



Australian Government

**Department of Infrastructure, Transport,
Regional Development and Local Government**

Bureau of Infrastructure, Transport and Regional Economics

RESEARCH REPORT

117



Aviation

**Aircraft movements through capital
city airports to 2029–30**

Bureau of Infrastructure, Transport and Regional Economics

Aircraft movements through capital city airports to 2029–30

Report 117

Department of Infrastructure, Transport,
Regional Development and Local Government
Canberra, Australia

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ISSN 1440-9569

IBSN 978-1-921260-38-4

April 2010 / INFRASTRUCTURE09100

This publication is available in hard copy or PDF format from the Bureau of Infrastructure, Transport and Regional Economics website at www.bitre.gov.au—if you require part or all of this publication in a different format, please contact BITRE.

An appropriate citation for this report is:

Bureau of Infrastructure, Transport and Regional Economics (BITRE), 2010, Report 117: Airport movements through capital city airports to 2029–30, Canberra ACT.

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Published by

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Desktop publishing by Melinda Keane.

Printed by Bluestar Print Group.

Foreword

This report presents forecasts of air passenger and aircraft movements through Australia's eight capital city airports (Adelaide, Brisbane, Canberra, Darwin, Hobart, Melbourne, Perth and Sydney) to 2030. The forecasts of aircraft movements have been developed on the basis of the long-term forecasts of air passenger movements, aircraft size and seat utilisation rates. The air passenger forecasts that were presented in BITRE Working paper 72 have been updated by including the most recent information on economic growth and air passenger movements, and extending the forecast period from 2025–26 to 2029–30. Hence, this report is directly linked to BITRE Working paper 72.

Dr Krishna Hamal was the principal researcher for this project, with assistance from Terry Johnson, Mano Manoranjan and Matt Li. Phil Potterton, Robert Stewart, Dr David Gargett and David Mitchell provided comments on the draft report.

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Canberra
April 2010

At a glance

This report presents forecasts of air passenger and aircraft movements through Australia's eight capital city airports (Adelaide, Brisbane, Canberra, Darwin, Hobart, Melbourne, Perth and Sydney) to 2030. The forecasts of aircraft movements have been developed on the basis of the long-term forecasts of air passenger movements, aircraft size and seat utilisation rates. The air passenger forecasts that were presented in BITRE Working paper 72 have been updated by including the most recent information on economic growth and air passenger movements and extending the forecast period from 2025–26 to 2029–30.

The updated air passenger forecasts suggest that the number of air passenger movements through the capital city airports is forecast to increase by 4.2 per cent a year over the next 21 years, from 98.3 million in 2008–09 to 235 million in 2029–30. The number of aircraft movements through capital city airports is expected to increase by 2.2 per cent a year over the next 21 years, from 1.1 million in 2008–09 to 1.7 million in 2029–30, an overall increase of around 60 per cent. The number of scheduled aircraft movements is expected to increase by 2.8 per cent a year over the forecast period. This includes 4 per cent growth in international movements, 2.7 per cent in intercapital movements and 2.2 per cent in regional movements. Non-scheduled aircraft movements are assumed to remain unchanged over the forecast period.

Contents

Foreword	iii
At a glance	v
Executive summary	xiii
Introduction	xiii
Forecasting method, data and assumptions	xiii
Forecasts of aircraft movements	xiv
Chapter 1 Introduction	1
Objectives	2
Outline of the report	2
Chapter 2 Forecasting method	3
Introduction	3
Air passenger movement forecasting model	3
Aircraft movement forecasting model	4
Hourly aircraft movement forecasting model	5
Chapter 3 Data and assumptions	7
Introduction	7
Aircraft size	8
Seat utilisation rate (Load factor)	10
Chapter 4 Forecasts of air passenger and aircraft movements	11
Introduction	11
Adelaide Airport	11
Brisbane Airport	16
Canberra Airport	22
Darwin Airport	25
Hobart Airport	33
Melbourne Airport	38
Perth Airport	43

	Sydney Airport.....	48
	All capital city airports	53
References	59

Tables

TES1	Air passenger movements by capital city airport.....	xv
TES2	Aircraft movements by capital city airport.....	xv
T2.1	Long-term annual average growth rates of air passenger movements on regional routes by airport.....	4
T3.1	Economic growth rates (per cent).....	8
T3.2	Average aircraft size and seat utilisation rate by capital city airport and route...	9
T4.1	Air passenger movements through Adelaide Airport.....	13
T4.2	Aircraft movements through Adelaide Airport.....	15
T4.3	Air passenger movements through Brisbane Airport	19
T4.4	Aircraft movements through Brisbane Airport.....	21
T4.5	Air passenger movements through Canberra Airport.....	24
T4.6	Aircraft movements through Canberra Airport	26
T4.7	Air passenger movements through Darwin Airport.....	29
T4.8	Aircraft movements through Darwin Airport.....	31
T4.9	Air passenger movements through Hobart Airport.....	34
T4.10	Aircraft movements through Hobart Airport.....	36
T4.11	Air passenger movements through Melbourne Airport.....	39
T4.12	Aircraft movements through Melbourne Airport.....	41
T4.13	Air passenger movements through Perth Airport.....	44
T4.14	Aircraft movements through Perth Airport	46
T4.15	Air passenger movements through Sydney Airport.....	49
T4.16	Aircraft movements through Sydney Airport.....	51
T4.17	Air passenger movements through all capital city airports.....	55
T4.18	Aircraft movements through all capital city airports.....	57

Figures

F1.1	Air passenger and aircraft movements through all Australian airports.....	1
F4.1	Air passenger movements through Adelaide Airport.....	12
F4.2	Aircraft movements through Adelaide Airport.....	14
F4.3	Annual average hourly proportions of aircraft movements per day through Adelaide Airport in 2007–08.....	16
F4.4	Average number of aircraft movements per hour through Adelaide Airport in 2008–09 and 2029–30	17
F4.5	Air passenger movements through Brisbane Airport.....	18
F4.6	Aircraft movements through Brisbane Airport.....	20
F4.7	Annual average hourly proportion of aircraft movements per day through Brisbane Airport in 2007–08	20
F4.8	Average number of aircraft movements per hour through Brisbane Airport in 2008–09 and 2029–30	22
F4.9	Air passenger movements through Canberra Airport.....	23
F4.10	Aircraft movements through Canberra Airport	25
F4.11	Annual average hourly proportion of aircraft movements per day through Canberra Airport in 2007–08	27
F4.12	Average number of aircraft movements per hour through Canberra Airport in 2008–09 and 2029–30.....	27
F4.13	Air passenger movements through Darwin Airport.....	28
F4.14	Aircraft movements through Darwin Airport.....	30
F4.15	Annual average hourly proportion of aircraft movements per day through Darwin Airport in 2006–07.....	32
F4.16	Average number of aircraft movements per hour through Darwin Airport in 2007–08 and 2029–30.....	32
F4.17	Air passenger movements through Hobart Airport.....	33
F4.18	Aircraft movements through Hobart Airport.....	35
F4.19	Annual average hourly proportion of aircraft movements per day through Hobart Airport in 2006–07.....	37
F4.20	Average number of aircraft movements per hour through Hobart Airport in 2007–08 and 2029–30.....	37
F4.21	Air passenger movements through Melbourne Airport.....	38

F4.22	Aircraft movements through Melbourne Airport.....	40
F4.23	Annual average hourly proportion of aircraft movements per day through Melbourne Airport in 2007–08.....	42
F4.24	Average number of aircraft movements per hour through Melbourne Airport in 2007–08 and 2029–30	42
F4.25	Air passenger movements through Perth Airport.....	43
F4.26	Aircraft movements through Perth Airport	45
F4.27	Annual average hourly proportion of aircraft movements per day through Perth Airport in 2007–08.....	47
F4.28	Average number of aircraft movements per hour through Perth Airport in 2007–08 and 2029–30.....	47
F4.29	Air passenger movements through Sydney Airport	48
F4.30	Aircraft movements through Sydney Airport.....	50
F4.31	Annual average hourly proportion of aircraft movements per day through Sydney Airport in 2007–08	52
F4.32	Hourly aircraft movements through Sydney Airport during morning and evening peak hours: October–December 2008	52
F4.33	Average number of aircraft movements per hour through Sydney Airport in 2008–09, 2014–15, 2018–19 and 2022–23	53
F4.34	Air passenger movements through all capital city airports.....	54
F4.35	Aircraft movements through all capital city airports	56

Executive summary

Introduction

The long-term trend in air passenger and aircraft movements through Australian airports has remained positive over the last 31 years. The number of passenger movements increased by an average 5 per cent a year over the last 31 years, from 27 million in 1977–78 to 122 million in 2008–09, whereas the number of aircraft movements increased by an average 1.5 per cent a year over the same period from 0.8 million in 1977–78 to 1.2 million in 2008–09. It is very important for airport planners and investors to know whether such a strong positive trend in passenger and aircraft movements will continue into the future.

BITRE has already published long-term forecasts of air passenger movements through Australian capital city airports in BITRE Working paper 72 in June 2008. In this report, the air passenger movement forecasts have been updated by including the most recent information on economic growth and air passenger movements, and extending the forecast period from 2025–26 to 2029–30. The updated forecasts were then used to develop the long-term forecasts of aircraft movements through the eight capital city airports (Adelaide, Brisbane, Canberra, Darwin, Hobart, Melbourne, Perth and Sydney) to 2029–30.

Forecasting method, data and assumptions

The previous BITRE forecasts of passenger numbers were updated on the basis of the estimated air passenger demand models that are given in BITRE (2008a) and the most recent information on economic growth and passenger movements. The updated passenger forecasts and the projections of average aircraft size and seat utilisation rates were used to forecast the number of aircraft movements through capital city airports.

In BITRE (2008a), forecasts of passenger movements were developed using single equation econometric models. The models were 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 were specified separately as they are driven by different factors. A detailed discussion on the models and their estimated parameters and model data is presented in BITRE (2008a).

A statistical model of non-scheduled aircraft movements could not be specified in the absence of long time-series data on non-scheduled aircraft movements. Hence, the number of non-scheduled aircraft movements is kept constant at 2008–09 level over the forecast period in all capital city airports.

Further, the size of aircraft operating in Australia varies by route (international, intercapital and regional) and airport. Mostly, large aircraft are being used to transport passengers on international routes, medium-sized aircraft are used on intercapital routes and relatively smaller aircraft are used on regional routes. In the absence of long time series data on average aircraft size by route, a statistical model could not be estimated for use in forecasting the average size of aircraft operating through capital city airports. However, the average size of aircraft takes several years to change, as it involves a huge investment and there is also a lag in aircraft development. Hence, this study assumes that the average size of aircraft increases at the same rate as that observed in the past, by 2 per cent a year for the first five years of the forecast period and 1 per cent a year over the remaining of the forecast period. These growth rates are assumed to remain the same over all routes linking to capital city airports.

With regard to seat utilisation rates, BITRE assumes that the rates will remain constant at the 2008–09 level over the entire forecast period. This simple assumption is made because a long time series of data on seat utilisation rates by route is not available for model-based forecasting purposes.

In 2008–09, the average seat utilisation rate on intercapital routes was 80 per cent in Adelaide, Brisbane, Hobart, Melbourne and Sydney; 79 per cent in Darwin; 76 per cent in Perth and 65 per cent in Canberra. Similarly, on international routes, it was 77 per cent in Adelaide; 76 per cent in Melbourne; 75 per cent in Sydney; 74 per cent in Perth; 73 per cent in Brisbane and 67 per cent in Darwin. On regional routes, it was 72 per cent in Brisbane; 69 per cent in Sydney; 68 per cent in Melbourne and Darwin; 67 per cent in Adelaide; 61 per cent in Canberra; 53 per cent in Perth and 34 per cent in Hobart.

Forecasts of aircraft movements

The number of air passenger movements through eight capital city airports declined by 7.9 per cent in 2001–02, largely due to the 9/11 terrorist attacks and the collapse of Ansett Australia Airlines. However, it bounced back the following year and recorded strong growth of 13.3 per cent in 2003–04, 9.1 per cent in 2004–05 and annually by 5.3 per cent over the last seventeen years, from 41 million in 1991–92 to 98.3 million in 2008–09.

Taking account of the expected slowing of growth in Australia and international economies as well as the maturation of the influence of low-cost carriers on passenger growth, the number of passenger movements through eight capital city airports is forecast to increase overall by 4.2 per cent a year over the forecast period to 235 million in 2029–30 (Table ESI). Forecast annual increases, by route type, are 5.3, 4 and 3.5 per cent on international, intercapital and regional routes, respectively.

TES1 Air passenger movements by capital city airport

Airport	Number of movements			Annual average growth rate	
	History 1991–92	History 2008–09	Forecast 2029–30	History 1991–92 to 2008–09	Forecast 2008–09 to 2029–30
	(millions)			(per cent)	
Adelaide	3.0	6.8	14.1	4.9	3.5
Brisbane	6.7	18.8	51.2	6.2	4.9
Canberra	1.4	3.1	6.3	4.9	3.5
Darwin	0.6	1.7	4.1	6.5	4.4
Hobart	0.7	1.9	3.9	6.1	3.5
Melbourne	10.4	24.5	57.7	5.2	4.2
Perth	3.1	9.4	24.8	6.8	4.7
Sydney	15.2	32.2	72.9	4.5	4.0
Total*	41.0	98.3	235.0	5.3	4.2

* Eight capital city airports total.

The impact of the Global Financial Crisis (GFC) is expected to be much lower in 2009–10 and 2010–11 as the Australian and world economies are forecast to perform more strongly than previously expected. This stronger growth projection is reflected in the aircraft movement forecasts.

Over one million aircraft movements were recorded passing through eight capital city airports in 2008–09, including 837 300 scheduled and 256 000 non-scheduled aircraft movements. Intercapital, regional and international movements accounted for 5133 and 16 per cent of the total scheduled aircraft movements respectively. The number of aircraft movements through eight capital city airports is forecast to increase by 2.2 per cent a year over the forecast period to 1.7 million in 2029–30 (Table ES2). It is expected to increase annually by 4 per cent on international routes, 2.7 per cent on intercapital routes and by 2.2 per cent on regional routes. In 2029–30, around 309 900 aircraft movements will be on international routes, 746 100 aircraft on intercapital routes and 431 300 aircraft on regional routes. Non-scheduled aircraft movements are assumed to remain unchanged over the forecast period.

TES2 Aircraft movements by capital city airport

Airport	Number of movements (thousands)				Annual average growth rate forecast (per cent)	
	Actual 2008–09		Forecast 2029–30		2008–09 to 2029–30	
	Scheduled movements	Total movements*	Scheduled movements	Total movements*	Scheduled movements	Total movements*
Adelaide	73.4	103.3	117.2	147.1	2.3	1.7
Brisbane	154.1	183.7	316.4	346.1	3.5	3.1
Canberra	44.1	84.8	70.5	111.1	2.3	1.3
Darwin	22.2	87.0	39.0	103.8	2.7	0.8
Hobart	14.3	29.0	22.8	37.5	2.2	1.2
Melbourne	184.0	195.0	327.7	338.7	2.2	2.0
Perth	77.8	119.0	143.9	185.1	3.0	2.1
Sydney	267.4	291.5	449.8	473.9	2.5	2.3
Total**	837.3	1 093.3	1 487.3	1 743.3	2.8	2.2

* Includes scheduled and non-scheduled aircraft movements.

** Eight capital city airports total.

Adelaide

Adelaide Airport is Australia's fifth largest airport in terms of total passenger movements. In 2008–09, over 6.8 million air passengers passed through Adelaide Airport. Among them, 80 per cent were travelling on intercapital routes, 13 per cent on regional routes and 7 per cent on international routes.

The number of air passenger movements through Adelaide Airport increased by 4.9 per cent per annum over the years since 1991–92. However, such a high rate of growth is not expected to continue over the forecast period, largely due to the expected slowing of growth in the Australian economy in the long term, and also in overseas economies as well as the maturation of the influence of low-cost carriers on passenger growth. The number of passenger movements is forecast to increase by 3.5 per cent over the forecast period, to 14.1 million in 2029–30.

In 2008–09, around 103 300 aircraft passed through Adelaide Airport. About 71 per cent of the total aircraft movements were scheduled aircraft movements and the remaining 29 per cent were non-scheduled aircraft movements. Among total scheduled aircraft movements, 60 per cent were intercapital movements, 35 per cent were regional movements and 5 per cent were international movements. The number of non-scheduled aircraft movements is assumed to remain unchanged over the forecast period.

Following an expected strong growth in passenger numbers, the number of aircraft movements through Adelaide Airport is forecast to increase by 1.7 per cent a year over the forecast period to 147 100 in 2029–30 (Table E52). It is projected to increase annually by 3.6 per cent on Adelaide's international routes, 2.1 per cent on intercapital routes and 2.2 per cent on regional routes.

The morning peak hour of aircraft movements at Adelaide Airport runs from 9.00 am to 10.00 am and the evening peak hour from 6.00 pm to 7.00 pm. In 2007–08, 21 aircraft passed through Adelaide Airport during the morning peak hour and 22 during the evening peak hour. These hourly movements are forecast to increase to 29 during the morning peak hour and 30 during the evening peak hour in 2029–30.

Brisbane

Brisbane Airport is Australia's third largest airport in terms of passenger movements. Around 18.8 million passengers passed through Brisbane Airport in 2008–09. This included 9.2 million intercapital passengers, 5.5 million regional passengers and 4.1 million international passengers.

The number of passenger movements through Brisbane Airport increased by 6.2 per cent a year from 1991–92 to 2008–09. This strong growth rate is not expected to continue in the future, mainly due to the expected slowing of growth in the Australian economy in the long term, and also in overseas economies as well as the maturation of the influence of low-cost carriers on passenger growth. The number of passenger movements through Brisbane Airport is forecast to increase by 4.9 per cent a year over the next twenty-one years to 51.2 million in 2029–30.

A total of 183 700 aircraft passed through Brisbane Airport in 2008–09. Scheduled and non-scheduled aircraft movements accounted for 84 and 16 per cent of the total aircraft movements respectively. Of the total scheduled aircraft movements, 44 per cent were

intercapital movements, 39 per cent were regional movements and 17 per cent were international movements.

The number of aircraft movements through Brisbane Airport is forecast to increase by 3.1 per cent a year over the forecast period to 346 100 in 2029–30. It is expected to increase annually by 4.7 per cent on Brisbane's international routes, 3.6 per cent on intercapital routes and 2.8 per cent on regional routes. Non-scheduled flights are assumed to remain constant over the forecast period.

Hourly aircraft movement data suggest that 8.00 am to 9.00 am is the morning peak hour and 6.00 pm to 7.00 pm is the evening peak hour for aircraft movements at Brisbane Airport. In 2007–08, around 36 aircraft passed through Brisbane Airport during the morning peak hour and 33 during the evening peak hour. These hourly movements are forecast to increase to 71 and 66 during the morning and the evening peak hours of operation respectively in 2029–30.

Canberra

Canberra International Airport provides direct passenger services to major domestic destinations. At present, there are no scheduled international passenger services to and from Canberra Airport. Some international chartered and VIP flights do fly to and from Canberra.

The number of passenger movements through Canberra Airport increased by 4.9 per cent a year since 1991–92 to 3.1 million in 2008–09. Following the expected slowing of growth in the Australian economy in the long term, and also in overseas economies as well as the maturation of the influence of low-cost carriers on passenger growth, the number of passenger movements is forecast to increase by 3.5 per cent a year over the forecast period to 6.3 million in 2029–30.

In 2008–09, around 84,800 aircraft passed through Canberra Airport, including 44 100 scheduled and 40 600 non-scheduled aircraft movements. Intercapital and regional movements accounted for 93 and 7 per cent of the total scheduled aircraft movements respectively. The number of aircraft movements at Canberra Airport is forecast to increase by 1.3 per cent a year over the forecast period to 111 100 in 2029–30. It will increase annually by 2.2 per cent on Canberra's intercapital routes and by 2.4 per cent on regional routes. The number of non-scheduled aircraft movements is assumed to remain unchanged over the forecast period.

According to hourly aircraft movement data, there are two distinctive peak hours at Canberra Airport: 9.00 am to 10.00 am in the morning and 5.00 pm to 6.00 pm in the evening. Around 16 aircraft passed through Canberra Airport during the morning peak hour and 21 during the evening peak hour. These hourly movement numbers are forecast to increase to 21 and 26 during the morning and the evening peak hours of operation respectively in 2029–30.

Darwin

Around 1.7 million passengers passed through Darwin Airport in 2008–09. Among them, 19 per cent were international passengers, 72 per cent were intercapital passengers and 9 per cent were regional passengers.

The number of passenger movements through Darwin Airport has increased by 6.5 per cent a year since 1991–92. However, such a strong growth is not expected over the forecast period,

largely due to the expected slowing of growth in the Australian economy in the long term, and also in overseas economies as well as the maturation of the influence of low-cost carriers on passenger growth. The number of passenger movements is forecast to increase by 4.4 per cent a year in the next 21 years to 4.1 million in 2029–30.

In 2008–09, around 87 000 aircraft passed through Darwin Airport. Among them, 74 per cent were non-scheduled aircraft movements and only 26 per cent were scheduled movements. The use of the airport by the air force is the main reason for the high number of non-scheduled movements. Of the total scheduled aircraft movements, regional routes accounted for 41 per cent, intercapital routes 36 per cent and international routes 24 per cent.

Following an expected positive growth in passenger movement numbers, the number of aircraft movements through Darwin Airport is forecast to increase by 0.8 per cent a year over the forecast period to 103 800 in 2029–30. The number of scheduled aircraft movements is projected to increase by 2.7 per cent a year to 39,000 in 2029–30. It is expected to increase annually by 3.4 per cent on Darwin's international routes, 3.2 per cent on intercapital routes and 1.8 per cent on regional routes. Non-scheduled aircraft movements are assumed to remain unchanged over the forecast period.

According to hourly aircraft movement data, there are four peak hours of aircraft operation at Darwin Airport. The first peak hour runs between 1.00 am and 2.00 am, the second between 6.00 am and 7.00 am, the third between 1.00 pm and 2.00 pm and the fourth between 6.00 pm and 7.00 pm. Around 17 aircraft passed during the first peak hour, 16 during the second peak hour, 25 during the third peak period and 13 during the fourth peak hour. These hourly movements are forecast to increase to 20 during the first peak hour, 19 during the second peak hour, 29 during the third peak period and 15 during the fourth peak hour in 2029–30.

Hobart

Hobart Airport is the major airport in Tasmania for air passenger services. Around 1.9 million passengers travelled through Hobart Airport in 2008–09, mainly on domestic intercapital routes. Presently, there are no scheduled international passenger services at Hobart Airport.

The number of passenger movements through Hobart Airport has increased by an average of 6.1 per cent a year since 1991–92, largely due to the introduction of low-cost carriers from 2002–03 and onwards. This high growth is not expected to continue over the next 21 years, mainly due to the expected slowing of growth in the Australian economy in the long term, and also in overseas economies as well as the maturation of the influence of low-cost carriers on passenger growth. The number of domestic passenger movements is forecast to increase by 3.5 per cent a year over the forecast period to 3.9 million in 2029–30.

