Information sheet 33

Australian Government
Department of Infrastructure, Transport, Regional Development and Local Government
Bureau of Infrastructure, Transport and Regional Economics

Urban public transport: recent bus transport statistics

Purpose

This information sheet compiles data on urban public bus services by government and outsourced private sector providers in Australia's capital cities. The information sheet complements, and will inform, BITRE's modelling of urban passenger transport trends in Australia (BITRE 2009). Statistics examined include: total passenger boardings; passenger kilometres; in-service bus kilometres; boardings per service kilometre; bus services by capital city; and an overview of Australia's current bus systems.

The key new results in the paper are:

- total reported boardings for 2005–06, 2006–07 and 2007–08 (Table 1) which show a general increasing trend in all cities except Hobart
- average trip length x total boardings for 2005–06, 2006–07 and 2007–08 (Table 2).

These new results are collated from bus statistics readily available in annual reports of relevant agencies and other public documents.

The data presented are the most accurate that have been able to be collated but there remain a number of issues with the quality of bus data which are also explored in the paper.

Background

State governments seek to ensure the further development of fast, efficient and equitable public transport systems, with most having set out public transport usage targets in various strategic and transport plans.[1] Buses play an important role in delivering public transport, from operating on orbital feeder routes for heavy rail services to dedicated haulage between suburb and interchange or CBD.

Total bus boardings are potentially influenced by the availability and accessibility of other modes of public transport. Comparisons between and across cities should be done with caution given that the cities have different transport systems and travel patterns. Brisbane, for example, has an extensive bus, ferry and suburban train system whereas Canberra is only serviced by a single bus system. The degree of timetable integration between the various modes of public transport also influences total bus boardings. Bus and rail can operate integrated transport systems with buses operating on orbital feeder routes, alternatively, services can be competing for passenger boardings if timetables are unaligned. Availability of dedicated infrastructure, such as busways and transitways in Brisbane and Sydney, may also influence total boardings.

Growth in car and urban public transport usage (heavy and light rail and bus) are closely linked to growth in population, and the related growth in employment (BITRE 2009). However, petrol prices, changes in economic circumstances and investment in public transport supply capacity can also affect the pattern of growth. This is consistent with Currie and Wallis (2008) who state that growth in bus patronage may, in part, be due to external variables such as fuel prices, costs of parking and population growth, or internal factors such as increased service frequency or better integrated ticketing and fare structures.

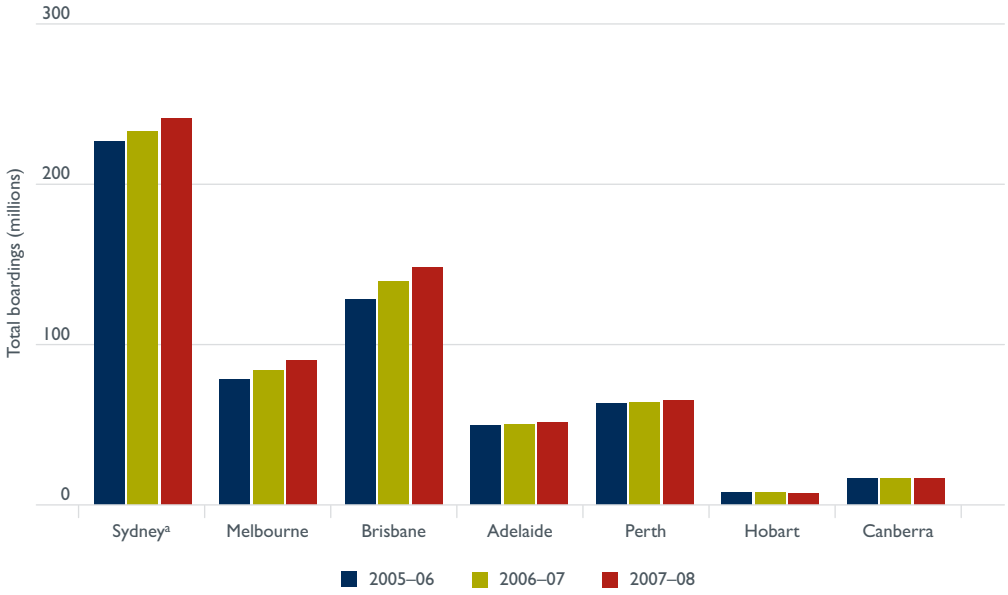
Each city varies in method and approach to moving passengers. Melbourne, for example, relies extensively on existing rail infrastructure, with combined tram and train services accounting for approximately 79 per cent of 2007–08 total public transport boardings (VIC DOT 2008). Brisbane relies significantly on an expansive bus network that utilises a system of dedicated busways jointly serviced by public and private operators, notably Brisbane's largest operator 'Brisbane Transport' is the corporate transport arm of Brisbane City Council.

