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In brief

The feature article examines the aviation industry's contribution to greenhouse gas emissions and the steps being taken both domestically and internationally to quantify the problem and to reduce aviation emissions.

The number of passengers on Australian international flights has increased to 22.3 million in 2006–07, up 4.7 per cent on the previous year (page 9). Growth is driven mainly by Australian residents travelling overseas rather than the arrival of international visitors. The number of international flights has also increased by 1.3 per cent to 119 271 (page 10).

Freight on Australian international flights has continued to grow, reaching 753 945 tonnes (up 3.9 per cent on the previous year). The Sydney–Auckland route has the largest share (7.9 per cent) of total freight between city pairs (page 12).

Australia's domestic airline industry continues to operate at high levels with a record 45.3 million passengers carried in 2006–07, 6.0 per cent higher than 2005–06 (page 15).

The major domestic airlines carried 39.8 million passengers, an increase of 8.0 per cent over 2005–06. Regional airlines carried 5.51 million passengers, an increase of 10.8 per cent over the previous year (page 15).

The domestic aviation industry recorded 525 393 flights in 2006–07, 1.1 per cent lower than the previous financial year. Of these, 290 891 were operated by the major domestic airlines, an increase of 1.5 per cent on 2005–06. The remaining 234 502 flights were operated by regional airlines, a decrease of 4.2 per cent over the previous year (page 16).

Domestic airline on-time performance in 2006–07 averaged 86.9 per cent for on-time departures, 85.6 per cent for on-time arrivals and 0.8 per cent for cancellations (page 18).

Passenger numbers continued to increase at all five major Australian airports in 2006–07. Growth in international passenger movements was highest at Adelaide Airport (27.2 per cent) while Perth Airport led in domestic (14.3 per cent) and regional (17.3 per cent) passenger growth (page 21).

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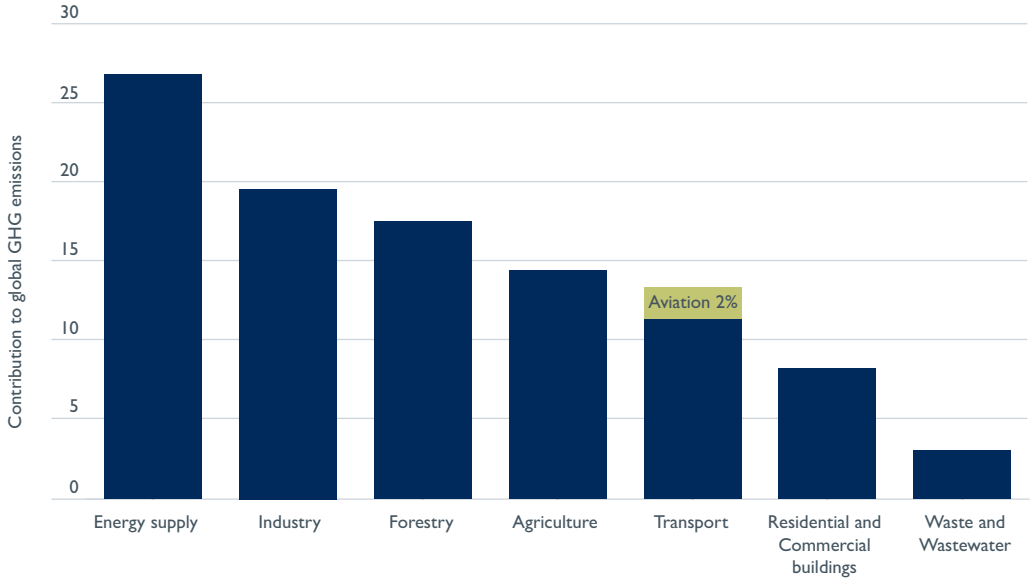
Managing the climate change impacts of aviation

Introduction

Aviation is one of the few industries which, due in part to a lack of alternative fuel sources, is a growing source of emissions. With the increasing number of low cost carriers and significant amounts of discretionary air travel the industry is continuing to grow. Consequently, the impact of aviation on climate change is gaining ever increasing scrutiny and media coverage. In Europe, in particular, there is significant community pressure for constraints to be imposed on the aviation industry.

Figure 1 indicates that at present all forms of transport—air, rail, road and sea—contribute a combined total of 13 per cent to global greenhouse gas (GHG) emissions. Aviation (domestic and international) contributes about 2 per cent to global emissions.[1]

Figure 1 Global greenhouse gas (GHG) emissions by sector, 2004



Source: Intergovernmental Panel on Climate Change (IPCC), 4th Assessment Report 2007, Working Group III, Technical Summary, Chapter 1, page 104 (http://arch.rivm.nl/env/int/ipcc/pages_media/AR4-chapters.html).

Governments across the world are acting both individually and through the International Civil Aviation Organization (ICAO) to address aviation emissions. Additionally, industry is implementing a range of measures to address its carbon footprint. Despite these efforts, the fuel efficiency gains that are currently being achieved are not keeping up with the growth in demand for aviation. As a result, carbon dioxide (CO_2) emissions from aviation are continuing to grow.

1. ICAO Environmental Report 2007, page 104 (http://www.icao.int/icao/en/env/pubs/Env_Report_07.pdf)

ICAO data shows that growth in demand is projected to be at an annual rate in the order of 5 per cent over the next 20 years (Table 1). However, at the present time, efficiency gains are achieving an effective 1–2 per cent reduction in emissions per annum. Therefore, there is a gap between growth in demand and technological advancement which is leading to an approximate growth in emissions of about 3 per cent per year at the global level. This is consistent with the BITRE forecasts of growth in CO_2 emissions from civil domestic aviation in Australia of about 2.8 per cent per annum between 2000 and 2020.[2]

Table 1 ICAO air traffic forecasts—world (1985–2025, ICAO contracting states)

	Actual	*Actual*	*Forecast*	*Average annual growth rate (%)*	
Scheduled services	*1985*	*2005*	*2025*	*1985–2005*	*2005–2025*
Total					
Passenger-kilometres (billions)	1 366	3 720	9 180	5.1	4.6
Freight tonne-kilometres (millions)	39 813	142 579	510 000	6.6	6.6
Passengers carried (millions)	896	2 022	4 500	4.2	4.1
Freight tonnes carried (thousands)	13 742	37 660	110 000	5.2	5.5
Aircraft-kilometres (millions)	n.a.	30 845	69 040	n.a.	4.1
Aircraft departures (thousands)	n.a.	24 904	50 450	n.a.	3.6
International					
Passenger-kilometres (billions)	589	2 197	6 225	6.8	5.3
Freight tonne-kilometres (millions)	29 384	118 482	452 120	7.2	6.9
Passengers carried (millions)	194	704	1 950	6.7	5.2
Freight tonnes carried (thousands)	5 884	22 630	80 000	7.0	6.5

Note: Data on operations of airlines registered in the former USSR is not available for 1985. (n.a. = not available)

Source: ICAO Environmental Report 2007, page 11 (http://www.icao.int/icao/en/env/pubs/Env_Report_07.pdf)

Domestically, the Government is committed to pursuing the implementation of an Australian emissions trading scheme as the primary mechanism for achieving Australia's long term greenhouse gas emissions reductions goal of 60 per cent by 2050. A domestic emissions trading scheme would be expected to encompass emissions associated with the domestic aviation sector.

In the global context, ICAO has the responsibility to develop an agreed approach to managing emissions from international aviation. Some countries are simultaneously implementing their own measures to reduce emissions from aviation.

Understanding the problem—carbon footprinting aviation

In order to develop strategies to manage carbon emissions from any sector of the economy the fundamental first step is to develop a robust understanding of the distribution of the sources of the emissions from that sector.

Establishing a credible quantification of carbon emissions and emission trends is a prerequisite to successful management of aviation's climate change impacts. If

2. BITRE publication *Greenhouse Gas Emissions from Australian Transport: Base Case Projections to 2020* (http://www.bitre.gov.au/info.aspx?ResourceId=134&NodeId=16)

society is to take the most effective steps to manage aviation's climate change impacts it is fundamental that trends in emissions from the sector are carefully tracked and regularly published so that the effectiveness of mitigation policies can be continuously monitored and be open to public scrutiny.

The National Greenhouse and Energy Reporting Act 2007 (the Act) establishes the legislative framework for a national greenhouse and energy reporting system. The legislation was introduced to the Australian Parliament on 15 August 2007 and received royal assent on 28 September 2007. The first mandatory reporting period will commence on 1 July 2008.

Mandatory reporting will occur through a streamlined national reporting system.

The reporting system established by the Act will underpin the introduction of any future Australian Emissions Trading Scheme (AETS), and inform government policy and the Australian public. The Act provides for a reporting system that will ensure:

- robust and transparent emissions reporting for the AETS;
- a single streamlined national reporting point for greenhouse gas emissions and energy data to assist Commonwealth, State and Territory government programs and activities; and
- Australia's international reporting obligations are met.

The Act will make reporting mandatory for companies whose energy production, energy use, or greenhouse gas emissions meet certain thresholds. The Act requires controlling corporations to register and report if they emit greenhouse gases, produce energy, or consume energy at or above specified quantities per financial year (1 July to 30 June). Details are provided in the *National Greenhouse and Energy Reporting System, Regulations Discussion Paper*, available from www.greenhouse.gov.au.

Draft *Technical Guidelines for the Estimation of Greenhouse Emissions and Energy at the facility level: the Energy, Industrial Process and Waste Sectors in Australia* are also currently being developed. The draft Guidelines are expected to be released for public consultation in late 2007.

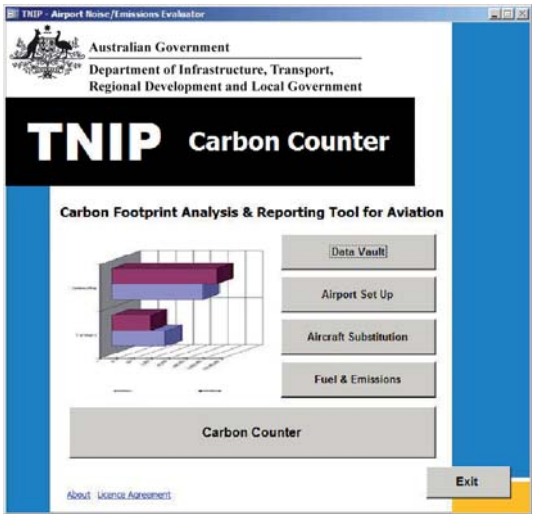
More broadly readily accessible disaggregated data on the make-up of the carbon footprint for aviation is difficult to obtain. In response, the Official Airline Guide (OAG)[3] has recently released a carbon footprinting tool for aviation. Eurocontrol[4] has also indicated that it will be incorporating carbon footprinting capabilities into its environmental reporting model. The Department of Infrastructure, Transport, Regional Development and Local Government is independently developing a similar carbon footprinting tool (Box 1) .

3. http://www.backaviation.com/Carbon_Emissions_Calculator/Carbon_Emissions_Calculator.htm
4. http://www.eurocontrol.int/environment/public/standard_page/pagoda.html

Box 1 TNIP Carbon Counter

The design features underlying this application derive from software developed by the Department in response to community concerns relating to aircraft noise (TNIP—Transparent Noise Information Package).[5]

The program uses readily available airport runway use data as its input and computes fuel use on a flight by flight basis using a great circle calculation approach. The key feature of the program is its ability to provide the user the power to rapidly interrogate large amounts of data from individual flights to produce multiple reports using a range of parameters (e.g. total fuel used, CO_2/passenger, etc). The user can then examine these factors across airports, routes, aircraft types, etc as a snapshot or as trends over time both historically and for future projections.



This program is currently under development—it is expected that version 1 will be available for public release, as freeware, in early 2008.

Source: Aviation Environment Policy Section, Department of Infrastructure, Transport, Regional Development and Local Government

Improving operational efficiency

In common with most developed countries there is a strong focus within Australia on improving the operational efficiency of the aviation sector. Airservices Australia has been prominent in developing new air traffic procedures to improve fuel efficiencies and reduce emissions on individual flights. These include:

- Pre-departure management to hold aircraft on the ground prior to departure rather than in the air when there are expected delays at the destination airport;
- The use of latest navigational equipment to enable more direct routes and smaller separation limitations;
- The daily provision of flexible tracking (Flextracks)[6] to allow airlines to fly optimised routes based on prevailing winds; and
- Management of delays en-route rather than in terminal areas.

