
3 International air travel infrastructure

■ Summary

- › Current air travel infrastructure is not sufficient to meet the expected demand growth in tourists over the next seven years.
- › Inbound seat capacity can be relatively quickly changed through adding/removing flights, assuming appropriate air service agreements are in place. However, capacity of airport infrastructure requires long-term planning. New Zealand's international airports appear to be proactively working towards the expansion in airport infrastructure, though there could be short-term challenges before these large-scale developments come online.
- › The profitability of air routes (and therefore the likelihood of additional capacity coming online) depends on a combination of yield (return per passenger) and load factor (how full the airplane is). There are relatively few barriers to enter the market, so potential routes will be taken by an air carrier if they are profitable.

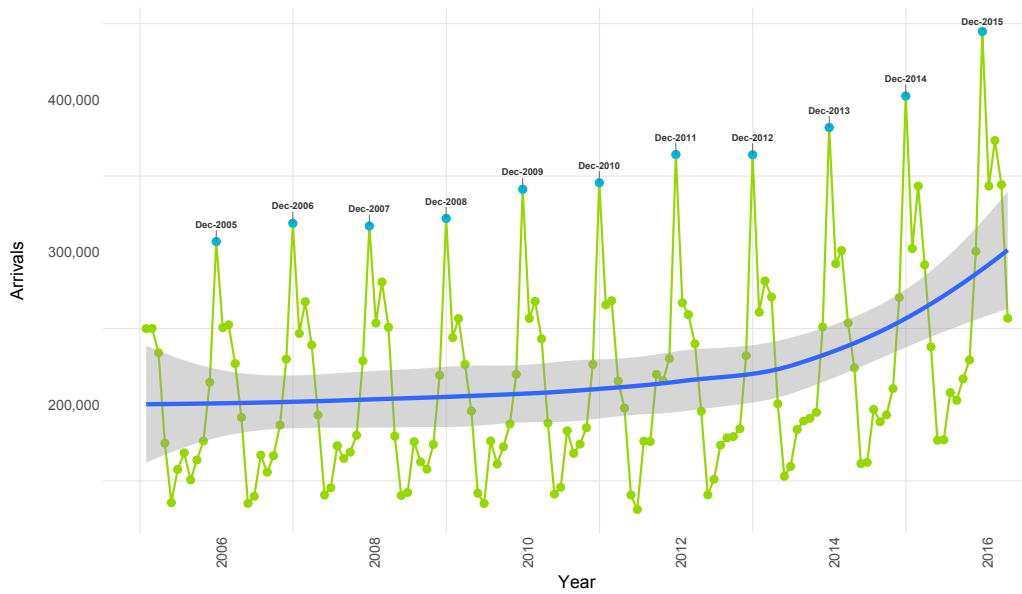
3.1 International air travel infrastructure demand

Of New Zealand's 3.5 million annual visitors, 99 per cent come by air. Regions with international airports are widely recognised as being 'gateways' for international tourists to New Zealand, and serve as hubs from which they disperse to the regions.

While domestic air travel is important for the regional dispersal of tourists from the main international airports, it is difficult to separate tourist trips from commuting or business trips in our data – therefore it is excluded from this analysis.

While international visitor arrivals were relatively steady over the period from 2007 to 2012, from 2013 onwards there has been consistent growth as demand has recovered since the global financial crisis. Large reductions in fuel prices have contributed to a significant improvement in airline profitability and, as a consequence, their appetite for pursuing capacity growth – especially in the delivery of long-haul international air services. From the January 2013 year to the January 2016 year, there has been a 24 per cent increase in the number of arrivals into New Zealand. A large proportion of this growth has happened recently, with 10 per cent growth occurring in the March 2016 year. Annual arrivals have hit a record number, with 3.3 million international visitors in the year ended March 2016.

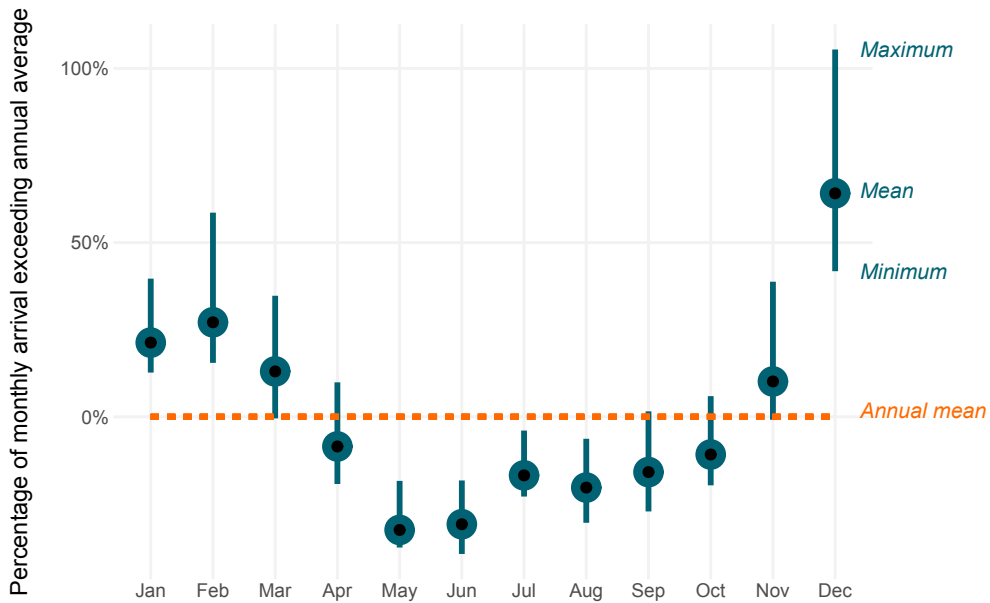
Figure 4: International visitor arrivals, monthly



