

SYDNEY'S AVIATION FUTURE



MEETING THE CHALLENGE OF GROWING DEMAND



TOURISM & TRANSPORT FORUM

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EXECUTIVE SUMMARY

Since the mid twentieth century, aviation has been the backbone of commerce, allowing vast growth in trade, tourism, economic development, and prosperity. The tyranny of distance due to Australia's relative global isolation has been alleviated in recent years by access to regular, safe and affordable air transport.

At the heart of our national aviation network, Sydney Airport remains the country's single most important aeronautical asset. More than two-fifths of all international visitors arrive at Sydney Airport and more than one-fifth of all domestic air travel passes through Australia's key hub. Additionally, Sydney has benefited from having its only international airport on the city's doorstep, helping demand from travellers to grow over time.

Sydney's aviation needs are growing rapidly

However, given its small land profile and limited options for physical growth, Sydney Airport will approach its maximum capacity in the foreseeable future. The recently published *Joint Study on aviation capacity in the Sydney region* identifies 2035 as the earliest date at which Sydney Airport may no longer be able to accept any additional flights.

Sydney Airport need not be in this position, with a number of constraints limiting its ability to operate at its maximum design capability. It can and should accommodate more aircraft than the current limits allow – limits imposed by federal government regulation. These constraints to growth are crude mechanisms designed decades ago to suit political purposes and do not reflect any of the ongoing safety, noise, and emissions developments created by industry since the beginning of the jet age.

This report outlines numerous challenges the visitor economy will face in the future should demand for aviation access to the Sydney region outpace supply from airport infrastructure, and outlines achievable solutions over the next two decades.

A large number of these solutions involve sensible policy actions that need to be applied in the short term, looking past the difficulties of politics in the interests of Sydney's future as a global city and Australia's leading economic centre. In particular, industry and decision makers must take a 21st century approach to technological advances in aviation and to noise mitigation – all of which will benefit the community.

Regulatory reform can deliver more capacity

This is principally evident in the application and imposition of the Sydney Airport movement cap of 80 takeoffs or landings per hour. As an arbitrary number reflecting none of the advances in aircraft noise output in recent years, this typifies an old-fashioned approach, holding back Sydney Airport from its maximum efficient potential.

Furthermore, its enforcement in 15-minute blocks triggers delays across the entire Australian national aviation network that are avoidable if international best practice of an annualised target were followed. The cap should be lifted to 90 takeoffs or landings per hour and restructuring its enforcement would increase Sydney's flexibility to manage and reduce delays.

The Sydney Airport Long-Term Operating Plan was originally designed to share aircraft noise across affected communities following the construction of the parallel third runway. However, this becomes impractical for safety reasons beyond 55 takeoffs or landings per hour, leading to more noise being concentrated over fewer houses.

While today's aircraft are 75 per cent quieter than the first jet aircraft of the 1960s and 50 percent quieter than when the cap was first introduced, this has been effectively ignored by successive governments. Modern technology exists that would allow for more accurate approaches and aircraft flying higher for longer before landing. These sensible enhancements have not been implemented. In fact, since 1997, very little has changed in the operating procedures around Sydney Airport.

Technological advances and improvements to air traffic management could achieve more flights than 80 per hour with no significant impact on noise amenity for most Sydney residents, while creating better noise outcomes for some of the worst affected suburbs, if a more holistic approach were taken.

Other airports in the Sydney region can be better utilised

To ensure Australia has an efficient aviation environment over the next two decades, there are a number of medium-term solutions to utilise existing aviation assets, both within the Sydney basin and outside.

Limited passenger services from Bankstown Airport would grant western Sydney residents greater access to air travel in the medium term and the airport should also handle more of the peripheral activities currently based at Sydney Airport, such as business aviation and helicopter activity. RAAF Base Richmond should commence limited passenger services and help handle some of the aviation cargo demand that will come with growth in western Sydney over the coming years.

Canberra Airport is the only curfew-free airport serving New South Wales and has the opportunity to play a significant role as an important overnight freight hub and low-cost carrier base given the right environment. Newcastle Airport shares its runway with RAAF Base Williamstown and could become an important overflow airport for northern Sydney,

the NSW Central Coast and the Hunter district if a more realistic movement cap and curfew during non-military operating hours implemented.

The future of high-speed rail along the east coast has the ability to link Canberra, and Newcastle to Sydney, significantly improving both airports ability to serve the Sydney market, while also improving connectivity between mid-points.

However, even in totality, these changes cannot alleviate the bigger issue – Sydney will need a secondary airport in the first half of this century.

Sydney will need an airport at Badgerys Creek

There is overwhelming support for selecting Badgerys Creek as the preferred site and TTF fully endorses this view. Full bipartisan political support for Badgerys Creek is now needed to ensure the site is secured and work can commence on planning for the future.

The need for a secondary Sydney airport is not only an operational issue. Residents of western Sydney will become increasingly deprived of the benefits of access to aviation services, both in terms of leisure travel and business connectivity. TTF believes a Badgerys Creek airport would help redress this imbalance.

While it is apparent that no rapid or single solution to the issue exists, it is clear that delaying action due to perceived political difficulty will simply ensure that addressing these challenges in the future will become more demanding and costly. Complex, long-running, large-scale issues such as these require delicate planning, political courage, and appropriate action and this must commence now.

Governments at all levels must appreciate the risk of inaction and work with industry to ensure necessary decisions and choices are made over the next year to safeguard the future of our nation.

The message is simple: to improve long term access, maximise Sydney Airport in the short term, make greater use of other airports in the medium term, and support Badgerys Creek now as a long term solution to serve Sydney's growing aviation needs.



Image courtesy of Sydney Airport Corporation

RECOMMENDATIONS

SHORT TERM:

1	Realign operations at Sydney Airport into two common-use terminal precincts to improve passenger flow and connectivity times, maximise use of apron, terminal and runway infrastructure, and reduce congestion in surface transport modes.
2	Delink the Sydney Airport slot management scheme from the movement cap to allow greater flexibility in operations, improve efficiency, and reduce the risk of delays at Sydney Airport.
3	Progressively increase the Sydney Airport slot cap to 90 scheduled slots per hour based on demand. Allocate all new slots above 80 scheduled slots per hour to quieter, next generation aircraft to offset noise impacts against increased aircraft activity.
4	Increase the Sydney Airport movement cap to 90 movements per hour in line with an increase in the slot cap to 90 scheduled slots per hour.
5	Increase the number of curfew shoulder period movements (between 5:00am - 6:00am and 11:00pm - 12:00pm) at Sydney Airport from 24 to 35 per week to align with the limits proscribed within the <i>Sydney Airport Curfew Act 1995</i> to improve efficiency and connectivity, and reduce early morning airborne holding.
6	All new slots allocated during the curfew shoulder period should be operated by quieter, next-generation aircraft to offset noise impacts against increased aircraft activity.
7	Alter the movement cap system from the current 15 minute block count to an annual rolling count, similar to the system in place at London Heathrow Airport, to significantly reduce the risk of delays and holding, and maximise the efficiency of Sydney Airport.
8	Safeguard zoning of land use in Kurnell Peninsula and other noise sensitive areas under the southern flight paths of Sydney Airport to protect preferred approach and departure flight paths, and prevent increased residential exposure to aircraft noise.
9	Immediately review the structure of the Sydney Airport Long-Term Operating Plan to determine its ongoing effectiveness and ability to deliver its noise sharing objectives based on forecast demand.
10	Review the Sydney Airport Community Forum structure, composition of membership, length of tenure of members' representatives, and the governing terms of reference to ensure the goals and objectives of the group are in line with community expectations.
11	Reduce noise exposure to the affected community by prioritising improvements and investment in air traffic management systems at Sydney Airport and in surrounding airspace to improve efficient flow of arriving and departing aircraft. Specifically, the federal government and Airservices Australia should expedite the implementation of Required Navigation Performance (RNP) procedures in Sydney Airport airspace.
12	Immediately review the existing pricing system for intrastate (regional) airlines to improve the current inequitable payment model between resident airlines at Sydney Airport. Establish a pricing incentive for regional airlines to upgauge aircraft in use on intrastate routes to improve capacity and maximise slot efficiency. Increase the minimum aircraft size limits over time.
13	Upgrade surface transport modes to increase access to Sydney Airport and improve passenger connectivity through the Sydney region.
14	Abolish the \$12.30 gate fee at Domestic Airport and International Airport train stations to encourage greater use of public transport services at Sydney Airport.

MEDIUM TERM:

15	Increase the number of approved passenger aircraft flights at Bankstown Airport to 32 per day to greatly improve access for travellers in south-western Sydney to the domestic aviation market.
16	Lengthen the runway at Bankstown Airport to accommodate aircraft larger than a Code 3C rating to accommodate limited jet cargo and larger business jet activity.
17	Improve surface transport access to Bankstown Airport for better access to both the Sydney CBD and south-western Sydney.
18	Approve the introduction of civil aviation activity at RAAF Base Richmond as a temporary measure until a secondary Sydney airport site is selected and constructed to address increased aviation demand for the Sydney region over the medium to long term.
19	Improve surface transport access to RAAF Base Richmond to meet projected demand once civil aviation activity commences.
20	Protect Canberra Airport's curfew-free status to ensure the Sydney region has access to a 24-hour aviation asset to meet demand for overnight aviation activity.
21	Alter the curfew period at Newcastle Airport (RAAF Base Williamtown) to 6:00am-11:00pm in line with all other airport curfews nationally to ensure consistency and address business travel demand.
22	Increase the movement cap at Newcastle Airport (RAAF Base Williamtown) from six movements per hour to improve capacity, address increased aviation demand, and offer greater operational flexibility to the northern Sydney, Central Coast and Hunter regions.
23	Examine the feasibility of high-speed rail along the Newcastle-Sydney-Canberra corridor to improve access to Canberra Airport and Newcastle Airport (RAAF Base Williamtown) for the greater Sydney market.

LONG TERM:

24	Federal government and opposition pledge bi-partisan support for Badgerys Creek as the site for a secondary Sydney airport.
25	Within the next 12 months, commence technical design, layout, and transport link planning for a secondary Sydney airport, given the anticipated long project lead times.
26	Ensure land-use under proposed flight paths is free from residential development for at least 10km from the threshold of any proposed runway.



The aviation needs of the Sydney region is one of the most difficult infrastructure and political challenges faced by this nation over the past hundred years. The location and construction of a secondary Sydney airport has been a matter of public debate for more than four decades, while the growth and expansion of Sydney Airport has also faced its own hurdles.

Sydney Airport is the single most important asset for the Australian tourism industry, lying at the heart of the national aviation network. Sydney's only international gateway at present facilitates:

- 35 international, five domestic (interstate) and six regional (intrastate) airlines^A;
- Flights to 47 international, 23 domestic and 26 regional destinations^B;
- Over 42 per cent of Australia's international traffic¹ and 22 per cent of domestic traffic², with a combined total of 36 million passengers for 2012³; and
- Almost 50 per cent of Australia's international air freight⁴, 80 per cent of which is carried within the passenger aircraft cargo hold⁵.