In favourable conditions Flextracks alone can lead to an 8 per cent fuel saving, and holding an aircraft on the ground, as compared to in flight, can prevent up to 600 kg of CO_2 emissions. Efficiencies such as these will have the most benefit if applied in countries which have more congested and less efficient air traffic management systems.

5. http://www.infrastructure.gov.au/aviation/environmental/transparent_noise/index.aspx
6. http://www.airservicesaustralia.com/customer/AUSOTS/default.asp

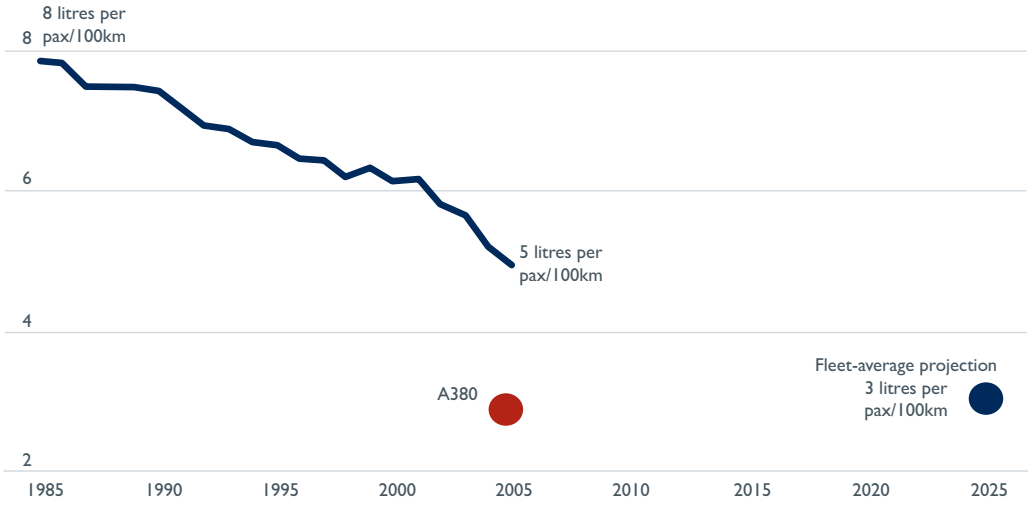
Efficiency gains through aircraft design

New technology being incorporated into aircraft is playing an important role in improving the efficiency of the aviation sector. The use of new, lighter synthetic materials (composites) in aircraft construction leads to significant weight, and hence emissions, reductions. Also the use of lighter and larger aircraft equipped with the latest generation engines is playing a major role in driving down the rate of fuel used per passenger kilometre—this is exemplified by the fuel use efficiency of the recently released A380 (Figure 2).

In Australia Qantas has been at the forefront of ordering new aircraft types, the A380 and the B787, which offer very significant fuel savings over current aircraft. However, due to the long lead times for new aircraft the benefits gained in this area will only slowly accumulate over time as the fleet is renewed.

More immediate returns in aircraft efficiencies can be gained through weight reductions such as by refitting cabin interiors and seating or, for example, by using wing tip extensions which improve aircraft aerodynamics.

Figure 2 Worldwide passenger air traffic fuel consumption (litres per passenger per 100 km)



Note: The new Airbus A380 has the lowest fuel consumption per passenger of any commercial airliner yet built.
Source: ICAO Environmental Report 2007, page 109 (http://www.icao.int/icao/en/env/pubs/Env_Report_07.pdf)

Market-based measures

Voluntary Carbon Offsetting

In the period leading up to the implementation of a domestic emission trading scheme voluntary carbon offsets can play a role in raising public awareness.

In recent months Virgin Blue, Qantas, Jetstar and SkyWest have all introduced schemes which enable their customers to offset their personal contribution to the total carbon emissions generated by aviation. These initiatives are in their infancy and several issues, including the accreditation of offset providers need ongoing consideration.

Emissions Trading Scheme (ETS) for Australia

As indicated earlier, at the present time emissions reducing technology is not keeping pace with demand for air travel and therefore economic measures are receiving increasing attention as the means to manage aviation's carbon footprint. An ETS for Australia, which is expected to encompass aviation, is likely to be introduced by 2010. The new Department of Climate Change will take a lead role in formulating an ETS for Australia.

The role of ICAO

Approximately 60 per cent of jet fuel uplifted in civil aircraft in Australia is used in international aircraft.[7] This is consistent with fuel use patterns throughout the world. Responsibility for managing international aviation emissions rests with ICAO. Consensus is yet to be reached on the way growing emissions from the international sector should be managed.

At the recent ICAO Assembly it was agreed to establish a special high level policy group to develop feasible strategies and measures to achieve emissions reductions. The group is charged with developing a programme of action on international aviation and climate change and has been tasked with establishing an implementation framework that will include reporting on the progress resulting from the actions implemented by contracting States and Stakeholders and identifying possible global aspirational goals in the form of fuel efficiency.

In recognition of the importance of voluntary offsetting, ICAO is also developing a tool which will enable individuals to compute the CO_2 emissions from their flights (Box 2). This project is aimed at addressing the credibility problems that currently surround voluntary offsetting schemes due to the lack of consistency between offset charges offered by the different schemes.

Box 2 Summary of ICAO's Carbon Offset Project

Aware of the potential environmental benefits as well as the high likelihood for consumer confusion surrounding the issue of carbon offsetting, ICAO has secured the services of experts from ICF to develop a Carbon Offset Project and publish a guideline methodology to calculate the per passenger emissions of carbon dioxide associated with a given flight. The intention is to provide a reference tool based on this methodology for any user interested in an emissions estimate, using an open and transparent methodology. It also intends to promote the use of this methodology to entities interested in providing carbon offsets with a view to harmonizing the assessment of aviation assessments.

The project involves:

- identifying and reviewing existing methods and available data;
- developing an ICAO approved methodology;
- testing and validating the methodology;
- providing a web-based reference tool; and
- disseminating the methodology through the ICAO website.

Source: ICAO Environmental Report 2007, page 166 (http://www.icao.int/icao/en/env/pubs/Env_Report_07.pdf)

7. pages 32 and 33 in reference [2]

The way ahead

The Australian Government's national reporting system for domestic greenhouse emissions is currently being developed. Its aim is to provide robust and transparent emissions and energy data in a way that imposes the least cost burden and minimises red tape for reporting entities and those entities providing emissions offsets.

An Australian emissions trading scheme would be expected to encompass emissions associated with the domestic aviation sector.

Given that the major source of aviation emissions derive from international aviation, countries will need to work together to develop harmonised actions. The aviation emissions issue is a very high priority on the ICAO agenda.

Efforts to improve the efficiency of aviation through the adoption of technological advances must be continued if growth in emissions is to be addressed.

The Australian Government is an active player in all of the above areas.

Acknowledgement

This feature article was contributed by the Aviation Environment Policy Section, Department of Infrastructure, Transport, Regional Development and Local Government.

Chapter 1 International industry

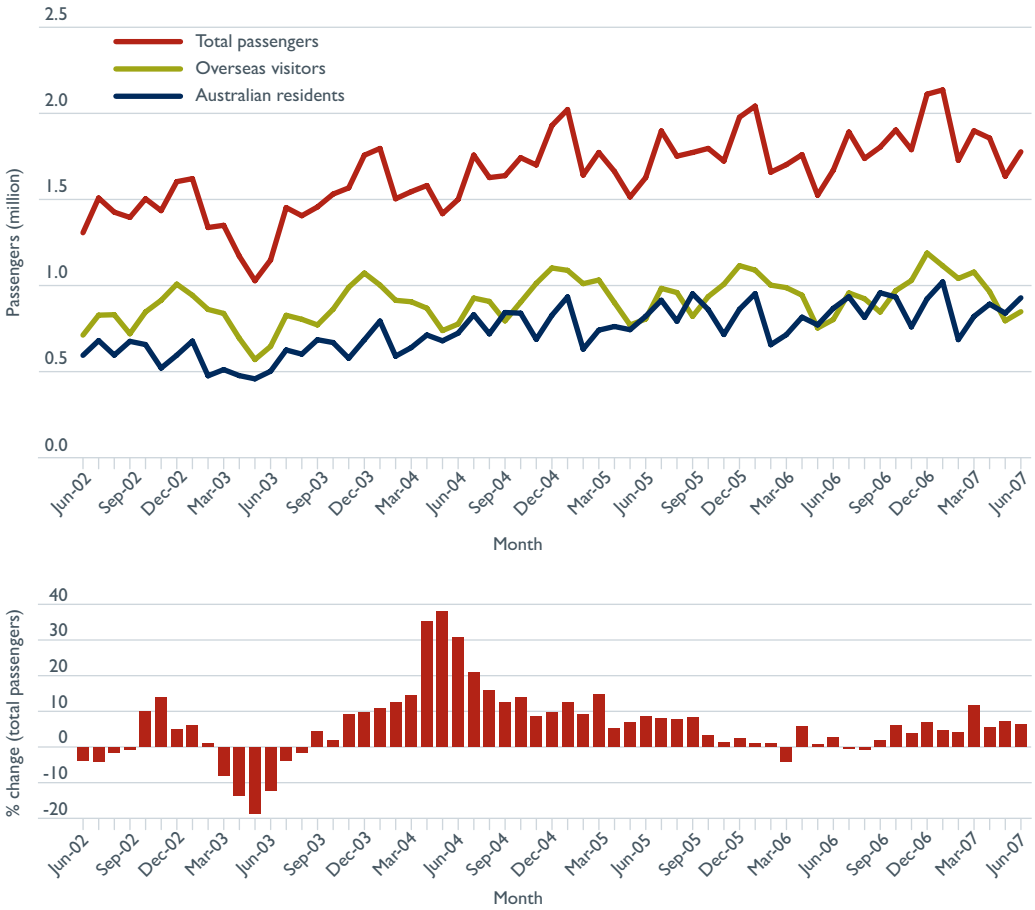
International passengers

Passenger traffic on Australian international flights has remained at high levels over the past 12 months (Figure 3). There were 22.3 million international passengers carried in the financial year 2006–07, representing an increase of 4.7 per cent over the previous year. This total comprised 11.8 million overseas visitors (52.8 per cent) and 10.5 million Australian residents (47.2 per cent).

Traffic peaked in January 2007, with a monthly record of 2.14 million passengers, an increase of 4.6 per cent on January 2006. The month with the lowest number of passengers for 2006–07 was May 2007 with 1.63 million passengers. This was due mainly to a drop in the number of overseas visitors during that month (Figure 3).

Growth in international passenger traffic for 2006–07 was driven mainly by the increase in the number of Australian residents travelling on international flights (up 6.4 per cent compared with 2005–06) rather than overseas visitors (up 3.1 per cent for the same period).

Figure 3 International passengers



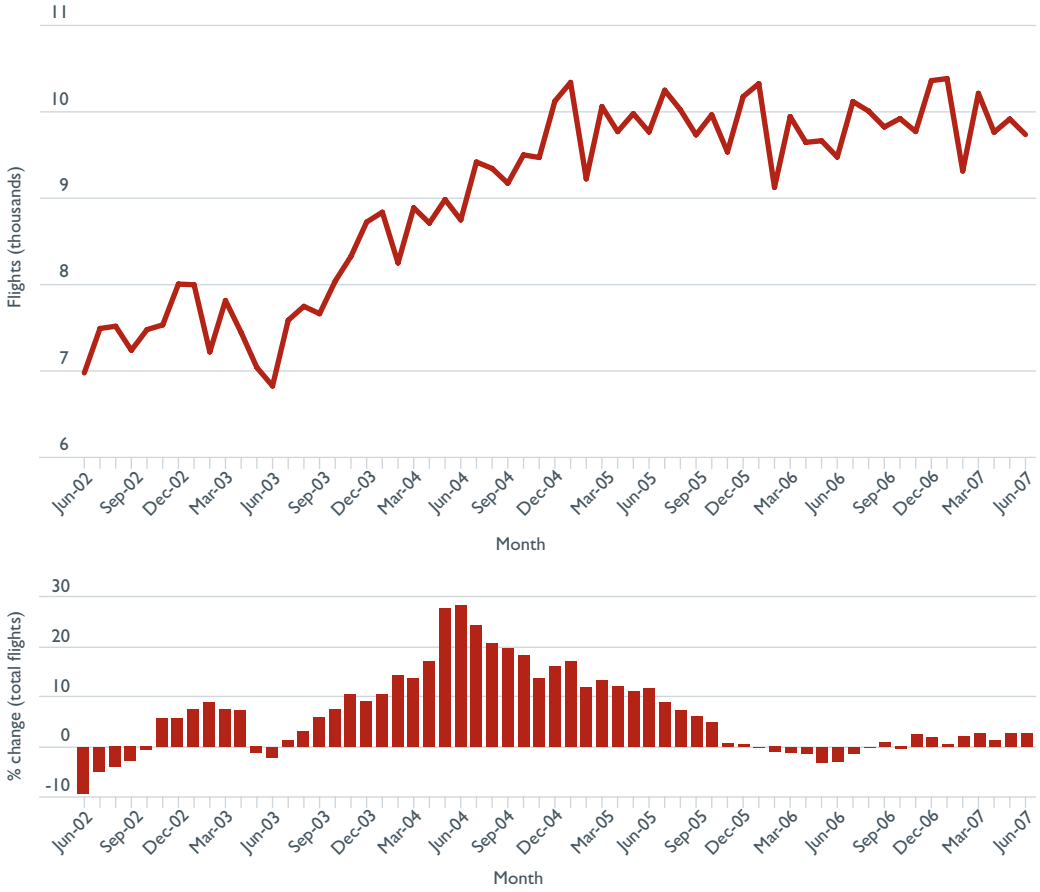
Notes: Growth rates are calculated over the same month in the previous year.
Source: ABS catalogue 3401.0, Overseas Arrivals and Departures, Australia.