Source: International Travel and Migration statistics, Statistics New Zealand

Monthly visitor arrivals are much higher in the summer, peaking in December each year. Considering the last 10 years (2005 to 2015), December arrivals are approximately 64 per cent higher than the annual average, while June is approximately 30 per cent lower than the annual average (Figure 5). Air travel infrastructure, therefore, must be versatile enough to accommodate this level of variation throughout the year. Given the fact that airports must also deal with visitors departing after their trip, this translates into around 6 million passenger transfers each year. When considering inbound and outbound trips of New Zealanders each year, the total passenger movements for the year ended March 2016 were over 11.6 million.

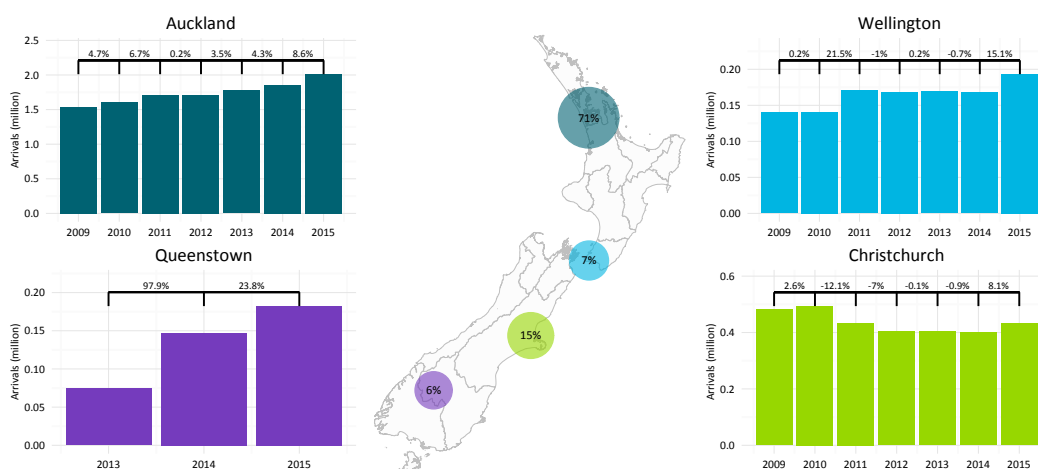
Figure 5: Seasonality of international visitor arrivals



Source: International Travel and Migration statistics, Statistics New Zealand

The majority of the international visitors arrive at Auckland Airport (71 per cent in 2015) (Figure 6). Auckland has seen steady growth in arrivals, up 8.6 per cent in 2015. However, Queenstown and Wellington airports have seen stronger percentage growth over the last year (at 24 per cent and 15 per cent, respectively). The increase in Queenstown Airport arrivals is partly due to a reduction in volume through Christchurch, where infrastructure problems related to the 2010 and 2011 earthquakes (especially available accommodation and travel congestion difficulties), as well as the earthquakes themselves, may have discouraged some tourists. In June 2016, night operations will start in Queenstown, which is expected to attract more weekend tourists from Australia. Wellington Airport has seen growth due to new routes starting in the last year, but the potential for future growth may be muted. Arrivals to Christchurch Airport increased in 2015, but are still below pre-earthquake levels.

Figure 6: International visitor arrivals, annual average, by port



Source: International Travel and Migration statistics, Statistics New Zealand

Work undertaken by Auckland Airport suggests that there are opportunities to grow air capacity to a number of parts of the world, most notably Germany, Canada and Australia. Additional flights to these countries could potentially lead to higher visitor arrivals, as long as airport infrastructure is sufficient to support this growth.

3.2 International air travel infrastructure supply

Air transport infrastructure for tourism comprises airports, airplanes and the air navigation system. The quality and capacity of this infrastructure can have significant impact on the quality of a tourist’s experience.¹²

The supply of air transport infrastructure can be broken down in to two main groupings:

- › infrastructure of airports
- › number and capacity of flights.

Sufficient capacity of both are needed to support the high growth in visitor arrivals forecast. While new air services involve substantial commitments from airlines in terms of capital and operating costs, the primary assets (aircraft) are ultimately mobile and can be redeployed between markets with relatively short lead times. The number of flights to a particular destination can adjust quickly, provided there is sufficient aircraft available and sufficient demand at appropriate yields for airlines to operate profitably. In contrast, investment in airport infrastructure typically involves longer lead times and financial commitments to immobile, largely specialised assets with high fixed costs.

