The potential for a secondary airfield facility in Canberra

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Report by Access Economics Pty Limited for

Canberra Region Aviators Association Inc.

Commercial-in-Confidence

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CASA	Civil Aviation Safety Authority
CIA	Canberra International Airport
CPL	Commercial pilot licence
CRAA	Canberra Region Aviators Association Inc.
GA	General aviation
PPL	Private pilot licence
RAA	Recreational Aviation Australia Inc.

Executive Summary

The increasing costs of operating at Canberra International Airport, together with the added security and airspace restrictions, make it difficult for recreational aviation to operate.

In response, the Canberra Region Aviators Association (CRAA) is proposing a secondary airfield in the territory be considered. This report contains a preliminary assessment and canvasses the economic potential for a secondary airfield.

This report demonstrates that there is potential (unmet) demand for a secondary airfield. There are 850 pilots in the ACT that hold aviation qualifications issued by the Civil Aviation Safety Authority and Recreational Aviation Australia. In addition to this there are almost 250 aircraft registered to owners in the territory. However, only around 30 to 40 of these aircraft are currently located at Canberra International Airport. This suggests that the majority of aircraft currently registered to ACT pilots are operated from airfields outside of the region.

Based on preliminary financial analysis contained in the report, it is evident that a secondary airfield is unlikely to be commercially viable, generating a rate of return in the order of 1.5% (commercial returns on such a venture would need to be considerably higher if a private investor was to operate the secondary airfield). That said, the potential to generate even a small positive return does open the door for alternative ownership models, particularly related to the not-for-profit sector.

This report is preliminary in nature, relying on limited data sources and a range of assumptions. Access Economics recommends that more detailed analysis of a secondary airfield be undertaken. This analysis should consider a more rigorous assessment of the demand for the airfield from private aircraft operators, flying schools and other aviation related businesses that may be likely to establish operations on the site is required. This work would also include further refining the cost estimations for developing the project and the ongoing operational expenditures of the airfield, as well as appropriate governance models.

Access Economics

1 Introduction

The Canberra International Airport (CIA) is currently the only facility available to private aircraft owners and operators in the capital region with the next best options being located outside the ACT region.

Security, airspace and cost pressures at CIA are making it difficult for light aircraft to operate in Canberra or the surrounding region. Many recreational aviators opt to operate from airfields outside the ACT, meaning potential economic opportunities are being lost in terms of developing the aviation industry in the ACT.

The Canberra Region Aviators Association (CRAA) is proposing a secondary airfield in the territory to address these issues. Such an airfield would cater to small aircraft in the sport and recreational aviation sector that are impacted most by the current conditions in the capital.

This report presents a preliminary assessment of the issues relating to the establishment of a secondary airfield in the ACT. The analysis has been based primarily on desktop research in order to explore a *prima facie* case for establishing a secondary airfield in the ACT. More detailed analysis would be required to assess the costs and benefits of a secondary airfield.

1.1 Background issues

Aside from a handful of privately run airstrips with limited facilities and accessibility there is no readily available alternative to those wishing to fly in the region.

In addition to this, those pilots flying under the auspices of Recreational Aviation Australia (RAA) are restricted from operating from the airport due to airspace regulations. These aircraft consist of smaller aircraft capable of carrying no more than two people. The rules under which they operate allow for flight only during daylight hours and do not permit them to enter controlled airspace of the type around Canberra.[1] These rules prevent the operation of these aircraft from Canberra thus forcing owners and operators to other locations outside of the region resulting in many pilots actively avoiding Canberra altogether.

These rising costs and current restrictions have seen a movement of pilots and aircraft away from Canberra to surrounding areas in NSW such as Goulburn, Tumut and Cooma and as far afield as Temora and Moruya. This has seen a subsequent decline in aviation related businesses in the ACT with many moving to alternative locations or simply ceasing to operate altogether. For example, in 2000 there were six flying schools operating from the airport whereas there is now only one and, due to the aforementioned costs and operational requirements, it is closing down in late 2010. Similarly, most aircraft maintenance businesses

[1] It is also worth noting that the general aviation fleet in Australia is ageing and the airspace restrictions currently in place in Canberra prevent the (generally) newer RAA fleet of aircraft from operating from Canberra. In a recent industry briefing the CASA Director of Aviation Safety, John McCormick, mentioned that the "*current average age of single and multi-engine fixed wing aircraft is 30 years and 97 percent of multi-engine piston aircraft are older than the typical 20 year design life*" (The CASA Briefing, June 2010). Many RAA aircraft are purchased brand new and are fitted with advanced systems and safety features but the above mentioned restrictions prevent their operation in the region.

have left Canberra leaving aircraft owners with little choice but to maintain their aircraft at interstate locations such as Wagga Wagga and Cootamundra.

1.2 A proposed secondary airfield

By establishing an airfield whose primary objective is to cater to recreational and sporting pilots, the CRAA intends to encourage more pilots and aircraft owners to operate from the ACT. Similarly, those aviation related businesses whose customer base is drawn from this group would be encouraged to establish a presence on the field. Community groups such as the Canberra Aero Club, will be invited to set up on the field and CRAA would also invite other community groups to participate in activities and open days.