International flights

There was an annual total of 119 271 international flights in 2006–07, an increase of 1.3 per cent over the total for 2005–06. The monthly average for 2006–07 was 9939 flights with a maximum of 10 381 flights occurring in January 2007 (up 0.6 per cent on January 2006).

The average monthly growth rate for international flights in 2006–07 was 1.3 per cent with a maximum of 2.8 per cent for June 2007 (Figure 4).

Figure 4 International flights



Note: Growth rates are calculated over the same month in the previous year.
Source: BITRE Aviation Statistics Section.

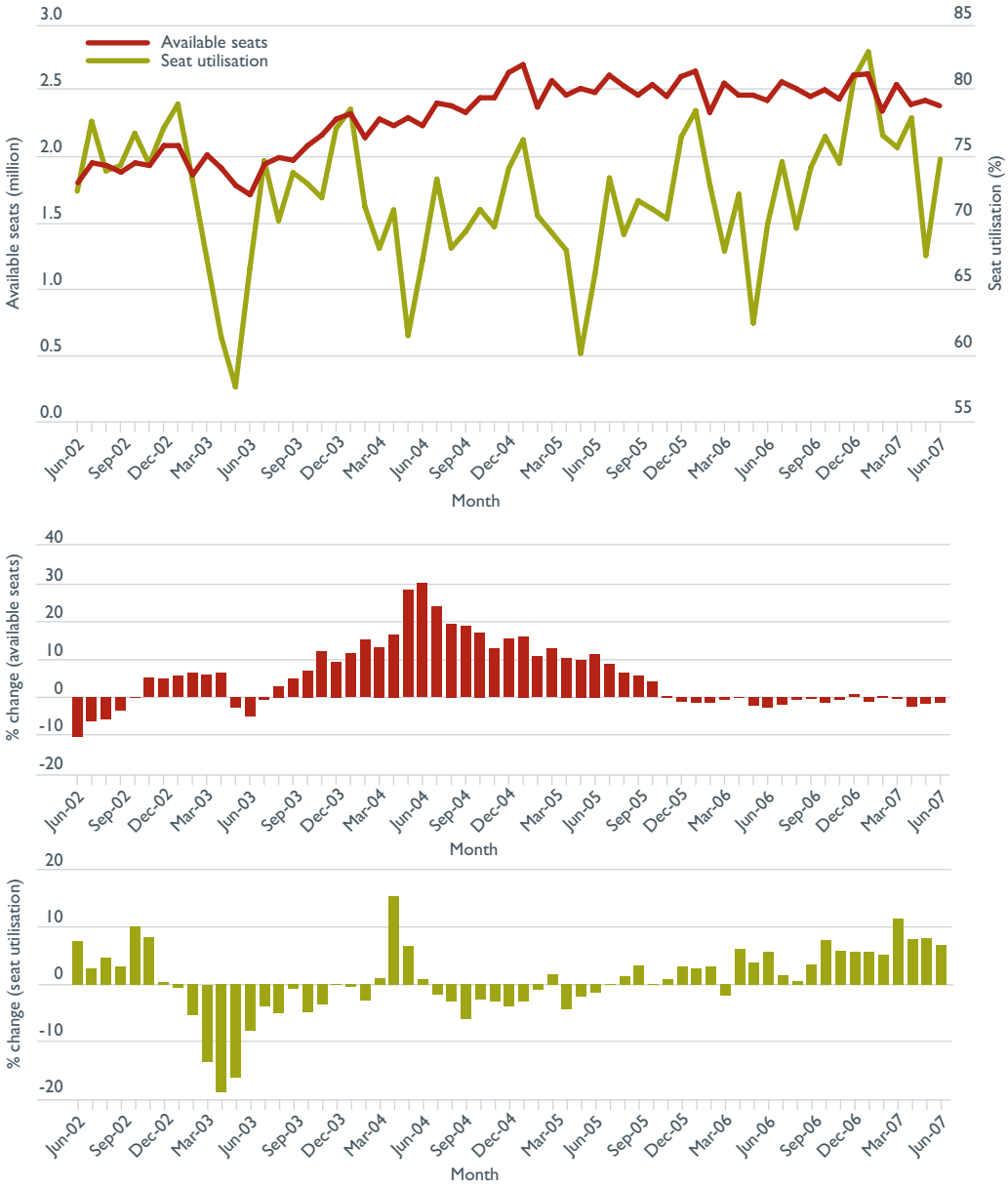
International network utilisation

On the whole, international airline capacity measured in available seats for 2006–07 showed little variation from the previous financial year (Figure 5). The total for 2006–07 was 29.8 million seats, 0.9 per cent less than the figure for 2005–06. The monthly maximum was recorded in January 2007 at 2.62 million seats, while the minimum occurred in February 2007 at 2.34 million seats.

Seat utilisation (load factors) over all routes displays greater volatility. For 2006–07 load factors ranged from a maximum of 83.0 per cent in January 2007 to a minimum of

67.5 per cent in May 2007 with an annual average of 75.6 per cent (5.9 per cent higher than the average for 2005–06). Seat utilisation for January 2007 is 5.7 per cent higher than January 2006 and is the highest monthly figure on record.

Figure 5 International network utilisation



Notes: Available seats are a total of inbound and outbound seats. Seat utilisation is calculated by dividing the total number of international passengers by the number of available seats. Growth rates are calculated over the same month in the previous year.

Source: BITRE Aviation Statistics Section.

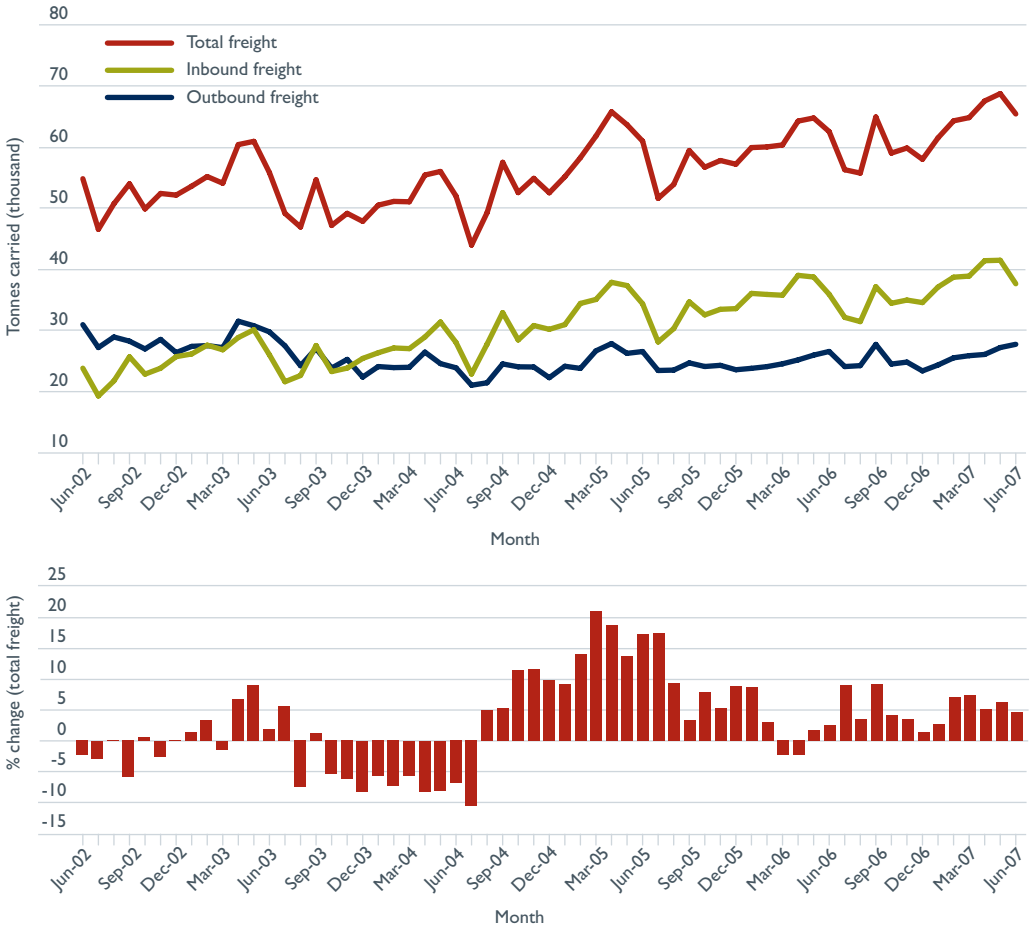
International air freight

Air freight carried on Australian international flights has continued to grow steadily as shown in Figure 6. The annual total for 2006–07 was 753 945 tonnes (up 3.9 per cent on the previous financial year). This consisted of 445 146 tonnes or 59.0 per cent of inbound freight (up 4.4 per cent on 2005–06) and 308 799 tonnes or 41.0 per cent of outbound freight (up 3.1 per cent on 2005–06). Inbound freight has been exceeding outbound freight since June 2003.

Total freight peaked at 68 754 tonnes in November 2006, the highest monthly figure for the past five years. This was due to inbound air freight reaching a record 41 509 tonnes (60.4 per cent of the total freight for November 2006).

As shown in Table 2, Qantas carried the greatest share (25.9 per cent) of freight during 2006–07, followed by Singapore Airlines (14.9 per cent)) and Emirates (8.9 per cent). The Sydney–Auckland route has the largest share (7.9 per cent) of all air freight in and out of Australia, followed closely by Melbourne–Singapore (7.3 per cent) and Sydney–Hong Kong (5.9 per cent) (Table 3).

Figure 6 International air freight



Note: Growth rates are calculated over the same month in the previous year.
Source: BITRE Aviation Statistics Section.

