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Air passenger movements through capital city airports to 2025–26

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Foreword

This report presents the forecasts of passenger and aircraft traffic at capital city airports over the next 20 years. The forecasts have been developed on the basis of the estimated econometric models of passenger demand and the most recent economic outlook for Australia and its major trading partners. Australia's eight capital city airports (Adelaide, Brisbane, Canberra, Darwin, Hobart, Melbourne, Perth and Sydney) are included in the development of the forecasts.

The study was undertaken in 2007 by Dr Krishna Hamal (Team Leader), Terry Johnson, Mano Manoranjan and Uma Sharma under the supervision of Dr David Gargett. Phil Potterton, Robert Stewart and Gary Dolman provided comments on the draft report.

BITRE is particularly grateful to the authorities of the capital city airports for their cooperation in developing the passenger movement forecasts presented in this study. BITRE is aware of the forecasting exercises that individual airports in Australia undertake to develop their 20 year master plans, and it hopes this report will help them to form long-term forecasts of passenger growth.

Phil Potterton Executive Director Bureau of Infrastructure, Transport and Regional Economics Canberra May 2008

At a glance

This report presents forecasts of air passenger movements through all Australian airports. The forecasts were developed individually for Australia's eight capital city airports (Adelaide, Brisbane, Canberra, Darwin, Hobart, Melbourne, Perth and Sydney) and, in aggregation, 'other airports' (that is, all Australian airports excluding the eight capital city airports). Econometric demand models of air passenger movements were used to derive the forecasts. The models suggest that key drivers of air passenger movements are population, income, exchange rates, domestic airfares and the prices of domestic and overseas travel and accommodation. The forecasts do not include the influence of supplyside variables that influence airport activities. For this reason, the forecasts presented in this study are unconstrained forecasts.

The number of passenger movements through all airports increased by an average of 5.2 per cent a year over a 14 year period, from 51.6 million in 1991–92 to 104.9 million in 2005–06. However, such a high level of growth is not expected over the next 20 years. This will be due mainly to an expected slight slowing of Australian economic and population growth, and the maturation of the influence of low-cost carriers on passenger movement growth. The number of passenger movements through all airports is forecast to increase by 4 per cent a year over the next 20 years. This will mean that air passenger movements will double by the end of the forecast period to 227.9 million in 2025–26. This number will include: 63 million passengers passing through Sydney Airport; 46.4 million through Melbourne Airport; 39 million through Brisbane Airport. The number of international and domestic passenger movements through all airports is forecast to increase annually by 4.4 and 3.8 per cent respectively over the forecast period, to 50.2 million and 177.7 million in 2025–26.

The forecast level of growth in air passenger movements will call for a significant response from airport authorities and airlines to increase the existing capacity of capital city airports and airlines. The report notes the current plans of individual capital city airports to deal with increased future capacity.

A sensitivity analysis was also carried out to assess the impact of rising oil prices and the expected introduction of greenhouse gas emission abatement measures (such as carbon emissions trading) on the number of air passenger movements through Australian airports. Results of the analysis suggest that a notional 50 per cent increase in fuel prices would increase airfares substantially. This would have a significant downward impact on air passenger movements. The base case average annual growth rate of air passenger movements over the next 20 years would reduce from 4 per cent to 3.4 per cent.

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Executive summary

Introduction

The aviation sector of Australia has experienced many changes in the last 10 years, largely due to the recession in several Asian economies, pandemic outbreaks such as SARS, the introduction of low-cost carriers, the collapse of Ansett Australia Airlines, terrorism incidents and in response, the introduction of new transport security regulations. These changes have influenced not only air passenger movements through Australian airports, but also the development activities of Australian airports. For this reason, forecasts of passenger movements are vital for the future planning and development of airports and to plan and implement airport security measures. This report presents forecasts of air passenger movements through Australian capital city airports (Adelaide, Brisbane, Canberra, Darwin, Hobart, Melbourne, Perth and Sydney) and, in aggregation, 'other airports' (that is, all Australian airports excluding the eight capital city airports are added to obtain forecasts for 'all airports' (that is, the total of all the Australian airports which operate commercial passenger services).

Forecasting models

In this study, forecasts of passenger movements have been developed using single equation econometric models. The models are specified in terms of population, income, exchange rates, domestic airfares, and the prices of domestic and overseas travel and accommodation.

The models of international and domestic passenger movements are specified separately as they are driven by different factors. The domestic passenger movement models are empirically estimated using historical data from 1984–85 to 2005–06, whereas the international passenger movement models are estimated using data from 1991–92 to 2005–06. Data on international passenger movements prior to 1991–92 were not readily available at the airport level.

Data and assumptions

The historical data and long-run assumptions on population and macroeconomic variables used to estimate the passenger movement models were obtained from ABS (2004), Access Economics (2006), BTRE (2007) and OECD (2003). Since these assumptions are available for 10 years only, from 2006–07 to 2015–16, the assumptions for the rest of the forecast period are assumed to remain the same as those in year 2015–16.

Gross domestic and state products are used as proxies for the income variables in the passenger movement models. Australia's real GDP grew annually by 3.3 per cent in the last 20 years and is forecast to increase by 2.9 per cent a year over the next 20 years. The lower economic growth forecast will have an adverse influence on Australia's domestic and outbound passenger movements over the forecast period.

Real GDP growth in the OECD countries is expected to remain more or less at the same rate as that observed over the last 20 years.

The strength of the Australian dollar against the currencies of Australia's trading partners is expected to weaken over the next 20 years. The weakening of the Australian dollar will have a positive impact on the movements of overseas visitors to and from Australia and a negative impact on the international movements of Australian residents.

Population growth will remain relatively low but positive in Australia and the OECD countries over the next 20 years. The population of Australia and the OECD countries grew by 1.3 and 0.8 per cent per annum respectively over the last 20 years, and it is expected to increase more or less at the same rate over the next 20 years. The expected positive population growth in Australia and the OECD countries will have a positive influence on Australia's air passenger movements.

Domestic discounted airfares declined in real terms by an average 6.3 per cent a year between 1997–98 and 2004–05, mainly due to the introduction of low-cost carriers on Australia's domestic routes. However, the downward trend in the real domestic discounted airfares appears to have ended in recent years. They increased by 5.2 per cent in 2005–06 and 2.9 per cent in 2006–07, possibly due to the upgrading of seats by the early entrant low-cost carriers. This study assumes that the nominal discounted airfares of domestic travel will increase at the same rate as that of inflation over the next 20 years, implying that the discounted airfares of domestic travel are expected to remain unchanged in real terms over the entire forecast period.

Despite this, it is possible that the cost of air travel could increase in the near future due to oil price trends and the expected introduction of greenhouse gas emission abatement measures (such as carbon emissions trading) to reduce greenhouse gas emissions across the economy. For this reason, a sensitivity analysis has been performed to assess the possible impact on the number of air passenger movements. Results of the sensitivity analysis are presented in the last section of this chapter.

Forecasts of passenger movements

Forecasts of passenger movements through the capital city airports are summarised in Tables ES1 and are discussed below.

Adelaide

Adelaide Airport is Australia's fifth largest airport in terms of total passenger movements, accounting for 5.5 per cent of the total passenger movements. It is operated by Adelaide Airport Limited (AAL) under a long-term lease from the Australian Government since 29 May 1998. The airport has a curfew placed on the

movement of aircraft, particularly passenger-carrying jet aircraft, between 2300 and 0600 hours local time.

About 5.8 million passenger movements were recorded at Adelaide Airport in 2005–06. Among these, 93.8 per cent were domestic movements and the remaining 6.2 per cent were international movements.

In recent years, Adelaide Airport has attracted more international and domestic flights: Singapore Airlines has introduced daily services; Cathay Pacific has doubled its frequency; Air New Zealand has reintroduced services; Malaysia Airlines has increased its capacity; and Qantas has rescheduled all non-stop operations (AAL 2006). On the domestic front, Jetstar has introduced more flights and added two more new destinations linking Adelaide. As a result of these changes, Adelaide Airport has achieved record growth in passenger movement numbers in the last three years. The total number of passenger movements grew by 12.4 per cent in 2003–04, 9.7 per cent in 2004–05 and 7.5 per cent in 2005–06, and by an average of 4.7 per cent per annum in the last 14 years. However, such a high growth rate is not expected over the next 20 years, largely due to the expected slowing of the Australian economy and population growth, and the maturation of the influence of low-cost carriers on passenger movement growth. The number is forecast to increase by 3.6 per cent over the forecast period, from 5.8 million in 2005–06 to 11.7 million in 2025–26.

	Number of movements			Annual average growth rate	
	1991–92	2005–06	Forecasts to 2025–26	1991–92 to 2005–06	Forecasts 2005–06 to 2025–26
Airport		(millions)		(per cent)	
Adelaide	3.0	5.8	11.7	4.7	3.6
Brisbane	6.7	16.1	39.0	6.4	4.5
Canberra	1.4	2.6	5.1	4.6	3.5
Darwin	0.6	1.2	2.9	5.7	4.3
Hobart	0.7	1.6	3.0	6.3	3.2
Melbourne	10.4	21.2	46.4	5.2	4.0
Perth	3.1	7.1	17.7	6.1	4.7
Sydney	15.2	28.8	63.0	4.7	4.0
Other airports	10.5	20.6	39.0	4.9	3.3
All airports	51.6	104.9	227.9	5.2	4.0

Table ES1 Passenger movements by airport, including forecasts to 2025–26

* Total may not add up due to rounding.

The growth in international passenger movements is expected to be higher than domestic passenger movements. One of the main reasons is that the travel response to a change in income (income elasticity of travel demand) is generally higher in the case of passengers travelling on international routes than for those travelling on domestic routes. Also, Cathay Pacific, which currently flies four times a week between Adelaide and Hong Kong, announced that it will fly daily on this route from 1 October 2007. The additional flights are expected to attract more international passengers by adding more connections to destinations across Asia, Europe and North America.

The total number of international passenger movements is expected to increase by 5 per cent over the forecast period to 943 000 in 2025–26.

The strong growth in the defence and mining sectors in South Australia is expected to continue and Tiger Airways has commenced passenger services between Adelaide and Melbourne. These factors will have a positive influence on the number of domestic passenger movements through Adelaide Airport. The number is projected to increase by 3.5 per cent a year over the forecast period to 10.8 million in 2025–26.

The current capacity of Adelaide Airport in terms of infrastructure and facilities (such as runway, taxiways, aprons, passenger terminals, freight and other general aviation facilities) appears adequate to handle the expected future passenger movements, at least for another 15 years. Beyond that, some expansion of airport facilities may be required to realise the high growth in passenger movements towards the last five years of the forecast period. AAL has recognised the need to increase the capacity in the future and it has planned development activities accordingly. It has brought forward its plan to expand Terminal 1 by adding new aerobridges and creating more aircraft parking bays at Adelaide Airport. It has also announced its plan to demolish the old international terminal building to create more tarmac space for regional airlines.

Brisbane

Brisbane Airport is Australia's third largest capital city airport in terms of passenger movements, accounting for 15.4 per cent of the total passenger movements. It is operated by Brisbane Airport Corporation (BAC) Pty Limited which purchased the long-term lease of the airport from the Australian Government in July 1997.

Over 16.1 million passengers passed through Brisbane Airport in 2005–06, including 3.7 million international passengers and 12.4 million domestic passengers. Of the total domestic passengers, 64.4 per cent flew on Brisbane's capital city routes and the remaining 35.6 per cent flew on other routes, including regional routes.

Although the number of passenger movements through Brisbane Airport declined by 6 per cent in 2001–02 following the 9/11 terrorist attacks and the collapse of Ansett Australia Airlines, it increased by an average of 6.4 per cent a year from 1991–92 to 2005–06. The strong growth rates largely resulted from the introduction of low-cost carriers on Australia's international and domestic routes, strong economic growth and a high population growth in Queensland. However, such high growth rates are not expected to continue in the future, mainly due to the maturation of the influence of low-cost carriers on passenger movement growth and the expected slowing of the Australian economy and population growth. The number of total passenger movements through Brisbane Airport is forecast to increase annually by 4.5 per cent during the forecast period, from 16.1 million in 2005–06 to 39 million in 2025–26.

The number of international and domestic passenger movements is expected to increase at the same rate (4.5 per cent a year) over the next 20 years. Over 9 million international passengers and 29.9 million domestic passengers are expected to travel though Brisbane Airport in 2025–26.

The capacity of Brisbane Airport appears to be sufficient to realise the expected high growth in passenger travel demand over the forecast period. A second

parallel runway is to be added at Brisbane, with construction to start in 2009. When completed in 2015, it will effectively double the airside capacity of the airport. On the landside, Brisbane Airport Corporation has undertaken many initiatives to expand the capacity of Brisbane Airport.

Canberra

Canberra International Airport is one of Australia's smaller capital city airports, accounting for 2.5 per cent of the total passenger movements. It is operated by Canberra International Airport Pty Limited (CIA) under a long-term lease from the Australian Government.

Canberra Airport has direct domestic passenger services to five capital cities (Adelaide, Brisbane, Melbourne, Perth and Sydney), the Gold Coast and two regional centres (Newcastle and Albury). At present, it does not have scheduled international passenger services, although some international chartered and VIP flights do fly to and from Canberra.

In 2005–06, around 2.6 million passengers were moved through Canberra Airport. Among them, 97.9 per cent flew on Canberra's capital city routes and the remaining 2.1 per cent flew on other routes, including regional routes.

As with other Australian airports, Canberra Airport was adversely impacted by the collapse of Ansett Australia Airlines in 2001–02. The number of passenger movements declined by 12.6 per cent in that year to 1.8 million in 2001–02. However, it increased by 4 per cent in 2002–03 and 20.2 per cent in 2003–04. This was largely due to an increase in seat capacity by airlines operating to and from Canberra, especially as a result of the commencement of services by Rex and Brindabella Airlines, and an increase in services by Qantas and Virgin Blue. As a result, passenger movements have increased by an average of 4.6 per cent a year in the last 14 years. The BITRE forecasts suggest that the number of passenger movements through Canberra Airport will increase by 3.5 per cent over the forecast period to 5.1 million in 2025–26. The comparatively low growth rate forecast is largely due to the expected slowing of the Australian economy and population growth, and the maturation of the influence of low-cost carriers on passenger movement growth.

Although the capacity of Canberra Airport appears to be sufficient to cope with forecast demand over the next 20 years, the airport management has a plan in place to increase its facilities when required.

Darwin

Darwin International Airport (DIA) is Australia's smallest capital city airport in terms of passenger movements, accounting for 1.2 per cent of the total passenger movements. It is managed by Northern Territory Airports Pty Limited which acquired a long-term lease from the Australian Government on 10 June 1998.

In 2005–06, over 1.2 million passengers travelled through Darwin Airport. Of these, 88.4 per cent were domestic passengers and 11.6 per cent were international passengers. Also, 69.3 per cent of the total domestic passengers flew on Darwin's

capital city routes and the remaining 30.7 per cent flew on other routes, including regional routes.

The 9/11 terrorist attacks and the collapse of Ansett Australia Airlines reduced the number of total passenger movements through Darwin Airport by 8.7 per cent in 2001–02. However, Darwin's air travel market recovered in the following year. As a result, the number of passenger movements through Darwin Airport has increased by an average of 5.7 per cent a year in the last 14 years. It is forecast to increase annually by 4.3 per cent during the forecast period, to 2.9 million in 2025–26. The lower growth rate forecast is largely due to the expected slowing of the Australian economy and population growth, and the maturation of the influence of low-cost carriers on passenger movement growth. In the past, low-cost international carrier Tiger Airways has provided passenger services between Darwin and Asian destinations. This has attracted more overseas visitors to the Northern Territory as well as more resident departures to Asian holiday destinations.

The number of international and domestic passenger movements are projected to increase annually by 4.6 and 4.3 per cent to nearly 0.4 million and 2.6 million respectively in 2025–26.

The capacity of Darwin Airport is not a matter for concern given the level of passenger traffic over the forecast period. If required, the capacity could be increased comfortably to facilitate higher growth in passenger movements.

Hobart

Hobart Airport is Australia's second smallest capital city airport, accounting for 1.5 per cent of the total passenger movements. It is operated by Hobart International Airport Pty Ltd (HIAPL), which leased the airport from the Australian Government on 11 June 1998.

Although some major international airlines do have rights to operate regular services to Hobart, they do not currently do so. Hobart Airport used to have air services to and from New Zealand but these services were suspended in mid-1998.

The number of international passenger movements through Hobart Airport appears to have been adversely influenced by the close proximity of Melbourne International Airport. Melbourne, which is close to Hobart, has the second largest airport in Australia in terms of international passenger movements. HIAPL, state tourism authorities and inbound tour operators are taking initiatives to reintroduce direct international flights to and from Hobart.

Hobart's capital city routes currently account for 99.9 per cent of domestic passenger movements through Hobart Airport. Among all capital city routes linking Hobart, the Hobart–Melbourne and Hobart–Sydney routes remain Hobart's first and second largest routes in terms of domestic passenger movements. In 2005–06, they contributed 60.3 and 25.6 per cent respectively to the total domestic passenger movements through Hobart Airport.

Following the introduction of low-cost carriers, the number of passenger movements through Hobart Airport increased significantly, by 5.4 per cent in 2002–03, 21.4 per cent in 2003–04 and 24.1 per cent in 2004–05. However, the high growth appears to have

stabilised. The number of passenger movements increased by 5.5 per cent in 2005–06 and the preliminary data suggest that it increased by 1.6 per cent in 2006–2007. Following these high growth rates in recent years, the number of domestic passenger movements increased by 6.4 per cent a year in the last 14 years, from 674 000 in 1991–92 to 1.6 million in 2005–06. However, such a high growth is not expected over the next 20 years, mainly due to the expected slowing of the Australian economy and population growth, and the maturation of the influence of low-cost carriers on passenger movement growth. The number of domestic passenger movements through Hobart Airport is forecast to increase by 3.2 per cent a year over the forecast period to 3 million in 2025–26.

The capacity of Hobart Airport in terms of infrastructure and facilities is currently underutilised, so the existing capacity of Hobart Airport, with some additional development works, can handle the high expected growth over the next 20 years. HIAPL has recognised this and has already taken initiatives to increase the existing airport capacity. These will include building a new check-in hall with a checked bag screening system, purchasing additional land to build additional aeronautical infrastructure, and the development of a cross runway and a parallel taxiway.

Melbourne

Melbourne Airport is Australia's second largest airport in terms of passenger movements, contributing 20.2 per cent of the total passenger movements through Australian airports. The airport is operated by Australian Pacific Airports Corporation Limited (APAC) which purchased the long-term lease of Melbourne Airport from the Australian Government in July 1997.

