4102.0

Australian Bureau of Statistics

Australian Social Trends

2008

Article: Public transport use for work and study

AUSTRALIAN BUREAU OF STATISTICS

EMBARGO: 11.30AM (CANBERRA TIME) WED 23 JUL 2008

Public transport use for work and study

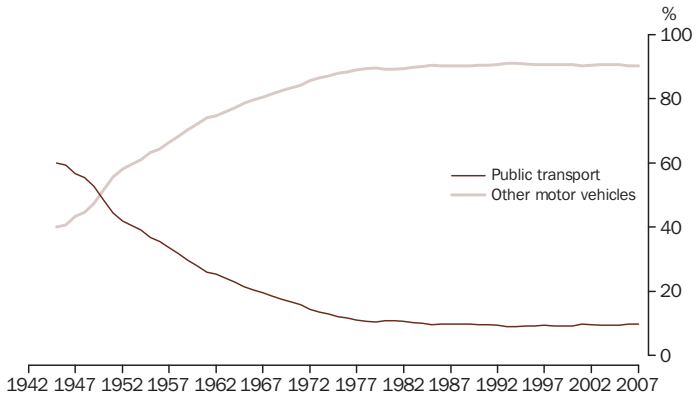
The proportion of adults living in capital cities (excluding Darwin) who used public transport to get to their place of work or study increased from 16% in 1996 to 19% in 2006.

Public transport use is considerably higher in capital cities than in other parts of Australia. This is in part due to their relatively large populations and extensive public transport infrastructure. Increased use of public transport in capital cities has the potential to reduce traffic congestion and pollution, including greenhouse gas emissions from motor vehicle exhaust. Public transport systems supply a social welfare service by providing a relatively low cost method of travel for those who are unable to drive or do not have access to a private motor vehicle. Public transport also contributes to economic development by transporting labour to locations of work.

In 2005, the transport sector accounted for about 14% of Australia's net greenhouse gas emissions. Between 1990 and 2005, the carbon dioxide equivalent emissions (CO_2-e) from the transport sector grew by 30% or 18.5 million tonnes.[1] The Australian Government has introduced initiatives such as the *National Travel Behaviour Change Project,* which is due to run from 2008 to 2012.[2] Such programs seek to encourage people to reduce their reliance on private motor vehicles and consider more sustainable modes of travel, such as public transport.

The Bureau of Infrastructure, Transport and Regional Economics (BITRE) estimates that the 'avoidable' costs of traffic congestion totalled approximately $9.4 billion in 2005 across Australian capital cities.[3]

Proportion of passenger-kilometres travelled by motorised vehicle type: capital cities — 1945 to 2007



Source: Bureau of Transport and Regional Economics (BTRE), 2007 *Estimating urban traffic and congestion cost trends for Australian cities*, Working Paper 71, viewed 14 December 2007 <http://www.btre.gov.au/publications/49/Files /wp71.pdf>; BTRE unpublished data (1945–1976).

Data sources and definitions

Most of the data in this article are drawn from the ABS 2006 Household Survey of Waste Management and Transport Use and the ABS 1996 Environment Survey. Data on the long-term distribution of passengers between motor vehicles and public transport systems are from the Bureau of Infrastructure, Transport and Regional Economics (BITRE). The data for international comparisons are from a study done for the International Union of Public Transport (UITP).

These three data sources provide different measures of public transport use. ABS data identifies the proportion of *people* who use public transport as a method of travel, predominantly for their journey to work or study.[4] BITRE data approximates the proportion of motorised *passenger-kilometres* travelled using public transport.[3] UITP data estimates the proportion of all *trips* that use public transport as the mode of travel.[5]

A *Passenger-kilometre* represents one passenger travelling a distance of one kilometre.

The *transport sector* comprises air, road, rail and shipping transportation.[1]

The following refer to the ABS Household Survey of Waste Management and Transport Use.

All survey respondents were *adults* aged 18 years and over. Survey respondents were required to nominate the *main form of transport* used to travel to their usual place of work or study. Only one method of travel could be nominated.[4]

Usual trip to work or study refers to a person's usual journey to their main place of work or study. People who did not work or study, or worked or studied from home, were excluded.