Bus passenger boardings

Between 2006 and 2008, total bus passenger boardings increased year-on-year across Sydney, Melbourne, Brisbane, Adelaide and Perth. Canberra remained unchanged and Hobart experienced an overall decline in total passenger boardings (Figure 1 and Table 1).

1. Brisbane—1995 Integrated Regional Transport Plan, SEQ Regional Plan 2005–2026, TransLink Network Plan.
   Sydney—Sydney Metropolitan Strategy, NSW State Plan –'A new direction for NSW', Action for Transport 2010'.
   Melbourne—Meeting Our Transport Challenges (MOTC).
   Adelaide—South Australia's Strategic Plan.
   Canberra—Sustainable Transport Plan, Canberra Plan.

Figure 1 Passenger boardings by city 2005–06 to 2007–08 (millions)



a. Note a change in data reported from 2005–06 to 2006–07. Refer to Table 1 notes for further details.
Source: Annual Reports (NSW State Transit Authority [STA], Transport Data Centre – NSW Transport and Infrastructure; VIC Department of Transport and (formerly) Department of Infrastructure, SA Department for Transport, Energy and Infrastructure, WA Public Transport Authority [PTA], TAS Metro Tasmania, ACT ACTION and Territory and Municipal Services), Independent Pricing and Regulatory Tribunal [IPART], Personal Correspondence

Melbourne experienced large increases in annual patronage growth over the three financial years 2005–08 (7.5 per cent and 7.4 per cent respectively). Perth experienced increasing bus patronage growth rates of 1.1 per cent and 1.7 per cent between 2006–07 and 2007–08 due in part to the opening of the new Mandurah train line and the implementation of a new bus feeder network (PTA 2008).

Table 1 Passenger boardings across seven capital cities 2005–06 to 2007–08

	2005–06	2006–07	2007–08	2006–2007	2007–2008
	Total boardings (million)			Percentage change	
	Total reported boardings	Total reported boardings	Total reported boardings	Reported boardings	Reported boardings
Sydney [a]	226.8	233.4	241.3	– [b]	3.4
Melbourne [c]	79.1[d]	85.0	91.3	7.5	7.4
Brisbane [e]	129.7	140.5	149.4	8.3	6.3
Adelaide [f]	50.2	51.0	52.0	1.6	2.0
Perth [g]	63.9	64.6	65.7	1.1	1.7
Hobart	7.6	7.7	7.4	1.3	-3.9
Canberra	16.8	16.8	16.9	0.0	0.6
Total	574.1	599.0	624.1	– [b]	4.2

\+ These numbers are not directly comparable with estimates in BITRE Information Sheet 31. See explanatory notes.

a. Patronage on government and private bus services in Sydney Statistical Division excluding coach operations. Data for 2005 –06 excludes patronage in three outer metropolitan bus service contract regions covering the Blue Mountains and Central Coast.

b. Not computed because of change in the scope of reported data for Sydney between 2005–06 and 2006–07

c. Patronage on bus services in Melbourne—all delivered by private companies under contract with the Department of Transport.