In 2008–09, around 29 000 aircraft passed through Hobart Airport, including 14 300 scheduled aircraft movements and 14 700 non-scheduled aircraft movements. The intercapital and regional routes accounted for respectively 98 and 2 per cent of the total scheduled aircraft movements.

Following an expected positive growth in passenger numbers, the number of aircraft movements through Hobart Airport is forecast to increase by 1.2 per cent a year over the forecast period to 37 500 in 2029–30. The number of scheduled aircraft movements is expected to increase annually by 2.2 per cent to 22 800 in 2029–30, including 2.3 per cent growth in Hobart's

intercapital routes and 1.7 per cent on regional routes. Non-scheduled aircraft movements are assumed to remain unchanged over the forecast period.

Hourly aircraft movement data suggest that there are four distinctive peak hours of aircraft operation at Hobart Airport: the early morning peak hour (6.00 am to 7.00 am), the morning peak hour (10.00 am to 11.00 am), the afternoon peak hour (4.00 pm to 5.00 pm) and the evening peak hour (6.00 pm to 7.00 pm). In 2006–07, 8 aircraft moved during the early morning and morning peak hours, and 6 during the afternoon and evening peak hours. These hourly movements are forecast to increase to 10 during the early morning and morning peak hours and 7 during the afternoon and evening peak hours in 2029–30.

Melbourne

Melbourne Airport is Australia's second largest airport in terms of passenger movements. In 2008–09, around 24.5 million passengers travelled through Melbourne Airport. Among them, 20 per cent were international passengers, 61 per cent intercapital passengers and 19 per cent regional passengers.

Passenger movements at Melbourne Airport have increased annually by 5.2 per cent since 1991–92. The reasons for such high growth in passenger movements are 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). However, such high growth is not likely to continue over the forecast period, mainly due to the expected slowing of growth in the Australian economy in the long term, and also in overseas economies as well as the maturation of the influence of low-cost carriers on passenger growth. The number of passenger movements through Melbourne Airport is forecast to increase by 4.2 per cent per year over the forecast period to 57.7 million in 2029–30.

In 2008–09, around 195 000 aircraft passed through Melbourne Airport. Among them, 94 per cent were scheduled aircraft and the remaining 6 per cent were non-scheduled aircraft. Of the total scheduled aircraft movements, 59 per cent were intercapital movements, 26 per cent regional movements and 15 per cent were international movements.

As a result of an expected strong growth in passenger numbers, the number of aircraft movements through Melbourne Airport is forecast to increase by 2 per cent a year over the forecast period to 338 700 in 2029–30 (Table ES1). The number of scheduled aircraft movements will increase annually by 2.6 per cent on Melbourne's international routes, 2.2 per cent on intercapital routes and 1.8 per cent on regional routes. Non-scheduled aircraft movements are assumed to remain unchanged over the forecast period.

Hourly aircraft movement data show that the morning peak hour at Melbourne Airport starts at 8.00 am and ends at 9.00 am and the evening peak hours start at 6.00 pm and ends at 8.00 pm. Around 39 aircraft moved through Melbourne Airport during the morning peak hour and 35 per hour during the evening peak hours. These hourly movement numbers are forecast to increase to 68 during the morning peak hour and 62 per hour during the evening peak hours in 2029–30.

Perth

Perth Airport is the fourth largest airport in Australia in terms of passenger movements. A total of 9.4 million passengers travelled through Perth Airport in 2008–09, including 2.6 million international passengers, 4.7 million intercapital passengers and 2.1 million regional passengers.

The number of passenger movements through Perth Airport has increased by 6.8 per cent a year since 1991–92. However, such high growth is not expected to continue over the forecast period, largely due to the expected slowing of growth in the Australian economy in the long term, and also in overseas economies. The number of passenger movements is forecast to increase by 4.7 per cent a year over the next 21 years to 24.8 million in 2029–30.

In 2008–09, around 119 000 aircraft moved through Perth Airport. Of the total aircraft movements, 65 per cent were scheduled aircraft movements and the remaining 35 per cent were non-scheduled aircraft movements. Among the total scheduled aircraft movements, 43 per cent were regional movements, 38 per cent intercapital movements and 19 per cent were international movements.

Following an expected strong growth in passenger numbers, the number of aircraft movements through Perth Airport is forecast to increase by 2.1 per cent a year over the forecast period to 185 100 in 2029–30. The number of scheduled aircraft movements is projected to increase annually by 4.5 per cent on Perth's international routes, 3.5 per cent on intercapital routes and 1.5 per cent on regional routes. Non-scheduled aircraft movements are assumed to remain unchanged over the forecast period.

According to hourly aircraft movement data, there are two distinctive peak hours of aircraft operation at Perth Airport: morning peak hour (from 6.00 am to 7.00 am) and afternoon peak hour (from 3.00 pm to 4.00 pm). The morning and afternoon peak hours accounted individually for 7.2 per cent of total daily aircraft movements. On an average, 22 aircraft moved through Melbourne Airport during the morning peak hour and 22 during the afternoon peak hour. These hourly movements are forecast to increase to 36 during the morning peak hour and another 36 during the afternoon peak hour in 2029–30.

Sydney

Sydney Airport is Australia's largest airport in terms of passenger and freight movements. The airport has a jet curfew which prevents jet aircraft movements from 11.00 pm to 6.00 am and a cap on aircraft movements (80 aircraft per hour) during the day.

Around 32.2 million passengers passed through Sydney Airport in 2008–09. This included 10.2 million international passengers, 15.2 million intercapital passengers and 6.8 million regional passengers. The number of passenger movements through Sydney Airport has increased by 4.5 per cent a year since 1991–92 and is forecast to increase by 4 per cent a year in the next 21 years to 72.9 million in 2029–30. The main reasons for the expected lower growth in passenger movements are the expected slowing of growth in the Australian economy in the long term, and in overseas economies as well as the maturation of the influence of low-cost carriers on passenger growth.

Over 291 500 aircraft passed through Sydney Airport in 2008–09, including 267 400 scheduled aircraft and 24 100 non-scheduled aircraft. Intercapital, regional and international routes accounted for respectively 43, 35 and 22 per cent of the total scheduled aircraft movements.

Following an expected strong growth in passenger numbers, the number of aircraft movements through Sydney Airport is forecast to increase by 2.3 per cent a year over the forecast period to 473 900 in 2029–30. The number of scheduled aircraft movements will increase annually by 2.5 per cent over the forecast period, including 3.4 per cent on the international routes, 2.5 per cent on the intercapital routes and 1.8 per cent on the regional routes. Non-scheduled aircraft movements are assumed to remain unchanged over the forecast period.

Hourly aircraft movement data show two distinctive peak hours of aircraft movements through Sydney Airport: one in the morning, from 8.00 am to 9.00 am and another in the evening, from 6.00 pm to 7.00 pm. In 2008, the number of hourly aircraft movements was observed to be over 60 during most morning and evening peak hours and sometimes very close to the existing hourly cap of 80 movements. Assuming that the current morning and evening peaks do not spread over the forecast period, the number of hourly aircraft movements is expected to reach 70 during the morning peak hour in 2014–15, 80 during the morning peak hour in 2018–19 and would reach 80 during both morning and evening peak hours by 2022–23.

CHAPTER I

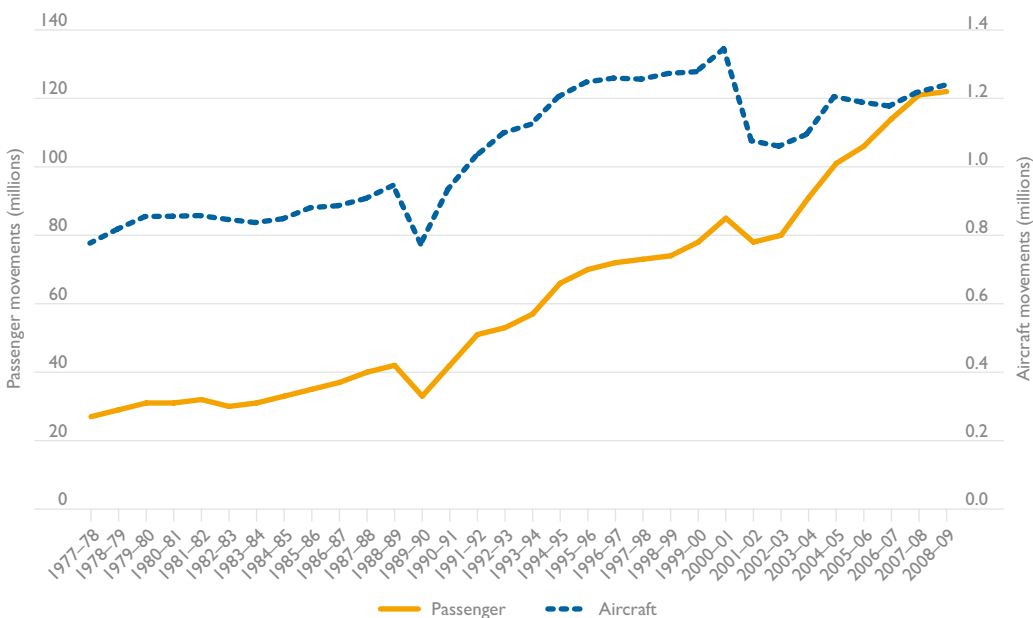
Introduction

Introduction

The number of aircraft movements through Australian airports has been increasing over the last 31 years due to a strong growth in passenger movements driven by competitive airfares and an increase in the real income level of travelers. In recent years, airfares have become increasingly competitive with the introduction of low-cost carriers on Australia’s domestic and international routes.

Although the number of air passenger and aircraft movements declined sharply in 1989–90 due to the pilots’ strike in Australia and in 2001–02 due to the 9/11 terrorist attacks and the collapse of Ansett Australia Airlines, the long term trend in air passenger and aircraft movements has remained generally positive over the last 31 years. The number of passenger movements increased by an average 5 per cent a year over the last 31 years, from 27 million in 1977–78 to 122 million in 2008–09, whereas the number of aircraft increased by an average 1.5 per cent a year over the same period, from 0.8 million in 1977–78 to 1.2 million in 2008–09 (Figure I.1).

FI.1 Air passenger and aircraft movements through all Australian airports



The number of *passenger* movements increased annually by 6.8 and 4.7 per cent on Australia's international and domestic routes respectively; whereas the number of *aircraft* movements on Australia's international and domestic routes increased by respectively 6 and 1.2 per cent a year over the same period.

Objectives

The following are the main objectives of this study:

- to forecast the number of aircraft movements through Australia's capital city airports to 2029–30
- to forecast the number of aircraft movements by type of movements (that is, international, intercapital and regional movements)
- to determine current peak hours of aircraft movements at capital city airports
- to forecast the number of aircraft movements by hour through capital city airports to 2029–30.

Outline of the report

The models that were used to forecast air passenger and aircraft numbers are discussed in Chapter 2. In Chapter 3, a detailed discussion on data and their sources and macroeconomic and population assumptions is given, to allow readers to understand the underlying assumptions behind forecasts derived in this report.

Chapter 4 includes forecasts of passenger and aircraft movements by capital city airports. It also shows forecasts of hourly movements of aircraft at each capital city airport.

CHAPTER 2

Forecasting method

Introduction

In this study, forecasts of aircraft movements through Australia's eight capital city airports are developed on the basis of forecasts of passenger movements, aircraft size and seat utilisation rates. Forecasts of passenger movements reported in BITRE Working paper 72 (BITRE 2008a) are updated by including the most recent information on economic growth and air passenger movements, and extending the forecasts for four more years to 2029–30. The updated forecasts were then used to develop the long-term forecasts of aircraft movements through the eight capital city airports (Adelaide, Brisbane, Canberra, Darwin, Hobart, Melbourne, Perth and Sydney) to 2029–30.

Forecasts of aircraft movements on international, intercapital and regional routes are separately developed, as air passenger travel demands on these routes are driven by different factors. For example, the real income level of Australians largely influences the international and domestic movements of Australian residents, whereas the real income level of overseas visitors drives the international movements of overseas visitors to Australia. In this study, 'regional routes' is defined as all domestic routes except for intercapital city routes.

The models that were used to forecast air passenger and aircraft numbers are discussed in the next sections.

Air passenger movement forecasting model

In a previous BITRE publication (BITRE 2008a), forecasts of air passenger movements through Australia's eight capital city airports and other airports were developed using single equation econometric models in a double-logarithmic linear functional form. The models are chosen because they can accommodate several explanatory variables to analyse their influence on passenger movements, they are easy to estimate, provide superior fit, and the estimated parameters can be directly interpreted as elasticities. Such models have been widely used in many tourism and transport demand-forecasting studies.

The models, which are specified in terms of population, income, exchange rates, domestic airfare and the prices of domestic and overseas travel and accommodation, were empirically estimated using historical annual data (from 1984–85 to 2005–06 in the case of domestic passenger movements and from 1991–92 to 2005–06 in the case of international passenger movements).

Domestic passenger movement forecasts given in BITRE (2008a) are disaggregated into intercapital city and regional passenger movement forecasts. Growth rate forecasts that are presented in BITRE Report 115 (BITRE 2008b) were updated to account for the GFC influences and used as the basis to develop forecasts of regional air passenger movements through capital city airports and these regional movement forecasts were subtracted from domestic movement forecasts of BITRE (2008a) in order to derive forecasts of intercapital city movements. The updated long-term annual average growth rates of air passenger movements on the regional routes are presented in Table 2.1.

T2.1 Long-term annual average growth rates of air passenger movements on regional routes by airport

Airport	Forecast 2008–09 to 2029–30 (per cent)
Adelaide	3.5
Brisbane	4.0
Canberra	3.6
Darwin	3.1
Hobart	3.0
Melbourne	3.8
Perth	2.8
Sydney	3.1

Aircraft movement forecasting model

Forecasts of scheduled aircraft movements are developed using Equation 2.1 which states that the number of aircraft movements is a derivative of air passenger numbers, aircraft size and seat utilisation rate.

(2.1) $A_{ijt} = P_{ijt} / (S_{ijt} * L_{ijt})$

Where:

A_{ijt} is the number of aircraft movements on the i th route of the j th capital city airport in period t

P_{ijt} is the number of air passengers movements on the i th route of the j th capital city airport in period t

S_{ijt} is the average size of passenger aircraft operating on the i th route of the j th capital city airport in period t

L_{ijt} is the average seat utilisation rate of passenger aircraft operating on the i th route of the j th capital city airport in period t

$i = 1, 2$ and 3 (1 = International route, 2 = Intercapital city route and 3 = Regional route)

$j = 1, 2, \dots, 8$ (1 =Adelaide, 2 = Brisbane, 3 = Canberra, 4 = Darwin, 5 = Hobart, 6 = Melbourne, 7 = Perth and 8 = Sydney).

A statistical model of non-scheduled aircraft movements could not be specified in the absence of a long time-series data on non-scheduled aircraft movements. Hence, the number of non-scheduled aircraft movements is kept constant at 2007–08 level over the forecast period in all capital city airports.

Hourly aircraft movement forecasting model

In this report, forecasts of hourly aircraft movements have been prepared and presented in order to examine whether the existing airport facilities are likely to be sufficient to meet demand for aircraft movements during peak hours over the forecast period. The forecasts were developed on the basis of the hourly proportions of aircraft movements and total aircraft movements through capital city airports. The current hourly proportions which were estimated using Airservices Australia data on hourly movements of aircraft are assumed to remain constant throughout the forecast period. This assumption was made as it would be highly problematic to forecast hourly proportions in the absence of data on factors that are likely to influence hourly aircraft movements.

The current hourly proportions and forecasts of hourly movements of aircraft by capital city airport are presented and discussed in detail in Chapter 4.

CHAPTER 3

Data and assumptions

Introduction

As mentioned in earlier chapters, forecasts of aircraft movements are developed on the basis of forecasts of air passenger numbers, average aircraft size and seat utilisation rates. The forecasts of passenger numbers to 2025–26 are taken from BITRE (2008a) and updated to include the most recent information on economic growth and air passenger movements. The economic growth assumptions forecasts were extended to 2029–30 on the basis of the estimated parameters of air passenger demand models that are given in BITRE (2008a), assuming that the macroeconomic and population growth rate assumptions for 2026–27 to 2029–30 will remain the same as those in the year 2025–26.

A detailed discussion of the models, historical model data and assumptions (other than economic growth rate assumptions) that were used to forecast air passenger movements is presented in BITRE (2008a). The most recent economic growth rate forecasts that account for the Global Financial Crisis were used in this study to update the air passenger forecasts and are presented in Table 3.1. The growth rate forecasts for the next eight years, from 2009–10 to 2016–17, were obtained from Treasury (2009a, 2009b and 2009c), for the next three years after 2016–17 from Access Economics (2009) and for the remainder of the forecast period from the MMRF Model of Monash University (2008). The forecasts of the Monash University reflect the projections published by Treasury in its intergenerational report.

The economic growth rate forecasts suggest that the Global Financial Crisis will continue to have some adverse impact on the Australian and the world economies in 2009–10. These economies are expected to recover from the GFC from 2010–11 onwards. The Australian economy is forecast to perform strongly from 2011–12 to 2016–17. This will have a significant positive impact on air passenger and aircraft movements through the capital city airports.

T3.1 Economic growth rates (per cent)

Year	Real GDP Australia	Real GDP World
2007–08	3.6	4.8
2008–09	0.6	1.9
Forecasts		
2009–10	1.5	1.9
2010–11	2.8	1.2
2011–12	4.0	3.6
2012–13	4.0	3.7
2013–14	4.0	3.6
2014–15	4.0	3.6
2015–16	4.0	3.6
2016–17	4.0	3.6
2017–18	3.3	3.6
2018–19	2.9	3.6
2019–20	2.6	2.6
2020–21 to 2021–22	2.5	3.5
2022–23 to 2025–26	2.4	3.5
2026–27 to 2029–30	2.3	3.5

Sources: Treasury (2009a, 2009b & 2009c), Access Economics (2009) and Monash University (2008)

Aircraft size

The size of aircraft operating in Australia varies by route (international, intercapital and regional) and airport. Mostly, large aircraft are being used to transport passengers on international routes, medium-sized aircraft are used on intercapital routes and relatively smaller aircraft are used on regional routes. In 2008–09, the average size of aircraft operating on Perth's international routes is observed to have had 246 seats, followed by 236 in Melbourne Airport, 230 in Sydney Airport, 215 in Brisbane Airport, 190 in Adelaide Airport and 91 in Darwin Airport (Table 3.2). Similarly, on intercapital routes, it was 208 in Perth, 191 in Darwin, 173 in Melbourne, 170 in Brisbane, 167 in Hobart and Sydney, 155 in Adelaide and 113 in Canberra. On regional routes, it was 138 in Melbourne, 128 in Brisbane, 116 in Perth, 105 in Sydney, 50 in Adelaide, 40 in Canberra, 25 in Darwin and 8 in Hobart.

The average size of aircraft operating on individual routes takes several years to change as it involves a huge investment and there is a lag in aircraft development. Lacking a long time series of data on average aircraft size by route, long-term growth in average size could not be modelled on historical data for aircraft operating through capital city airports.

T3.2 Average aircraft size and seat utilisation rate by capital city airport and route

Airport/route	Aircraft size (Passenger capacity per aircraft)		Seat utilisation rate (per cent)	
	History 2008–09	Forecast 2029–30	History 2008–09	Forecast 2029–30
Adelaide				
International	190	245	77	77
Intercapital	155	201	80	80
Regional	50	65	67	67
Brisbane				
International	215	278	73	73
Intercapital	170	220	80	80
Regional	128	165	72	72
Canberra*				
Intercapital	113	146	65	65
Regional	40	52	61	61
Darwin				
International	91	118	67	67
Intercapital	191	247	79	79
Regional	25	32	68	68
Hobart*				
Intercapital	167	216	80	80
Regional	9	12	34	34
Melbourne				
International	236	305	76	76
Intercapital	173	224	80	80
Regional	138	179	68	68
Perth				
International	246	319	74	74
Intercapital	208	269	76	76
Regional	116	150	53	53
Sydney				
International	230	298	75	75
Intercapital	167	216	80	80
Regional	105	136	69	69

* No scheduled international passenger services from Canberra or Hobart.

In this study, the average passenger capacity of aircraft is assumed to increase at the same rate as that in the past, by 2 per cent a year for the first five years of the forecast period and one per cent a year over the remaining of the forecast period. These growth rates will remain the same over all routes: international, intercapital and regional routes.

Following these assumptions, the average number of seats per aircraft operating on international routes from Perth is projected to increase to 319 in 2029–30, to 305 from Melbourne, 298 from Sydney, 278 from Brisbane, 245 from Adelaide and 118 from Darwin (Table 3.2). On intercapital routes, average seat capacity per aircraft is expected to increase to: 269 in Perth; 247 in Darwin; 224 in Melbourne; 220 in Brisbane; 216 in Hobart and Sydney; 201 in Adelaide and 146 in Canberra in 2029–30. On regional routes, it will increase to: 179 in Melbourne; 165 in Brisbane; 150 in Perth; 136 in Sydney; 65 in Adelaide; 52 in Canberra; 32 in Darwin and 12 in Hobart in 2029–30.

Seat utilisation rate (Load factor)

The seat utilisation rate of aircraft passing through capital city airports varies by route (international, intercapital and regional) and airport. The rate is relatively higher on intercapital routes than those on international and regional routes.

In 2008–09, the average seat utilisation rate on intercapital routes was 80 per cent in Adelaide, Brisbane, Hobart, Melbourne and Sydney; 79 per cent in Darwin; 76 per cent in Perth and 65 per cent in Canberra (Table 3.2). Similarly, on international routes, it was 77 per cent in Adelaide; 76 per cent in Melbourne; 75 per cent in Sydney; 74 per cent in Perth; 73 per cent in Brisbane and 67 per cent in Darwin. On regional routes, it was 72 per cent in Brisbane; 69 per cent in Sydney; 68 per cent in Darwin and Melbourne; 67 per cent in Adelaide; 65 per cent in Canberra; 53 per cent in Perth and 34 per cent in Hobart.

In this study, the seat utilisation rates for 2008–09 are assumed to remain unchanged over the entire forecast period. This simple assumption is made due to the fact that long time series of data on seat utilisation rates by route are not available for model-based forecasting purposes.

CHAPTER 4

Forecasts of air passenger and aircraft movements

Introduction

In this study, forecasts of aircraft movements are developed on the basis of forecasts of passenger movements, aircraft size and seat utilisation rates. Passenger movement forecasts are taken from BITRE Working paper 72 and are updated by including the most recent information on economic growth and air passenger movements, and extending the forecast period from 2025–26 to 2029–30.

