



Australian Government

Department of Infrastructure and Transport

Examining viability factors for a supplementary airport in the Sydney region

PWC



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Airline and investor perspectives

Final

28 February 2013

*Airline and investor
perspectives*

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Disclaimer

This Report has been prepared for the Department of Infrastructure and Transport.

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Executive Summary

In March 2012 the *Joint study on aviation capacity in the Sydney region*, which had been overseen by an independent Steering Committee of government and industry experts, was presented to the Australian and NSW Governments. The study found that an additional airport will be needed to meet the scale of expected unmet aviation demand in the Sydney region, and there will be adverse economic costs for Sydney, New South Wales, and Australia if capacity is not provided to meet long term demand. In May 2012 the Australian Government (the Government) announced a three part strategy to address the aviation needs of the Sydney region based on the recommendations contained in the Joint Study, which includes identifying and building a supplementary airport to ensure that Sydney has sufficient growth capacity for aviation services.

In November 2012, the Department of Infrastructure and Transport (DoIT) hosted an expert forum, with the objective to examine potential commercial viability factors for a supplementary airport in the Sydney region. The forum was facilitated by PwC, and explored the views of industry experts including airlines, investment analysts and aviation consultants, as to the factors that could influence private investment in new infrastructure and decisions to establish regular civil aviation services at a supplementary airport in the Sydney region.

This report presents industry views on commercial viability factors to inform advice that is provided to the Government on the development of any airport proposal. This will complement socio-economic and environmental analysis concurrently being undertaken by DoIT.

Industry experts hold a variety of opinions and ideas about the requirements that will make a supplementary airport commercially viable in the Sydney region. Based on discussion at the forum, the key considerations for airlines, investment analysts and aviation experts can be summarised by the following five factors:

1. Proximity to market: There is a clear preference for an airport site that is in close proximity to population centres.
2. Airport type: A supplementary airport would need to service multiple demand segments, including international.
3. Timing: With current passenger growth projections and regulatory arrangements in place at Kingsford Smith Airport (KSA), a new airport is needed sooner rather than later.
4. Investment: Some government investment in a new airport and associated infrastructure is seen as highly desirable, given demand risk and high levels of capital expenditure.
5. Land transport: Efficient land transport connections are viewed as critical for any supplementary airport development.

The expert forum provided the industry with an opportunity to contribute its views as to which of these factors were most important for commercial viability, based on its collective experience of aviation in the Sydney region, around Australia, and internationally. Open discussion was encouraged among participants, and industry expressed considerable support for a greenfield airport at Badgerys Creek, an option that the Government is not currently considering. There was debate among some participants about the suitability of current regulatory arrangements at KSA. However, there was agreement that regulatory change could not solve Sydney's aviation capacity issues in the long term, and indeed a supplementary airport is needed.

Taken as a whole, the industry seems in favour of an airport that serves multiple demand segments, is in close proximity to a population centre, and has efficient land transport connections. There is a preference for a supplementary airport sooner rather than later. The greatest obstacle to private investment is considered to be demand risk, but appetite for investment in a supplementary airport does exist. Pragmatically, the industry is

aware that trade-offs exist between scale of operations and the timing and investment required for a supplementary airport.

These views lead to a number of possible further considerations, including that the Government may wish to:

- Reconsider utilising its land at Badgerys Creek for the purpose of a supplementary airport for the Sydney region.
- Make a decision on the site(s) and type(s) of a new airport in 2013 or as soon as possible in order to enable planning, design and construction.
- Undertake a more in-depth catchment demand analysis to help determine RAAF Base Richmond's (Richmond) potential role assisting to overcome Sydney region aviation capacity issues, and to understand implications if it is considered a temporary or long term facility.
- Undertake commercial analysis to understand the potential scale and level of investment and funding required to develop a supplementary airport at Richmond, Wilton and Badgerys Creek. This should include consideration of land transport connections.
- Following decision on the location and timing of a supplementary airport, the Government should consider specific incentives that could attract a first mover airline to a supplementary airport, and test these with the airline industry. In order to sound out specific airline interest for moving to a supplementary airport, individual consultation between Government and airlines would be a logical next step.

The remainder of this report is structured as follows:

- Section 1 presents the terms of reference for this study.
- Section 2 provides an introduction to, and context for aviation in the Sydney region. It then outlines the Government's strategy for managing aviation in the region.
- Section 3 presents a brief outline of the range of issues that may affect supplementary airport commercial viability.
- Section 4 discusses each of the factors identified by industry as key to airport commercial viability.
- Section 5 draws conclusions.
- Appendix A provides supporting case studies.

Section 1: Purpose

The Australian Government's (the Government) objective in investigating the viability of a supplementary airport is to ensure that Sydney has capacity to meet the long-term demand for aviation services.

The aviation industry has undergone systemic changes in recent decades. The privatisation of airports in the mid to late 1990s changed the Government's role in the management of major airports. The Government has become a regulator and no longer operates and builds airports. If a decision was made by Government to proceed with a greenfield airport, it will be the first time a greenfield airport has been constructed in Australia since privatisation. Hence the work currently being undertaken by the Government is being conducted in a substantially different policy environment compared with work undertaken in past consideration of a supplementary airport for Sydney, and consultation with the industry is essential.

The planning and construction process for an airport is lengthy, so there is a need to engage with the industry early in the process to determine the key factors that would influence the commercial viability of possible supplementary airport options. The objective of industry engagement is to draw out what factors are important in influencing private investment in new infrastructure, and decisions to establish regular civil aviation services at a supplementary airport in the Sydney region.

Scope of work

PwC was engaged by the Department of Infrastructure and Transport (DoIT) to assist with planning, preparing, facilitating and documenting outcomes from an aviation industry forum aiming to explore the views of airlines, investment analysts and aviation consultants, as to the factors that could influence commercial viability of a supplementary airport in the Sydney region. The scope of this work included the following tasks:

- Task 1: Identify an appropriate mix of industry experts and infrastructure analysts to participate in the forum
- Task 2: Draft an issues paper to distribute to attendees prior to the forum to facilitate discussion
- Task 3: Facilitate forum
- Task 4: Develop a report incorporating findings.

This report is the product of task 4 and presents the findings from the forum, including the key factors and issues flagged by airlines, investment analysts and industry experts. It also presents issues for consideration by government based on discussion at the forum. It is anticipated that this will inform advice that is provided to the Government on the development of any airport proposal, and will complement socio-economic and environmental analysis concurrently being undertaken by DoIT.

Section 2: Introduction and the Sydney aviation context

Australia has a heavy reliance on aviation, especially as a driver of economic growth. The sector itself currently contributes more than \$6.5 billion directly to the Australian economy each year, providing direct employment for around 60,000 people. Aviation also indirectly stimulates a variety of other industries including tourism, which alone directly accounts for approximately \$35 billion to the economy.

Access to efficient air services for passenger travel and time-sensitive freight is increasingly essential to ensuring Sydney's place as an international commercial and financial centre and Australia's foremost tourist destination.¹

A recent parliamentary inquiry in the United Kingdom (UK) noted 'if the aviation sector were removed from the UK, the economy would collapse'.^{}*
Given the size of the Australian continent and relative remoteness of many communities, reliance on aviation in this island nation is even more profound.

Operational context for aviation in Australia

In 1990, the Australian domestic airline market was deregulated with an end to the 'Two Airlines Policy'.² Deregulation resulted in increased domestic competition, greater innovation and significant downward pressure on fares. This has resulted in air travel becoming more affordable and accessible over the past two decades.

Over the last 20 years, the number of people flying within and to/from Australia has trebled. Australia's major regular public transport (RPT) airports facilitated approximately 135 million passenger movements in 2010-11 compared with approximately 41.5 million passenger movements in 1990-91 (6% compound annual growth (CAGR)).³ This growth, in part, can be attributed to the emergence of Low Cost Carriers (LCCs). The market share of LCCs for international flights to/from Australia has grown from a 1% share of total seats in 2001, to 18% in 2011. For domestic flights, the share has grown from 6% to 50%.^{4,5}

As stated previously, Australia's airports have undergone changes to the way in which they operate. Between 1997 and 2002, 22 of Australia's major airports were privatised under 99 year lease arrangements with the Government under the Airports Act 1996.⁶ The increased demand for aviation has placed strain on existing infrastructure and aviation capacity. While significant investment has been made in aviation infrastructure

¹ Department of Infrastructure and Transport (2012). Submission into NSW Metropolitan Strategy 2012 Discussion Paper, June 2012, available at: <http://www.planning.nsw.gov.au/LinkClick.aspx?fileticket=OZ60YaRFYA8%3D&tabid=205&mid=1081&language=en-AU>

^{*} Commonwealth Government and NSW Government (2012). Joint Study on aviation capacity in the Sydney Region, pg. 52.

² Stevens, Nicholas J., Baker, Douglas C., and Freestone, Robert (2010). 'Airports in their urban settings: towards a conceptual model of interfaces in the Australian context'. *Journal of Transport Geography*, 18(2). pp. 276-284.