Table 2 Freight carried by top five airlines for 2006–07

Airline	*Tonnes carried (thousand)*	*Share (%)*
Qantas Airways	195.2	25.9
Singapore Airlines	112.7	14.9
Emirates	67.3	8.9
Cathay Pacific Airways	61.3	8.1
Malaysia Airlines	59.8	7.9
Others	257.7	34.2
Total	753.9	100.0

Table 3 Freight carried on top five city pairs for 2006–07

Australian port	*Foreign port*	*Tonnes carried (thousand)*	*Share (%)*
Sydney	Auckland	59.8	7.9
Melbourne	Singapore	55.1	7.3
Sydney	Hong Kong	44.6	5.9
Sydney	Singapore	35.9	4.8
Perth	Singapore	33.4	4.4
Others		525.2	69.7
Total		753.9	100.0

Source: BITRE Aviation Statistics Section

Chapter 2 Domestic industry

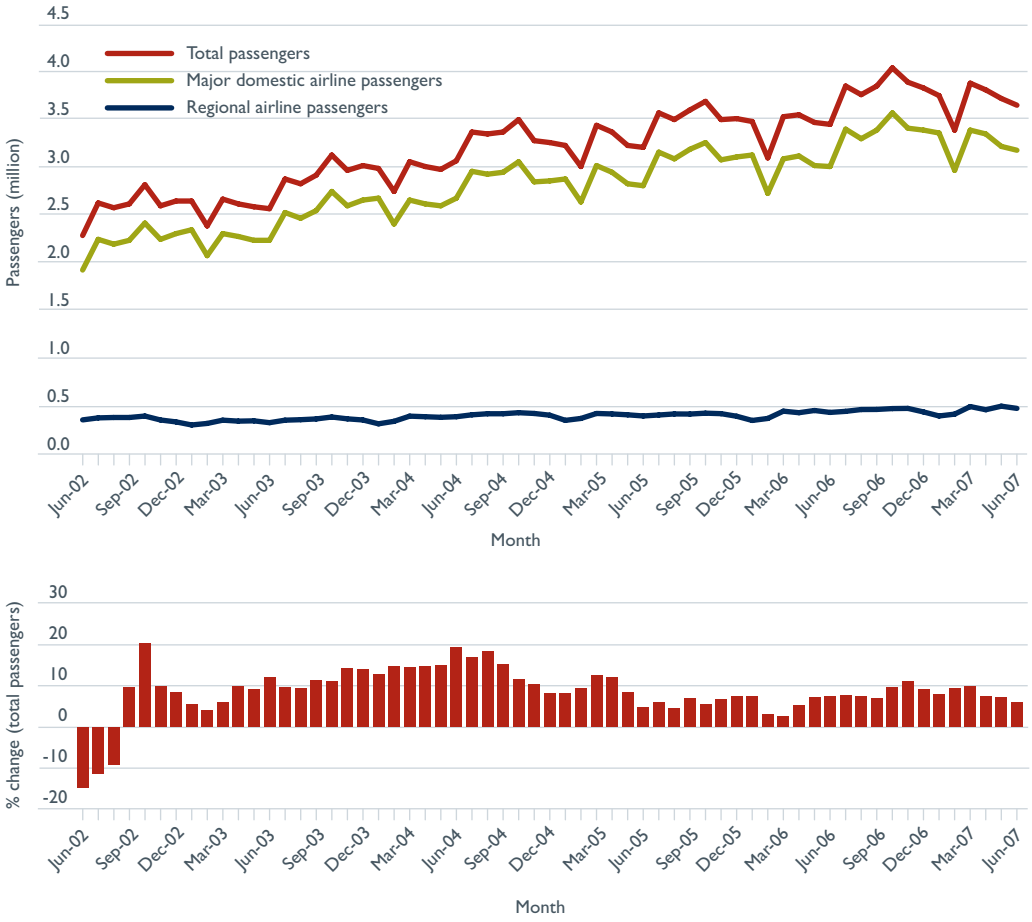
Domestic passengers

Australia's domestic airline industry is continuing to operate at high levels with a record 45.3 million revenue passengers carried in 2006–07. This was 6.0 per cent higher than the total for 2005–06 and the highest annual total on record.

Monthly passenger numbers peaked in October 2006 at 4.03 million, 9.6 per cent up on October 2005. This was the highest monthly total recorded over the past five years (Figure 7). Positive monthly passenger growth rates (as compared to the same month in the previous year) have been recorded since September 2002. The highest growth rate for 2006–07 occurred in November 2006 at 11.2 per cent.

The major domestic airlines carried 39.8 million passengers (87.8 per cent of the total) for 2006–07. This represented an increase of 8.0 per cent over 2005–06. Regional airlines carried 5.51 million passengers over the same period (or 12.2 per cent of the total). This represented an increase of 10.8 per cent over the previous financial year.

Figure 7 Domestic passengers



Note: The domestic passenger numbers shown here do not include passengers on domestic legs of international flights. Growth rates are calculated over the same month in the previous year.

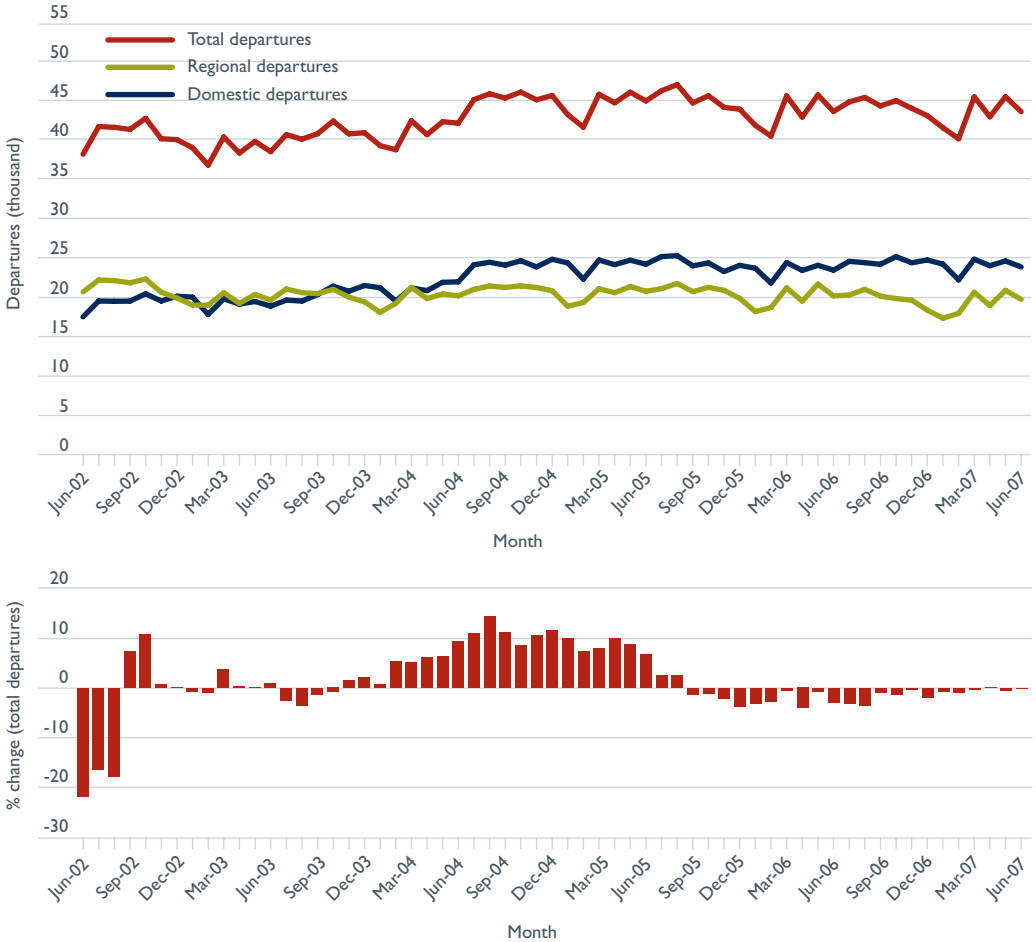
Source: BITRE Aviation Statistics Section.

Domestic flights

Figure 8 shows the number of flights measured in departures over the past five years within the domestic aviation industry. A total of 525 393 flights was recorded for 2006–07, 1.1 per cent lower than 2005–06. Of these, 290 891 flights (55.4 per cent) were operated by the major domestic airlines, an increase of 1.5 per cent on the previous financial year. The remaining 234 502 flights (44.6 per cent) were operated by regional airlines, down 4.2 per cent on 2005–06.

During the past year, total monthly flights peaked at 45 451 in May 2007 (0.5 per cent lower than for May 2006). Monthly growth rates (over the same month in the previous year) were negative throughout 2006–07 with the lowest growth rate being recorded in August 2006 at -3.5 per cent.

Figure 8 Domestic and regional flights

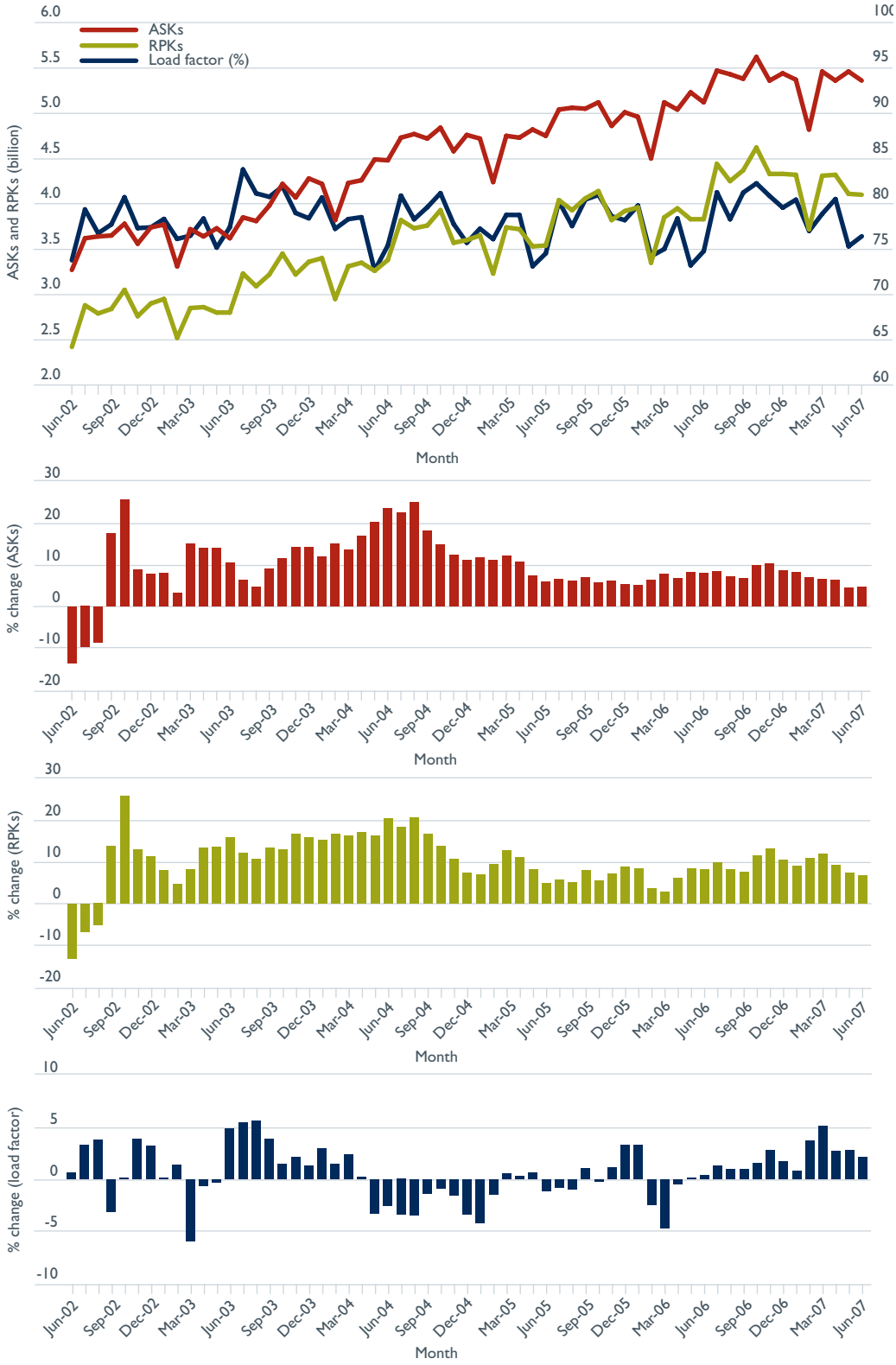


Note: Growth rates are calculated over the same month in the previous year.
Source: BITRE Aviation Statistics Section.

Domestic network utilisation

Domestic industry capacity, measured in Available Seat Kilometres (ASKs), achieved an all time high of 64.5 billion for 2006–07, 7.4 per cent higher than the total for 2005–06 (Figure 9). Similarly, Revenue Passenger Kilometres (RPKs) for 2006–07 reached a record 51.2 billion (up 9.7 per cent on the total for 2005–06).

Figure 9 Domestic network utilisation



Notes: Includes all regional operations. ASKs refer to Available Seat Kilometres and RPKs refer to Revenue Passenger Kilometres. Growth rates are calculated over the same month in the previous year.

Source: BITRE Aviation Statistics Section.

October 2006 recorded the highest ever monthly totals for ASKs and RPKs with 5.62 billion ASKs (up 9.8 per cent on October 2005) and 4.62 billion RPKs (up 11.5 per cent on October 2005).