Capital cities comprise the state capitals and Canberra. Separate estimates were not available for Darwin and it has therefore been excluded from capital city calculations. However, Northern Territory estimates (including Darwin) are included in Australian totals.

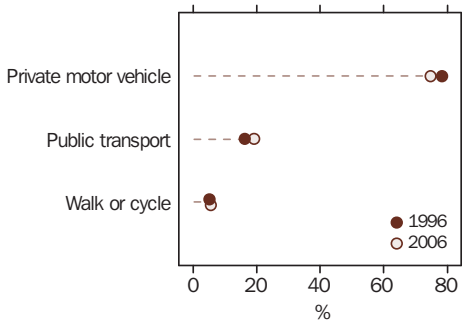
Public transport refers to travel by train, bus, tram, other light rail, and urban ferry. *Private motor vehicles* are vehicles constructed primarily for the carriage of persons and containing up to nine seats (including the driver's seat).

This article examines the use of public transport for journeys to work or study in Australian capital cities over the period 1996 to 2006.

Trends in public transport use

During the 30 years following World War II, the proportion of passenger-kilometres travelled in capital cities using public transport decreased substantially. This decline coincided with a

Main form of transport used on usual trip to work or study: capital cities(a)(b)



(a) Excludes Darwin.
(b) Persons aged 18 years and over.

Source: ABS 2006 Household Survey of Waste Management and Transport Use and ABS 1996 Environment Survey.

considerable increase in the registration and use of private motor vehicles[3] and a sharp decline in the use of trams in Sydney.[6] Since then, the share of overall public transport use, as measured by passenger-kilometres travelled, has remained relatively stable (at about 10% over recent decades).

In contrast, the proportion of adults who use public transport as their main form of travel to work or study has increased slightly over the past decade. In 2006, 19% of adults in capital cities used public transport for this purpose, compared with 16% in 1996.

Proportion of adults using public transport for usual trip to work or study

	1996	*2000*	*2003*	*2006*	*Change between 1996 and 2006(c)*
	%	%	%	%	%
Sydney	23.4	25.0	25.9	26.3	12.4
Melbourne	13.1	15.9	15.3	17.7	35.1
Brisbane	14.3	11.6	15.7	17.5	22.4
Adelaide	12.2	10.6	13.4	14.4	18.0
Perth	10.5	11.3	10.5	10.7	1.9
Hobart	12.8	5.2	6.9	10.3	-19.5
Canberra	11.4	8.2	8.1	7.9	-30.7
Total capital cities(a)	16.3	17.2	17.9	19.1	17.2
Other areas(b)	2.7	1.9	2.4	1.7	-37.0
Australia	**11.9**	**12.2**	**13.0**	**13.5**	**13.4**

(a) Excludes Darwin.
(b) Includes Darwin and all other places outside capital cities.
(c) Represents the change in the proportion of adults using public transport for their usual trip to work or study.

Source: ABS 2003 and 2006 Household Surveys of Waste Management and Transport Use and ABS 1996 and 2000 Environment Surveys.

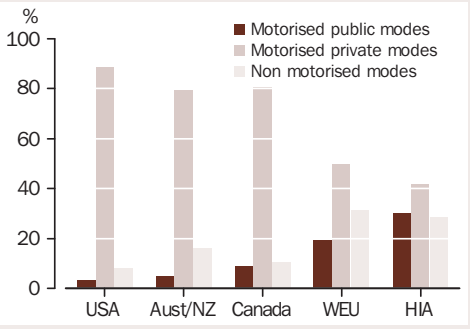
International comparison

Levels of public transport use vary considerably around the world. An International Union of Public Transport (UITP) study found that the rate of public transport use in selected Australian and New Zealand cities (Sydney, Melbourne, Brisbane, Perth and Wellington) was relatively low by world standards, with an average of 5% of all trips made using public transport. Cities in the United States (USA) such as Los Angeles and New York recorded similarly low rates (3% of all trips).

In contrast, rates of public transport use were relatively high in both Western European (WEU) cities such as London and Paris (19% of all trips) and High Income Asian (HIA) cities such as Tokyo and Hong Kong (30% of all trips).