³ Department of Infrastructure and Transport (2012). Submission into NSW Metropolitan Strategy 2012 Discussion Paper, June 2012, available at: <http://www.planning.nsw.gov.au/LinkClick.aspx?fileticket=OZ60YaRFYA8%3D&tabid=205&mid=1081&language=en-AU>

⁴ Note: this does not include Virgin Australia which has repositioned itself in the market over this period and now operates as a full service carrier

⁵ CAPA Centre for Aviation, Low Cost Carriers (LCCs), available at: <http://centreforaviation.com/profiles/hot-issues/low-cost-carriers-lccs#lcc>

⁶ Stevens, Nicholas J., Baker, Douglas C., and Freestone, Robert (2010). 'Airports in their urban settings: towards a conceptual model of interfaces in the Australian context'. *Journal of Transport Geography*, 18(2). pp. 276-284.

since privatisation (nearly \$7 billion), evidence of the challenges resulting from growth is being seen at airports including Sydney, Brisbane and Perth.⁷

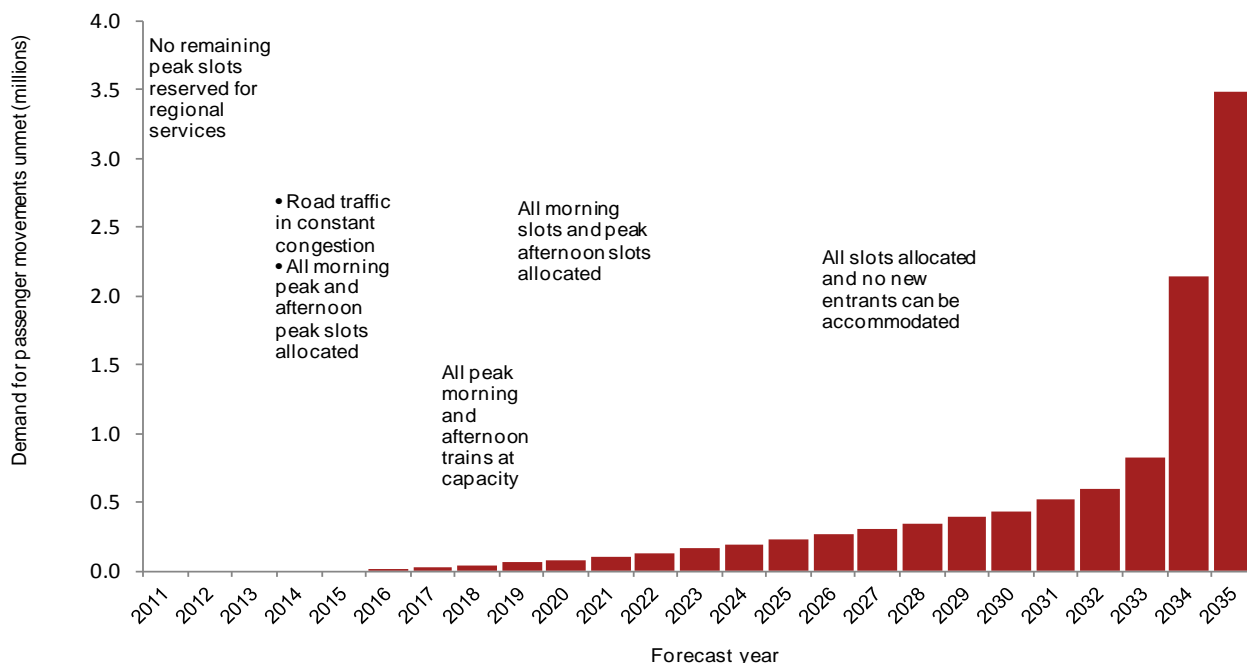
Sydney's aviation capacity

In 2009, the Australian and New South Wales Governments formed an independent Steering Committee to undertake the *Joint Study on Aviation Capacity for the Sydney Region* (the *Joint Study*) and develop a strategy to meet the aviation capacity needs for the Sydney region in the short, medium and long term. The *Joint Study* was not simply a site selection exercise. Instead, it looked at how an integrated aviation, surface transport and land development strategy could be developed and implemented over time.

The *Joint Study* found that Sydney's Kingsford-Smith Airport (KSA) will not be able to cater for all expected demand in the future. Slots at KSA are expected to be fully allocated by around 2030. However, there is already evidence of capacity constraints and peak hour congestion issues at KSA. Gates, stands, and apron areas are heavily utilised at each terminal, particularly Terminal 2 (Domestic).⁸ Slot allocations for peak periods are already at or close to capacity. By 2015, five per cent of peak hour demand will be unmet, and this will grow to 13 per cent by 2020. The airport will be increasingly unable to accommodate growth in services and, by 2060, around 54 million passengers, or roughly one and a half times current annual passenger throughput will be unable to be accommodated at the airport.

Capacity constraints during peak hours mean that airlines will be increasingly unable to schedule services at their preferred time; hence passenger growth during these periods will be dependent on aircraft upgauging to the extent that this is possible. This will impact the emerging markets of China and India whose airlines are looking to significantly expand international services, including those to Australia. China and India currently comprise 6% and 2% of international passenger movements at KSA respectively, with forecasting in the *Joint Study* finding that this is expected to increase to 24% and 13% respectively (if growth is unconstrained).⁹

Figure 1 KSA expected unmet demand for passenger movements, 2011 to 2035



Source: Booz & Company (2012).

⁷ Productivity Commission (2011). Economic Regulation of Airport Services, no. 57, 14 December 2011, pg. 108.

⁸ Commonwealth Government and NSW Government (2012). Joint Study on aviation capacity in the Sydney Region, pg. 118-120.

⁹ Commonwealth Government and NSW Government (2012). Joint Study on aviation capacity in the Sydney Region, pg. 100.

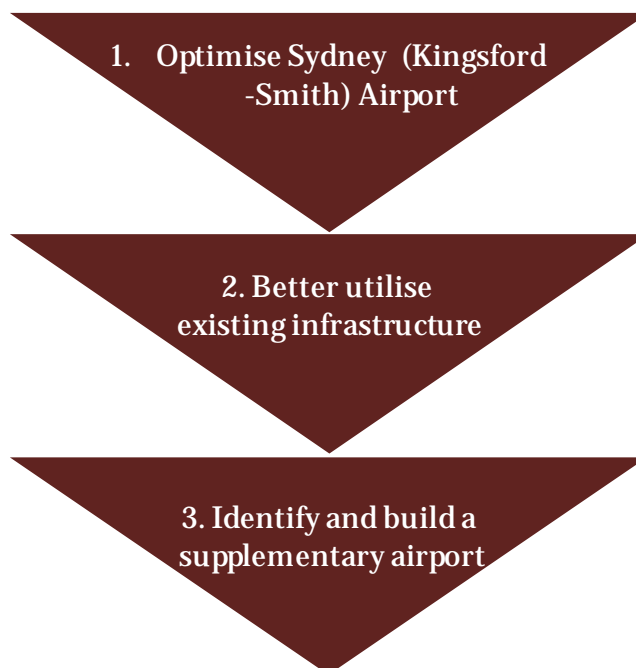
Government response to the Joint Study

In May 2012 the Government announced a three part strategy to address the aviation needs of the Sydney region based on the recommendations contained in the *Joint Study* (Figure 2). In recognising that KSA has insufficient capacity to meet Sydney's long-term aviation needs, the Government agreed, amongst other recommendations, to undertake a detailed investigation into the suitability of Wilton as a site for a supplementary airport. This will include conducting further economic, social and environmental analysis. The Government is also assessing the scope of utilising Richmond for limited civil airline operations.

The Government's position is that a second airport would not replace KSA, but be a quality supplementary airport. Accordingly, passenger numbers at KSA will continue to grow within the existing parameters over the next few decades.

Noise sharing arrangements, a curfew and aircraft movement cap were established by the Government for KSA in the mid-1990s following the construction of the parallel runway, and successive governments have retained this approach.¹⁰ The *Joint Study* explored the effect of amending these policy settings. It was found that any changes to these arrangements would add limited capacity and not address Sydney's longer term aviation needs. The Government reiterated its commitment these policy settings in response to the *Joint Study*.

Figure 2 Government strategy

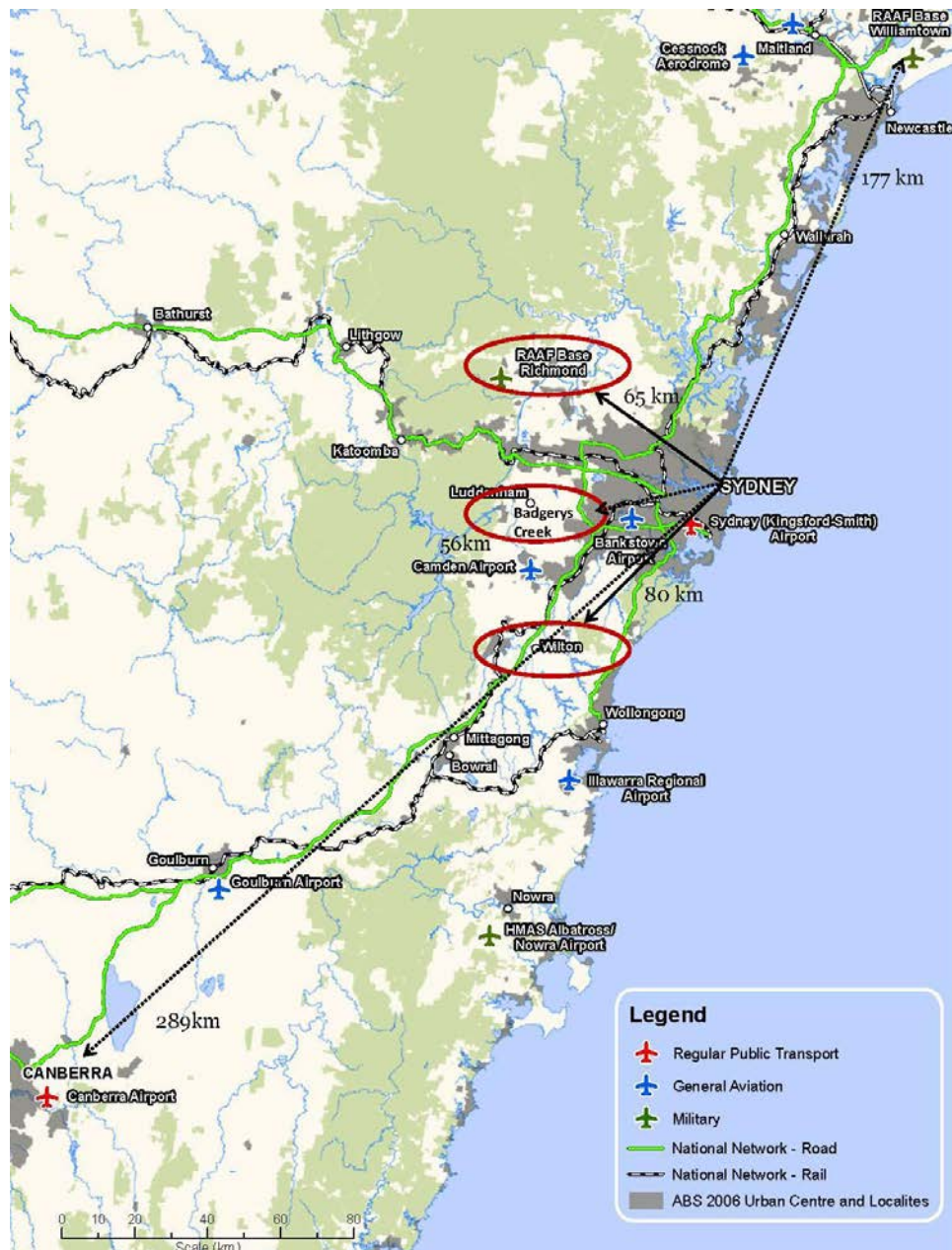


¹⁰ Noise sharing arrangements are set out in Sydney Airport's Long Term Operating Plan and include a number of noise sharing principles for the operation of the airport including maximising use of flight paths over water and non-residential areas. Sydney Airport operates under curfew between the hours of 11pm and 6am, as legislated under the *Sydney Airport Curfew Act 1995*. During this period, take-offs and landings are restricted to specific types of aircraft and certain operations. Programmed movements are not to exceed 80 movements per hour. (Airservices Australia (2012). *Sydney Airport*. Available at: <http://www.airservicesaustralia.com/aircraftnoise/airport-information/sydney/>)

The Government shares the view of the independent Steering Committee that Canberra Airport and Newcastle Airport/RAAF Base Williamtown have an important role in the region, however, not as supplementary major airports for Sydney.¹¹

Badgerys Creek has been recommended as the preferred site in previous second airport studies, and land was purchased by the Government in the 1980s to allow for the construction of an airport. This land is still owned by the Commonwealth and planning restrictions are still in place. It has been the view of successive governments, both federal and state, that an airport not be built at Badgerys Creek. The future of the land at Badgerys Creek will be determined once the site for a supplementary airport has been decided.