The average load factor for 2006–07 was 79.4 per cent which was higher than the 77.7 per cent annual average for 2005–06. October 2006 had the highest monthly load factor for 2006–07 (82.2 per cent compared with 81.0 per cent for October 2005).

Domestic airline on-time performance

The reporting of on-time performance data to the BITRE commenced in November 2003. The data covers all services operated by Australia's major airlines: Jetstar; Qantas; QantasLink; Regional Express; Skywest Airlines; Virgin Blue; and Macair (from July 2005). Ozjet provided data from January to March 2006 only. These operators collectively carry over 99 per cent of Australia's airline traffic.

There were 464 881 flights reported for the financial year 2006–07, of which 404 135 (86.9 per cent) departed on time and 397 987 (85.6 per cent) arrived on time (Table 4). Cancellations totalled 3 928 flights or 0.8 per cent of all scheduled flights.

The best on-time performance was recorded in October 2006 with 89.8 per cent departures and 89.0 per cent arrivals being on time. The lowest percentage of cancellations was also recorded in October with 0.5 per cent of scheduled flights cancelled (Figure 10).

The lowest level of on-time performance was recorded during winter in June 2007 with 79.4 per cent departures and 76.4 per cent arrivals being on time. The highest percentage of cancellations was also recorded in June at 1.3 per cent.

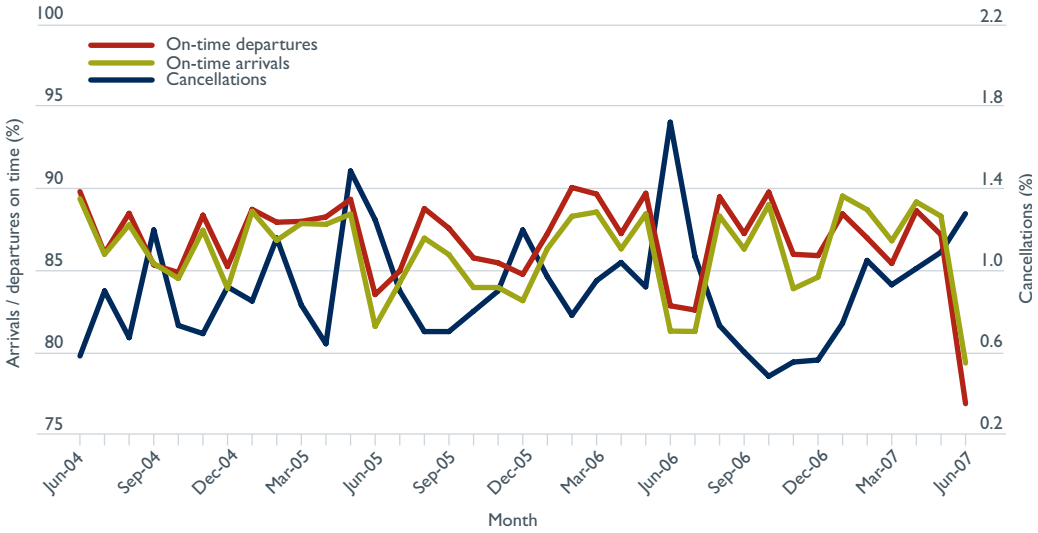
Of the three major domestic carriers, Virgin Blue achieved the highest level of on-time departures (87.5 per cent) for the financial year, while Qantas and Jetstar performed at 86.7 and 85.9 per cent respectively. QantasLink was the best performing of the regional airlines with 88.0 per cent departures on time. For the same period, Regional Express, Macair and Skywest achieved 87.2, 83.6 and 82.5 per cent respectively.

Jetstar had the lowest percentage of cancelled flights (0.5 per cent), whereas Skywest had the highest proportion (3.1 per cent).

The Brisbane–Hobart route had the highest percentage of on-time departures (92.4 per cent) out of the 45 routes which meet the criteria for on-time performance reporting. Conversely the Perth–Brisbane route had the lowest percentage of on time departures (73.1 per cent). On-time arrivals were highest on the Brisbane–Canberra route (92.5 per cent) and were lowest on the Sydney–Albury route (74.3 per cent). Cancellations were highest on the Kalgoorlie–Perth route (4.3 per cent).

Canberra Airport recorded the highest percentage of on-time departures (90.8 per cent), while Broome Airport recorded the lowest percentage (74.9 per cent). On-time arrivals were highest at Adelaide Airport (89.9 per cent) and lowest at Albury Airport (74.3 per cent).

Figure 10 Domestic airline on-time performance



Source: BITRE Aviation Statistics Section.

Table 4 Australian airline on-time performance 2006–07

	Jetstar	*Macair*	*Qantas*	*Qantas Link*	*Regional Express*	*Skywest*	*Virgin Blue*	*All Airlines*
Sectors Scheduled	50 893	14 637	119 439	97 315	64 695	11 850	109 980	468 809
Sectors Flown	50 621	14 322	118 192	96 686	64 556	11 478	109 026	464 881
On-Time Departures	43 480	11 977	102 491	85 069	56 264	9 471	95 383	404 135
On-Time Arrivals	42 848	11 886	102 936	83 129	53 614	8 859	94 715	397 987
Cancellations	272	315	1 247	629	139	372	954	3 928
On-Time Departures (%)	85.9	83.6	86.7	88.0	87.2	82.5	87.5	86.9
On-Time Arrivals (%)	84.6	83.0	87.1	86.0	83.1	77.2	86.9	85.6
Cancellations (%)	0.5	2.2	1.0	0.6	0.2	3.1	0.9	0.8

Notes: On-time departures refer to flights that depart within 15 minutes of the scheduled departure time. On-time arrivals refer to flights that arrive within 15 minutes of the scheduled arrival time. Cancellations refer to flights cancelled or rescheduled within 7 days of the scheduled departure time.

Source: BITRE Aviation Statistics Section

Chapter 3 Airport activity

Airport activity levels

Table 5 summarises passenger and aircraft movements at the five major capital city airports for the past three financial years.

All five airports recorded an increase in total passenger movements in 2006–07 compared with 2005–06. Perth Airport registered the strongest annual growth in total passengers (13.8 per cent), followed by Adelaide (7.2 per cent), Sydney (7.0 per cent), Brisbane (6.8 per cent) and Melbourne (4.5 per cent).

Annual growth in international passenger movements in 2006–07 was strongest at Adelaide Airport (27.2 per cent), followed by Perth (10.7 per cent) and Brisbane (6.6 per cent). Growth in domestic passenger numbers was greatest at Perth Airport (14.8 per cent), followed by Sydney (8.0 per cent) and Brisbane (7.9 per cent). Perth Airport also recorded the strongest annual growth in regional passenger numbers (17.3 per cent). Only Brisbane Airport showed a drop in regional passenger movements (-10.5 per cent).

Table 5 Activity at major Australian airports

		Passenger movements (million)				*Aircraft movements (thousand)*					
Airport	*Year*	*Intl*	*Dom*	*Reg*	*Total*	*Intl*	*Dom*	*Reg*	*Total scheduled*	*Non-scheduled**	*Total*
Sydney	2006–07	10.12	18.91	1.98	31.02	57.90	130.06	72.37	260.33	26.01	286.34
	2005–06	9.67	17.51	1.82	29.00	58.64	124.21	72.55	255.40	26.02	281.43
	2004–05	9.27	16.84	1.85	27.96	57.91	124.95	74.77	257.63	23.78	281.41
Melbourne	2006–07	4.42	17.07	0.67	22.16	23.91	117.89	28.04	169.83	10.98	180.81
	2005–06	4.25	16.18	0.60	21.04	25.21	118.57	26.84	170.62	9.01	179.63
	2004–05	4.14	15.53	0.60	20.27	27.72	122.08	26.24	176.04	4.20	180.24
Brisbane	2006–07	3.89	12.56	0.65	17.01	23.65	92.33	24.81	140.79	28.51	169.30
	2005–06	3.65	11.64	0.73	16.02	22.34	90.71	25.80	138.84	26.44	165.29
	2004–05	3.48	11.22	0.65	15.36	22.26	93.00	24.73	139.98	21.78	161.76
Perth	2006–07	2.19	5.35	0.43	7.97	11.16	36.09	13.38	60.63	43.34	103.98
	2005–06	1.98	4.66	0.37	7.01	10.22	34.52	12.55	57.29	42.27	99.55
	2004–05	1.95	4.25	0.33	6.52	10.42	34.51	11.51	56.45	43.71	100.16
Adelaide	2006–07	0.44	5.27	0.47	6.18	3.04	42.25	25.98	71.28	31.75	103.03
	2005–06	0.35	5.00	0.42	5.77	2.46	41.94	25.30	69.71	32.51	102.22
	2004–05	0.32	4.66	0.39	5.36	2.22	40.42	28.12	70.76	36.21	106.97

Notes: International (Intl) passenger data are the total passengers uplifted and discharged within a flight.
Domestic (Dom) and regional (Reg) passenger data are the total passengers on board by flight stage.
International, domestic and regional data represent Regular Public Transport operations.
*Aircraft movements recorded during the hours in which Airservices Australia provides a tower service and includes circuit and military aircraft.

Sources: BITRE Aviation Statistics Section and Airservices Australia monthly aircraft movement reports (http://www.airservicesaustralia.com/reports).

In terms of total RPT operations for 2006–07, Melbourne Airport recorded an annual drop of 0.5 per cent while all the other airports recorded an increase, with Perth Airport having the highest growth rate of 5.8 per cent.

There was a significant increase of 23.3 per cent in international aircraft movements at Adelaide Airport in 2006–07 while Melbourne Airport registered a drop of 5.2 per cent. Sydney (4.7 per cent) and Perth (4.6 per cent) Airports led the growth in domestic aircraft movements while Perth Airport had the highest percentage increase in regional aircraft movements (6.6 per cent).

With regards to total aircraft movements (including unscheduled operations), all airports recorded an increase with Perth Airport having the highest annual growth rate of 4.4 per cent.

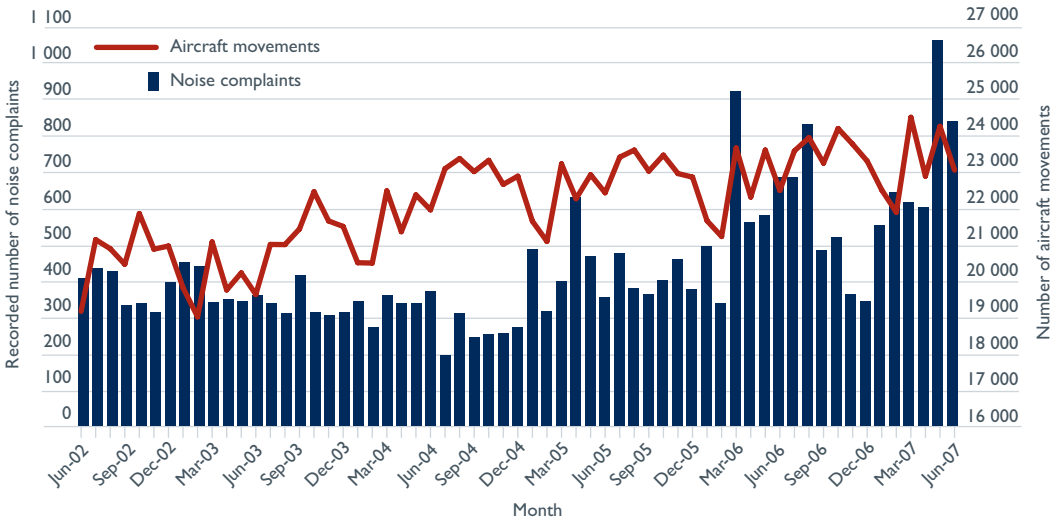
Sydney aircraft noise

March 2007 was the busiest month for Sydney Airport in 2006–07 with 24 519 aircraft movements, an increase of 3.6 per cent on March 2006 (Figure 11). There were 620 noise complaints from 205 complainants in that month. The lowest number of aircraft movements for the year was recorded in February 2007 (21 918 movements) and the number of noise complaints then was 648 from 284 complainants.

The recorded number of noise complaints was lowest in December 2006 at 346 complaints from 94 complainants. Since then the number of complaints has increased, reaching a maximum of 1069 complaints from 164 complainants in May 2007. This is the greatest number of complaints recorded since October 2001 (the month following Ansett's collapse).

The total number of noise complaints for 2006–07 was 7593, an increase of 24.9 per cent over the previous year.