During the decade between financial year (FY) 2001-02 and FY 2011-12, passenger growth at Sydney Airport averaged 4.5 per cent per year⁶.

ECONOMIC IMPACT

Given Australia's relatively remote location, aviation is a major driver of economic growth, creating jobs both directly and indirectly, facilitating trade and finance, and fueling the visitor economy. The economic contribution of Sydney Airport is significant, generating more than 280,000 jobs on and off the airport, and adding around \$27 billion in New South Wales (NSW) gross state product (GSP)⁷.

Future international aviation access to Sydney will continue to rely heavily on Sydney Airport's proximity to the Sydney central business district (CBD), providing a considerable advantage for both business and leisure visitors over other existing or proposed aviation assets within the region.

THE ECONOMIC CONTRIBUTION OF SYDNEY AIRPORT IS SIGNIFICANT, GENERATING MORE THAN 280,000 JOBS ON AND OFF THE AIRPORT

Highlighting the role of aviation access to our economy is the success of the NSW tourism sector. As a major driver of economic activity for the state, tourism supports more than 279,000 jobs, accounting for nearly eight per cent of state employment, and contributes more than \$24.3 billion per year to the state economy, 5.5 per cent of GSP⁸. The Sydney region continues to be the leading tourism destination for international travel to Australia, generating \$5.2 billion in international visitor expenditure in 2011-12⁹.

FUTURE GROWTH AND ITS IMPLICATIONS

Based on various projections, aviation demand will exceed current capacity within one to two generations. Aviation demand for the Sydney region^C is expected to more than double to 72 million passenger movements¹⁰ and 474,000 aircraft movements by FY 2030-31¹¹. In unconstrained conditions, by 2060, regular public transport (RPT) demand for Sydney Airport could rise to 146 million passenger movements¹², significantly exceeding the estimated capacity of Sydney Airport of around 90-100 million passenger movements¹³.

AVIATION DEMAND WILL EXCEED CURRENT CAPACITY WITHIN ONE TO TWO GENERATIONS

To put this into context, in FY 2011-12 Sydney Airport, with three runways (two available for simultaneous use) and 75 gates, was ranked the 27th busiest airport in the world with 36 million passengers¹⁴ and over 310,000 aircraft movements¹⁵. By contrast, London Heathrow Airport was ranked the world's fourth busiest with two runways and 133 gates, accommodating 65.8 million passengers and over 480,000 aircraft movements¹⁶ – similar to the estimated aviation demand for the Sydney region by 2031.

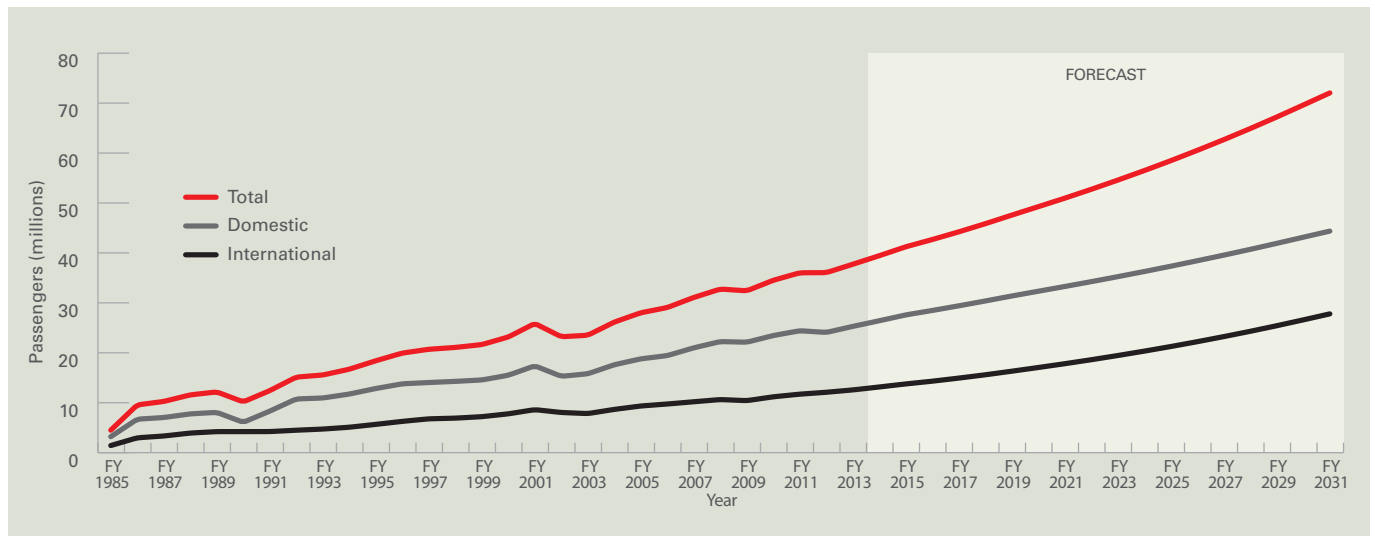


A According to Sydney Airport as of 15 January 2013.

B According to Sydney Airport as of 15 January 2013.

C The Joint Study defines the Sydney region as the geographic area between Williamstown to the north, Canberra to the south and Lithgow to the west.

Figure 1 Growth in passengers at Sydney Airport



Source: Bureau of Transport, Infrastructure & Regional Economics - International Airline Activity, Domestic Airline Activity, Air passenger movements through capital and non-capital city airports to 2030-31



Figure 2 Top 30 international airports in 2012

RANK	AIRPORT	TOTAL PASSENGERS
1	Hartsfield–Jackson Atlanta International Airport	89,331,622
2	Beijing Capital International Airport	73,948,113
3	Chicago O'Hare International Airport	66,774,738
4	London Heathrow Airport	65,884,143
5	Tokyo International Airport (Haneda)	64,211,074
6	Los Angeles International Airport	59,070,127
7	Paris Charles de Gaulle Airport	58,167,062
8	Dallas/Fort Worth International Airport	56,906,610
9	Frankfurt am Main Airport	53,009,221
10	Denver International Airport	52,209,377
11	Hong Kong International Airport	50,348,960
12	Madrid–Barajas Airport	49,844,596
13	Dubai International Airport	47,180,628
14	John F. Kennedy International Airport (New York)	46,514,154
15	Amsterdam Airport Schiphol	45,211,749
16	Soekarno–Hatta International Airport (Jakarta)	44,355,998
17	Suvarnabhumi Airport (Bangkok)	42,784,967
18	Singapore Changi Airport	42,038,777
19	Guangzhou Baiyun International Airport	40,975,673
20	Shanghai Pudong International Airport	40,578,621
21	George Bush Intercontinental Airport (Houston)	40,479,569
22	McCarran International Airport (Las Vegas)	39,757,359
23	San Francisco International Airport	39,253,999
24	Phoenix Sky Harbor International Airport	38,554,215
25	Charlotte Douglas International Airport	38,254,207
26	Fiumicino – Leonardo da Vinci International Airport (Rome)	36,227,778
27	Sydney Kingsford-Smith Airport	35,991,917
28	Miami International Airport	35,698,025
29	Orlando International Airport	34,877,899
30	Munich Airport	34,721,605

Source: Airports Council International - Annual Passenger Traffic

Creating a balance between the economic potential derived through growth in the aviation sector and the environmental and social impacts of aircraft noise on certain parts of the community is a difficult challenge. However, any shortfall in aviation capacity in the future will have a deleterious impact on NSW and Australia through a loss in productivity, economic growth, and employment, as well as significant social dislocation issues stemming from a lack of access to affordable aviation services.

THE JOINT STUDY

To address Sydney's future aviation needs, the Australian and NSW governments established the *Joint Study on aviation capacity for the Sydney region* (Joint Study) in 2009 to develop an effective strategy for meeting the aviation capacity needs for the Sydney region now and into the future. The Joint Study, released in March 2012, not only identified projected demand beyond existing forecasts (up to 2060), but also examined and recommended solutions to Sydney's growing aviation requirements. Key among these was maximising the use of the current airport given the unique advantages it presents to the business and tourism sectors, improving the use of other existing aviation assets in the Sydney region, and selecting a site for a secondary Sydney airport.

In December 2011, Sydney Airport unveiled a new development concept to enhance the passenger experience and improve operational efficiency in and around the airport site. The new concept involves reconfiguring the three current terminals into two common-use integrated terminal precincts, bringing international, domestic and regional services under one roof.



ARTIFICIAL CAPACITY CONSTRAINTS

However, while Sydney Airport is investing heavily in infrastructure improvements, current peak period capacity constraints are exacerbated by the federal government's policy of limiting aircraft activity at the airport. These operating restrictions, in combination, are unique to Sydney Airport and include a curfew (from 11:00pm to 6:00am), a cap on hourly movements and slots (limited to 80 per hour) and the 'regional ring-fence' (ensuring intrastate air services maintain a disproportionate amount of all movements at the airport). In addition, these restrictions are compounded by the airport's unique noise sharing regulations.

These artificial constraints limit the airport's true capacity and are blunt instruments that remain less than effective in achieving their stated objectives of noise abatement or regional aviation access.

These constraints therefore present a significant opportunity cost to the Australian economy, and the tourism industry, by limiting airport and air services growth. Assuming forecast growth and the persistence of these artificial constraints, Sydney Airport will face the challenge of volume-generated congestion.

ARTIFICIAL CONSTRAINTS LIMIT SYDNEY AIRPORT'S TRUE CAPACITY

Figure 3 Operational restrictions at Sydney Airport

RESTRICTION	LEGISLATION	DESCRIPTION
Curfew	<i>Sydney Airport Curfew Act 1995</i>	An operational curfew between the hours of 11pm and 6am, restricting takeoffs or landings at the airport by all jet aircraft except BAe-146 aircraft.
Movement cap	<i>Sydney Airport Demand Management Act 1997</i>	Limits the maximum number of daytime aircraft takeoffs or landings per hour to a total of 80.
Slot cap	<i>Sydney Airport Demand Management Act 1997</i>	Limits the maximum number of scheduled arrivals or departures of aircraft per hour to a total of 80.
Long-Term Operating Plan	<i>Sydney Airport Demand Management Act 1997</i>	Varies the use of runways and flight paths for arrivals and departures to share the noise over many residents, using a range of different combinations of flight paths and runways.
Regional ring-fence	<i>Sydney Airport Demand Management Regulations 1998</i>	Creates permanent and protected slots for intrastate (regional) services, comprising 26% of peak morning slots and 28% of the peak evening slots.



SYDNEY AT A COMPETITIVE DISADVANTAGE

Sydney will increasingly be at a competitive disadvantage in attracting new services during peak periods that the unconstrained growth in demand would otherwise support. Flight schedule spreading throughout the day will continue due to the availability and economic benefit of off-peak slots. Airlines requiring second and subsequent daily flights, airlines with differing scheduling windows operating to closer, Asian markets, and to low-cost carriers may take advantage of cheaper slot times. However, some services will be forced into off-peak slots which may not be optimally suited for international connectivity.