While use of non-motorised travel, such as walking or riding bicycles, was higher in selected cities in Australia and New Zealand (16%) than in the USA (8%) and Canada (10%), these forms of transport were more common in HIA (29%) and WEU (31%) cities.[5]

Modes of transport: cities in selected regions(a)(b)



(a) Refers to average rates across selected major cities.
(b) Based on 1995 data.

Source: Kenworthy, JR 2003, *Transport Energy Use and Greenhouse Gases in Urban Passenger Transport Systems: A Study of 84 Global Cities,* viewed 14 December 2007, <http://www.sustainability.dpc.wa.gov.au/conferences/refereed%20papers/Kenworthy,J%20-%20paper.pdf>.

Travel to place of work or study

The capacity for public transport to reduce traffic congestion is greatest during the morning and evening 'peak' times, when large numbers of people are travelling to and from their places of work and study. However, during these 'peak' times, public transport infrastructure, particularly in larger cities, can struggle to meet user demand.

Although there has been a slight increase in the use of public transport over the past 10 years, in March 2006, three-quarters (75%) of adults living in capital cities travelled to their usual place of work or study using private motor vehicles as their main form of transport. In addition, 19% of adults used public

transport, and a further 5% either walked or cycled as their main form of transport to work or study.

In 2006, Sydney had the highest level of public transport use among the capital cities, with over one-quarter (26%) using public transport as their main method for travel to work or study. Canberra (8%) recorded the lowest level of public transport usage.

The increased use of public transport by adults for travel to work or study between 1996 and 2006 is reflected across most capital cities. Overall, public transport use grew by 17% for all capital cities combined, with Melbourne experiencing the highest growth (35%).

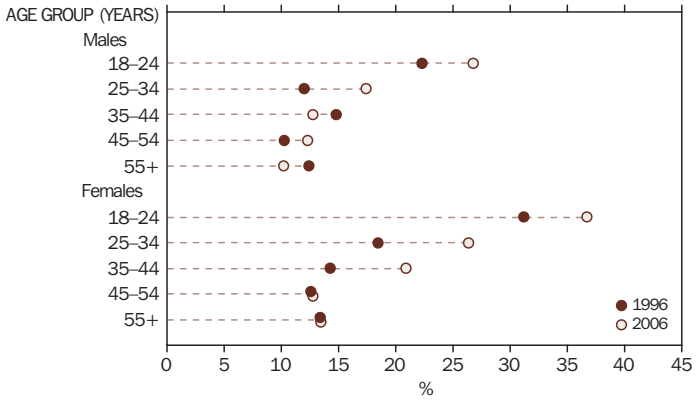
Only Canberra and Hobart experienced a decline in the proportion of adults using public transport as their main form of travel to work or study during this period.

In Canberra, public transport use fell by 31% between 1996 and 2006. While rates of use fluctuated in Hobart over this period, the 2006 rate was 20% lower than that in 1996.

Who uses public transport

Public transport use is associated with a variety of factors including age, sex, household composition, access to private motor vehicles and personal preferences. Research also suggests that those on lower incomes tend to have higher levels of public transport use.[7,8] However, income was not collected in the ABS Household Survey of Waste and Transport Use.

Proportion using public transport as main form of transport for usual trip to work or study(a): capital cities(b)



(a) As a proportion of the total number of persons in each age group.
(b) Excludes Darwin.

Source: ABS 2006 Household Survey of Waste Management and Transport Use and ABS 1996 Environment Survey.

...age and sex

Women of all ages were more likely than men to use public transport for their usual journey to work or study. In 2006, the rate of public transport use for women was 23%, compared with 16% for men.

Similarly, younger people were more likely than older people to use public transport for their usual journey to work or study. In 2006, over one-quarter (26%) of people aged 18–34 years used public transport as their main method of travel to work or study, compared with 11% of people aged 55 years and over.

Between 1996 and 2006, the use of public transport for travel to work or study increased for women aged up to 44 years. For example, public transport use by women in the 35–44 year age group increased from 14% in 1996 to 21% in 2006. Public transport use also grew for younger women aged 18–24 years (from 31% in 1996 to 37% in 2006) and 25–34 years (from 18% in 1996 to 26% in 2006).