Figure 11 Sydney airport noise complaints



Source: Airservices Australia, Sydney Airport Operational Statistics, http://www.airservicesaustralia.com/reports/.

Chapter 4 Economic indicators

Real domestic air fares

Figure 12 presents the real domestic air fares indexes for Business Class, Full Economy, Restricted Economy and Best Discount air fares as 13 month moving averages. The real domestic air fares indexes include those taxes and charges that are collected as part of the air fare (fuel levies, security, certain airport charges and GST). The indexes provide a measure of changes to air fares over time.

Prior to July 2003, the indexes were constructed using SABRE Pacific's Computer Reservations System. Indexes for July 2003 onwards are based on air fares collected from the BITRE Internet air fare survey. All indexes are Consumer Price Index (CPI) adjusted and set at a base value of 100 for July 2003.

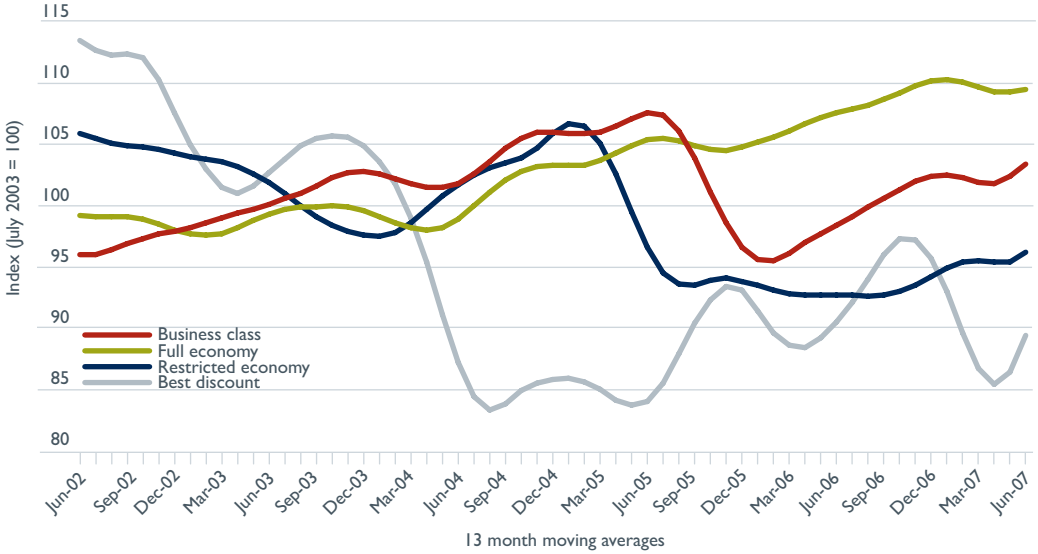
From *Avline* 7 onwards, the calculation methodology used is the Fisher Ideal Index. Prior to issue 7, the Laspeyres Index was used. For more information on price indexes see ABS Catalogue 1351.0 Working Paper no. 96/1 *Choosing a Price Index Formula*.

During 2006–07 Business Class fares have been gradually increasing, peaking in June 2007 at an index of 103.4. This is 5.1 per cent higher than the index for June 2006.

Full Economy fares have also been gradually rising over the past year. The average index for 2006–07 was 109.3 or 3.4 per cent higher than the average for 2005–06.

Restricted Economy fares continue to remain below the base index of 100 in the past year. The average fare index for 2006–07 was 94.3 or 1.0 per cent higher than the previous financial year.

Figure 12 Real domestic airfares



Notes: Airfares are CPI adjusted. SABRE Pacific does not warrant the accuracy of any of the data provided by its system. Under no circumstances will SABRE Pacific be liable for the loss of profits, loss of use of contracts, or for any economic or consequential loss whatsoever, whether arising from errors in data, negligence, breach of contract or otherwise.

Sources: BITRE Aviation Statistics Section; SABRE Computer Reservation System (prior to July 2003); BITRE internet air fare survey (July 2003 onwards) and Australian Bureau of Statistics (CPI data).

Best Discount fares are the most variable of the four types of air fares collected. Over the past year, the index increased to a maximum of 97.3 in October 2006 before dropping to a minimum of 85.4 in April 2007. It has since increased to an index of 89.4 in June 2007. On average the index has risen by 2.1 per cent compared with the previous year.

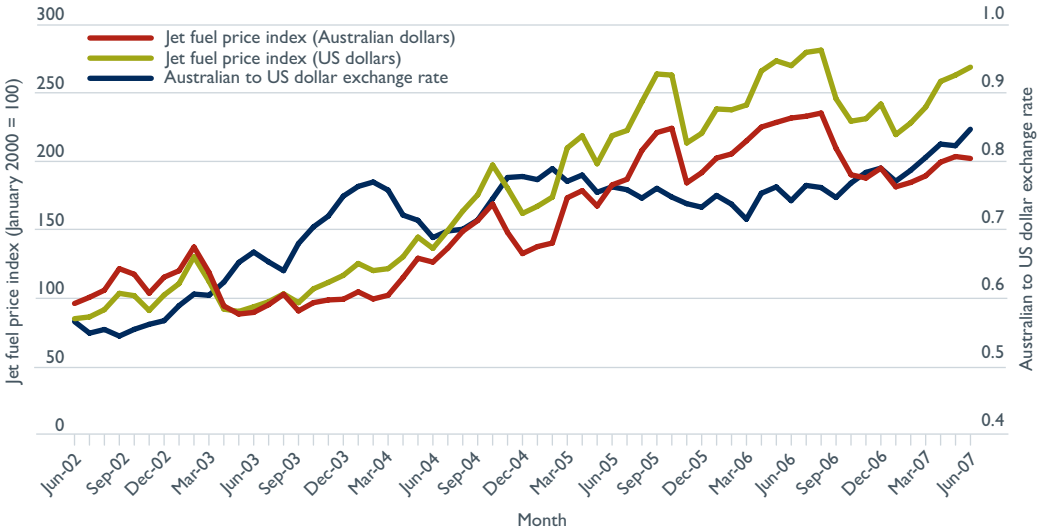
Jet fuel prices

Figure 13 shows the Jet Fuel Price Index in Australian and US dollars where January 2000 has been assigned a base value of 100. Aviation jet fuel costs have continued to remain high for the financial year 2006–07. The average Jet Fuel Price Index in US dollars averaged 248.9 for that year which was 1.1 per cent higher than the average for 2005–06 and 34.8 per cent higher than the average for 2004–05. The average Jet Fuel Price Index in Australian dollars averaged 201.0 for 2006–07, 4.5 per cent down on the average for 2005–06 and 28.8 per cent higher than the average for 2004–05.

For the year 2006–07, the index in Australian dollars peaked at 235.3 in August 2006 and was at a minimum of 181.5 in January 2007.

The Australian to US dollar exchange rate averaged 0.7907 for 2006–07. This was 6.0 per cent higher than the average for 2005–06 and 4.8 per cent higher than the average for 2004–05. The exchange rate recorded a minimum of 0.7480 in September 2006 and a maximum of 0.8487 in June 2007.

Figure 13 World average jet fuel prices



Sources: BITRE analysis using ICIS-LOR fuel prices as cited in Airline Business Magazine and Reserve Bank of Australia, Bulletin Statistical Table F11, Exchange Rates.

Airline share prices

Figure 14 shows the end of month closing prices for Qantas Airways Limited, Virgin Blue Holdings Limited and the S&P/ASX 200 Index up to June 2007.

For the financial year 2006–07, Qantas' share price averaged $4.77 or 36.5 per cent higher than the average for 2005–06. Its share price peaked at $5.70 in May 2007, 81.0 per cent higher than the price for May 2006.

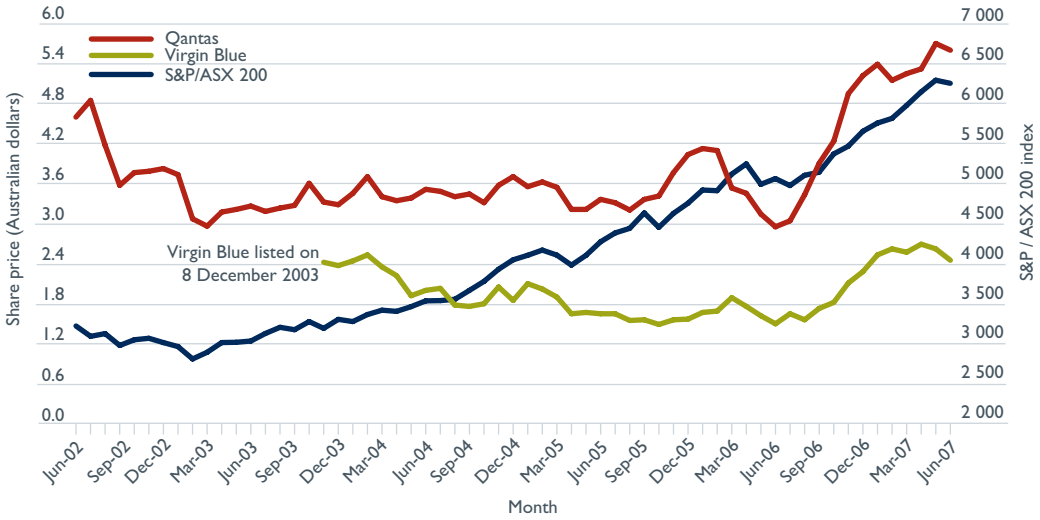
Virgin Blue's share price averaged $2.23 for 2006–07 or 36.1 per cent higher than the average for 2005–06. Its share price reached a maximum of $2.70 in April 2007, 52.5 per cent higher than the price for April 2006.

The S&P/ASX 200 Price Index has continued its upward trend, increasing by 23.7 per cent from 5073.9 in June 2006 to 6567.7 in June 2007.

Qantas reported a net profit after tax of $719.4 million for the financial year 2006–07. This was 50.0 per cent higher than the equivalent figure for 2005–06.

For the same period, Virgin Blue reported a net profit after tax of $215.8 million, 92.3 per cent higher than the previous financial year.

Figure 14 Airline share prices



Note: Share prices are monthly closes.

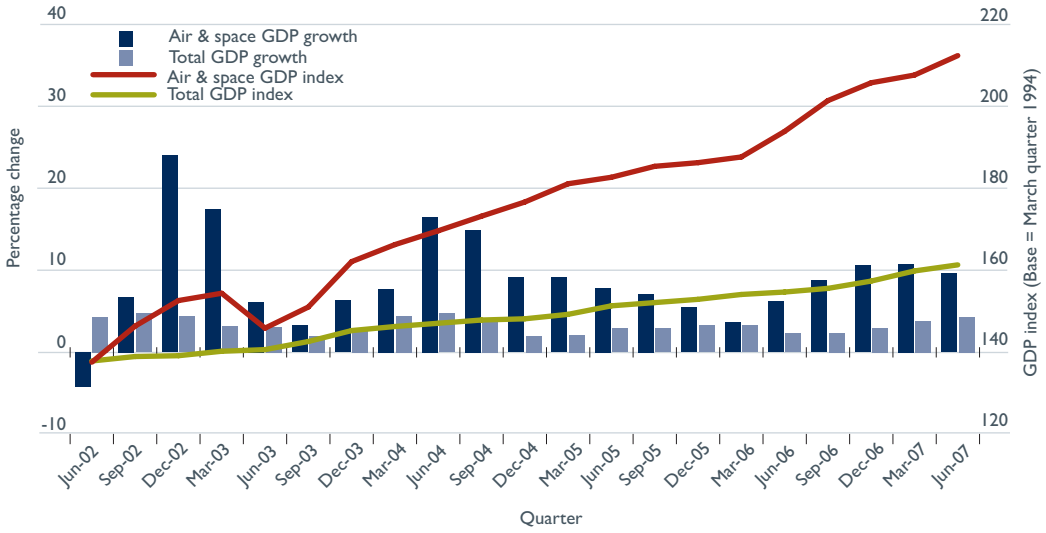
Sources: http://au.biz.yahoo.com/finance/investing/historical/; Australian Securities Exchange (http://www.asx.com.au/research/market_info/historical_equity_data.htm#End_of_month_values).

Gross Domestic Product

Figure 15 compares Australia's Gross Domestic Product (GDP) index for all industries with the index for the air and space industry component up to June 2007. A base index of 100 has been assigned to the March quarter 1994. The air and space industry comprised 0.72 per cent of Australia's total GDP for the June quarter 2007.