d Excludes Commonwealth Games patronage estimated at 0.13 million boardings. This adjustment to exclude the additional patronage was to ensure that the one-off increase does not distort the view of the underlying growth in patronage when compared to following years.

e. The figures for reported boardings reflect the Greater Brisbane area (excludes Sunshine and Gold Coast regions).

f. Patronage data are from annual reports and include public dedicated school bus runs. Adelaide uses the Crouzet ticketing system which records transfer boardings separately from initial or fare-paying boardings.

g. Patronage on Transperth bus services—all privately operated.

May not add due to rounding

Source: Annual Reports (NSW State Transit Authority [STA], Transport Data Centre – NSW Transport and Infrastructure; VIC Department of Transport and (formerly) Department of Infrastructure, SA Department for Transport, Energy and Infrastructure, WA Public Transport Authority [PTA], TAS Metro Tasmania, ACT ACTION and Territory and Municipal Services), Independent Pricing and Regulatory Tribunal [IPART], Personal Correspondence

Brisbane Transport has recorded strong patronage growth since the introduction of integrated ticketing on 1 July 2004, averaging 8.9 per cent (TransLink 2007). Prior to 2004, growth on Brisbane Transport buses averaged 1.9 per cent from 2001 to 2004. Modelling conducted for the Unsworth Review of Bus Services in New South Wales estimated that integrated systems under existing ticketing arrangements across private operator regions would see patronage rise by 30 per cent, necessitating a 10 to 15 per cent increase to in-service kilometres (Unsworth 2004).

Data issues—bus passenger boarding

Passenger boardings across the capital cities are based on BITRE formulated definitions (see explanatory notes). This approach aggregates fare-paying boardings, free boardings and transfer boardings as a means to harmonise the various state and territory data (Table 1). Where data is available, school travel has been included with total boarding figures.

Generally, bus patronage has been increasing across the seven capitals; however, any detailed comparison between and across cities should be undertaken with caution.

The issue of school travel data is identified as requiring further research and investigation. School travel on the urban public transport system has been included. The students represent additional volume that must be carried but school travel on privately operated or public dedicated school bus runs is not always readily available. For example, the figures for Sydney in 2005–06 exclude (because of lack of data) student travel under the School Student Travel Scheme (SSTS) in the outer metropolitan bus service contract regions within the Sydney Statistical Division. In Melbourne students qualify for a concession ticket costing around half the price of a full fare. The concession fare also applies to Victorian Seniors card holders and War Veterans (Metlink 2009). Measuring the school travel component of total boardings is accounted for as aggregated free travel or is included with fare-paying concessions.