For men, the use of public transport as the main method of travel to work or study also grew in the younger age groups. For example, public transport use grew for men aged 18–24 years (from 22% in 1996 to 27% in 2006) and for those aged 25–34 years (from 12% in 1996 to 17% in 2006). Use by men in other age groups remained relatively stable.

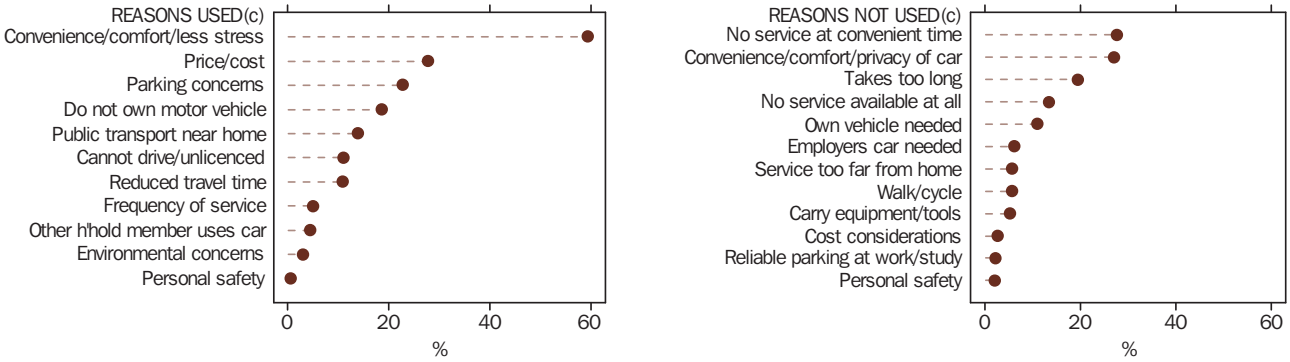
...household composition

Public transport use varies according to the type of household in which a person lives. Lone parents with dependent children had the highest rate of public transport use (24%), compared with 16% living in couple households with dependent children. One-fifth (20%) of adults living in one person households used public transport for their usual journey to work or study, as did 17% of adults living in couple only households.

...number of cars in household

The number of cars per household is associated with public transport use, with relatively low rates of use among residents of households that have two or more cars. In 2006, 70% of adults living in dwellings with no registered cars used public transport for their usual journey to work or study, although only one in twelve (8%) of all adults lived in such dwellings. The rate of public transport use for journeys to work or study for those living in dwellings with two or more cars (12%) was less than half that of those living in dwellings with one registered car (28%). Not only is the rate of public transport use lower in households that have two or more cars, but

Reasons for using/not using public transport for usual journey to work or study: capital cities(a)(b) — 2006



(a) Excludes Darwin.
(b) Persons aged 18 years and over.
(c) More than one reason may be specified.

Source: ABS 2006 Household Survey of Waste Management and Transport Use.

people in these households comprise a much larger share of the overall population (60% compared with 32% in one-car households).

Reasons for transport choices

People reported a variety of reasons for using, or choosing not to use, public transport.

...why is public transport used?

In 2006, the majority of adults who usually took public transport to their place of work or study (59%) considered public transport more convenient, comfortable and less stressful than any other mode of travel. This was reflected across all age groups.

Other reasons included price or cost considerations (28%) and parking concerns (23%). Parking concerns appear to be less of a concern to younger people than those in the older age groups. For example, 14% of people aged 18–24 listed parking concerns as a reason for using public transport compared with 27% of people aged 45–54 years.

Consistent with the pattern of public transport use and the number of cars registered at the household, a widely reported reason for using public transport was that the respondent did not own a car (19%). This was particularly so for people aged 18–24 years, with almost three in ten (28%) giving this as a reason for using public transport. In contrast, of those aged 35 years and over, only around one in ten (11%) reported using public transport because they did not own a car.

About one in ten adults (11%) reported that they used public transport for their usual journey to work or study because they could not drive or were unlicensed. Women were more likely than men to give this reason (14% compared with 7%). People aged 18–24 years were more likely to report this reason (16%) than those in other age groups.