As mentioned in BITRE Working paper 72, the passenger movement forecasts are solely driven by demand-side parameters. They do not include the influence of supply-side parameters, mainly due to difficulty in estimating them in the absence of long time series data on supply-side variables that influence passenger movements. Hence, the forecasts presented in this study are unconstrained forecasts.

Further, passenger and aircraft movements are expected to be influenced by measures to reduce carbon dioxide emissions. However, given current uncertainty regarding such measures they have not been included in passenger and aircraft movement forecasts.

The passenger and aircraft movement forecasts for the eight capital city airports and their total are presented and discussed in the following sections. The discussion on passenger movements is kept short in this report, as it is discussed in detail in BITRE Working paper 72.

Adelaide Airport

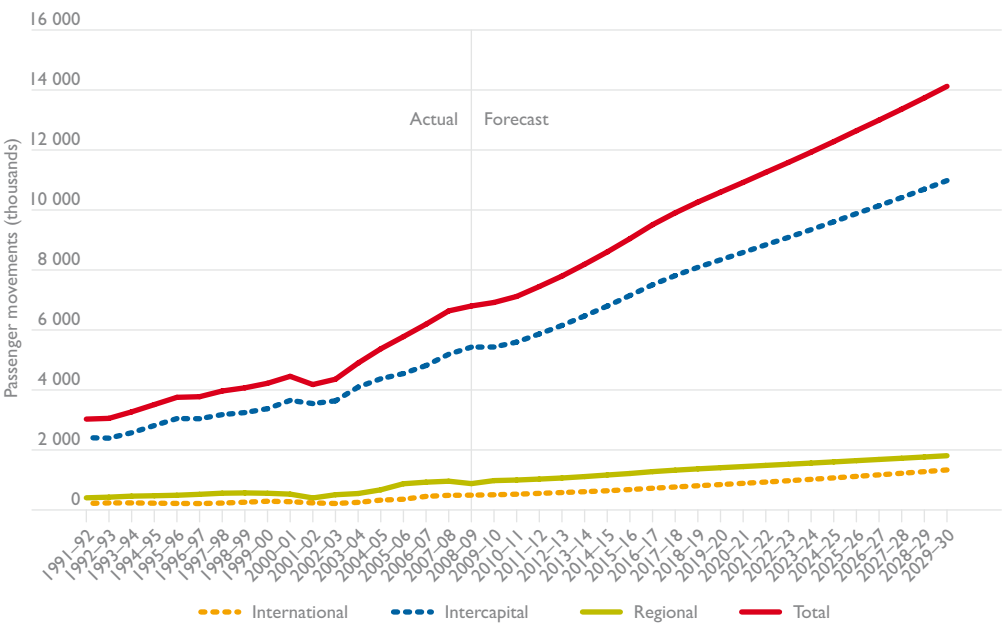
Passenger movements

Adelaide Airport is Australia's fifth largest airport in terms of total passenger movements. It is located approximately six kilometres west of the Adelaide central business district, and is operated by Adelaide Airport Limited (AAL).

In 2008–09, around 6.8 million air passengers passed through Adelaide Airport. Among them, 80 per cent were travelling on intercapital routes, 13 per cent on regional routes and 7 per cent on international routes. Adelaide–Melbourne, Adelaide–Sydney, Adelaide–Brisbane and Adelaide–Perth are Adelaide's first, second, third and fourth largest intercapital city routes in terms of passenger movements.

In recent years, Adelaide Airport has achieved record growth in passenger movements. One of the reasons could be the commencement of the operation of the newly constructed Terminal 1 which continues to attract more international and domestic air traffic. The number of passenger movements through Adelaide Airport increased by 12.4 per cent in 2003–04; 9.7 per cent in 2004–05; 7.5 per cent in 2005–06; and 7.2 per cent in 2006–07 and 2007–08. However, such high growth is not expected to continue over the forecast period, largely due to the expected slowing of growth in the Australian economy in the long term, and also in overseas economies as well as the maturation of the influence of low-cost carriers on passenger growth. The number of passenger movements is forecast to increase by 3.5 per cent over the forecast period, from 6.8 million in 2008–09 to 14.1 million in 2029–30 (Figure 4.1 and Table 4.1). Passenger movements are projected to increase annually by 4.9 per cent on Adelaide’s international routes, 3.4 per cent on intercapital routes and 3.5 per cent on regional routes. Around 1.3 million international passengers, 11 million intercapital passengers and 1.8 million regional passengers are projected to pass through Adelaide Airport in 2029–30.

F4.1 Air passenger movements through Adelaide Airport



Aircraft movements

In 2008–09, around 103 300 aircraft passed through Adelaide Airport, carrying over 6.8 million passengers. Over 71 per cent of the total aircraft movements were scheduled aircraft movements and the remaining 29 per cent were non-scheduled aircraft movements. Among total scheduled aircraft movements, 60 per cent were intercapital movements, 35 per cent were regional movements and 5 per cent were international movements.

T4.1 Air passenger movements through Adelaide Airport

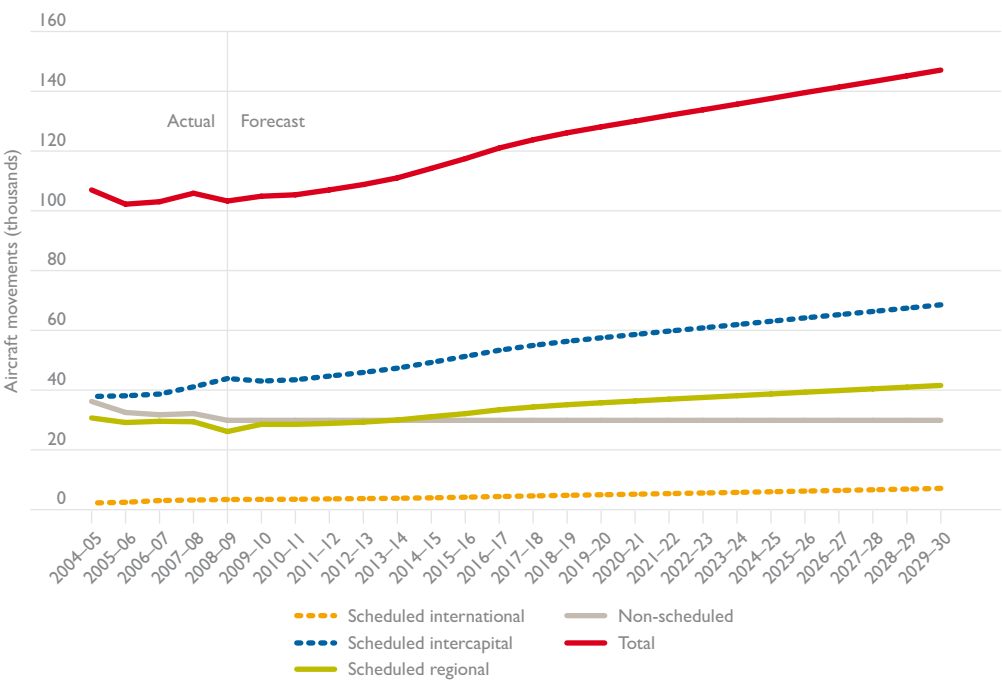
Year	International	Intercapital	Regional	Total	Change in total
		(thousands)			(per cent)
2004–05	327	4 373	671	5 371	9.7
2005–06	357	4 547	873	5 776	7.5
2006–07	452	4 815	926	6 192	7.2
2007–08	487	5 190	958	6 635	7.2
2008–09	493	5 428	878	6 799	2.5
Forecasts					
2009–10	506	5 432	978	6 916	1.7
2010–11	525	5 595	997	7 117	2.9
2011–12	552	5 868	1 029	7 448	4.7
2012–13	580	6 151	1 065	7 796	4.7
2013–14	609	6 468	1 112	8 189	5.0
2014–15	639	6 797	1 165	8 601	5.0
2015–16	679	7 148	1 215	9 043	5.1
2016–17	724	7 507	1 277	9 508	5.1
2017–18	765	7 813	1 326	9 904	4.2
2018–19	806	8 088	1 369	10 262	3.6
2019–20	846	8 338	1 408	10 592	3.2
2020–21	887	8 585	1 446	10 918	3.1
2021–22	930	8 839	1 485	11 254	3.1
2022–23	974	9 088	1 523	11 585	2.9
2023–24	1 020	9 344	1 562	11 926	2.9
2024–25	1 069	9 608	1 602	12 278	2.9
2025–26	1 119	9 879	1 643	12 641	3.0
2026–27	1 170	10 143	1 683	12 996	2.8
2027–28	1 222	10 415	1 723	13 360	2.8
2028–29	1 277	10 694	1 765	13 736	2.8
2029–30	1 334	10 980	1 808	14 122	2.8
Annual average growth rate (per cent):					
1991–92 to 2008–09	5.0	4.9	4.7	4.9	
2008–09 to 2029–30	4.9	3.4	3.5	3.5	

Among all capital city routes linking to Adelaide, Adelaide–Melbourne, Adelaide–Sydney, Adelaide–Brisbane and Adelaide–Perth are Adelaide’s first, second, third and fourth largest routes in terms of scheduled aircraft movements.

Following an expected strong growth in passenger numbers, the number of aircraft movements through Adelaide Airport is forecast to increase by 1.3 per cent a year over the forecast period, from 103 300 in 2008–09 to 147 100 in 2029–30 (Figure 4.2 and Table 4.2). Aircraft movements are projected to increase annually by 3.6 per cent on Adelaide’s international routes, 2.1 per cent on intercapital routes and 2.2 per cent on regional routes. This implies that around 7100 aircraft flying on international routes, 68 500 aircraft flying on intercapital

routes and 41 600 aircraft flying on regional routes will pass through Adelaide Airport in 2029–30. Non-scheduled aircraft movements are assumed to remain unchanged over the forecast period.

F4.2 Aircraft movements through Adelaide Airport



Hourly aircraft movements

In this study, an analysis of hourly aircraft movements at each capital city airport has been carried out, to find out peak hours of movements, as well as the proportion of total daily aircraft movements occurring each hour. The analysis is based on Air Services data on hourly movements of aircraft.

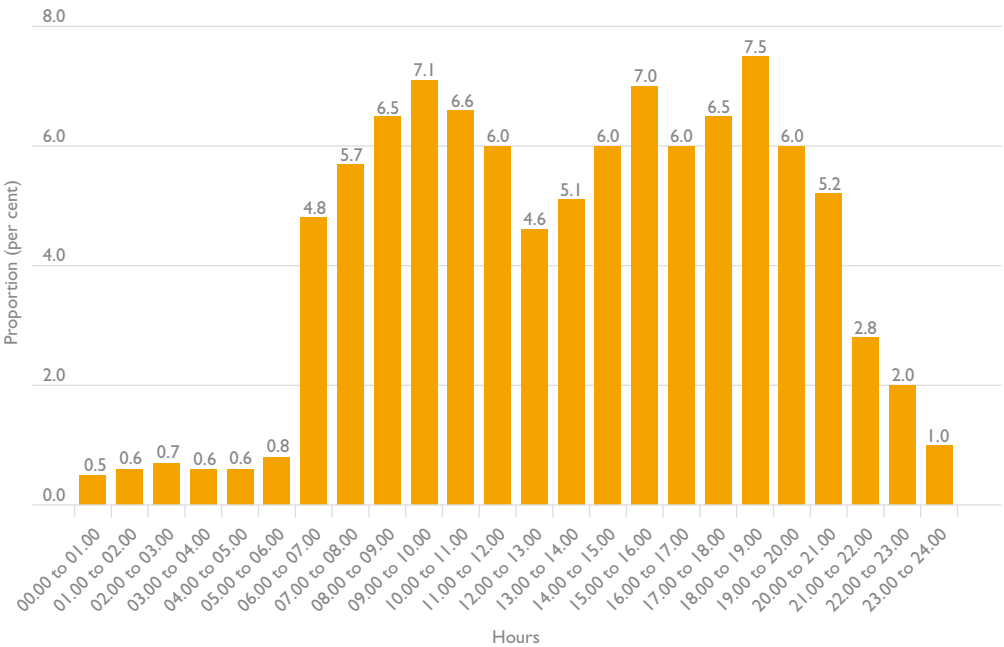
According to the results of the hourly movement analysis, 9.00 am to 10.00 am was the morning peak hour and 6.00 pm to 7.00 pm was the evening peak hour of aircraft movements through Adelaide Airport in 2007–08 (Figure 4.3). On an average day in 2007–08, around 21 aircraft passed through Adelaide airport during the morning peak hour and 22 during the evening peak hour. This implies that the morning and evening peak hour accounted for 7.1 and 7.5 per cent of total daily aircraft movements.

T4.2 Aircraft movements through Adelaide Airport

Year	Scheduled			Total	Non-scheduled	Total
	International	Intercapital	Regional (thousands)			
2004–05	2.2	37.9	30.7	70.8	36.2	107.0
2005–06	2.5	38.1	29.2	69.7	32.5	102.2
2006–07	3.0	38.7	29.6	71.3	31.8	103.0
2007–08	3.2	41.1	29.4	73.7	32.2	105.9
2008–09	3.4	43.9	26.1	73.4	29.9	103.3
Forecasts						
2009–10	3.4	43.0	28.5	75.0	29.9	104.9
2010–11	3.5	43.5	28.5	75.5	29.9	105.4
2011–12	3.6	44.7	28.8	77.1	29.9	107.0
2012–13	3.7	45.9	29.3	78.9	29.9	108.8
2013–14	3.8	47.3	30.0	81.1	29.9	111.0
2014–15	4.0	49.3	31.1	84.3	29.9	114.2
2015–16	4.2	51.3	32.1	87.6	29.9	117.4
2016–17	4.4	53.3	33.4	91.1	29.9	121.0
2017–18	4.6	55.0	34.3	93.9	29.9	123.8
2018–19	4.8	56.3	35.1	96.2	29.9	126.1
2019–20	5.0	57.5	35.7	98.2	29.9	128.1
2020–21	5.2	58.6	36.3	100.1	29.9	130.0
2021–22	5.4	59.7	37.0	102.1	29.9	132.0
2022–23	5.6	60.8	37.5	103.9	29.9	133.8
2023–24	5.8	61.9	38.1	105.8	29.9	135.7
2024–25	6.0	63.0	38.7	107.7	29.9	137.6
2025–26	6.2	64.2	39.3	109.7	29.9	139.6
2026–27	6.4	65.2	39.9	111.5	29.9	141.4
2027–28	6.6	66.3	40.4	113.4	29.9	143.3
2028–29	6.9	67.4	41.0	115.3	29.9	145.2
2029–30	7.1	68.5	41.6	117.2	29.9	147.1
Annual average growth rate (per cent):						
2008–09 to 2029–30	3.6	2.1	2.2	2.3	0.0	1.7

The hourly proportions in 2007–08 are combined with forecasts of aircraft movements to predict the number of aircraft movements during each hour of operation. The number of hourly aircraft movements through Adelaide Airport is expected to reach to 29 during the morning peak hour and 30 during the evening peak hour in 2029–30 (Figure 4.4).

F4.3 Annual average hourly proportions of aircraft movements per day through Adelaide Airport in 2007–08



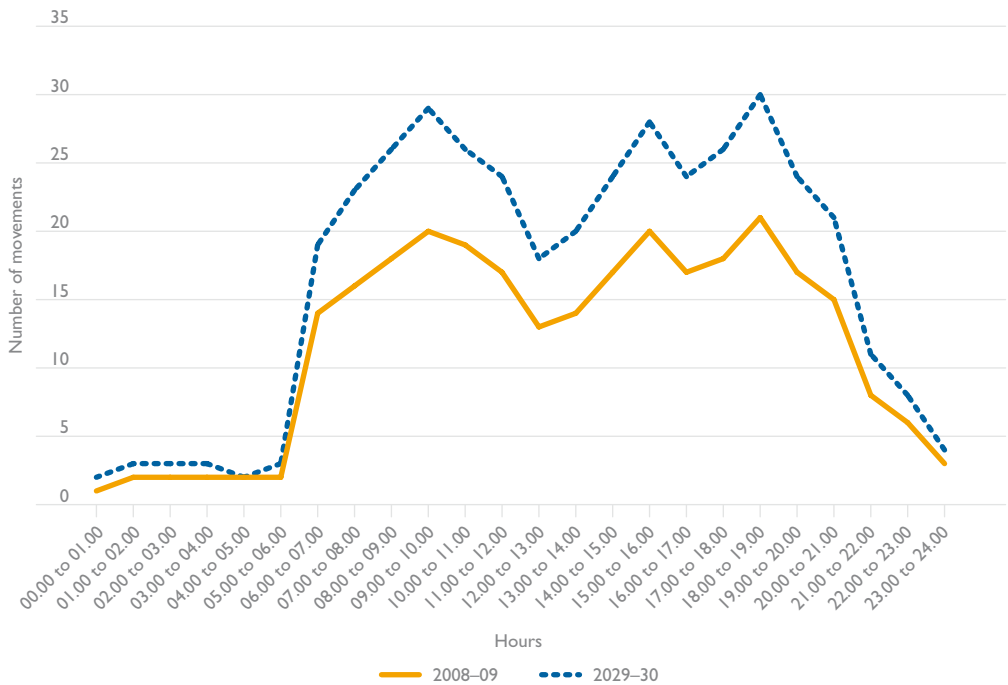
Brisbane Airport

Passenger movements

Brisbane Airport is Australia's third largest airport in terms of passenger movements. It is operated by Brisbane Airport Corporation (BAC) Pty Limited.

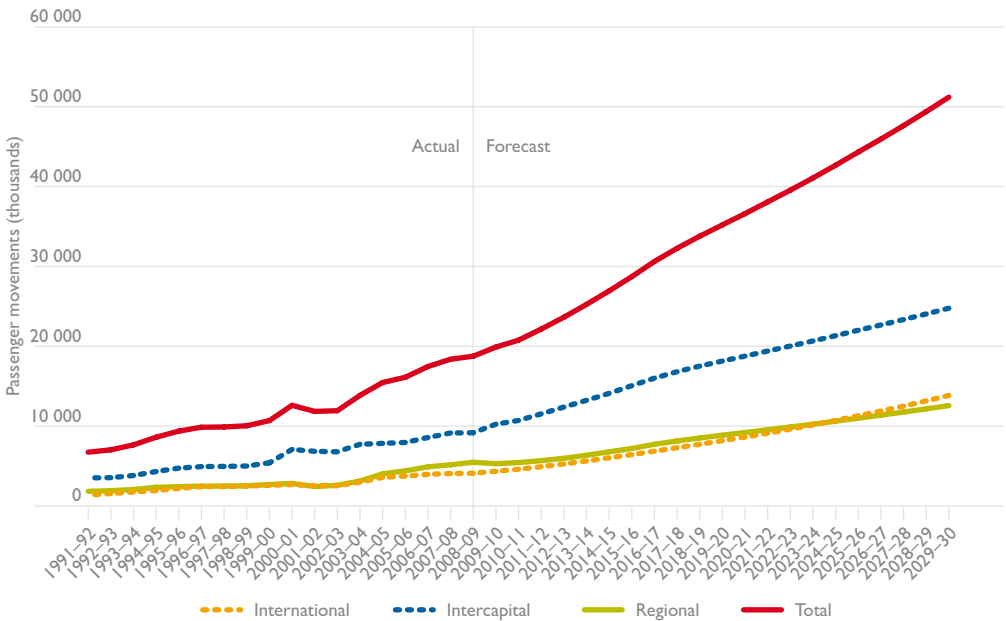
Around 18.8 million passengers passed through Brisbane Airport in 2008–09. This included 9.2 million intercapital passengers, 5.5 million regional passengers and 4.1 million international passengers. Brisbane–Sydney and Brisbane–Melbourne are Brisbane's first and second largest capital city routes in terms of domestic passenger movements.

F4.4 Average number of aircraft movements per hour through Adelaide Airport in 2008–09 and 2029–30



The number of passenger movements through Brisbane Airport has increased by 6.2 per cent a year since 1991–92. This strong growth rate is not expected to continue in the future, mainly due to the expected slowing of growth in the Australian economy in the long term, and also in overseas economies as well as the maturation of the influence of low-cost carriers on passenger growth. The number of passenger movements through Brisbane Airport is forecast to increase by 4.9 per cent a year over the next twenty one years, from 18.8 million in 2008–09 to 51.2 million in 2029–30 (Figure 4.5 and Table 4.3). The number of passenger movements is expected to increase annually by 6 per cent on Brisbane's international routes, 4.8 per cent on intercapital routes and 4 per cent on regional routes. Around 13.8 million international passengers, 24.8 million intercapital passengers and 12.6 million regional passengers are forecast to pass through Brisbane Airport in 2029–30.

F4.5 Air passenger movements through Brisbane Airport



Aircraft movements

A total of 183 700 aircraft passed through Brisbane Airport in 2008–09. Scheduled and non-scheduled aircraft movements accounted for 84 and 16 per cent of the total aircraft movements respectively. Of the total scheduled aircraft movements, 44 per cent were intercapital movements, 39 per cent were regional movements and 17 per cent were international movements.

As a result of an expected strong growth in passenger numbers, the number of aircraft movements through Brisbane Airport is forecast to increase by 3.1 per cent a year over the forecast period to 346 100 in 2029–30 (Figure 4.6 and Table 4.4). It is expected to increase annually by 4.7 per cent on Brisbane’s international routes, 3.6 per cent on intercapital routes and 2.8 per cent on regional routes. In 2029–30, around 68 800 aircraft movements will be on international routes, 141 800 on intercapital routes and 105 800 aircraft on regional routes. Non-scheduled aircraft movements are assumed to remain unchanged over the forecast period.

