



Australian aviation forecasts – 2024 to 2050 (Summary)

Summary

Aviation plays a key role in Australia's transport system, providing regular scheduled services between Australia's highly dispersed major population centres and vital connectivity for rural and remote communities. As a large island nation, located significant distances from our nearest neighbours, aviation is also the primary means of access for international visitors and for domestic residents travelling overseas.

This information sheet provides a summary of BITRE's latest long-term air passenger and air freight forecasts, published in BITRE (2024): *Australian aviation forecasts – 2024 to 2050*.

Air passenger forecast results

- Total domestic air passenger travel is projected to grow by around 2.6 per cent per annum between 2018–19 and 2049–50, to around 157.1 billion revenue passenger kilometres in 2049–50.
- Total domestic passengers through Australian airports (i.e. counting both passenger arrivals and departures) are projected to grow by approximately 2.2 per cent per annum between 2018–19 and 2049–50, to around 237.5 million passengers by 2049–50.
- Total international air passenger movements are projected to grow by around 2.7 per cent per annum between 2018–19 and 2049–50, to around 689.6 billion revenue passenger kilometres by 2049–50.
 - International visitor arrivals are projected to increase by around 2.2 per cent per annum between 2018–19 and 2049–50, to around 19.7 million passengers by 2049–50.
 - International travel by domestic residents is projected to increase by 3.1 per cent per annum between 2018–19 and 2049–50, to around 29.9 million passengers by 2049–50.
- Total passengers through all Australian airports are projected to increase by around 2.3 per cent per annum between 2018–19 and 2049–50, to around 332.2 million passengers in 2049–50.
 - Passengers through capital city airports / air catchments are projected to increase by around 2.5 per cent per annum between 2018–19 and 2049–50, to around 288 million passengers by 2049–50.

Air freight forecast results

- Total domestic air freight volumes are projected to decline slightly between 2018–19 and 2049–50, from around 330 million tonne kilometres in 2018–19 to around 250 million tonne kilometres by 2049–50.
- Total international air freight volumes are projected to grow by around 0.5 per cent per annum between 2018–19 and 2049–50, from 966,000 tonnes in 2018–19 to around 1,136,000 tonnes by 2049–50.
 - Air freight imports are projected to grow by around 1.8 per cent per annum between 2018–19 and 2049–50, to around 772,000 tonnes by 2049–50
 - Air freight exports are projected to increase slightly over current levels, from around 336,000 tonnes in 2022–23, to around 364,000 tonnes by 2049–50.

Introduction

This Information Sheet provides a summary of BITRE's 2024 long-term forecasts of Australian commercial air passenger and freight activity, and forecasts of air passenger numbers through Australia's 14 busiest airports / air catchments – i.e. Australia's eight capital cities and six busiest non-capital city airports – and air freight volumes through Australia's mainland state capital city airports.

The forecasts are intended to help inform long-term Australian aviation policy development and planning. For example, all leased federal airports in Australia are required to produce updated Master Plans every five years that provide a 20-year strategic vision for the airport, including the long-term air traffic outlook. The long-term air catchment forecasts presented in this report provide an independent source of information that may help inform development of future Master Plans.

Forecasting future commercial aviation activity levels is particularly challenging at the present time as it is not that long ago that the COVID-19 pandemic restricted personal mobility. Air passenger numbers and freight volumes are still below pre-pandemic levels and the long-term impact of the pandemic on commercial aviation is not yet clear. In the absence of clarity, BITRE's baseline scenario assumes aviation activity will return to pre-pandemic trend levels over the next several years.

Climate change represents a significant risk to future aviation sector growth. The forecasts account for the impact of announced emissions reduction measures and prospective technological developments, through their impact on aviation costs. However, the forecasts do not explicitly model the potential direct effects of future global and regional temperature increases on future air travel patterns.

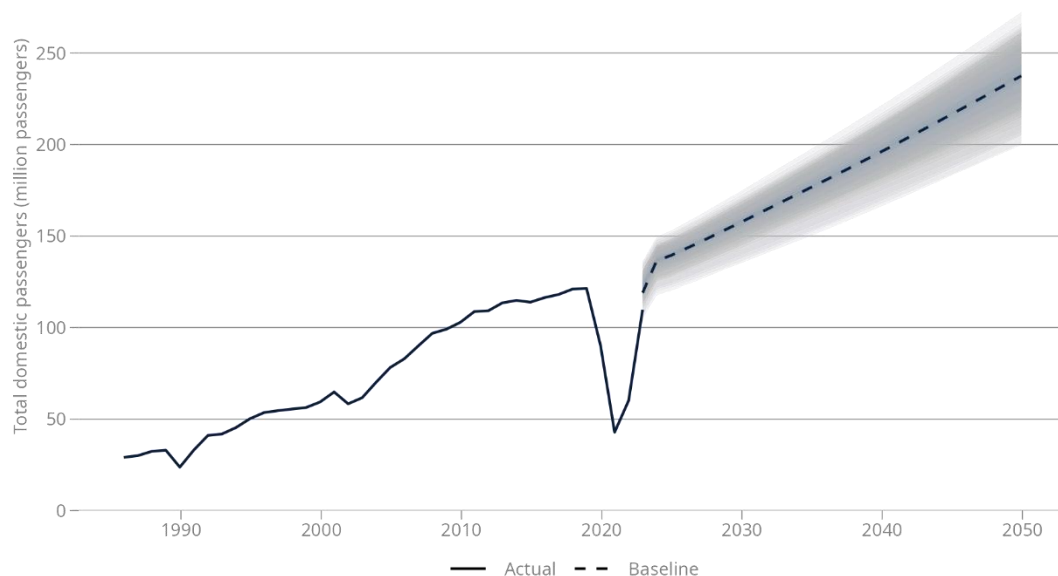
Further details, including historical trends, forecasting model results, key forecast assumptions, and forecast sensitivity analysis, are available in BITRE (2024) *Australian aviation forecasts – 2024 to 2050*.