The air and space industry has continued to grow strongly in 2006–07, reaching a maximum index of 212.7 in the June quarter 2007. This was up 9.6 per cent over the previous June quarter. The total GDP Index also peaked in the June quarter 2007 at 161.1 but grew at a lower rate of 4.3 per cent.

Figure 15 Gross Domestic Product



Notes: Data is seasonally adjusted. Growth rates are calculated over the same quarter in the previous year.
Source: ABS Catalogue No. 5206.0, Australian National Accounts: National Income, Expenditure and Product, Table 6.

Chapter 5 Airport charges

Airport charges data estimates what an airline may expect to pay based on publicly available information published by airport authorities and Airservices Australia. The data shown includes GST but excludes confidential agreements between airports and airlines, and terminal charges for domestic and regional services, which are often confidential and may differ by terminal and airline.

The data should be interpreted with caution as actual rates may vary for individual aircraft operators based on negotiated contracts.

Charges for five state capital city airports and ten regional airports are presented below. The parameters used by the BITRE in its airport charges calculations are summarised in Table 6. The aircraft types shown are representative of international, trunk route domestic and large, medium and smaller regional routes.

Table 6 Parameters used in airport charge calculations

Aircraft type	*Operational sector (typical)*	*Aircraft maximum take-off weight (tonnes)*	*Number of aircraft seats (nominal)*	*Average passenger load factor (%)*
747-438	International	394.6	394	72.0
737-800	Domestic	79.0	158	76.5
Dash 8-300	Regional	18.6	50	60.0
SAAB 340B	Regional	13.2	34	60.0
Metro 23	Regional	7.5	19	60.0

Notes: The load factor is the proportion of total aircraft seats that are filled by paying passengers.
Aircraft load factors are derived from BITRE Aviation Statistics Section data collections for the relevant operational sector and may not reflect actual load factors at specific airports.
While load factors may have increased over time, the relative proportion for the operational sectors have remained similar. The load factors used in the analysis have been fixed at the values shown above so as to remove an additional variability in the calculations.

Sources: Civil Aviation Safety Authority (CASA) aircraft register and BITRE aviation databases and assumptions.

State capital city airports

Table 7 shows the real charges incurred by aircraft operators per return passenger (assuming one arrival and one departure) at Australia's major capital city airports as at 31 July 2006, 31 January 2007 and 31 July 2007 (in September quarter 2007 dollars). The charges are presented by category of aircraft and are broken down into aeronautical (airport-levied charges), Airservices Australia and security components.

International transit and transfer passengers at Sydney and Brisbane airports do not incur the international terminal charge. In order to exclude these passengers from the international terminal charge calculation at these airports, the BITRE has assumed that transit and transfer passengers comprise 10% of international passengers.

All five airports set security charges on a cost-recovery basis. If significant over or under recovery occurs in a period, security charges are reduced or increased

Table 7 Real airport charges (per return passenger) by aircraft type

	Sydney			Melbourne			Brisbane			Perth			Adelaide		
Aircraft	*Jul-06*	*Jan-07*	*Jul-07*	*Jul-06*	*Jan-07*	*Jul-07*	*Jul-06*	*Jan-07*	*Jul-07*	*Jul-06*	*Jan-07*	*Jul-07*	*Jul-06*	*Jan-07*	*Jul-07*
747-438															
Aeronautical	32.86	34.41	34.43	24.92	24.93	27.50	21.52	22.25	29.70	23.67	24.81	24.34	42.68	42.71	42.44
Airservices	11.24	11.24	11.10	10.97	10.98	11.20	13.33	13.34	13.17	19.27	19.28	19.07	29.34	29.36	28.42
Security	8.58	7.89	9.90	3.47	2.80	5.00	6.61	6.62	8.16	6.02	6.43	6.31	3.41	3.41	3.35
Total	52.67	53.54	55.43	39.36	38.71	43.70	41.47	42.21	51.03	48.97	50.53	49.72	75.43	75.48	74.21
737-800															
Aeronautical	6.11	6.79	6.70	7.58	7.58	7.62	7.12	7.12	6.97	8.42	8.43	8.27	21.12	21.13	21.13
Airservices	4.89	4.89	4.84	4.45	4.45	4.54	5.12	5.13	5.07	7.05	7.05	6.97	9.13	9.13	9.07
Security	2.69	4.38	4.12	0.11	0.00	0.00	0.01	0.01	0.46	3.20	3.77	3.70	3.41	3.41	3.35
Total	13.69	16.06	15.66	12.14	12.04	12.16	12.25	12.26	12.50	18.67	19.25	18.94	33.66	33.68	33.55
Dash 8-300															
Aeronautical	6.11	6.79	6.70	7.58	7.58	7.62	6.75	6.76	6.97	8.42	8.43	8.27	6.65	6.66	6.63
Airservices	4.61	4.62	4.56	4.17	4.17	4.24	4.78	4.78	4.72	6.54	6.54	6.45	8.31	8.32	8.19
Security	2.69	2.45	2.30	0.11	0.00	0.00	0.01	0.01	4.58	3.20	3.77	3.70	3.41	3.41	3.35
Total	13.42	13.85	13.56	11.86	11.75	11.86	11.54	11.55	16.27	18.16	18.74	18.42	18.38	18.39	18.17
SAAB340B															
Aeronautical	6.11	6.79	6.70	7.58	7.58	7.62	7.02	7.02	6.97	8.42	8.43	8.27	6.80	6.81	6.78
Airservices	4.80	4.80	4.74	4.34	4.34	4.41	4.97	4.97	4.91	6.80	6.81	6.71	8.65	8.65	8.52
Security	2.69	2.45	2.30	0.11	0.00	0.00	0.01	0.01	4.58	3.20	3.77	3.70	3.41	3.41	3.35
Total	13.60	14.04	13.74	12.03	11.93	12.03	12.00	12.01	16.46	18.43	19.00	18.68	18.86	18.88	18.65
Metro 23															
Aeronautical	8.11	8.11	7.96	7.58	7.58	7.62	7.16	7.17	6.97	8.42	8.43	8.27	6.89	6.89	6.86
Airservices	4.89	4.89	4.84	4.42	4.42	4.50	5.06	5.07	5.01	6.95	6.95	6.85	8.82	8.83	8.69
Security	2.69	2.45	2.30	0.11	0.00	0.00	0.01	0.01	4.58	3.20	3.77	3.70	3.41	3.41	3.35
Total	15.69	15.45	15.10	12.11	12.01	12.12	12.23	12.24	16.56	18.57	19.15	18.82	19.12	19.13	18.90

Notes: Presented in September quarter 2007 dollars.
Calculated on a return passenger basis (one arrival and one departure) for price schedules as at 31 January and 31 July each year.
Sydney and Brisbane international charges (airport and security components) have been adjusted to exclude transit and transfer passengers

Sources: BITRE estimates based on airport public price schedules supplied by airport operators, Airservices Australia published price schedule and ABS Catalogue 6401.0, *Consumer Price Index, Australia, September 2007.*

respectively in the subsequent period, which may result in period to period variations in total charges.

Over the six months between January 2007 and July 2007, total international airport charges varied from a decrease of 1.6 per cent at Perth Airport and 1.7 per cent at Adelaide Airport to a maximum percentage increase of 20.9 per cent at Brisbane Airport. Melbourne Airport charged the lowest for international passengers while Adelaide Airport charged the highest in July 2007.

The highest percentage increase in security charges for international passengers was recorded at Melbourne Airport (up 78.4 per cent in July 2007 compared with January 2007), while a decrease of 1.9 per cent was recorded at Perth and Adelaide Airports.

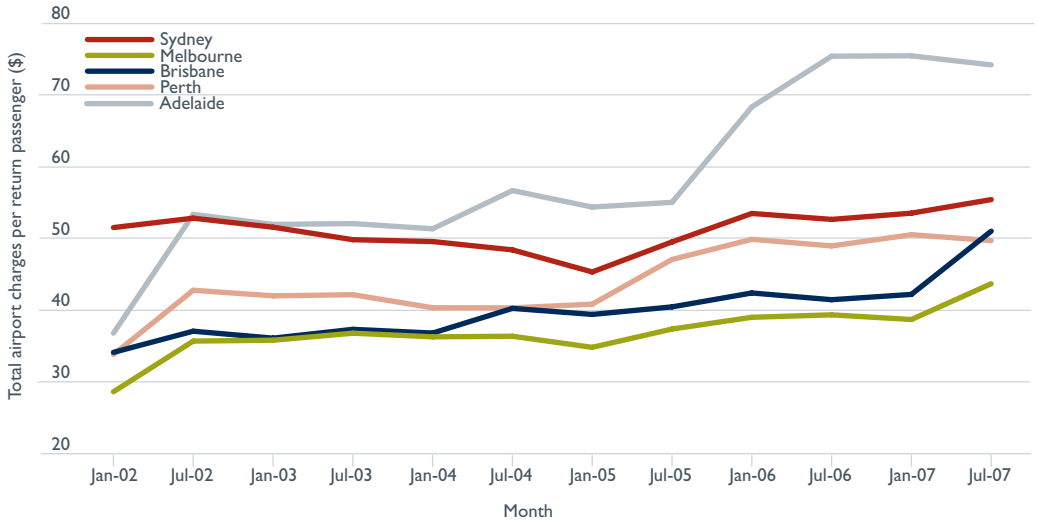
Over the same period, all airports showed a drop in domestic passenger charges except for Melbourne Airport where there was a small increase of 1.0 per cent. The only airport to record an increase in security charges for domestic travel was Brisbane Airport. Melbourne Airport ceased collecting security charges for domestic and regional passengers in January 2007.

Airport charges for regional passengers over the six month period have dropped across all the major airports except for Melbourne Airport where there was a small increase (less than 1.0 per cent).

Of the five airports, Adelaide Airport currently levies the highest airport charges for international and domestic travel due to Passenger Facilitation Charges associated with the use of a new common user terminal.

Real airport charges for the international, domestic and regional sectors are also shown in Figures 16, 17 and 18 respectively. These are based on aircraft considered representative of each sector and show data by airport from January 2002 to July 2007.

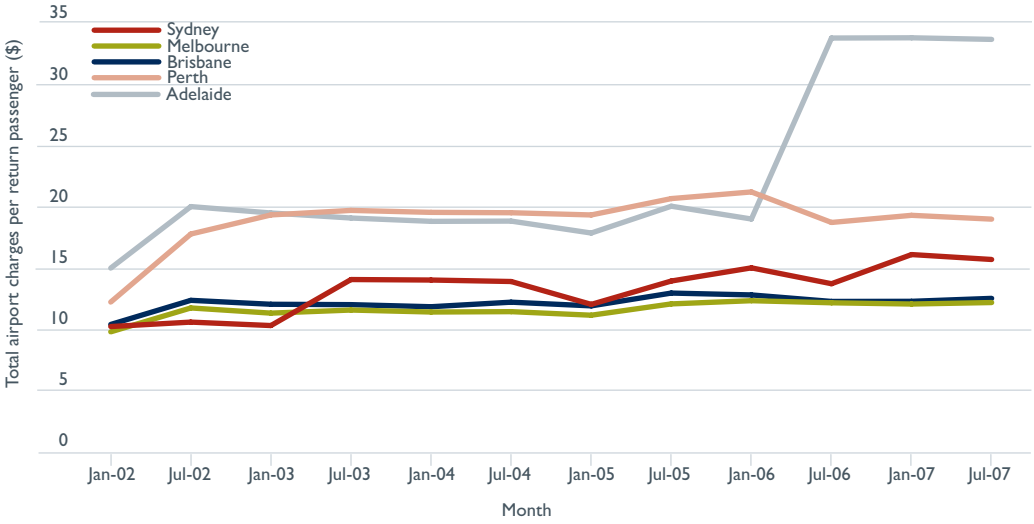
Figure 16 Real airport charges for indicative international aircraft



Notes: This graph shows total airport charges (GST inclusive) in September quarter 2007 dollars for a 747-438 aircraft as representative of international flights.
Charge calculations are based on BITRE assumptions and may differ from actual charges incurred by specific operators. International charge estimates include terminal charges. An indicative international load factor of 72.0 per cent is assumed. Sydney and Brisbane international charges (airport and security components) have been adjusted to exclude transit and transfer passengers.

Sources: BITRE estimates based on airport public price schedules supplied by airport operators, Airservices Australia published price schedule and ABS Catalogue 6401.0, *Consumer Price Index, Australia, September 2007*.