Figure 3: Possible supplementary airport locations in the Sydney region



¹¹ Commonwealth Government and NSW Government (2012). Joint Study on aviation capacity in the Sydney Region, pg. 3.

Sites that the Government is further investigating

The Government is further investigating the suitability of Wilton in Sydney's southwest as the site for a supplementary airport. At the same time, the Government is also investigating the possibility of utilising Richmond in Sydney's northwest for limited civil airline operations. As Richmond is an existing airport, it has different considerations.

Table 1 Comparison of possible sites

Wilton	RAAF Base Richmond
Similarities:	Similarities:
<ul style="list-style-type: none"> Potential for staged development EIS would be required – more complex and time consuming 	<ul style="list-style-type: none"> Potential for staged development (development of a N-S runway) EIS would be required – less complex as an existing airfield
Differences:	Differences:
<ul style="list-style-type: none"> Blank canvas Full civilian airport High establishment costs Potential in-service date – 2025-30 Airport could be developed to minimise airspace management issues Maximum capacity – 70m Capacity to meet long-term demand Surface transport access required (road and rail) 80 km from CBD In proximity to Sydney's south west population catchment Large site Allowances for substantial non-aeronautical development Land acquisition cost 	<ul style="list-style-type: none"> Established airport with existing runway (2,134m) Operational RAAF Base with Defence ownership. Potential for on-going RAAF presence Low establishment cost for minimum infrastructure Potential in-service date – around 2017 Existing airspace management issues with KSA Maximum capacity – approximately 5m on existing runway if RAAF leave, 30m for a N-S runway Capacity to meet medium-term demand Existing surface transport access (road and rail) 65 km from CBD In proximity to Sydney's north west population catchment Small site (274 hectares) Limited allowance for non-aeronautical development on current site if there is a continued RAAF presence

Sources: DoIT, Joint Study

Demographics of the Sydney region

The population of the Sydney region is projected to increase by 1.4 million to nearly 6 million by 2036, with the greatest population growth forecast to occur in Sydney's South West, North West, and West Central subregions (Table 2). The high levels of growth in the city's west will mean that, by 2036, nearly half of the city's population will live in Western Sydney (48%, up from 43% in 2006).

Table 2 Population projections for Sydney subregions (population in thousands)

Sydney subregion	2010	2036	Growth to 2036
City of Sydney	182.2	264.8	82.6
East (Bondi & Randwick)	299.0	334.0	35.0
Inner North (North Sydney & Mosman)	318.3	378.9	60.6
Inner West (Leichhardt & Burwood)	247.8	307.0	59.1
North (Hornsby)	278.2	321.2	43.0
North East (Manly Warringah)	247.6	277.0	29.4
North West (Penrith & Bankstown)	815.7	1155.6	339.9
South (Canterbury & Sutherland)	688.9	747.6	58.7
South West (Liverpool & Campbelltown)	439.6	874.8	435.3
West Central (Parramatta & Bankstown)	738.5	896.6	158.1
Central Coast (Gosford)	319.7	424.7	104.9
Total	4577.5	5982.1	1404.5

Source: NSW Metropolitan plan

Airports, like all transport infrastructure, need to be accessible to the population catchments they service. Table 3 shows the number of people currently living in the surrounding areas of each site. KSA, located close to Sydney's CBD, is within 50km of much of Sydney's population. There is also a current population base surrounding each of the Government's proposed airport sites. With the majority of population growth to 2036 to occur in Western Sydney, this population base will only increase over time.

Table 3 Key socio-economic statistics of surrounding regions for potential supplementary airport sites

Airport site	Kingsford-Smith Airport	Richmond	Wilton
Population within 25km (2011)	2.7 million	0.6 million	0.2 million
Population within 50km (2011)	4.0 million	2.9 million	1.7 million
Unemployment (%) 2006 in surrounding LGAs	5.3% (Sydney Region)	5.4%	7.0%
Average income of residents in surrounding LGAs 2006	\$1,254 per week (Sydney Region)	\$842 per week	\$832 per week

Sources: Booz & Company analysis (2012), BTS Population Data (2011), Ernst & Young analysis (2013).

Note: Population estimates are based on BTS-population data at an SLA level as CCD data for the period was unavailable.

Potential passenger demand

The Government's strategy following the Joint Study has included undertaking passenger demand modelling for potential supplementary airport sites. The demand forecasts presented for Richmond and Wilton (Figures 4 and 5), show potential demand based on the development of an international standard airport at either site. No consideration has been given to the airports operating simultaneously. The analysis assumes no capacity constraints on aircraft or passenger movements and includes both generated demand (air trips that would not take place if the airport was not developed), and redistributed demand from KSA.

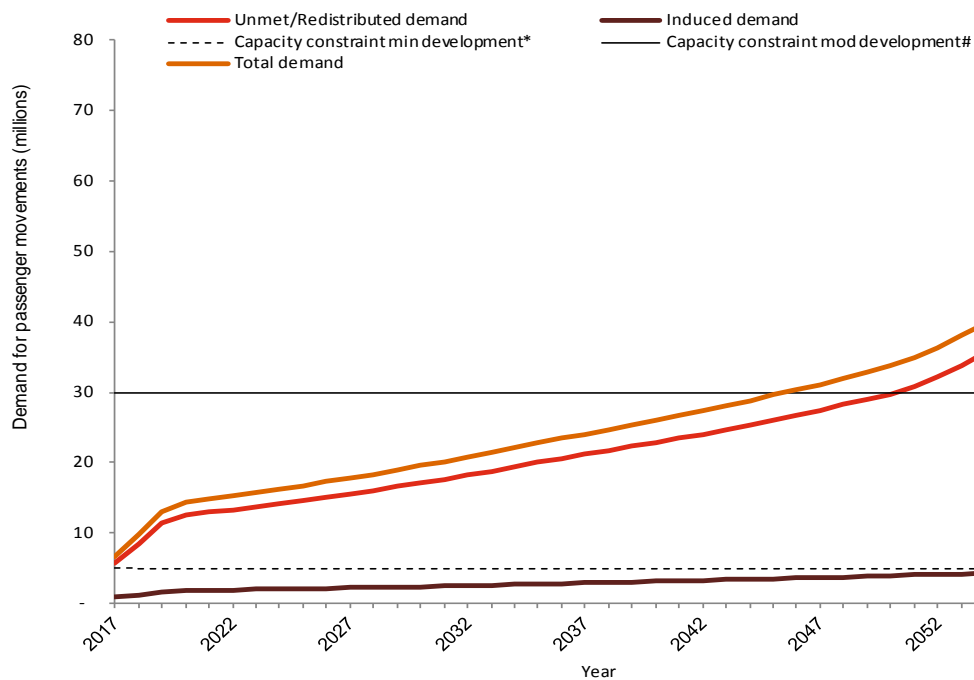
The potential start date for each option is different (2017 for Richmond RPT operations and 2030 for a greenfield airport at Wilton), as Richmond is already an operational airfield with an existing runway, and Wilton is a greenfield site. It would take longer for Wilton to become operational due to longer design and construction timeframes.

The analysis shows that Richmond would generate slightly higher unconstrained demand than Wilton. Richmond could be operational for potentially more than a decade before an airport at Wilton is approved and constructed. Additionally, Richmond is currently closer to population centres of the Sydney region (refer to Table 3), and is therefore able to generate its own demand to a greater extent than Wilton.

However, while Richmond is expected to generate the level of demand shown in Figure 4, the current airport infrastructure could not support this number of passengers. Development of the current east-west runway could only accommodate around five million passengers a year (exact figures would depend on the extent of RAAF operations). This additional capacity would soon be absorbed and Sydney's congestion challenge would remain. Capacity could be further extended through the construction of a north-south runway, although this is forecast to reach its estimated capacity of 30 million passengers per year around 2045. Hence, Richmond alone is not a viable long-term solution to meet Sydney's aviation capacity needs.

Wilton, with initial development of a single runway, is forecast to reach its estimated capacity of 20 million passengers per year around 2041, but could support all forecast demand to 2060 and beyond with a parallel runway when required.