Around 21.2 million passengers moved through Melbourne Airport in 2005–06, including 4.4 million international passengers and 16.8 million domestic passengers. Of the total domestic passengers, 77.9 per cent flew on Melbourne's capital city routes and the remaining 22.1 per cent flew on other routes, including regional routes.

Passenger movements at Melbourne Airport have increased at a high rate for the last three years (14.6 per cent in 2003–04, 7.8 per cent in 2004–05 and 3.7 per cent in 2005–06) largely due to the introduction of low-cost carriers in domestic passenger services and the opening of new domestic routes to and from Melbourne (Melbourne-Townsville, Melbourne-Ballina and Melbourne-Darwin). As a result of these high growth rates, the number of passenger movements through Melbourne Airport has increased by an average of 5.2 per cent a year in the last 14 years. However, such a high growth in passenger movements is not expected over the next 20 years, largely due to the expected slowing of the Australian economy and population growth, the maturation of the influence of low-cost carriers on passenger movement growth and the recent reduction in seat capacity in Melbourne's international routes. The seat capacity was reduced by over half a million in 2005-06 due to the loss of services by British Airways, Freedom Air and Air Paradise (MA 2006). The impact of the loss of seat capacity on international passenger movements through Melbourne Airport would have been much greater if new regular passenger services by China Southern, Jetstar International, Qantas and seasonal charter services by Korean Air had not started in that year.

The number of passenger movements through Melbourne Airport is forecast to increase by an average of 4 per cent a year over the forecast period to 46.4 million in 2025–26. The number of international and domestic passenger movements through Melbourne Airport is projected to increase by an average of 4.3 and 3.9 per cent respectively a year over the next 20 years, to 10.1 million and 36.2 million in 2025–26.

Melbourne Airport may have to increase its capacity to realise the high volume of passenger traffic in the future. Being a curfew free airport, it can increase its present capacity by operating 24 hours a day and seven days a week. It has also recognised the need to increase its capacity, and plans to undertake many initiatives to increase the current capacity of the airport. These include the installation of two new dual aerobridges, and the construction of a new baggage carousel in its international terminal to cater for the operation of large aircraft such as the A380.

Perth

Perth Airport is Australia's fourth largest capital city airport in terms of passenger movements, accounting for 6.7 per cent of the total passenger movements. It is a curfew free airport and is operated by Westralia Airports Corporation Pty Ltd (WAC) under a long-term lease from the Australian Government since July 1997.

In 2005–06, 7.1 million passengers travelled through Perth Airport, including 5 million domestic passengers. Among them, 72 per cent flew on Perth's capital city routes and the remaining 28 per cent flew on other domestic routes including regional routes.

Although the number of passenger movements through Perth Airport declined by 8.6 per cent in 2001–02, mainly due to the 9/11 terrorist attacks in the United States and the collapse of Ansett Australia Airlines, it increased significantly after 2001–02, especially with the introduction of low-cost carriers on domestic routes. The number of passenger movements through Perth Airport increased an average of 6.1 per cent a year over the last 14 years. Such high growth is not expected to continue in the long-term, mainly due to the expected slowing of the Australian economy and population growth. It is forecast to increase by 4.7 per cent a year over the next 20 years to 17.7 million in 2025–26. The number of international and domestic passenger movements is expected to increase by 4.7 per cent a year over the next 20 years, to 5.1 million and 12.6 million respectively in 2025–26.

The existing runway capacity of Perth Airport appears to be sufficient to realise the strong growth in passenger movements over the next 20 years. However, the airport may need to expand its taxiways and apron to facilitate smooth movements of aircraft and passengers over the forecast period. Westralia Airports Corporation has realised this need and has planned initiatives accordingly.

Sydney

Sydney Airport is Australia's largest airport in terms of passenger and freight movements, accounting for 27.9 per cent of the total passenger movements through Australian airports. A curfew is in place at Sydney Airport, restricting the movement of jet aircraft from 11.00 pm to 6.00 am.

The airport is operated by Sydney Airport Corporation Limited (SACL) which came into effect after the Federal Airports Corporation was dissolved in 1998. Also, SACL was sold to the Southern Cross Airports Corporation Pty Limited on 28 June 2002 through a competitive bidding process.

In 2005–06, over 28.8 million passengers travelled through Sydney Airport, including 9.5 million international passengers and 19.3 million domestic passengers. Of the total domestic passengers, 68.6 per cent flew on Sydney's capital city routes and the remaining 31.4 per cent flew on other routes, including regional routes.

The number of passenger movements through Sydney Airport increased by 11.7 per cent to 25.9 million in 2000–01, largely due to the Sydney Olympic Games. It declined by 10.6 per cent in 2001–02, mainly due to the 9/11 terrorist attacks in the United States and the collapse of Ansett Australia Airlines. However, the adverse impact of those two events on air passenger movements slowly subsided, especially with Qantas absorbing passenger demand displaced by Ansett Australia. The number of passenger movements through Sydney Airport increased by 1.4 per cent in 2002–03 and, with the introduction of low-cost carrier Jetstar on Australia's domestic routes, by 10.6 per cent in 2003–04.

The number of passenger movements through Sydney Airport has increased by an average of 4.7 per cent a year in the last 14 years and is forecast to increase by 4 per cent over the next 20 years to 63 million in 2025–26. The expected lower growth in passenger movements is mainly due to the expected slowing of the Australian economy and population growth, and the maturation of the influence of low-cost carriers on passenger movement growth.

The number of international and domestic passenger movements through Sydney Airport is projected to increase by an average of 4.3 and 3.8 per cent a year over the next 20 years to 22.1 million and 40.9 million respectively in 2025–26. The introduction of A380 aircraft on Sydney's international routes will positively influence the number of passenger movements through Sydney Airport.

Sydney Airport has undertaken many initiatives to expand its capacity to handle the high growth forecast over the next 20 years. Major initiatives include, the construction of new aerobridges to service the three access doors on the A380, the relocation of airfield navigational and visual aid equipment, fuelling pits, changes to gate lounges in the International Terminal, and the construction of new roads for improved road access between the airport and inner and Sydney's outer areas. Sydney airport is unique among Australian airports in having both a curfew (11.00 pm to 6.00 am) and a cap on hourly aircraft movements. When considering airport capacity issues, the size of the morning and evening peaks are crucial. Expected high rates of growth in passenger movements are likely to mean that aircraft movements at Sydney in the peak will run up against the cap at a future point. This issue can be examined in the 2009 review of the Sydney Airport Master Plan.

Other airports

As mentioned earlier, 'other airports' refer to all Australian airports, excluding the eight capital city airports. The major airports included in other airports are located in major tourist destinations such as Cairns, Coffs Harbour, Dubbo, Gold Coast, Hamilton Island, Launceston, Rockhampton and Townsville.

The 9/11 terrorist attacks and the collapse of Ansett Australia Airlines severely impacted passenger movements through other airports. The number of passenger movements through other airports declined by 15.7 per cent in 2001–02. However, the adverse impact of those events remained for only one year, largely due to the introduction of low-cost carriers and strong economic growth. The number of passenger movements through other airports increased by an average of 4.9 per cent a year in the last 14 years to 20.6 million in 2005–06, and it is forecast to increase by an average of 3.3 per cent a year during the forecast period to 39 million in 2025–26. The low growth rate forecast is largely due to the expected slowing of the Australian economy and population growth, and the maturation of the influence of low-cost carriers on passenger movement growth.

The number of international and domestic passenger movements is projected to increase annually by 4.2 and 3.2 per cent, to 2.5 million and 36.5 million respectively in 2025–26.

All airports

The total number of passenger movements increased by an average of 5.2 per cent a year in the last 14 years, from 51.6 million in 1991–92 to 104.9 million in 2005–06. Following the expected slowing of the Australian economy and population growth, and the maturation of the influence of low-cost carriers on passenger movement growth, passenger movements are forecast to increase by 4 per cent a year over the next 20 years to 227.9 million in 2025–26. The number of international and domestic passenger movements is expected to increase annually by 4.4 and 3.8 per cent, to 50.2 million and 177.7 million respectively in 2025–26.

Comparison of forecasts

BITRE forecasts are comparable to those long-term forecasts prepared by other organisations for capital city airports (Table ES2). BITRE growth rate forecasts of passenger movements are close to those prepared by other organisations in the case of Adelaide, Brisbane, Hobart, Perth and Sydney airports.

	BITRE		Other organisations
Airport	Forecast (per cent)	Forecast (per cent)	Name
Adelaide (Domestic)	3.5	3.7	Access Economics (2007)
Brisbane	4.5	4.6	Tourism Future International (2007)
Canberra (Domestic)	3.5	4.0	Airplan (2003)
Darwin (International)	4.6	6.1	British Airways Authority (2001/02)
Darwin (Domestic)	4.3	3.6	British Airways Authority (2001/02)
Hobart	3.2	3.0	Hobart International Airport (2004)
Melbourne	4.0	na	
Perth (International)	4.7	4.6	Westralia Airports Corporation (2004)
Perth (Domestic)	4.7	3.0	Westralia Airports Corporation (2004)
Sydney	4.0	4.2	International Air Transport Association (2003)
Other airports	na	na	

Table ES2 Growth rate forecasts of passenger movements by airport

na = not available

Despite a difference of 0.5 percentage points in growth rates, both BITRE and Airplan forecasts for Canberra Airport suggest that around 5 million domestic passengers will pass through the airport in 2024–25. This is because of the difference in the base year used to forecast passenger numbers in the two studies. The base year used by Airplan is 2003–04 whereas BITRE uses a base year of 2005–06.

In the case of Darwin Airport, BITRE's forecast of international passenger movements is lower than those prepared by British Airways Authority (BAA) in 2001–02, whereas the BITRE forecast of domestic passenger movements is higher than those prepared by BAA. The difference is largely due to the fact that the BAA forecasts were done prior to the loss of Darwin's international services by Jetstar and the introduction of low-cost carriers in domestic routes.

Melbourne Airport has not published its forecasts of passenger movements. However, it suggested that BITRE's long-term forecast of 4 per cent a year over the next 20 years is reasonable and close to its own.

Sensitivity analysis

Since fuel is one of the major components of airlines' total operating costs, it is a major determinant of airfares. An increase (or decrease) in fuel prices will have a substantial negative (or positive) impact on air passenger movements. Fuel prices are expected to increase due to rising oil prices, and the expected introduction of greenhouse gas emission abatement measures (such as carbon emissions trading).

For this reason, a sensitivity analysis was carried out to assess the impact of a change in fuel prices on the number of air passenger movements through Australian airports. Two scenarios have been considered for this purpose. Scenario 1 assumes that fuel prices decline by 50 per cent from the base case level and Scenario 2 assumes that they increase by 50 per cent. The base case is defined as a medium scenario that reflects the economic and political conditions as at early 2008. Forecasts of air passenger movements presented in Chapter 4 are the base case forecasts. Results of the sensitivity analysis suggest that the base case average annual growth rate of air passenger movements would increase from 4 per cent to 4.2 per cent under Scenario 1, and it would decrease from 4 per cent to 3.4 per cent under Scenario 2. This implies that the total number of air passenger movements over the next twenty years would increase by an additional 145.6 million (in addition to the base case forecast of 3.4 billion) under Scenario 1, and there would be a shortfall of 333.4 million in the base case passenger movement numbers under Scenario 2.

Chapter 1 Introduction

Introduction

In recent times, air travel has become increasingly popular in Australia and other parts of the world, largely due to an increase in the real income level of travellers and a decline in real airfares. With the introduction of low-cost carriers in Australia's domestic and international routes in recent years, airfares have become increasingly competitive. Competitive airfares, together with a positive economic growth in Australia and its trading partners, have resulted in a strong growth in Australia's air travel market in the last few years.

Despite a slump in passenger travel in 2001–02 as a result of the 9/11 terrorist attacks and the collapse of Ansett Australia Airlines, the number of Australia's total air passenger movements grew by an average 5.2 per cent a year over the last 14 years, from 51.6 million in 1991–92 to 104.9 million in 2005–06 (Figure 1.1). Passenger movements increased annually by 4.6 per cent in Canberra, 4.7 per cent in Adelaide and Sydney, 5.2 per cent in Melbourne, 5.7 per cent in Darwin, 6.1 per cent in Perth, 6.3 per cent in Hobart, 6.4 per cent in Brisbane and 4.9 per cent in all other airports.



Figure 1.1 Air passenger movements through Australian airports, 1991–92 to 2005–06

In 2005–06, domestic and international routes accounted for 66.3 and 33.7 per cent of total air passenger movements through Australian airports respectively (Figure 1.2). Of the total air passenger movements on Australia's international routes, 53.6 per cent were overseas visitors and the remaining 46.4 per cent were Australian residents flying in and out of the country for holiday and other purposes.

There are two types of airlines (domestic and regional airlines) that provide passenger services on Australia's domestic routes. Qantas, Jetstar, Virgin Blue and Tiger Airways are the major domestic airlines providing services primarily between capital cities and major tourist centres. On the other hand, regional airlines, which presently include around 34 airlines, provide services primarily to regional centres. Domestic airlines accounted for 88.1 per cent of the total passenger movements on Australia's domestic routes in 2005–06 (Figure 1.2).





The aviation sector of Australia has experienced many changes in the last 10 years, largely due to the recession in several Asian economies, pandemic outbreaks such as SARS, the introduction of low-cost carriers, the collapse of Ansett Australia Airlines, terrorism incidents and in response, the introduction of new transport security regulations. All these changes have influenced passenger movements through Australian airports and consequently, the development activities of Australian airports. For this reason, forecasts of passenger movements are vital for the future planning and development of airports as well as for the planning and implementation of airport security measures. This study attempts to develop long-term forecasts of air passenger movements through Australian airports over the next 20 years.

The forecasts are developed individually for Australia's eight capital city airports (Adelaide, Brisbane, Canberra, Darwin, Hobart, Melbourne, Perth and Sydney) and, in aggregation, 'other airports' (that is, all Australian airports excluding the eight capital city airports). The major airports included in other airports are located in Albury, Ballina, Broome, Cairns, Coffs Harbour, Dubbo, Gold Coast, Hamilton Island, Harvey Bay, Kalgoorlie, Launceston, Maroochydore, Mildura, Newcastle, Proserpine, Rockhampton, Townsville and Wagga Wagga.

Forecasts for the eight capital city airports and 'other airports' are added to derive forecasts for 'all airports'. In this study, the term 'all airports' is used to refer to the total of all the Australian airports which operate commercial passenger services.

BITRE has previously published a number of forecasting studies on passenger and aircraft movements. These are BTCE (1988), BTRE (2002), Cosgrove, Gargett and Viney (1989) and Gargett (1993). In these studies, econometric and simulation models have been used to forecast passenger and aircraft movements at major Australian airports and at the national level.

Air travel

In Australia, air travel has become popular as a result of Australia's geography, aircraft technology, rising income levels and falling airfares. Air travel remains the most attractive mode of long-haul travel, especially when the cost of travel time is factored in to travel decisions. Also, the development of aircraft technology has resulted in faster and more fuel-efficient aircraft, and competition in the international and domestic routes has made air travel relatively affordable.

In 2005–06, air passenger movements through Australian airports totalled 104.9 million. About 81 per cent of total passenger movements were through the capital city airports (Adelaide, Brisbane, Canberra, Darwin, Hobart, Melbourne, Perth and Sydney) and the remaining 19 per cent were through Australia's other airports. Sydney Airport is Australia's largest individual airport in terms of passenger movements. It accounts for 27.9 per cent of the total passenger movements followed by Melbourne (20.2 per cent), Brisbane (15.4 per cent), Perth (6.7 per cent), Adelaide (5.5 per cent), Canberra (2.5 per cent), Hobart (1.5 per cent) and Darwin (1.2 per cent) (Figure 1.3). All other remaining airports account for 19 per cent.

Sydney Airport dominates in all types of passenger movements (international, domestic and regional) through all Australian airports. It accounts for 45.8 per cent of total international passenger movements, 23.8 per cent of total domestic passenger movements and 19.8 per cent of total regional passenger movements (Figure 1.4).









Objectives

The main objectives of the study are as follows:

- to forecast the number of air passenger movements through Australia's capital city airports and, in aggregation, other airports over the next 20 years
- to forecast the number of air passenger movements by type of movements (that is, international movements by Australian residents and overseas visitors and domestic movements by both Australians and overseas visitors).

Outline of the report

The background and objectives of the report are presented in Chapter 1.

Chapter 2 deals with air passenger forecasting models, and includes a detailed discussion on the econometric models and their estimated parameters.

Chapter 3 discusses data and their sources, as well as assumptions on macroeconomic and population variables.

Chapter 4 presents passenger movement forecasts for the eight Australian capital city airports and, in aggregation, other airports over the next 20 years to 2025–26.

Chapter 2

Air passenger forecasting models

Introduction

In this study, forecasts of passenger movements through Australia's eight capital city airports and other airports were developed using econometric models and were then validated using the gravity model. The models are discussed in detail in the next section.

Forecasts of international and domestic passenger movements are separately developed as they are driven by different factors. The real income level of Australians largely influences the international movements of Australian residents, whereas the real income level of overseas visitors drives the international movements of overseas visitors to and from Australia.

Econometric model

In this study, single equation econometric models have been used to forecast passenger movements through the Australian capital city airports. The models are chosen in preference to time-trend or univariate time-series models because they can accommodate several explanatory variables to analyse their influence on passenger movements. When they are specified in a double-logarithmic linear functional form they are easy to estimate, provide superior fit and the estimated parameters can be directly interpreted as elasticities. The models have been widely used in many tourism and transport demand-forecasting studies, such as Cosgrove, Gargett and Viney (1989), Gargett (1993), and BTRE (2002).

The econometric models are specified in terms of population, income, exchange rates, domestic airfare and the prices of domestic and overseas travel and accommodation. They were estimated using historical annual data. The models of domestic passenger movements are empirically estimated using historical data from 1984–85 to 2005–06, whereas the models of international passenger movements are estimated using data from 1991–92 to 2005–06. Data on international passenger movements prior to 1991–92 were not readily available at the airport level.

The models could not be specified to determine the influence of the newly introduced regulations restricting the carriage of liquid, aerosols and gels (LAGs) on the number of passenger movements. This is because the regulations were introduced on 31 March 2007 on international flights only. This implies that the time period following the introduction of LAGs regulations is still relatively small to measure any impact on passenger movements.

A detailed discussion on the specification and estimation of the econometric models is presented in the following sections.