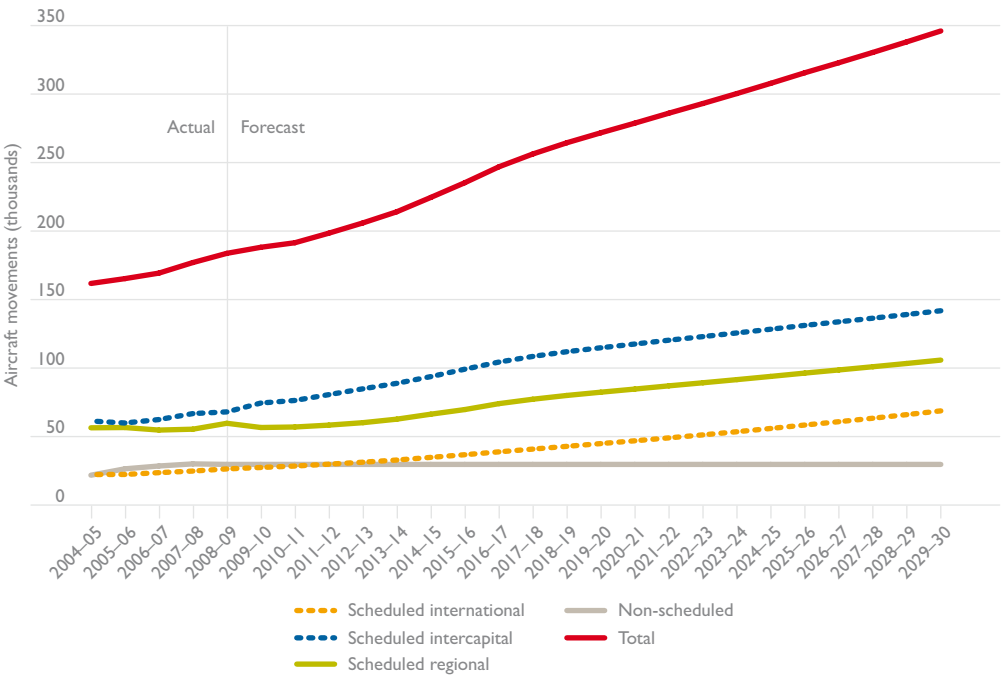
T4.3 Air passenger movements through Brisbane Airport

Year	International	Intercapital	Regional	Total	Change in total
	(thousands)				(per cent)
2004–05	3 592	7 846	4 028	15 466	11.6
2005–06	3 753	7 961	4 408	16 122	4.2
2006–07	3 976	8 580	4 914	17 470	8.4
2007–08	4 069	9 148	5 165	18 382	5.2
2008–09	4 104	9 175	5 480	18 760	2.1
Forecasts					
2009–10	4 351	10 248	5 301	19 901	6.1
2010–11	4 608	10 718	5 443	20 769	4.4
2011–12	4 927	11 540	5 685	22 153	6.7
2012–13	5 270	12 391	5 976	23 637	6.7
2013–14	5 646	13 236	6 357	25 238	6.8
2014–15	6 039	14 105	6 792	26 936	6.7
2015–16	6 439	15 070	7 209	28 719	6.6
2016–17	6 873	16 016	7 731	30 620	6.6
2017–18	7 301	16 817	8 150	32 268	5.4
2018–19	7 736	17 523	8 524	33 783	4.7
2019–20	8 182	18 153	8 865	35 200	4.2
2020–21	8 638	18 770	9 202	36 610	4.0
2021–22	9 120	19 408	9 552	38 080	4.0
2022–23	9 623	20 029	9 896	39 548	3.9
2023–24	10 154	20 669	10 252	41 076	3.9
2024–25	10 715	21 330	10 621	42 667	3.9
2025–26	11 307	22 012	11 004	44 323	3.9
2026–27	11 894	22 672	11 378	45 944	3.7
2027–28	12 512	23 351	11 765	47 629	3.7
2028–29	13 163	24 051	12 165	49 379	3.7
2029–30	13 848	24 771	12 578	51 197	3.7
Annual average growth rate (per cent):					
1991–92 to 2008–09	6.7	5.8	6.6	6.2	
2008–09 to 2029–30	6.0	4.8	4.0	4.9	

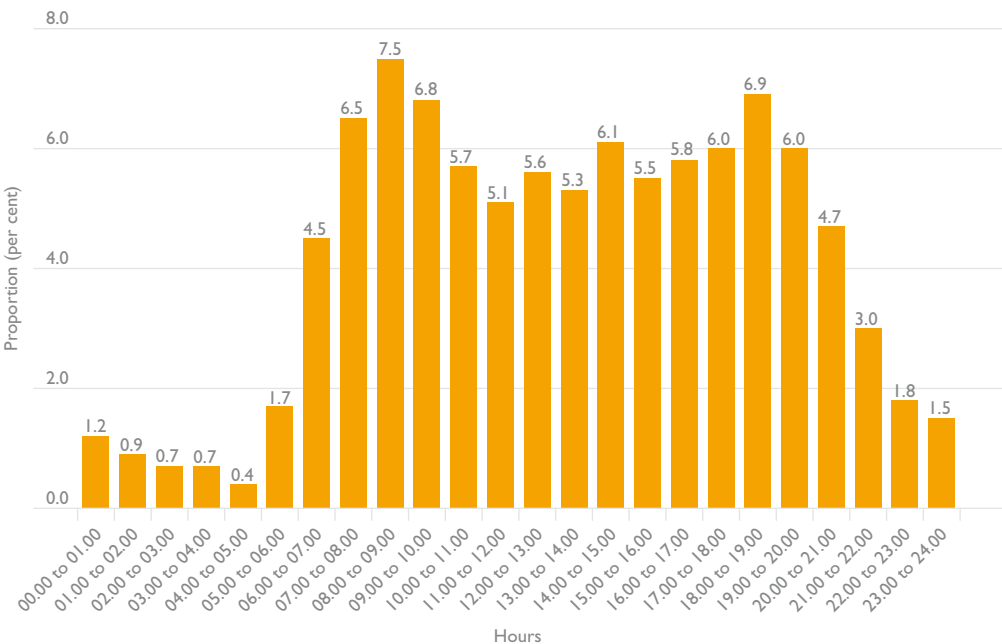
Hourly aircraft movements

Hourly aircraft movement data for 2007–08 suggest that 8.00 am to 9.00 am is the morning peak hour and 6.00 pm to 7.00 pm is the evening peak hour of aircraft movements at Brisbane Airport (Figure 4.7). On an average, around 36 aircraft passed through Brisbane Airport during the morning peak hour and 33 during the evening peak hour. In other words, the morning and evening peak hour accounted for 7.5 and 6.9 per cent of total daily aircraft movements. The number of hourly aircraft movements is forecast to increase to 71 and 66 during the morning and the evening peak hours of operation respectively in 2029–30 (Figure 4.8).

F4.6 Aircraft movements through Brisbane Airport



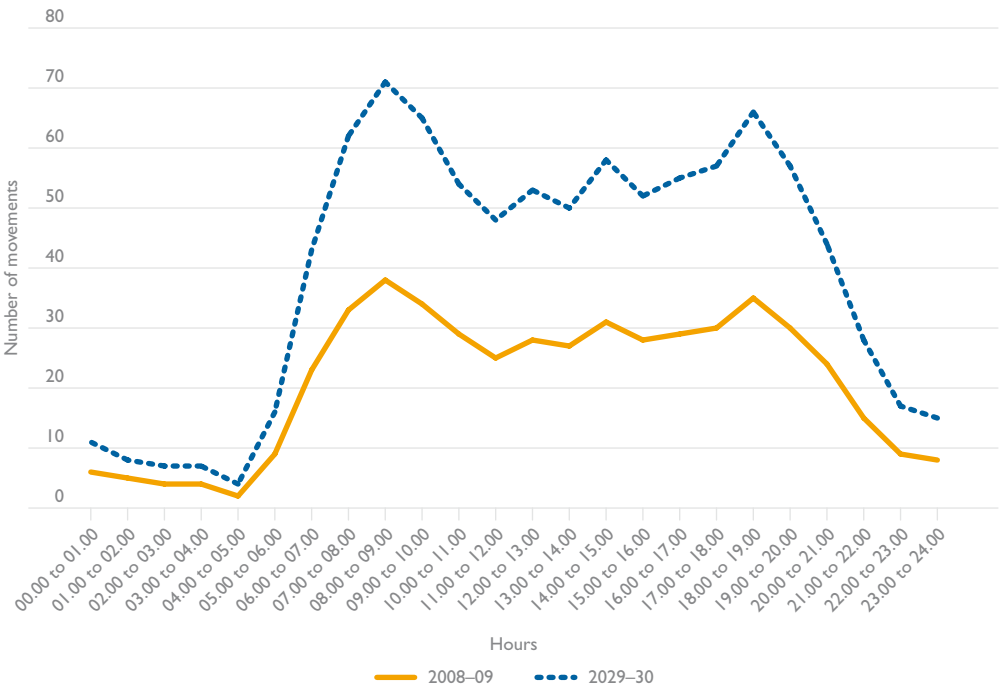
F4.7 Annual average hourly proportion of aircraft movements per day through Brisbane Airport in 2007–08



T4.4 Aircraft movements through Brisbane Airport

Year	Scheduled			Total	Non-scheduled	Total
	International	Intercapital	Regional (thousands)			
2004–05	22.3	61.3	56.4	140.0	21.8	161.8
2005–06	22.3	59.9	56.6	138.8	26.4	165.3
2006–07	23.7	62.4	54.7	140.8	28.5	169.3
2007–08	24.8	66.8	55.4	147.0	30.1	177.0
2008–09	26.4	68.0	59.7	154.1	29.7	183.7
Forecasts						
2009–10	27.4	74.5	56.6	158.5	29.7	188.2
2010–11	28.5	76.4	57.0	161.8	29.7	191.5
2011–12	29.8	80.6	58.3	168.8	29.7	198.5
2012–13	31.3	84.9	60.1	176.3	29.7	205.9
2013–14	32.9	88.9	62.7	184.4	29.7	214.1
2014–15	34.8	93.8	66.3	194.9	29.7	224.6
2015–16	36.8	99.2	69.7	205.7	29.7	235.3
2016–17	38.8	104.4	74.0	217.2	29.7	246.9
2017–18	40.8	108.5	77.3	226.6	29.7	256.3
2018–19	42.9	111.9	80.0	234.8	29.7	264.5
2019–20	44.9	114.8	82.4	242.1	29.7	271.7
2020–21	46.9	117.5	84.7	249.1	29.7	278.8
2021–22	49.0	120.3	87.0	256.4	29.7	286.0
2022–23	51.2	123.0	89.3	263.4	29.7	293.1
2023–24	53.5	125.6	91.6	270.7	29.7	300.4
2024–25	55.9	128.4	93.9	278.2	29.7	307.9
2025–26	58.4	131.2	96.3	285.9	29.7	315.6
2026–27	60.8	133.8	98.6	293.2	29.7	322.9
2027–28	63.4	136.4	101.0	300.7	29.7	330.4
2028–29	66.0	139.1	103.4	308.5	29.7	338.1
2029–30	68.8	141.8	105.8	316.4	29.7	346.1
Annual average growth rate (per cent):						
2008–09 to 2029–30	4.7	3.6	2.8	3.5	0.0	3.1

F4.8 Average number of aircraft movements per hour through Brisbane Airport in 2008–09 and 2029–30



Canberra Airport

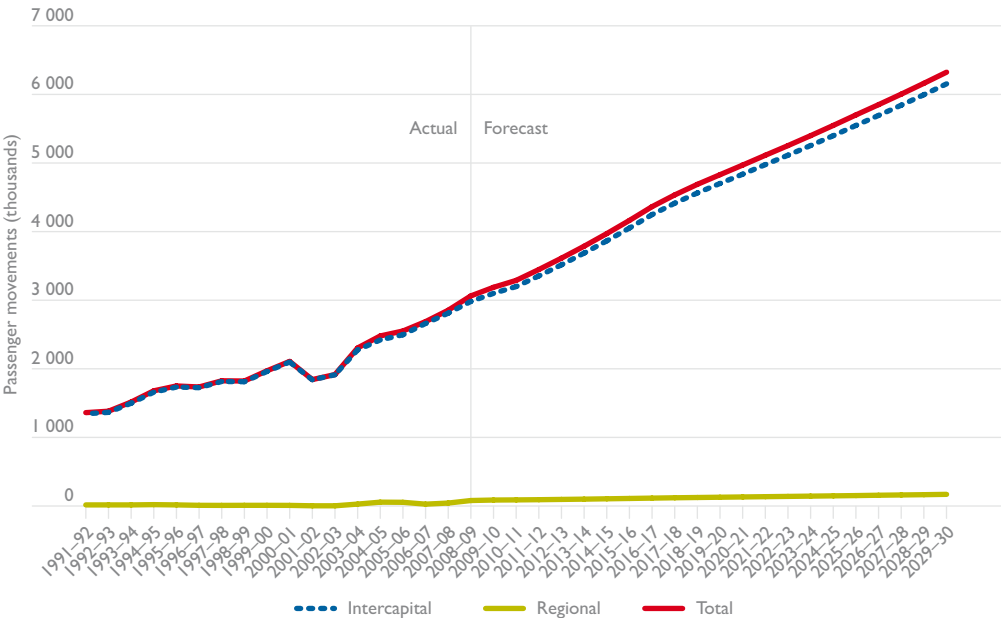
Passenger movements

Canberra International Airport is located six kilometres from the Canberra CBD. It provides direct air passenger services to major domestic destinations. At present, there are no scheduled international passenger services to and from Canberra Airport. Some international chartered and VIP flights do fly to and from Canberra. Canberra–Sydney, Canberra–Melbourne and Canberra–Brisbane are Canberra's first, second and third largest capital city routes in terms of domestic passenger movements.

In this study, BITRE could not forecast international passenger movements through Canberra Airport as the econometric models of international passenger movements could not be estimated in the absence of any previous data on international passenger movements.

The number of passenger movements through Canberra Airport has increased by 4.9 per cent a year since 1991–92 to 3.1 million in 2008–09. Following the expected slowing of growth in the Australian economy in the long term, and also in overseas economies as well as the maturation of the influence of low-cost carriers on passenger growth, the number of passenger movements is forecast to increase by 3.5 per cent a year over the forecast period to 6.3 million in 2029–30 (Figure 4.9 and Table 4.5). It is projected to increase annually by 3.5 per cent on Canberra's intercapital routes and by 3.6 per cent on regional routes.

F4.9 Air passenger movements through Canberra Airport



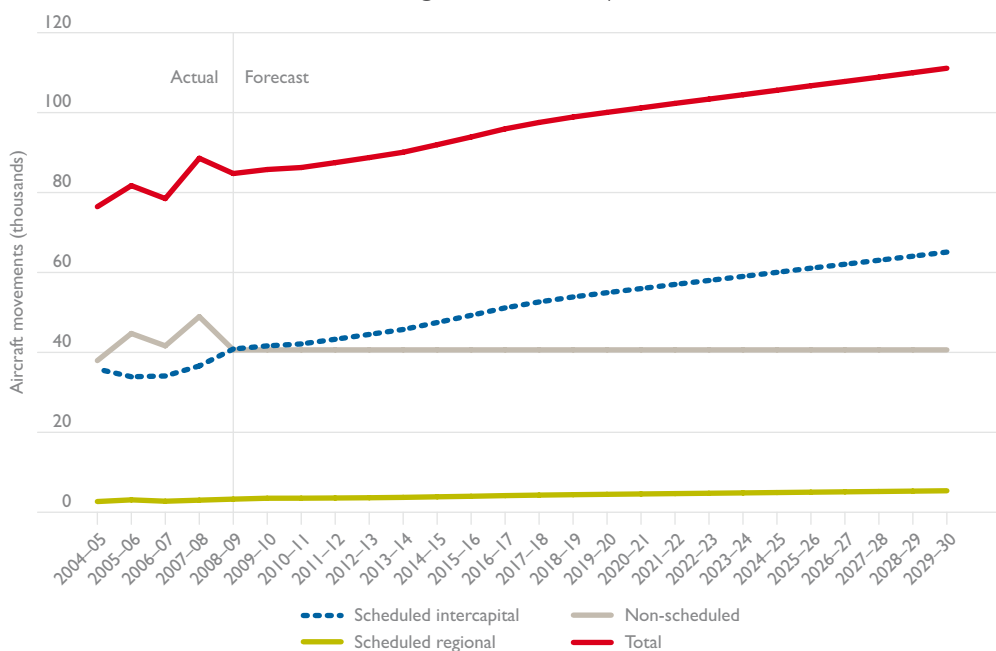
Aircraft movements

In 2008–09, around 84 800 aircraft passed through Canberra Airport, including 44 100 scheduled and 40 600 non-scheduled aircraft movements. Intercapital and regional movements accounted for 93 and 7 per cent of the total scheduled aircraft movements respectively. The number of aircraft movements at Canberra Airport is forecast to increase by 1.3 per cent a year over the forecast period to 111 100 in 2029–30 (Figure 4.10 and Table 4.6). It is expected to increase annually by 2.2 per cent on Canberra's intercapital routes and by 2.4 per cent on regional routes. This implies that around 65 100 aircraft movements will be on intercapital routes and 5400 aircraft on regional routes. Non-scheduled aircraft movements are assumed to remain unchanged over the forecast period.

T4.5 Air passenger movements through Canberra Airport

Year	International	Intercapital	Regional	Total	Change in total
	(thousands)				(per cent)
2004–05		2 421	56	2 479	7.6
2005–06		2 496	54	2 551	2.9
2006–07		2 661	27	2 688	5.4
2007–08		2 811	43	2 854	6.2
2008–09		2 982	80	3 063	7.3
Forecasts					
2009–10		3 100	87	3 188	4.1
2010–11		3 199	89	3 289	3.2
2011–12		3 354	92	3 447	4.8
2012–13		3 516	96	3 613	4.8
2013–14		3 687	100	3 787	4.8
2014–15		3 865	105	3 971	4.8
2015–16		4 052	110	4 163	4.8
2016–17		4 248	115	4 364	4.8
2017–18		4 414	120	4 535	3.9
2018–19		4 564	124	4 689	3.4
2019–20		4 702	128	4 830	3.0
2020–21		4 837	132	4 970	2.9
2021–22		4 977	136	5 113	2.9
2022–23		5 114	140	5 254	2.8
2023–24		5 255	144	5 399	2.8
2024–25		5 399	148	5 548	2.8
2025–26		5 548	152	5 701	2.8
2026–27		5 694	157	5 851	2.6
2027–28		5 843	161	6 004	2.6
2028–29		5 996	165	6 162	2.6
2029–30		6 154	170	6 324	2.6
Annual average growth rate (per cent):					
1991–92 to 2008–09		4.8	10.1	4.9	
2008–09 to 2029–30		3.5	3.6	3.5	

F4.10 Aircraft movements through Canberra Airport



Hourly aircraft movements

According to hourly aircraft movement data for 2007–08, there are two distinctive peak hours at Canberra Airport: 9.00 am to 10.00 am in the morning and 5.00 pm to 6.00 pm in the evening (Figure 4.11). The morning and evening peak hours accounted for 6.8 and 8.7 per cent of total daily aircraft movements. Around 16 aircraft passed through Canberra Airport during the morning peak hour and 21 during the evening peak hour. These hourly movement numbers are forecast to increase to 21 and 26 during the morning and the evening peak hours of operation respectively in 2029–30 (Figure 4.12).

Darwin Airport

Passenger movements

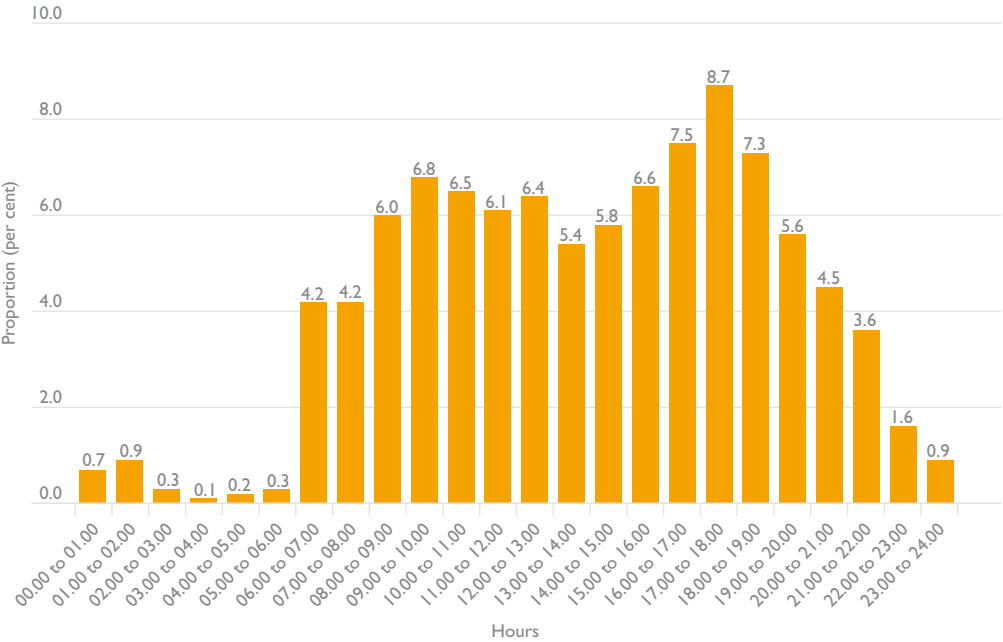
Darwin International Airport is located 13 kilometres from the Darwin CBD and provides facilities for airlines to move international, domestic and regional passengers and freight.

Around 1.7 million passengers passed through Darwin Airport in 2008–09. Among them, 19 per cent were international passengers, 72 per cent were intercapital passengers and 9 per cent were regional passengers. Darwin–Brisbane, Darwin–Adelaide and Darwin–Melbourne are Darwin's first, second and third largest capital city routes in terms of domestic passenger movements.