Figure 4 Passenger demand forecast RAAF Base Richmond

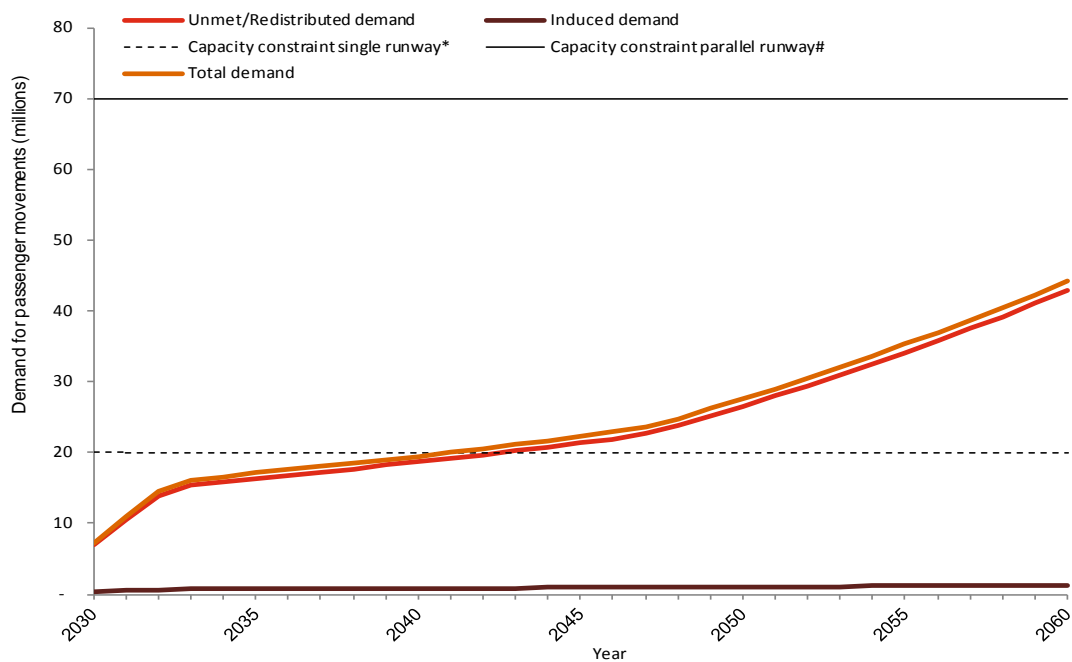


Source: Booz & Company forecasts (2012).

*Capacity constraint minimal development comprises the following assumptions: Existing East-West runway, domestic and regional RPT, no RAAF presence

#Capacity constraint moderate development comprises the following assumptions: new North-South runway, domestic and international services.

Figure 5 Passenger demand forecast Greenfield (Wilton)



Source: Booz & Company forecasts (2012).

*Capacity constraint single runway comprises the following assumptions: initial development of a single runway, domestic and limited international services

#Capacity constraint parallel runway comprises the following assumptions: full service airport with parallel runways

Section 3: What factors make an airport commercially viable?

The commercial viability of a supplementary airport will depend on whether it can attract investment, airlines, passengers and other uses. There are a wide range of factors to consider in the development of a supplementary airport, and these have been identified in theoretical literature and observed in development of new airports in Australia and overseas. The *Joint Study* explored a range of these factors in general terms, without considering them within the specific context of the Sydney basin. These factors included:

- Network connectivity
- Alliance requirements
- Access (24 hour, turnaround/utilisation opportunities)
- Operational constraints/congestion at primary airport
- Proximity to market
- Size/variability of catchment (including passenger mix, yield)
- Good transport linkages (road/rail)
- Airport owner/government incentives
- Competitive advantage
- Strategic and market development opportunities.

PwC considered these factors and examined examples of other supplementary airports to determine what has worked in the past, and what has not. Case studies on London Luton, Washington Dulles, Gold Coast, and Avalon airports are presented in Appendix A. Each offers its own learnings that can be applied to a supplementary airport development in the Sydney basin. Specifically, some key factors identified by PwC based on other examples and developed to aid discussion at the forum are:

- **Proximity to a market, and a sufficient level of demand:** Gold Coast Airport, despite strong competition from Brisbane Airport, is achieving strong growth in passenger numbers. Reasons for this are that it serves an immediate catchment area that is regarded as a market in its own right as a popular tourist destination, and it has been able to successfully target LCCs (refer to Case Study #1 in Appendix A for further details). It is likely that these factors will also heavily influence the commercial viability of a supplementary airport in the Sydney basin.
- **The type of airport:** The aviation services that it can cater for, is a key factor for the commercial viability of any airport. Features such as airport size, runway length, and terminal characteristics affect which airlines want to / are able to operate from there. This in turn will affect what market segments can / will use the airport. The airport type will also be a large determinant of the development cost. Building an airport that meets the needs of industry is therefore important for ensuring that it is commercially viable. London Luton is a good example of this with the supplementary airport driving growth in the low cost carrier (LCC) market (refer to Case Study #2 in Appendix A).
- **The timing for a new airport:** It is important that there is a sufficient level of demand for a new airport, such that it represents an attractive market opportunity for investors and airlines. Washington Dulles has been used as an example of premature airport investment, as it was significantly underutilised for more than 30 years (refer to Case Study #3 in Appendix A for further details). The *Joint Study* found that Sydney needs a second airport by the late 2020s. However, there is already evidence of constrained capacity and peak hour congestion at KSA that translates into unmet demand. If a supplementary airport does not commence operations soon enough, there will be economic costs for Sydney. This demonstrates

that there is a challenge in balancing the economic reasons for an airport development versus the financial viability.

- **Funding mechanism for a new airport:** There are various models for investment in a supplementary airport that could allow for differing levels of public and private sector involvement. The costs of establishing an airport are considerable, especially when considering a greenfield option. Brisbane Airport's second runway funding issues provide an example of the challenges faced in funding aeronautical infrastructure (refer to Case Study #4 in Appendix A). Experience at London Luton Airport demonstrates that the lease period offered by the government to a private investor could also have implications for investment appetite, as a shorter lease period may not provide sufficient scope to recover the initial investment made (refer to Case Study #2 in Appendix A). This may be relevant in the Sydney context when looking at the Richmond option (depending on the level of investment needed), which only has enough capacity to support expected demand in the short to medium term.
- **The effect of regulatory controls:** The Government has a responsibility to implement policies or regulations that balance the interests of the wider community, the local community and the aviation industry. The Government has various policy settings that may be put in place to protect the interests of the community, such as a curfew and aircraft movement cap like those in place at KSA. These regulatory controls may affect the commercial attractiveness of a supplementary airport.
- **Strategic benefits and incentive regimes:** One important consideration for an operator in deciding whether to base its services at a non-primary airport may be strategic/competitive advantage. The greatest strategic advantage is likely to result from being the first to operate from the airport. This can provide an opportunity for operators to secure favourable entry arrangements and operate with less competition. Working with an airline to significantly increase its scale and economic benefits flowing through to the region can result in an airline 'owning' the airport in a strategic sense and thereby becoming a 'fortress hub' in its network. This could be offset by the requirement to provide for the interlining of passengers between services and the splitting of operations. Avalon is an example of an airport where the advantage of being the first mover was not large enough for Jetstar to sustain the initial capacity it provided there (refer to Case Study #5 in Appendix A).
- **Potential for other revenue streams:** The diversification of revenue is important for airport operators as it can help to protect an airport from external shocks, industry trends and/or market volatility. Non-aeronautical revenue streams have become increasingly important to airports since privatisation. As an example, Queensland Airports Limited (Gold Coast, Townsville, Mt Isa and Longreach airports), reported over 70 per cent of total revenue as non-aeronautical in 2011. These revenue streams can comprise of retail concessions, duty free, car parking, rental car concessions, property income from leasing of airport land and offices, advertising concession income and transport concessions, as well as other smaller, disparate streams. The potential to earn non-aeronautical revenue is likely to be important for a private sector investor in a supplementary airport in Sydney.

Section 4: Outcomes of stakeholder forum

The expert forum provided industry participants with an opportunity to contribute their views on commercial viability factors for a supplementary airport in the Sydney region, based on their collective experience of aviation in the Sydney region, around Australia, and internationally. Where this document refers to an industry view, this is to be taken to mean the views of those participants at the forum. Open discussion was encouraged among participants, and industry expressed considerable support for a greenfield airport at Badgerys Creek, despite the option not being considered by Government.

Pragmatically, the industry is aware that trade-offs exist between scale of operations and the timing and investment required for a supplementary airport. There was debate among some participants about the effect of altering the current regulatory arrangements at KSA and the possible periodic review of the policy settings to ensure their relevance. However, there was agreement that regulatory change alone could not solve Sydney's aviation capacity issues in the long term.

Based on discussion at the forum, the key considerations for airlines, investment analysts and aviation experts can be summarised by the following five factors:

1. Proximity to market: There is a clear preference for an airport site that is in close proximity to population centres.
2. Airport type: A supplementary airport would need to service multiple demand segments, including international.
3. Timing: With current passenger growth projections and regulatory arrangements in place at KSA, a new airport is needed sooner rather than later (with some participants suggesting within three to five years).
4. Investment: Some government investment in a new airport and associated infrastructure is seen as highly desirable, given demand risk and high levels of capital expenditure.
5. Land transport: Efficient land transport connections are viewed as critical for any supplementary airport development.

The remainder of this section is divided into discussion of the five key factors above, and their potential implications for the decision making process for a supplementary airport in the Sydney region.

Section 4.1: Proximity to market

Proximity to a sizable market is one important factor that can impact the commercial viability of a supplementary airport. Hence the location of any supplementary airport developed is an important factor in determining its ability to attract airlines and travellers.

According to a report by CAPA consulting in 2011, for an airline's outbound route(s) from a non-primary airport there needs to be a sizeable population base in close proximity to the airport and GDP growth forecasts need to be positive. This is because the propensity to travel broadly tracks GDP growth. For an inbound market there should be one or more key reasons people have to travel to the airport, including: business-related activities or employment, tourism, proximity to relatives or friends, or easy access to a major city. Balanced markets require elements of both to be successful.¹²

*"While other criteria are important, their importance quickly declines if there is no market development potential, either inherently or based purely on stimulation of demand through low fares."**

Industry views

General industry opinion is that the closer a second airport is to a significant local population catchment, the more likely it is to be commercially viable. Specific industry views in relation to proximity to catchment are:

- Despite DoIT indicating that the Government is currently investigating sites at Wilton and Richmond only, industry (particularly airlines) identified Badgerys Creek as the preferred option.
- Badgerys Creek was preferred to Wilton for a variety of reasons, but principally because of its location in relation to the CBD and proximity to a sizable demand catchment noting the forecast expansion of western Sydney. It was also preferred as the land has already been acquired and efficient ground transport access to the site would be more easily established. Due to these perceived benefits of Badgerys Creek, the Wilton location was not actively advocated by airline or investment stakeholders.
- The Richmond site is seen as being in relatively close proximity to the population of northwest Sydney and would be capable of generating demand.