Total air passenger forecasts

Domestic air passenger forecasts

Total domestic air passenger movements (i.e. revenue passenger kilometres) are projected to grow by around 137 per cent between 2022–23 and 2049–50 under the baseline scenario, from around 66.2 billion passenger kilometres in 2022–23 to around 157.1 billion passenger kilometres in 2049–50. Total domestic passenger numbers through Australian airports are projected to increase by around 116 per cent over the same period under the baseline scenario, from around 109.8 million passengers in 2022–23 to around 237.5 million passengers by 2049–50. (Figure 1 shows BITRE's projected growth in domestic air passenger activity.)

Figure 1: Actual and projected future domestic air passenger activity, 1990–2050



Note: Shaded areas show the 95 per cent forecast prediction interval.

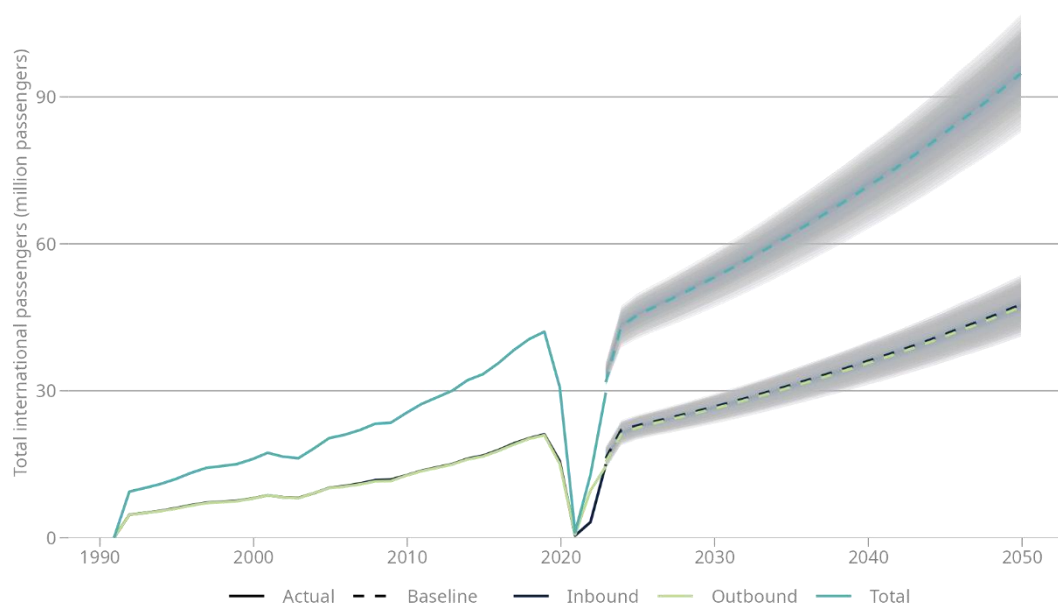
Source: BITRE estimates.

In compound annual terms, domestic air passenger activity is projected to grow by around 2.6 per cent per annum and total domestic passengers through Australian airports are projected to grow by approximately 2.2 per cent per annum between 2018–19 and 2049–50. This compares to historical average annual growth over the previous 30 years of around 5.5 and 4.4 per cent per annum, respectively, in total passenger kilometres and passenger numbers.

International air passenger forecasts

Total international air passenger movements (i.e. revenue passenger kilometres) are projected to grow by around 220 per cent between 2023–23 and 2049–50, from around 215.5 billion passenger kilometres in 2022–23 to around 689.6 billion passenger kilometres in 2049–50. Total international passenger numbers through Australian airports are also projected to increase by around 220 per cent, from around 29.6 million passengers in 2022–23 to around 94.7 million passengers by 2049–50. (Figure 2 shows BITRE's projected growth in international air passenger activity.) Again, these forecasts include an assumed post-COVID rebound in international air passenger movements over the next several years.

Figure 2: Actual and projected future international air passenger arrivals and departures, 1990–2050



Note: Shaded areas show the 95 per cent forecast prediction interval.

Source: BITRE estimates.

In compound annual terms, international air passenger kilometres and passenger numbers through Australian airports are projected to grow by around 2.65 per cent per annum between 2018–19 and 2049–50. This compares to historical average annual growth over the previous 30 years of approximately 5.7 per cent per annum, in both total passenger numbers and total passenger kilometres.

Table 1 lists total actual and projected future air passengers through Australian airports between 2000 and 2050, at ten-year intervals. Annual frequency forecasts are reported in BITRE (2024).

Table 1 Total actual and forecast future air passengers, all Australian airports, 2000-2050

Year ending June	Domestic	International			Total
		Inbound	Outbound	Total	Total
	(million passengers)				
2000	59.33	8.04	8.01	16.05	75.38
2010	102.85	12.75	12.70	25.45	128.30
2020	90.07	15.65	15.10	30.75	10.82
2023	109.76	15.00	14.61	29.61	139.37
2030	157.52	26.70	26.36	53.06	210.58
2040	196.03	36.03	35.63	71.66	267.69
2050	237.51	47.61	47.13	94.74	332.25

Note: Financial year 2019-20 impacted by COVID-19 pandemic.

Source: BITRE (2023a, 2023b) and BITRE estimates.

Total air freight forecasts

Domestic air freight forecasts

Total domestic air freight, which accounts for less than 0.1 per cent of total domestic freight (by weight), is projected to decline slightly between 2022–23 and 2049–50 under the baseline scenario, from around 300 million tonne kilometres (377,700 tonnes, counting both uplift and discharge movements through airports) in 2022–23 to around 250 million tonne kilometres (358,800 tonnes, uplift and discharge) in 2049–50. However, the domestic air freight forecasts have a high degree of uncertainty (between -26 to +43 per cent of the baseline scenario), due to the high degree of variation in historical air freight activity.