CONSTRAINING SYDNEY AIRPORT'S GROWTH WILL ADVERSELY IMPACT TRAVELLERS, THE ECONOMY AND THE NATIONAL AVIATION NETWORK

The continued imposition of artificial constraints by the federal government is therefore imposing significant costs on the travelling public and the wider economy, by reducing overall economic productivity through the creation of delays, increasing aircraft fuel burn, aviation greenhouse gas emissions, aircraft noise, workload demands on air traffic management, and reducing airline on-time performance.

The latter also imposes significant costs on travellers, as delayed flights affect passenger transfers to other flights, reducing Sydney's inter-connectivity. The ability of Sydney Airport to recover from periods of reduced capacity, such as inclement weather for instance, is further diminished by these regulations. Delays occurring in the morning peak – whether at Sydney Airport or elsewhere in the national aviation network – will flow on to affect later services and may not be recovered for much of the day.

Image courtesy of Sydney Airport Corporation



02 SHORT, MEDIUM AND LONG TERM OPTIONS



To address the future needs of Sydney's aviation capacity, TTF and industry welcome the recommendations of the Joint Study and support action in the coming years to:

1. Maximise the efficient use of Sydney Airport – short term;
2. Utilise existing aviation assets within the Sydney region – medium term;
3. Identify and safeguard a new greenfield site for a future additional airport – long term.

MAXIMISING THE EFFICIENT USE OF SYDNEY AIRPORT – SHORT TERM

Ensuring maximisation of Sydney Airport's efficient capacity should be the first priority for industry and the federal and NSW governments. This will accommodate increased demand while simultaneously addressing the current barriers that restrict optimal operation.

For decades, proposals have been raised to expand or relocate Sydney Airport's operations, either further into Botany Bay, to the east or north of the current airfield, across to the Kurnell Peninsula or offshore, to meet forecast increases in demand.

The construction of the parallel third runway (16L/34R) in the early 1990s demonstrated the considerable difficulties associated with runway expansion. Given the high cost and significant environmental and social impact from further expanding runway capacity at Sydney Airport, not only on the surrounding community but also those impacted by aircraft noise, options for additional runway infrastructure are considered to be impractical and potentially detrimental to Sydney.

Improvements to regulatory constraints and proposed increases to taxiway, apron, terminal, and road capacity to maximise the efficient use of the existing runways are therefore the priorities.

Figure 4 Sydney Airport layout

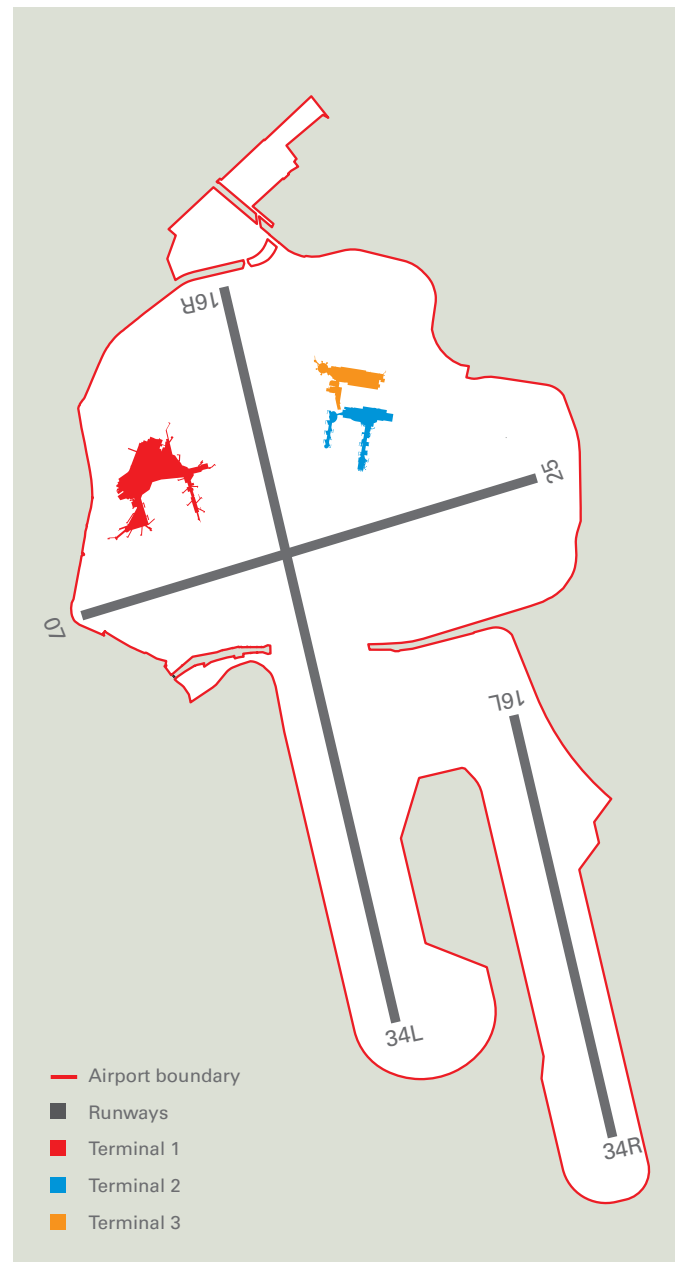


Image courtesy of Sydney Airport Corporation

ENHANCING INFRASTRUCTURE

In December 2011, Sydney Airport launched a new concept plan to realign operations away from the current destination-based configuration into two common-use terminal precincts integrating international, domestic, and regional services. This has the ability to improve connectivity times, maximise apron, taxiway and runway use, reduce congestion in surface transport modes, and provide enhanced passenger services, both landside and airside.

The 2009 Sydney Airport Master Plan forecasts more than 3.5 million arriving passengers will transfer between domestic and international services in 2029¹⁷. The new concept plan has the ability to reduce inter-terminal transfers by 60-90 per cent¹⁸, greatly improving the passenger experience and reducing demand on surrounding roads and the rail network.

The plan would also enhance airfield efficiency during peak periods, increasing the ability to add further slots while reducing the risk of delays and congestion. Sydney Airport estimates this would deliver a 10-20 per cent reduction in aircraft movements at the two current domestic terminals, T2 and T3, during the 8am peak by spreading operations across the two new terminal precincts and reducing the number of aircraft crossing over the main north-south runway (16R/34L) due to the relocation of maintenance facilities¹⁹.

TTF supports the new development concept and welcomes the proactive steps taken by Sydney Airport to address forecast demand increases in coming years.

While Sydney Airport has indicated the new development concept will extend the airport's effective capacity limit, allowing growth of services without changes to runways, curfew or the movement cap, a number of further options exist to increase capacity and improve efficiency.

Recommendation 1 Realign operations at Sydney Airport into two common-use terminal precincts to improve passenger flow and connectivity times, maximise use of apron, terminal and runway infrastructure, and reduce congestion in surface transport modes.

MOVEMENT CAP AND SLOT MANAGEMENT SCHEME

To address expected demand increases, particularly from international arrivals in the early morning peak, TTF recommends the federal government progressively lift the current slot allocation cap from 80 to 90 movements, subject to an overall annual movement cap, and immediately review the Sydney Airport slot management scheme.

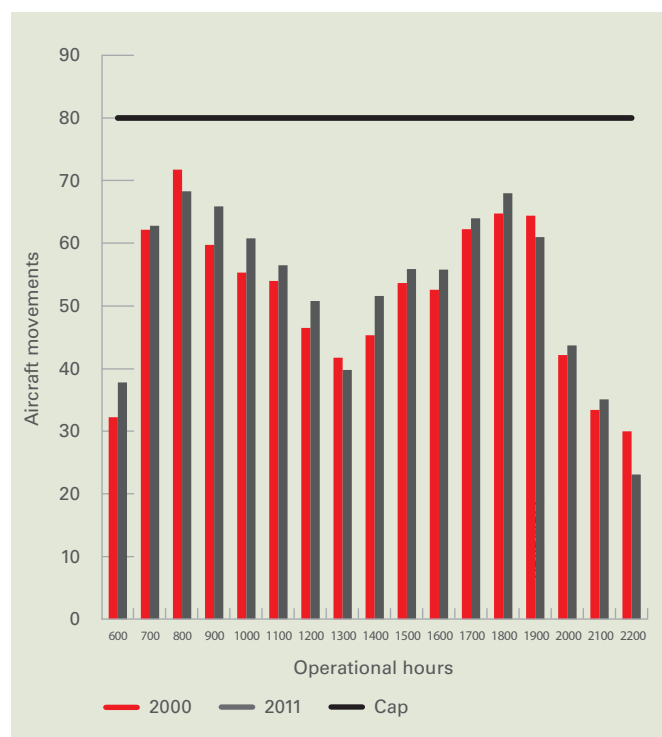
Current movement cap

The federal *Sydney Demand Management Act 1997* provides the framework for the regulation of aircraft movements (take-offs and landings) at Sydney Airport. Currently, arrivals and departures at Sydney Airport are restricted over an hour, with a maximum of 80 movements permitted, counted in 15 minute periods on an ongoing basis.

However, the current movement cap and slot management scheme prevent efficient use of Sydney Airport movement opportunities and contribute to delays and increased aircraft noise at particular points throughout the day. While separate, the movement cap and slot management scheme currently work hand in hand, with the slot coordinator^D allocating up to a maximum 80 slots per hour based on airline demand.

Recommendation 2 Delink the Sydney Airport slot management scheme from the movement cap to allow greater flexibility in operations, improve efficiency and reduce the risk of delays at Sydney Airport.

Figure 5 Sydney Airport average daily movements



Source: Sydney Airport Corporation

INCREASED CAPACITY FROM QUIETER AIRCRAFT WILL BALANCE THE NOISE EXPOSURE ON THE COMMUNITY

^D The *Sydney Airport Demand Management Act 1997* (Cth) allows Sydney Airport to nominate a slot coordinator to control the allocation and management of slots. As of 2012, Airport Coordination Australia operates as slot coordinator at Sydney Airport.

During the morning peak between 7:00am and 9:00am, Sydney Airport currently has limited free slot availability. Without the current cap constraints, the Joint Study forecasts that unconstrained slot demand during the morning and afternoon peaks would significantly exceed 115 movements per hour by 2035²⁰, with slot demand only falling below the current cap of 80 per hour during the early morning, middle of the day, and late evening periods. The Joint Study further noted that Sydney Airport expects a slower rate of growth in aircraft movements, particularly in the peak periods.

The Joint Study examined the option of increasing slot allocation from 80 to 85 movements per hour across all non-curfew hours, creating an additional 85 slots per day or a total of 31,000 per year. TTF supports this recommendation to improve the capacity potential at Sydney Airport, particularly during the morning peak where demand for international services is at its greatest, but would support a further increase to 90 movements over time to reflect the benefits of quieter, newer generation aircraft and improvements to air traffic management technology^{E21}.

Recommendation 3 Progressively increase the Sydney Airport slot cap to 90 scheduled slots per hour based on demand. Allocate all new slots above 80 scheduled slots per hour to quieter, next generation aircraft to offset noise impacts against increased aircraft activity.