International movements of overseas visitors

An econometric model of international movements of overseas visitors is specified in terms of population, real income, exchange rates, relative price of travel and accommodation and some dummy variables in equation (2.1).

$$\ln PCIMOV_{it} = \alpha_{0i} + \alpha_{1i} \ln PCRGDPOE_t + \alpha_{2i} \ln TWIAU_t + \alpha_{3i} \ln RPDTA_{it} + \alpha_{4i}DSARS_t + \alpha_{5i}DSEP11_t + \alpha_{6i}DOTHER_t + u_{it}$$
(2.1)

Where:

- PCIMOV_i = Per capita international movements of overseas visitors through the ith airport in thousands
- PCRGDPOE = Per capita real gross domestic product (GDP) in OECD countries in billion US dollars
- TWIAU = Trade weighted index of Australia
- RPDTA_i = Ratio of the price of domestic travel and accommodation in the ith capital city of Australia to the domestic price of travel and accommodation in the OECD countries
- DSARS = Dummy variable to capture a large variation in international movements of overseas visitors following the SARS incident
- DSEP11 = Dummy variable to capture a large variation in international movements of overseas visitors following the 9/11 terrorism incident in the USA
- DOTHER = Dummy variable to capture a large variation in international movements of overseas visitors due to some other possible event/incident
- u = Error term
- α's = Regression coefficients
- i = ith airport (that is, Adelaide, Brisbane, Canberra, Darwin, Hobart, Melbourne, Perth, Sydney and other airports)
- t = Time subscript.

Population is included on a per capita basis to avoid the consequences of possible collinearity between population and real income. Real GDP is used as proxy for the real income variable. The Trade Weighted Index (TWI) which is also known as the effective exchange rate is used rather than a single country exchange rate to reflect the average movement in exchange rates between the Australian dollar and the currency of Australia's trading partners.

Since the OECD countries account for around 70 per cent of Australia's total overseas visitor arrivals, the population and real income of the OECD countries are used as proxies for the population and real income of overseas visitors to Australia. Also, the aggregate consumer price index of the OECD countries is used as a proxy for the price of domestic travel and accommodation in the OECD countries. This is because the time-series data on the price of domestic travel and accommodation in the OECD countries are not available.

As mentioned above, the model is empirically estimated using historical data from 1991–92 to 2005–06. The estimated regression statistics are presented in Table A1 (Appendix A) and the estimated elasticities are summarised in Table 2.1. According to the estimated statistics, the estimated models are a good fit with an adjusted R-square value ranging from 0.69 to 0.98. The high adjusted R-square values suggest that the models have a high predictive power. In other words, these models are expected to provide reliable forecasts of international movements of overseas visitors. Also, most of the estimated parameters of the model are found to be statistically significant and have the expected signs. They indicate that the number of international movements of overseas visitors is positively influenced by the per capita real income of visitors, and negatively influenced by the effective exchange rates and the relative price of domestic travel and accommodation in the Australian capital cities.

The estimated parameters also suggest that per capita real income is the main factor influencing the international movements of overseas visitors in all capital cities. A 1 per cent increase (decrease) in the per capita real income of overseas visitors will result in an increase (decrease) in the number of international movements of overseas visitors by 1.7 per cent in Adelaide, 2.4 per cent in Brisbane, 1.7 per cent in Darwin, 3.5 per cent in Melbourne, 2.8 per cent in Perth, 2.1 per cent in Sydney and 2.4 per cent in other airports.

Airport	Real income	Effective exchange rate	Relative price of travel and accommodation
Adelaide	1.699	-0.211	-0.179
Brisbane	2.429	-0.038	-1.294
Canberra*	-	-	-
Darwin	1.696	-0.967	NS
Hobart*	-	-	-
Melbourne	3.469	-0.093	-0.391
Perth	2.796	-0.141	-0.397
Sydney	2.100	-0.472	-1.970
Other airports	2.435	-0.358	NS

Table 2.1Estimated demand elasticity of international movements of
overseas visitors by capital city airport

NS = Not statistically significant.

* = At the moment, Canberra and Hobart do not have regular scheduled international passenger services.

The estimated exchange rate elasticities suggest that a 1 per cent decrease (increase) in the value of the Australian dollar will increase (decrease) the number of international movements of overseas visitors by 0.2 per cent in Adelaide, less than 0.1 per cent in Brisbane, 1 per cent in Darwin, 0.1 per cent in Melbourne and Perth, 0.5 per cent in Sydney and 0.4 per cent in all other parts of Australia.
Similarly, the estimated own-price elasticities suggest that a 1 per cent decrease (increase) in the relative domestic price of travel and accommodation in the capital cities will lead to an increase (decrease) in the number of international movements of overseas visitors by 0.2 per cent in Adelaide, 1.3 per cent in Brisbane, 0.4 per cent in Melbourne and Perth and 2 per cent in Sydney.

Further, the estimated regression parameters show that the 9/11 terrorism attacks and the SARS outbreak had an adverse impact on the international movements of overseas visitors.

International movements of Australian residents

A model of international movements of Australian residents is specified in terms of population, real income, relative price of overseas travel and accommodation and some dummy variables in equation (2.2).

$$\ln PCIMAR_{it} = \beta_{0i} + \beta_{1i} \ln PCRGDPAU_{t} + \beta_{2i} \ln RPOTA_{it} + \beta_{3i}DASIAN_{t} + \beta_{4i}DSEP11_{t} + \varepsilon_{t}$$
(2.2)

Where:

PCIMARi = Per capita international movement of Australian residents through the ith airport in thousands

- PCRGDPAU = Per capita real GDP in Australia in billion dollars
- RPOTAi = Ratio of the price of overseas travel and accommodation to the price of domestic travel and accommodation in the ith capital city
- DASIAN = Dummy variable to capture a large variation in international movements of Australian residents following the Asian financial crisis;
- ε = Error term
- β 's = Regression coefficients
- DSEP11 and t have the same meaning as mentioned in equation (2.1).

As in the overseas visitor movement model, population is included on a per capita basis in the Australian resident movement model, mainly to avoid the consequences of possible collinearity between population and real income. In the model for Adelaide Airport, the real GDP variable is replaced by the real gross state product (GSP) of South Australia in order to achieve a higher predictive power of the model. The influence of exchange rate on the international movements of Australian residents is incorporated in the price of overseas travel and accommodation. Therefore, there is no need to separately include an exchange rate variable in the above model.

The models representing the capital city airports are estimated using historical data from 1991–92 to 2005–06. The estimated regression statistics are shown in Table A2 (Appendix A) and the estimated elasticities are summarised in Table 2.2.

		Relative price of travel and
Airport	Real income	accommodation
Adelaide	1.754	-1.903
Brisbane	1.646	-0.638
Canberra*	_	-
Darwin	0.776	-1.839
Hobart*	_	-
Melbourne	1.164	-0.393
Perth	1.530	-0.233
Sydney	1.622	-0.544
Other airports	0.406	-1.128

Table 2.2Estimated demand elasticity of international movements of
Australian residents by capital city airport

* Presently, Canberra and Hobart do not have regular scheduled international passenger services.

According to the estimated statistics, the model is a good fit with an adjusted R-square value ranging from 0.58 to 0.98. The estimated coefficients for per capita real income and the relative price of overseas travel and accommodation (own-price) in all capital city airport models are statistically significant. The exception is the per capita real income variable in the model of other airports, and the relative price of travel and accommodation variable in the model of Melbourne Airport.

The estimated coefficients suggest that the number of international movements of Australian residents is positively influenced by the per capita real income of Australian residents and negatively influenced by the relative price of overseas travel and accommodation (own-price). A 1 per cent increase (decrease) in per capita real income level of Australian residents will increase (decrease) the number of international movements of Australian residents by 1.8 per cent in Adelaide, 1.6 per cent in Brisbane, 0.8 per cent in Darwin, 1.2 per cent in Melbourne, 1.5 per cent in Perth, 1.6 per cent in Sydney and 0.4 per cent in other airports. Similarly, a 1 per cent decrease (increase) in the relative price of travel and accommodation will cause the number of international movements of Australian residents to increase (decrease) by 1.9 per cent in Adelaide, 0.6 per cent in Brisbane, 1.8 per cent in Darwin, 0.4 per cent in Melbourne, 0.2 per cent in Perth, 0.5 per cent in Sydney and 1.1 per cent in other airports.

Domestic airline passenger movements

A domestic airline passenger movement model is specified in terms of population, real income, real discounted domestic airfare, relative price of domestic travel and accommodation and some dummy variables and presented in equation (2.3).

$$\ln PCDAPM_{it} = \gamma_{0i} + \gamma_{1i} \ln PCRGDPAU_{t} + \gamma_{2i} \ln RDDAFAU_{t} + \gamma_{3i}RPDTA_{it} + \gamma_{4i}DOLYMPIC_{t} + \gamma_{5i}DSEP11_{t} + v_{t}$$
(2.3)

Where:

PCDAPMi = Per capita domestic airline passenger movements through the ith airport in thousands, and this variable includes the passenger movements of both domestic and regional airlines

- RDDAFAU = Real discounted domestic airfare in Australia
- RPDTAit = Ratio of the price of domestic travel and accommodation in the ith capital city to the price of domestic travel and accommodation in all other capital cities
- DPILOT = Dummy variable to capture a large variation in domestic passenger movements due to the pilot strike in 1989–90
- DOLYMPIC = Dummy variable to capture a large variation in domestic passenger movements due to the Sydney Olympic Games in 2000.
- γ 's = Regression parameters
- v = Error term
- PCRGDPAU, DSEP11 and t have the same meaning as mentioned in earlier equations.

The model was estimated using historical data from 1984–85 to 2005–06. The estimated regression statistics are shown in Table A3 (Appendix A) and the estimated elasticities are summarised in Table 2.3. They show that the estimated models for the capital city airports are a good fit with an adjusted R-square value ranging from 0.91 to 0.98, and suggest that domestic airline passenger movements are largely driven by per capita real income of passengers and real discounted domestic airfares.

Table 2.3Estimated demand elasticity of domestic movements of airline
passengers by capital city airport

			Relative price of travel and
Airport	Real income	Real discounted airfare	accommodation
Adelaide	1.395	-0.373	ns
Brisbane	2.004	-0.586	ns
Canberra	1.291	-0.363	ns
Darwin	1.634	-0.409	-0.393
Hobart	1.307	-0.741	ns
Melbourne	1.591	-0.460	ns
Perth	2.044	-0.402	ns
Sydney	1.457	-0.393	ns
Other airports	0.533	-0.450	ns

ns = Not statistically significant.

A 1 per cent increase (decrease) in per capita real income will result in the number of domestic airline passenger movements increasing (decreasing) by 1.4 per cent in Adelaide; 2 per cent in Brisbane and Perth; 1.3 per cent in Canberra and Hobart; 1.6 per cent in Darwin and Melbourne; 1.5 per cent in Sydney; and 0.5 per cent in other airports. Similarly, a 1 per cent decrease (increase) in the relative price of domestic travel and accommodation will cause the number of domestic airline passenger movements to increase (decrease) by 0.4 per cent in Adelaide, Canberra, Darwin, Perth and Sydney; 0.6 per cent in Brisbane; 0.7 per cent in Hobart; and 0.5 per cent in Melbourne and other airports.

Gravity model

The forecasts developed on the basis of the above econometric models were validated by comparing the forecasts with those developed using a gravity model of passenger movements. BITRE has developed a gravity model of passenger movements. This is called the OZPASS model and it provides indicative trends in long-distance passenger travel patterns for five different transport modes: air, coach, rail, ferry and private car.

The OZPASS model is a modified version of the traditional gravity model and it has been continuously used in BITRE to project origin–destination (OD) passenger travel over 90 separate regions in Australia. It assumes that growth in interregional passenger travel is influenced by growth in regional populations, household incomes and aggregate travel costs. The model is estimated using travel data from Tourism Research Australia (TRA)—formerly known as the Bureau of Tourism Research (BTR).

A detailed discussion of the model is given in BTRE (2006a).

Chapter 3 Data and assumptions

Data

The historical data on international and domestic passenger movements, population, GDP and the trade weighted index used to estimate the passenger movement models were obtained from ABS (2004), Access Economics (2006), BTRE (2007) and OECD (2003).

Assumptions

The estimated parameters of air passenger movement models and long-run assumptions on population and macroeconomic variables were used to develop the long-run forecasts of passenger movements through the capital city airports. The long-run population and macroeconomic assumptions are obtained from the ABS (2004), Access Economics (2006) and OECD (2003). Since these assumptions are available for the next 10 years only, the assumptions for the rest of the forecast period are assumed to remain the same as those in the year 2015–16. The assumptions are presented in the following sections.

Economic growth

As described in Chapter 2, gross domestic and state products are used as proxies for the income variables in the econometric models of passenger movement through the capital city airports. Australia's real GDP is forecast to grow positively in the future. It grew annually by 3.3 per cent in the last 20 years and it is expected to increase by 2.9 per cent a year over the next 20 years (Table 3.1). The expected slowing of economic growth in Australia will have a downward influence on Australia's domestic and outbound passenger movements.

Real GDP growth in the OECD countries is expected to remain more or less at the same rate as that observed over the last 20 years.

The strength of the Australian dollar against the currencies of Australia's trading partners is expected to weaken over the forecast period. The average annual trade Weighted Index (TWI) level for the last 20 years is observed to be 56.4 and it is expected to decline to 54.5 over the next 20 years (Table 3.1). The weakening of the Australian dollar will have a positive impact on the movements of overseas visitors to and from Australia and a negative impact on the international movements of Australian residents.

Year	Real GDP Australia	Real GDP OECD	Real GSP South Australia'	Trade Weighted Index (TWI) Australia
		(per cent)		
2000–01	1.9	2.5	4.5	50.5
2001–02	3.8	0.6	3.6	49.8
2002–03	3.2	2.1	1.8	52.4
2003–04	4.1	2.9	3.8	61.5
2004–05	2.7	2.6	1.1	61.8
2005–06	2.9	3.1	2.3	63.6
Forecasts				
2006–07	2.3	3.3	0.9	63.8
2007–08	4.4	2.6	3.3	59.4
2008–09	3.8	2.6	2.3	54.8
2009-10	3.3	2.9	1.8	54.6
2010-11	3.3	2.9	1.7	54.4
2011-12	3.7	2.8	2.2	54.7
2012-13	3.4	2.6	2.2	54.5
2013-14	2.8	2.5	1.8	54.1
2014-15	2.6	2.4	1.2	53.8
2015-16	2.9	2.3	2.5	53.6
2016-17	2.3	2.3	2.4	53.1
2017-18	2.5	2.3	2.4	53.I
2018–19	2.5	2.3	2.4	53.I
2019–20	2.5	2.3	2.4	53. I
2020–21	2.5	2.3	2.4	53.I
2021-22	2.5	2.3	2.4	53.I
2022–23	2.5	2.3	2.4	53.I
2023–24	2.5	2.3	2.4	53.1
2024–25	2.5	2.3	2.4	53.1
2025–26	2.5	2.3	2.4	53.I
Annual average				
1985–86 to 2005–06	3.3	2.6	2.2	56.4
Forecasts				
2005–06 to 2025–26	2.9	2.5	2.2	54.5

Table 3.1 Economic growth rates and trade weighted index

 Real gross state product (GSP) is found having a positive influence on outbound travel by Australian residents in South Australia.

Sources: ABS (2004) and Access Economics (2006).

Population

Population growth will remain relatively low but positive in Australia and the OECD countries over the next 20 years (Table 3.2). The population of Australia and the OECD countries grew by 1.3 and 0.8 per cent per annum respectively in the last 20 years, and it is expected to increase more or less at the same rate over the next 20 years. The expected positive population growth in Australia and the OECD countries will have a positive influence on Australia's air passenger movements.

Queensland is expected to have a relatively higher population growth than any other state in Australia, followed by Western Australia and the Northern Territory (Table 3.2). The population of Queensland is projected to increase by 1.9 per a year over the forecast period, whereas the population of Western Australia and the Northern Territory is expected to increase by 1.7 per cent a year over the same period.

Year	Australia	OECD countries	New South Wales	Victoria	Oueensland
			(ber cent)		0.000
2000–01	1.3	1.1	1.3	1.3	1.8
2001-02	1.3	0.7	1.1	1.2	2.1
2002–03	1.2	0.7	0.8	1.1	2.4
2003–04	1.1	0.7	0.6	1.1	2.3
2004–05	1.2	0.7	0.6	1.2	2.2
2005–06	1.3	0.7	0.8	1.3	2.1
Forecasts					
2006–07	1.3	0.7	0.9	1.3	1.9
2007–08	1.3	0.8	1.0	1.2	2.0
2008–09	1.3	0.8	1.0	1.1	2.1
2009–10	1.3	0.8	1.0	1.0	2.1
2010-11	1.2	0.8	1.0	1.0	2.0
2011-12	1.2	0.8	1.0	1.0	2.0
2012-13	1.2	0.8	1.0	1.0	2.0
2013-14	1.2	0.8	1.0	1.0	2.0
2014-15	1.2	0.8	1.0	1.0	1.9
2015-16	1.2	0.8	1.0	1.0	1.9
2016-17	1.2	0.8	1.0	1.0	1.9
2017-18	1.2	0.8	1.0	1.0	1.9
2018-19	1.2	0.8	1.0	1.0	1.9
2019–20	1.2	0.8	1.0	1.0	1.9
2020–21	1.2	0.8	1.0	1.0	1.9
2021-22	1.2	0.8	1.0	1.0	1.9
2022–23	1.2	0.8	1.0	1.0	1.9
2023–24	1.2	0.8	1.0	1.0	1.9
2024–25	1.2	0.8	1.0	1.0	1.9
2025–26	1.2	0.8	1.0	1.0	1.9
Annual average					
1985–86 to 2005–06	1.3	0.8	1.1	1.0	2.2
Forecasts					
2005–06 to 2025–26	1.2	0.8	1.0	1.0	1.9
					(continued)

Table 3.2Population growth rates

Year	Western Australia	South Australia	Tasmania	Australian Capital Territory	Northern Territory
2000–01			(per cent)		
2000–01	1.4	0.4	0.0	1.1	1.1
2001-02	1.3	0.5	0.1	0.9	0.7
2002–03	1.2	0.5	0.6	0.7	0.0
2003–04	1.5	0.5	1.1	0.3	0.4
2004–05	1.6	0.5	0.8	0.4	1.4
2005–06	1.9	0.7	0.7	0.9	1.8
Forecasts					
2006–07	1.9	0.7	0.6	0.9	1.6
2007–08	1.8	0.5	0.5	1.0	1.8
2008–09	1.8	0.4	0.5	1.1	1.8
2009–10	1.8	0.4	0.5	1.0	1.8
2010-11	1.7	0.4	0.5	1.0	1.8
2011-12	1.7	0.4	0.5	1.0	1.7
2012-13	1.7	0.4	0.5	1.0	1.7
2013-14	1.7	0.4	0.4	1.0	1.7
2014-15	1.7	0.4	0.4	1.0	1.7
2015-16	1.7	0.4	0.4	1.0	1.7
2016-17	1.7	0.4	0.4	1.0	1.7
2017-18	1.7	0.4	0.4	1.0	1.7
2018-19	1.7	0.4	0.4	1.0	1.7
2019–20	1.7	0.4	0.4	1.0	1.7
2020–21	1.7	0.4	0.4	1.0	1.7
2021-22	1.7	0.4	0.4	1.0	1.7
2022–23	1.7	0.4	0.4	1.0	1.7
2023–24	1.7	0.4	0.4	1.0	1.7
2024–25	1.7	0.4	0.4	1.0	1.7
2025–26	1.7	0.4	0.4	1.0	1.7
Annual average					
1985–19 to 2005–20	1.7	0.6	0.5	1.2	1.5
Forecasts					
2005–06 to 2025–26	1.7	0.4	0.4	1.0	1.7

Table 3.2 Population growth rates (continued)

Sources: ABS (2004) and Access Economics (2006).