International air freight forecasts

Total international air freight volumes, which account for less than 1 per cent of total Australian merchandise trade by weight but around 21 per cent by value, are projected to increase by around 50 per cent between 2022–23 and 2049–50, from around 760,000 tonnes in 2022–23 to around 1,136,000 tonnes in 2049–50. International air freight imports are projected to grow by around 80 per cent from around 424,000 tonnes in 2022–23 to around 772,300 tonnes by 2049–50, while air freight exports are projected to grow from around 336,000 tonnes in 2022–23 to around 364,000 tonnes by 2049–50 (see Table 2).

Table 2 Total actual and forecast future air freight, all Australian airports, 2011-2050

Year ending June	Domestic	International			Total
		Inbound	Outbound	Total	Total
	(thousand tonnes)				
2011	506.7	431.8	233.3	665.1	1171.8
2020	426.4	403.9	397.8	801.7	1228.1
2023	377.7	424.2	335.8	759.9	1137.6
2030	411.8	571.8	314.0	885.8	1297.5
2040	382.7	673.1	335.5	1008.6	1391.3
2050	358.8	772.3	363.7	1136.0	1494.8

Note: Financial year 2019-20 impacted by COVID-19 pandemic.

Source: BITRE (2023a, 2023b) and BITRE estimates.

Airport / air catchment-specific passenger forecasts

BITRE (2024) includes forecasts of domestic and international air passenger movements through the 14-busiest domestic airports / air catchments and forecasts of freight movements through the five mainland state capital city airports – Sydney, Melbourne, Brisbane, Adelaide and Perth. Table 3 provides a summary of total passenger numbers, in 1988–89 and 2018–19, and forecast passenger numbers, in 2049–50, through the 14-busiest airports / air catchments.

- Total passengers through all capital city airports / air catchments are projected to increase by 2.4 per cent a year between 2018–19 and 2049–50, from around 93.5 million passengers in 2018–19 to around 192.6 million passengers in 2049–50.
- Passenger movements through the six busiest non-capital city airports – Gold Coast, Cairns, Townsville, Launceston, Newcastle and Sunshine Coast – are projected to increase by 1.9 per cent a year between 2018–19 and 2049–50, from around 15.1 million passengers in 2018–19 to around 27.0 million passengers by 2049–50.

Table 3 Total actual and forecast future air freight, all Australian airports, 1999 to 2050

Airport / air catchment	Passengers (million)			Average annual growth (% p.a.)	
	1998–99	2018–19	2049–50	1988–89 to 2018–19	2018–19 to 2049–50
Sydney	21.6	44.1	88.2	3.6	2.3
Melbourne	14.3	37.2	82.3	4.9	2.6
Brisbane	10.0	23.6	55.4	4.4	2.8
Adelaide	4.0	8.4	15.1	3.7	1.9
Perth	4.7	12.5	30.9	4.9	3.0
Hobart	0.9	2.7	6.2	5.9	2.7
Darwin	1.0	2.0	4.8	3.4	2.9
Canberra	1.8	3.1	5.1	2.7	1.6
Coolangatta	1.9	6.0	11.4	6.1	2.1
Cairns	2.7	4.9	8.4	3.0	1.8
Launceston	0.5	1.4	1.9	4.9	1.0
Townsville	0.7	1.6	3.2	4.6	2.3
Williamstown	0.1	1.3	1.4	11.2	0.4
Maroochydore	0.3	1.2	2.9	7.6	2.7
All airports	71.3	163.5	332.2	4.2	2.3

Note: Financial year 2019–20 impacted by COVID-19 pandemic.

Source: BITRE (2023a, 2023b) and BITRE estimates.

What is driving forecast growth in aviation activity?

The key factors driving BITRE's long-term air passenger and freight aviation forecasts are the modelled relationships between historical aviation activity and the key demand-side drivers of activity, which include economic activity (e.g. gross domestic product - GDP), airfares and aviation input costs (including aviation fuel costs), relative exchanges rates (for international aviation) and aviation- or market-specific factors, and forecast future trends in those demand-side drivers.

This section provides a brief overview of historical trends in domestic and international air passenger and air freight activity and Appendix A provides a summary of the key forecast models. A more detailed exposition of historical trends in aviation activity and specification of the forecasting models are provided in BITRE (2024). The following section outlines the key forecast assumptions.

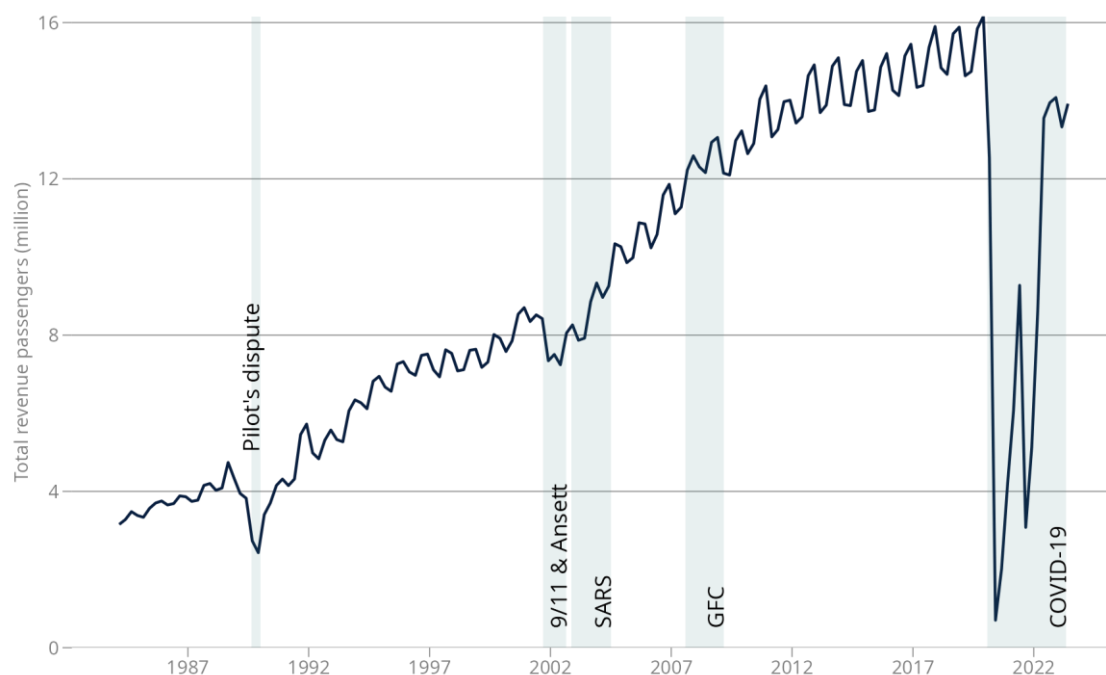
Historical trends in domestic and international air passenger travel