Recommendation 4 Increase the Sydney Airport movement cap to 90 movements per hour in line with an increase in the slot cap to 90 scheduled slots per hour.

TTF recommends creating availability for any new slots above 80 in an individual hour to airlines operating quieter generation aircraft to encourage improved noise outcomes for the community.

Figure 6 International noise abatement schemes

AIRPORT	NOISE MITIGATION TECHNIQUES
Amsterdam Airport Schiphol	Amsterdam Airport Schiphol has a noise limit system similar to that of other European airports, with fixed monitors recording noise totals in 45-minute blocks during the day and in 15-minute blocks at night. In November 2010 the airport adopted new operational procedures drawn up in part by a community consultative group, the Alders Platform, which shifted aircraft onto the runways that caused the least disturbance to the surrounding area. As a result, the airport was been able to increase the maximum number of available movements from 420,000 per year to 520,000, while achieving zero breaches to the noise limits in the scheme's first year of operation.
London Heathrow Airport	London Heathrow Airport fines airlines that breach fixed noise limits for take-offs. The limit is lower during the shoulder period and quieter still during the curfew period, where only limited flights are allowed. The noise limits are enforced through ten fixed noise monitors positioned roughly 6km from the runways. Proceeds from fines go to community projects for suburbs affected, rather than the government. Airlines have reacted to the prospect of being fined by gaining height and reducing engine power and noise as soon as possible after take-off. Additionally, airlines operating at London Heathrow Airport have a fixed quota for night-time arrivals and departures based on noise of their fleet. Aircraft are divided into bands that double every three decibels, based on aircraft certification measurements. Under the scheme, an Airbus A320 short-haul, narrow-body counts as one, whereas large, intercontinental heavy jets such as the Boeing 747-400 count for four. Conversely, small regional jets, such as the Embraer ERJ-145s, count as 0.25.
Paris Charles de Gaulle Airport	Paris Charles de Gaulle Airport incentivises quieter aircraft by multiplying its landing fees by a noise coefficient, based on the category of aircraft in France's acoustic categories. These follow the ICAO principles of measuring not only loudness, but also noise frequency, to derive typical total human perceived noisiness. Effectively, aircraft under Group 4 of the acoustic measures pay standard landing fees, while quieter aircraft types listed in Group 5 receive a discount of 15% off their landing fees for daytime operations and Group 3 aircraft pay a 15% penalty. Older, noisier aircraft would pay a larger surcharge. Only ICAO Chapter 3 and above aircraft are permitted at Paris Charles de Gaulle Airport following a seven-year phase out program of older types, during which existing operators of noisier aircraft were granted a decreasing number of derogations to the ban each year.
Tokyo International Airport (Haneda)	Tokyo International Airport (Haneda) levies a noise surcharge based on the crude correlation between aircraft weight and noise. The rates are ¥950/tonne for aircraft up to a maximum take-off weight of 25t, ¥1380/t for those with an MTOW of 26-100t, ¥1650/t for 101-200t aircraft and ¥1800/t for aircraft over 201t. This equates to an extra charge of around \$12,740 for an Airbus A380.
San Francisco International Airport	San Francisco uses a voluntary scheme that uses public praise and community recognition as rewards, rather than imposing targets or levying fines. The Fly Quiet program scores an airline on six elements of its flight operations of most concern to residents. These include night-time noise abatement, shoreline departures, faster climb and approaches over affected suburbs. Each airline is rated on a scale of 0-10, zero being poor and ten being good, which allows for an easy comparison between airlines over time. Airlines use the score in marketing and press relations, while the airport uses the cumulative totals in engagement with community groups.

Source: Boeing, Amsterdam Airport Schiphol, London Heathrow Airport, Paris Charles de Gaulle Airport, Tokyo International Airport, San Francisco International Airport
E This specifically applies to aircraft granted certification under the provisions of Chapter 4, Volume 1 of Annex 16 to the Convention on International Civil Aviation.



In addition, to further improve the noise mitigation potential for the community, noise abatement schemes used around the world by busier airports should be investigated to assess their suitability for application in a Sydney context. One such example is the San Francisco International Airport Fly Quiet program, which is designed to influence airlines to operate as quietly as possible in the San Francisco Bay Area, by reducing both single event and total noise levels around the airport.

While lifting slot allocation will increase overall capacity, TTF further recommends changes to the movement cap separate from the slot allocation scheme. At present, the movement cap is monitored in 15-minute blocks to ensure aircraft arrivals and departures do not exceed 80 movements during a one-hour period. Should the movement total approach 80 per hour, Airservices Australia is required to hold aircraft on the ground to prevent a breach of the cap.

This system creates inefficiencies in airfield operations and is a significant factor in the creation and/or propagation of delays, with large numbers of aircraft experiencing ground holding to prevent a breach, particularly during morning peak periods.

Morning peak

Adding to the risk of delays and inefficiencies is the impact of the curfew on operations in the morning peak. With a number of international airlines selecting slot times as close to the conclusion of the curfew as possible (6:00am) to maximise connectivity in international hubs, Sydney Airport regularly experiences 'bunching' – the arrival of large numbers of aircraft which are forced to enter an airborne holding pattern when they arrive early, before the conclusion of the curfew.

This results in considerable demand once the curfew is lifted – both in the air and on the ground. This potentially impacts on airborne arrival efficiency due to the mix of aircraft size and the varied separation gaps required by differing aircraft types, particularly if certain noise-sharing modes are implemented for long periods. This can have an impact at gates, on taxiways and aprons, and places significant pressure on limited airport and ground transport resources, especially passenger facilitation processing provided by the Australian Customs and Border Protection Service and DAFF Biosecurity.

THE CURRENT MOVEMENT CAP CREATES DELAYS AND IMPACTS THE ENTIRE AUSTRALIAN AVIATION NETWORK

Cap monitoring structure and curfew shoulder settings

Weather plays a critical role in creating delays and inefficiencies across the national aviation network. The current structure of the movement cap prevents Airservices Australia and Sydney Airport from being able to recover from major disruptions, effectively exacerbating the problem and pushing it further throughout the day. Additionally, should weather impact operations at other locations, Sydney Airport's ability to reduce pressure on other locations and the entire national aviation network is significantly reduced.

To address these growing operational concerns, TTF recommends reviewing the current movement cap monitoring method and the curfew shoulder settings. While there is scope for the creation of additional slots, and thereby additional capacity, by increasing the maximum number of shoulder period^F arrivals from 24 movements per week (1,248 per year) outlined within the regulations to 35 movements per week (1,820 per year) outlined within the *Sydney Airport Curfew Act 1995* (Cth), this may add to concerns over noise.

Recommendation 5 Increase the number of curfew shoulder period movements (between 5:00am – 6:00am and 11:00pm – 12:00pm) at Sydney Airport from 24 to 35 per week to align with the limits proscribed within the *Sydney Airport Curfew Act 1995* to improve efficiency and connectivity, and reduce early morning airborne holding.

^F The *Sydney Airport Curfew Act 1995* (Cth) defines the curfew shoulder period as between 5:00am - 6:00am and 11:00pm - 12:00pm.

To address this concern, any additional shoulder period movements should be made available only to the new generation of quieter aircraft, such as the Boeing 787-8 with a material reduction in noise footprint over similar sized aircraft, such as the Boeing 767-300, and a sunset clause for existing operators to phase out older, noisier aircraft. This would ensure increased aircraft activity during noise-sensitive curfew shoulder periods has a reduced impact on the community, while also reflecting the significant improvements to aircraft noise output technology.

Recommendation 6 All new slots allocated during the curfew shoulder period should be operated by quieter, next-generation aircraft to offset noise impacts against increased aircraft activity.

Annual movement cap

Additionally, the current movement cap monitoring method should be changed to a yearly average, rather than the current rigid 15-minute block count. Due to the effects of high peak demand, as well as delays caused by weather or other circumstances, aircraft are often unable to depart or arrive at their allocated slot time, with services being pushed into other time periods. With the current 15-minute block count, there is very limited opportunity to clear delays and recover from periods of extended airborne or ground holding.

London's Heathrow Airport currently operates a movement cap and slot allocation scheme to control arrivals and departures from the airport, however, the two systems at Heathrow run more independently of each other and have built-in measures to reduce the likelihood of creating or exacerbating delays.

While the slot management scheme is similar to Sydney Airport's in allocating a finite number of slots based on demand, Heathrow's movement cap operates on a yearly average, allowing movements to occur when aircraft are ready for arrival or departure. By restructuring the current movement cap monitoring method and delinking it from the slot allocation system, Sydney Airport can increase its flexibility to address delays and peak demand, while maintaining the same set number of aircraft movements throughout the day or year.

RESTRUCTURING THE MOVEMENT CAP WILL INCREASE SYDNEY AIRPORT'S FLEXIBILITY TO REDUCE AND MANAGE DELAYS

Given the significance of Sydney Airport on the national aviation network, addressing the cap monitoring structure has the ability to considerably reduce economic loss associated with flight delays and allow optimisation of network-wide operational performance. The Sydney-Melbourne route, the world's fourth busiest²² with 7.7 million passengers annually²³, and the Sydney-Brisbane route, the world's twelfth busiest²⁴

with 4.4 million passengers annually²⁵, are the primary business routes between Australia's three largest cities, collectively representing almost half the Australian population²⁶. As a result, it is essential to national productivity that all three major east coast airports function as close to maximum efficiency as possible.

Recommendation 7 Alter the movement cap system from the current 15 minute block count to an annual rolling count, similar to the system in place at London Heathrow Airport, to significantly reduce the risk of delays and holding, and maximise the efficiency of Sydney Airport.

LONG TERM OPERATING PLAN

One of the most difficult challenges affecting airport operations is balancing increased demand and growth with community concerns over noise and amenity impacts. Sydney Airport has faced this challenge for decades, with the situation exacerbated by the airport's proximity to large, densely populated residential areas across the city.

With the creation of the parallel runway (16L/34R), the federal government established the Sydney Airport Community Forum (SACF) to act as an ongoing community consultation group to address noise concerns relating to Sydney Airport. In July 1997, following approval by SACF, the federal government activated the Sydney Airport Long Term Operating Plan (LTOP) to achieve a distribution of flights to share noise rather than to allow a concentration of aircraft noise under one set of flight paths.

The LTOP outlines ten runway modes of operation with varying noise sharing capabilities. Managed by Airservices Australia, air traffic controllers must select the mode with the greatest ability to reduce noise impacts, while operating as safely as possible and without causing excessive delays. The preferred runway mode is for take-offs and landings over Botany Bay, with the majority of aircraft noise experienced at sea, except for a small residential community at Kurnell in close proximity to the runway.

PROTECTING THE KURNELL PENINSULA FROM FURTHER RESIDENTIAL DEVELOPMENT IS ESSENTIAL TO ENSURING OVER-WATER AIRCRAFT ACTIVITY

LTOP modes are used until an excessive delay trigger point is reached, at present 20 minutes of airborne holding for an individual aircraft²⁷. In effect, this means that the LTOP noise-sharing modes become ineffective once the movement rate exceeds 55-65 per hour.