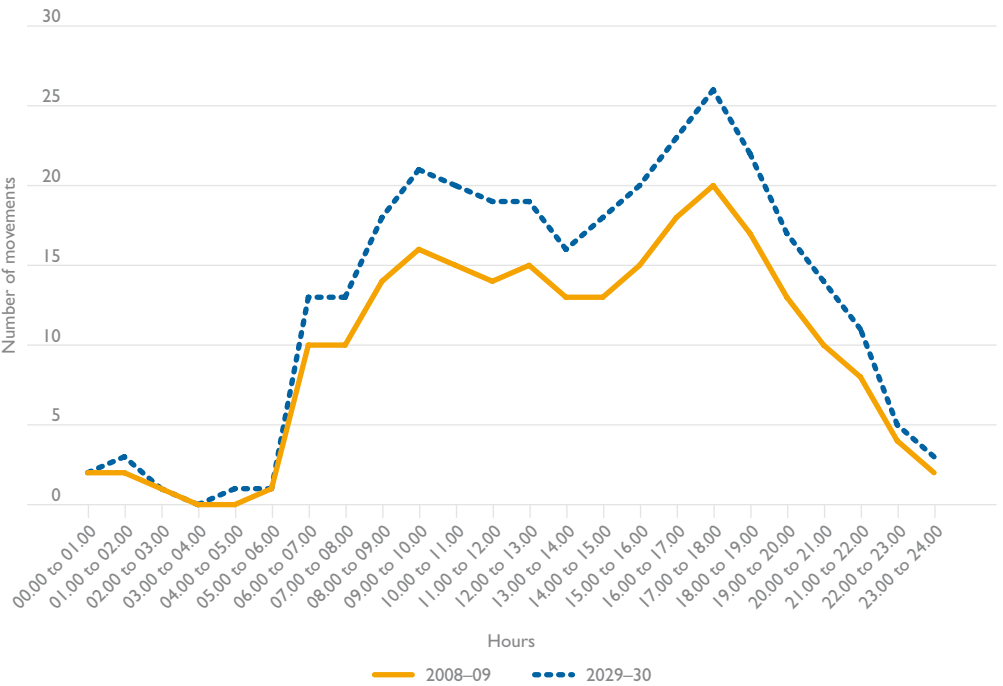
T4.6 Aircraft movements through Canberra Airport

Year	Scheduled			Non-scheduled	Total
	Intercapital	Regional	Total (thousands)		
2004–05	35.8	2.7	38.5	37.9	76.5
2005–06	33.9	3.1	37.0	44.7	81.7
2006–07	34.1	2.8	36.9	41.6	78.5
2007–08	36.6	3.0	39.6	48.9	88.6
2008–09	40.8	3.3	44.1	40.6	84.8
Forecasts					
2009–10	41.6	3.5	45.1	40.6	85.8
2010–11	42.1	3.5	45.6	40.6	86.3
2011–12	43.3	3.6	46.8	40.6	87.5
2012–13	44.5	3.6	48.1	40.6	88.7
2013–14	45.7	3.7	49.5	40.6	90.1
2014–15	47.5	3.9	51.3	40.6	92.0
2015–16	49.3	4.0	53.3	40.6	93.9
2016–17	51.1	4.2	55.3	40.6	95.9
2017–18	52.6	4.3	56.9	40.6	97.5
2018–19	53.9	4.4	58.3	40.6	98.9
2019–20	54.9	4.5	59.4	40.6	100.1
2020–21	56.0	4.6	60.5	40.6	101.2
2021–22	57.0	4.7	61.7	40.6	102.3
2022–23	58.0	4.8	62.7	40.6	103.4
2023–24	59.0	4.8	63.8	40.6	104.5
2024–25	60.0	4.9	65.0	40.6	105.6
2025–26	61.1	5.0	66.1	40.6	106.7
2026–27	62.1	5.1	67.2	40.6	107.8
2027–28	63.1	5.2	68.2	40.6	108.9
2028–29	64.1	5.3	69.4	40.6	110.0
2029–30	65.1	5.4	70.5	40.6	111.1
Annual average growth rate (per cent):					
2008–09 to 2029–30	2.2	2.4	2.3	0.0	1.3

F4.11 Annual average hourly proportion of aircraft movements per day through Canberra Airport in 2007–08

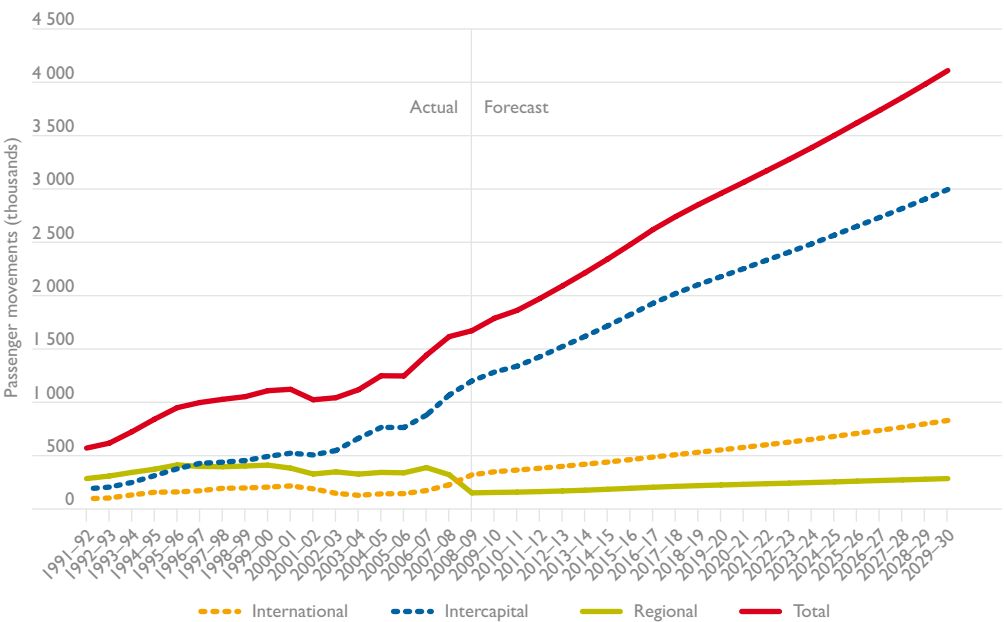


F4.12 Average number of aircraft movements per hour through Canberra Airport in 2008–09 and 2029–30



The number of passenger movements through Darwin Airport has increased by 6.5 per cent a year since 1991–92. However, such a strong growth is not expected over the forecast period, largely due to the expected slowing of growth in the Australian economy in the long term, and also in overseas economies as well as the maturation of the influence of low-cost carriers on passenger growth. The number of passenger movements is forecast to increase by 4.4 per cent a year in the next 21 years to 4.1 million in 2029–30 (Figure 4.13 and Table 4.7). It is projected to increase annually by 4.6 per cent on Darwin’s international routes, 4.5 per cent on intercapital routes and 3.1 per cent on regional routes.

F4.13 Air passenger movements through Darwin Airport



Aircraft movements

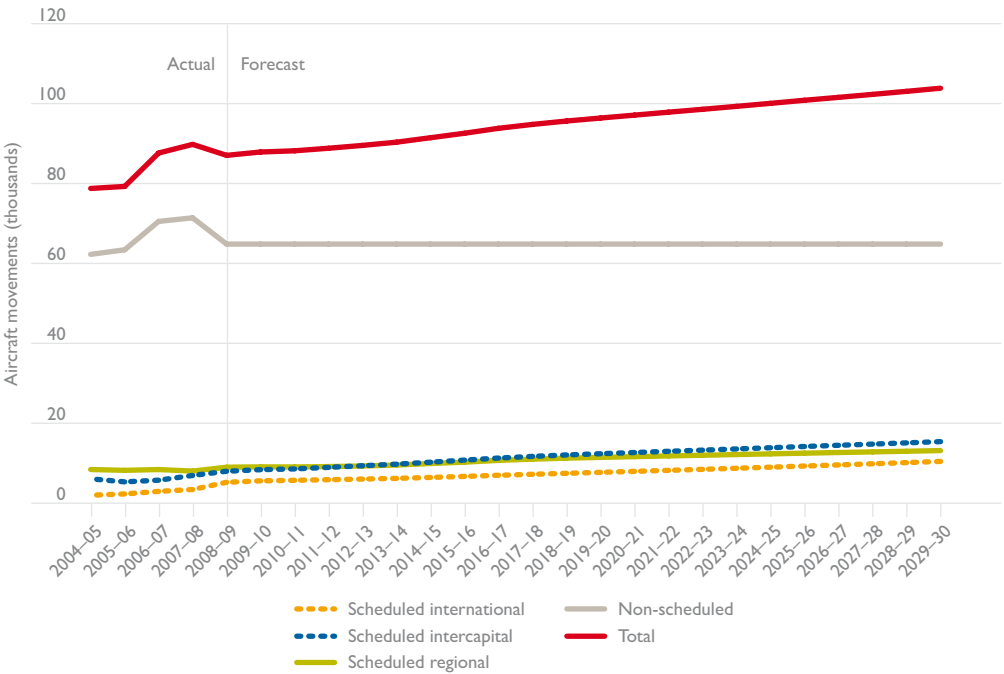
In 2008–09, around 87 000 aircraft passed through Darwin Airport. Among them, 74 per cent were non-scheduled aircraft movements and only 26 per cent were scheduled movements. The main reason for the high percentage of non-scheduled movements is the use of the airport by the air force for training purposes. Of the total scheduled aircraft movements, regional routes accounted for 41 per cent, intercapital routes 36 per cent and international routes 24 per cent.

T4.7 Air passenger movements through Darwin Airport

Year	International	Intercapital	Regional	Total	Change in total
		(thousands)			(per cent)
2004–05	142	765	343	1 249	11.8
2005–06	144	764	339	1 247	–0.2
2006–07	173	881	388	1 443	15.7
2007–08	227	1 068	321	1 616	12.0
2008–09	320	1 200	151	1 671	3.4
Forecasts					
2009–10	349	1 284	155	1 788	7.0
2010–11	365	1 339	158	1 862	4.1
2011–12	382	1 428	163	1 973	6.0
2012–13	400	1 523	169	2 092	6.0
2013–14	420	1 619	176	2 215	5.9
2014–15	440	1 718	185	2 344	5.8
2015–16	463	1 823	194	2 480	5.8
2016–17	487	1 929	204	2 620	5.7
2017–18	509	2 021	212	2 742	4.6
2018–19	532	2 104	219	2 854	4.1
2019–20	554	2 179	225	2 959	3.7
2020–21	578	2 254	231	3 063	3.5
2021–22	602	2 332	237	3 170	3.5
2022–23	627	2 408	242	3 277	3.4
2023–24	653	2 486	248	3 388	3.4
2024–25	681	2 568	254	3 503	3.4
2025–26	709	2 651	261	3 621	3.4
2026–27	737	2 734	267	3 738	3.2
2027–28	767	2 818	273	3 858	3.2
2028–29	798	2 905	279	3 982	3.2
2029–30	830	2 995	285	4 110	3.2
Annual average growth rate (per cent):					
1991–92 to 2008–09	7.3	11.5	–3.7	6.5	
2008–09 to 2029–30	4.6	4.5	3.1	4.4	

Following an expected positive growth in passenger movement numbers, the number of aircraft movements through Darwin Airport is forecast to increase by 0.8 per cent a year over the forecast period to 103 800 in 2029–30, including 39 000 scheduled movements and 64 800 non-scheduled movements (Figure 4.14 and Table 4.8). The number of scheduled aircraft movements is projected to increase by 2.7 per cent a year to 39 000 in 2029–30. It will increase annually by 3.4 per cent on Darwin's international routes, 3.2 per cent on intercapital routes and 1.8 per cent on regional routes. Non-scheduled aircraft movements are assumed to remain unchanged over the forecast period.

F4.14 Aircraft movements through Darwin Airport



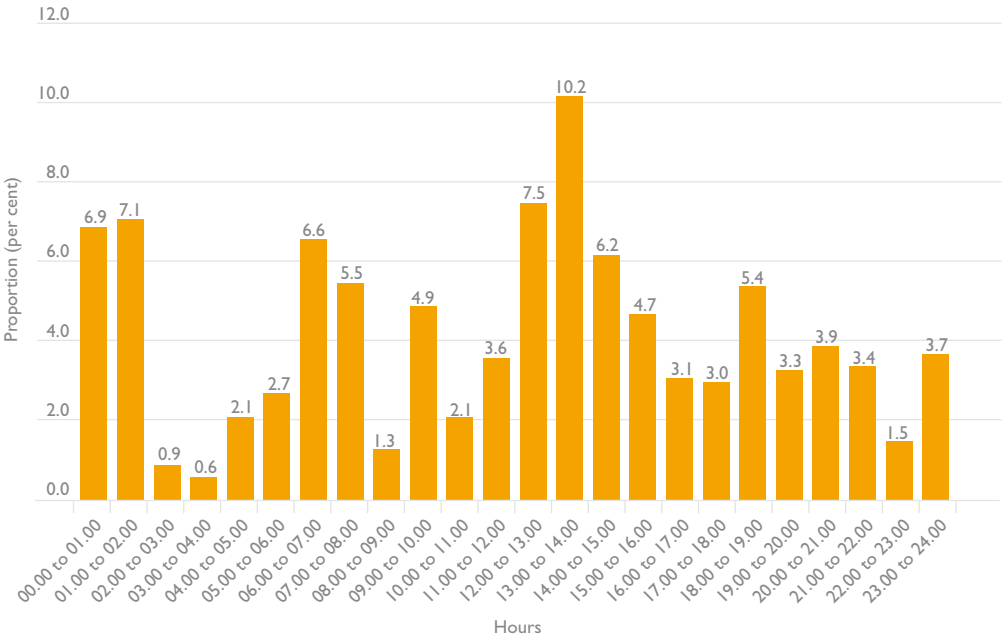
Hourly aircraft movements

According to hourly aircraft movement data, there are four peak hours of aircraft operation at Darwin Airport. The first peak hour is between 1.00 am to 2.00 am, the second between 6.00 am to 7.00 am, the third between 1.00 pm to 2.00 pm and the fourth between 6.00 pm to 7.00 pm (Figure 4.15). In 2006–07, the first, second, third and fourth peak hours accounted for 7.1, 6.6, 10.2 and 5.4 per cent of the total daily aircraft movements. Around 17 aircraft passed during the first peak hour; 16 during the second peak hour; 25 during the third peak period and 13 during the fourth peak hour. These hourly aircraft movements are forecast to increase to 20 during the first peak hour; 19 during the second peak hour; 29 during the third peak period and 15 during the fourth peak hour in 2029–30 (Figure 4.16).

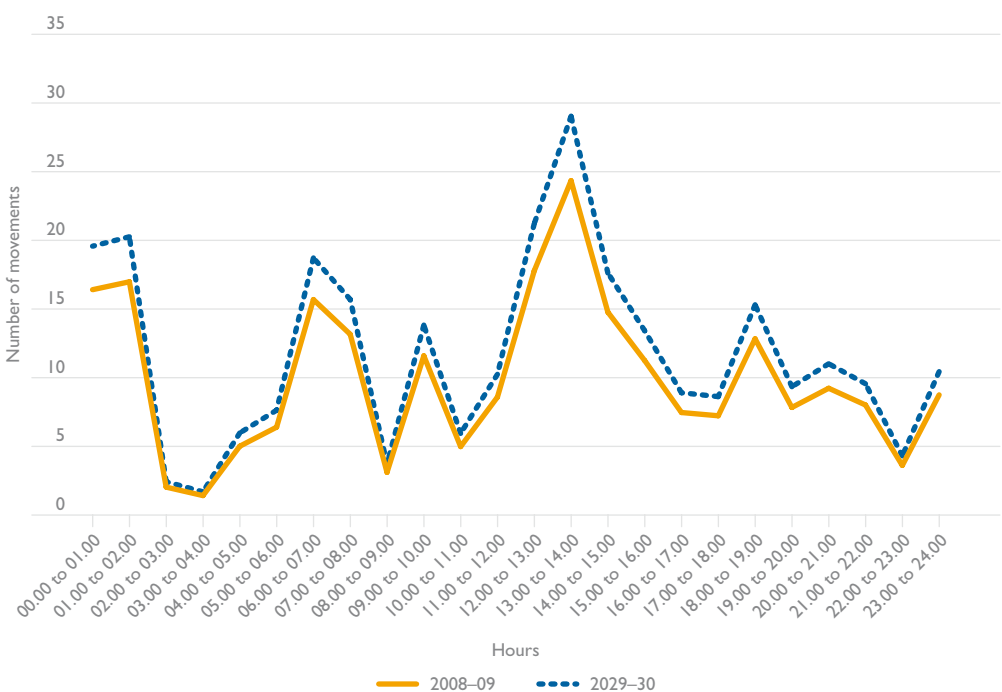
T4.8 Aircraft movements through Darwin Airport

Year	Scheduled				Non-scheduled	Total
	International	Intercapital	Regional	Total		
	(thousands)					
2004–05	2.0	6.1	8.4	16.5	62.3	78.8
2005–06	2.3	5.3	8.2	15.9	63.4	79.3
2006–07	3.0	5.8	8.4	17.1	70.5	87.6
2007–08	3.4	6.9	8.0	18.4	71.4	89.8
2008–09	5.2	8.0	9.0	22.2	64.8	87.0
Forecasts						
2009–10	5.6	8.4	9.1	23.0	64.8	87.9
2010–11	5.7	8.6	9.1	23.3	64.8	88.2
2011–12	5.9	9.0	9.2	24.0	64.8	88.8
2012–13	6.0	9.4	9.3	24.7	64.8	89.5
2013–14	6.2	9.8	9.5	25.5	64.8	90.3
2014–15	6.4	10.3	9.9	26.6	64.8	91.5
2015–16	6.7	10.8	10.3	27.7	64.8	92.6
2016–17	7.0	11.3	10.7	29.0	64.8	93.8
2017–18	7.2	11.7	11.0	30.0	64.8	94.8
2018–19	7.5	12.1	11.3	30.8	64.8	95.6
2019–20	7.7	12.4	11.5	31.6	64.8	96.4
2020–21	8.0	12.7	11.6	32.3	64.8	97.1
2021–22	8.2	13.0	11.8	33.0	64.8	97.9
2022–23	8.5	13.3	12.0	33.7	64.8	98.6
2023–24	8.7	13.6	12.2	34.5	64.8	99.3
2024–25	9.0	13.9	12.3	35.2	64.8	100.1
2025–26	9.3	14.2	12.5	36.0	64.8	100.8
2026–27	9.6	14.5	12.7	36.7	64.8	101.6
2027–28	9.9	14.8	12.8	37.5	64.8	102.3
2028–29	10.1	15.1	13.0	38.2	64.8	103.1
2029–30	10.4	15.4	13.2	39.0	64.8	103.8
Annual average growth rate (per cent):						
2008–09 to 2029–30	3.4	3.2	1.8	2.7	0.0	0.8

F4.15 Annual average hourly proportion of aircraft movements per day through Darwin Airport in 2006–07



F4.16 Average number of aircraft movements per hour through Darwin Airport in 2007–08 and 2029–30



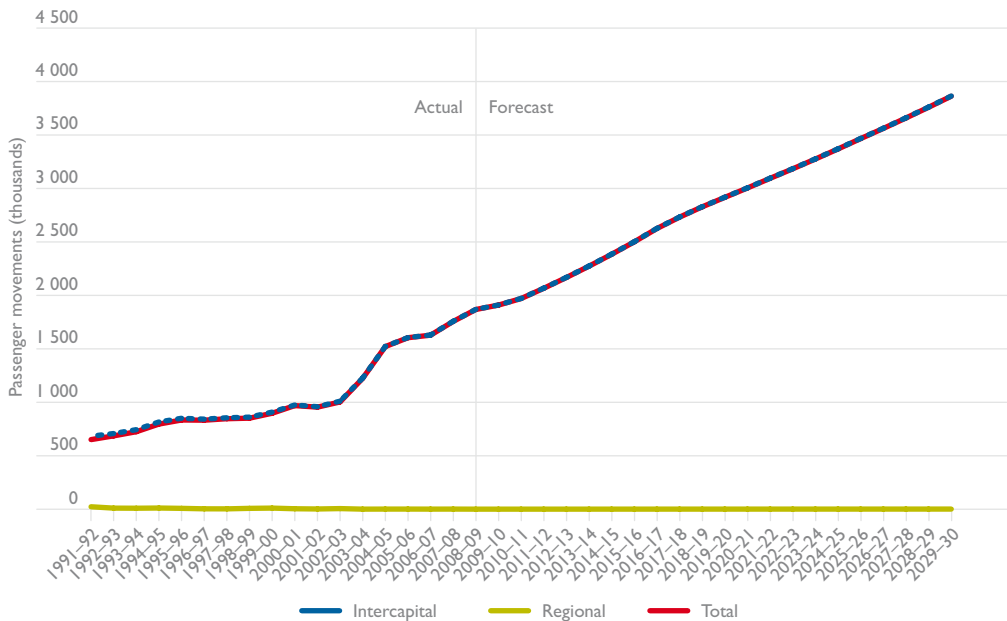
Hobart Airport

Passenger movements

Hobart Airport is located 17 kilometres from Hobart city. It is the major airport in Tasmania for air passenger services. Around 1.9 million passengers travelled through Hobart Airport in 2008–09, mainly on domestic intercapital routes which currently account for 99.9 per cent of total passenger movements through Hobart Airport. Presently, there are no scheduled international passenger services at Hobart Airport. The Hobart–Melbourne and Hobart–Sydney routes are the first and second largest routes of Hobart in terms of passenger movements.

The number of passenger movements through Hobart Airport has increased by an average of 6.1 per cent a year since 1991–92, largely due to the introduction of low-cost carriers in 2002–03. This high growth is not expected to continue over the next 21 years, mainly due to the expected slowing of growth in the Australian economy in the long term, and also in overseas economies as well as the maturation of the influence of low-cost carriers on passenger growth. The number of domestic passenger movements is forecast to increase by 3.5 per cent a year over the forecast period to 3.9 million in 2029–30 (Figure 4.17 and Table 4.9).

F4.17 Air passenger movements through Hobart Airport



T4.9 Air passenger movements through Hobart Airport

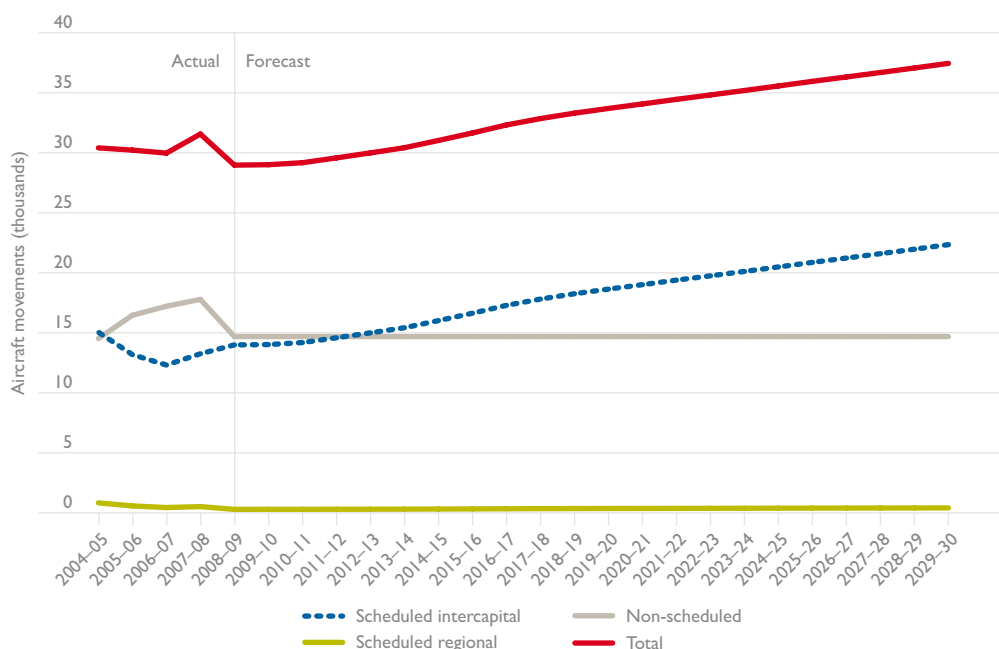
Year	International	Intercapital	Regional	Total	Change in total
		(thousands)			(per cent)
2004–05		1 521	2	1 523	24.1
2005–06		1 604	2	1 606	5.5
2006–07		1 628	1	1 630	1.5
2007–08		1 757	2	1 758	7.9
2008–09		1 868	1	1 869	6.3
Forecasts					
2009–10		1 909	1	1 911	2.2
2010–11		1 971	1	1 972	3.2
2011–12		2 067	1	2 068	4.9
2012–13		2 168	1	2 169	4.9
2013–14		2 274	1	2 275	4.9
2014–15		2 385	1	2 386	4.9
2015–16		2 501	1	2 502	4.9
2016–17		2 626	1	2 627	5.0
2017–18		2 732	1	2 733	4.1
2018–19		2 828	1	2 830	3.5
2019–20		2 917	1	2 919	3.1
2020–21		3 005	1	3 006	3.0
2021–22		3 095	1	3 097	3.0
2022–23		3 184	1	3 186	2.9
2023–24		3 276	1	3 277	2.9
2024–25		3 370	2	3 371	2.9
2025–26		3 466	2	3 468	2.9
2026–27		3 562	2	3 563	2.7
2027–28		3 659	2	3 661	2.7
2028–29		3 760	2	3 761	2.7
2029–30		3 863	2	3 865	2.7
Annual average growth rate (per cent):					
1991–92 to 2008–09		6.4	–17.3	6.1	
2008–09 to 2029–30		3.5	3.0	3.5	

Aircraft movements

In 2008–09, around 29 000 aircraft passed through Hobart Airport, including 14 300 scheduled aircraft movements and 14 700 non-scheduled aircraft movements. The intercapital and regional routes accounted for 98 and 2 per cent of the total scheduled aircraft movements respectively.