Domestic air passenger movements

In the 30 years following deregulation of domestic aviation, which commenced on 30 October 1990, and prior to the COVID-19 pandemic, Australian domestic air passenger activity grew five-fold, from around 16.8 million passengers (on a traffic-on-board (TOB) by stage basis) in 1988–89 to around 61 million passengers in 2018–19 (the last full financial year pre-COVID-19), driven by strong economic conditions and lower real airfares resulting from increased competition and low-cost carriers on Australia's domestic and international routes.

Figure 3 shows the growth in quarterly total domestic passenger numbers, between June 1985 and June 2023, and highlights not only the significant growth in total passenger numbers over that period, but also the impact of several external and aviation-specific shocks and seasonal variation in total passenger movements. Significant shocks include the airline pilot's dispute in September 1989, Ansett Australia's financial collapse and 9/11 terror event in 2001–02, Severe Acute Respiratory Syndrome (SARS) in 2003–2004 and, of course, the impact of the COVID-19 global pandemic between 2019–20 and the present. COVID-19 had a far larger impact than any of the previous events. In each of the previous events, domestic aviation activity experienced only a temporary reduction, and rebounded more or less to previous trend levels.

Figure 3: Quarterly total domestic passengers (traffic-on-board by stage), 1985 to 2023

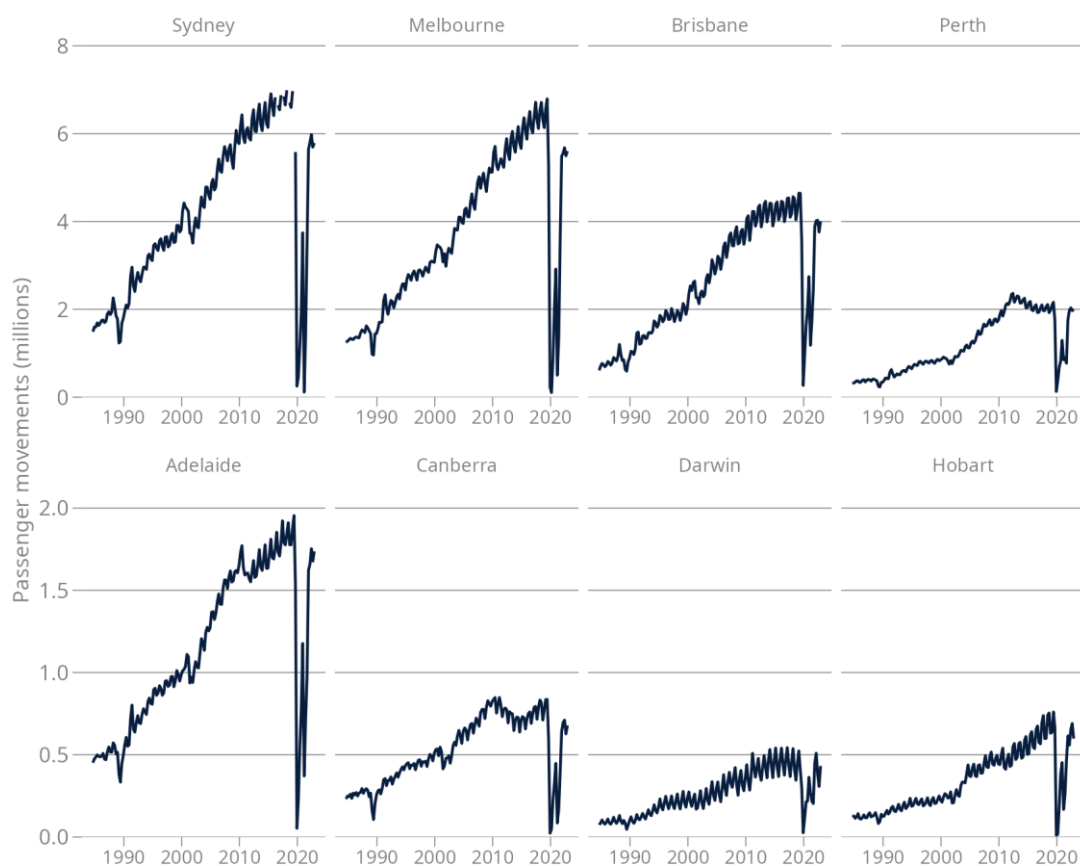


Source: BITRE (2023a).

