Transport

Many aspects of transport relate to progress. Transport and transport links connect businesses with marketplaces, and, in so doing, give people access to different goods and services. Greater access to transport also gives individuals more choice in where to live, work and spend free time.

It is difficult to develop an indicator reflecting national progress in the transport dimension. An ideal indicator might focus on whether people have access to efficient and affordable transport. Within some of our major cities, an indicator might measure whether people have access to acceptable public transport networks or uncongested roads. In remote parts of Australia, an indicator might measure whether the roads are in good repair or whether those who need a car can afford to own and use one. But whether transport is acceptable or affordable is a matter of personal opinion and is a difficult concept to measure. Even if data were available, there is no obvious way in which these aspects could be combined into one number.

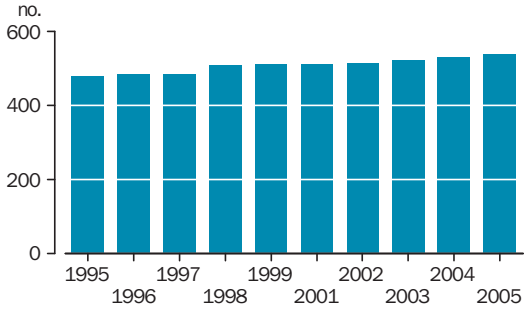
This commentary focuses on access to transport, and access to the motor car is important to many Australians. Statistics on motor vehicle registrations can tell us how access to cars might be changing over time. Environmental concerns associated with motor vehicle use, primarily some types of air pollution and greenhouse gas emissions, are discussed elsewhere in this publication by indicators relating directly to these concerns.

In March 2005 there were over 10.9 million registered passenger vehicles in Australia, up from around 8.6 million in 1995. In 2005, passenger vehicles accounted for almost 80% of the vehicle fleet, with trucks, buses, motorcycles and light commercial vehicles comprising the rest (another 3 million vehicles).

The number of motor vehicles grew more quickly than the population in the 1990s. By 2005 there was just over one passenger vehicle for every two Australians – 537 passenger vehicles for every 1,000 people, up from 478 vehicles per 1,000 people in 1995.[1,2]

The total number of kilometres travelled by passenger vehicles rose from 127,586 million in 1998 to 147,728 million in 2004. However, there was only a small change in the average distance travelled by each passenger vehicle over the same period (13,400km in 1998 rose to 13,900km in 2004).[6,7]

Passenger vehicles per 1,000 people



Source: Motor Vehicle Censuses, Australia, 1995–2005, cat. no. 9309.0. Census was not conducted in 2000.

Some differences within Australia

In 2005, the highest levels of passenger vehicle registrations were in Victoria, with 585 vehicles per 1,000 residents, up from 514 vehicles per 1,000 people in 1995. The Northern Territory reported the lowest level of passenger vehicle registrations in 2005, with 354 vehicles per 1000 people.[1,2] These data are influenced by the level of

Air, rail, sea and freight

Rail, sea and air transport are all important in Australia. Rail and light rail/trams move a considerable number of passengers within urban areas (588.9 million passenger trips in 2003–04). Rail also carries a good deal of freight, particularly bulk commodities like coal and mineral ores. In 2003–04, rail moved 594.7 million tonnes of freight.[3]

Sea transport moved 53 million tonnes of domestic freight in 2002–03.[4] Domestic sea transport focuses on long distance movement of bulk commodities such as metal ores, petroleum and petroleum products, coal and cement.[5] Large quantities of goods were also transported long distances for export and import.

Air transport takes passengers over long distances quickly and transports small volumes of freight, complementing the other transport modes that provide for short trips and slower travel. In 2003–04, about 31 million domestic passenger journeys were made by air and passengers were carried over 37 billion passenger-kilometres.[4] Domestic air freight carried 0.2 million tonnes of freight in 2000–01.[5]

Fuel consumption and air pollution

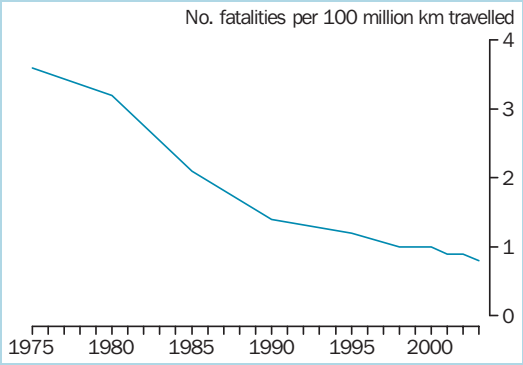
The combustion of fossil fuels by motor vehicles is an important source of air pollution and greenhouse gases. In 2003, the Australian transport sector accounted for 15% of Australia's total emissions – 79.8 million tonnes up from 61.9 million tonnes in 1990.[8]

As different fuels contain varying amounts of carbon and energy, greenhouse emissions can be reduced by changing to fuels with lower emissions and also by the use of more fuel efficient vehicles.