Following an expected positive growth in passenger numbers, the number of aircraft movements through Hobart Airport is forecast to increase by 1.2 per cent a year over the forecast period to 37,500 in 2029–30 (Figure 4.18 and Table 4.10). The number of scheduled aircraft movements is expected to increase annually by 2.2 per cent to 22 800 in 2029–30, including 2.3 per cent growth in intercapital aircraft movements and 1.7 per cent on regional aircraft movements. This implies that around 22 400 aircraft movements will be on intercapital routes and 400 aircraft on regional routes in 2029–30. Non-scheduled aircraft movements are assumed to remain unchanged over the forecast period.

F4.18 Aircraft movements through Hobart Airport



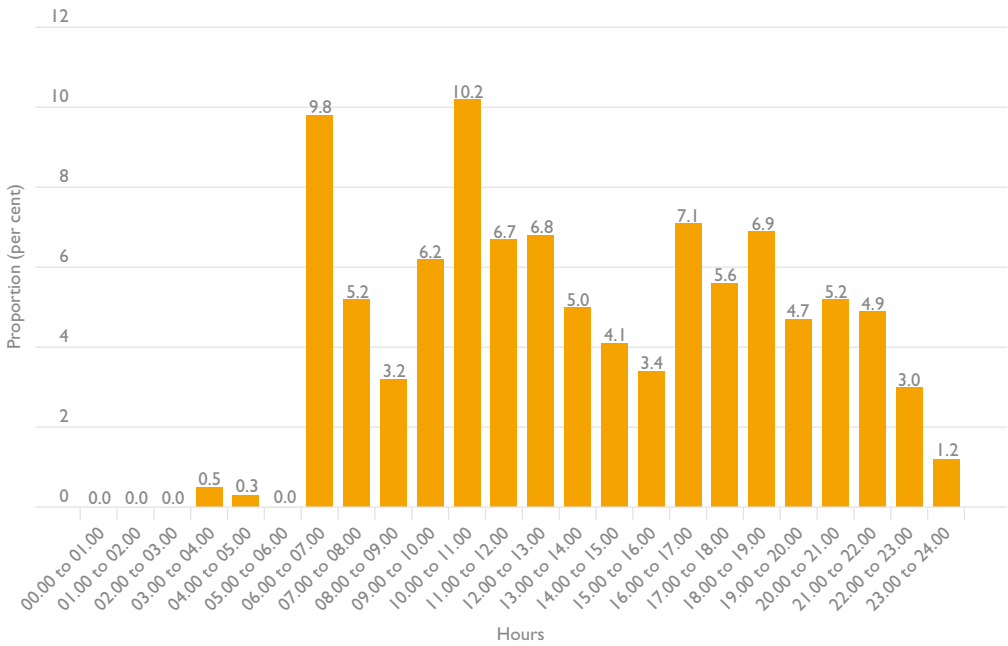
Hourly aircraft movements

Hourly aircraft movement data for 2006–07 suggest that there are four distinctive peak hours of aircraft operation at Hobart Airport: the early morning peak hour (6.00 am to 7.00 am), the morning peak hour (10.00 am to 11.00 am), the afternoon peak hour (4.00 pm to 5.00 pm) and the evening peak hour (6.00 pm to 7.00 pm) (Figure 4.19). The early morning, morning, afternoon and evening peak hours accounted for 9.8, 10.2, 7.1 and 6.9 per cent of total daily aircraft movements. On an average, 8 aircraft passed through Hobart Airport during the early morning and morning peak hours, and 6 during the afternoon and evening peak hours. These hourly movements are forecast to increase to 10 during the early morning and morning peak hours and 7 during the afternoon and evening peak hours in 2029–30 (Figure 4.20).

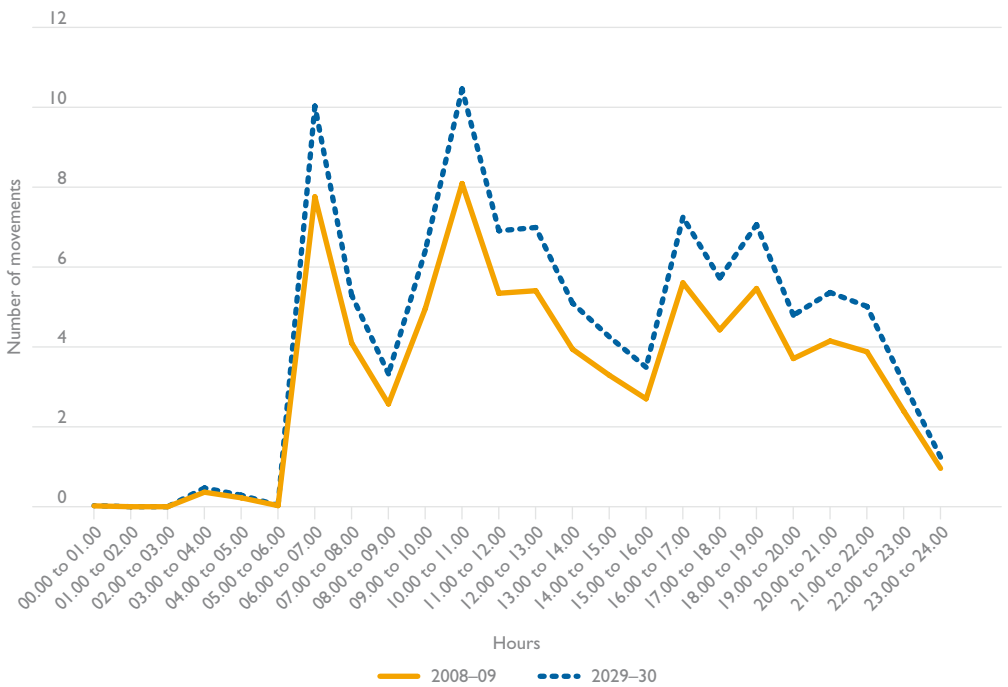
T4.10 Aircraft movements through Hobart Airport

Year	Scheduled			Non-scheduled	Total
	Intercapital	Regional	Total (thousands)		
2004–05	15.1	0.8	15.9	14.5	30.4
2005–06	13.2	0.6	13.8	16.5	30.2
2006–07	12.3	0.4	12.8	17.2	30.0
2007–08	13.3	0.5	13.8	17.8	31.6
2008–09	14.0	0.3	14.3	14.7	29.0
Forecasts					
2009–10	14.0	0.3	14.3	14.7	29.0
2010–11	14.2	0.3	14.5	14.7	29.2
2011–12	14.6	0.3	14.9	14.7	29.6
2012–13	15.0	0.3	15.3	14.7	30.0
2013–14	15.4	0.3	15.7	14.7	30.4
2014–15	16.0	0.3	16.3	14.7	31.0
2015–16	16.6	0.3	17.0	14.7	31.7
2016–17	17.3	0.3	17.6	14.7	32.3
2017–18	17.8	0.4	18.2	14.7	32.9
2018–19	18.3	0.4	18.6	14.7	33.3
2019–20	18.6	0.4	19.0	14.7	33.7
2020–21	19.0	0.4	19.4	14.7	34.1
2021–22	19.4	0.4	19.8	14.7	34.5
2022–23	19.8	0.4	20.1	14.7	34.8
2023–24	20.1	0.4	20.5	14.7	35.2
2024–25	20.5	0.4	20.9	14.7	35.6
2025–26	20.9	0.4	21.3	14.7	36.0
2026–27	21.2	0.4	21.6	14.7	36.3
2027–28	21.6	0.4	22.0	14.7	36.7
2028–29	22.0	0.4	22.4	14.7	37.1
2029–30	22.4	0.4	22.8	14.7	37.5
Annual average growth rate (per cent):					
2008–09 to 2029–30	2.3	1.7	2.2	0.0	1.2

F4.19 Annual average hourly proportion of aircraft movements per day through Hobart Airport in 2006–07



F4.20 Average number of aircraft movements per hour through Hobart Airport in 2007–08 and 2029–30



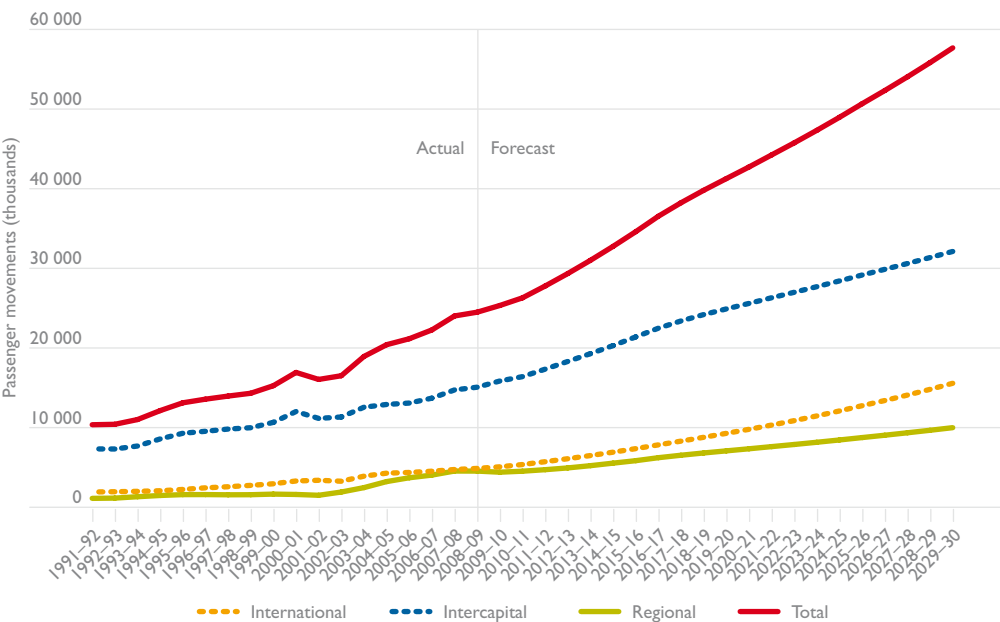
Melbourne Airport

Passenger movements

Melbourne Airport is Australia's second largest airport in terms of passenger movements. It is located 22 kilometres north-west of Melbourne city. In 2008–09, around 24.5 million passengers travelled through Melbourne Airport. Among them, 20 per cent were international passengers, 61 per cent intercapital passengers and 19 per cent regional passengers. Melbourne–Sydney, Melbourne–Brisbane, Melbourne–Adelaide and Melbourne–Perth are Melbourne's top four routes in terms of passenger movements.

Passenger movements at Melbourne Airport have increased annually by 5.2 per cent since 1991–92, including 5.6 per cent growth in international passenger movements, 4.3 per cent in intercapital passenger movements and 8.6 per cent in regional passenger movements. The reasons for such high growth in passenger movements are 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). These high growth rates are not likely to continue over the forecast period, mainly due to the expected slowing of growth in the Australian economy in the long term, and also in overseas economies as well as the maturation of the influence of low-cost carriers on passenger growth. The number of passenger movements through Melbourne Airport is forecast to increase by 4.2 per cent a year over the forecast period to 57.7 million in 2029–30 (Figure 4.21 and Table 4.11). It is expected to increase annually by 5.7 per cent on the international routes, 3.7 per cent on intercapital routes and 3.8 per cent on the regional routes.

F4.21 Air passenger movements through Melbourne Airport



T4.11 Air passenger movements through Melbourne Airport

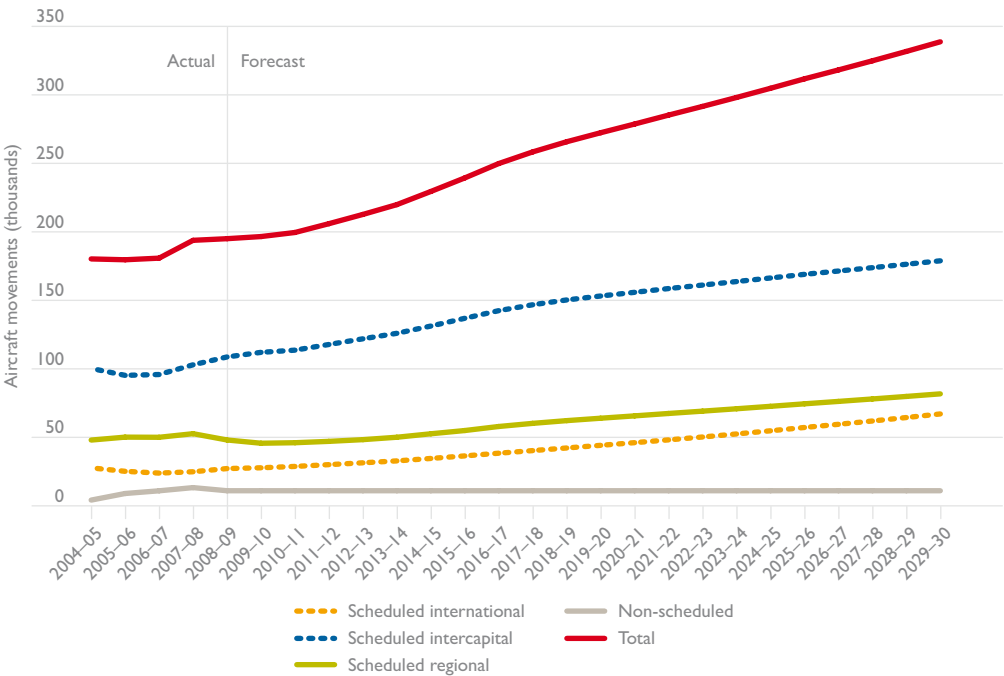
Year	International	Intercapital	Regional	Total	Change in total
	(thousands)				(per cent)
2004–05	4 282	12 908	3 223	20 412	7.8
2005–06	4 371	13 084	3 704	21 159	3.7
2006–07	4 528	13 700	4 038	22 265	5.2
2007–08	4 740	14 734	4 547	24 022	7.9
2008–09	4 878	15 077	4 541	24 495	2.0
Forecasts					
2009–10	5 079	15 854	4 403	25 336	3.4
2010–11	5 365	16 403	4 528	26 295	3.8
2011–12	5 721	17 340	4 718	27 778	5.6
2012–13	6 095	18 309	4 940	29 345	5.6
2013–14	6 493	19 289	5 222	31 004	5.7
2014–15	6 915	20 301	5 540	32 756	5.6
2015–16	7 360	21 390	5 848	34 598	5.6
2016–17	7 834	22 483	6 223	36 541	5.6
2017–18	8 304	23 395	6 533	38 233	4.6
2018–19	8 784	24 194	6 817	39 795	4.1
2019–20	9 280	24 904	7 080	41 264	3.7
2020–21	9 785	25 595	7 342	42 722	3.5
2021–22	10 319	26 306	7 614	44 238	3.5
2022–23	10 878	26 994	7 883	45 755	3.4
2023–24	11 470	27 699	8 162	47 331	3.4
2024–25	12 095	28 422	8 451	48 968	3.5
2025–26	12 755	29 163	8 751	50 669	3.5
2026–27	13 404	29 878	9 046	52 328	3.3
2027–28	14 088	30 608	9 352	54 048	3.3
2028–29	14 808	31 357	9 668	55 833	3.3
2029–30	15 568	32 122	9 995	57 685	3.3
Annual average growth rate (per cent):					
1991–92 to 2008–09	5.6	4.3	8.6	5.2	
2008–09 to 2029–30	5.7	3.7	3.8	4.2	

Aircraft movements

In 2008–09, there were 195 000 aircraft movements at Melbourne Airport. Among them, 94 per cent were scheduled aircraft movements and the remaining 6 per cent were non-scheduled aircraft movements. Of the total scheduled aircraft movements, 59 per cent were intercapital movements, 26 per cent were regional movements and 15 per cent were international movements.

As a result of an expected strong growth in passenger numbers, the number of aircraft movements through Melbourne Airport is forecast to increase by 2 per cent a year over the forecast period to 338 700 in 2029–30 (Figure 4.22 and Table 4.12). The number of scheduled aircraft movements through Melbourne Airport is expected to increase annually by 2.2 per cent over the forecast period. It includes an increase of 2.6 per cent on Melbourne's international routes, 2.2 per cent on intercapital routes and 1.8 per cent on regional routes. In 2029–30, around 67 100 aircraft movements will occur on the international routes, 178 900 on intercapital routes and 81 700 on regional routes. Non-scheduled aircraft movements are assumed to remain unchanged over the forecast period.

F4.22 Aircraft movements through Melbourne Airport



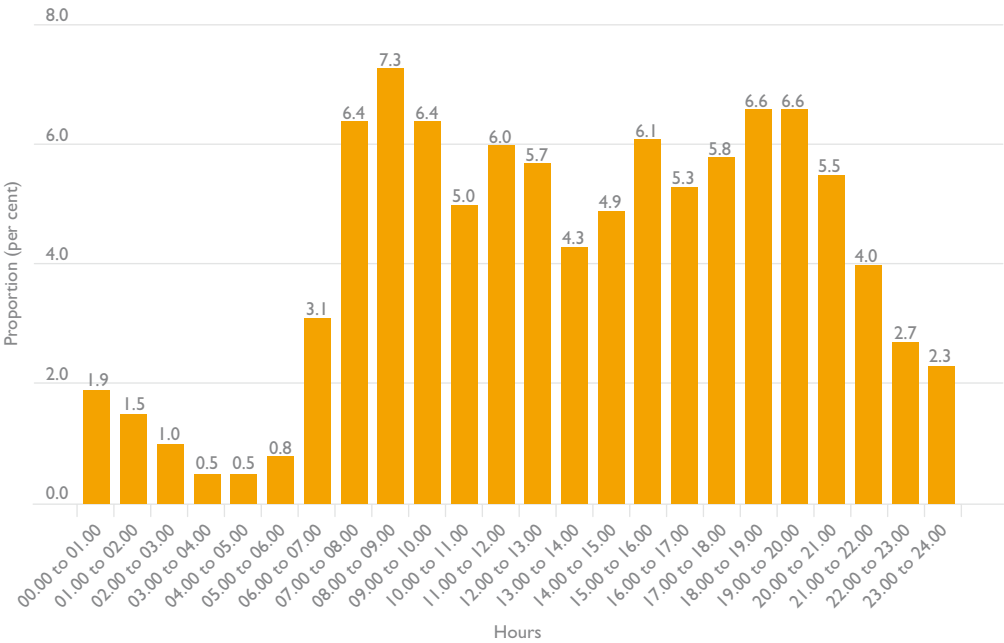
Hourly aircraft movements

Hourly aircraft movement data for 2007–08 show that the morning peak hour at Melbourne Airport starts at 8.00 am and ends at 9.00 am and the evening peak hours start at 6.00 pm and ends at 8.00 pm (Figure 4.23). The morning and evening peak hours accounted for 7.3 and 6.6 per cent of total daily aircraft movements respectively. On an average, 39 aircraft moved through Melbourne Airport during the morning peak hour and 35 per hour during the evening peak hours. These hourly movement numbers are forecast to increase to 68 during the morning peak hour and 62 per hour during the evening peak hour in 2029–30 (Figure 4.24).