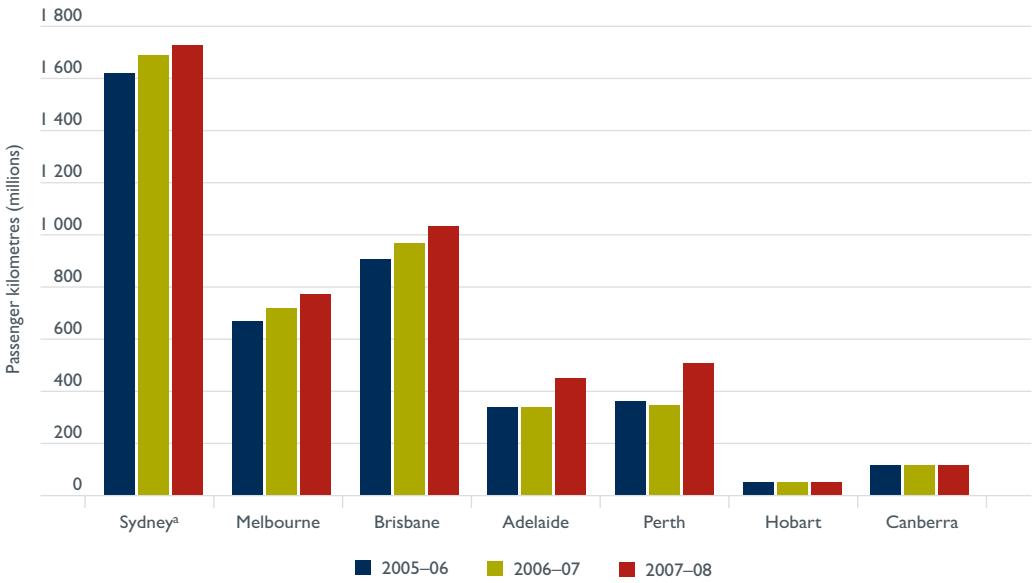
Distance related bus statistics

This section presents findings regarding distance-related bus statistics such as passenger kilometres, bus in-service kilometres and boardings per service kilometre.

Passenger kilometres

Passenger kilometres are a measure of total passenger travel. The measure represents one passenger travelling over one road kilometre. Passenger kilometres travelled were the highest in Sydney in 2008, followed by Greater Brisbane and Melbourne (Figure 2 and Table 2).

Figure 2 Total passenger kilometres by city, 2005–06 to 2007–08 (millions)



a. Note a change in data reported from 2005–06 to 2006–07. Refer to Table 1 notes for further details.

Source: Annual Reports (NSW State Transit Authority [STA], Transport Data Centre – NSW Transport and Infrastructure; VIC Department of Transport and (formerly) Department of Infrastructure, SA Department for Transport, Energy and Infrastructure, WA Public Transport Authority [PTA], TAS Metro Tasmania, ACT ACTION and Territory and Municipal Services), Independent Pricing and Regulatory Tribunal [IPART], Personal Correspondence

Table 2 Estimates of bus passenger kilometres by capital city 2005–06 to 2007–08

	2005–06	2006–07	2007–08	2006–2007	2007–2008
	Passenger kilometres (billions)			Percentage change	
	Average trip length x total boardings	Average trip length x total boardings	Average trip length x total boardings	Average trip length x total boardings	
Sydney[a]	1.62	1.68	1.73	—[b]	2.4
Melbourne[c]	0.67[d]	0.72	0.78	7.5	8.3
Brisbane[e]	0.91	0.97	1.04	6.6	7.2
Adelaide[f]	0.44	0.44	0.45	0.0	2.3
Perth[g]	0.36	0.35	0.51[b]	–2.8	45.7[h]
Hobart	0.05	0.05	0.05	0.0	0.0
Canberra	0.12	0.12	0.12	0.0	0.0
Total	4.08	4.24	4.67	—[b]	10.1

\+ These numbers are not directly comparable with estimates in BITRE Information Sheet 31. See explanatory notes.

a. Passenger kilometres are computed as boardings in Table 1 multiplied by average trip length. Data for 2005–06 excludes passenger kilometres in three outer metropolitan bus service contract regions covering the Blue Mountains and Central Coast).

b. Not computed because of change in the scope of reported data for Sydney between 2005–06 and 2006–07 (see notes a and b)

c. Passenger kilometres on bus services in Melbourne—all delivered by private companies under contract with the Department of Transport.

d. Excludes Commonwealth Games passenger kilometres. This adjustment to exclude the additional passenger kilometres was to ensure that the one-off increase does not distort the view of the underlying growth in passenger kilometres,

e. The figures for passenger kilometres reflect the Greater Brisbane area (excludes Sunshine and Gold Coast regions).

f. Passenger kilometres data include public dedicated school bus runs. Figures provided by SA Department for Transport, Energy and Environment.

g. Passenger kilometres on Transperth bus services—all privately operated. Figures provided by Public Transport Authority.

h. The 2007-08 figure is calculated using more detailed and more accurate SmartRider tag-on/ tag-off data