Prices of travel and accommodation

Nominal domestic discounted airfares and the prices of travel and accommodation in domestic and overseas destinations are presented in Tables 3.3 and 3.4. Domestic discounted airfares in real terms declined by an average 6.3 per cent a year between 1997–98 and 2004–05, largely due to the introduction of low-cost carriers on Australia's domestic routes (Figure 3.1). However, the downward trend in real domestic discounted airfares appears to have ended in recent years. They increased by 5.2 per cent in 2005–06 and 2.9 per cent in 2006–07, possibly due to the upgrading of seats by the early entrant low-cost carriers.



Figure 3.1 Real domestic discounted airfare index

	Domestic	Prices of domestic travel and accommodation				
Year	discounted airfare in Australia	OECD	Australia	Adelaide	Brisbane	
	(Jul 2003 = 100)		(1989–90 =	100)		
2000–01	100.7	101.8	123.7	123.1	130.6	
2001-02	109.4	104.8	126.4	120.9	131.6	
2002–03	105.6	107.5	131.9	128.5	135.8	
2003–04	102.7	109.9	133.9	130.9	140.7	
2004–05	88.6	112.7	138.6	137.3	142.3	
2005–06	96.2	115.8	145.3	141.5	150.7	
Forecasts						
2006–07	101.7	118.3	153.4	148.2	160.4	
2007–08	104.2	120.8	157.2	151.8	164.6	
2008–09	106.7	123.4	160.9	155.3	168.7	
2009-10	108.9	126.1	164.3	158.4	172.4	
2010-11	111.6	128.8	168.3	162.0	176.8	
2011-12	114.5	131.7	172.6	165.9	181.3	
2012-13	7.	134.6	176.6	169.5	185.5	
2013-14	119.3	137.6	180.0	172.6	189.2	
2014-15	121.9	140.6	183.8	176.1	193.4	
2015-16	125.2	143.7	188.8	180.8	198.6	
2016-17	128.3	146.9	193.5	185.3	203.6	
2017-18	131.6	50.	198.4	190.0	208.7	
2018-19	34.9	153.4	203.4	194.7	213.9	
2019-20	138.3	156.8	208.5	199.6	219.2	
2020–21	4 .7	160.3	213.7	204.6	224.7	
2021-22	145.3	163.8	219.1	209.7	230.3	
2022–23	148.9	67.4	224.6	214.9	236.1	
2023–24	152.7	171.1	230.2	220.3	242.0	
2024–25	156.5	174.9	236.0	225.8	248.0	
2025–26	160.5	178.8	242.0	231.5	254.2	
Annual average						
1985–86 to 2005–0	06 1.8	3.4	3.6	3.6	3.9	
Forecasts						
2005–06 to 2025–2	26 2.6	2.2	2.6	2.5	2.7	

Table 3.3Domestic discounted airfare and prices of domestic travel and
accommodation by country and Australian capital city

(continued)

Year	Canberra	Darwin	Hobart	Melbourne	Perth	Sydney
_			(1989–90	= 100)		
2000–01	123.3	83.5	83.5	128.5	110.4	123.9
2001-02	122.3	83.2	83.2	126.8	113.8	132.8
2002–03	128.5	76.8	76.8	133.8	110.1	140.1
2003–04	125.6	76.4	76.4	137.0	113.4	140.1
2004–05	131.4	75.9	75.9	141.3	6.	146.2
2005–06	139.0	79.0	79.0	148.3	123.8	152.3
Forecasts						
2006–07	148.3	85.0	85.0	155.0	134.2	159.9
2007–08	152.6	87.2	87.I	158.7	137.8	163.7
2008–09	156.7	89.5	88.9	162.4	141.5	167.4
2009-10	160.2	91.4	90.8	165.8	144.6	170.9
2010-11	164.4	93.7	92.9	169.8	148.2	175.1
2011-12	169.0	96.2	95.I	174.2	152.0	179.6
2012-13	173.4	98.3	97.1	178.1	155.5	183.7
2013-14	177.1	100.5	98.8	181.5	158.6	187.3
2014-15	181.4	102.8	100.9	185.3	162.1	191.3
2015-16	186.7	105.4	103.6	190.2	166.6	196.4
2016-17	192.0	108.1	106.2	195.0	170.8	201.3
2017-18	196.8	110.8	108.8	199.8	175.1	206.3
2018-19	201.7	113.6	111.5	204.8	179.5	211.5
2019–20	206.8	116.4	114.3	210.0	184.0	216.8
2020–21	211.9	119.3	117.2	215.2	188.6	222.2
2021-22	217.2	122.3	120.1	220.6	193.3	227.7
2022–23	222.7	125.3	123.1	226.1	198.1	233.4
2023–24	228.2	128.5	126.2	231.8	203.1	239.3
2024–25	233.9	131.7	129.3	237.6	208.1	245.2
2025–26	239.8	135.0	132.6	243.5	213.3	251.4
Annual average						
1985–86 to 2005–06	3.6	0.5	0.5	3.7	3.0	3.7
Forecasts						
2005–06 to 2025–26	2.8	2.7	2.6	2.5	2.8	2.5

Table 3.3Domestic discounted airfare and prices of domestic travel and
accommodation by country and Australian capital city (continued)

* Forecasts are derived on the basis of CPI forecasts from Access Economics (2006).

Sources: ABS (2004) and BTRE (2007).

Year	Australia	Adelaide	Brisbane	Canberra	Darwin
		(198	89–90 = 100)		
2000–01	106.7	108.2	103.4	109.2	101.6
2001–02	119.2	7.9	114.0	123.1	117.4
2002–03	131.2	131.6	127.6	137.8	124.3
2003–04	125.1	128.9	123.8	133.1	121.3
2004–05	124.2	127.9	118.2	133.9	119.0
2005–06	125.4	129.6	120.7	134.4	117.4
Forecasts					
2006–07	128.6	134.7	124.5	138.2	117.2
2007–08	131.3	137.5	127.1	4 .	119.6
2008–09	134.1	140.4	129.8	144.1	122.2
2009–10	137.0	143.5	132.6	147.2	124.8
2010-11	140.0	146.7	135.5	150.5	127.6
2011-12	143.1	149.9	138.5	153.8	130.4
2012-13	146.3	153.2	141.6	157.2	133.3
2013-14	149.5	156.6	144.7	160.7	136.2
2014-15	152.8	160.0	147.9	164.2	139.2
2015-16	156.2	163.6	151.1	167.9	142.3
2016-17	159.6	167.2	154.5	171.6	145.5
2017-18	163.1	170.9	157.9	175.4	148.7
2018-19	166.7	174.7	161.4	179.2	152.0
2019–20	170.4	178.5	164.9	183.2	155.3
2020–21	174.2	182.4	168.6	187.2	158.7
2021-22	178.0	186.5	172.3	191.4	162.3
2022–23	182.0	190.6	176.1	195.6	165.8
2023–24	186.0	194.8	180.0	199.9	169.5
2024–25	190.1	199.1	184.0	204.3	173.2
2025–26	194.3	203.5	188.0	208.8	177.1
Annual average					
1985–86 to 2005–06	2.6	2.7	2.5	2.9	2.5
Forecasts					
2005–06 to 2025–26	2.2	2.3	2.2	2.2	2.1

Table 3.4Prices of overseas travel and accommodation by Australian
capital city

(continued)

Year	Hobart	Melbourne	Perth	Sydney
		(1989–90 = 100))	
2000–01	101.6	94.2	105.6	115.2
2001–02	117.4	103.0	120.6	130.9
2002–03	124.3	111.2	130.1	145.3
2003–04	121.3	106.5	120.5	137.8
2004–05	119.0	106.4	124.4	135.7
2005–06	117.4	107.3	127.5	136.2
Forecasts				
2006–07	117.2	109.9	133.2	38.
2007–08	119.6	112.2	136.0	140.9
2008–09	122.2	114.5	138.9	143.9
2009–10	124.8	117.0	141.9	47.
2010-11	127.6	119.6	145.1	150.3
2011-12	130.4	122.3	148.3	153.6
2012-13	133.3	125.0	151.5	157.0
2013-14	136.2	127.7	154.9	160.5
2014-15	139.2	130.5	158.3	164.0
2015–16	142.3	133.4	161.8	167.7
2016–17	145.5	136.4	165.4	171.4
2017-18	148.7	139.4	169.0	175.1
2018–19	152.0	142.5	172.7	179.0
2019–20	155.3	145.6	176.6	183.0
2020–21	158.7	148.8	180.5	187.0
2021–22	162.3	152.1	184.4	191.1
2022–23	165.8	155.5	188.5	195.4
2023–24	169.5	158.9	192.7	199.7
2024–25	173.2	162.4	196.9	204.1
2025–26	177.1	166.0	201.3	208.6
Annual average				
1985–86 to 2005–06	2.5	1.8	2.7	2.9
Forecasts				
2005–06 to 2025–26	2.1	2.2	2.3	2.2

Table 3.4Prices of overseas travel and accommodation by Australian capital
city (continued)

Forecasts are derived on the basis of CPI forecasts from Access Economics (2006).
 Sources: ABS (2004) and BTRE (2007).

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Chapter 4

Forecasts of passenger movements

Introduction

In this study, forecasts of passenger movements are developed on the basis of demandside parameters which are estimated using econometric models specified in Chapter 2. These forecasts do not include the influence of supplyside parameters. This is mainly because it is relatively difficult to estimate them in the absence of long time-series data on supplyside variables that influence airport activities, including passenger movements. For this reason, they are unconstrained forecasts. However, BITRE has taken into account the influence of some supplyside variables, such as the expected introduction of new generation aircraft (such as the A380) on Australia's international routes and rising oil prices.

Measures (such as carbon tax and carbon trading) that are designed to reduce green house gas emissions are likely to have an adverse influence on air travel as they will increase the cost of air travel. However, these measures have not been introduced on Australia's domestic and international routes so their impact has not been included in the forecasts presented in this report.

The passenger movement forecasts for the eight capital city airports and, in aggregation, other airports are presented and discussed in the following sections.

Adelaide

Introduction

Adelaide Airport is Australia's fifth largest airport in terms of total passenger movements and was Australia's 2006 Capital City Airport of the Year at the Aviation Excellence Awards. It plays a significant role in the economic development of South Australia. In 2003, it contributed about 9500 direct and indirect jobs, and 1.5 per cent (or \$770 million) to the Gross State Product of South Australia (AAL 2004).

The airport is located approximately six kilometres due west of the Central Business District (CBD) of Adelaide City and covers 785 hectares of land area. It has good road links to Adelaide City and other major locations in South Australia. Transport services are available to and from Adelaide City by hire cars, taxis, limousines and public bus services.

Adelaide Airport is operated by Adelaide Airport Limited (AAL) which purchased the operating leases for Adelaide and Parafield Airports from the Australian Government on 29 May 1998. The leases run for 50 years with an option to renew them for an additional 49 years.

The airport has two sealed runways (3100 and 1652 metres long) and a Multi-User Integrated Terminal (Terminal 1) to facilitate the movements of aircraft and passengers. The movement of aircraft, particularly passenger-carrying jet aircraft, is constrained by a legislated curfew between 2300 and 0600 hours local time.

Terminal 1 of Adelaide Airport came into operation in October 2005 at a total cost of \$260 million. It has increased the airport facilities (in terms of the number of aerobridges, passenger facilities, flight information and security systems, retail centre, public and airline lounges, the number of check-in counters and baggage carousels and expanded taxi/bus ranks) for international, domestic and regional passengers. The terminal is designed to meet the current passenger movements and it can be easily expanded to meet the expected high growth in passenger numbers over the next 10 to 15 years.

Adelaide's international routes are serviced by Qantas Airways, Singapore Airlines, Cathay Pacific Airways, Air New Zealand and Malaysia Airlines; its domestic (trunk) routes are serviced by Qantas, Virgin Blue and Jetstar; and its regional routes are serviced by Regional Express (Rex), National Jet Systems and O'Connor Airlines.

Around 5.8 million passengers passed through Adelaide Airport in 2005–06. Of these, 93.8 per cent were domestic movements and the remaining 6.2 per cent were international movements. Adelaide's capital city routes account for 73.4 per cent of domestic passenger movements through Adelaide Airport. Among all capital city routes linking Adelaide, Adelaide–Melbourne, Adelaide–Sydney and Adelaide–Perth are Adelaide's first, second and third largest routes in terms of domestic passenger movements through Adelaide Airport (Figure 4.1). There total domestic passenger movements on the Adelaide–Melbourne route, 11 247 on the Adelaide–Sydney route and 3760 on the Adelaide–Perth route with a load factor of 75.1, 76 and 83.3 per cent respectively.



Figure 4.1 Route shares in domestic capital city passenger movements through Adelaide Airport, 2005–06

Forecasts of passenger movements

In recent years, Adelaide Airport has attracted more international and domestic flights: Singapore Airlines has introduced daily services; Cathay Pacific has doubled its frequency; Air New Zealand has reintroduced services; Malaysia Airlines has increased its capacity; and Qantas has rescheduled all non-stop operations (AAL 2006). On the domestic front, Jetstar has introduced more flights and added two more new destinations that link Adelaide. As a result, Adelaide Airport has achieved record growth in passenger movement numbers in the last three years. The total number of passenger movements grew by 12.4 per cent in 2003–04, 9.7 per cent in 2004–05 and 7.5 per cent in 2005–06. One of the main reasons for such high growth in passenger movements is the operation of the newly constructed Terminal 1 which continues to attract more international and domestic air traffic.

The total number of passenger movements through Adelaide Airport increased by 4.7 per cent per annum in the last 14 years. However, such high growth is not expected over the next 20 years, mainly due to the expected slowing of the Australian economy and population growth, and the maturation of the influence of low-cost carriers on passenger movement growth. The number is forecast to increase by 3.6 per cent over the forecast period, from 5.8 million in 2005–06 to 11.7 million in 2025–26 (Figure 4.2 and Table 4.1).

The growth in international passenger movements is expected to be higher than domestic passenger movements. One of the main reasons is that the travel response to a change in income (income elasticity of travel demand) is generally higher in the case of passengers who travel on international routes than for those who travel on domestic routes. To add to this, Cathy Pacific, which currently flies four times a week between Adelaide and Hong Kong, announced that it will fly daily on this route from 1 October 2007. The additional flights are expected to attract more international passengers by adding more connections to destinations across Asia, Europe and North America. The total number of international passenger movements, which has increased by 3.6 per cent a year since 1991–92, is expected to increase by 5 per cent over the forecast period, from 357 000 in 2005–06 to 943 000 in 2025–26.





The number of domestic passenger movements through Adelaide Airport increased by 4.8 per cent a year in the last 14 years and is projected to increase by 3.5 per cent a year over the forecast period, from 5.4 million in 2005–06 to 10.8 million in 2025–26. The strong growth in the defence and mining sectors in South Australia is expected to continue in the future. This will have a positive influence on the number of domestic passenger movements through Adelaide Airport.

	International			Domestic	Total	Change
	Australian	Overseas				in total
Year	residents	visitors	Total			(per cent)
			(thousands)			
1991-92	131	85	216	2812	3 028	
1992–93	149	85	234	2 820	3 053	0.8
1993–94	138	97	235	3 034	3 269	7.0
1994–95	128	97	225	3 287	3 512	7.4
1995–96	122	96	217	3 536	3 754	6.9
1996–97	120	93	213	3 562	3 775	0.6
1997–98	133	96	229	3 736	3 965	5.0
1998–99	143	115	258	3 813	4 071	2.7
1999–00	155	135	290	3 932	4 222	3.7
2000–01	162	113	275	4 179	4 454	5.5
2001-02	131	104	235	3 945	4 180	-6. I
2002–03	115	99	215	4 44	4 358	4.3
2003–04	138	115	253	4 643	4 897	12.4
2004–05	192	135	327	5 045	5 371	9.7
2005–06	201	156	357	5 420	5 776	7.5
Forecasts						
2006–07	246	208	454	5 783	6 237	8.0
2007–08	261	219	480	6 079	6 559	5.2
2008–09	272	232	504	6 342	6 846	4.4
2009-10	278	242	521	6 568	7 089	3.6
2010-11	287	253	540	6 805	7 345	3.6
2011-12	298	264	562	7 090	7 65 1	4.2
2012-13	308	274	582	7 355	7 938	3.7
2013-14	315	285	600	7 599	8 99	3.3
2014-15	319	295	615	7 826	8 441	3.0
2015-16	335	305	641	8 094	8 735	3.5
2016-17	351	316	667	8310	8 977	2.8
2017-18	366	326	693	8 553	9 246	3.0
2018-19	382	337	720	8 803	9 523	3.0
2019-20	400	348	748	9 060	9 808	3.0
2020-21	417	360	777	9 325	10 102	3.0
2020 21	436	372	808	9 597	10 405	3.0
2021 22	455	384	840	9 877	10 717	3.0
2022 23	476	397	873	10 166	11 038	3.0
2023-24	497	410	907	10 463	11 370	3.0
2027-25	519	474	943	10 769	11 370	3.0
		TLT	CT-V	10700	11/11	5.0
1991_92 to 2005 04	ite (per cent)	ΔΔ	3.4	<i>A</i> Q	A 7	
1771-72 to 2003-00	5.1	т.т	5.0	т.о	т./	
	19	5.1	E O	2 5	27	
///////////////////////////////////////	4.7	3.1	2.0		0.0	

Table 4.1 Air passenger movements: Adelaide airport

Comparison of forecasts

BITRE forecasts are comparable to those prepared by Access Economics (2007) for Adelaide Airport Limited. According to Access Economics, the number of domestic (including regional) air passenger movements through Adelaide Airport is forecast to increase by 3.7 per cent a year over the next five years to 2011–12, compared with a BITRE forecast of 3.5 per cent a year over the same forecast period. The growth rate forecast for international passenger movements is observed to be the same at 7.9 per cent a year over the next five years and BITRE reports.