SYDNEY AIRPORT'S NOISE SHARING PROGRAM BECOMES INOPERABLE BEYOND 55 TO 65 MOVEMENTS PER HOUR

In recent years, residential developments under runway flight paths have created serious concerns for airport operations. While the impact of noise on the community is decreasing with the introduction of newer, quieter aircraft technology, land immediately adjacent to the flight path in close proximity to the runway threshold will continue to be affected.

In 2004, a residential development was approved in close proximity to the main runway at Perth Airport (03/21) within the 20-25 ANEF⁶. Despite Perth Airport's objections (on the grounds that more residents would be subject to aircraft noise) the development was approved and constructed. Noise complaints are now being made by residents and there is an increasingly vocal push for a curfew at Perth Airport. More recently, the rezoning of land at South Tralee under the southern approach at Canberra Airport also presents risks for greater exposure of aircraft noise to residential communities.

The rezoning of land for residential use is in direct conflict with federal government policy, with the National Aviation Policy White Paper, released in December 2009, stating:

"In the interests of safety and public amenity there should be minimal development in the vicinity of airport operations. Inappropriate development around airports can result in unnecessary constraints on airport operations and impacts on community safety."²⁸

Importantly, the White Paper outlines that the federal government will ensure future airport operations and their economic viability are not constrained by incompatible development by working through the Council of Australian Governments and other forums to put in place a national land use planning regime near airports and under flight paths.

Furthermore, in 2001, the International Civil Aviation Organization (ICAO) endorsed the concept of a Balanced Approach²⁹ (see fig.7) to aircraft noise abatement, of which a key element calls for the minimisation of the population affected by aircraft noise through introducing land use zoning around airports to safeguard airport operations and reduce community impacts. Any further residential development along the Kurnell Peninsula proposal would be in direct contravention to this principle.

Given the preference for operations along this path, it is essential steps are taken to prevent further growth in residential developments in Kurnell or other noise sensitive areas under the southern flight paths of the airport. This will protect the preferred approach and departure from Sydney Airport and safeguard increased residential exposure to aircraft noise.

Recommendation 8 Safeguard zoning of land use in Kurnell Peninsula and other noise sensitive areas under the southern flight paths of Sydney Airport to protect preferred approach and departure flight paths and prevent increased residential exposure to aircraft noise

Figure 7 International Civil Aviation Organization (ICAO) Balanced Approach to Aircraft Noise Management

PRINCIPAL ELEMENTS	DESCRIPTION
Reduction of noise at source	Much of ICAO's effort to address aircraft noise over the past 40 years has been aimed at reducing noise at source. Aircraft and helicopters built today are required to meet the noise certification standards adopted by the Council of ICAO.
Land-use planning and management	Land-use planning and management is an effective means to ensure the activities nearby airports are compatible with aviation. Its main goal is to minimise the population affected by aircraft noise by introducing land-use zoning around airports. Compatible land-use planning and management is also a vital instrument in ensuring the gains achieved by the reduced noise of the latest generation of aircraft are not offset by further residential development around airports.
Noise abatement operational procedures	Noise abatement procedures include, for example, preferred runways and routes, particular procedures for take-off, approach and landing, or curfews. The appropriateness of any of these potential measures depends on the physical layout of the airport and its surroundings, but in all cases the procedure must give priority to safety considerations.
Operating restrictions	Noise concerns have led some, mostly developed countries, to consider banning the operation of certain noisy aircraft at noise-sensitive airports. An example of this is the ban on Boeing 727 and Boeing 737-200 aircraft from operation at Australian airports.

Source: International Civil Aviation Organization – Balanced Approach to Aircraft Noise Management

A number of factors have prevented the LTOP from ever reaching its targets, including weather, peak demand and airport maintenance, and capital works. As demand increases, it will become increasingly unlikely that the LTOP can achieve its targets during non-curfew hours, and eventually it will be impossible as Sydney Airport demand dictates the majority of operations take place on runways 16 and 34 in parallel (LTOP modes nine and 10), effectively concentrating more noise over fewer homes.

While the 2009 Sydney Airport Master Plan identifies a number of opportunities for noise sharing until 2029³⁰, and quite possibly beyond that date, in all likelihood, this will be to a lessened extent.

A number of reports have been prepared by Airservices Australia for the SACF Implementation and Monitoring Committee (IMC), which monitor and report on noise-sharing outcomes under the LTOP and recommend ways noise minimisation

⁶ The Australian Noise Exposure Forecast (ANEF) system is a scientific measure of the forecast noise exposure levels on the ground. ANEF maps are generally forecast to the end of an airport's master plan period and are based on future projections of operational activities. The forecasts take into account a range of factors including frequency of aircraft movements, allocation of these movements to flight paths, aircraft noise signatures (intensity, duration and tonal content), together with detailed performance characteristics specific to each aircraft type. 20-25 ANEF is the lowest exposure measured under the current standardised system, with the maximum 40+ ANEF exposure typically confined to the immediate vicinity of an airfield runway.

and sharing can be improved. These reports also indicate that the targets set by the LTOP are difficult to achieve, if not impossible, based on current and projected demand.

TTF recommends the federal government conduct an immediate review of the Sydney Airport LTOP to determine its effectiveness and ability to deliver its noise sharing objectives now and into the future based on projected demand. This should be linked together with an implementation and consultation program for the introduction of sophisticated precision air traffic management procedures such as Required Navigation Performance (RNP) (discussed below). TTF further recommends a comprehensive review of the structure, composition of membership, length of tenure of member's representatives, and the terms of reference governing SACF to ensure the goals and objectives of the group are in line with community expectations and that the group reflects a structure similar to the community aviation consultation groups at other major airports around Australia.

Recommendation 9 Immediately review the structure of the Sydney Airport Long Term Operating Plan to determine its ongoing effectiveness and ability to deliver its noise sharing objectives based on forecast demand.

Recommendation 10 Review the Sydney Airport Community Forum structure, composition of membership, length of tenure of member's representatives and the governing terms of reference to ensure the goals and objectives of the group are in line with community expectations.

Figure 8 Arriving aircraft noise profile at 80dB



Source: Department of Infrastructure and Transport - Transport Noise Information Package
Aircraft arrivals on Runway 16R using Track 91. 80dB is equivalent to the noise experienced at a typical street intersection

AIR TRAFFIC MANAGEMENT SYSTEMS

New performance-based navigation technologies can improve flight planning and airborne efficiencies over older, radio-based navigation equipment which are limited in their precision abilities. The introduction of newer satellite-based navigational aids and onboard equipment would improve aviation safety, airborne route placement, emissions output, fuel efficiency, and noise abatement potential.

THE INTRODUCTION OF NEWER SATELLITE-BASED NAVIGATIONAL AIDS AND ONBOARD EQUIPMENT WOULD IMPROVE AVIATION SAFETY, AIRBORNE ROUTE PLACEMENT, EMISSIONS OUTPUT, FUEL EFFICIENCY, AND NOISE ABATEMENT POTENTIAL

Airservices Australia continues to develop and introduce technologies and procedures to improve operational efficiencies at our airports. These include approving the introduction of RNP, continuous decent approaches (CDA), the Ground Based Augmentation System (GBAS) and other advanced technological innovations such as Air Traffic Flow Management (ATFM) systems. These technologies and processes should be considered from a network-wide point of view given the interconnected nature of Australia's air transport system and the impact of Sydney Airport operations on other airports within the national aviation network.

In addition, management of airspace in the Sydney region is currently based on a segmented approach which focuses on separate management methodologies for each airport's operation. This method does not achieve maximum efficiency for aviation activity within the region and prevents existing aviation assets from operating as one interconnected system. TTF recommends reviewing current technology and procedures to incorporate all Sydney region aviation assets within a unified air traffic management system.

While these introductions and changes may not lead to a direct increase in available capacity at Sydney Airport, improvements of this nature can assist in creating optimal efficiency, ensuring the airport can operate as close to maximum available capacity as possible, further reducing the impact of weather, which is singly the largest cause of delays, and allowing the airport to recover from delays as quickly as possible.

Figure 8 key

- Boeing 707-320 (introduced 1959)
- Boeing 747-200 (introduced 1971)
- Boeing 747-400 (introduced 1989)
- Airbus A380-800 (introduced 2007)
- Flight path



MANY TECHNOLOGICAL ADVANCES IN AIR TRAFFIC MANAGEMENT BEING ADOPTED AROUND THE WORLD ALSO DELIVER GREATER POTENTIAL FOR NOISE MITIGATION AND ABATEMENT FOR AFFECTED COMMUNITIES

Many technological advances in air traffic management being adopted around the world also deliver greater potential for noise mitigation and abatement for affected communities. Coupled with improvements to aircraft engine design and its noise profile, runway operational use and new slot allocation, air traffic management systems and procedures are able to offer the community solutions to noise concerns, either through the ability to concentrate over a predetermined path, such as a river or non-residential area, or spread the noise over a larger geographic area to provide increased certainty of noise respite.

For example, the Airservices Australia *Trident* report calls for a greater use of air traffic management technology to provide multiple approach paths for aircraft as they draw closer to the final approach to a runway. This would deliver greater opportunities for air traffic management to spread the approaching aircraft over a larger geographic area, creating

greater noise respite opportunities for the community. However, while these improvements require significant capital investment by Airservices Australia, air traffic management procedures that would allow this, such as RNP, must be approved for operation within Sydney Airport's airspace.

TTF recommends Airservices Australia, in collaboration with Sydney Airport and the federal government, prioritise improvements and greater investment in air traffic management systems at Sydney Airport and in surrounding airspace, while also expediting the introduction of new operational procedures such as RNP. Given the impact some of these improvements may have on airspace use and noise abatement, a broad community consultation process should be undertaken to inform the community of the wide benefits associated with any changes.

Recommendation 11 Reduce noise exposure to the affected community by prioritising improvements and investment in air traffic management systems at Sydney Airport and in surrounding airspace to improve efficient flow of arriving and departing aircraft. Specifically, the federal government and Airservices Australia should expedite the implementation of Required Navigation Performance (RNP) procedures in Sydney Airport airspace.

NSW INTRASTATE SERVICE ACCESS

The current slot management scheme includes specific provisions for the safeguarding of NSW intrastate services (regional services) to ensure access to Sydney Airport by regional airlines and passengers (see fig.10, page 23).

While TTF acknowledges the lost opportunity for further domestic or international services created by the current protection of slots for regional services, known as the 'regional ring-fence', it is important to maintain adequate regional access to the state's only international gateway and largest domestic hub. However, TTF is alarmed at the current pricing mechanism for regional service operators and the provisions for minimum aircraft size to access new intrastate slots.

IT IS IMPORTANT TO MAINTAIN ADEQUATE REGIONAL ACCESS TO THE STATE'S ONLY INTERNATIONAL GATEWAY AND LARGEST DOMESTIC HUB

Regional airlines are currently protected from increases to aeronautical charges imposed by Sydney Airport. Since 2001, aeronautical charges for regional airlines have not increased³¹. As a result, the subsidy to regional operations at Sydney Airport from other international and domestic passengers has increased, with Sydney Airport's regional charges well below the charges applying at the regional airports. This current fee structure creates an inequitable payment model for Sydney Airport services among the resident airlines. It is unreasonable to expect that simply because an airline operates only regional services, it should be exempt from increases to reasonable operational costs that apply to other airlines.