Issues for consideration

These views indicate that there is a strong appetite from the industry to build an airport at Badgerys Creek. The response in favour of Badgerys Creek indicates that industry would require greater persuasion to support a supplementary airport at Wilton, which was perceived as further away from Sydney and the current growth centres, and would require extensive upgrades to land transport connections to become more attractive. Based on this, the Government may wish to reconsider utilising the Commonwealth-owned land at Badgerys Creek for the purpose of a supplementary airport for the Sydney region. If the Government instead chooses to progress with a different option, it should initiate further consultation with industry following the release of scoping studies for that option.

The response also indicates that on the basis of proximity to demand, utilising Richmond has merit. Dependent upon what services could be established there, the surrounding population may help to generate the level of demand required for commercially viable operations.

¹² Thomas, Ian (2011), Airline-Related Cost and Revenue Issues at Primary and Non-Primary Airports, CAPA Consulting, pg. 31.

* *Ibid.*, pg. 31.

Section 4.2: Airport type: Demand segments served

The types of airline or aviation services that operate from a supplementary airport will be an important factor in determining the infrastructure and facilities required. For example, international airports require a greater number of services than domestic airports, including duty free outlets and customs and immigration and quarantine facilities. Larger aircraft (typically used for medium and long-haul flights) also have different infrastructure requirements to smaller aircraft. These can include longer runways, larger aprons and extra gates. The lead time for design and construction of such infrastructure requires the types of services that will use the airport to be determined early in the planning phase.

In addition, full-service carriers may require lounge facilities and comfort focused passenger waiting areas. LCCs and new entrants may only require basic, but efficient facilities such as those seen at Terminal 4 of Melbourne Airport or one of the purpose-built budget terminals now commonly found elsewhere (such as at Kuala Lumpur).

Each of these factors will have an impact on initial development costs, the ability to meet immediate and future capacity needs and the market segment attracted to the airport.

Industry views

Industry generally holds the view that in the case of any supplementary airport, the ability to cater for all market segments (international, domestic, regional, LCCs, and have demand for inbound and outbound services) needs to be taken into account. The ability to service multiple segments of the market would allow the airport to meet a greater level of demand and would be more attractive to the market both in terms of investment and route planning.

Specific industry views are:

- The development of a greenfield airport is preferred over use of the existing runway at Richmond as it would have greater long term capacity to support the full range of domestic and international services from an operational perspective.
- There is concern that Richmond's current east-west runway length would not be able to accommodate international routes (apart from possibly Trans Tasman) or Sydney to Perth domestic services, and could accommodate far fewer flights per hour due to noise issues, apron space and Defence movements. In the long term, even with the possible development of a north-south runway, Richmond would not provide sufficient capacity to meet Sydney's long term demand growth as parallel runways could not be developed due to the physical site constraints. Therefore, Richmond is not seen as a long term solution for Sydney's aviation and its utilisation would only postpone a decision on a greenfield site.
- The industry acknowledged that in addition to diverting demand from KSA, a supplementary airport development has the potential to create new or induced demand. While developing new markets was seen as beneficial, the view was that a supplementary airport could only address Sydney's aviation capacity issues if it could support the growing unmet demand at KSA. In the opinion of airlines and investment analysts, there was concern that Richmond, as it would only add limited aviation capacity, may have its capacity exhausted by the induced demand, rather than meeting the growing aviation demand of Sydney. An example of where this has occurred is London, where the growth of Luton Airport fuelled growth of LCCs and further growth of Stansted Airport, which did not help to solve congestion issues at Heathrow Airport. Accordingly it is important to industry that the site for a supplementary airport has sufficient capacity to service both Sydney's unmet demand and any demand that is generated by the new airport.
- As more than 70 per cent of air freight travels in the hold of commercial aircraft, freight operations would be generally required to follow passenger airline decisions on location, however, there may be potential for

limited dedicated freighters to set up operations at a new site. An increase in the number of dedicated freighters is considered to be more commercially viable if the airport did not have a curfew. Badgerys Creek is seen as the better option for freight operations but this was due to the prospect of better land transport connections rather than specific location.

- The Government legislates that a number of peak hour slots at KSA are to be used for regional services. While some investment analysts consider it a commercially viable proposition to incentivise the regional market to use a supplementary airport, from a regional customer perspective, the use of an airport that is not in close proximity to Sydney's CBD is not attractive. Airline access to a CBD location is important for regional communities, and the regional "ring-fencing" regulations at KSA are in place to provide access for their customers.¹³ One day return flights to and from Sydney are important to regional customers to access services only available in the city such as health and business services. As with the other regulatory settings that apply to KSA, the Government has reaffirmed its commitment to this policy.

Issues for consideration

These views indicate that in the long term, the only supplementary airport option considered by industry to adequately cater for expected demand and all market segments in the Sydney region is a greenfield development as it can enable development of parallel runways. While utilising Richmond cannot be ruled out in the short term for use by a subset of market segments, its limited long term capacity, and the fact that it is unlikely to have the ability to cater for a full range of passenger services (especially long-haul international) mean it is a less attractive overall solution to industry. There is less support for splitting demand segments between Richmond and a greenfield airport, with the concern that two and a half airports in the Sydney region would not be commercially viable due to the impracticalities of duplicating operations.

Additionally, given the stated requirements of regional airline customers and the freight industry, it is unlikely that, at a least initially, a supplementary airport would attract regional airlines or freight operations.

The Government may wish to undertake a more in-depth catchment demand analysis to help determine Richmond's potential role assisting to overcome Sydney region aviation capacity issues, and to understand implications if it is considered a temporary or long term facility. It may also be valuable to further investigate possible arrangements for a transition between Richmond and a greenfield site.

¹³ The regional ring fence that is in effect at Sydney Airport reserves landing slots for regional air services during peak times. This has the effect of preventing the peak-time slots held by regional air services being reallocated to non-regional airlines, which could be prepared to pay more than regional air services do to gain access to regional slots. (*Productivity Commission 2006, Review of Price regulation of airport services, report no. 40, Canberra, December 2006.*)

Section 4.3: Timing

The *Joint Study* found that Sydney requires a second airport by the late 2020s. However, there is already evidence of constrained capacity and peak hour congestion at KSA that translates into unmet demand. Capacity constraints also mean that airlines will be unable to achieve a consistent schedule that may act as a disincentive for commencing new services. Gates, stands and apron areas are already heavily utilised at each terminal, there are already delays entering the airport due to congestion on the domestic terminal loop road, and selected airport trains to the city in the morning peak are almost at capacity. Moreover, estimated levels of current demand, both induced and redistributed from KSA, support the view that a supplementary airport could viably commence operations before capacity at KSA is reached.

Industry views

The support for an airport sooner rather than later is evident from industry opinion. One reason for this is that airlines are already unable to obtain peak hour slots at KSA, (especially LCCs and new entrant international carriers). In the industry's opinion, if the regulatory arrangements currently in place at KSA do not change, a supplementary airport may be required within five years.

Industry's viewpoints can be summarised as:

- Some industry experts suggest that KSA is closer to capacity than SACL has stated publicly, and that it seems unrealistic that the airport will be able to meet demand for several decades. The general airline perspective is that congestion and peak availability issues at KSA mean that the time to construct a greenfield airport (estimated at 10 years) is too long to wait for a supplementary airport. In fact some airlines believe that a second airport is required to be in operation within 5 years. However, it is acknowledged that this would not be possible in the case of a greenfield airport, therefore there are pros and cons in balancing the need for capacity and timing.
- It is essential for government to secure and commit to a greenfield site as quickly as possible, noting population growth and the impact this could have on any future airport development.
- Prior to commencement of a greenfield airport, the use of the existing runway at Richmond is attractive to some industry experts, due to the quick timeframe in which civil services could be established.
- There is also support to utilise KSA to the full extent. While industry acknowledges that the regulatory arrangements at KSA (e.g. movement cap, curfew, regional ring-fencing, noise sharing arrangements) have bipartisan Federal support and are unlikely to change in the near future, there is an industry view that a periodic review of these is warranted in an effort to maximise available capacity at KSA. One reason in support of this is the design of newer aircraft, which are quieter and have less impact on the local community than previous generations of aircraft, potentially warranting reconsideration of noise related regulatory arrangements.
- The industry agrees that KSA is already congested at certain critical times (in particular peak periods), and adjustments to regulatory settings are only likely to achieve a one to five year increase in capacity. Taking the regulatory arrangements as unlikely to change, it is agreed that capacity at KSA is a key influencing factor for the timing of a new airport.
- In considering that slot incumbents at KSA (such as established domestic airlines, regional airlines and full-service international carriers) are unlikely to give up slots, investment analysts raised the prospect of pricing slots or creating incentives (for example slot sale or a secondary market regime) to transfer slots at KSA to higher value customers. However, it is recognised that this redistributed capacity would not create new slots, so would not provide additional slot capacity for Sydney to meet future demand.
- Industry generally holds the view that Sydney will miss out on further growth opportunities, the longer it takes for the second airport to be built. Some industry experts suggest that one potential consequence of a

delay in the construction of a supplementary airport could be that international carriers choose to establish new routes to other countries as they are unable to gain new slots at KSA (particularly in the case of leisure traffic). Industry supports the *Joint Study* in noting that Sydney could miss new routes to South America, China, or India, and that some airlines have already chosen Melbourne or Brisbane over Sydney due to capacity issues at KSA.

- The industry clearly believes that there needs to be an end to the uncertainty over the site of a supplementary airport so that they are able to plan appropriately to invest in new services.

Issues for consideration

These views indicate the importance of ending the uncertainty for industry by making a prompt decision on the location of a supplementary airport. Given that a greenfield site was identified by participants as the only option to meet long term demand, and has a longer lead time to becoming operational, a decision on a greenfield site is required quickly. This timeframe for a greenfield option (greater than the maximum possible wait of five years suggested by some industry experts) also warrants considering the use of Richmond as an interim solution to help resolve capacity problems at KSA, and the ability for a staged greenfield airport development to meet demand over time. Based on industry's stated need for an airport in the short term, the Government should make a decision on the site(s) and type(s) of a new airport in 2013 or as soon as possible in order to enable planning, design and construction and reflecting the scale of peak capacity issues already being experienced.