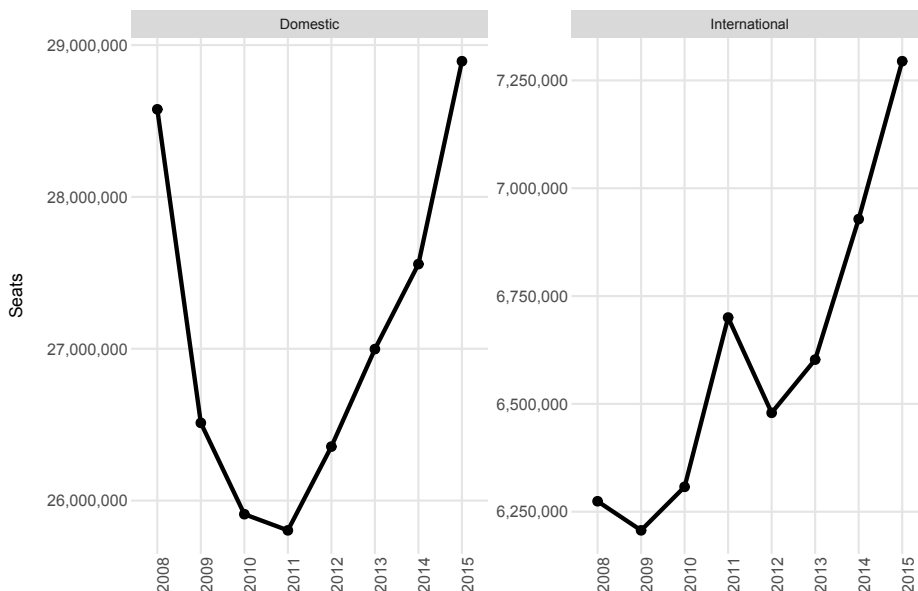
It is difficult to measure the available supply of airport infrastructure. However, it is relatively straightforward to identify capacity and the number of seats occupied of flights into New Zealand.

12 National Infrastructure Unit. (2015). *Infrastructure evidence base – 2015 refresh: Transport sector*. Retrieved from <http://www.infrastructure.govt.nz/plan/evidencebase/2015-nip-evidence-transport.pdf>

New Zealand has five airports with scheduled international services: Auckland, Wellington, Christchurch, Dunedin and Queenstown. Twenty-six airports receive scheduled domestic services from operators of aircraft of 19 seats or more. Two airports (Auckland and Christchurch) are capable of supporting long-haul international air services. Christchurch Airport has a significant amount of under-utilised capacity in this regard. Most airports are owned by local government, though some are partly owned by central government or private investors. Airways New Zealand, a state-owned enterprise, provides air navigational infrastructure.

Aviation capacity is provided by the two domestic and 24 international passenger carriers which operate in New Zealand. This infrastructure is for the most part privately provided. The total air capacity is shown in Figure 7, with 28.9 million domestic seats and 7.3 million inbound international seats in 2015.