May not add due to rounding

Source: Annual Reports (NSW State Transit Authority [STA], Transport Data Centre – NSW Transport and Infrastructure; VIC Department of Transport and (formerly) Department of Infrastructure, SA Department for Transport, Energy and Infrastructure, WA Public Transport Authority [PTA], TAS Metro Tasmania, ACT ACTION and Territory and Municipal Services), Independent Pricing and Regulatory Tribunal [IPART], Personal Correspondence

Data issues

Aggregated individual trips provide an estimate of total passenger kilometres. Where the volume of trips is large and varied, an average trip length is calculated and multiplied by total boardings. Similar trend movements between passenger kilometres and passenger boardings between 2005–06 and 2006–07, and 2006–07 and 2007–08 (Table 2) are because total boardings data (Table 1) are multiplied by a static average trip length over the three periods, unless passenger kilometre data have been provided by transport authorities.

Perth's figures for 2005-06 and 2006-07 are calculated on a zonal distribution of ticket sales used to derive an estimated average trip length for the bus network. An average distance travelled is assumed for each zone and weighted according to the proportion of fare-paying boardings in each zone (PTA 2008). The figure for 2007-08 was calculated using the SmartRider tag-on/tag-off. Average trip length can be varied by a number of factors such as: an increase (or decrease) in total passenger boardings or existing passengers travelling longer (or shorter) distances; changes in timetabling to increase service frequency; improvements in other modes of public transport such as rail or ferry, which deter longer travel by bus; or by increasing the number of bus stops.

The absence of reliable average trip length data, through survey or ticket sales, inhibits the ability to accurately calculate passenger kilometres. A significant current difficulty is in obtaining accurate passenger alighting data from existing recording systems. It is hoped that the use of 'Smartcard' technology will assist with a more accurate calculation of passenger service kilometres in the future. Many current validating systems merely record the trip as having occurred within a certain time frame but are unable to make an adjustment for the time or place of the alighting passenger.

'Smartcard' technology often requires passengers to 'tag on' at the beginning and 'tag off' at the end of their journey, enabling accurate trip data to be recorded. Cities operating on a distance-based, zoned scheme will fully utilise the Smartcard's capabilities, compared to cities utilising a flat-fare system when there exists only a requirement to 'tag on' and pay for the initial boarding, as is the case with the London Buses' Oyster card (Transport for London 2009).

In-service kilometres

In-service kilometres are the kilometres travelled by buses operating over their scheduled routes over a year, excluding 'dead running' kilometres. 'Dead running' kilometres are journeys by a bus where no passengers are being transported over specified routes. An example of dead running is journeys between the depot and the bus station. Aggregate in-service kilometres are affected by a number of variables including number of buses, frequency of services and length of services.

Table 3 In-service kilometres by capital city 2005–06 to 2007–08

	2005–06	*2006–07*	*2007–08*	*2006–2007*	*2007–2008*
		(millions)		*(percentage change)*	
Sydney[a]	110.3	117.8	124.2	6.8	5.4
Melbourne	76.9	83.6	88.4	8.7	5.7
Brisbane	53.0	58.8	61.2	10.9	4.1
Adelaide	39.2	39.4	40.5	0.7	2.7
Perth	49.1	50.0	50.9	1.7	1.9
Hobart[b]	6.6	6.6	6.6	0	0
Canberra	17.4	16.5	16.2	–5.1	–1.9

a. Sydney estimates based on data provided by Transport Data Centre – NSW Transport and Infrastructure.
b. Based on contract for delivery of 6.6 million in-service kilometres with a 1 per cent allowance band.
Source: Annual reports, Transport Data Centre – NSW Transport and Infrastructure and Personal Correspondence.