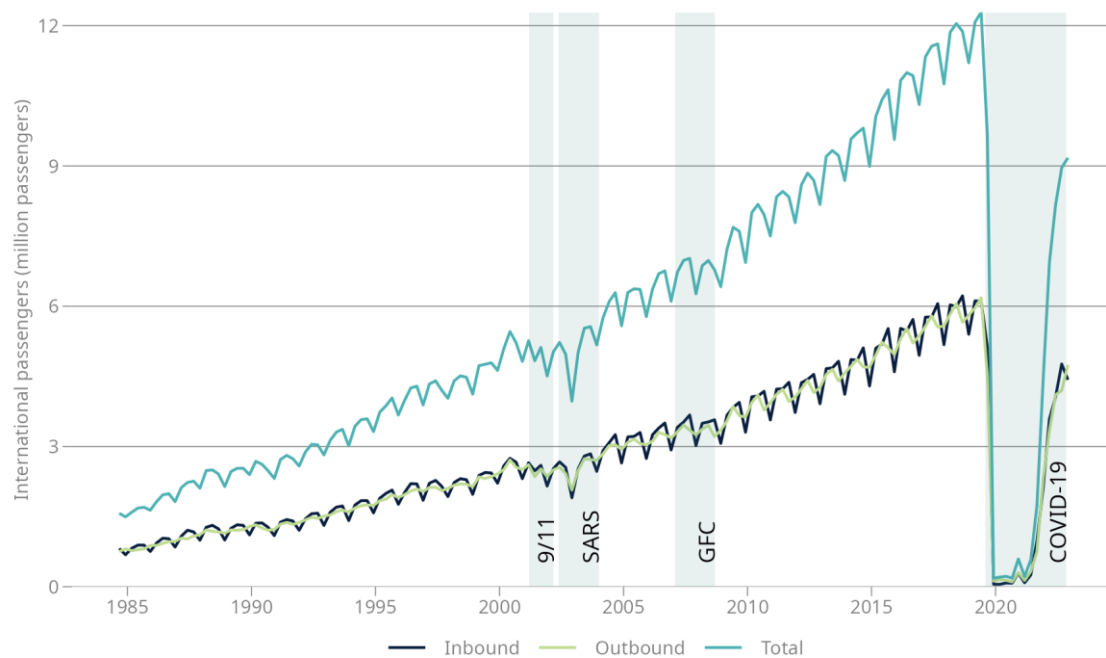
Trends in passenger movements through Australia's major airports broadly reflect trends in total domestic passenger movements (see Figure 4). Total passenger movements through Australia's capital city airports increased from 33 million passengers in 1988–89 to around 121.4 million passengers in 2018–19.

International air passenger movements

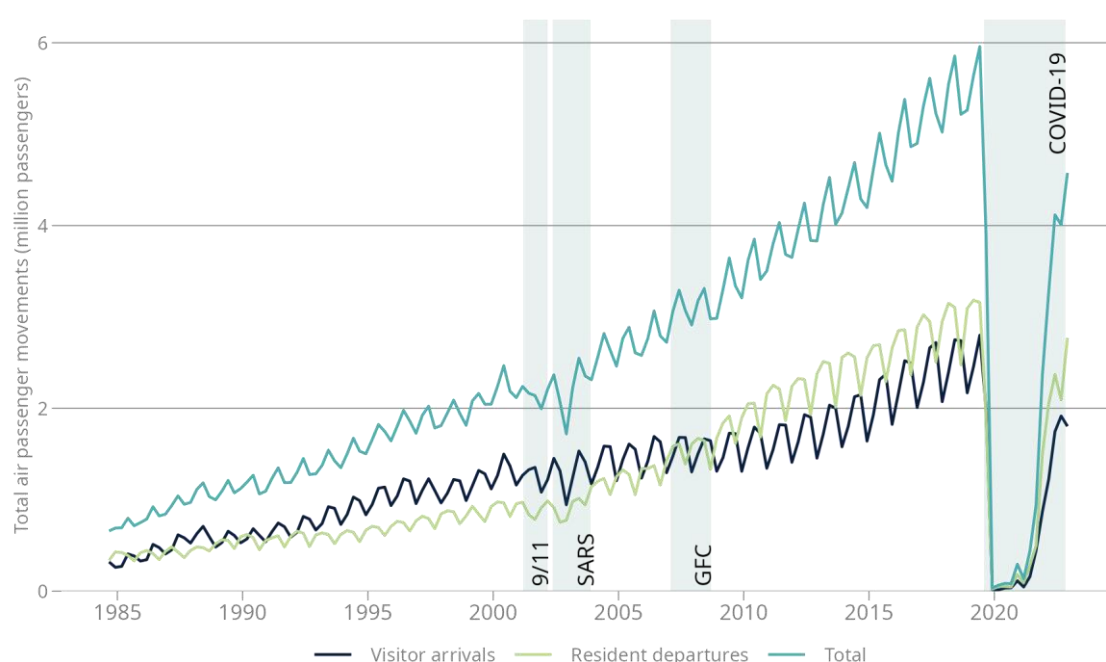
International air passengers into and out of Australia also grew strongly in the three decades prior to COVID-19. Like domestic aviation, several global shocks occurred over that period – e.g. 9/11, SARS, the GFC – that temporarily impacted total international passenger numbers, but travel returned to pre-shock trend levels shortly thereafter (see Figure 5). The COVID-19 pandemic reduced international air passenger numbers in the June quarter 2020 to less than 3 per cent of total passengers twelve months' prior (i.e. June quarter 2019). As at the June quarter 2023, total international air passengers had returned to around 80 per cent of pre-COVID-19 levels.

Figure 4: Quarterly total domestic passengers through Australian capital city airports, 1985 to 2023

Source: BITRE (2023a).

Figure 5: Quarterly total international air passengers, by direction, 1985 to 2023

Source: BITRE (2023b).

Figure 6: Quarterly total international visitor arrivals and resident departures, 1985 to 2023

Source: BITRE (2023b).