Airport capacity

The current capacity of Adelaide Airport in terms of infrastructure and facilities (such as runway, taxiways, aprons, passenger terminals, freight and other general aviation facilities) appears adequate to handle the expected future passenger movements, at least for another 15 years. Beyond that, some expansion of airport facilities may be required to realise the high growth in passenger movements towards the last five years of the forecast period. In its Master Plan 2004, AAL has recognised the need to increase the capacity in the future and it has planned development activities accordingly. Some of the major activities are as follows:

- AAL has brought forward its plan to expand Terminal 1 by adding new aerobridges and creating more aircraft parking bays at Adelaide Airport.
- AAL has also announced plans that it will demolish the old international terminal building to create more tarmac space for regional airlines.

Brisbane

Introduction

Brisbane Airport is Australia's largest capital city airport in terms of land size, covering 2700 hectares of land, and is the third largest airport in terms of passenger movements. It accounts for 15.4 per cent of the total passenger movements through Australian airports.

The airport is operated by Brisbane Airport Corporation (BAC) Pty Limited which purchased the long-term leases of Brisbane Airport from the Australian Government in July 1997 for 50 years, with an option for another 49 years.

It has direct airline services to 26 international destinations and 37 domestic destinations. Brisbane Airport is serviced by 21 international and five domestic airlines. The major international airlines are: Air New Zealand; Cathay Pacific Airways; Emirates Airlines; Garuda Indonesia; Japan Airlines; Korean Air; Malaysia Airlines; Qantas Airways; Singapore Airlines; and Thai Airways International. The domestic airlines include Qantas Airways, Virgin Blue Airlines, Qantaslink, MacAir and Sunshine Express.

Brisbane Airport plays a vital role in the economic development of Queensland, particularly Brisbane. It currently generates over 10 000 jobs which is expected to increase with the completion of a shopping and business centre at Brisbane Airport (BAC 2003).

Over 16.1 million passengers passed through Brisbane Airport in 2005–06, including 3.7 million international passengers and 12.4 million domestic passengers. Of the total domestic passengers, 64.4 per cent flew on Brisbane's capital city routes and the remaining 35.6 per cent flew on other routes, including regional routes. Brisbane–Sydney and Brisbane–Melbourne are Brisbane's first and second largest capital city routes in terms of domestic passenger movements. They account for 45.8 and 29 per cent of the total capital city route passenger traffic (Figure 4.3).





Forecasts of passenger movements

The number of passenger movements through Brisbane Airport increased by 17.9 per cent in 2000–01. However, it declined by 6 per cent in 2001–02, following the 9/11 terrorist attacks and the collapse of Ansett Australia Airlines. The downturn in passenger movements did not last long and passenger numbers increased by 0.8 per cent in 2002–03; 16.1 per cent in 2003–04; 11.6 per cent in 2004–2005; and 4.2 per cent in 2005–06. The strong growth rates are largely a result of the introduction of low-cost carriers such as Australian Airlines on Australia's international routes, and Jetstar on Australia's domestic routes. However, such high growth rates are not expected to continue in the future. This is mainly due to the expected slowing of the Australian economy and population growth, and the maturation of the influence of low-cost carriers on passenger movement growth.

The economic and population outlook for Australia and its trading partners as well as assumptions on exchange rates and the prices of domestic and overseas travel and accommodation suggest that the number of total passenger movements through Brisbane Airport will increase annually by 4.5 per cent during the forecast period, from 16.1 million in 2005–06 to 39 million in 2025–26 (Figure 4.4 and Table 4.2). Following an expected high population growth (1.9 per cent a year) in Queensland, air travel in Brisbane is projected to remain strong over the forecast period.



Figure 4.4 Air passenger movements through Brisbane airport

The number of international and domestic passenger movements is expected to increase at the same rate (4.5 per cent a year) over the next 20 years. Over 9 million international passengers and 29.9 million domestic passengers are expected to travel though Brisbane Airport in 2025–26.

Comparison of forecasts

BITRE forecasts are comparable to those prepared by Tourism Future International (TFI) for Brisbane Airport Corporation in April 2007. The TFI forecasts show that the number of total passenger movements through Brisbane Airport is forecast to increase by 4.6 per cent a year over the next 20 years, compared with the BITRE forecast of 4.5 per cent a year over the same period. Around 39.6 million passengers are expected to pass through Brisbane airport in 2025–26 under the TFI forecasts, and 39.0 million under the BITRE forecasts.

Airport capacity

Brisbane Airport has a well-developed master plan. It has undertaken many initiatives to expand its capacity to realise the future high growth in passenger travel demand since 1997 when the airport was privatised. A second parallel runway is to be added at Brisbane, with construction to start in 2009. When completed in 2015, it will effectively double the airside capacity of the airport. On the landside, Brisbane Airport Corporation has recently announced that it will build a business and shopping centre at Brisbane airport. The centre is expected to provide services to a growing airport workforce and people from nearby areas.

Brisbane Airport also has an excellent rail link to the Brisbane CBD and Gold Coast. Airtrain, which was built at a cost of \$220 million, provides efficient and reliable passenger services to air travellers and others between Brisbane Airport and the Gold Coast via Brisbane City.

	International			Domestic	Total	<i>c</i> i
	Australian	Overseas				in total
Year	residents	visitors	lotal (thousands)			(per cent)
1991–92	532	838	1.371	5 372	6 742	
1992-93	574	989	1.563	5 477	7 040	4.4
1993-94	574	1 189	1 763	5 897	7 660	8.8
1994–95	575	373	1 948	6 671	8 6 1 9	12.5
1995–96	634	578	2 211	7 7	9 382	8.9
1996–97	687	75	2 438	7 430	9 868	5.2
1997–98	717	1716	2 433	7 467	9 900	0.3
1998–99	765	1 740	2 505	7 544	10 049	1.5
1999–00	793	1 801	2 594	8 104	10 698	6.5
2000-01	851	83	2 682	9 928	12610	17.9
2001-02	846	1 705	2 551	9 297	11 848	-6.0
2002–03	877	I 663	2 540	9 398	11 938	0.8
2003–04	1 107	1 882	2 989	10 868	13 857	16.1
2004–05	1410	2 182	3 592	11 874	15 466	11.6
2005–06	1 522	2 231	3 753	12 369	16 122	4.2
Forecasts						
2006–07	l 657	2 325	3 982	13 482	17 464	8.3
2007–08	1 770	2 440	4 210	14 464	18 673	6.9
2008–09	I 872	2 565	4 436	15 349	19 785	6.0
2009-10	1 958	2719	4 677	16 120	20 797	5.1
2010-11	2 052	2 875	4 926	16 937	21 863	5.1
2011-12	2 166	3 026	5 192	17 941	23 33	5.8
2012-13	2 272	3 182	5 453	18 892	24 345	5.2
2013-14	2 355	3 351	5 706	19 664	25 371	4.2
2014-15	2 436	3 510	5 946	20 376	26 322	3.8
2015-16	2 540	3 645	6 185	21 243	27 428	4.2
2016-17	2 622	3 795	6 418	21 916	28 334	3.3
2017-18	2715	3 951	6 666	22 690	29 356	3.6
2018-19	2811	4 3	6 924	23 491	30 415	3.6
2019-20	2911	4 281	7 192	24 320	31 512	3.6
2020–21	3 014	4 457	7 471	25 179	32 649	3.6
2021-22	3 121	4 639	7 760	26 067	33 828	3.6
2022–23	3 23 1	4 830	8 06 1	26 988	35 049	3.6
2023–24	3 346	5 027	8 373	27 940	36 314	3.6
2024–25	3 464	5 233	8 698	28 927	37 624	3.6
2025–26	3 587	5 448	9 035	29 948	38 983	3.6
Annual average growth ra	ate (per cent)					
1991–92 to 2005–06	7.8	7.2	7.5	6.1	6.4	
Forecasts						
2005–06 to 2025–26	4.4	4.6	4.5	4.5	4.5	

Table 4.2 Air passenger movements: Brisbane Airport

Canberra

Introduction

Canberra International Airport is located six kilometres from the Canberra CBD. In the process of the privatisation of Australian airports, the Australian Government leased out Canberra Airport to Canberra International Airport Pty Limited (CIA) in 1998 for 50 years, with a renewal option for another 49 years. The airport is managed by the Capital Airport Group.

Canberra Airport has direct domestic passenger services to five capital cities (Adelaide, Brisbane, Melbourne, Perth and Sydney), the Gold Coast and two regional centres (Newcastle and Albury), and a direct seasonal international passenger service to Fiji.

Air travel in Canberra is steadily rising. The number of passenger movements through Canberra Airport increased by 4.6 per cent in the last 14 years, from 1.4 million in 1991–92 to 2.6 million in 2005–06. Presently, 97.9 per cent of the total domestic passengers fly on Canberra's capital city routes and the remaining 2.1 per cent fly on other routes, including regional routes. Canberra–Melbourne, Canberra–Sydney and Canberra–Brisbane are Canberra's first, second and third largest capital city routes in terms of domestic passenger movements, accounting for 36.1, 31.5 and 21.4 per cent respectively of the total capital city route passenger traffic (Figure 4.5).





Forecasts of passenger movements

Canberra Airport currently does not have scheduled international passenger services. However, some international chartered and VIP flights do fly to and from Canberra. The highest volume of international passenger movements recorded was 2082 in 2004–05. Canberra Airport and ACT tourism authorities and tour operators hope to introduce regular international passenger services to and from Canberra. If they succeed in doing so, the number of international passenger movements through Canberra Airport could increase. BITRE did not attempt to forecast international passenger movements through Canberra Airport. This is because the econometric models of international passenger movements could not be estimated due to the lack of historical time-series data on international passenger movements.

As with other Australian airports, the collapse of Ansett Australia Airlines in 2001–02 had an adverse impact on Canberra Airport. The number of passenger movements declined by 12.6 per cent in that year, from 2.1 million in 2000–01 to 1.8 million in 2001–02. However, Canberra's air travel market recovered in the following year with a growth rate of 4 per cent in passenger movements. It also recorded a significantly high growth (20.2 per cent) in 2003–04. This was largely due to an increase in seat capacity by airlines operating to and from Canberra, especially as a result of the commencement of services by Rex and Brindabella Airlines and an increase in services by Qantas and Virgin Blue.

The number of passenger movements through Canberra Airport has increased by 4.6 per cent a year in the last 14 years, from 1.4 million in 1991–92 to 2.6 million in 2005–06, and it is forecast to increase by 3.5 per cent over the forecast period to 5.1 million in 2025–26 (Figure 4.6 and Table 4.3). The low growth rate forecast is largely due to the expected slowing of the Australian economy and population growth, and the maturation of the influence of low-cost carriers on passenger movement growth.



Figure 4.6 Domestic air passenger movements through Canberra airport

	International			Domestic	Total	<u> </u>
Year	Australian residents	Overseas visitors	Total			Change in total (per cent)
			(thousands)			
1991-92	0	0	0	36	36	
1992–93	0	0	0	I 382	I 382	1.6
1993–94	0	0	0	1514	5 5	9.6
1994–95	0	0	0	I 679	I 679	10.9
1995–96	0	0	0	I 750	I 750	4.2
1996–97	I	0	I	I 735	I 735	-0.8
1997–98	0	0	0	I 825	I 825	5.1
1998–99	0	0	0	I 822	I 822	-0.2
1999–00	0	0	0	97	97	8.2
2000–01	0	0	0	2 108	2 108	7.0
2001-02	0	0	0	I 842	I 843	-12.6
2002–03	0	0	0	1916	1916	4.0
2003–04	0	0	0	2 303	2 304	20.2
2004–05	2	0	2	2 477	2 479	7.6
2005–06	0	0	0	2 550	2 551	2.9
Forecasts						
2006–07	0	0	0	2719	2719	6.6
2007–08	0	0	0	2 863	2 863	5.3
2008–09	0	0	0	2 993	2 993	4.6
2009-10	0	0	0	3 109	3 109	3.9
2010-11	0	0	0	3 229	3 229	3.9
2011-12	0	0	0	3 372	3 372	4.4
2012-13	0	0	0	3 508	3 508	4.0
2013-14	0	0	0	3 622	3 622	3.2
2014-15	0	0	0	3 728	3 728	2.9
2015-16	0	0	0	3 853	3 853	3.3
2016-17	0	0	0	3 955	3 955	2.7
2017-18	0	0	0	4 069	4 069	2.9
2018–19	0	0	0	4 187	4 187	2.9
2019–20	0	0	0	4 307	4 308	2.9
2020–21	0	0	0	4 432	4 432	2.9
2021-22	0	0	0	4 559	4 560	2.9
2022–23	0	0	0	4 691	4 691	2.9
2023–24	0	0	0	4 826	4 826	2.9
2024–25	0	0	0	4 965	4 965	2.9
2025–26	0	0	0	5 108	5 109	2.9
Annual average growth r	ate (per cent)					
1991–92 to 2005–06	5 50.6	31.6	44.8	4.6	4.6	
Forecasts						
2005–06 to 2025–26	6			3.5	3.5	

Table 4.3 Air passenger movements: Canberra airport

Comparison of forecasts

BITRE forecasts for Canberra Airport are comparable to those prepared by Airplan in 2003 and presented in the 2005 Master Plan of Canberra Airport (CIA 2005). According to the Airplan forecasts, the number of domestic (including regional) air passenger movements through Canberra Airport is forecast to increase by 4 per cent a year over the forecasting period ending 2024, compared with the BITRE forecast of 3.5 per cent a year over the next 20 years. Despite a difference of 0.5 percentage points in growth rates, both BITRE and Airplan forecasts suggest that around 5 million domestic passengers will pass through Canberra Airport in 2024–25. This is because of the difference in the base year used to forecast passenger numbers in the two studies. The base year used by Airplan is 2003–04 whereas BITRE uses a base year of 2005–06.

Airport capacity

Although the capacity of Canberra Airport appears to be sufficient to cope with forecast demand over the next 20 years, the airport management has a plan in place to increase the facilities when required. A detailed discussion of its expansion plan is included in its 2005 Master Plan.

Darwin

Introduction

Darwin International Airport is considered to be the gateway to both Darwin City and the Northern Territory. It is located 13 kilometres from the Darwin CBD and covers around 311 hectares of land. It is a curfew free airport, operates 24 hours a day and seven days a week, and provides facilities for airlines to move international, domestic and regional passengers and freight.

The airport is managed by Northern Territory Airports Pty Limited (NTA) which acquired a long-term lease from the Australian Government on 10 June 1998. The lease is initially for 50 years with a renewal option for another 49 years.

In 2002–03, Darwin Airport generated about 1000 direct and indirect jobs and contributed nearly \$90 million to Australia's GDP (ACIL Tasman 2004).

Darwin Airport has two main runways, one 3354 metres long and the other 1524 metres long, a grass strip for light aircraft of the Department of Defence and a helicopter landing site.

In 2005–06, over 1.2 million passengers travelled through Darwin Airport. Of this number, 88.4 per cent were domestic passengers and 11.6 per cent were international passengers. Also, 69.3 per cent of the total domestic passengers flew on Darwin's capital city routes and the remaining 30.7 per cent flew on other routes including regional routes. Darwin–Brisbane, Darwin–Adelaide and Darwin–Melbourne are Darwin's first, second and third largest capital city routes in terms of domestic passenger movements, accounting for 36.5, 16.9 and 14.6 per cent respectively of the total capital city route passenger traffic (Figure 4.7).



Figure 4.7 Route shares in domestic capital city passenger movements through Darwin Airport, 2005–06

Forecasts of passenger movements

Darwin's air travel market remained very strong in the first half of the 1990s. The number of total passenger movements through Darwin Airport increased by 13.6 per cent a year during the period, from over 571 000 in 1991–92 to 950 000 in 1995–96. Since then the market has not performed strongly except in 2003–04 and 2004–05 when the number of passenger movements increased by 7.2 and 11.8 per cent respectively, mainly due to the introduction of low-cost carriers on Australia's domestic routes.

The 9/11 terrorist attacks and the collapse of Ansett Australia Airlines reduced the number of total passenger movements through Darwin Airport by 8.7 per cent in 2001–02.

The number of total passenger movements through Darwin Airport increased by 5.7 per cent a year in the last 14 years to over 1.2 million in 2005–06. This number is forecast to increase annually by 4.3 per cent during the forecast period to 2.9 million in 2025–26 (Figure 4.8 and Table 4.4). The lower growth rate forecast is largely due to the expected slowing of the Australian economy and population growth, and the maturation of the influence of low-cost carriers on domestic and international passenger movements. In the past, low-cost international carrier Tiger Airways has provided passenger services between Darwin and Asian destinations. This has attracted more overseas visitors to the Northern Territory as well as more resident departures to Asian holiday destinations.

The number of international and domestic passenger movements is projected to increase annually by 4.6 and 4.3 per cent to nearly 0.4 million and 2.6 million respectively in 2025–26.



Figure 4.8 Air passenger movements through Darwin Airport

Comparison of forecasts

There are no recent forecasts available for Darwin Airport to compare with the forecasts presented in this study. British Airways Authority (BAA), which is a shareholder of Northern Territory Airports Pty Limited, has prepared forecasts for Darwin Airport in 2001–02. The forecasts are presented in ACIL Tasman (2004) and suggest that the number of international and domestic passenger movements through Darwin Airport under the 'most likely' scenario will increase respectively by 6.1 and 3.6 per cent a year over the forecasting period ending 2023–24, compared with the BITRE forecast of 4.6 and 4.3 per cent a year over the next 20 years. The BITRE forecasts are lower than the BAA forecasts in international passenger movements and higher in domestic passenger movements. This is largely because the BAA forecasts were prepared before the loss of Darwin's Jetstar international services and the introduction of low-cost carriers in domestic routes.

Airport capacity

The capacity of Darwin Airport is not a concern given the level of passenger traffic over the forecast period. If required, the capacity could be increased to facilitate higher growth in passenger movements.