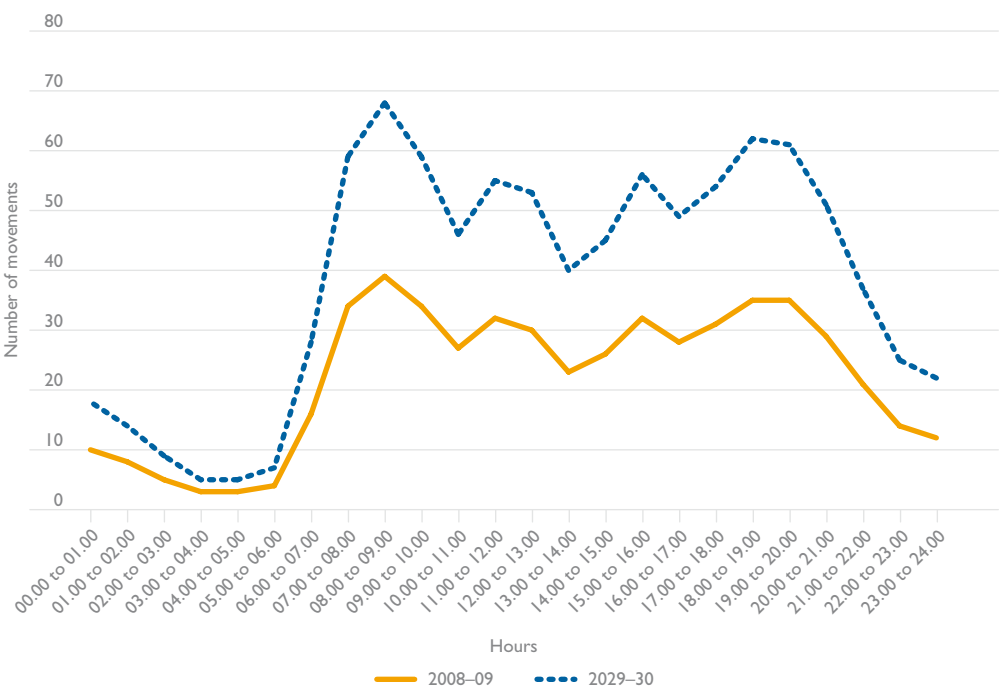
T4.12 Aircraft movements through Melbourne Airport

Year	Scheduled			Total	Non-scheduled	Total
	International	Intercapital	Regional (thousands)			
2004–05	27.7	100.3	48.0	176.0	4.2	180.2
2005–06	25.2	95.3	50.2	170.6	9.0	179.6
2006–07	23.9	95.9	50.1	169.8	11.0	180.8
2007–08	24.9	103.0	52.7	180.5	13.3	193.8
2008–09	27.2	108.7	48.1	184.0	11.0	195.0
Forecasts						
2009–10	27.8	112.0	45.7	185.5	11.0	196.6
2010–11	28.8	113.7	46.1	188.5	11.0	199.5
2011–12	30.1	117.8	47.1	194.9	11.0	206.0
2012–13	31.4	121.9	48.3	201.7	11.0	212.7
2013–14	32.8	125.9	50.1	208.8	11.0	219.9
2014–15	34.6	131.2	52.6	218.4	11.0	229.5
2015–16	36.5	136.9	55.0	228.4	11.0	239.4
2016–17	38.4	142.5	57.9	238.8	11.0	249.9
2017–18	40.3	146.8	60.2	247.3	11.0	258.4
2018–19	42.2	150.3	62.2	254.7	11.0	265.8
2019–20	44.2	153.2	64.0	261.3	11.0	272.4
2020–21	46.1	155.9	65.7	267.7	11.0	278.7
2021–22	48.2	158.6	67.4	274.2	11.0	285.2
2022–23	50.3	161.2	69.1	280.5	11.0	291.6
2023–24	52.5	163.7	70.9	287.1	11.0	298.1
2024–25	54.8	166.3	72.6	293.8	11.0	304.8
2025–26	57.2	169.0	74.5	300.7	11.0	311.7
2026–27	59.5	171.4	76.2	307.2	11.0	318.2
2027–28	61.9	173.9	78.0	313.8	11.0	324.9
2028–29	64.5	176.4	79.9	320.7	11.0	331.7
2029–30	67.1	178.9	81.7	327.7	11.0	338.7
Annual average growth rate (per cent):						
2008–09 to 2029–30	2.6	2.2	1.8	2.2	0.0	2.0

F4.23 Annual average hourly proportion of aircraft movements per day through Melbourne Airport in 2007–08



F4.24 Average number of aircraft movements per hour through Melbourne Airport in 2007–08 and 2029–30



Perth Airport

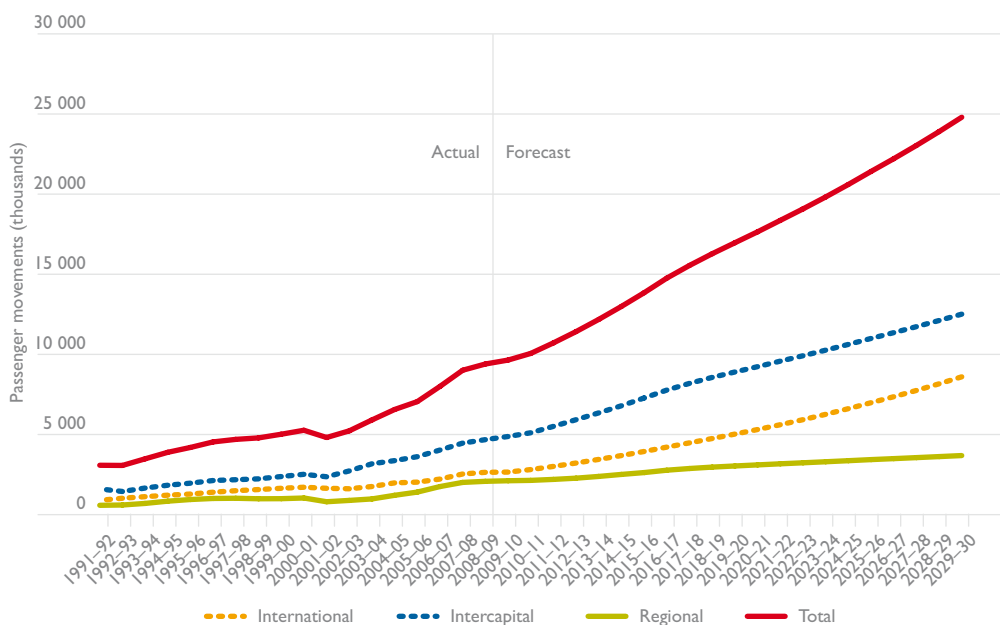
Passenger movements

Perth Airport, located 12 kilometres east of the Perth CBD area, is the main airport of Western Australia. It is also the fourth largest airport in Australia in terms of passenger movements.

Over 9 million passengers travelled through Perth Airport in 2008–09, including 2.6 million international passengers, 4.7 million intercapital passengers and 2.1 million regional passengers. Perth–Melbourne and Perth–Sydney routes are the first and second main routes in terms of passenger movements.

The number of passenger movements through Perth Airport has increased by 6.8 per cent a year since 1991–92. However, such high growth is not expected to continue over the forecast period, largely due to the expected slowing of growth in the Australian economy in the long term, and also in overseas economies. The number of passenger movements is forecast to increase by 4.7 per cent a year over the next 21 years to 24.8 million in 2029–30 (Figure 4.25 and Table 4.13). It will increase annually by 5.8 per cent on Perth's international routes, 4.8 per cent on intercapital routes and 2.8 per cent on regional routes.

F4.25 Air passenger movements through Perth Airport



T4.13 Air passenger movements through Perth Airport

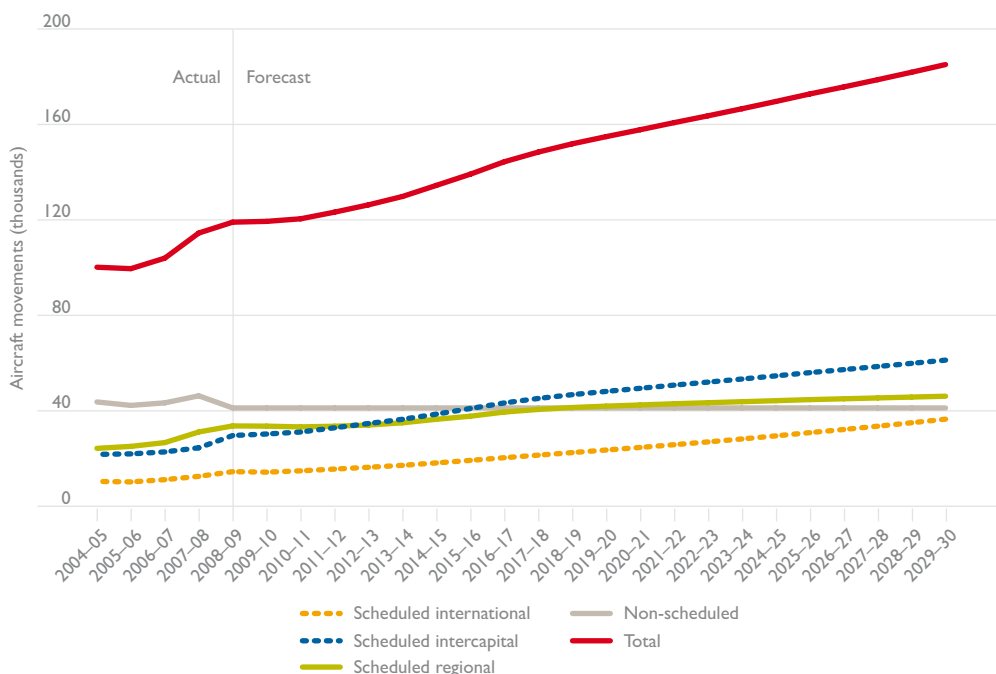
Year	International	Intercapital	Regional	Total	Change in total
		(thousands)			(per cent)
2004–05	1 983	3 372	1 207	6 562	11.0
2005–06	2 028	3 618	1 407	7 054	7.5
2006–07	2 219	4 033	1 753	8 004	13.5
2007–08	2 537	4 464	2 011	9 011	12.6
2008–09	2 641	4 680	2 079	9 400	4.3
Forecasts					
2009–10	2 655	4 876	2 115	9 645	2.6
2010–11	2 812	5 109	2 138	10 059	4.3
2011–12	3 010	5 508	2 199	10 717	6.5
2012–13	3 221	5 926	2 276	11 423	6.6
2013–14	3 448	6 351	2 385	12 184	6.7
2014–15	3 688	6 795	2 510	12 994	6.7
2015–16	3 942	7 281	2 625	13 848	6.6
2016–17	4 214	7 773	2 773	14 760	6.6
2017–18	4 480	8 192	2 879	15 551	5.4
2018–19	4 750	8 565	2 966	16 281	4.7
2019–20	5 027	8 902	3 037	16 966	4.2
2020–21	5 311	9 234	3 104	17 648	4.0
2021–22	5 611	9 578	3 172	18 361	4.0
2022–23	5 926	9 914	3 235	19 076	3.9
2023–24	6 259	10 263	3 300	19 822	3.9
2024–25	6 612	10 622	3 366	20 601	3.9
2025–26	6 985	10 994	3 434	21 413	3.9
2026–27	7 357	11 356	3 495	22 208	3.7
2027–28	7 749	11 729	3 558	23 036	3.7
2028–29	8 163	12 114	3 622	23 899	3.7
2029–30	8 600	12 511	3 687	24 798	3.8
Annual average growth rate (per cent):					
1991–92 to 2008–09	6.6	6.5	7.8	6.8	
2008–09 to 2029–30	5.8	4.8	2.8	4.7	

Aircraft movements

In 2008–09, around 119 000 aircraft moved through Perth Airport. Of the total aircraft movements, 65 per cent were scheduled aircraft movements and the remaining 35 per cent were non-scheduled aircraft movements. Among the total scheduled aircraft movements, 43 per cent were regional movements, 38 per cent intercapital movements and 19 per cent were international movements.

Following an expected strong growth in passenger numbers, the number of aircraft movements through Perth Airport is forecast to increase by 2.1 per cent a year over the forecast period to 185 100 in 2029–30 (Figure 4.26 and Table 4.14). The number of scheduled passenger movements is projected to increase annually by 4.5 per cent on Perth's international routes, 3.5 per cent on intercapital routes and 1.5 per cent on regional routes. In 2029–30, around 36 500 aircraft movements are expected to occur on the international routes, 66 200 on intercapital routes and 46 100 on regional routes. Non-scheduled aircraft movements are assumed to remain unchanged over the forecast period.

F4.26 Aircraft movements through Perth Airport



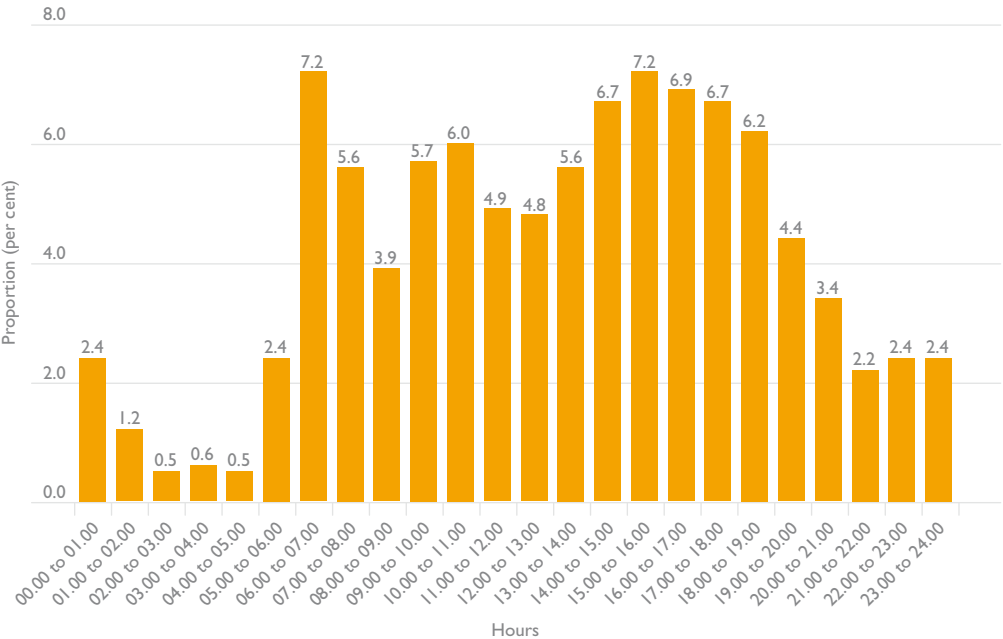
Hourly aircraft movements

Hourly aircraft movement data for 2007–08 suggest that there are two distinctive peak hours of aircraft operation at Perth Airport: morning peak hour (from 6.00 am to 7.00 am) and afternoon peak hour (from 3.00 pm to 4.00 pm) (Figure 4.27). The morning and afternoon peak hours accounted individually for 7.2 per cent of total daily aircraft movements respectively. On an average, 22 aircraft moved through Perth Airport during the morning peak hour and another 22 during the afternoon peak hour. These hourly movements are forecast to increase to 36 during the morning peak hour and another 36 during the afternoon peak hour in 2029–30 (Figure 4.28).

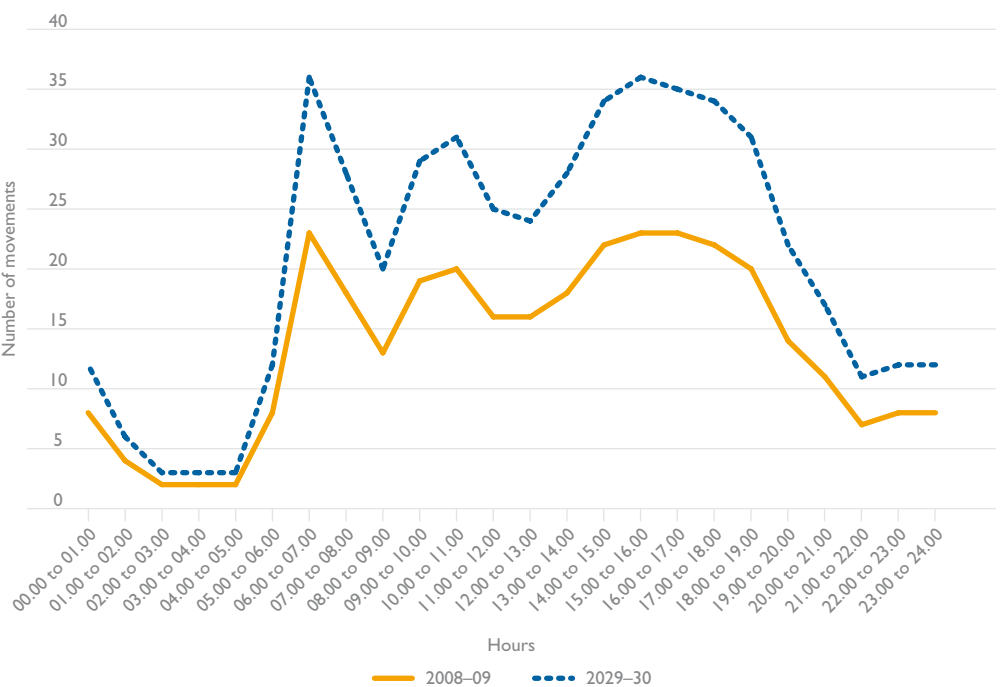
T4.14 Aircraft movements through Perth Airport

Year	Scheduled			Total	Non-scheduled	Total
	International	Intercapital	Regional (thousands)			
2004–05	10.4	21.8	24.3	56.5	43.7	100.2
2005–06	10.2	22.0	25.1	57.3	42.3	99.6
2006–07	11.2	22.8	26.7	60.6	43.3	104.0
2007–08	12.5	24.5	31.1	68.2	46.3	114.5
2008–09	14.5	29.7	33.7	77.8	41.2	119.0
Forecasts						
2009–10	14.3	30.3	33.6	78.2	41.2	119.4
2010–11	14.9	31.1	33.3	79.2	41.2	120.5
2011–12	15.6	32.9	33.5	82.0	41.2	123.2
2012–13	16.4	34.7	34.0	85.1	41.2	126.3
2013–14	17.2	36.5	35.0	88.6	41.2	129.8
2014–15	18.2	38.6	36.5	93.2	41.2	134.5
2015–16	19.2	41.0	37.7	97.9	41.2	139.1
2016–17	20.4	43.3	39.5	103.1	41.2	144.3
2017–18	21.4	45.2	40.6	107.2	41.2	148.4
2018–19	22.5	46.8	41.4	110.7	41.2	151.9
2019–20	23.6	48.1	42.0	113.7	41.2	154.9
2020–21	24.7	49.4	42.5	116.5	41.2	157.8
2021–22	25.8	50.8	43.0	119.5	41.2	160.7
2022–23	27.0	52.0	43.4	122.4	41.2	163.6
2023–24	28.2	53.3	43.8	125.3	41.2	166.6
2024–25	29.5	54.6	44.3	128.4	41.2	169.6
2025–26	30.9	56.0	44.7	131.5	41.2	172.8
2026–27	32.2	57.3	45.0	134.5	41.2	175.7
2027–28	33.6	58.6	45.4	137.5	41.2	178.7
2028–29	35.0	59.9	45.8	140.6	41.2	181.9
2029–30	36.5	61.2	46.1	143.9	41.2	185.1
Annual average growth rate (per cent):						
2008–09 to 2029–30	4.5	3.5	1.5	3.0	0.0	2.1

F4.27 Annual average hourly proportion of aircraft movements per day through Perth Airport in 2007–08



F4.28 Average number of aircraft movements per hour through Perth Airport in 2007–08 and 2029–30



Sydney Airport

Passenger movements

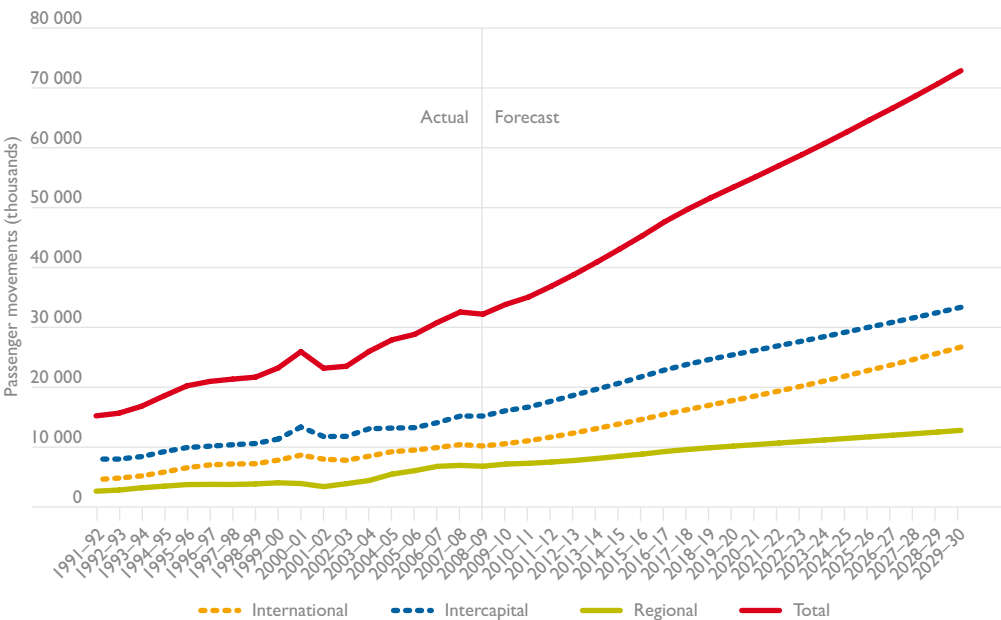
Sydney Airport is located eight kilometres south of the Sydney CBD and is Australia's largest airport in terms of passenger and freight movements. The airport has a jet curfew which largely prohibits jet aircraft movements from 11.00 pm to 6.00 am and a cap on aircraft movements of 80 aircraft per hour.

Around 32.2 million passengers passed through Sydney Airport in 2008–09. This included 10.2 million international passengers, 15.2 million intercapital passengers and 6.8 million regional passengers. Sydney–Melbourne, Sydney–Brisbane, Sydney–Canberra, Sydney–Adelaide and Sydney–Perth are the first five main routes in terms of domestic passenger movements.

The number of passenger movements through Sydney Airport has increased by 4.5 per cent a year since 1991–92 and is forecast to increase by 4 per cent a year in the next 21 years to 72.9 million in 2029–30 (Figure 4.29 and Table 4.15). The main reasons for the expected lower growth in passenger movements are the expected slowing of growth in the Australian economy in the long term, and also in overseas economies as well as the maturation of the influence of low-cost carriers on passenger growth.

The number of international, intercapital and regional passenger movements is projected to increase annually by 4.7, 3.8 and 3.1 per cent over the forecast period respectively. Around 26.7 million international passenger, 33.4 million intercapital passenger and 12.8 million regional passengers are expected to travel through Sydney Airport in 2029–30.

F4.29 Air passenger movements through Sydney Airport



T4.15 Air passenger movements through Sydney Airport

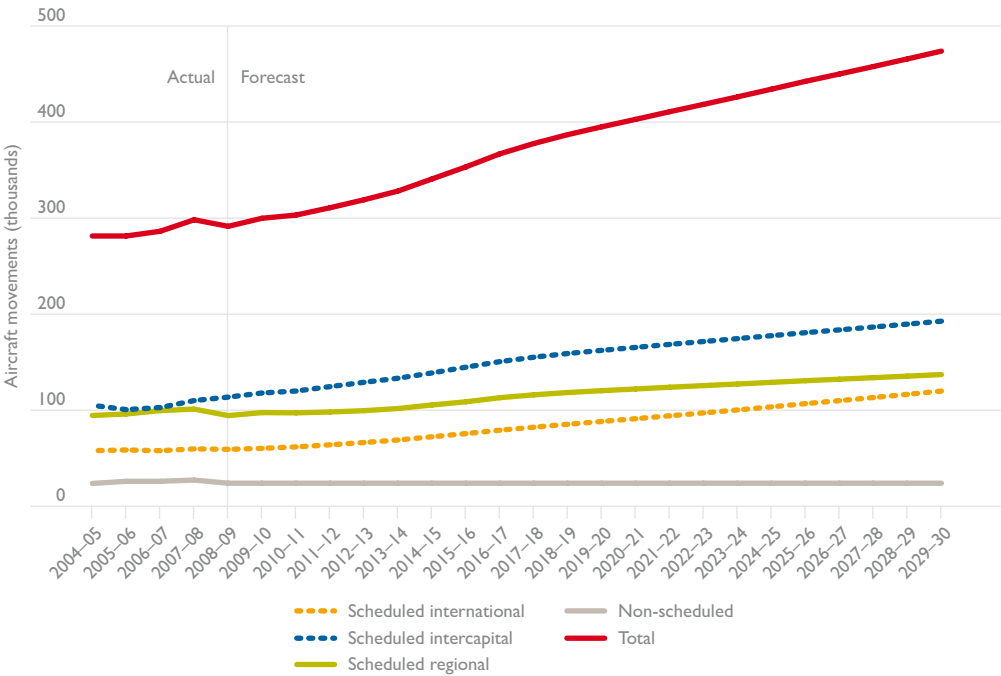
Year	International	Intercapital	Regional	Total	Change in total
			(thousands)		(per cent)
2004–05	9 238	13 183	5 496	27 917	7.4
2005–06	9 511	13 257	6 072	28 840	3.3
2006–07	9 933	14 097	6 795	30 825	6.9
2007–08	10 429	15 185	6 955	32 569	5.7
2008–09	10 202	15 197	6 810	32 209	–1.1
Forecasts					
2009–10	10 580	16 089	7 175	33 844	5.1
2010–11	11 071	16 693	7 298	35 062	3.6
2011–12	11 684	17 677	7 513	36 875	5.2
2012–13	12 364	18 684	7 770	38 818	5.3
2013–14	13 110	19 680	8 105	40 895	5.4
2014–15	13 883	20 701	8 481	43 066	5.3
2015–16	14 660	21 810	8 836	45 306	5.2
2016–17	15 503	22 906	9 274	47 684	5.2
2017–18	16 277	23 845	9 614	49 736	4.3
2018–19	17 041	24 681	9 910	51 633	3.8
2019–20	17 804	25 439	10 172	53 416	3.5
2020–21	18 571	26 182	10 427	55 181	3.3
2021–22	19 371	26 948	10 687	57 007	3.3
2022–23	20 193	27 697	10 939	58 828	3.2
2023–24	21 049	28 466	11 197	60 712	3.2
2024–25	21 942	29 256	11 461	62 659	3.2
2025–26	22 874	30 068	11 730	64 673	3.2
2026–27	23 779	30 859	11 990	66 628	3.0
2027–28	24 721	31 670	12 255	68 646	3.0
2028–29	25 701	32 503	12 525	70 729	3.0
2029–30	26 720	33 357	12 802	72 879	3.0
Annual average growth rate (per cent):					
1991–92 to 2008–09	4.8	3.8	5.7	4.5	
2008–09 to 2029–30	4.7	3.8	3.1	4.0	

Aircraft movements

Over 291 500 aircraft passed through Sydney Airport in 2008–09, including 267 400 scheduled aircraft and 24 100 non-scheduled aircraft. Intercapital, regional and international routes accounted for 43.35 and 22 per cent of the total scheduled aircraft movements respectively.