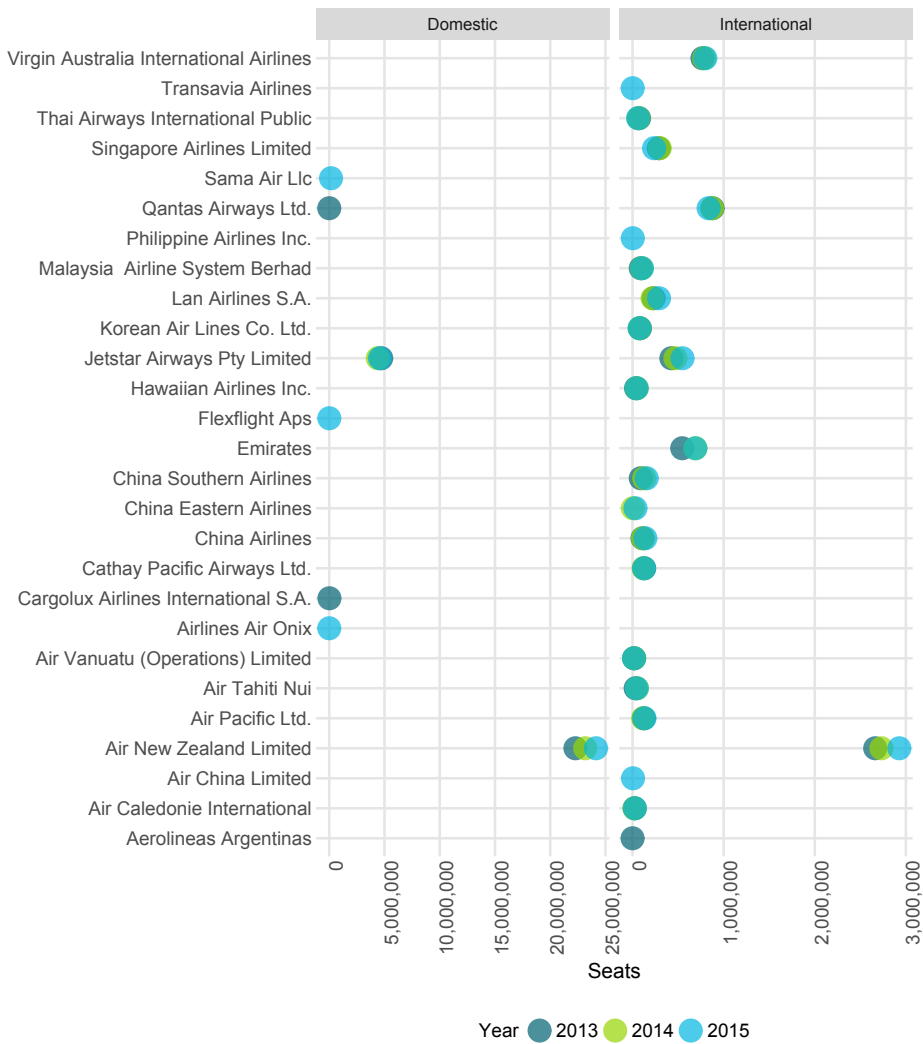
Figure 7: Seat capacity by origin



Source: Sabre

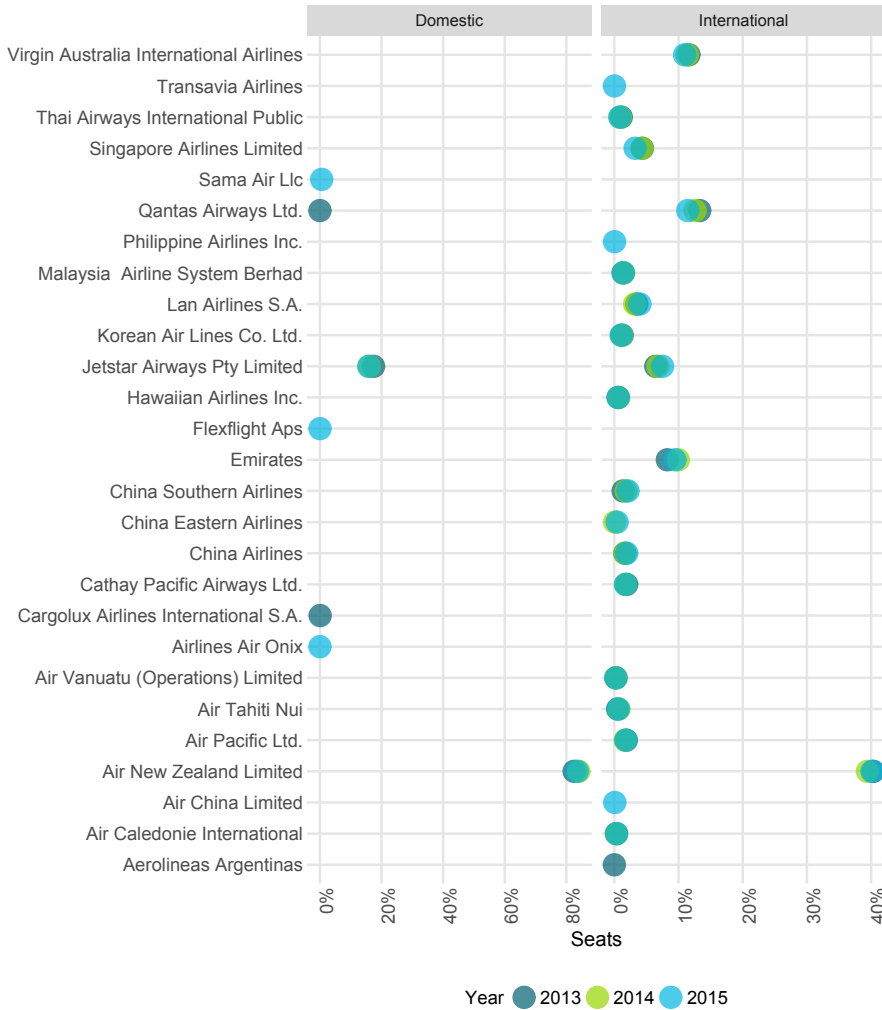
Air New Zealand carries approximately 80 per cent of domestic traffic and, together with their alliance partners, operates 40 per cent of international capacity into and out of New Zealand. About 95.6 per cent of passenger seat hours are flown on large planes (greater than 30 seats).

Figure 8: Flight capacity of international and national flights per operator



Source: Sabre

Figure 9: Percentage of flight capacity of international and domestic flights, by operator



Source: Sabre

3.2.1 Air service agreements

The pool of air routes available to carriers is governed by air service agreements. These agreements are required before an international flight can operate between two countries. New Zealand has 59 agreements in place, 18 agreements approved by Cabinet are awaiting signature, one code-share arrangement is awaiting signature, and two agreements are under negotiation.