Year	International			Domestic	Total	
	Australian residents	Overseas visitors	Total			Change in total (per cent)
			(thousands)			
1991-92	48	48	96	475	571	
1992–93	52	51	103	514	617	8.0
1993–94	64	68	132	592	724	17.4
1994–95	74	83	157	686	842	16.4
1995–96	78	82	160	790	950	12.8
1996–97	84	87	171	827	998	5.1
1997–98	103	91	194	835	I 028	3.0
1998–99	96	101	197	857	I 053	2.4
1999–00	86	119	205	904	1 109	5.3
2000–01	94	122	216	906	22	1.1
2001-02	74	115	189	835	I 024	-8.7
2002–03	64	83	147	896	1 043	1.8
2003–04	63	65	128	989	8	7.2
2004–05	71	71	142	1 108	1 249	11.8
2005–06	75	69	144	1 103	I 247	-0.2
Forecasts						
2006–07	92	82	174	1 252	I 426	14.3
2007–08	96	91	188	329	5 7	6.4
2008–09	100	103	203	399	I 602	5.6
2009-10	103	107	211	I 463	I 673	4.5
2010-11	107	113	219	528	1 748	4.4
2011-12	111	117	228	I 607	1834	5.0
2012-13	114	122	236	I 683	9 9	4.6
2013-14	117	127	244	747	99	3.8
2014-15	119	132	252	I 807	2 058	3.4
2015-16	123	137	261	I 875	2 35	3.7
2016-17	127	143	270	929	2 199	3.0
2017-18	130	148	278	1 992	2 270	3.2
2018-19	134	153	287	2 056	2 342	3.2
2019-20	137	158	295	2 22	2 417	3.2
2020–21	141	163	304	2 190	2 495	3.2
2021-22	145	169	314	2 261	2 575	3.2
2022–23	149	175	323	2 334	2 657	3.2
2023–24	153	180	333	2 409	2 742	3.2
2024–25	157	186	344	2 486	2 830	3.2
2025–26	161	193	354	2 567	2 921	3.2
Annual average growth ra	ate (per cent)					
1991–92 to 2005–06	3.2	2.6	2.9	6.2	5.7	
Forecasts						
2005–06 to 2025–26	3.9	5.2	4.6	4.3	4.3	

Table 4.4 Air passenger movements: Darwin Airport

Hobart

Introduction

Hobart Airport is located 17 kilometres from Hobart city and provides passenger and freight services on Australia's domestic and international routes. It is the major airport in Tasmania for domestic and international passenger services and one of the few curfew free capital city airports in Australia. It has a single, sealed runway (2251 metres long and 45 metres wide) (HIAPL 2004).

The airport is managed and operated by Hobart International Airport Pty Ltd (HIAPL) which leased the airport from the Australian Government on 11 June 1998. The lease is for a 50 year period, with an option for a further 49 years.

The major airlines operating at this airport are Qantas, Virgin Blue, Jetstar and Tasair. Singapore Airlines provides some international charter flights. In 2005–06, about 1.6 million passengers travelled through Hobart Airport.

Forecasts of passenger movements

At present, Hobart does not have scheduled international passenger services. Some major international airlines do have rights to operate regular services to Hobart but do not do so. In the past, Hobart had air services to and from New Zealand. The services were suspended in mid-1998. Also, airlines operating on Hobart's international routes ceased their passenger services to and from Hobart from 2004–2005. As a result, the total number of international passenger movements has sharply declined by 47.6 per cent a year since 1991–92, from 9007 in 1991–92 to zero in 2004–2005 (Figure 4.9). The highest volume of international passenger movements recorded was 11 300 in 1992–93.



Figure 4.9 International air passenger movements through Hobart Airport

The number of international passenger movements through Hobart Airport is adversely influenced by the close proximity of Melbourne International Airport. Melbourne is close to Hobart and has the second largest airport in Australia in terms of international passenger movements. HIAPL, state tourism authorities and inbound tour operators plan to reintroduce direct international flights to and from Hobart so the number of international passenger movements through Hobart Airport could increase. BITRE uses econometric models to forecast passenger movements but has not attempted to forecast international passenger movements through Hobart Airport. This is because the econometric models of international passenger movements rely on continuous historical time-series data.

On the domestic front, there are five airlines (Qantas, Virgin Blue, Jetstar, Airlines of Tasmania and Tasair) that provide passenger services on Hobart's domestic and regional routes. Qantas, Virgin Blue and Jetstar operate on the capital city routes, whereas Airlines of Tasmania operates on the Hobart–Flinders Island route and Tasair on the Hobart–King Island and Hobart–Wynyard routes.

Hobart's capital city routes currently account for 99.9 per cent of domestic passenger movements through Hobart Airport. Among all capital city routes that link Hobart, the Hobart–Melbourne and Hobart–Sydney routes remain Hobart's first and second largest routes in terms of domestic passenger movements. In 2005–06, they contributed 60.3 and 25.6 per cent respectively to the total domestic passenger movements through Hobart Airport (Figure 4.10). There were 7590 aircraft movements on the Hobart–Melbourne route and 3601 on the Hobart–Sydney route with a load factor of 76.7 and 71.8 per cent respectively.



Figure 4.10 Route shares in domestic capital city passenger movements through Hobart Airport, 2005–06

Following the introduction of low-cost carriers, the number of passenger movements through Hobart Airport increased significantly, by 5.4 per cent in 2002–03, 21.4 per cent in 2003–04 and 24.1 per cent in 2004–2005. However, the high growth appears to have stabilised. The number of passenger movements increased by 5.5 per cent in 2005–06 and preliminary data suggests that it increased by 1.6 per cent in 2006–07. Following the high growth rate in recent years, the number of domestic passenger

movements increased by 6.4 per cent a year in the last 14 years, from 674 000 in 1991–92 to 1.6 million in 2005–06. However, such high growth is not expected over the next 20 years, mainly due to the expected slowing of the Australian economy and population growth, and the maturation of the influence of low-cost carriers on passenger movement growth. The number of domestic passenger movements through Hobart Airport is expected to remain relatively low (around 2.8 per cent) in 2007–08 as the major airlines are not expected to increase their capacity on the routes that link to Hobart in this year. However, the growth rates are forecast to be relatively high from 2008–09 to 2015–16 as the major airlines increase their capacity to meet the expected high demand for passenger travel.

The number of domestic passenger movements is forecast to increase by 3.2 per cent a year over the next 20 years to 3 million in 2025–26 (Figure 4.11 and Table 4.5).



Figure 4.11 Domestic air passenger movements through Hobart Airport

Comparison of forecasts

BITRE forecasts are comparable to those presented by HIAPL in its 2004 Master Plan. According to HIAPL (2004), the number of domestic (including regional) air passenger movements through Hobart Airport is forecast to increase by 3 per cent a year over the forecasting period ending 2024, compared with the BITRE forecast of 3.2 per cent a year over the next 20 years.

Airport capacity

As mentioned earlier, the air passenger movement forecasts presented in this study are developed based on demandside factors only, so they are unconstrained forecasts. For this reason, they need to be evaluated in light of supplyside variables, mainly with respect to the capacity of Hobart Airport.

The capacity of Hobart Airport in terms of infrastructure and facilities (such as runway, taxiways, aprons, passenger terminals, freight and other general aviation facilities) is currently underutilised. This means that the current capacity of Hobart Airport, with some additional development works, can handle the high expected growth over the next 20 years. HIAPL recognises this and has already taken initiatives to increase the airport capacity in the future.

	International			Domestic	Total	
Year	Australian residents	Overseas visitors	Total			in total (per cent)
			(thousands)			
1991-92	3.6	5.4	9.0	674	683	
1992–93	4.0	7.4	11.3	697	708	3.6
1993–94	3.0	6.7	9.7	735	744	5.1
1994–95	2.8	5.6	8.4	808	816	9.7
1995–96	2.1	5.8	7.9	843	85 I	4.2
1996–97	1.2	4.5	5.8	837	843	-1.0
1997–98	1.2	4.0	5.2	850	855	1.5
1998–99	0.0	1.2	1.2	860	861	0.7
1999–00	0.1	0.0	0.1	909	909	5.5
2000–01	0.0	1.0	1.0	974	975	7.3
2001-02	0.0	1.3	1.3	958	959	-1.6
2002–03	0.0	1.1	1.1	1010	1011	5.4
2003–04	0.0	1.6	1.6	226	1 227	21.4
2004–05	0.0	0.0	0.0	523	1 523	24.1
2005–06	0.0	0.0	0.0	I 606	1 606	5.5
Forecasts						
2006–07				632	I 632	1.6
2007–08				678	I 678	2.8
2008–09				I 755	I 755	4.6
2009-10				I 824	1 824	3.9
2010-11				1 895	1 895	3.9
2011-12				979	979	4.5
2012-13				2 060	2 060	4.1
2013-14				2 27	2 27	3.3
2014-15				2 190	2 90	3.0
2015-16				2 264	2 264	3.4
2016-17				2 327	2 327	2.8
2017-18				2 397	2 397	3.0
2018-19				2 469	2 469	3.0
2019-20				2 543	2 543	3.0
2020-21				2619	2619	3.0
2021-22				2 698	2 698	3.0
2022–23				2 779	2 779	3.0
2023–24				2 863	2 863	3.0
2024–25				2 949	2 949	3.0
2025–26				3 037	3 037	3.0
Annual average growth r	ate (per cent)					
1991–92 to 2005–06	6 –46.8	-48.4	-47.6	6.4	6.3	
Forecasts						
2005–06 to 2025–26	6			3.2	3.2	

Table 4.5 Air passenger movements: Hobart Airport

Some of the major initiatives are as follows:

- HIAPL has spent \$15 million to build a new check-in hall and install a checked bag screening system at Hobart Airport (HIAPL 2007). As a result, the check-in counters of Qantas, Virgin Blue and Jetstar are now in one location and close to the security screening and departure lounge. The check-in operation has already started in this new location.
- The installation of the checked bag screening system at a cost of about \$8 million makes Hobart Airport the sole airport in Tasmania with a facility to x-ray 100 per cent of all passenger luggage before it is loaded.
- HIAPL has purchased additional land as it expects that the demand for additional aeronautical infrastructure will increase at Hobart Airport with the expected introduction of an Antarctic Air-Link by the Australian Government and other Antarctic nations (HIAPL 2004, p.13).
- HIAPL also plans to develop a cross runway and a parallel taxiway to increase the existing runway and taxiway facilities at Hobart Airport in the next 20 years (HIAPL 2004, p.16).

Melbourne

Introduction

Melbourne Airport (MA) is Australia's second largest airport in terms of passenger movements, and contributes 20.2 per cent of the total passenger movements through Australian airports. It is located 22 kilometres from Melbourne city and has good road links to the city and other areas of Victoria.

The airport is operated by Australian Pacific Airports Corporation Limited (APAC) which purchased the long-term lease of Melbourne Airport from the Australian Government in July 1997 for 50 years, with an option of extending the lease for a further 49 years.

The airport is curfew free and covers 2369 hectares of land. It has two runways, a North-South runway (3657 metres long) and East-West runway (2286 metres long). It also has 62 stands for passenger and freight aircraft, including 40 stands for passenger aircraft operating on domestic routes, 16 stands for passenger aircraft operating on international routes, and 6 stands for freight aircraft operating on international routes.

The airport operates three terminals. International operations are carried out in Terminal T2 and domestic operations in Terminals T1 and T3.

Melbourne Airport is one of Australia's largest airports, not only in terms of passenger movements but also in terms of freight movements. It currently handles around 30 per cent (or 350 000 tonnes annually) of Australia's total air freight (MA 2007b).

Melbourne Airport plays a vital role in the economic development of Victoria. A research study on the economic impact of Melbourne Airport carried out by Sinclair Knight Merz (2003) for Melbourne Airport estimates that the airport employed 10 300 people who earned \$525 million in about 9000 equivalent full-time jobs in September 2002.

Around 21.2 million passengers moved through Melbourne Airport in 2005–06, including 4.4 million international passengers and 16.8 million domestic passengers. These passengers were carried by approximately 179 500 flights, including 25 300

international flights and 151 200 domestic flights (MA 2007a). Of the total domestic passengers, 77.9 per cent flew on Melbourne's capital city routes and the remaining 22.1 per cent flew on other routes including regional routes. Melbourne–Sydney, Melbourne–Brisbane, Melbourne–Adelaide and Melbourne–Perth are the top four major capital city routes, and account for 43.9, 17.6, 13.3 and 10 per cent respectively of the total capital city route passenger traffic (Figure 4.12).





Of the total number of international passengers, 40.3 per cent are from Asia, 23.7 per cent are from Europe, 22.7 per cent are from New Zealand and the Pacific, 10 per cent are from the Americas and 3.3 per cent are from other regions (MA 2007a).

Passengers travelling for holiday purposes dominate the total passenger movements. In 2005–06, around 40.8 per cent of the total passengers travelled for holiday-making, 24.9 per cent for visiting friends and relatives (VFR), 21.7 per cent for business, 5.2 per cent for education and 7.4 per cent for other purposes (MA 2007a).

Forecasts of passenger movements

Passenger movements at Melbourne Airport have increased at a high rate for the last three years (14.6 per cent in 2003–04, 7.8 per cent in 2004–05 and 3.7 per cent in 2005–06) largely due to the introduction of low-cost carriers in domestic passenger services and the opening of new domestic routes to and from Melbourne (Melbourne–Townsville, Melbourne–Ballina and Melbourne–Darwin). As a result of these high growth rates, the total number of passenger movements through Melbourne Airport has increased by 5.2 per cent a year in the last 14 years to 21.2 million in 2005–06. However, such a high growth in passenger movements is not expected over the next 20 years, largely due to the expected slowing of the Australian economy and population growth, and the maturation of the influence of low-cost carriers on passenger movement growth. The total number is forecast to increase by 4 per cent a year over the forecast period to 46.4 million in 2025–26 (Figure 4.13 and Table 4.6).




The total number of international passenger movements through Melbourne Airport increased by 6.1 per cent a year over the last 14 years. This figure is forecast to increase by 4.3 per cent a year over the next 20 years, from 4.4 million in 2005–06 to 10.1 million in 2025–26. The lower future growth rate is consistent with the recent reduction in seat capacity in Melbourne's international routes. The seat capacity was reduced by over half a million in 2005–06 due to the loss of services by British Airways, Freedom Air and Air Paradise (MA 2006). The impact of the loss of seat capacity on international passenger movements through Melbourne Airport would have been much greater if new regular passenger services by China Southern, Jetstar International, Qantas and seasonal charter services by Korean Air had not started in that year.

The number of domestic passenger movements through Melbourne Airport is forecast to increase by 3.9 per cent a year over the next 20 years, from 16.8 million in 2005–06 to 36.2 million in 2025–26.

Comparison of forecasts

Melbourne Airport has not published its forecasts of passenger movements. However, it suggested that BITRE's long-term forecast of 4 per cent a year over the next 20 years is reasonable and close to its own.

Airport capacity

As mentioned above, the number of passenger movements through Melbourne Airport is expected to double over the next 20 years. Melbourne Airport may have to increase its capacity to realise the high volume of passenger traffic in the future. Being a curfew free airport, it can increase its present capacity by operating 24 hours a day, seven days a week.

		International		Domestic	Total	Channel
Year	Australian residents	Overseas visitors	Total			in total (per cent)
			(thousands)			
1991-92	1 109	810	9 9	8 442	10 361	
1992–93	32	820	I 952	8 467	10 418	0.6
1993–94	23	877	2 000	9012	11012	5.7
1994–95	3	943	2 074	10 060	12 135	10.2
1995–96	96	1 041	2 237	10 878	13 115	8.1
1996–97	I 293	47	2 440	3	13 572	3.5
1997–98	39	1 185	2 576	11 384	13 960	2.9
1998–99	I 467	1 283	2 750	11 564	14314	2.5
1999–00	I 538	4 3	2 950	12 313	15 263	6.6
2000–01	I 702	1 599	3 300	13 629	16 929	10.9
2001-02	I 696	1 692	3 387	12 664	16 051	-5.2
2002–03	I 635	1 634	3 269	13 246	16 5 1 5	2.9
2003–04	I 885	2019	3 903	15 030	18 933	14.6
2004–05	2 277	2 005	4 282	16 130	20 41 2	7.8
2005–06	2 339	2 032	4 371	16 788	21 159	3.7
Forecasts						
2006–07	2 428	2 099	4 527	17 896	22 422	6.0
2007–08	2 549	2 236	4 785	18 996	23 781	6.1
2008–09	2 659	2 383	5 042	19 991	25 033	5.3
2009-10	2 759	2 549	5 308	20 865	26 172	4.5
2010-11	2 867	2 725	5 592	21 784	27 375	4.6
2011-12	2 994	2 896	5 891	22 890	28 781	5.1
2012-13	3 3	3 064	6 77	23 939	30 1 1 6	4.6
2013-14	3 210	3 233	6 443	24 807	31 250	3.8
2014-15	3 305	3 396	6 701	25 614	32 315	3.4
2015-16	3 421	3 548	6 968	26 576	33 544	3.8
2016-17	3 517	3 710	7 227	27 345	34 572	3.1
2017-18	3 624	3 876	7 499	28 215	35 714	3.3
2018-19	3 733	4 050	7 783	29 2	36 895	3.3
2019–20	3 847	4 23 1	8 078	30 038	38 6	3.3
2020–21	3 963	4 421	8 384	30 994	39 377	3.3
2021-22	4 083	4 619	8 702	31 979	40 681	3.3
2022–23	4 207	4 826	9 033	32 997	42 029	3.3
2023–24	4 335	5 042	9 376	34 046	43 423	3.3
2024–25	4 466	5 268	9 734	35 129	44 863	3.3
2025–26	4 601	5 504	10 105	36 246	46 351	3.3
Annual average growth ra	ate (per cent)					
1991–92 to 2005–06	5.5	6.8	6.1	5.0	5.2	
Forecasts						
2005–06 to 2025–26	3.4	5.1	4.3	3.9	4.0	

 Table 4.6
 Air passenger movements: Melbourne Airport

Melbourne Airport is operated by Australian Pacific Airports Corporation which has recognised the need to increase its capacity in future. It has been undertaking many initiatives to increase the capacity of the airport. The following initiatives have been specified in the current Master Plan (MA 2006):

- Melbourne Airport has already expanded its facilities to cater for the operation of the A380. It has installed two new dual aerobridges as part of a major terminal expansion project and successfully tested the first one when an A380 landed in Melbourne during a testing and promotion trip.
- Melbourne Airport is also constructing a fifth baggage carousel in Melbourne international arrivals hall to cater for large aircraft such as the A380.
- The international terminal at Melbourne Airport is being expanded a further 5000 square metres (MA 2006). As a result, the amount of public space in the gate lounges has been doubled and a new 2000 square metres of airline lounges for Qantas and Emirates have been added to the third level of the terminal.
- Road access to the airport has been improved with the construction in November 2005 of a second entry road to Melbourne Airport from the Tullamarine Freeway.
- Melbourne Airport also has plans to improve its taxiways, car parking, eateries, and to add more international gates and more baggage handling facilities.

Perth

Introduction

Perth Airport is located 12 kilometres from Perth CBD area. It is the main airport of Western Australia and the fourth largest in Australia in terms of passenger movements. It has regular passenger services to 50 domestic and overseas destinations, including all Australian capital cities except for Hobart. The passenger services are provided by 13 international, 3 domestic and 10 regional airlines (WAC 2007).

In the process of the privatisation of Australian airports, the Australian Government leased Perth Airport to Westralia Airports Corporation Pty Ltd (WAC) in July 1997 for 99 years. WAC has operated the airport and its 2105 hectare site since then.

The airport has economic significance to Australia, especially to Western Australia. The airport provides 16 800 jobs in Western Australia, including 5960 direct jobs, and contributes 3 per cent to the gross state product of Western Australia, (WAC 2007).