Despite the indication by some industry experts that a supplementary airport is required to be operational within five years, airline participants did not reveal a direct intention or plans to be the first mover to a second airport. However, at the expert forum held, participants were not directly asked this question, and given the open nature of the forum it would not be expected that airlines would reveal commercial plans. In order to sound out specific airline interest for moving to a supplementary airport, individual consultation between Government and airlines would be a logical next step. This could help to determine a viable starting point for a supplementary airport, that is, the minimal level of development needed to grow a market, before undertaking future expansion.

While there is clear support for a review of regulatory arrangements, there is also acknowledgement that this would not solve capacity problems at KSA in the long term. In the absence of the ability to create more slots, encouraging airlines to move or set up operations at a supplementary airport through incentives would likely be a more effective approach. Following decision on the location and timing of a supplementary airport, the Government should consider specific incentives that could attract a first mover airline to a supplementary airport, and test these with the airline industry.

Section 4.4: Investment

Australia's major airports have invested nearly \$7 billion on infrastructure upgrades since privatisation,¹⁴ with over \$13 billion of capital investment already planned over the next decade.¹⁵ Brisbane's proposed parallel runway alone has been costed at \$1.3 billion.

The current model of airport infrastructure funding relies on funding from airlines in the form of per-passenger charges. The ongoing debate regarding funding of the parallel runway at Brisbane Airport demonstrates that this model is facing challenges with airlines questioning the need to pay for infrastructure years before it will be used.

There are various models for investment in a supplementary airport for the Sydney region that would allow for differing levels of public and private sector involvement. This may involve varying degree of government involvement in capital contributions (airport, land transport), and/or the use of availability payments (an alternative, flexible way to allocate project risks).

According to the *Joint Study*, indicative initial investment for a supplementary airport in the Sydney region is dependent on the type of airport that is ultimately decided on by the Government. Richmond, as an operational airfield could be relatively quickly developed to allow regular civil aircraft activity for a minimal cost. However, it would only provide limited capacity and only offer a short-term solution to Sydney's aviation capacity constraints. A greenfield development on the other hand would take longer to establish, potentially longer than 10 years (due to environmental impact assessment, planning and design, and construction phases), and be more expensive. This type of development would, however, provide enough capacity to meet aviation demand in Sydney in the long term.

KSA was privatised by the Government in 2001. Part of the long-term lease arrangement is that the private operator of KSA has the right of first refusal to build and operate any second major airport within 100 kms of Sydney's CBD. Investment and financing options need to be considered with this in mind.

Industry views

Airlines and investment analysts agree that investment in a new airport is challenging and are of the opinion that some degree of government investment in a new airport for Sydney is necessary, regardless of what form the airport is to take. Investment analysts have various views on possible private investment in a supplementary airport, and all agree that private investment would be very difficult / unlikely in the event that demand risk was not shared between the private sector and the government. Analysts believe that investors have a greater appetite for other types of risk such as construction, delivery or timing risk, rather than demand risk, due to the difficulty in accurately forecasting demand for greenfield infrastructure. Specific viewpoints are:

- In the last 10-20 years, there has been an emergence of long term infrastructure investors, and their main requirement is a fair economic return for the risk they take on – i.e. seeking an adequate, predictable return on their investment. There has been greenfield investment in other sectors, but the capital expenditure required for an airport is viewed as high relative to other sectors, and there have been instances of losses in other sectors due to optimistic forecasting. These reasons have led to very limited investment appetite for greenfield demand risk in the current market.

¹⁴ Productivity Commission (2011). *Economic Regulation of Airport Services*, no. 57, 14 December 2011, pg. 108.

¹⁵ Hobart Mercury (2013). '\$13 b price tag to expand airports', Hobart Mercury, 26 February 2013, pg. 22.

- A greenfield airport in Sydney is viewed as representing a large demand risk, particularly as KSA is planned to operate concurrently. Private investors will take a long term view, but they need to be comfortable with the assessment of market potential in both the short and long term.
- It is difficult to determine long term demand patterns without knowing what customers a new airport will be able to attract. The industry views it as important for government to break down demand forecasts into segments (e.g. leisure, business, freight, international, domestic) based on market profiling and route analysis for catchments at the sites being considered. Market profiling is suggested to help to determine which airport location and what services will be more attractive to customers and investors.
- Many industry experts hold the view that there is a key role for government in taking on some demand risk in the early years of operations due to the difficulties in predicting demand for greenfield infrastructure. This could be in the form of patronage guarantees, or providing certainty over revenue streams. One suggestion is that the government should, as part of any bid process, set the level of demand for tenderers, and stand behind this demand in the form of a guarantee, rather than ask tenderers to propose a level of demand. This would encourage investment by reducing the demand risk for potential investors.
- A possible approach that analysts suggest may work is for government to build and commence operations of a greenfield airport, then privatise it once operations are stable (similar to the privatisation process of existing airports and ports in Australia). It is noted that the government could not do this unilaterally, due to Sydney Airport Corporation Limited's (SACL's) right of first refusal of any airport development within 100 km of Sydney's CBD as part of the 2002 sale.
- Another possible financing arrangement would be for a Power Purchase Agreement (PPA) type setup in which the government pays for construction upfront and recovers annual charges from the private operator later. Again, this would need to be considered under the obligations of the right of first refusal. It is also noted that in the current fiscal climate, the Government is unlikely to be in a position to fully fund a new airport in the near future.
- There is general agreement among industry that some form of staged solution is appropriate in the development of a new greenfield airport (for example in the form of one runway first, rather than a complete wide spaced parallel runway solution in the first instance), in order to avoid unused capacity for long periods of time. This would allow the investment to be staggered over a longer period of time and minimise the degree of demand risk. However, there is agreement that sites still need sufficient land to build extra runways and provide a capacity solution to meet demand for at least the next 50 years.
- The funding issue (whether revenue streams are of a scale and certainty for a private investor to make a sufficient return on investment) is viewed as more significant than the financing issue (what form of debt or equity is used). Regardless of the set-up of the arrangement, government funding, both in the aeronautical infrastructure and transport linkages, is seen as highly desired to attract private investment. This is less necessary for a minimal development at Richmond due to the relatively small capital expenditure required. However, it is recognised that due to financial constraints, the Government is not likely to be in a position to solely fund a greenfield airport development in the near future.
- SACL's commercial decisions in leasing and operating a supplementary site were noted as relevant to the level of capacity provided to meet demand, and the way in which the airport would compete with KSA.
- Investment analysts indicate that the use of the existing runway at Richmond for civil operations had the benefits of being low cost, low risk, and attractive to provide peak slots. Accordingly, Richmond is seen as more attractive for private sector investors from the perspective of lower upfront capital investment to commence operations and, in turn, represents less risk.
- However, using Richmond as an interim solution is seen by industry as perhaps a less desirable option due to the:
 - belief from some airlines that they would be less likely to use an interim airport because of service costs and risk of wasted investment. Investors seem to be of the view that 15 years would be a sufficient length of time to re-coup minimal investment needed to establish services at Richmond (for

example: recouping approximately \$150 million of capital expenditure required at Richmond over 10-15 years is thought to be possibly achievable); and

- uncertainty of timeframes for moving operations from Richmond to the greenfield site and the potential role that Richmond may play in the future could create an additional layer of demand risk for a longer-term greenfield airport.
- Investment analyst opinion is that if Richmond is used, its role (an interim or ongoing civil airport for Sydney) and life-span need to be set out early to increase certainty for investors/operators. It is suggested that these concerns could be mitigated through packaging the airports as one proposal for example through developing Richmond now with a greenfield development in a set number of years. Analysts also suggest that one way of making Richmond work as an interim solution is to undertake demand modelling to determine when capacity would be reached and use this to determine revenue sharing arrangements between government and a private investor.
- Given the scale of investment in aeronautical infrastructure required at other airports across the country over the next decade (industry notes a figure of approximately \$13 billion), consideration of possible financing arrangements for a supplementary airport for the Sydney basin should not be seen in isolation.
- Investment analysts suggest that Australian airports are likely to attract some international investment. This may help with funding a greenfield airport. However, the cap of 49 per cent on foreign ownership would limit international investor involvement.

Issues for consideration

The views raised in regards to investment are relatively broad in that there are no specific actions recommended by investment analysts for setting up a workable financing model for a supplementary airport. The broad nature of views on investment can be attributed to the importance of setting the location, timing and demand segments served at the airport before discussions on investment can occur. Investment analysts made it clear that demand risk must be managed for any type of airport investment, but more so for a greenfield development, is the most common concern, and it will be important to have sufficient consideration of this in any future Government decisions.

In order to elicit more specific possible investment proposals from analysts, it seems that the Government needs to define and confirm the supplementary airport option that it wishes to take forward. Discussion to date has only been able to provide a very general indication of possible financing arrangements, and although benefits and trade-offs between options have been considered, no one firm preference for what a supplementary airport for Sydney should look like has been expressed by analysts (in terms of location, size, staging, etc.).

The onus for deciding location, demand segments served, and facilities to be built has in effect been put back onto the Government. While this indicates that further, more detailed market sounding will be required, it also means that factors such as what sort of lease arrangement will be the most appealing, the consequences of regulatory controls, and what government/private sector model will work, are unlikely to be determined until a supplementary airport proposal has been confirmed.

Further to this, there has been little discussion around the details of possible non-aeronautical revenue streams, regulatory arrangements, and incentive regimes, and the potential effects of these on investment appetite. This indicates that until there is greater certainty over what Sydney's supplementary airport will look like, and when it would be operational, it is not possible to determine with great detail, the effect that these factors may have.

The Government may wish to undertake commercial analysis to understand the potential scale and level of investment and funding required to develop a supplementary airport at Richmond, Wilton and Badgerys Creek.

Section 4.5: Land Transport

Efficient land transport access, through multiple transport modes, is a crucial dimension of the operational capacity at any airport. Road congestion around the airport precinct has the potential to prevent full capacity of aviation assets being realised. Overland travel time to get to an airport also affects the level of passenger demand, as each additional minute of ground travel required, increases the cost of the overall journey and makes the use of the airport less attractive to users.