Following an expected strong growth in passenger numbers, the number of aircraft movements through Sydney Airport is forecast to increase by 2.3 per cent a year over the forecast period to 473 900 in 2029–30 (Figure 4.30 and Table 4.16). The number of scheduled aircraft movements is expected to increase annually by 2.5 per cent over the forecast period, including 3.4 per cent on the international routes, 2.5 per cent on the intercapital routes and 1.8 per cent on the regional routes. In 2029–30, over 120 100 aircraft will be flying on Sydney's international routes, 192 700 aircraft flying on intercapital routes and 137 100 aircraft flying on regional routes. Non-scheduled aircraft movements are assumed to remain unchanged over the forecast period.

F4.30 Aircraft movements through Sydney Airport



Hourly aircraft movements

As mentioned in the beginning of this chapter, an analysis of hourly aircraft movements through Sydney Airport has been carried out to determine the year in which the peak hour movements is likely to hit the existing hourly cap of 80 movements at Sydney Airport.

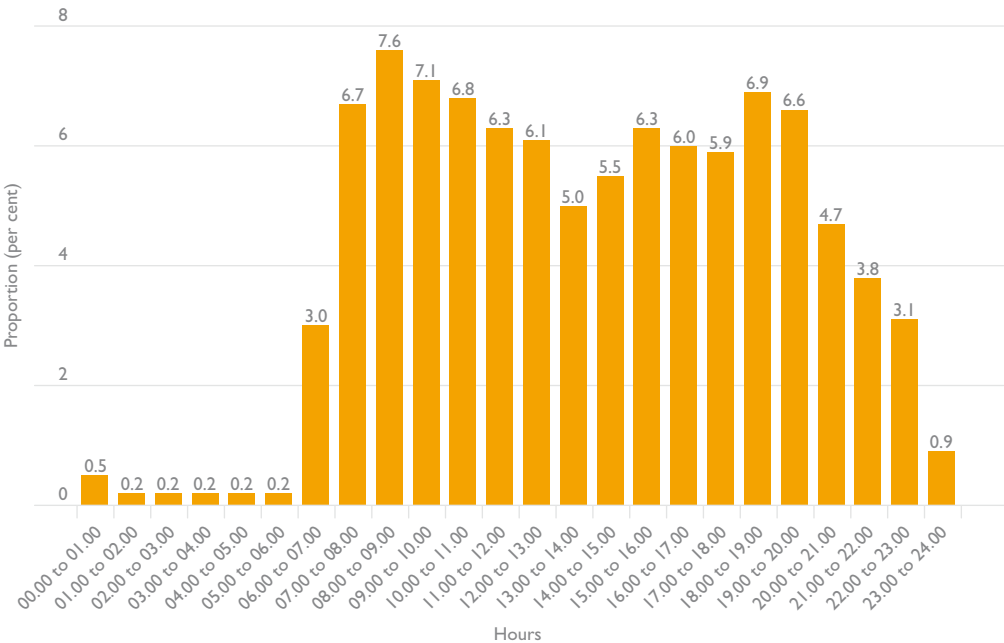
Hourly aircraft movement data from Airservices Australia for 2007–08 show two distinctive peak hours of aircraft movements through Sydney Airport: one in the morning, from 8.00 am to 9.00 am and another in the evening, from 6.00 pm to 7.00 pm, (Figure 4.31). The morning and evening peak hours accounted for 7.6 and 6.9 per cent of total daily aircraft movements at Sydney Airport respectively. On average, 62 aircraft passed through Sydney airport during the morning peak hour and 57 during the evening peak hour. In 2008, the number of hourly aircraft movements was observed to be over 60, a rate at which movement pressures increase, during most morning and evening peak hours. The movement numbers are shown in Figure 4.32 for the last quarter of 2008 only. Longer time series data would have overcrowded the representation in Figure 4.32. However, the selected period provides a good representation of longer term peak movements. The movement data suggest that the hourly movement numbers were sometimes very close to the existing hourly cap of 80 movements. During the morning peak hour, 77 aircraft movements were recorded on 12 February 2007, 3 March 2007 and 22 March of 2008 and 79 aircraft movements on 22 October 2007.

T4.16 Aircraft movements through Sydney Airport

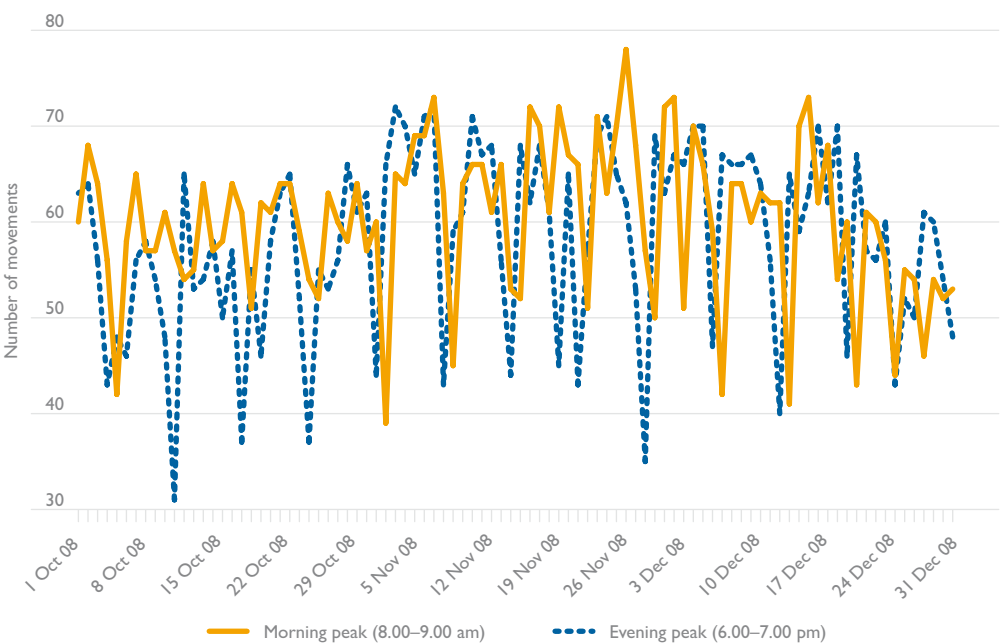
Year	Scheduled			Total	Non-scheduled	Total
	International	Intercapital	Regional (thousands)			
2004–05	57.9	105.1	94.6	257.6	23.8	281.4
2005–06	58.6	100.7	96.1	255.4	26.0	281.4
2006–07	57.9	102.8	99.6	260.3	26.0	286.3
2007–08	59.8	110.1	101.2	271.0	27.3	298.3
2008–09	59.3	113.7	94.4	267.4	24.1	291.5
Forecasts						
2009–10	60.3	118.0	97.6	275.8	24.1	299.9
2010–11	61.9	120.0	97.3	279.2	24.1	303.2
2011–12	64.0	124.6	98.2	286.8	24.1	310.8
2012–13	66.4	129.1	99.6	295.1	24.1	319.1
2013–14	69.0	133.3	101.8	304.2	24.1	328.2
2014–15	72.4	138.9	105.5	316.7	24.1	340.8
2015–16	75.7	144.8	108.8	329.3	24.1	353.4
2016–17	79.2	150.6	113.1	342.9	24.1	367.0
2017–18	82.4	155.2	116.1	353.7	24.1	377.7
2018–19	85.4	159.1	118.4	362.9	24.1	387.0
2019–20	88.3	162.4	120.4	371.0	24.1	395.1
2020–21	91.2	165.4	122.2	378.8	24.1	402.9
2021–22	94.2	168.6	124.0	386.8	24.1	410.8
2022–23	97.2	171.6	125.6	394.4	24.1	418.5
2023–24	100.3	174.6	127.3	402.2	24.1	426.3
2024–25	103.6	177.7	129.0	410.2	24.1	434.3
2025–26	106.9	180.8	130.8	418.4	24.1	442.5
2026–27	110.0	183.7	132.3	426.0	24.1	450.1
2027–28	113.2	186.7	133.9	433.8	24.1	457.9
2028–29	116.6	189.7	135.5	441.7	24.1	465.8
2029–30	120.0	192.7	137.1	449.8	24.1	473.9
Annual average growth rate (per cent):						
2008–09 to 2029–30	3.4	2.5	1.8	2.5	0.0	2.3

The hourly proportions and forecasts of aircraft movements are used to predict the number of aircraft movements during each hour of operation. Assuming that the current morning and evening peaks do not spread over the forecast period, the number of hourly aircraft movements is expected to reach 70 during the morning peak hour in 2014–15, 80 during the morning peak hour in 2018–19 and would reach 80 during both morning and evening peak hours by 2022–23 (Figure 4.33).

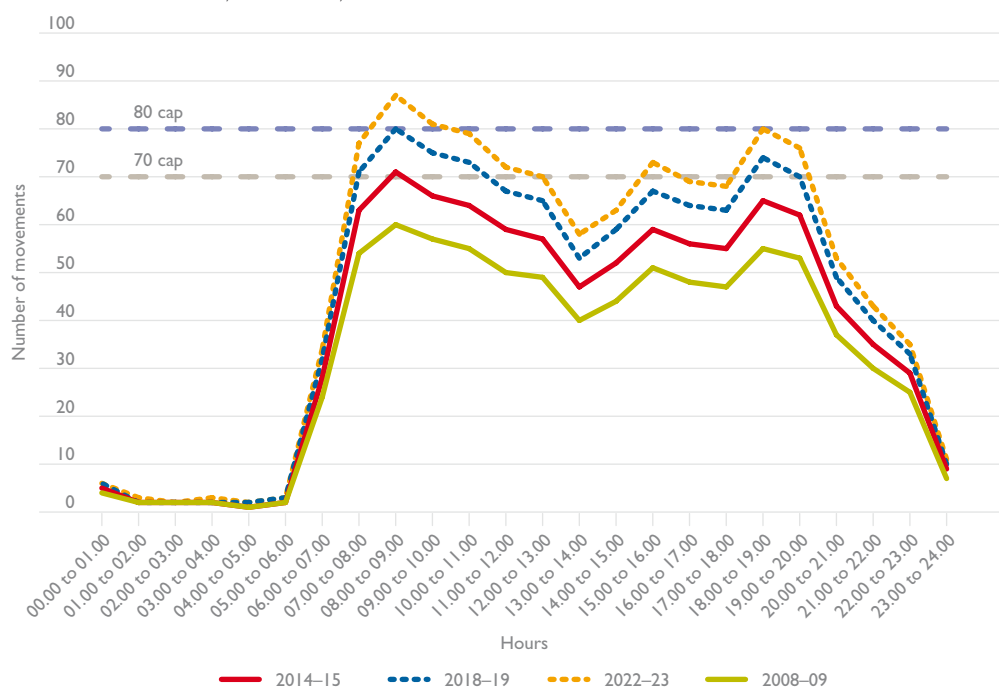
F4.31 Annual average hourly proportion of aircraft movements per day through Sydney Airport in 2007–08



F4.32 Hourly aircraft movements through Sydney Airport during morning and evening peak hours: October–December 2008



F4.33 Average number of aircraft movements per hour through Sydney Airport in 2008–09, 2014–15, 2018–19 and 2022–23



All capital city airports

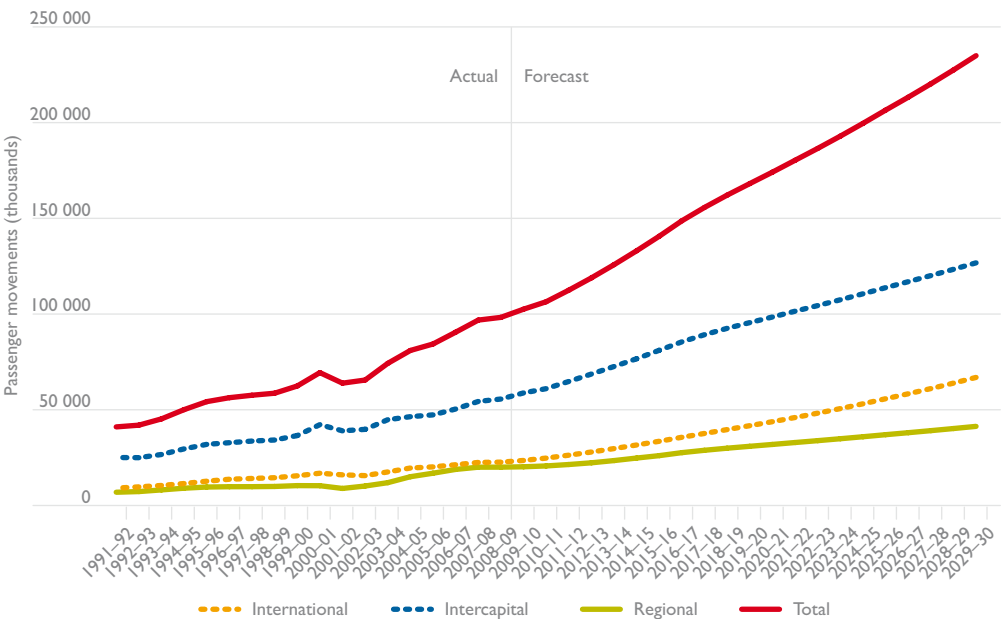
The term 'all capital city airports' is used to refer to the total of all Australian capital city airports (Adelaide, Brisbane, Canberra, Darwin, Hobart, Melbourne, Perth and Sydney). Forecasts for all capital city airports are derived by adding the forecasts of the eight capital city airports.

Passenger movements

The number of air passenger movements through all capital city airports declined by 7.9 per cent in 2001–02, largely due to the 9/11 terrorist attacks and the collapse of Ansett Australia Airlines. However, it bounced back the following year and recorded strong growth of 13.3 per cent in 2003–04, 9.1 per cent in 2004–05 and annually by 5.3 per cent over the last seventeen years, from 41 million in 1991–92 to 98.3 million in 2007–08.

Following the expected slowing of growth in the Australian economy in the long term, and also in overseas economies as well as the maturation of the influence of low-cost carriers on passenger growth, the number of passenger movements through all capital city airports is forecast to increase by 4.2 per cent a year over the forecast period to 23.5 million in 2029–30 (Figure 4.34 and Table 4.17). It is projected to increase annually by 5.3 per cent on international routes, 4 per cent on intercapital routes and by 3.5 per cent on regional routes.

F4.34 Air passenger movements through all capital city airports



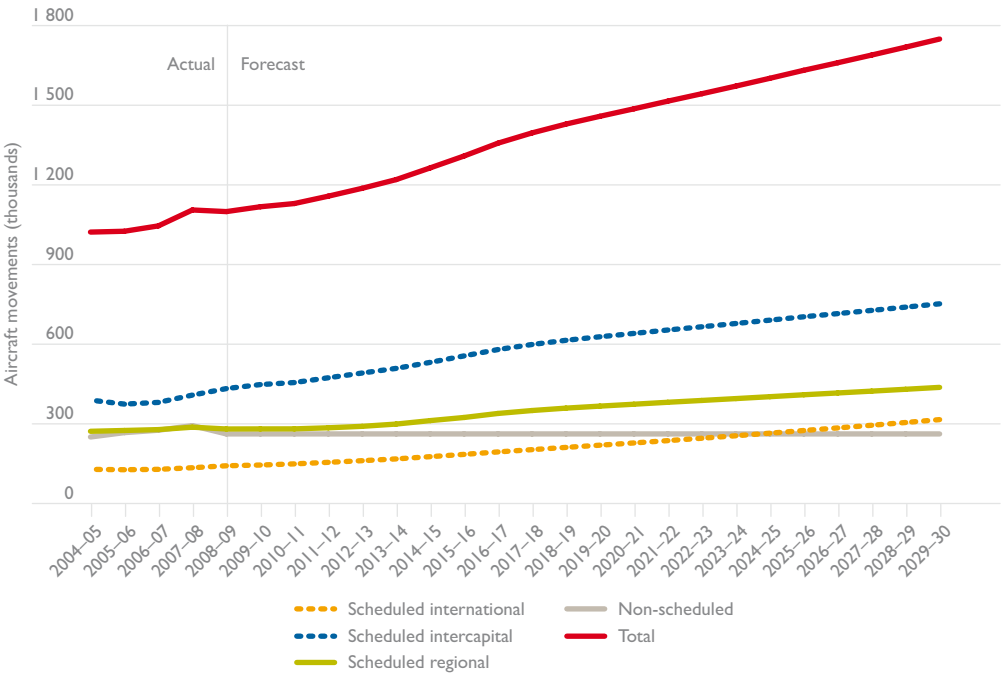
Aircraft movements

Over one million aircraft movements were recorded passing through all capital city airports in 2008–09, including 837 300 scheduled and 256 000 non-scheduled aircraft movements. Intercapital, regional and international movements accounted for 5133 and 16 per cent of the total scheduled aircraft movements respectively. The number of aircraft movements through all capital city airports is forecast to increase by 2.2 per cent a year over the forecast period to 1.7 million in 2029–30 (Figure 4.35 and Table 4.18). It is expected to increase annually by 4 per cent on international routes, 2.7 per cent on intercapital routes and by 2.2 per cent on regional routes. Around 309 900 aircraft movements will be on international routes, 746 100 aircraft on intercapital routes and 431 300 aircraft on regional routes. Non-scheduled aircraft movements are assumed to remain unchanged over the forecast period.

T4.17 Air passenger movements through all capital city airports

Year	International	Intercapital	Regional	Total	Change in total
	(thousands)				(per cent)
2004–05	19 565	46 390	15 025	80 980	9.1
2005–06	20 165	47 332	16 858	84 354	4.2
2006–07	21 281	50 393	18 841	90 515	7.3
2007–08	22 489	54 356	20 002	96 847	7.0
2008–09	22 639	55 607	20 020	98 266	1.5
Forecasts					
2009–10	23 520	58 792	20 217	102 529	4.3
2010–11	24 747	61 026	20 652	106 425	3.8
2011–12	26 277	64 782	21 399	112 458	5.7
2012–13	27 931	68 668	22 293	118 891	5.7
2013–14	29 725	72 604	23 459	125 788	5.8
2014–15	31 605	76 668	24 780	133 053	5.8
2015–16	33 544	81 077	26 037	140 658	5.7
2016–17	35 635	85 489	27 600	148 724	5.7
2017–18	37 637	89 229	28 836	155 701	4.7
2018–19	39 650	92 546	29 931	162 126	4.1
2019–20	41 694	95 534	30 917	168 145	3.7
2020–21	43 770	98 463	31 885	174 118	3.6
2021–22	45 954	101 481	32 884	180 319	3.6
2022–23	48 222	104 427	33 860	186 509	3.4
2023–24	50 607	107 457	34 867	192 931	3.4
2024–25	53 114	110 575	35 905	199 594	3.5
2025–26	55 751	113 782	36 976	206 509	3.5
2026–27	58 342	116 897	38 017	213 255	3.3
2027–28	61 059	120 095	39 088	220 243	3.3
2028–29	63 910	123 380	40 191	227 481	3.3
2029–30	66 900	126 753	41 327	234 980	3.3
Annual average growth rate (per cent):					
1991–92 to 2008–09	5.5	4.8	6.5	5.3	
2008–09 to 2029–30	5.3	4.0	3.5	4.2	

F4.35 Aircraft movements through all capital city airports



T4.18 Aircraft movements through all capital city airports

Year	Scheduled			Total	Non-scheduled	Total
	International	Intercapital	Regional (thousands)			
2004–05	122.5	383.4	265.9	771.8	244.4	1 016.2
2005–06	121.2	368.3	269.0	758.5	260.9	1 019.3
2006–07	122.6	374.7	272.3	769.6	270.0	1 039.5
2007–08	128.7	402.2	281.4	812.2	287.2	1 099.5
2008–09	136.0	426.7	274.6	837.3	256.0	1 093.3
Forecasts						
2009–10	138.8	441.9	274.9	855.6	256.0	1 111.6
2010–11	143.2	449.5	275.0	867.7	256.0	1 123.7
2011–12	149.0	467.4	279.0	895.4	256.0	1 151.4
2012–13	155.2	485.4	284.6	925.2	256.0	1 181.2
2013–14	161.9	502.9	293.1	957.9	256.0	1 213.9
2014–15	170.4	525.5	306.1	1 001.9	256.0	1 257.9
2015–16	179.0	549.9	317.9	1 046.8	256.0	1 302.8
2016–17	188.2	573.8	333.1	1 095.2	256.0	1 351.2
2017–18	196.8	592.8	344.1	1 133.7	256.0	1 389.7
2018–19	205.2	608.6	353.2	1 167.0	256.0	1 423.0
2019–20	213.6	621.9	360.7	1 196.3	256.0	1 452.3
2020–21	222.0	634.6	367.9	1 224.5	256.0	1 480.5
2021–22	230.8	647.4	375.2	1 253.4	256.0	1 509.4
2022–23	239.7	659.6	382.1	1 281.3	256.0	1 537.3
2023–24	249.0	671.9	389.1	1 310.0	256.0	1 566.0
2024–25	258.8	684.4	396.2	1 339.4	256.0	1 595.4
2025–26	268.9	697.2	403.5	1 369.6	256.0	1 625.6
2026–27	278.5	709.1	410.3	1 397.9	256.0	1 653.9
2027–28	288.6	721.2	417.2	1 427.0	256.0	1 683.0
2028–29	299.0	733.5	424.2	1 456.8	256.0	1 712.8
2029–30	309.9	746.1	431.3	1 487.3	256.0	1 743.3
Annual average growth rate (per cent):						
2008–09 to 2029–30	4.0	2.7	2.2	2.8	0.0	2.2

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