Brisbane recorded the highest growth in in-service kilometres (10.9 per cent in 2006–07) followed by Melbourne (8.7 per cent and 5.7 per cent (Table 3). As part of 'Meeting Our Transport Challenges' (MOTC), the Victorian Department of Transport extended bus operating hours, created new bus routes, upgraded frequencies and extended or rerouted some existing services (VIC DOT, 2008). Similarly, Perth experienced in-service kilometre growth of 1.7 per cent and 1.9 respectively between 2005–06 and 2007–08. Over the same time frame Canberra experienced a marked decline in in-service kilometres falling 5.1 per cent between 2006 and 2007 and 1.9 per cent between 2007 and 2008. ACTION (Canberra's public bus operator) initially curtailed 240 bus services following the 2006–07 budget, however 37 resumed on 5 February 2007 with a further 84 provided from 20 April 2007 (ACT Legislative Assembly 2007).

Boardings per service kilometre

Boardings per service kilometre indicates how well the bus network is being patronised, based on the number of in-service kilometres travelled (Table 4). Trends are influenced by variations in in-service kilometres and total boardings. Brisbane recorded the highest boardings per service kilometre followed by Sydney. However, the data for Sydney in Table 4 are restricted to a densely populated area of inner Sydney and only refers to boardings and in-service kilometres from Sydney Buses and Western Sydney Buses T-Way operation.

Table 4 Number of boardings per service kilometre 2005–06 to 2007–08

	2005–06	*2006–07*	*2007–08*
		(boarding/service kilometre)	
Sydney[a]	2.06	1.98	1.94
Melbourne	1.03	1.02	1.03
Brisbane[b]	2.45	2.39	2.44
Adelaide	1.28	1.3	1.28
Perth	1.30	1.29	1.29
Hobart[c]	1.16	1.17	1.13
Canberra	0.97	1.02	1.04

a. Sydney estimates based on data provided by Transport Data Centre – NSW Transport and Infrastructure.
b. Data provided by Translink Transit Authority, Brisbane
c. Based on contract for delivery of 6.6 million in-service kilometres with a 1 per cent allowance band.
Source: BITRE estimates.

Public transport vehicles

This section presents findings regarding the count of buses across the seven capital cities. Bus services are operated by both state and local government authorities as well as by private operators (Table 5).

Table 5 Bus service vehicles by capital city, January 2009

	Government/council services		*Private operators/contracted services*		*Total*
	Buses	*Per cent*	*Buses*	*Per cent*	
Sydney	1 849	53.4	1 616	46.6	3 465
Melbourne	0	0	1 583	100	1 583
Brisbane	971	53.6	842	46.4	1 813
Adelaide	0	0	878	100	878
Perth	0	0	1 124	100	1 154
Hobart	105	100	0	0	105
Canberra[a]	400	100	0	0	400
Total	3 359	35	6 156	65	9 515

Notes: Includes school buses and coaches.
a. Includes 18 special needs vehicles which are used to provide school services to students with special needs; they are not part of ACTION's route service fleet.
Source: Personal Correspondence, Bus Australia 2009.

The difference between private operators and contracted services is in terms of bus ownership. Private operators are responsible for their own fleet of vehicles that operate over a contracted route or area. Contracted operators use government-owned buses that operate over contracted areas. Bus services in Sydney are facilitated by both government and private bus operators. The State Transit Authority has contracts within the Metropolitan Bus Services Contracts (MBSC) region along with private providers. Sydney's private operators own and operate their bus fleets but can also enter into finance arrangements with the Ministry of Transport for additional new buses. The Hobart and Canberra bus fleets are entirely owned and operated by the respective state and territory governments. Melbourne's 1583 buses are entirely operated by private contractors. In contrast in Perth buses are publicly owned by Transperth but operated by private sector companies under contract. Brisbane is predominantly serviced by Brisbane Transport operated by Brisbane City Council under contract with TransLink. Adelaide has contracting arrangements similar to Perth, with all services privately contracted.

Conclusion

The urban bus industry continues to evolve in the face of changing commuter travel patterns. Recent years have brought a decline of government-owned and -operated bus systems in favour of privately operated or contracted services. The growth of city boundaries and increase in passenger boardings necessitated an increase in bus fleets to cater for the rise in demand for public transport.