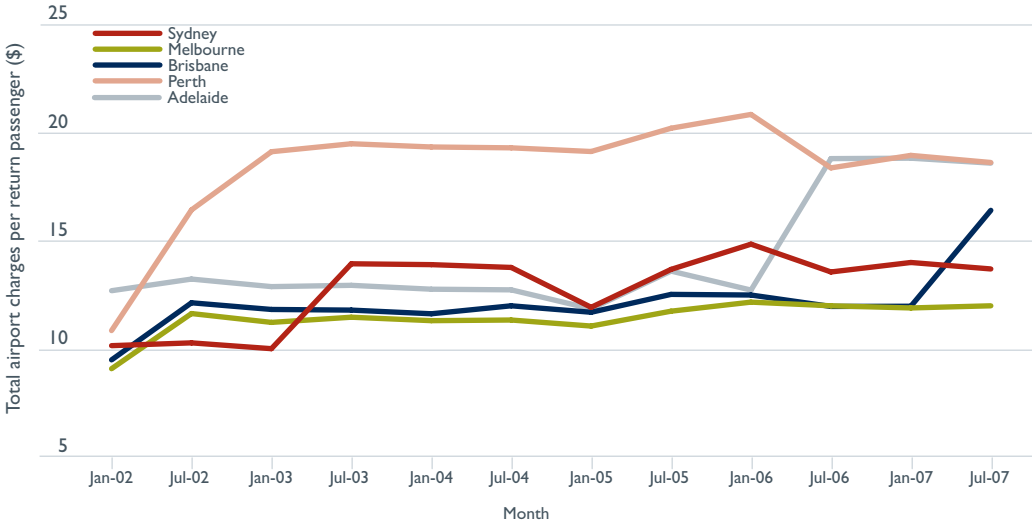
Figure 17 Real airport charges for indicative domestic aircraft



Notes: This graph shows total airport charges (GST inclusive) in September quarter 2007 dollars for a 737-800 aircraft as representative of domestic flights.
Charge calculations are based on BITRE assumptions and may differ from actual charges incurred by specific operators. Domestic charge estimates exclude terminal charges. An indicative domestic load factor of 76.5 per cent is assumed.

Sources: BITRE estimates based on airport public price schedules supplied by airport operators, Airservices Australia published price schedule and ABS Catalogue 6401.0, *Consumer Price Index, Australia, September 2007*.

Figure 18 Real airport charges for indicative regional aircraft



Notes: This graph shows total airport charges (GST inclusive) in September quarter 2007 dollars for a SAAB 340B aircraft as representative of regional flights.
Charge calculations are based on BITRE assumptions and may differ from actual charges incurred by specific operators. Regional charge estimates exclude terminal charges. An indicative regional load factor of 60.0 per cent is assumed.

Sources: BITRE estimates based on airport public price schedules supplied by airport operators, Airservices Australia published price schedule and ABS Catalogue 6401.0, *Consumer Price Index, Australia, September 2007*.

Regional airports

In issue 9 of *Avline,* information on airport charges at selected regional airports was included for the first time in order to provide a wider picture of airport charges across Australian airports. The regional airports chosen were those serviced predominantly by non-jet aircraft and were selected in order of the highest number of passengers for the financial year 2005–06. The airport charges as at 31 July 2006, 31 January 2007 and 31 July 2007 for the top ten regional airports which satisfied this criteria are listed in Table 8 and the data for 31 July 2007 is shown in Figure 19.

There is no security component in the total charge for the regional airports. Landing charges are only incurred at Armidale, Gladstone, Mildura, Port Lincoln and Tamworth, while Airservices Australia charges only apply at Albury and Tamworth Airports. Figures for Burnie and Tamworth Airports have been revised in the current issue.

Figure 19 shows that Port Lincoln and Wagga Wagga Airports continue to have the lowest charges of the ten regional airports for July 2007 whereas Tamworth Airport exceeds the rest. In terms of passenger charges levied by the airport operator alone, Port Macquarie has the highest charge compared with the other nine airports, followed closely by Tamworth Airport.

Mildura Airport recorded the highest percentage increase in airport charges between January 2007 and July 2007 (Table 8). This increase of 37.8 per cent is due primarily to

Table 8 Real airport charges for ten non-jet airports (per return passenger)

	Jul-06			*Jan-07*			*Jul-07*		
	Airport Operator	*Airservices Australia*	*Total*	*Airport Operator*	*Airservices Australia*	*Total*	*Airport Operator*	*Airservices Australia*	*Total*
Albury	28.93	6.89	35.81	28.95	6.89	35.84	28.40	7.44	35.84
Armidale[a]	32.75	0.00	32.75	32.77	0.00	32.77	32.15	0.00	32.15
Burnie	24.65[r]	0.00	24.65[r]	24.67[r]	0.00	24.67[r]	24.20	0.00	24.20
Dubbo	24.45	0.00	24.45	24.46	0.00	24.46	24.00	0.00	24.00
Gladstone	21.94	0.00	21.94	21.96	0.00	21.96	21.54	0.00	21.54
Mildura	22.37	0.00	22.37	22.38	0.00	22.38	30.84	0.00	30.84
Port Lincoln	20.21	0.00	20.21	20.22	0.00	20.22	19.84	0.00	19.84
Port Macquarie	32.18	0.00	32.18	32.20	0.00	32.20	35.20	0.00	35.20
Tamworth	33.92[r]	6.89	40.81[r]	33.94[r]	6.89	40.83[r]	34.40	7.44	41.84
Wagga Wagga[b]	20.68	0.00	20.68	20.69	0.00	20.69	20.30	0.00	20.30

Notes: All charges are GST inclusive and presented in September quarter 2007 dollars.
Terminal charges were excluded and where a landing fee applied (Armidale, Gladstone, Mildura, Port Lincoln and Tamworth), the component towards the total charge was calculated by assuming a SAAB 340B aircraft with an indicative regional load factor of 60.0 per cent as representative of regional flights. There are no security charges and Airservices charges apply only at Albury and Tamworth Airports. Charge calculations are based on BITRE assumptions and may differ from actual charges incurred by specific operators.

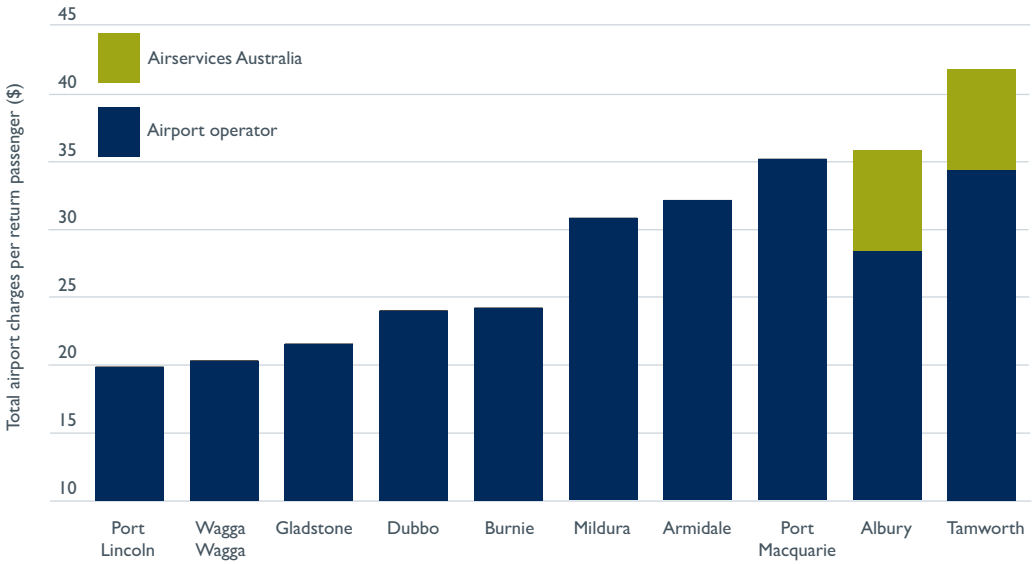
a. For Armidale Airport the passenger component was calculated by using the maximum charge of $14.30 (GST incl.) per arriving and per departing passenger. This charge applied for full ticket costs at or above $170. A lesser charge of $9.35 (GST incl.) for tickets below $170 was not used in the calculations.

b. For Wagga Wagga Airport the passenger component was calculated by using the maximum charge of $10.15 (GST incl.) per arriving and per departing passenger. This charge applied to passenger numbers below 71 550. Reduced rates consisting of a $2.54 (GST incl.) charge for passenger totals between 71 550 and 81 769 and $1.01 (GST incl.) for over 81 769 passengers were not included in the calculations.

Data for Burnie and Tamworth Airports for July 2006 and January 2007 have been revised.

r revised

Figure 19 Airport charges for ten non-jet airports for July 2007



Notes: This graph shows total airport charges (GST inclusive) for ten regional airports serviced by predominantly non-jet aircraft. Where a landing fee applied (Armidale, Gladstone, Mildura, Port Lincoln and Tamworth), the component towards the total airport charge per return passenger was calculated by assuming a SAAB 340B aircraft with an indicative regional load factor of 60.0 per cent as representative of regional flights. There are no security charges and Airservices charges apply only at Albury and Tamworth Airports. Terminal charges are excluded. Charge calculations are based on BITRE assumptions and may differ from actual charges incurred by specific operators.

Sources: BITRE estimates are based on airport public price schedules supplied by airport operators and Airservices Australia published price schedule.

an increase of 62.6 per cent in the passenger levy from $6.90 to $11.22 (GST inclusive) per arrival and per departing passenger. Port Macquarie Airport registered the second highest percentage increase of 9.3 per cent in airport charges over the same period. Port Macquarie ceased charging a landing fee for Regular Public Transport (RPT) aircraft in July 2007 in favour of a 31.1 per cent increase in the passenger levy fee.

For Armidale Airport the total airport charge is relatively high as shown in Figure 19 because the maximum fee per arriving and per departing passenger was employed in the calculations as described in the footnote of Table 8. Here the fees vary according to whether the passenger fare is above or below a set amount. If the minimum passenger fee was used instead, the total airport charge for Armidale would drop significantly and be comparable to that of Gladstone Airport.

Similarly at Wagga Wagga Airport there is a sliding scale of passenger charges as an incentive to attract more visitors to the city. The varying charges are listed in the footnote of Table 8. For the purpose of this analysis the maximum passenger fee was used. Even so the total airport charge at Wagga Wagga remains one of the lowest of the top ten regional airports.

Definitions

ABS	Australian Bureau of Statistics.
Available seats	The number of aircraft seats available for passenger use.
Available Seat Kilometres (ASKs)	Calculated by multiplying the number of seats available on each flight stage, by the distance in kilometres between the ports. The distances used are Great Circle Distances.
BITRE	Bureau of Infrastructure, Transport and Regional Economics.
Cancellation	A flight that is cancelled or rescheduled within seven days of its scheduled departure time.
CASA	Civil Aviation Safety Authority.
City pair	The ports shown make up the city pair route. Passenger movements shown for a city pair reflect total traffic in both directions.
Domestic airline	An airline performing regular public transport services primarily between capital cities and major tourist centres.
Flight stage	The operation of an aircraft from take-off to landing.
Great circle distance	The shortest distance between any two points on the globe as measured over the earth's surface.
Load factor	The proportion of total aircraft seats that are filled by paying passengers.
On-time arrival	A flight arrival that arrives at the gate within 15 minutes of the scheduled arrival time shown in the carrier's schedule.
On-time departure	A flight departure that departs the gate within 15 minutes of the scheduled departure time shown in the carrier's schedule.
On-time performance	Measured as the number of flights operating on time as a percentage of the number of flights operated on any particular sector.
Regional airline	An airline performing regular public transport services primarily to regional centres.
Revenue Passengers	All passengers paying any fare. Frequent flyer redemption travellers are regarded as revenue passengers.
Revenue Passenger Kilometres (RPKs)	Calculated by multiplying the number of revenue passengers travelling on each flight stage, by the distance in kilometres between the ports. The distances used are Great Circle Distances.
Regular Public Transport (RPT)	Aircraft transport available to the public and operated to fixed schedules and between specified fixed terminals.
Short-term resident arrivals	Overseas visitors arriving in Australia for stays of up to 12 months.
Short-term visitor departures	Australian residents departing for periods of up to 12 months.

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