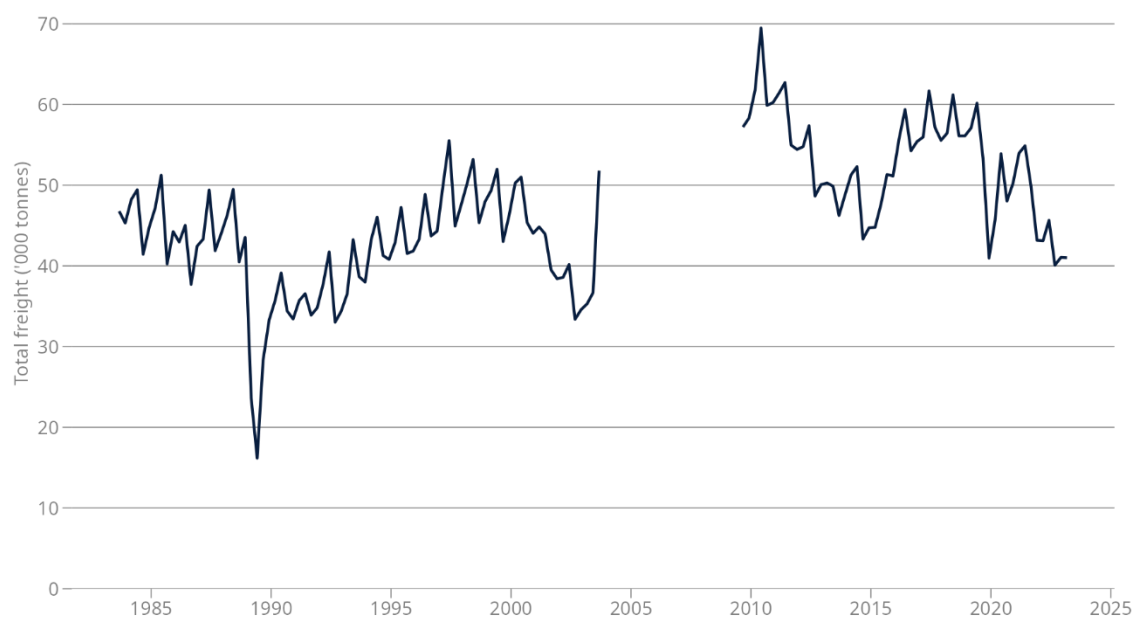
Figure 6 shows quarterly trends in total visitor arrivals and resident departures since 1985. International visitor arrivals accounted for the majority of total international movements prior to 2008, but since 2008 the balance has changed with more residents departing than visitors arriving in Australia each year. In 2018–19, resident departures accounted for around 54 per cent of total visitor arrivals and resident departures.

Historical trends in domestic and international air freight

Domestic air freight

Domestic air freight is predominantly carried in the cargo holds of scheduled passenger services and by a small number of dedicated freight aircraft. Air freight predominantly comprises high-value, low-density freight, such as mail, small parcels and high-value perishables, and accounts for less than 0.1 per cent of total domestic freight (by weight).

BITRE's air freight statistics provide full enumeration of domestic air freight volumes since 2010, but only partial coverage (i.e. only freight carried by commercial passenger services operated by major carriers) prior to 2010. Figure 7 shows BITRE-reported quarterly domestic air freight estimates (on a TOB basis) since 1985 – the pre- and post-2010 break in series is apparent. Between 2010–11 and 2018–19 (prior to COVID-19), total domestic air freight fell from around 251,400 tonnes in 2010–11 to around 229,900 tonnes in 2018–19. Domestic air freight volumes declined further during the pandemic and are yet to show any sign of return to pre-pandemic levels. (Figure 7 also highlights the significant variability of domestic air freight – for example, the visible reduction in air freight between 2012 and 2016 was reportedly attributable to a single freight forwarder switching transport modes.)

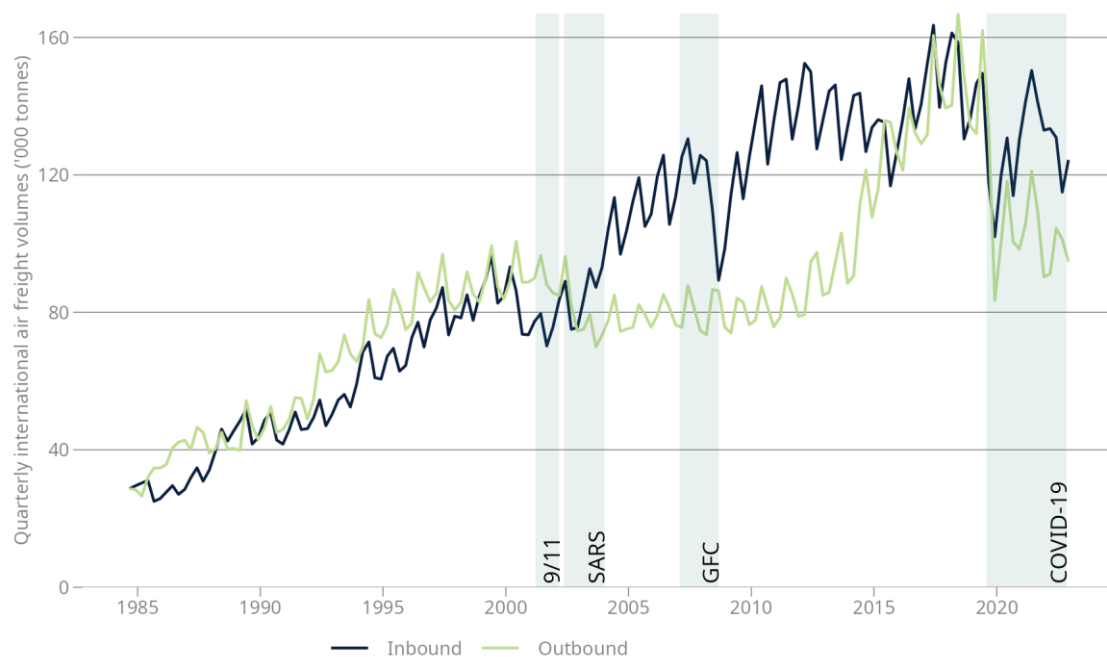
Figure 7: Quarterly total domestic air freight, 1985 to 2023

Note: Break in series between 2004 and 2010.

Source: BITRE (2023a).