Industry views

The ease of accessibility and the connectivity of a new airport are in industry's view, vital components for success. A number of industry experts believe road transport links are a critical factor for new airport commercial viability, having the ability to create and/or divert demand. Specific land transport viewpoints are:

- It is important to plan connecting infrastructure to avoid land transport congestion issues such as those experienced during peak times at KSA.
- Travel time is more important than distance (kms) in considering the land transport connection to/from an airport. Ideally, transport connections would reduce perceived distance and make any supplementary airport more attractive to travellers. A travel time of less than 60 minutes during peak times is believed by most airlines and infrastructure analysts as being important to encourage use of an airport.
- Government investment in roads and other land transport infrastructure surrounding an airport is viewed as also being required and in line with current practice, it is expected that a private airport owner will have responsibility for roads to the airport boundary. From an airline perspective, the more the airport has to contribute to land transport infrastructure costs, the higher the costs would be that are passed on to the airlines, making the proposition of operating from a new airport less attractive. It is believed that optimally, land transport linkages should be in place from day one of operations, or even incorporated into the design of a new airport development, as to provide more certainty to investors.
- Badgerys Creek with some upgrades to existing transport links could be linked with Sydney directly by motorway, whereas Wilton would require greater development of road links at a higher cost.
- Richmond has existing accessibility for residents of north-west Sydney, which is viewed as a relatively high socio-economic area. Additionally, there are already rail connections from Sydney CBD to Richmond. However, the transport links would need to be developed further to cope with the expected patronage.
- In addition to transport connectivity with the CBD and population centres, airport to airport connectivity is also important in the view of industry, due to the requirement for transfers of passengers and of freight. The ability for passengers to travel efficiently between the two airports is considered essential in the current aviation environment due to the prominence of alliance networks and interlining of passengers (connecting to other flights). This would be essential in the early years of a supplementary airport as it would not initially operate as a network hub. Additionally, many passengers on regional aircraft require connecting domestic and/or international flights. Therefore, from regional airline perspective, it is not desirable for the regional market to be separated from the wider domestic market.

Issues for consideration

These views demonstrate that land transport connections are undoubtedly an important factor for the commercial viability of a supplementary airport. In terms of connectivity, Badgerys Creek and Richmond offer better current prospects than Wilton due to the lower costs involved in connecting to existing infrastructure and Sydney's population. It will be important for governments to have specific land transport plans for any supplementary airport option carried forward, in order to reassure investors and airlines that good access to the airport will be available. As part of any further commercial analysis to understand the potential scale and level of investment and funding required to develop a supplementary airport at Richmond, Wilton and Badgerys Creek, this should include consideration of land transport connections and the potential related costs.

Section 5: Concluding remarks and considerations

The industry views presented in this report demonstrate the diverse range of possibilities and decisions that need to be made for a supplementary airport in the Sydney region. Uncertainty around many factors such as the best location, possible means of investment, the optimal type of airport, and the demand segments that will use a supplementary airport make the Government's task of defining a preferred option difficult.

However, there are a number of common views that industry holds in relation to a supplementary airport. One clear preference is for a site that is in close proximity to major population catchments, with Badgerys Creek viewed as an attractive option for this reason.¹⁶ There is also a preference for a supplementary airport to be able to service all demand segments including international. However, this would require a large infrastructure investment, and could not necessarily be achieved in industry's desired timeframes for a supplementary airport to be operational. Industry is in agreement that a new airport is desirable sooner rather than later, some suggesting within the next five years. This would require an initial smaller investment in either a Richmond option or a staged greenfield option. There is agreement that a larger greenfield option will be required in the long term to provide enough capacity to serve long term forecast demand. Industry's view is that government investment in a new airport and associated infrastructure – particularly efficient land transport – will be required for any airport proposal to be commercially viable. There is an especially large concern in regards to demand risk, with an appetite to avoid, or at least share this risk expressed by industry.

These views lead to a number of possible further considerations, including that Government may wish to:

- Reconsider utilising its land at Badgerys Creek for the purpose of a supplementary airport for the Sydney region
- Make a decision on the site(s) and type(s) of a new airport in 2013 or as soon as possible in order to enable planning, design and construction
- Undertake a more in-depth catchment demand analysis to help determine Richmond's potential role assisting to overcome Sydney region aviation capacity issues, and to understand implications if is considered a temporary or long term facility
- Undertake commercial analysis to understand the potential scale and level of investment and funding required to develop a supplementary airport at Richmond, Wilton and Badgerys Creek. This should include consideration of land transport connections
- Following decision on the location and timing of a supplementary airport, the Government should consider specific incentives that could attract a first mover airline to a supplementary airport, and test these with the airline industry. In order to sound out specific airline interest for moving to a supplementary airport, individual consultation between Government and airlines would be a logical next step.

¹⁶ 1.0 million people live within 25km of Badgerys Creek, and 3.8 million within 50km. This compares to 2.7 million and 4.0 million for KSA, 0.6 million and 2.9 million for Richmond, and 0.2 million and 1.7 million for Wilton (refer Table 3).

Appendix A: Case Studies

Case Study #1: Gold Coast Airport – how important is the catchment area?

Key statistics:

- Located at Coolangatta, 80km south of Brisbane
- FY11: 6th busiest Australian airport by passengers, 8th by aircraft movements¹
- Serves immediate area of Gold Coast and Tweed Heads (one of Australia's fastest growing regions); broader catchment area extends north to Beenleigh, west to Beaudesert and south to Byron Bay.
- Heavy focus on leisure-based LCCs (97% LCC passengers)
- Curfew between 11pm and 6am due to residential surroundings²

The story:

- 1998: GCA privatised. Now: wholly owned subsidiary of Queensland Airports Limited (QAL), which operates the airport on the basis of 99 year lease.
- Early difficulties after privatisation included collapse of key tenant Ansett and the SARS epidemic.³
- Virgin Blue's arrival saw passenger traffic increase from 1.7 million in 2001 to 2.3 million in 2003.
- 2005: Jetstar began operations.⁴
- Despite strong competition from Brisbane airport, GCA is performing well by targeting LCCs.⁵ Although Gold Coast is regarded as a market in its own right, GCA is increasingly accessing traffic from Brisbane, particularly on long-haul LCC services.⁶ GCA is a key driver for the economy of the Gold Coast/Tweed region, due to the value of tourism visitors through the airport.
- Domestic passenger numbers have steadily increased in recent years, growth in international passengers has been more erratic (decline in FY07 and FY08 caused by the withdrawal of Japan services (Australian Airlines), followed by large increases in the latter part of FY08 through FY09 as AirAsia X commenced services to Kuala Lumpur and Jetstar International commenced Osaka and Tokyo services).⁷

New Zealand is largest international market, followed by Japan, Malaysia and Singapore (with the arrival in 2012 of Scoot).⁸

Sources:

1. Department of Infrastructure and Transport (2011), Airport Traffic Data 1985-86 to 2010-11.
2. Thomas, Ian (2010), Future Scenarios for Aviation Market Development at Eastern Seaboard Airports, CAPA Consulting pg. 112-113.
3. Thomas, Ian (2010), Future Scenarios for Aviation Market Development at Eastern Seaboard Airports, CAPA Consulting pg. 112.
4. Bentley, David James (2008), Low Cost Airport Terminals Report, CAPA Consulting, pg. 185.
5. Ibid., pg.185.
6. Thomas, Ian (2011), Airline-Related Cost and Revenue Issues at Primary and Non-Primary Airports, CAPA Consulting, pg. 29.
7. Thomas, Ian (2010), Future Scenarios for Aviation Market Development at Eastern Seaboard Airports, CAPA Consulting pg. 113.
8. Saurine, Angela (2012), 'Scoot speeds into Gold Coast', news.com.au, 7th February 2012, available at: <http://www.news.com.au/travel/news/scoot-speeds-into-gold-coast/story-e6frfq80-1226264427399>

Case Study #2: London Luton Airport – what made it successful?

Key statistics:

- 4th largest airport serving Greater London area, 57km north of Central London¹
- 2011: 9.5 million passengers²
- Single 2,160 m runway, 245 hectares of land (Similar to Richmond RAAF)
- Largely LCC operations (85%) to international passengers (87%)
- Used by 10 passenger airlines (easyJet = 50% seat capacity)³
- Regular shuttle bus service between train station and terminal.

The story:

- 1970s: charter airport, 1980s-1990s: commercial airlines slowly took over.
- 1972: most profitable airport in the UK, 1980s - 1990s declined due to lack of re-investment compared to Stansted.⁴
- 1980s: Borough Council owner began operating airport at arms length through an independent management team, and a number of upgrades were made.⁵
- 1997: to fund £80 million extension of the airport, the council issued a 30-year concession contract to a PPP consortium with the quid pro quo that the consortium would finance and build the new facilities (the Borough Council retains its ownership). Luton was the first British council to employ this concession method with private finance initiative (PFI) risk transfer at its airport.⁶
- Despite limited profitability (2004 the airport's profit was just £20 million), in 2005 the owner of the concession was bought out; the new buyer was attracted to the company specifically because of Luton, and the potential for continued growth in air travel on the growth experienced in the late 1990s to early 2000s as a result of European air liberalisation packages.⁷
- 2007: the private consortium concession holder halted plans to build a new runway at Luton. The reason given was that the returns available under the remainder of the 30 year lease were not sufficiently attractive to justify the investment.⁸
- Despite this set back, Luton has been suggested as a solution to England's growing aviation capacity pressures. The plan would see the construction of additional runways to meet the nation's growing demand. Despite Luton's size, it is seen as the perfect location to add capacity due to its central location and access to surface transport links. There are several solutions which are being considered, though a decision is likely several years away.⁹

Sources:

- 1 Thomas, Ian (2011), *Airline-Related Cost and Revenue Issues at Primary and Non-Primary Airports*, CAPA Consulting, pg. 42
- 2 United Kingdom Civil Aviation Authority (2012), *UK Airport Statistics*, available at: <http://www.caa.co.uk/default.aspx?catid=1279&pagetype=90&pageid=9793>
- 3 Thomas, Ian (2011), *Airline-Related Cost and Revenue Issues at Primary and Non-Primary Airports*, CAPA Consulting, pg. 49.
- 4 London Luton Airport (2012), *Airport History*, available at: <http://www.london-luton.co.uk/en/content/8/226/airport-history.html>
- 5 *Ibid.*
- 6 Bentley, David James (2008), *Low Cost Airport Terminals Report*, CAPA Consulting, pg. 85
- 7 BBC News (2007), *New runway plans at Luton shelved*, BBC News, 6 July 2007, available at: http://news.bbc.co.uk/2/hi/uk_news/england/beds/bucks/herts/6276506.stm
- 8 United Kingdom Civil Aviation Authority (2012), *UK Airport Statistics*, available at: <http://www.caa.co.uk/default.aspx?catid=1279&pagetype=90&pageid=9793>
- 9 London Luton Airport (2012), *Airport History*, available at: <http://www.london-luton.co.uk/en/content/8/226/airport-history.html>

Case Study #3: Washington Dulles –when should a supplementary airport open?

