buses were the dominant mode of transport in 2006/07, with 77.4% of total public transport travel followed by trains (18.8%), and trams (3.8%). Many initiatives are underway to try and increase the use of public transport including: re-sleepering train tracks to make rail travel faster and more reliable; increasing the number of train, tram and bus services; providing new vehicles; aligning more services with peoples travel patterns; and applying competitive fares.

Kilometres of bicycle network

Adelaide has a growing network of bicycle paths and lanes which are collectively called Bikedirect. The number of people riding to work has been steadily increasing since 1996 and across South Australia there are 2,100 km of established bike lanes to help to make cycling safer and more convenient.

Impacts of Transport



Atmosphere

Transport is the largest energy consuming sector in South Australia and the largest source of air pollution.



Inland Waters / Coasts and the Sea

Stormwater run-off from urban roads can pollute the marine and freshwater environments. Urban stormwater carries a range of pollutants from roads including tyre and metal fragments and harmful organic compounds. These can affect aquatic plant and animal communities and reduce water quality. Oil from commercial shipping, as well as fuel spillages and other waste from recreational boating also cause water pollution.



Health

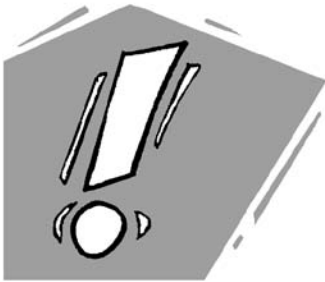
Pollution, odour, noise and safety issues from the transport sector impact on our health. Furthermore, our heavy reliance on cars means that we are becoming more and more physically inactive.



Economic

Economic costs associated with motor vehicles include: accidents; congestion; noise; costs from declining human health; pollution control and repair; and the costs of having to manage climate change in the future.





Attention!!

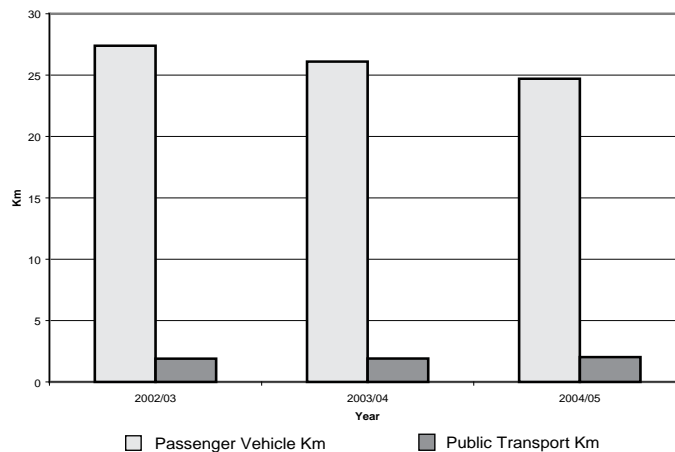
Do we use our cars too much?

South Australians rely heavily on the car to meet our transport needs. Cars create air, noise and water pollution.

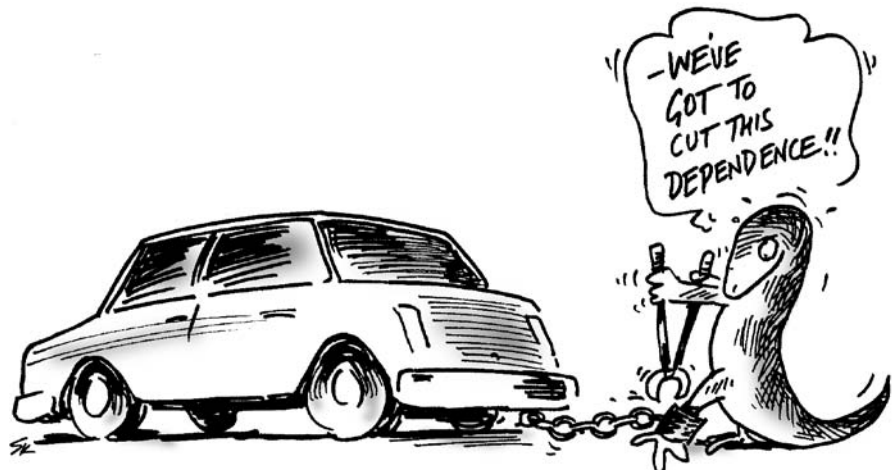
As Adelaide sprawls further to the north and the south, our dependence on the car is increasing as travel distances increase. We also travel alone in our cars for most of our trips during the week. We can reduce the amount we use our cars by catching more public transport, walking, riding bikes or car pooling where possible. Increased public transport trips will contribute to reaching the climate change goals of our state as well as reducing congestion on our roads. Walking or cycling can also make you feel good and help to keep you healthy.

Public transport is only used for a small proportion of our travel - can you use more public transport in your travels?

Weekday Passenger Vehicle Kilometres (millions)



Source: ABS SMV 2006





Research Ideas about Transport

- 1 What are the different kinds of transport used in South Australia?

- 2 How has transport impacted on the environment in your community, South Australia, Australia and globally?

- 3 How does using public transport reduce potential impacts to the environment?

- 4 What does the State of the Environment report tell us about transport issues in South Australia?

- 5 What might happen in the future if things continue as they are?

- 6 What are government, business and industry doing to address transport issues?

- 7 What can we do individually, or in communities, to make transport more sustainable?

Resources

For more detailed information on the issue and actions you can take see the State of the Environment report for South Australia 2008.

This is available at:
www.epa.sa.gov.au/soe



This fact sheet is part of a set of 20 fact sheets about the key environmental issues identified in the State of the Environment report 2008, produced for the Environment Reporting Education Resource. You can access the fact sheets and learn more about taking action for the environment at the Education Resource website:
www.epa.sa.gov.au/soe.
For more information call the Environmental Education Unit of the Department for Environment and Heritage (08) 8463 3911.



Government of South Australia
Department for Environment
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