Table 1: New Zealand air service agreements

COUNTRY	AGREEMENT TYPE	STATUS
Argentina, Australia, Austria, Belgium, Brazil, Cambodia, Canada, China, Denmark, Fiji, Finland, France, Germany, Greece, Hong Kong, Indonesia, Ireland, Italy, Jamaica, Japan, Korea, Kuwait, Luxembourg, Macau, Malaysia, Mexico, Nauru, Niue, Norway, Papua New Guinea, Philippines, Qatar, Russia, Saudi Arabia, Seychelles, Solomon Islands, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, United Kingdom, Uruguay, Vanuatu, Viet Nam	Bilateral air services	In place
Brunei, Chile, Cook Islands, Mongolia (cargo-only), Singapore, Tonga and the United States of America	Multilateral Agreement on the Liberalization of International Air Transportation (MALIAT)	In place
Curacao, Czech Republic	Code-share only air services arrangement	In place
Bahrain, Colombia, Egypt, Ethiopia, Iceland, Israel, Mauritius, Nepal, Netherlands, Nigeria, Pakistan, Panama, Portugal, Oman, Paraguay Serbia, Togo, Zambia	Air services	Approved by Cabinet but awaiting signature
The Bahamas	Code-share only	Awaiting signature
Laos, Peru	Air services	Under negotiation

Air service agreements specify:

- › routes that can be flown
- › capacity (frequency and aircraft types) that may be offered
- › how many airlines may operate
- › how tariffs are regulated.

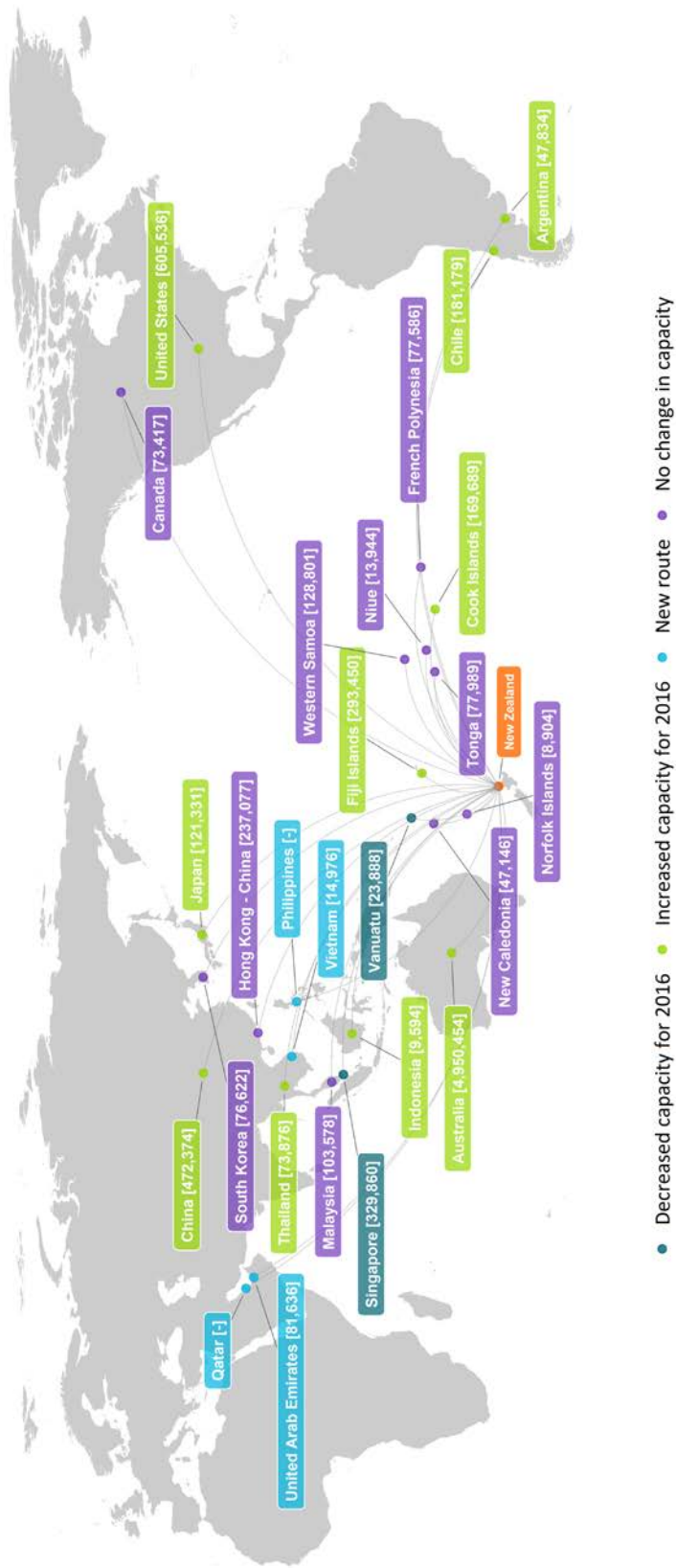
Open skies agreements are a subset of air service agreements that place little or no restrictions on available routes, number of flights or flight prices. New Zealand currently has more than 40 agreements that could be classified as open skies agreements, depending on the definition of open skies used by different jurisdictions. These agreements set New Zealand as one of the most open commercial aviation markets in the world, with relatively few barriers that could restrict air carriers flying to the country.