In addition, to establish a new regional service under the provisions of the slot management scheme, operating aircraft must have no fewer than 18 seats³². This number reflects the smallest aircraft currently operated by regional carriers, a Fairchild SA227-AC Metro III operated by Brindabella Airlines³³.

CHANGING THE PRICING SYSTEM TO A MORE EQUITABLE STRUCTURE MAY LEAD TO AN INCREASE IN THE SIZE OF AIRCRAFT OPERATED BY REGIONAL AIRLINES

Figure 9 Seat capacity supported on aircraft types serving NSW intrastate routes from Sydney Airport for the period March 2011 to October 2011

INTRASTATE DESTINATION	RANGE OF AIRCRAFT SEAT CAPACITY
Albury	33–72
Armidale	50
Broken Hill	33
Bathurst	33
Ballina	33–180
Cobar	18
Coffs Harbour	78–106
Dubbo	33–78
Mudgee	19
Griffith	33
Grafton	33
Lord Howe Island (not on map)	36
Lismore	33
Merimbula	33
Moree	36
Moruya	33
Narrabri	19
Narrandera	33
Newcastle	19
Orange	33
Cooma	19
Parkes	33
Port Macquarie	72–78
Tamworth	78
Taree	33
Wagga Wagga	33–78

Source: Department of Infrastructure and Transport analysis of Airport Coordination Australia data, accessed from the *Joint Study on aviation capacity for the Sydney region*

While a complete removal of the current pricing mechanism may create a substantial price increase, limiting the availability of travel for regional passengers, changing the pricing system to a more equitable structure may lead to an increase in the size of aircraft operated by regional airlines.

Recommendation 12 Immediately review the existing pricing system for intrastate (regional) airlines to improve the current inequitable payment model between resident airlines at Sydney Airport. Establish a pricing incentive for regional airlines to up-gauge aircraft in use on intrastate routes to improve capacity and maximise slot efficiency. Increase the minimum aircraft size limits over time.



TTF recommends creating a pricing incentive for regional airlines to upgauge aircraft in use on intrastate routes by increasing charges on smaller aircraft and offering lower charges on larger aircraft, coupled with an increase in the minimum threshold for aircraft size on intrastate routes over time with several years advance notice. While aircraft that operate under the provisions of the NSW intrastate regulated routes scheme^H would be exempt during the period of the licence, changing slot allocation conditions for other regional destinations will maximise the capacity potential of each regional slot, secure the continued viability of current routes to smaller regional communities, and provide an equitable pricing strategy for all operating airlines, regardless of size or scope of operation.

SURFACE TRANSPORT

As identified in TTF's *Accessing Our Airports* report, the Joint Study, the NSW State Infrastructure Strategy (SIS), and the *NSW Long Term Transport Master Plan* (Transport Master Plan), surface transport demand to Sydney Airport and surrounds will create major congestion and delays by as soon as 2020. This has the potential to significantly restrict passenger connectivity throughout the Sydney basin, impacting heavily on economic performance and productivity.

SURFACE TRANSPORT DEMAND TO SYDNEY AIRPORT AND THE SURROUNDS WILL CREATE MAJOR CONGESTION AND DELAYS BY AS SOON AS 2020

A number of options exist to improve surface transport access to and from Sydney Airport, while optimising the efficiencies of current infrastructure and services. TTF supports the surface transport recommendations explicitly relating to Sydney Airport contained within the Joint Study, the SIS and the Transport Master Plan. In particular, TTF supports:

- Connecting the M4 and M5 motorways to improve freight capacity on roads surrounding Sydney Airport, while also providing an alternative route for non-airport traffic to reach the city that bypasses airport feed roads, and an alternative route for airport traffic to the city³⁴;
- The removal or reduction of the \$12.30 gate fee at Domestic Airport and International Airport railway stations to encourage the use of public transport, and the incremental addition of greater rail frequencies as required to meet demand³⁵;
- The addition of new bus services to the airport³⁶;
- The Pinch Point Program in the Port Botany/Sydney Airport precinct to improve road and intersection flow, in particular the creation of one-way pairs on O'Riordan and Bourke Streets, the widening of O'Riordan Street, and the widening of Joyce Drive³⁷.

Recommendation 13 Upgrade surface transport modes to increase access to Sydney Airport and improve passenger connectivity through the Sydney region.

Recommendation 14 Abolish the \$12.30 gate fee at Domestic Airport and International Airport train stations to encourage greater use of public transport services at Sydney Airport.

^H Destinations and routes outlined within the *Air Transport Act 1964 (NSW)*.

UTILISE EXISTING AVIATION ASSETS WITHIN THE SYDNEY REGION – MEDIUM TERM

While maximising Sydney Airport's capacity for further international growth should be the focus of attention for the federal and NSW governments in the short term, promoting domestic and regional growth in aviation activity at other existing airports within the Sydney region should also be prioritised, easing demand pressures on Sydney Airport up until at least 2035.

TTF acknowledges that existing aviation assets within the Sydney region will not provide sufficient supply to meet forecast demand beyond 2045, however a number of options exist that will allow for the optimisation of existing

infrastructure. While individually these options may only provide limited increased capacity, combined they present the opportunity to generate significant additional aviation supply in the medium term and meet local demand.

In light of the difficulties associated with the identification of new airport locations, coupled with the expansion challenges faced by existing airport assets, planning of both on-airport and off-airport infrastructure and services must commence immediately to maximise the potential of alternative sites in the medium term.

Figure 10 Current and proposed aviation assets in the Sydney region / location of NSW airports (insert)



BANKSTOWN AIRPORT



As Sydney's primary general aviation (GA) aerodrome, Bankstown Airport provides flight training, recreational aviation, cargo, and business jet services for the Sydney basin. At present, Bankstown Airport has the fourth highest number of aircraft movements in Australia³⁸.

In recent years, Bankstown Airport has outlined its desire to commence limited turboprop RPT services, to both intrastate and interstate destinations. The current Bankstown Airport Master Plan 2004/05 approved a forecast of 12 RPT turboprop movements per day (4,380 movements per year) and the Bankstown Airport Preliminary Draft Master Plan 2010 forecast up to 32 movements per day (11,700 movements per year).

While the option to establish limited turboprop operations currently exists, no airlines as yet have done so. The Joint Study examined options to move all turboprop operations to Bankstown Airport, which would create significant slot capacity and extend Sydney Airport's life by an additional six years.

It is estimated that the relocation of a single regional turboprop aircraft from Sydney Airport to Bankstown Airport to allow an international aircraft to utilise the slot would add between \$200,000 and \$300,000 to the economy each day, based on increased inbound visitor spend³⁹.

At present, the attractiveness of Bankstown Airport for regional RPT, freight, business jet, and helicopter services is limited by the degree to which these services have synergies with the operations at Sydney Airport and the need for quick access to the city. Both regional RPT and dedicated freight have relatively strong synergies with operations at Sydney Airport, due to connecting passengers and shared freight handling facilities respectively.

INCREASING THE MAXIMUM RPT MOVEMENTS TO 32 PER DAY HAS THE POTENTIAL TO CREATE INCREASED ENTICEMENT FOR AIRLINES LOOKING TO ACCESS THE SYDNEY MARKET

Increasing the maximum RPT movements to 32 per day has the potential to create increased enticement for airlines looking to access the Sydney market, while having little to no impact on GA operations. However, to accommodate larger aircraft above a Code 3C rating⁴⁰, Bankstown Airport would be required to lengthen and increase the strength rating on the main runway (11C/29C)⁴¹.

By increasing the runway size and strength, Bankstown Airport would also be in a position to handle limited jet cargo operations, such as express parcel freight, increasing the ability for the airport to handle larger freight movements and reducing demand for non-belly hold freight processing at Sydney Airport⁴. In addition, runway infrastructure improvements would also provide the opportunity to relocate a greater share of business jet activity from Sydney Airport.

Globally, it is unusual for business jet and helicopter activities to take place at major capital city airports. Instead, these operate from secondary metropolitan airports, similar to Bankstown Airport. With the NSW government announcing the selection of a site for a Sydney CBD helipad, the viability of relocating both the business aviation and helicopter bases to Bankstown Airport has significantly increased.

However, introducing RPT services and increased business jet and helicopter activity to Bankstown Airport will increase demand on transport services, both road and public transport, around the airport precinct. Road usage on major arterial roads will increase, necessitating capacity increases for road infrastructure to manage demand. While public transport access to the airport is currently limited, services would be required to manage passenger flow, either by bus and taxi or the extension of rail services to the airport in the longer term.

While Bankstown Airport is located further from the Sydney CBD than Sydney Airport, its proximity to Parramatta and south-western Sydney would provide improved access for business and leisure travellers to the western Sydney market.

TTF recommends increasing the current cap on RPT services to Bankstown Airport to 32 movements per day and encourages the NSW and federal governments to develop a coordinated strategy with Bankstown Airport, Sydney Airport and the aviation industry to promote new point-to-point RPT services, and increased business jet, helicopter, and freight activity at Bankstown Airport. This should be created in conjunction with a comprehensive community consultation process to outline potential noise and environmental outcomes of any increase in aviation activity.

Recommendation 15 Increase the number of approved passenger aircraft flights at Bankstown Airport to 32 per day to greatly improve access for travellers in south-western Sydney to the domestic aviation market.

Recommendation 16 Lengthen the runway at Bankstown Airport to accommodate aircraft larger than a Code 3C rating to accommodate limited jet cargo and larger business jet activity.

Recommendation 17 Improve surface transport access to Bankstown Airport for improved access to both the Sydney CBD and south-western Sydney.

I Code 3C aircraft operate with a wingspan of 24m up to but not including 36m and require runway length of greater than 1200m up to but not including 1800m. This would include aircraft such as the ATR 72-600 or Bombardier Dash 8 Q 400, for example.

J As cargo hold freight operates primarily on wide bodied passenger aircraft or dedicated large freighter aircraft, such as the Boeing 747-400F, major cargo processing facilities will be required to remain at Sydney Airport.

RAAF BASE RICHMOND



RAAF Base Richmond currently houses the headquarters and several squadrons of the Air Lift Group, the Royal Australian Air Force (RAAF) air transport and logistics arm, in addition to a number of other support units and services. While the RAAF has a long history at the site, moves have been made in recent years to reduce air operations and relocate personnel and activities to other RAAF installations.

The Joint Study examined the potential for RAAF Base Richmond to accommodate future RPT movements, in conjunction with the continued operation of Australian Defence Force (Defence) activities at the base, and identified issues associated with large-scale jet aircraft services.

Geography and cost

The layout and structure of RPT services at RAAF Base Richmond were examined by the Joint Study with a number of operational scenarios identified, including the physical location of a civil aviation terminal and apron infrastructure, the alignment of taxiways, and the potential construction of a second, north-south aligned runway with the ability to process larger aircraft and greater passenger numbers.