Key statistics:

- Government owned airport in Dulles, Virginia, 42 km west of downtown Washington¹
- YE April 2011: average 1,000 – 1,200 flights per day²
- 2011: 23.3 million passengers³
- A number of bus services operate from downtown, construction of Metro rail connection expected to be complete 2018⁴.

The story:

- 1962: commenced operations.
- Government's intention was for it to supplant the downtown airport Washington National (also government owned), which was deemed less attractive as it only serves narrow bodied aircraft and has high levels of noise.⁵
- Government established rules for Washington National limiting both frequency of flights, and destinations to within a radius of about 1,600 km.
- Despite the rules favouring Dulles, traffic grew slowly. (It was considered a white elephant in initial years, being far out of town and having few destinations).
- 1965: average 89 airline operations a day, Washington National averaged 600.
- 1982: traffic at Dulles still considerably less than Washington National.
- Airlines and passengers found ways to circumvent rules and continued to fly to the more convenient Washington National (eg by scheduling intermediate stops at airports within the allowable radius).⁶
- Dulles is now heavily utilised, but for years its extensive capacity and state-of-the art terminals went unused while Washington National remained congested.
- Experiences have been similar in New York, London, Milan and Paris.⁷
- Much current traffic through Dulles is from United Airlines (UA) hub established there (2010: UA handled 57% of passengers).⁸
- The development of Dulles demonstrates the difficulty of moving a significant amount of traffic when a primary airport is available, and in hindsight, investment in Dulles was arguably premature.⁹

Sources:

- 1 Metropolitan Washington Airports Authority (2011), *Total Passengers by Airline: January 2010-December 2011*, available at: <http://www.mwaa.com/file/dpsp1210ye.pdf>
- 2 de Neufville Dr. Richard (2007), *The Challenge of Low-Cost Carriers*, available at: http://ardent.mit.edu/airports/ASP_papers/planning%20for%20multi-airport%20systems.PDF
- 3 *Ibid.*, n.p.
- 4 *Ibid.*, n.p.
- 5 Metropolitan Washington Airports Authority (2011), *Total Operations by airline May 2010-April 2011*, available at: <http://www.metwashairports.com/file/dps0411ye.pdf>
- 6 Metropolitan Washington Airports Authority (2011), *Facts about Washington Dulles International Airport*, available at: <http://www.metwashairports.com/dulles/663.htm>
- 7 de Neufville Dr. Richard (2007), *The Challenge of Low-Cost Carriers*, available at: http://ardent.mit.edu/airports/ASP_papers/planning%20for%20multi-airport%20systems.PDF
- 8 Metropolitan Washington Airports Authority (2011), Press Release: Washington's airports set two new air service records in 2011, available at: <http://www.mwaa.com/4699.htm>
- 9 *Ibid.*, n.p.

Case Study #4: Brisbane second runway funding issues – who pays for new aeronautical infrastructure?

- Brisbane Airport is the third busiest airport in Australia after Sydney and Melbourne.¹
- On 18 September 2007, the federal government granted development approval for the construction of a new runway at Brisbane airport. The proposed \$1 billion new runway was to take approximately eight years to construct and would generate about 2,700 jobs, and would operate parallel to the existing runway.²
- The business case for the new runway was based on the premise of continuing growth in air traffic demand and it forecast that demand would exceed existing capacity by 2015.³ Plans for construction were pushed back during the global financial crisis,⁴ but in February 2012 it was announced that due to the economic turnaround, financing of the project had been enabled, and work would begin in July this year.⁵
- The runway was to be the first in Australia funded by the private sector. However, agreement has not been reached by the Brisbane Airport Corporation (BAC) and airlines on financing arrangements.
- Although airlines agree the runway is needed, they are unhappy that they are expected to pay upfront for a runway eight years in advance.⁶ Airlines have stated that BAC should fund the project and charge airlines when they were actually using it.⁷
- BAC defended its approach, arguing that airports, like any private sector investors, need revenue certainty if they are to commit to investments of this scale. BAC said it is following an established and accepted model of funding major infrastructure through charges to its airline customers.⁸
- Until the situation is resolved, it is not clear when construction of the runway can go ahead. In the meantime, congestion at Brisbane airport is only likely to worsen, with nightly evening peak-hour delays already up to 40 minutes.⁹

Sources:

- 1 Brisbane Airport (2012), Passenger Statistics, available at: <http://www.bne.com.au/corporate/media-centre/passenger-statistics>
- 2 Sydney Morning Herald (2008), 'New runway for Brisbane airport approved', *Sydney Morning Herald*, 13 November 2008, available at: <http://www.smh.com.au/travel/travel-news/new-runway-for-brisbane-airport-approved-20081113-60nh.html>
- 3 McCarthy, Stuart (2007), *Oil depletion and the new parallel runway: Submission to the Brisbane Airport Corporation on the new parallel runway draft environmental impact statement/major development plan*, pg. 3.
- 4 ABC News (2009), 'Credit crunch delays airport developments,' *ABC News*, 13 April 2009, available at: <http://www.abc.net.au/news/2009-04-13/credit-crunch-delays-airport-developments/1648878>
- 5 Moore, Tony (2012), 'Work on second Brisbane Airport runway to begin this year', *Brisbane Times*, 15 February 2012, available at: <http://www.brisbanetimes.com.au/queensland/work-on-second-brisbane-airport-runway-to-begin-this-year-20120214-1t4aw.html>
- 6 Ironside, Robyn (2012), 'Brisbane Airport's new \$1.3b runway delayed as airlines differ on who will fund it', *The Courier-Mail*, 6 July 2012, available at: <http://www.couriermail.com.au/business/airlines-runaway-from-cost/story-fn7kjcme-1226418282703>
- 7 Creedy, Steve (2012), 'Brisbane Airport Corporation and airlines unable to strike deal on financing runway', *The Australian*, 5 October 2012, available at: <http://www.theaustralian.com.au/business/aviation/brisbane-airport-corporation-and-airlines-unable-to-strike-deal-on-financing-runway/story-e6frg95x-1226488430228>
- 8 *Ibid. n.p.*
- 9 MacDonald, Andrew (2012), 'Air schedules in chaos because Brisbane Airport's two runways can't operate at same time at night', *The Courier Mail*, 05 July 2012, available at: <http://www.couriermail.com.au/news/queensland/flying-circus-night-after-night/story-e6freoof-1226417242574>

Case Study #5: Avalon Airport – Is first mover advantage enough?

Key statistics:

- Melbourne's second passenger airport, 55km south west of the city
- Access via road only (some shuttle bus services), Victorian Government \$50 million commitment for preliminary works for rail link.¹

The story:

- 1953-1990s: Used for military training and aircraft construction and maintenance.²
- 1997: airport privatised and from this time the Linfox Group has operated it on basis of 100 year lease from the Department of Defence.³
- 2004: Avalon transformed to cater for Jetstar.⁴
- Operating from Avalon was a defensive as well as an offensive move by the Qantas group, which ensured that Jetstar gained exclusive access (at least temporarily) to an unconstrained airport facility with no other carriers; the airline qualified for an incentives package (marketing, airport access) offered by the Victorian Government to the first mover; and the dual airport approach would 'fortress' the Melbourne market as a deterrent to competitors.⁵
- Importance of Avalon to Jetstar has diminished over time, airline reduced capacity by 25% year to June 2010, relocating it to Tullamarine. This demonstrates Avalon's vulnerability to changes in airline strategy.⁶
- Arguably developed as a discrete market to Melbourne, much traffic to and from the airport is leisure oriented and focused on the Great Ocean Road.⁷
- 2010-11: Tiger airlines operated from Avalon.⁸ Due to additional costs related to duplication of its Tullamarine base and supply service issues (eg trucking in fuel), Tiger is unlikely to resume services from Avalon in the near future.⁹
- Avalon's competitive disadvantages are that Tullamarine is uncongested with the lowest aeronautical charges in Australia, and catchment population (of approximately four million) is primarily located well away from the airport.
- Overall, Avalon has made little impression on the aviation market in its eight years of continuous operation since Jetstar began in 2004.¹⁰
- Friday 12th October 2012, the federal government announced it would amend Avalon's lease, allowing it to build a new terminal to service international passenger flights.¹¹

Sources

- 1 News.com.au (2012), 'Vic Avalon airport to become international', news.com.au, 12 October 2012, available at: <http://www.news.com.au/breaking-news/national/avalon-airport-to-become-international/story-e6frfku9-1226494459879>
- 2 Boeing (2007), *Government Aircraft Factories/Aerospace Technologies of Australia*, available at: <http://web.archive.org/web/20070609103735/http://www.boeing.com/global/Australia/History/gafASTA.html>
- 3 There is almost no reliable public domain information on Avalon's operations, plans or commercial performance. Linfox is a private company and government authorities, such as BITRE, publish no statistics on Avalon.
- 4 Bentley, David James (2008), *Low Cost Airport Terminals Report*, CAPA Consulting, pg. 181.
- 5 Thomas, Ian (2010), *Future Scenarios for Aviation Market Development at Eastern Seaboard Airports*, CAPA Consulting, pg. 94.
- 6 *Ibid.*, pg. 101.
- 7 *Ibid.*, pg. 64.
- 8 Thomas, Ian (2011), *Airline-Related Cost and Revenue Issues at Primary and Non-Primary Airports*, CAPA Consulting, pg.63
- 9 Thomas, Ian (2010), *Future Scenarios for Aviation Market Development at Eastern Seaboard Airports*, CAPA Consulting, pg. 100.
- 10 Best, Cameron (2012), 'International Flights for Avalon', Geelong Advertiser, 13 October 2012, available at: http://www.geelongadvertiser.com.au/article/2012/10/13/353020_news.html
- 11 *Ibid.*, n.p.