International air freight

International air freight accounts for a small share of total merchandise trade by volume (typically less than 1 per cent), but accounts for around 21 per cent of total trade by value. Figure 8 shows quarterly total international air freight, by direction, between 1985 and 2023. Total inbound air freight (imports) has grown almost continuously since 1984–85 – albeit with temporary disruptions around 2001 to 2004, coinciding with both 9/11 and SARS, in 2008–09, around the GFC – from around 173,700 tonnes in 1988–89 to around 586,600 tonnes in 2018–19. Growth in air freight exports has been less consistent with strong growth up to 2000–01, little growth between 2003–04 and 2011–12, and a significant surge in total air freight export volumes between 2015 and 2019. Both inbound and outbound air freight volumes were significantly impacted by COVID and are yet to return to pre-COVID levels.

Figure 8: Quarterly total international air freight, by direction, 1985 to 2023

Source: BITRE (2023b) and BITRE estimates.

Key forecast assumptions

The main forecast inputs include:

- Australian total and regional population growth
- Australian economic productivity and income growth
- Domestic and international airfares/air travel costs
- World and overseas country population growth
- World and overseas country economic productivity and income growth
- International currency exchanges rates.

Australian population growth forecast assumptions

Australian population projections used to generate the aviation forecasts in BITRE (2024) are based on the population projections input to the latest (2023) Intergenerational Report (IGR) (Treasury 2023, Centre for Population 2023). The baseline 2023 IGR projected the Australian population will increase from around 26.6 million persons in June 2023 to around 36.4 million persons by June 2050, an average annual growth rate of 1.17 per cent per annum (Treasury 2023, p. 252).

Australian productivity growth forecast assumptions

Australian economic growth projections are also based on the 2023 IGR (Treasury 2023) productivity, participation and population growth assumptions. The base case IGR economic growth projections assume a long-run labour force participation rate (15 years and older) of 63.8 per cent and long-run labour productivity growth of around 1.2 per cent per annum between 2022–23 and 2062–63. Under these assumptions, real GDP per capita is projected to increase from around \$83,900 per person in 2022–23 to around \$114,600 per person by 2049–50, an average annual growth rate of 1.16 per cent per annum (Treasury 2023, p. 252).

Treasury (2023) also includes two alternative productivity growth sensitivity analysis scenarios, which are used in deriving the sensitivity analysis results reported in BITRE (2024).

Airfares and air transport cost forecast assumptions

Projected future growth in domestic and international airfares (air transport costs) are based on projected growth in world oil prices and other air transport input costs.

Oil price scenarios used in developing airfare/air transport costs forecasts are based on the United States' EIA (2021) world oil price outlook scenarios. The EIA reference case, projects that world oil prices (West Texas Intermediate – WTI) will increase from around \$US71 per barrel in 2021 to around \$US178 per barrel by 2050. EIA also provides alternative 'high' and 'low' oil price scenarios, which are used in deriving the sensitivity analysis results reported in BITRE (2024).

World population growth forecasts

International country population projections are based on the United Nations' 2022 World Population Prospects (WPP) (UN 2022). The WPP provides population projections out to year 2100 for 237 separate countries and world regions, based on analyses of historical country-and region-specific demographic trends.

The 2022 WPP includes ten different projection scenarios, based on varying fertility, mortality and migration assumptions. The medium (WPP baseline) scenario projection is used for the baseline air passenger and freight forecasts presented in this report. Under the 2022 WPP medium scenario, the total world population is projected to increase from around 7.96 billion persons in 2022 to around 9.7 billion persons by 2050, an average growth rate of 0.71 per cent per annum (UN 2022 and BITRE estimates).

Two alternative UN WPP scenarios (low fertility and high fertility) scenarios are used to generate the world population projection sensitivity analysis results reported in BITRE (2024).

World productivity growth forecasts

International country economic growth projections are based on the latest OECD Economic Outlook Long-term baseline (LTB) projections (OECD 2021b, OECD 2021a). The OECD LTB projections provide long-term outlooks (to 2060) of GDP (nominal and real), consumer prices, exchange rates and population for OECD

members, a number of the larger non-OECD member countries (including China, Brazil, India, Indonesia, Russia and South Africa), and the world. The OECD LTB projections imply total world economic activity will increase from an average of \$US22,600 per person in 2022 to around \$US38,500 per person by 2050, an average growth rate of 1.93 per cent per annum (OECD 2021a and BITRE estimates).

Forecast uncertainty, COVID-19 and climate change

BITRE (2024) include estimates of the potential range of variation (prediction intervals) in the forecasts, derived from repeated predictions from the empirical forecasting models. The prediction intervals capture the potential impact of variation in the estimated model parameters on the forecasts. The report also includes sensitivity analysis of the forecasts to variations in the key forecast assumptions – i.e. variations in projected future domestic productivity growth, domestic and overseas population growth, world fuel prices and international currency exchange rates. Most sensitivity analysis scenario outcomes are generally well within the 95 per cent prediction interval ranges.

Aviation forecasts and long-term impact of COVID-19

The COVID-19 pandemic had an unprecedented impact on the aviation sector in Australia and around the world – no previous global or sectoral event has had as large an impact on aviation activity.

Previous shocks, while not as significant as the impact of COVID-19, do not appear to have had a persistent impact on long-term trends in aviation activity – aviation activity has generally returned to trend levels following all previous shocks. However, as of the June 2023 quarter, domestic and international aviation activity had not yet returned to pre-pandemic levels – domestic passenger numbers were around 95 per cent of pre-pandemic (June 2019 quarter) levels and international air passenger numbers were around 80 per cent of pre-pandemic (June quarter 2019) levels.