While estimates were provided for an additional cross runway and expanded terminal precinct to the south of the current airfield, projected costs in excess of \$3.9 billion for the most basic option⁴², in addition to greater noise implications for the nearby Richmond and Windsor communities, would make this option less desirable than a secondary airport on a greenfield site. The feasibility of this option becomes significantly lower if the site is constructed as a temporary measure.

Capital investment

Issues surrounding capital investment in new RPT infrastructure at RAAF Base Richmond should also be addressed as soon as practical. Should future RPT services at RAAF Base Richmond operate under a limited lifespan, access to required capital for the development of terminal and ground infrastructure may prove difficult. Initial projections indicate a minimal investment of \$144 million will be required to establish facilities to process up to one million passengers per year, while a larger facility to process up to five million passengers is estimated at around \$504 million⁴³.

Surface transport access

The introduction of RPT services to RAAF Base Richmond would significantly increase demand pressures on transport services in Sydney's north-west, both road and rail, leading towards Parramatta and Sydney's CBD. Similar to Bankstown Airport, road usage in the local area and on major arterial roads will increase, necessitating capacity increases to manage demand. Rail services located 800 metres from RAAF Base Richmond operate to both Parramatta and Sydney CBD, however, current service frequencies during daytime hours are once every 30 minutes on average^K.

TTF supports the recommendations of the Joint Study to conduct a broad investigation into the use of RAAF Base Richmond for future RPT services, including a full economic, social, and operational analysis. This should be followed by a comprehensive community consultation program.

Short term measure

Although RAAF Base Richmond has the greatest potential to add new aviation capacity to the Sydney region, factors including weather, proximity to existing residential developments, airspace conflicts with Sydney Airport, the limited land profile of the existing airfield, and the requirements of Defence to maintain operations at the site prevent this option from meeting the forecast long-term aviation needs of the Sydney region.

In addition, while TTF in principle supports moving limited specialised freight, business aviation, and potentially some overflow RPT services to RAAF Base Richmond in the medium term, this should be viewed as a temporary measure, with services transferred to a new airport site once opened. This will provide certainty to the nearby community around RAAF Base Richmond regarding its future, as well as delivering immediate economic potential to the new airport site, which would otherwise face initial difficulties in establishing RPT services.

Recommendation 18 Approve the introduction of civil aviation activity at RAAF Base Richmond as a temporary measure until a secondary Sydney airport site is selected and constructed to address increased aviation demand for the Sydney region over the medium to long term.

Recommendation 19 Improve surface transport access to RAAF Base Richmond to meet projected demand once civil aviation activity commences.

K CityRail Western Line timetable as of 15 January 2013..

CANBERRA AIRPORT AND NEWCASTLE AIRPORT (RAAF BASE WILLIAMTOWN)

Canberra Airport and Newcastle Airport both provide de facto supplementary capacity to the Sydney region and the corresponding local communities in their immediate vicinity. While the Joint Study and the SIS have identified both sites as being too far from Sydney for either to be considered as an effective site for a secondary Sydney airport, their capacity in the total share of the Sydney region market, especially those to Sydney's south and north, in addition to their own regional markets should be encouraged to grow.

CANBERRA AIRPORT AND NEWCASTLE AIRPORT SHOULD BE ENCOURAGED TO GROW

TTF supports the federal government's feasibility study into the east coast high-speed rail network from Brisbane to Melbourne. This project has the potential to greatly improve access between a number of major cities along the eastern seaboard and reduce demand pressures on the aviation industry, if financially feasible and competitive with air travel. However, it is imperative that any future studies into high-speed rail are linked to Sydney's aviation capacity, in particular along the proposed high-speed rail corridor between Newcastle and Canberra. While this will not be the sole solution to Sydney's future aviation needs, a high-speed rail link has the potential to improve the ability of both Newcastle and Canberra airports to serve the northern and southern areas of the Sydney market.

CANBERRA AIRPORT



At present, Canberra Airport is the only curfew-free airport within reach of Sydney and could potentially provide overnight aviation services to the Sydney region as demand grows, becoming a major freight hub for the east coast and serving demand for overnight passenger operations.

Given Australia's size and geographic isolation, the option of providing overnight services is attractive to a number of international airlines where connectivity times are optimised at overseas hub airports. In addition, the nature of time-sensitive airfreight dictates that without curfew-free operations, a freight hub at Canberra Airport will fail to

reach its full potential. This is also recognised in the federal government's National Aviation Policy White Paper, which identifies the importance of maintaining an east-west and north-south network of curfew-free airports, including Canberra, to allow for efficient overnight freight operations.

CANBERRA AIRPORT IS THE ONLY CURFEW-FREE AIRPORT WITHIN REACH OF SYDNEY AND COULD POTENTIALLY PROVIDE OVERNIGHT AVIATION SERVICES TO THE SYDNEY REGION

Brisbane Airport and Melbourne Airport are currently curfew free, operating several services that would be economically or logistically difficult during typical non-curfew hours. This brings major benefits to the Queensland and Victorian economies. With all other current and future options for aviation capacity in the Sydney region likely to operate with a night curfew, Canberra Airport's curfew-free status is critical to the Sydney region and NSW more broadly.

Additionally, as Sydney Airport reaches the upper limits of its maximum capacity, Canberra Airport will perform an important role as a secondary east coast hub, offering connectivity to services along the eastern seaboard that would otherwise pass through Sydney. This is further enhanced by Canberra Airport's ability to facilitate both larger, international aircraft and smaller, domestic aircraft which adds to operational flexibility and attractiveness to resident airlines.

With a large number of international low-cost and leisure carriers preferring off-peak (i.e. overnight) arrival and/or departure times to meet off-peak connection times in foreign hubs, Canberra Airport will play a large role in facilitating the forecast growth in international leisure activity to Australia. This will both increase the ability of leisure passengers to arrive in the Sydney region on affordable services and prioritise finite international slot allocation at Sydney Airport for business and/or legacy carriers who are willing to pay a premium for the limited availability.

While Canberra Airport will continue to primarily serve its own market in the short to medium term, the construction of a high-speed rail link will assist in delivering greater capacity options to Sydney and increase the ability of Canberra Airport to serve a larger market. However, to do so, the NSW and federal governments must jointly commit to preventing any further residential encroachment on Canberra Airport flight paths that may result in the imposition of a curfew.

Shortly after the release of the Joint Study, the NSW government rejected several recommendations regarding the location of a secondary Sydney airport, calling for Canberra Airport to serve the Sydney region with a high-speed rail connection. Regardless of the viability of this option based on distance from the Sydney basin and the economic cost of a high-speed rail link, Canberra Airport's ability to function in this capacity would be eradicated by the imposition of a curfew.

Following the approval of residential development at South Tralee, the NSW and federal governments must jointly commit to preventing any further residential encroachment on Canberra Airport's flight path and agree to prevent any future curfew being imposed. Furthermore, the federal government should expedite the establishment of planning guidelines for state and local governments to ensure off-airport land use in noise-affected areas adheres to the principles of the National Aviation White Paper and the ICAO Balanced Approach.

Recommendation 20 Protect Canberra Airport's curfew-free status to ensure the Sydney region has access to a 24-hour aviation asset to meet demand for overnight aviation activity.

NEWCASTLE AIRPORT (RAAF BASE WILLIAMTOWN)



Newcastle Airport (RAAF Base Williamtown) currently provides domestic-only RPT services for the Newcastle, greater Hunter and NSW Central Coast regions. In FY 2011-12, Newcastle was the fourth largest non-capital city airport in Australia, catering for 1.2 million passengers. In the decade since FY 2001-02, Newcastle Airport has experienced the highest passenger growth rate of any airport in Australia, with patronage increasing by an average of 18.9 per cent per year⁴⁴.

**DEFENCE LIMITATIONS SEVERELY
REDUCE THE ABILITY OF NEWCASTLE
AIRPORT TO PROVIDE ADDITIONAL
CAPACITY TO THE SYDNEY REGION
AND TO THE HUNTER DISTRICT**

As the RAAF's primary operational air base for NSW, Defence requirements for the facility are greater than that of RAAF Base Richmond. As such, Newcastle Airport civil operations are capped at six movements per hour and a curfew is in operation between 10:00pm and 6:00am⁴⁵.

These limitations severely reduce the ability of Newcastle Airport to provide additional capacity to the Sydney region and to the Hunter district. Newcastle Airport has proposed measures to increase capacity while presenting little to no impact on military operations at the airfield. Key among these proposals is to increase the morning and evening cap either side of regular military operations, to extend the non-curfew period to 11pm in line with other curfew airports nationally, and approve the introduction of international services, similar to other joint civil/military airfields such as Darwin Airport (RAAF Base Darwin) and, formerly, Townsville Airport (RAAF Base Townsville).

TTF supports the proposed improvements by Newcastle Airport together with the recommendation of the NSW government's response to the NSW Visitor Economy Taskforce report that encourages Defence to establish a more dynamic relationship with Newcastle Airport to ensure military and civil aviation interests are balanced. In addition, the NSW government and Defence should work with Port Stephens and Newcastle councils to prevent further off-airport land use in close proximity to Newcastle Airport from residential development, which may restrict future civil and military operational growth.

Recommendation 21 Alter the curfew period at Newcastle Airport (RAAF Base Williamtown) to 6:00am-11:00pm in line with all other airport curfews nationally to ensure consistency and address business travel demand.

Recommendation 22 Increase the movement cap at Newcastle Airport (RAAF Base Williamtown) from six movements per hour to improve capacity, address increased aviation demand and offer greater operational flexibility to the northern Sydney, Central Coast and Hunter regions.



HIGH-SPEED RAIL

To address projected transport demand along the eastern seaboard, in particular between Brisbane, Newcastle, Sydney, Canberra and Melbourne, the federal government commissioned the High Speed Rail Study to identify a suitable rail corridor and examine the economic viability of high-speed rail. High Speed Rail Study – Phase One (HSR 1) was released in August 2011 and Phase Two (HSR 2) is due for completion in the first quarter of 2013.

HSR 1 identified the projected cost of a high-speed rail link between Sydney and Newcastle in excess of \$17.9 billion, and a link between Sydney and Canberra in excess of between \$10.9 billion and \$19.2 billion, following the recommended Hume Highway corridor via the Southern Highlands⁴⁶. The report also outlined journey times of approximately 40 minutes between Sydney and Newcastle, and approximately an hour between Sydney and Canberra. HSR 2 will examine the best alignment for recommendation and provide greater detail around funding and commuter subsidy requirements.

Additionally, in 1999, the federal government commissioned a feasibility study into high-speed rail along the Sydney-Canberra corridor. Dubbed Speedrail, the Speedrail project proposed greater utilisation of existing infrastructure and less tunnelling through cities, reducing the overall project cost to around \$4.2 billion. This cost is based on 75 per cent private sector investment and includes construction of rolling stock. While this project did not proceed, it highlights that various options exist to construct a high-speed rail link, while keeping costs manageable and within financial feasibility limits.