Availability of publicly-provided passenger data is generally limited. Private bus operators, however, are still required to report boarding figures to transport authorities. Transport authorities encourage greater data collection and data integrity within their own capital cities through various means including by contractual obligation.

Although each city has unique characteristics that make any comparisons and data collection challenging, a more comprehensive, robust and consistent definition of passenger boardings would aid in public transport reporting. Clearly articulated definitions and accurate counts of school travel would also be helpful.

Passenger kilometres provide insight into public transport patronage. The universal move to 'Smartcard' technology may assist greatly with the often most complex calculation, of the average trip length in the city.

Explanatory notes

Differences between this paper and BITRE Information Sheet 31

The data presented in this paper are not directly comparable with the bus task estimates in Information Sheet 31 (BITRE 2009). The generally more comprehensive (time-series) results given in BITRE(2009) were derived using a variety of rough: imputation methods (to correct for possible under-reporting of bus patronage, particularly by various private transit operators); scale factors (to allow for the contribution due to other commercial, non-transit buses – such as charter, hire or tour buses); adjustments for differences in geographic coverage over time; and standardisation techniques (e.g. to allow for differing data collection methods, especially the treatment of concession or transfer passengers, over time). This paper, however, reports patronage data directly collected from the relevant state and territory transport authorities.

Patronage/total boardings:

For consistency between the various state and territory data, BITRE formulated a broad bus patronage definition. This resulted in total boardings being the sum of fare-paying boardings, free boardings and transfers. Accounting for transferring passengers accurately is the strength of any ticketing system. Fare-paying boardings are the initial boardings where cash tickets are purchased, pre-paid validation tickets are first validated and Smartcards are used to tag on. Free boardings are a result of a number of possible free travel passes including veterans' passes and selected student schemes. Transfers are passengers changing between various public transport services and modes (bus, rail and ferry) holding a current fare paying ticket which enables a transfer within a given time frame, including the use of monthly and yearly travel passes as well as the use of daily transfer tickets. The relationship between fare paying boardings and transfer boardings is worth noting given that in some cases all transfer boardings are initially recorded as fare-paying boardings. The chief concern is how many people are boarding a bus irrespective of ticket type. Transfer boardings are accounted for by use of

- validation machines (which accurately record the transfer, but provide no details on when passengers alight—such as is used when calculating passenger kilometres)
- ticket sales; as well as
- by use of estimation methods requiring use of travel diary, household surveys and travel surveys.

As with many time series data there may be breaks in output due to variations in collection methodology.

Influences such as modifications to bus contract areas, new routes to previously unserviced areas and changes in bus ownership structure may affect changes in total boardings year-on-year. Changes to the fare structures, for example, also change the number of total boardings.

The variability in data across the cities means that inter-city comparisons should be undertaken with caution.

City boundaries

Cities were defined according to their statistical division (SD) boundaries as outlined in the 2008 Australian Standard Geographical Classification (ASGC). If a metropolitan contract region covered the 'city', then the region covered by the contract was taken as the boundary of the city.

Buses were defined according to the ABS Survey of Motor Vehicle Use (2008), as being 'Motor Vehicles constructed for the carriage of passengers. Included are all motor vehicles with 10 or more seats, including the driver's seat'. Buses operating on city routes have on average a seating capacity of 40 seats, with articulated buses having an average seating capacity of 70 seats.

Smartcards

Many cities plan on replacing current 'validating' ticketing systems with contactless 'Smartcard' technology sometime in the near future (Table 6). Perth introduced a Smartcard ticketing system under the 'SmartRider' banner across its entire public transport network in March 2007 (WA PTA 2007). Brisbane's 'Gocard' was progressively rolled out from the end February 2008 across the TransLink network which stretches from Noosa on the Sunshine Coast, to Coolangatta on the Gold Coast and west to Helidon (QLD Transport 2008). 'Myki' trials are underway throughout the Geelong and Bellarine Peninsula areas for a staged release across the entire public transport network in Victoria. Sydney trialled its version of an integrated and cashless ticketing system, the 'T-card', before it was abandoned on 23 January 2008 (PTTC 2008a). It was announced that Sydney would pursue a new electronic ticketing system, with further outcomes from the procurement stage to be known in 2009 (PTTC 2008b).