3.2.2 International air connections

Air connectivity is critical to the tourism industry and to the New Zealand economy as a whole. Figure 10 shows all the countries flying directly to New Zealand, while Figures 42 to 45 in Appendix 3 of this report show the cities with direct flights to New Zealand by port, along with new routes and planned expansions. Please note that in the graphs, due to fluctuations in capacity across years, a change in capacity is only considered if it grows or falls by more than 5 per cent. Capacity changes of less than 5 per cent are considered to be unchanged.

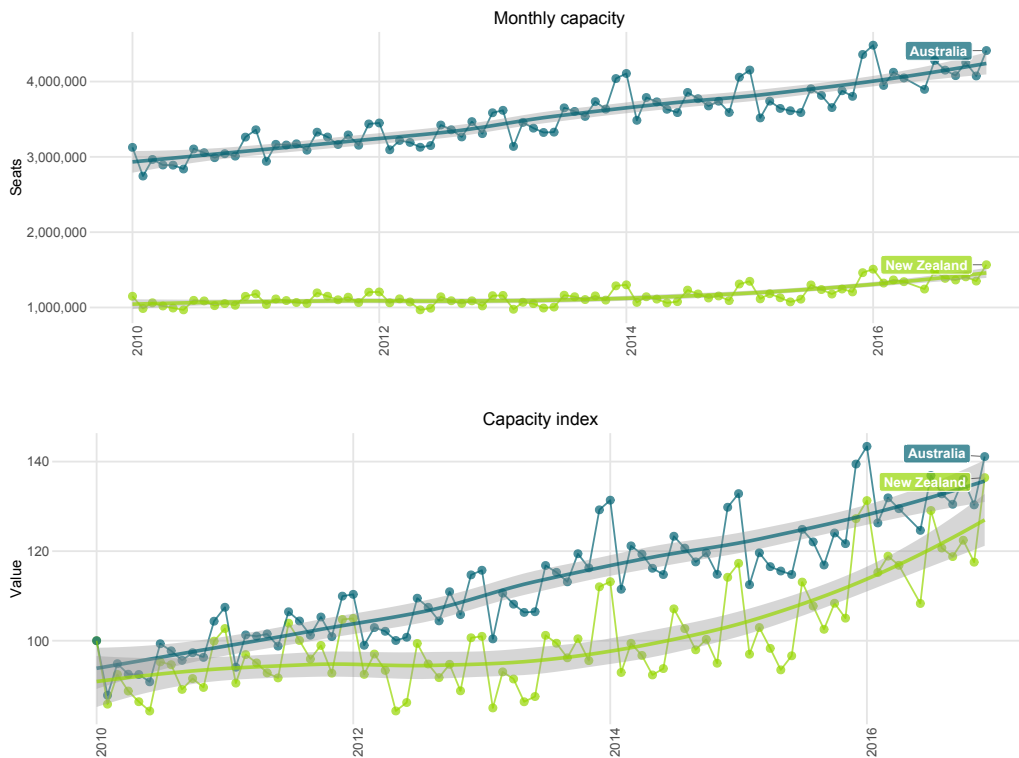
New air routes provide increased capacity and this can influence demand. After an extended period of little growth in annual capacity (number of seats), New Zealand saw a significant increase in inbound flight capacity from late 2013, with this expected to continue in 2016 and 2017 (refer Figure 7). In contrast, growth in inbound capacity to Australia has been more consistent over the period. Given its relatively small size and distance from a number of international markets, long-haul international air services to New Zealand involved significant commercial risks, especially in the very high fuel price environment that existed between 2009 and 2013. These risks have reduced as demand has continued to grow and the cost of fuel has decreased significantly.