For every litre of petrol used 2.5kg of carbon dioxide is released from the exhaust, for diesel this figure rises to 2.7kg, but is significantly lower for LPG (1.6kg).[9] In 2004, 88% of the fuel consumed by passenger vehicles was petrol, with LPG consumption accounting for a further 7% and diesel 5%.[6] Emissions from vehicles, especially those that use diesel fuels, also include very fine particles that contribute to air pollution.[10]

While new vehicles are considerably more fuel efficient than older vehicles, average passenger vehicle fuel consumption has remained around 11 to 12 litres per 100kms over the 1998 to 2004 period.[6,7] This is in part due to the relatively slow drop in the average age of the passenger vehicle fleet which has inhibited efficiency gains.[10] In 1995, the average age of the passenger vehicle fleet was 10.3 years, while in 2005 this figure had fallen 4% to 9.9 years.[1,2]

Fatalities per 100 million vehicle kilometres travelled 1975–2003



Source: Australian Transport Safety Bureau, International Road Safety Comparisons, The 2003 Report. Australia.

Road safety

Australia, along with many western countries, has worked hard to reduce deaths and injuries from motor vehicle accidents. Considerable gains have been achieved, despite increased motor vehicle use. For example, the number of annual road accident fatalities per 100,000 persons has fallen from 26.6 in 1975, to 8.0 in 2004.[11]

In 2003, this figure was 8.2 per 100,000 people, which reflected a total of 1,621 fatalities in Australia that year, compared to an OECD median rate of 9.3 per 100,000 people. Australia was ranked 11th safest among the 24 members of the OECD for whom there were data in 2003. For example, we had fewer fatalities per capita than the USA (14.7 per 100,000 people) and New Zealand (11.5), but we had more fatalities than Japan (7.0) and the UK (6.1).[12]

Korea had more fatalities per capita than any other reporting OECD country (15.0 per 100,000 people). The lowest number of fatalities were recorded in Sweden (5.9 per 100,000 people).[12]

ownership within each state as well as by the numbers of vehicles, such as hire cars, that might be registered within a state but used elsewhere.

In 2004, passenger vehicles registered in the ACT travelled the furthest, on average 14,800 kms a year, while Tasmania-registered vehicles recorded the lowest average distance travelled, of 12,400 kms.[6]

Factors influencing change

Levels of car ownership are affected by many factors including incomes, interest rates, car prices and demographic trends. Improved roads have probably also played a part. As cars are often shared by a household, a trend to more single person households is likely to boost car numbers.

Whether and when people use their cars depends in part on the availability of alternative transport, anticipated levels of congestion and the price of fuel. Factors affecting the amount of freight moved, and how it is transported, include the structure and size of the economy, and changes in the cost and quality of competing modes of freight transport.

Governments and industry have introduced a number of changes aimed at improving road safety, such as compulsory seat belt requirements; the installation of red light and speed cameras; the upgrading of roads and improvements to vehicle designs (including airbags).

Links to other dimensions of progress

While access to transport, including motor vehicles, helps to determine where people work and what goods and services they can purchase, motor vehicles remain the largest single source of fine particle air pollution in Australia, and are also an important source of greenhouse emissions.

See also the commentaries *National income; Work*; *Family, community and social cohesion;* and *The air and atmosphere*.

Endnotes

1 Australian Bureau of Statistics 2005, *Motor Vehicle Census,* cat. no. 9309.0, ABS, Canberra.

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3 Australasian Railway Association Inc. 2004, *Australian Rail, The 2004 Productivity Report*, ARA, Melbourne.

4 Bureau of Transport & Regional Economics 2005, *Australian Transport Statistics June 2005*; Department of Transport & Regional Statistics, Canberra, <http://www.btre.gov.au/statistics/general/trnstats05/ATS05.pdf> Last viewed 1 February 2006.

5 Australian Bureau of Statistics 2002, *Freight Movements Summary,* cat. no. 9220.0; ABS, Canberra.

6 Australian Bureau of Statistics 2004, *Survey of Motor Vehicle Use*, cat. no. 9208.0, ABS, Canberra.

7 Australian Bureau of Statistics 2002, *Survey of Motor Vehicle Use*, cat. no. 9208.0, ABS, Canberra.

8 Australian Greenhouse Office 2003, *National Greenhouse Gas Inventory Fact Sheet — Overview*; Department of the Environment & Heritage, Canberra, <http://www.greenhouse.gov.au/inventory/2003/facts/pubs/overview.pdf> Last viewed 1 February 2006.

9 Australian Greenhouse Office 2005, *Fuel consumption and the environment*, Department of Environment and Heritage, Canberra, <http://www.greenhouse.gov.au/fuellabel/environment.html> Last viewed 17 January 2006.

10 State of the Environment Committee 2002, *Australia — State of the Environment Report 2001;* CSIRO Publishing, Melbourne.

11 Australian Transport Safety Bureau 2004, *Road Deaths Australia 2004 Statistical Summary;* ATSB, Canberra.

12 Australian Transport Safety Bureau 2003, *International Road Safety Comparisons, The 2003 Report*; ATSB, Canberra.