Improved data from a Smartcard system often rests on the capabilities of the Smartcard to provide timely, accurate and reliable patronage information without compromising its primary goal, as a means to facilitate efficient travel. In this study better quality information provided was from Transperth which operate using a Smartcard system.[3]

3. On average 62 per cent of passenger boardings occur on Perth's public transport system using the SmartRider (Smartcard) (PTA 2008).

Table 6 Australia's urban bus industry

	Sydney	*Melbourne*	*Brisbane*	*Adelaide*	*Perth*	*Hobart*	*Canberra*
Regulator	Ministry of Transport	Department of Transport's Public Transport Division	TransLink Transit Authority	Department for Transport Energy and Infrastructure's Public Transport Division	Public Transport Authority	Department of Infrastructure, Energy and Resources	Department of Territory and Municipality Services
Public authority	State Transit Authority - Sydney Buses - Western Sydney Buses	Metlink	TransLink	Adelaide Metro	Transperth	Metro Tasmania	ACTION
Ticket system							
Current	Validation	Validation – Metcard,	GoCard - (Smartcard) Implemented February 2008	Validation – Metroticket,	SmartRider -(Smartcard) Implemented March 2007	Validation – Met 10	Validation
Future	Electronic Ticketing planned	Myki (Smartcard)	-	Planning for a new system	-	Metro Greencard - (Smartcard)	Plans for Smartcard
Ticket Structure	Zone, Time 16 zones	Zone, Time 2 zones	Zone, Time 23 zones	Zone, Time	Zone, Time 9 zones	Zone, Time 9 zones	Time 1 zone
Public operator(s)	Sydney Buses Western Sydney Buses	na	Brisbane Transport	na	na	Metro Tasmania	ACTION
Main private operator(s)	Busways	Grenda Corporation	Veolia Bus Service	Transitplus	Path Transit	na	na
	ComfortDelGro Cabcharge - Westbus/ Hillsbus	Ventura Bus Lines Kefford Corporation	Logan City Bus Service	Torrens Transit Southlink	Southern Coast Transit Swan Transit		
Ticket integration[1]	No	Yes	Yes	Yes	Yes	Yes[2]	Yes[2]
Fare integration[3]	No	Yes	Yes	Yes	Yes	Yes[2]	Yes[2]

Note: 1. Ticket Integration: common fare payment method across all modes and operators creating 'seamless' travel (eg smartcard, magnetic strip)
2. Only one mode of public transport
3. Fare Integration: common fare structure, fare products, and fare levels across all modes and operators

na: not applicable

Validation—refers to use of cardboard cards with a magnetic strip to store travel information.

Smartcard—refers to use of a plastic card with imbedded micro chip that stores value for use on public transport.

Source: Annual reports from internet sites and submissions: Ministry of Transport 2006, 2007, 2008, Ministry of Transport 131500.com.au – Fares and Passes 2009, State Transit Authority 2007, 2008; Department of Infrastructure 2006, 2007, Department of Transport 2008; Queensland Transport 2006, 2007, 2008, TransLink 2007; Adelaide Metro, Department for Transport, Energy and Infrastructure 2006, 2007; Public Transport Authority 2006, 2007, 2008; Metro Tasmania 2006, 2007, 2008; Department of Planning and Infrastructure 2008; ACTION 2006, Department of Territory and Municipality Services 2008, ACT Legislative Assembly – Standing Committee on Planning and the Environment – ACTION Inquiry 2007, Submission for Standing Committee on Planning and Environment – ACTION Inquiry 2007, Streeting and Charles 2006

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