The airport operates around the clock throughout the year and has three terminals and two sealed runways. Terminal 1 is used to handle international passenger services, Terminal 2 is used by Qantas for domestic passenger services, and Terminal 3 is used for all other domestic carriers. Both runways have the capacity to handle regular operations of all types of aircraft, including large aircraft such as the new Airbus A380. In 2005–06, 7.1 million passengers travelled through Perth Airport, including 5 million domestic passengers. This is a 7.5 per cent increase over the previous financial year. This included a rise of 2.3 per cent in international passengers and 9.7 per cent in domestic passengers. Of the total passengers, 72 per cent flew on Perth's capital city routes and the remaining 28 per cent flew on other domestic routes including regional routes. Perth–Melbourne and Perth–Sydney routes account for 36.3 and 32.5 per cent respectively of the total passenger traffic on all capital city routes (Figure 4.14).



Figure 4.14 Route shares in domestic capital city passenger movements through Perth Airport, 2005–06

Forecasts of passenger movements

Although the number of passenger movements through Perth Airport declined by 8.6 per cent in 2001–02, mainly due to the 9/11 terrorist attacks in the United States and the collapse of Ansett Australia Airlines, it increased significantly after 2001–02. This means that the adverse impact of those two events on air passenger movements quickly subsided, especially with the introduction of low-cost carriers on domestic routes. The total number of passenger movements through Perth Airport increased by 8.7 per cent in 2002–03; 13 per cent in 2003–04; 11 per cent in 2004–05; 7.5 per cent in 2005–06; and an average of 6.1 per cent a year over the last 14 years. Such high growth is not expected to continue in the long-term, mainly due to the expected slowing of the Australian economy and population growth. The total number of passenger movements is forecast to increase by 4.7 per cent a year over the next 20 years, from 7.1 million in 2005–06 to 17.7 million in 2025–26 (Figure 4.15 and Table 4.7).

The total number of international passenger movements through Perth Airport increased by 6 per cent a year in the last 14 years and it is expected to increase by 4.7 per cent a year over the next 20 years, from 2 million in 2005–06 to 5.1 million in 2025–26. The number of domestic passenger movements through Perth Airport is also forecast to increase by 4.7 per cent a year over the next 20 years, from 5 million in 2005–06 to 12.6 million in 2025–26.





Comparison of forecasts

The BITRE growth rate forecast of international passenger movements is comparable to those presented in the Perth Airport Master Plan 2004. According to the Master Plan, the number of international passenger movements through Perth Airport is expected to increase by 4.6 per cent a year to 2025, compared with a BITRE forecast of 4.7 per cent a year over the next 20 years. In the case of domestic passenger movements, the BITRE growth rate forecast of 4.7 per cent a year over the next 20 years is higher than the Master Plan forecast of 3 per cent a year. The higher BITRE forecast is largely due to the inclusion of data from the last three years in which passenger growth has been relatively high (over 10 per cent a year). This results in income elasticity which is relatively higher than that used in forecasts for the Master Plan.

Airport capacity

According to the Perth Airport Master Plan 2004, the current runway capacity of Perth Airport appears to be sufficient to realise the strong growth in passenger movements over the next 20 years. If necessary, Perth Airport is ready to expand its taxiways and apron to facilitate smooth movements of aircraft and passengers over the forecast period.

		International		Domestic	Total	<i>c</i> i
Year	Australian residents	Overseas visitors	Total			Change in total (per cent)
			(thousands)			
1991–92	474	420	894	2 186	3 080	
1992–93	528	495	I 023	2 047	3 070	-0.3
1993–94	528	594	22	2 361	3 483	13.5
1994–95	548	667	1214	2 676	3 890	11.7
1995–96	575	710	1 285	2 909	4 194	7.8
1996–97	633	767	I 400	3 140	4 539	8.2
1997–98	716	778	1 494	3 202	4 697	3.5
1998–99	757	809	1 566	3 223	4 789	2.0
1999–00	763	881	1 644	3 374	5 018	4.8
2000–01	792	918	1710	3 555	5 265	4.9
2001-02	755	889	1 644	3 169	4813	-8.6
2002–03	713	901	1614	3 616	5 229	8.7
2003–04	831	924	1 755	4 155	5 909	13.0
2004–05	997	985	1 983	4 579	6 562	11.0
2005–06	I 040	988	2 028	5 026	7 054	7.5
Forecasts						
2006–07	40	1 083	2 222	5 729	7 951	12.7
2007–08	1210	58	2 368	6 7	8 539	7.4
2008–09	274	1 233	2 508	6 574	9 081	6.4
2009-10	330	3 2	2 642	6 929	9 571	5.4
2010-11	389	1 396	2 785	7 272	10 057	5.1
2011-12	I 460	477	2 937	7 696	10 633	5.7
2012-13	I 527	1 558	3 085	8 096	8	5.1
2013-14	58	64	3 223	8 416	11 638	4.1
2014-15	I 633	1 722	3 355	8 708	12 063	3.7
2015-16	I 697	I 798	3 494	9 067	12 562	4.1
2016-17	748	I 879	3 626	9 341	12 967	3.2
2017-18	I 805	1 962	3 767	9 657	13 424	3.5
2018-19	I 864	2 049	3 913	9 984	13 896	3.5
2019-20	I 925	2 140	4 064	10 321	14 386	3.5
2020-21	I 987	2 235	4 222	10 671	14 893	3.5
2021-22	2 052	2 334	4 386	11 032	15 418	3.5
2022–23	2 1 2 0	2 437	4 557	11 405	15 962	3.5
2023–24	2 189	2 545	4 734	79	16 525	3.5
2024–25	2 260	2 658	4 918	12 190	17 108	3.5
2025–26	2 334	2 776	5 1 1 0	12 603	17713	3.5
Annual average growth ra	ate (per cent)					
1991–92 to 2005–06	5.8	6.3	6.0	6. I	6.1	
Forecasts						
2005–06 to 2025–26	4.1	5.3	4.7	4.7	4.7	

Table 4.7 Air passenger movements: Perth Airport

Sydney

Introduction

Sydney Airport (SA) is Australia's largest airport in terms of passenger and freight movements. It is located eight kilometres south of the Sydney CBD and has a good underground rail link to the CBD from its domestic and international terminals.

Although the airport is Australia's largest and busiest airport, it covers only 907 hectares of land, making it the smallest capital city airport in terms of landholding.

The airport is operated by Sydney Airport Corporation Limited (SACL) which came into effect after the Federal Airports Corporation was dissolved in 1998. SACL was sold to the Southern Cross Airports Corporation Pty Limited on 28 June 2002 through a competitive bidding process.

A jet curfew restricts jet aircraft movements from 11.00 pm to 6.00 am at Sydney Airport.

The airport has three runways: North-South (3962 metres), Parallel (2438 metres) and East-West (2529 metres).

The airport has three terminals for passenger movements. Terminal T1 is used to handle international operations, and Terminals T2 and T3 are used for domestic operations. Terminal T2 is used by domestic airlines (Jetstar, Virgin Blue and QantasLink) and regional airlines (Regional Express, Aeropelican, AirLink and Big Sky Express). Terminal T3 is solely used by Qantas Airways for its domestic operations. There are 34 aircraft gates in Terminal T1, 18 gates in Terminal T2 and 13 gates in Terminal T3 (SA 2007).

In addition to these three passenger terminals, Sydney Airport has another five terminals to handle international and domestic freight. Of these, three are used for international freight movement and two for domestic freight movement.

Sydney Airport plays a very important role in the economic development of New South Wales. It directly provides 62 000 jobs and a further 108 400 jobs indirectly and contributes \$6.6 billion to the economy of New South Wales (SA 2007).

In 2005–06, over 28.8 million passengers travelled through Sydney Airport, including 9.5 million international passengers and 19.3 million domestic passengers. Of the total domestic passengers, 68.6 per cent flew on Sydney's capital city routes and the remaining 31.4 per cent flew on other routes including regional routes. Sydney–Melbourne, Sydney–Brisbane, Sydney–Adelaide and Sydney–Perth are the first four major capital city routes, accounting for 43.3, 27.5, 10.1 and 8.9 per cent respectively of the total capital city route passenger traffic (Figure 4.16).

Sydney Airport currently handles 350 000 tonnes of air freight (worth \$33 billion in value) a year (SA 2007).

A total of 282 649 aircraft movements were recorded in 2005–06 (SA 2007). Among them, 77.6 per cent were domestic movements, 19.8 per cent were international movements and 2.6 per cent were freight movements.



Figure 4.16 Route shares in domestic capital city passenger movements through Sydney Airport, 2005–06

Forecasts of passenger movements

The number of passenger movements through Sydney Airport increased by 11.7 per cent to 25.9 million in 2000–01, largely due to the Sydney Olympic Games. It declined by 10.6 per cent in 2001–02, mainly due to the 9/11 terrorist attacks in the United States and the collapse of Ansett Australia Airlines. However, the adverse impact of those two events on air passenger movements slowly subsided, especially with Qantas absorbing passenger demand displaced by Ansett Australia. The number of passenger movements through Sydney Airport increased by 1.4 per cent in 2002–03 and, with the introduction of low-cost carrier Jetstar on Australia's domestic routes, by 10.6 per cent in 2003–04.

The total number of passenger movements through Sydney Airport has increased by an average of 4.7 per cent a year in the last 14 years and is forecast to increase by 4 per cent over the next 20 years, from 28.8 million in 2005–06 to 63 million in 2025–26 (Figure 4.17 and Table 4.8). The expected lower growth in passenger movements is mainly due to the expected slowing of the Australian economy and population growth, and the maturation of the influence of low-cost carriers on passenger movement growth.

The total number of international passenger movements through Sydney Airport increased by 5.4 per cent a year in the last 14 years and is projected to increase by 4.3 per cent over the next 20 years, from 9.5 million in 2005–06 to 22.1 million in 2025–26. On the other hand, the number of domestic passenger movements through Melbourne Airport is forecast to increase by 3.8 per cent a year over the next 20 years, from 19.3 million in 2005–06 to 40.9 million in 2025–26. The introduction of the A380 on Sydney's international routes will also positively influence the number of passenger movements through Sydney Airport.





Comparison of forecasts

The BITRE forecasts are comparable to those prepared by International Air Transport Association (IATA) for Sydney Airport Corporation Limited (SACL) and presented in the Sydney Airport Master Plan 2003–04. The IATA forecasts suggest that the total number of air passenger movements through Sydney Airport is forecast to increase by 4.2 per cent a year over its 23 year forecasting period, from 26.4 million in 2000–01 to 68.3 million in 2023–24, compared with a BITRE forecast of 4 per cent a year over the next 20 year period, to 59.1 million in 2023–24. Although the forecast growth rates in both studies are close, the difference in absolute passenger movement numbers is largely due to the difference in the base year for the forecasting purpose. IATA has used 2000–01 as its base year. This was a relatively high growth year in which the number of passenger movements grew by 11.7 per cent over the previous year, largely due to the Sydney Olympic Games. If the same base value is used together with the BITRE growth rate forecast (4 per cent), then the number of passenger movements through Sydney Airport is expected to reach 65.1 million in 2024–26, 3.2 million lower than the IATA forecast.

Airport capacity

Sydney Airport has been undertaking many initiatives to expand its capacity to handle the high growth forecast over the next 20 years. Major initiatives to be carried out under the Sydney Airport Master Plan are the construction of new roads to improve access between the airport and inner and outer areas of Sydney, and the construction of new aerobridges.

Sydney airport is unique among Australian airports in having both a curfew (11.00 pm to 6.00 am) and a cap on hourly aircraft movements. When considering airport capacity issues, the size of the morning and evening peaks are crucial. Expected high rates of growth in passenger movements are likely to mean that aircraft movements at Sydney in the peak will run up against the cap at a future point. This issue can be examined in the 2009 review of the Sydney Airport Master Plan.

		International		Domestic	Total	Channer
Year	Australian residents	Overseas visitors	Total			in total (per cent)
			(thousands)			
1991-92	2 002	2 574	4 576	10 646	15 222	
1992–93	2 1 2 8	2 701	4 829	10 839	15 668	2.9
1993–94	2 174	3 024	5 198	63	16 828	7.4
1994–95	2 414	3 427	5 840	12 739	18 580	10.4
1995–96	2 65 1	3 914	6 565	13 684	20 249	9.0
1996–97	2 880	4 158	7 038	13 940	20 978	3.6
1997–98	3 072	4 4	7 187	14 173	21 360	1.8
1998–99	3 172	4 057	7 229	14 458	21 687	1.5
1999–00	3 332	4 498	7 829	15 396	23 225	7.1
2000–01	3 562	5 104	8 667	17 276	25 943	11.7
2001-02	3 325	4 671	7 995	15 186	23 182	-10.6
2002–03	3 309	4 500	7 809	15 703	23 511	1.4
2003–04	3 830	4 664	8 494	17 502	25 996	10.6
2004–05	4 289	4 948	9 238	18 685	27 923	7.4
2005–06	4 535	4 976	9511	19 329	28 840	3.3
Forecasts						
2006–07	4 753	5 165	9 918	20 682	30 600	6.I
2007–08	5 063	5 574	10 638	21 886	32 524	6.3
2008–09	5 342	6 050	11 393	22 978	34 371	5.7
2009-10	5 581	6 390	11 972	23 942	35 914	4.5
2010-11	5 844	6 726	12 570	24 953	37 524	4.5
2011-12	6 63	7 020	13 183	26 162	39 344	4.9
2012-13	6 459	7 353	13 811	27 309	41 120	4.5
2013-14	6 693	7 727	14 420	28 268	42 688	3.8
2014-15	6 917	8 079	14 997	29 165	44 6	3.5
2015-16	7 205	8 373	15 578	30 223	45 800	3.7
2016-17	7 435	8 709	16 144	31 081	47 225	3.1
2017-18	7 693	9 025	16 718	32 046	48 764	3.3
2018-19	7 961	9 35 1	17 313	33 040	50 353	3.3
2019-20	8 238	9 690	17 929	34 065	51 994	3.3
2020-21	8 525	10 041	18 566	35 122	53 689	3.3
2021-22	8 822	10 405	19 227	36 212	55 439	3.3
2022–23	9 29	10 781	19911	37 336	57 247	3.3
2023–24	9 447	72	20 619	38 494	59 3	3.3
2024–25	9 776	11 576	21 353	39 689	61 041	3.3
2025–26	10 117	11 996	22 112	40 920	63 032	3.3
Annual average growth ra	ate (per cent)					
1991–92 to 2005–06	6.0	4.8	5.4	4.4	4.7	
Forecasts						
2005–06 to 2025–26	4.1	4.5	4.3	3.8	4.0	

Table 4.8 Air passenger movements: Sydney Airport

Other strategies aimed to make optimal use of Sydney Airport include a movement cap, slot management, regional ring fence and fair share flight path plans (for details see SA 2007).

Sydney Airport is currently preparing for the arrival of the A380 and expects to be ready during 2008. The preparation includes the construction of new aerobridges to service the three access doors on the A380, the relocation of airfield navigational and visual aid equipment, fuelling pits and changes to gate lounges in the International Terminal (SA 2007).

The capacity of Sydney Airport will increase with the arrival of the A380, which can carry 30 to 50 per cent more passengers compared with aircraft currently operating at the airport and with lower levels of noise and emission.

Sydney Airport is also upgrading its x-ray screening of baggage at its International Terminal at a cost of \$60 million. This will increase efficiency of the baggage system, which currently has capacity to handle 10 800 bags per hour (SA 2007).

Other airports

Introduction

As mentioned in Chapter 1, 'other airports' for the purpose of the study include all Australian airports excluding the eight capital city airports (Darwin, Brisbane, Sydney, Canberra, Melbourne, Hobart, Adelaide and Perth). The main airports included in other airports are located in Cairns, Gold Coast, Townsville, Launceston, Rockhampton, Newcastle, Maroochydore, Coffs Harbour, Broome, Ballina, Kalgoorlie, Proserpine, Dubbo, Wagga Wagga, Mildura, Albury, Hamilton Island and Harvey Bay.

Forecasts of passenger movements

The 9/11 terrorist attacks and the collapse of Ansett Australia Airlines severely impacted passenger movements through other airports. The total number of passenger movements declined by 15.7 per cent in 2001–02. However, the impact was felt for only one year and other airports recorded strong growth in 2002–03 and from thereafter. The number of total passenger movements increased by 11.7 per cent in 2002–03, 12.3 per cent in 2003–04, 22.5 per cent in 2004–05 and 10.3 per cent in 2005–06, largely due to the introduction of low-cost carriers and competitive airfares. As a result, the number of total passenger movements through other airports increased by an average of 4.9 per cent a year in the last 14 years to 20.6 million in 2005–06, and is forecast to increase annually by 3.3 per cent during the forecast period to 39 million in 2025–26 (Figure 4.18 and Table 4.9). The low growth rate forecast is largely due to the expected slowing of the Australian economy and population growth, and the maturation of influence of low-cost carriers on domestic passenger movement growth.

The number of international and domestic passenger movements is projected to increase annually by 4.2 and 3.2 per cent to 2.5 million and 36.5 million respectively in 2025–26.



Figure 4.18 Air passenger movements through other airports

All airports

Introduction

As mentioned in Chapter 1, the term 'all airports' is used to refer to the total of all Australian airports dealt within this study. Forecasts for all airports are derived by adding the forecasts of the eight capital city airports and other airports.

Forecasts of passenger movements

Forecasts of Australia's total passenger movements are presented in Figure 4.19 and Table 4.10. The number of total passenger movements through all airports declined by 9.3 per cent in 2001–02, largely due to the 9/11 terrorist attacks and the collapse of Ansett Australia Airlines. However, Australia's air travel market bounced back the following year and recorded strong growth in 2003–04 and 2004–05, mainly due to the introduction of low-cost carriers and competitive airfares.

The number of total passenger movements through all airports increased by an average of 5.2 per cent a year in the last 14 years, from 51.6 million in 1991–92 to 104.9 million in 2005–06. Following the expected slowing of the Australian economy and population growth, and the maturation of the influence of low-cost carriers on domestic passenger movement growth, passenger movements are forecast to increase by 4 per cent a year over the next 20 years to 227.9 million in 2025–26 (Figure 4.19 and Table 4.10).

The number of international and domestic passenger movements is expected to increase annually by 4.4 and 3.8 per cent to 50.2 million and 177.7 million respectively in 2025–26.