Figure 10: Inbound capacity to New Zealand, 2016



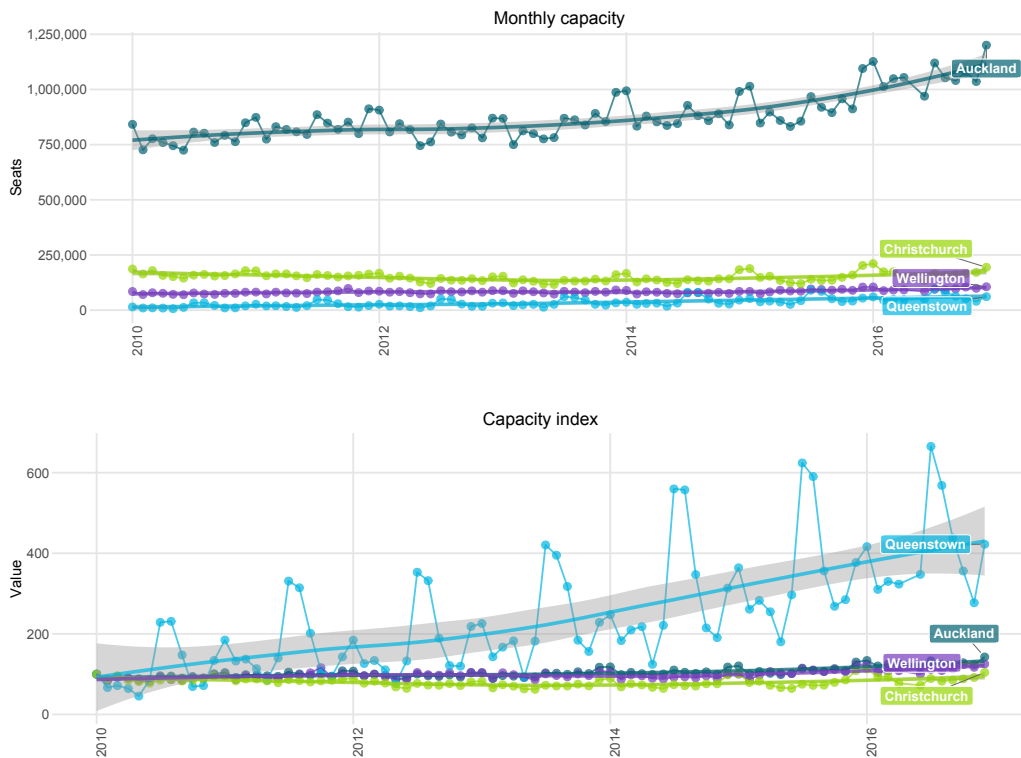
Note: data for the Philippines and Qatar are currently unavailable.

Figure 11: Inbound capacity – New Zealand vs Australia



The recent growth in capacity has been shared across New Zealand’s four main international airports. Capacity growth has been exceptional in Queenstown, up 97.9 per cent from 2013 to 2014, and 23.8 per cent from 2014 to 2015. The number of international arrivals in Queenstown in 2013 was very low when compared to the other airports in New Zealand. That said, Queenstown’s capacity is now just approaching Wellington’s. In terms of actual seats, 58.5 per cent of the growth has occurred in Auckland, with much smaller absolute growth in capacity for the other airports.

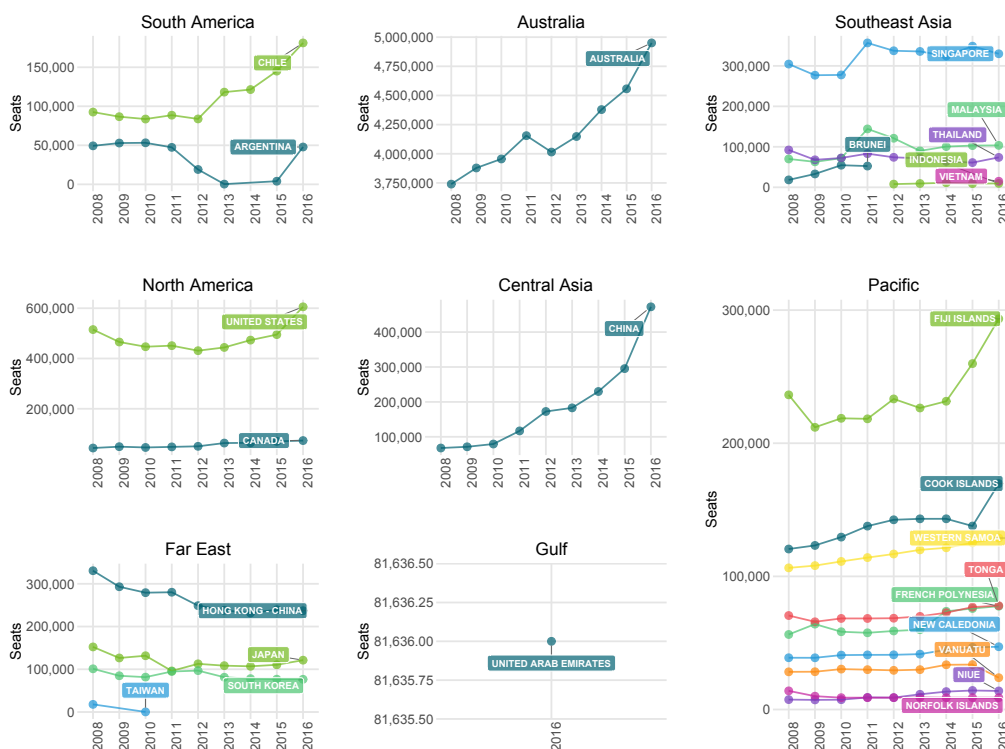
Figure 12: Annual inbound capacity to New Zealand’s main international airports



Source: Sabre

Approximately a million more seats have been made available from Australia over the last four years, increasing capacity by 25 per cent. Capacity to China remains at a much lower level than Australia, but has seen a meteoric rise, from less than 50,000 in 2008 to almost 500,000 in 2016. The capacity of flights to the United States fell over the global financial crisis period, but has since recovered, growing above the previous high in capacity due to new flights to Houston and San Francisco, and growth in the number of existing flights to Los Angeles. Other growth areas include the Middle East, where a new flight from Qatar Airways from Doha to Auckland is planned in February 2017 (which will break records for being the longest commercial long-haul flight in the world).