As noted earlier, it is not yet clear whether the aviation sector will return to pre-pandemic trend levels, or whether experiences during and since the pandemic may have a permanent effect on air travel. For example, the pandemic forced significant changes in individual and business practices. Restrictions on personal mobility and travel during the pandemic resulted in increased uptake and use of video conferencing for both business and personal communication. The ease of use, ready accessibility and lower cost of video conferencing services, make it a potentially viable substitute for many long-distance trips, particularly business trips. On the other hand, the broader availability of video conferencing services appears to have reduced barriers to remotely-located employees across professional, managerial and administrative support (white collar) roles, with a consequent increase in remote employment in some sectors. Such employment could have a stimulatory effect on aviation to the extent it generates additional 'head office' related long-distance travel.

BITRE's current forecasting models do not differentiate between leisure and business travel, and make no explicit allowance for future technology-induced changes in air travel propensities. In the absence of certainty about the long-term impact of COVID-19, and for the purposes of reporting on likely future trend growth, the forecasts presented in this report implicitly assume *full recovery* of both domestic and international aviation activity to pre-COVID-19 pandemic trend levels. In many cases, the 95 per cent prediction intervals appear to cover the potential range of future outcomes, including the case that aviation activity were to be permanently impacted by COVID-19.

Aviation forecasts and climate change

Climate change represents a significant risk to future aviation sector growth. Increases in future global temperatures could have significant impacts on global economic growth and population growth, and affect future aviation sector travel demand. BITRE's forecasts do not explicitly model the potential direct effects of future global and regional temperature increases on air travel patterns.

The Australian Government has committed to reduce greenhouse emissions by 43 per cent below 2005 levels by 2030, and to net zero by 2050. Reaching the target will require reductions in emissions across all sectors of the economy, including transport. Opportunities to reduce aviation emissions from regular scheduled air passenger and air freight operations are most likely to come from continuing improvements in aircraft efficiency, increasing uptake of zero-and low-emission aviation fuels – e.g. sustainable aviation fuels (SAF) – and emissions offsets (under the Australian Government's Safeguard Mechanism).

Uptake of SAF and emissions offsets are likely to increase the future cost of aviation fuels. The baseline forecast assumptions include projected future rates of SAF uptake and application of emissions offsets, which are projected to increase domestic aviation fuel costs above fossil-based fuel cost assumptions projected by EIA (2021).

Concluding remarks

BITRE (2024) presents updated forecasts of Australian domestic and international air passenger and air freight demand from 2024 to 2050. The report updates BITRE's previously published air passenger forecasts: BITRE (2012, 2010, 2008).

In developing the forecasts, BITRE has drawn on its long time series of Australian aviation activity data (BITRE 2023a, 2023b), and the latest long-term forecasts of domestic and international population growth, economic growth, world oil prices projections and the impact of potential responses to climate change.

The baseline scenario forecasts presented in the report represent BITRE's *best* estimates of likely future growth in aviation activity, conditional on the long-term forecast assumptions. However, the prediction intervals and sensitivity analysis results presented in the report provide estimates of the uncertainty inherent in the forecasts.

BITRE (2024) provides more detailed descriptions of the methods, sources and key assumptions used to derive the long-term forecasts.

Appendix A BITRE's aviation forecasting models & methodology

BITRE's 2024 aviation forecasts are based on a suite of forecasting models. A brief description of each of the models and methodology are summarised in Table A.1. BITRE (2024) provides more detailed descriptions of the model specifications and estimation methods.

Table A.1 Summary of BITRE's aviation forecasting models and methodology

Segment	Model specification	Methodological summary
Domestic passengers	Separate dynamic econometric models for: <ul style="list-style-type: none"> National domestic passenger movements Airport / air catchment-specific passenger movements. 	<ul style="list-style-type: none"> Total domestic air passenger movements (measured in passenger kilometres and total passengers) are modelled as a function of domestic economic activity, airfares and event-specific variables (e.g. pilot's dispute, COVID-19). Domestic air passenger movements (total passengers) through major Australian airports / air catchments are modelled as a function of regional economic activity (GDP/GSP per capita & airport catchment population), airfares and event-specific variables.
International passengers	Separate dynamic econometric models for: <ul style="list-style-type: none"> Domestic resident departures & arrivals by airport / air catchment Foreign visitor arrivals & departures by major world region. 	<ul style="list-style-type: none"> Domestic resident departures (total passengers) are modelled as function of domestic economic activity, air fares, relative changes in domestic/overseas prices, event-specific variables (e.g. SARS, COVID-19). International visitor arrivals (total passengers) are modelled as a function of overseas country GDP (source: OECD, IMF, World Bank, UN), air fares, relative changes in domestic/overseas prices, event-specific variables (e.g. SARS, COVID-19).
Domestic air freight	Separate static econometric models for: <ul style="list-style-type: none"> National domestic freight movements Airport / air catchment-specific freight movements. 	<ul style="list-style-type: none"> Total domestic air freight (measured in total tonnes and tonne kilometres) is modelled as a function of domestic economic activity, aviation transport costs and event-specific variables. Domestic air freight movements through major Australian airports / air catchments are modelled as a function of domestic regional economic activity (GDP/GSP per capita & airport catchment population), aviation transport costs and event-specific variables.
International air freight	Separate static econometric models for: <ul style="list-style-type: none"> Air freight exports by airport / air catchment Air freight imports by airport / air catchment. 	<ul style="list-style-type: none"> Air freight exports (tonnes) are modelled as a function of domestic economic activity, air transport costs (proxied by aviation fuel costs) and event-specific variables. Air freight imports (tonnes) are modelled as a function of domestic economic activity, air transport costs (proxied by aviation fuel costs) and event-specific variables.
General aviation	Static econometric model	<ul style="list-style-type: none"> General aviation activity (aircraft flying hours) is modelled as a function of domestic economic activity and aviation fuel costs – event-specific variables are not statistically significant.

Source: BITRE.

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ISSN 1440-9593

May 2024

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This publication should be attributed in the following way; Bureau of Infrastructure and Transport Research Economics (BITRE) 2024, *Australian aviation forecasts – 2024 to 2050 (Summary)*, BITRE, Canberra.

Acknowledgement

This information sheet was prepared by David Mitchell.

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