Despite increasing public awareness of the issues of greenhouse gas emissions and climate change, only 3% of adults reported that they used public transport for journeys to work or study because they were concerned about the environment.

...why is public transport not used?

While convenience was widely reported as a main reason for using public transport, it also ranked highly among reasons why people used other forms of transport. In 2006, the most commonly reported reason for not using public transport to get to work or study was that there was no service available at a convenient time (28%). A similar proportion (27%) indicated that they did not use public transport because of the convenience, comfort and privacy offered by travel in their own vehicle.

The length of travel time on public transport was also reported as being too long by one in five people (20%). A relatively small proportion of people (6%) did not use public transport for their usual journey to work or study because they preferred to walk or cycle. Very few men or women cited concerns about personal safety as a reason for not using public transport for their usual journey to work or study.

People aged 55 years and over were the most likely to report that they did not use public transport for their journey to work or study because they needed their own vehicle before, during or after work or study hours (14%).

Similarly, 13% of people aged 35–44 years reported this as a reason for not using public transport, and it is likely that many people in the latter group require their vehicles to drop off and pick up their children from childcare, school and other activities.

Conclusion

Individuals' decisions about which form of transport to use are determined by numerous factors. In coming years it is likely that such factors will include the price of transport fuel, traffic congestion, and environmental concerns.

Similarly, the recent trend towards high-density living in and around major cities, as well as continued urban sprawl, may expand alternatives to private car travel for some, while limiting them for others. The level of investment in public transport infrastructure and the services offered will also have a bearing on the level of public transport use in the future.

Endnotes

1 Australian Greenhouse Office 2007, *National Greenhouse Gas Inventory 2005,* viewed 14 December 2007,<http://www.greenhouse.gov.au/inventory/2005/pubs/inventory2005.pdf>.

2 Australian Greenhouse Office 2006, *National Travel Behaviour Change (NTBC),* viewed 24 January 2008, <http://www.greenhouse.gov.au/ggap/ntbc.html>.

3 Bureau of Transport and Regional Economics (BTRE) 2007, *Estimating urban traffic and congestion cost trends for Australian cities*, Working Paper 71, viewed 18 March 2008, <http://www.btre.gov.au/info.aspx?ResourceId=249&NodeId=59>.

4 Australian Bureau of Statistics 2007, *Environmental Issues: People's Views and Practices, March 2006,* ABS cat. no. 4602.0, Canberra, ABS.

5 Kenworthy JR 2003, *Transport Energy Use and Greenhouse Gases in Urban Passenger Transport Systems: A Study of 84 Global Cities,*viewed 14 December 2007, <http://www.sustainability.dpc.wa.gov.au/conferences/refereed%20papers/Kenworthy,J%20paper.pdf>.

6 National Trust 1994, 'Tramway workshops, depots and substations', viewed 10 April 2008, <http://www.railpage.org.au/tram/goddmack.html>.

7 Victorian Department of Planning and Community Development 2007, *Melbourne Atlas 2006*, viewed 2 June 2008, <http://www.dse.vic.gov.au/dse/dsenres.nsf/linkview/9ca360582b427fbfca2570ad007b7bc26edcd66e75635aadca2571bf00242532>.

8 NSW Council on Social Services 2006, *Who uses Public Transport: Quantifying Low Income Public Transport Use in Greater Metropolitan Sydney*, viewed 2 June 2008, <www.ncoss.org.au/bookshelf/transport/submissions/who-uses-public-transport-july06.pdf>.

FOR MORE INFORMATION . . .

INTERNET **www.abs.gov.au** the ABS website is the best place for data from our publications and information about the ABS.

INFORMATION AND REFERRAL SERVICE

Our consultants can help you access the full range of information published by the ABS that is available free of charge from our website. Information tailored to your needs can also be requested as a 'user pays' service. Specialists are on hand to help you with analytical or methodological advice.

PHONE 1300 135 070

EMAIL client.services@abs.gov.au

FAX 1300 135 211

POST Client Services, ABS, GPO Box 796, Sydney NSW 2001

FREE ACCESS TO STATISTICS

All statistics on the ABS website can be downloaded free of charge.

WEB ADDRESS www.abs.gov.au