Figure 13: Annual inbound capacity to New Zealand by origin country



Source: Sabre

3.2.3 Planned/New growth in capacity

New Zealand airports have announced a number of new flights across 2016 that should increase capacity in the short-to-medium term. A full list of these flights is presented in Appendix 1.

3.2.4 Airport infrastructure

Several construction projects are in the pipeline to expand international airport capacity. These projects are required to support the growth in tourist numbers that additional flights will bring.

As part of its 30-year plan, Auckland International Airport plans to build a new terminal, a new northern runway and a new taxi apron, at an estimated cost of \$2.4 billion.¹³ The new terminal will be built in stages, with the plan to be able to accommodate up to 40 million domestic and international passengers annually,¹⁴ and have 94 spaces for aircraft to park. The first stage of the plan, to be completed by 2019, is to merge the domestic and international terminals. More car parking will be in place by 2022. Space has been allocated for a rail corridor and underground station as part of the plan.

13 Auckland Airport. (2014). *Airport of the future: Our vision for the next 30 years*. Retrieved from <http://www.aucklandairport.co.nz/downloads/aial-masterplan.pdf>

14 The existing airport terminal accommodated 16.5 million passengers in 2015.

Construction of a new 10-storey, 1,000-space car park at Wellington Airport is underway. This \$70 million project should be completed by the end of 2017. Work is also underway on a new control tower, estimated to cost around \$18 million, to be completed late 2016. Wellington Airport lodged a resource consent application to extend Wellington's runway on 28 April 2016. The proposed \$300 million extension, if successful, will increase the runway south by 354 metres, allowing direct long-haul flights to Asia. A resource consent hearing on the proposal is expected to occur in February 2017.

Queenstown Airport's \$18 million expansion was completed in April 2016. This was an 18-week construction project, including widening the airport's runway from 15 metres to 45 metres, installing runway, taxiway, apron and approach lights, and trenching for electrical cabling. The investment is designed to increase the capacity of the airport by allowing aircraft operations to be extended beyond a 'daylight hours only' limitation.

In all, around \$2.8 billion of work is in the pipeline for New Zealand's international airports, the lion's share (85 per cent) being for Auckland's long-term terminal development.

3.2.5 Sustainability of air services

Load factors measure the percentage of total seats on a flight being used by passengers. They are one of the few readily available measures to assess how an air service might be performing financially for an airline and whether there may be incentives to grow or reduce capacity on a particular route. However, for airline operators, a number of other important questions are involved in such a decision. These factors include, but are not limited to:

- a. Revenue quality – a function of not only the volume of passengers but also the price at which a given level of volume exists. This influences whether the resultant revenue is derived at an economically sustainable level.
- b. Opportunity cost/prioritisation – Given finite capital, is growth in an existing service or the introduction of a new service the best possible option for deploying that capital in terms of risk and return?

Both of the above factors necessarily include some consideration by an airline of how successfully a new service is expected to compete against other airline offerings in a particular market.

New Zealand has one of the most open air services markets in the world. There are relatively few, if any, barriers to entry other than the commercial risks inherent in operating international flights themselves. Air services are capital intensive, labour intensive and sensitive to both fuel price fluctuations and sudden changes in the demand environment.

Subject to an airline's assessment of those commercial risks, opportunities for growth are typically seized upon quickly. This is evidenced by the pace and scale of the growth seen in the number of international air services that have either started and/or been announced over the past 18 months across each of New Zealand's key tourism markets, including Australia, China, the United States, the United Kingdom/Europe, South East Asia and Japan.

From the Australia market, annual average load factors are generally growing across all airports (apart from Queenstown). The load factor into Auckland has been increasing since 2013 from 70 per cent up to 75 per cent.

The Auckland load factor is lower than both Wellington and Dunedin. Dunedin, as a relatively niche international airport serving only Australia, has a load factor over 80 per cent. Outside of the Australian market, some clear patterns emerge. Pacific Island countries, including New Caledonia, Tonga, French Polynesia and Western Samoa, have seen strong increases in load factors over the last two to three years.

Given these countries are more likely tourist destinations rather than tourist sources, and given New Zealand's close ties with the Pacific, it suggests that these flights are catering for either New Zealand tourists and international tourists using New Zealand as a base, or for visiting friends and relatives in these islands.

In conclusion, it looks likely that New Zealand will continue to attract more airlines eager to expand existing routes and grow new ones. Conversely, there is little fear that existing routes will close within the current environment.