While the construction of a high-speed rail network along the east coast may improve passenger flow along the busy Brisbane-Sydney-Canberra-Melbourne corridor, this is not viewed as an alternative to a secondary Sydney airport by TTF, the Joint Study or the SIS. However, with a high-speed rail link, the role played by Canberra Airport and Newcastle Airport becomes significantly larger, albeit at a higher cost.

Two key thresholds must be met for a high-speed rail link between Sydney and Canberra or Newcastle before either is considered a viable option to address aviation demand shortfall in the Sydney region – travel time and integration of passengers from air to rail and vice versa.

WITH A HIGH-SPEED RAIL LINK,
THE ROLE PLAYED BY CANBERRA
AIRPORT AND NEWCASTLE AIRPORT
BECOMES SIGNIFICANTLY LARGER

Should the alignment of a proposed route include stops at Canberra Airport and/or Newcastle Airport, in addition to the Sydney CBD and Sydney Airport, and reduce travel times to under 90 minutes, this option becomes superior to airport options at RAAF Base Richmond or Wilton, where expected travel times would be greater.

As demand for high-speed rail increases and the network is constructed, the ability of Canberra Airport or Newcastle Airport to add to Sydney's aviation capacity will increase. However, neither can be viewed as the sole solution to Sydney's long-term aviation needs, even with the addition of a high-speed rail link. The preferred solution remains the construction of a secondary Sydney airport within the Sydney basin area.

Recommendation 23 Examine the feasibility of high-speed rail along the Newcastle-Sydney-Canberra corridor to improve access to Canberra Airport and Newcastle Airport (RAAF Base Williamstown) for the greater Sydney market.





IDENTIFY AND SAFEGUARD A NEW GREENFIELD SITE FOR A FUTURE ADDITIONAL AIRPORT – LONG TERM

While the above solutions will provide improvements to capacity in the Sydney region in the short to medium term, projected long-term demand forecasts indicate that a new airport site will be required to meet future passenger growth as early as 2035.

TTF supports the position of the Joint Study and the SIS in recommending the continued operation of Sydney Airport once a new greenfield site is selected and constructed. Sydney Airport will continue to provide significant economic and social benefits to the Sydney region long into the future, particularly given its proximity to Sydney's CBD, Sydney's north, east and south, Port Botany, and its position within the road and rail network. Given the vocal opposition to aircraft noise from the community, government policy must not over time erode the ability of Sydney Airport to operate at its maximum capacity and move, by stealth, the majority of operations to the secondary airport site.

SYDNEY AIRPORT WILL CONTINUE TO PROVIDE SIGNIFICANT ECONOMIC AND SOCIAL BENEFITS TO THE SYDNEY REGION LONG INTO THE FUTURE

METROPOLITAN PLAN

The spatial distribution of Sydney's population in the future is a key factor in considering and addressing Sydney's aviation demand and access to aviation infrastructure. According to the Metropolitan Plan for Sydney 2036 (Metropolitan Plan), Sydney's north west, south west and west central planning subregions will experience the greatest population growth and, by 2036, nearly half of Sydney's population will live in western Sydney following a forecast growth of over 1.1 million residents⁴⁷.

The Metropolitan Plan establishes an integrated framework to provide land use, services, and infrastructure to support expected population growth and demand for employment until 2036. Employment growth over the next 25 years will be focused on the North West Growth Centre, Western Sydney Employment Area, and the South West Growth Centre to cater for the anticipated population growth in the region. As a result, an anticipated 384,000 new jobs will be required in the area.

The development of Parramatta and other western Sydney regional centres will greatly assist in boosting the economic potential of the area. However, as the population and economic centre of Sydney moves closer to the geographic centre of the city over time, the ability of western Sydney to reach its full economic potential will be hampered by a lack of access to aviation services and other major transport hubs.

WESTERN SYDNEY WILL NEED 384,000 NEW JOBS BY 2036

At present, travel times from Sydney's CBD, compared to Parramatta and other identified future economic centres in western Sydney, to Sydney Airport impact on the attractiveness of business to establish operations, also having an impact on productivity. As surface transport congestion is projected to increase over time, this situation is set to worsen.

Above all, the choice of a secondary Sydney airport site should prioritise the economic needs and potential of western Sydney as the area develops its own specific demand for aviation access. A number of western Sydney business groups, including the Parramatta Economic Forum, have identified a major airport in western Sydney as potentially providing the single biggest improvement to Parramatta's position as Sydney's second CBD.

THE CHOICE OF A SECONDARY SYDNEY AIRPORT SITE SHOULD PRIORITISE THE ECONOMIC NEEDS AND POTENTIAL OF WESTERN SYDNEY

PLANNING FOR A SECONDARY AIRPORT SITE

Combining this economic potential with the significant identified risks associated with avoiding action on locating an additional site, it is essential the federal and NSW governments immediately identify and safeguard a location for a future secondary Sydney airport. It should be noted that while a new airport site is not required to address the projected aviation capacity shortfall until at least 2035, planning, community consultation and land acquisition should commence immediately given the expected lengthy lead times these processes would take.

IT IS ESSENTIAL THE FEDERAL AND NSW GOVERNMENTS IDENTIFY AND SAFEGUARD A LOCATION FOR A FUTURE SECONDARY SYDNEY AIRPORT IMMEDIATELY

The process will involve:

- The selection of a suitable location;
- Investment in land acquisition;
- Adequate off-airport planning;
- Creation of zoning guidelines to ensure adequate surface transport connections and mitigate aircraft noise concerns; and
- Determination of future airport use types^L.

The Joint Study considered a number of airport types for a secondary Sydney airport. Shortlisted options include a Type 1 airport^M and a Type 3 airport^N. In addition, the Joint Study also identified specific sites that fit a broad range of criteria including:

- Proximity to demand;
- Potential impact on protected areas;
- Economic potential;
- Site terrain;
- Air navigation and airspace compatibility requirements;
- Characteristic weather patterns; and
- Nearby urban and rural settlements that may face environmental and noise impacts following the construction of an airport.

After applying the criteria, specific sites were shortlisted in the Central Coast, Hawkesbury, Nepean, Burragorang and Cordeaux-Cataract localities. Each locality included a number of specific sites that were subject to a technical site assessment to further determine their suitability, based on criteria including zoning, site footprint, terrain, accessibility of the Sydney land transport network (road and rail), proximity to growth centres and commercial sites, capacity for future expansion, potential land acquisition costs, and estimated noise impacts on residents.

SPECIFICALLY, THE JOINT STUDY RECOMMENDED THE BADGERYS CREEK SITE AS THE PREFERRED OPTION

Following high-level, site-specific analysis and a cost-benefit analysis for each site, sites in the Nepean locality (Badgerys Creek, Luddenham, Bringelly, Greendale) were assessed as clearly superior against most criteria compared with the sites in other localities. Specifically, the Joint Study recommended the Badgerys Creek site as the preferred option, given its proximity to the western Sydney urban growth centres, the potential economic contribution of the site to western Sydney, its location within the Sydney basin and proximity to existing and future surface transport options, and the reduced cost of land acquisition given the existing ownership of the site by the federal government.

^L Future airport type suitability will determine whether an airfield comprising either single runway, cross runway or ultimate capacity parallel runway operations is best. This will focus on a determination of the variety and scale of operation to be undertaken.

^M Type 1 airports are defined as full service airports containing large runway lengths, capable of serving all RPT market segments and capable of accommodating a future parallel runway layout.

^N Type 3 airports are defined as limited service, single runway airports serving all RPT market segments, but focusing on low cost carriers or regional carriers and housing a shorter runway up to 2,600 metres.

WILTON

The federal government is currently undertaking an analysis into the use of a site at Wilton, south west of Campbelltown, to house a secondary Sydney airport. This analysis will determine the suitability of the site and determine the costs and benefits to Sydney and Australia more broadly with this choice. While the Joint Study identified a number of noise benefits with this location over others examined, TTF believes the environmental, economic and topographic challenges this location presents will prevent Wilton from becoming a suitable option.

Furthermore, the location of the Wilton site – a considerable distance from Sydney's economic growth centres or a large population base to facilitate its own future aviation demand market – will ensure this choice reflects an unfeasible alternative to the Joint Study's primary recommendation, Badgerys Creek.

BADGERYS CREEK

TTF supports the findings of the Joint Study and recommends the Badgerys Creek site for a future secondary Sydney airport. Further, considering the potential for future demand to outstrip a limited capacity Type 3 secondary airport site, TTF recommends the planning of a Type 1 airport to maximise aviation activity at the site in the foreseeable future, with investment phased to meet demand. This will ensure long-term operational plans are consistent with the initial development objectives of the site and improve the opportunity to safeguard the airport from any future constraints.

INDUSTRY, THE JOINT STUDY AND THE SIS OVERWHELMINGLY SUPPORT BADGERYS CREEK

While the projected costs associated with the project are expected to be between \$7 billion and \$11 billion⁴⁸, the option of establishing a high-speed rail connection between the site, Parramatta CBD and Sydney CBD should also be included. This will maximise the economic potential of the airport, while providing passengers, in particular business travellers, with rapid access to Sydney's major economic activity centres.

When planning the layout of the secondary Sydney airport site, consideration must be given to a number of existing community concerns, in particular, surface transport design, off-airport land use, and runway alignment. Political difficulties associated with aircraft noise can be mitigated through the construction of parallel runways instead of cross runways, which can significantly reduce the level of community exposure to aircraft noise by limiting flight path corridor options. In addition, more restrictive off-airport planning requirements must be agreed to by the federal and NSW governments to prevent residential encroachment on flight path corridors. Greater land acquisition and an increase in green space under the flight path can reduce the likelihood of noise-related complaints which may lead to government-imposed activity restrictions.

POLITICAL DIFFICULTIES ASSOCIATED WITH AIRCRAFT NOISE CAN BE MITIGATED THROUGH THE CONSTRUCTION OF PARALLEL RUNWAYS INSTEAD OF CROSS RUNWAYS

This is one of the most important planning and investment decisions facing Sydney, NSW, and Australia. Industry, the Joint Study and the SIS overwhelmingly support the selection and subsequent planning and construction of the Badgerys Creek site as the secondary Sydney airport. The need for action is evident and becoming increasingly time critical. Over the past four decades, it is clear that no one option has ever been optimal, however as time goes on, existing options are also becoming less and less viable. Without immediate action, the future of Sydney and the broader Australian interest are at serious risk of long-term social and economic damage.

While it is apparent that no rapid or single solution to this issue exists, it is clear that delaying action due to perceived political difficulty will simply ensure addressing these challenges in the future will become more demanding and costly. Complex, long-running, large-scale issues such as these require delicate planning, political courage and appropriate action and this must commence now. Governments at all levels must appreciate the risk of inaction and work with industry to ensure necessary decisions and choices are made over the next year to safeguard the future of our nation.

Recommendation 24 Federal government and opposition pledge bipartisan support for Badgerys Creek as the site for a secondary Sydney airport.

Recommendation 25 Within the next 12 months, commence technical design, layout, and transport link planning for a secondary Sydney airport, given the anticipated long project lead times.

Recommendation 26 Ensure land use under proposed flight paths is free from residential development for at least 10km from the threshold of any proposed runway.

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