International Total Domestic Change Australian **Overseas** in total residents Total (per cent) visitors Year (thousands) 1991-92 97 409 506 10 026 10 532 1992-93 525 632 10 709 11 341 107 7.7 1993-94 106 591 698 11 879 12 576 10.9 1994-95 711 7.8 102 610 12 840 13 552 1995-96 102 659 761 13 183 13 945 2.9 1996-97 100 681 781 13 203 13 985 0.3 1997-98 107 649 13 127 -0.7 756 13 883 1998-99 140 661 801 13 327 14 128 1.8 1999-00 145 686 830 13 750 14 580 3.2 2000-01 144 678 822 13 578 14 401 -1.2 2001-02 102 723 825 11313 12 137 -15.7 2002-03 114 819 932 12 620 13 553 11.7 2003-04 126 862 988 14 236 15 224 12.3 2004-05 141 930 071 17 578 18 649 22.5 2005-06 168 952 1 1 2 0 19 458 20 578 10.3 Forecasts 2006-07 176 1 009 1 186 20 43 1 21 617 5.0 2007-08 183 1 081 1 265 21 233 22 497 4.1 2008-09 190 1351 22 000 23 351 3.8 1 161 2009-10 196 1221 1417 22 730 24 1 47 3.4 2010-11 202 1 286 I 488 23 486 24 974 3.4 2011-12 210 1 345 1 554 24 317 25 871 3.6 2012-13 216 1 404 1621 25 136 26 756 3.4 2013-14 222 1 464 I 686 25 902 27 588 3.1 2014-15 228 1 522 1750 26 658 28 408 3.0 2015-16 235 1 578 1813 27 480 29 292 3.I 2016-17 242 I 637 1880 28 247 30 1 26 2.8 2017-18 250 1 695 1 944 29 062 31 007 2.9 2018-19 257 1754 2011 29 901 31912 2.9 2019-20 265 1815 2 080 30 764 32 845 2.9 2020-21 274 1878 2 1 5 2 31 652 33 804 2.9 2021-22 282 1944 2 2 2 6 32 566 34 792 2.9 2022-23 291 2012 2 302 33 506 35 809 2.9 2023-24 34 474 2.9 299 2 082 2 381 36 855 2024-25 309 2 1 5 5 2 463 35 469 37 932 2.9 2025-26 318 2 2 3 0 2 5 4 8 36 493 39 041 2.9 Annual average growth rate (per cent) 1991-92 to 2005-06 4.0 6.2 5.8 4.9 4.9 Forecasts

3.3

Table 4.9 Air passenger movements: other airports

2005-06 to 2025-26

3.2

4.3

4.2

3.2



Figure 4.19 Air passenger movements through all airports

		International		Domestic	Total	Change
	Australian	Overseas				in total
	residents	residents visitors Total			(per cent)	
Year			(thousands)			
1991–92	4 397	5 190	9 587	41 994	5 58	
1992–93	4 672	5 674	10 346	42 951	53 297	3.3
1993–94	4710	6 447	11 156	46 655	57 811	8.5
1994–95	4 974	7 205	12 178	51 446	63 624	10.1
1995–96	5 360	8 085	13 445	54 744	68 189	7.2
1996–97	5 799	8 688	14 488	55 806	70 293	3.1
1997–98	6 241	8 634	14 875	56 599	71 474	1.7
1998–99	6 540	8 767	15 307	57 467	72 774	1.8
1999–00	6811	9 533	16 343	60 653	76 996	5.8
2000–01	7 307	10 366	17 673	66 33	83 806	8.8
2001–02	6 930	9 899	16 829	59 209	76 038	-9.3
2002–03	6 827	9 700	16 526	62 548	79 075	4.0
2003–04	7 981	10 532	18 5 1 3	70 951	89 465	13.1
2004–05	9 380	11 256	20 636	78 999	99 635	11.4
2005–06	9 880	11 404	21 284	83 648	104 932	5.3
Forecasts						
2006–07	10 492	97	22 463	89 605	112 068	6.8
2007–08	11 134	12 799	23 933	94 698	118 631	5.9
2008–09	11710	13 726	25 436	99 383	124 819	5.2
2009-10	12 205	14 542	26 747	103 549	130 296	4.4
2010-11	12 747	15 373	28 2	107 888	136 009	4.4
2011-12	13 402	16 145	29 546	113 053	142 600	4.8
2012-13	14 008	16 957	30 966	117 976	148 942	4.4
2013-14	14 492	17 829	32 321	122 152	154 473	3.7
2014-15	14 957	18 658	33 615	126 073	159 688	3.4
2015-16	15 556	19 383	34 939	130 675	165 614	3.7
2016-17	16 041	20 190	36 23 1	134 452	170 682	3.1
2017-18	16 583	20 983	37 566	138 680	176 246	3.3
2018-19	17 143	21 807	38 950	143 042	181 992	3.3
2019–20	17 723	22 664	40 387	147 542	187 928	3.3
2020–21	18 322	23 555	41 877	152 183	194 060	3.3
2021-22	18 941	24 481	43 423	156 972	200 395	3.3
2022–23	19 582	25 444	45 026	161 913	206 939	3.3
2023–24	20 244	26 446	46 690	167 009	213 699	3.3
2024–25	20 929	27 487	48 416	172 267	220 683	3.3
2025–26	21 638	28 569	50 207	177 690	227 897	3.3
Annual average growth ra	te (per cent)					
1991–92 to 2005–06	6.0	5.8	5.9	5.0	5.2	
Forecasts						
2005–06 to 2025–26	4.0	4.7	4.4	3.8	4.0	

Table 4.10 Air passenger movements: all airports

Chapter 5 Sensitivity analysis

Introduction

It is possible that the cost of air travel could increase in future years due to rising oil prices. In addition, the expected introduction of greenhouse gas emission abatement measures (such as carbon emissions trading) can be expected to increase fuel prices. For these reasons, a sensitivity analysis was carried out to assess the possible impact on the number of air passenger movements through Australian airports.

In this study, two scenarios (Scenario 1 and Scenario 2) have been identified to carry out the sensitivity analysis. The scenarios are based on a sudden or 'shock' increase/ decrease in fuel prices. The assumptions considered under these scenarios are as follows:

Scenario 1: The price of fuel declines by 50 per cent from the base case level.

Scenario 2: The price of fuel increases by 50 per cent from the base case level.

The base case is defined as a medium scenario, one that reflects the economic and political conditions as at early 2008. Forecasts of air passenger movements presented in Chapter 4 are the base case forecasts.

Assumptions

Fuel is one of the major components of airlines' total operating costs. In 2006–07, fuel accounted for 26.8 per cent of the total operating cost of Qantas (Qantas 2007). Assuming that all operating costs except for fuel cost remain unchanged, a 50 per cent decrease in fuel prices under Scenario 1 would result in the fuel share decreasing to 15.5 per cent. Similarly, a 50 per cent increase in fuel prices under Scenario 2 would increase the fuel share to 35.5 per cent. Since airfares are assumed to vary proportionately with airlines' total operating costs, the 50 per cent decline in fuel prices from its base case level under Scenario 1 would cause airfares to decline by 7.7 per cent from their base case level over the forecast period, whereas the 50 per cent increase in fuel prices under Scenario 2 would cause base case airfares to increase by 17.7 per cent over the same period.

The estimated relative price elasticities of air passenger travel demand (Tables 2.1 to 2.3 in Chapter 2) and the changes in airfares were used to estimate the impact of the changes in fuel prices on the number of air passenger movements. In this sensitivity analysis, the rate of increase in airfares is assumed to remain the same on all Australian international and domestic routes. Results of the analysis are discussed in the next section.

Results

Results of the sensitivity analysis indicate that the number of air passenger movements through Australian airports would increase annually by 4.2 per cent over the next twenty years under Scenario 1 (a 50 per cent decline in fuel prices) and 3.4 per cent under Scenario 2 (a 50 per cent increase in fuel prices) compared with 4 per cent under the base case scenario (Table 5.1). This implies that the number of air passenger movements would increase by an additional 0.2 per cent a year (in addition to the base case growth rate) under Scenario 1, and it would shrink by 0.5 percentage points under Scenario 2. The difference in the magnitude of changes in the average annual growth rates under Scenarios 1 and 2 is due to a change in the share of fuel cost in airlines' total operating cost. Also, the magnitude of changes in the average annual growth rates vary by airport as the estimated relative price elasticities of passenger travel demand vary by airport.

The number of total air passenger movements over the forecast period would increase by 4.3 per cent to 3.5 billion under Scenario 1 and it would decline by 9.9 per cent to 3 billion under Scenario 2, both compared with the base case level of 3.4 billion (Table 5.2).

	Average annu	al growth rate (per c	ent)	Difference (per	cent)
Airport	Base case	Scenario I	Scenario 2	Scenario I	Scenario 2
Adelaide	3.6	3.8	3.2	0.2	-0.4
Brisbane	4.5	4.8	3.8	0.3	-0.7
Canberra	3.5	3.7	3.2	0.1	-0.3
Darwin	4.3	4.6	3.8	0.2	-0.5
Hobart	3.2	3.5	2.5	0.3	-0.7
Melbourne	4.0	4.2	3.6	0.2	-0.4
Perth	4.7	4.9	4.3	0.2	-0.4
Sydney	4.0	4.3	3.3	0.3	-0.7
Other airports	3.3	3.4	2.8	0.2	-0.4
All airports	4.0	4.2	3.4	0.2	-0.5

Table 5.1Average annual growth rates of air passenger movements: 2006–07to 2025–26

Table 5.2Total air passenger movements: 2006–07 to 2025–26

	Passenger n	novements (thousand	ls)	Change from base cas	se (per cent)
Airport	Base case	Scenario I	Scenario 2	Scenario I	Scenario 2
Adelaide	177 935	183 838	164 415	3.3	-7.6
Brisbane	559 244	588 976	491 149	5.3	-12.2
Canberra	78 099	80 295	73 069	2.8	-6.4
Darwin	43 352	45 125	39 290	4.1	-9.4
Hobart	46 085	48 73 1	40 026	5.7	-13.1
Melbourne	682 813	706 389	628 817	3.5	-7.9
Perth	255 568	263 060	238 409	2.9	-6.7
Sydney	931 942	982 950	815 118	5.5	-12.5
Other airports	598 624	619 864	549 977	3.5	8. I
All airports	3 373 662	3 519 226	3 040 271	4.3	-9.9

Appendix A Estimated regression statistics

Other statistics	Significance level	t-ratio	Estimated coefficient	Variable by port
				Adelaide
Adjusted– $R^2 = 0.74$	0.01	4.004	1.699	PCGDPOE
N = 15 DW = 1.58	0.61	-0.522	-0.211	TWIAU
	0.75	-0.329	-0.179	RDTAADL
	0.08	-2.005	-0.204	DSEPII
	0.07	2.052	0.166	D9920
	0.01	-7.482	-25.278	Intercept
				Brisbane
Adjusted–R ² = 0.95	0.01	4.602	2.429	PCGDPOE
N = 15 DW = 1.69	0.85	-0.196	-0.038	TWIAU
	0.04	-2.097	-1.294	DRTABNE
	0.05	-1.931	-0.061	DSEPII
	0.01	-5.83 I	-30.229	Intercept
				Darwin
Adjusted–R ² = 0.69	0.15	1.4444	1.696	PCGDPOE
N = 15 DW = 1.36	0.09	-1.673	-0.967	TWIAU
	0.84	-0.199	-0.023	DSEPII
	0.33	-0.971	-0.109	D0304
	0.05	-1.992	-22.601	Intercept
				Melbourne
Adjusted-R ² = 0.98	0.01	16.358	3.469	PCGDPOE
N = 15 DW = 1.36	0.57	-0.575	-0.093	TWIAU
	0.47	-0.721	-0.391	DRTAMEL
	0.01	-2.675	-0.094	DSARS
	0.01	-21.403	-40.783	Intercept
				Perth
Adjusted- $R^2 = 0.96$	0.01	3.235	2.796	PCGDPOE
N = 15 DW = 2.27	0.45	-0.783	-0.141	TWIAU
	0.43	-0.815	-0.397	RDTAPER
	0.89	0.146	0.004	DSEPII
	0.01	-4.105	-34.577	Intercept
				Sydney
Adjusted– $R^2 = 0.96$	0.01	11.623	2.100	PCGDPOE
N = 15 DW = 1.27	0.02	-2.728	-0.472	TWIAU
	0.01	-3.577	-1.97	DRTASYD
	0.29	-1.124	-0.042	DSEPII
	0.01	-14.533	-24.331	Intercept
				Other airports
Adjusted–R ² = 0.98	0.01	4.281	2.435	PCGDPOE
N = 15 DW = 2.48	0.22	-1.283	-0.358	TWIAU
	0.01	-5.45 I	-30.201	Intercept

Table A1 Estimated regression statistics of overseas visitor movement model

Source: BITRE estimates.

Variable by port	Estimated coefficient	t-ratio	Significance level	Other statistics
Adelaide				
PCGSPSA	1.754	2.013	0.07	Adjusted– $R^2 = 0.65$
ROTAADL	-1.903	-2.610	0.03	N = 15 DW = 1.90
DSEPII	-0.063	-0.691	0.51	
Intercept	-20.874	-2.275	0.05	
Brisbane				
PCGDPAU	1.646	3.698	0.01	Adjusted $-R^2 = 0.95$
ROTABNE	-0.638	-2.202	0.05	N = 15 DW = 1.76
DSEPII	-0.002	-0.061	0.95	
Intercept	-20.638	-4.405	0.01	
Darwin				
PCGDPAU	0.776	4.459	0.01	Adjusted– $R^2 = 0.88$
ROTADRW	-1.839	-8.775	0.01	N = 15 DW = 1.27
DASIAN	0.235	3.090	0.01	
Intercept	-13.172	-7.242	0.01	
Melbourne				
PCGDPAU	1.164	1.767	0.10	Adjusted– $R^2 = 0.91$
ROTAMEL	-0.393	-0.717	0.49	N = 15 DW = 1.57
DSEPII	-0.04 I	-0.626	0.54	
Intercept	-14.857	-2.163	0.05	
Perth				
PCGDPAU	1.530	23.242	0.01	Adjusted– $R^2 = 0.97$
ROTAPER	-0.233	-2.779	0.02	N = 15 DW = 1.65
DSEPII	-0.137	-5.247	0.01	
Intercept	-19.430	-27.969	0.01	
Sydney				
PCGDPAU	1.622	15.450	0.01	Adjusted $-R^2 = 0.98$
rotasyd	-0.544	-1.935	0.08	N = 15 DW = 1.91
DSEPII	-0.083	-3.100	0.01	
Intercept	-18.950	-17.207	0.01	
Other airports				
PCGDPAU	0.406	1.009	0.33	Adjusted $-R^2 = 0.58$
ROTAAU	-1.128	-1.458	0.17	N = 15 DW = 1.42
DSEPII	-0.156	-1.596	0.14	
Intercept	-9.406	-2.241	0.05	

Table A2Estimated regression statistics of outbound Australian resident
movement model

Source: BITRE estimates.

Variable by port	Estimated coefficient	t-ratio	Significance level	Other statistics
Adelaide				
PCGDPAU	1.395	5.126	0.01	Adjusted-R ² = 0.96
RAFRAU	-0.373	-2.170	0.04	N = 22 DW = 1.98
DPILOT	-0.315	-7.639	0.01	
DSEPII	-0.064	-1.566	0.14	
Intercept	-16.449	-5.789	0.01	
Brisbane				
PCGDPAU	2.004	5.386	0.01	Adjusted-R ² = 0.97
RARFAU	-0.586	-2.665	0.01	N = 22 DW = 1.74
DPILOT	-0.349	-7.677	0.01	
DOLYMPIC	0.105	1.818	0.07	
DSEPII	0.044	0.867	0.39	
Intercept	-22.244	-5.720	0.01	
Canberra				
PCGDPAU	1.291	5.242	0.01	Adjusted $-R^2 = 0.97$
RAFRAU	-0.363	-2.190	0.04	N = 22 DW = 2.09
DPILOT	-0.452	-11.231	0.01	
DSEPII	-0.137	-3.437	0.01	
Intercept	-16.053	-6.249	0.01	
Darwin				
PCGDPAU	1.634	5.073	0.01	Adjusted $-R^2 = 0.98$
RAFRAU	-0.409	-3.067	0.01	N = 22 DW = 2.04
RDTADRW	-0.393	-2.910	0.01	
DPILOT	-0.296	-13.300	0.01	
DSEPII	-0.035	-1.420	0.18	
Intercept	-20.643	-6.127	0.01	
Hobart				
PGDPAU	1.307	8.511	0.01	Adjusted $-R^2 = 0.98$
RAFRAU	-0.741	-4.813	0.01	N = 22 DW = 2.11
DPILOT	-0.276	-8.883	0.01	
DSEPII	-0.004	-0.143	0.88	
Intercept	-16.964	-10.648	0.01	
Melbourne				
PGDPAU	1.591	4.543	0.01	Adjusted $-R^2 = 0.97$
RAFRAU	-0.460	-2.059	0.06	N = 22 DW = 1.87
DPILOT	-0.310	-6.630	0.01	
DOLYMPIC	0.047	0.889	0.39	
Intercept	-17.441	-4.770	0.01	
Perth				
PCGDPAU	2.044	5.761	0.01	Adjusted $-R^2 = 0.95$
RAFRAU	-0.402	-1.505	0.15	N = 22 DW = 2.16
DPILOT	-0.382	-5.794	0.01	
DSEPII	-0.108	-1.611	0.13	
Intercept	-23.489	-6.354	0.01	

Table A3Estimated regression statistics of domestic airline passenger
movement model

(continued)

Variable by port	Estimated coefficient	t-ratio	Significance level	Other statistics
Sydney				
PCGDPAU	1.457	3.719	0.01	Adjusted $-R^2 = 0.95$
RAFRAU	-0.393	-1.605	0.13	N = 22 DW = 1.79
DPILOT	-0.328	-6.421	0.01	
DOLYMPIC	0.089	1.526	0.15	
Intercept	-15.820	-3.867	0.01	
Other airports				
PCGDPAU	0.533	2.446	0.03	Adjusted–R ² = 0.91
RAFRAU	-0.540	-3.156	0.01	N = 22 DW = 2.31
DPILOT	-0.334	-10.389	0.01	
DSEPII	0.059	-1.379	0.19	
Intercept	-6.093	-2.683	0.02	

Table A3Estimated regression statistics of domestic airline passenger
movement model (continued)

Source: BITRE estimates.

Abbreviations

AAL	Adelaide Airport Limited
ABS	Australian Bureau of Statistics
APAC	Australian Pacific Airports Corporation Limited
BAA	British Airways Authority
BAC	Brisbane Airport Corporation Pty Limited
BITRE	Bureau of Infrastructure Transport and Regional Economics
CBD	Central Business District
CIA	Canberra International Airport Pty Limited
GDP	Gross Domestic Product
GSP	Gross State Product
HIAPL	Hobart International Airport Pty Ltd
IATA	International Air Transport Association
OECD	The Organisation for Economic Co-operation and Development
MA	Melbourne Airport
NTA	Northern Territory Airports Pty Limited
SA	Sydney Airport
SACL	Sydney Airport Corporation Limited
SARS	Severe Acute Respiratory Syndrome
TFI	Tourism Future International
TWI	Trade Weighted Index
WAC	Westralia Airports Corporation Pty Ltd

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