Furthermore, student pilots will benefit from low traffic density at the airfield (compared with CIA) and the absence of air traffic control allowing them to concentrate on the basic flying skills required to successfully pilot an aircraft. Lower overheads in these areas leads to more efficient training and lower costs for students, making a secondary airfield in Canberra a potentially attractive proposition for flying schools. In addition, lower security costs would make student training competitive with comparable airfields such as Bankstown in the Sydney basin and Moorabbin and Essendon in the Melbourne area.

Access Economics has prepared this report to undertake a preliminary assessment of the financial viability of the secondary airfield.

This following chapter provides an overview of the potential demand for a second aviation base in the region. It examines the growth of flying in Australia and aircraft numbers located in the Canberra region. Community interest in aviation is also discussed in this chapter. The third chapter outlines a proposal for an airfield in the southern most area of the territory. It discusses the type of facility to be provided and potential costs and revenues from such a development. The report closes with some concluding remarks in chapter 4.

2 Aviation in the ACT

CASA records indicate there are 196 aircraft with registered operators in the Canberra region as at December 2009. In addition to those aircraft registered with CASA there are an additional 47 registered with Recreational Aviation Australia (RAA). RAA is a self administered body responsible for overseeing the operation of a class of aircraft primarily aimed at recreational aviators. These aircraft are similar in nature to most small, general aviation aircraft, but tend to be newer, and sometimes, more complex than their CASA registered counterparts. One aircraft cannot exist on both the CASA register and the RAA register at the same time so there is no double counting in these figures.

Of these aircraft, few are located at CIA. A manual count of aircraft on the field over a period of three weeks revealed an average of 22 single engine aircraft are parked at the airport. To be fair, this number possibly understates the true figure for two main reasons:

- Given that some aircraft are flown on a frequent basis and may have therefore been consistently missed in the counts, and
- Some aircraft are located in hangars and were not counted.

Allowing for an additional 12 aircraft would bring the total to 34 aircraft located at CIA. This number falls considerably short of the potential 243 that could be housed at CIA suggesting the airport is not the most attractive option for most.

In preparation for its master plan, CIA engaged consultants to develop a noise forecast based on future traffic movements. While the forecasts were based on traffic growing from present levels to 282,120 movements, it is worth noting that only a small portion of these movements are carried out by general aviation aircraft.

Including the general aviation category of aircraft and training aircraft, the total movements in the forecast allowed for only 2,708 movements. It is also worth considering that a movement is a take-off or landing, not the entire cycle. This forecast thus implies future general aviation movements at CIA to consist of around 1,354 flights per year, or less than four per day.

These figures also include twin engine aircraft movements, a sector of the market not being targeted by CRAA. Excluding these from the figures would results in a figure even less than the 1,354 given above.

Examining only the training component of the forecast reveals a projection of 816 movements per annum, again including twin engine aircraft so the single engine movements are less than this. Using the same methodology applied above, this equates to around one training flight per day.

While CIA recognises the importance of general aviation and training:

> *General Aviation and military aviation are essential for the ongoing success of aviation in Australia…*

They also recognise and acknowledge their responsibility to fare paying passengers and the priority that must be placed on these flights:

> *General Aviation and other smaller aircraft will be restricted during times of high demand as higher capacity aircraft are given priority.*

In addition to these operational difficulties CIA also draw attention to the high operating costs associated with operating from a major security controlled airport:

> *Furthermore, Commonwealth Government-imposed aviation security requirements at major airports have unfortunately imposed a significant cost and inconvenience burden on recreational General Aviation operations.*

Security is, of course, a concern at major airports where large numbers of passengers should be able to travel with the knowledge their safety is being given the utmost attention. In this context separating private aviation, or a large portion of it, from paid services would reduce the security risks associated with having general aviation located in close proximity to larger aviation operations.

Given its location and objectives, the proposed secondary airfield is not likely to attract considerable objections from CIA, given the comments relating to a secondary airfield in their master plan:

> *Canberra Airport also notes private proposals for a separate General Aviation aerodrome or airfield within the ACT. Canberra Airport does not oppose the development of such a facility, provided its location and operations do not interfere in any way with the current and future operations of Canberra Airport…*

2.1 Canberra region demographics

The population within the ACT consists of those living in Canberra and its suburbs but the workforce also commutes in from other surrounding areas. The ABS notes these areas include Queanbeyan, Palerang and the Yass Valley. For the purposes of this exercise, population estimates also include areas around the ACT with current aviation links to the region. For example, the Goulburn Mulwaree is also considered as many aviators in this area also utilise the existing Canberra based facilities and may therefore be considered as part of the target market for any secondary airfield in the Territory. Furthermore, the airfield would provide attractive options for those in the Cooma-Monaro region to the south of Canberra.

The ACT had a population of around 350,000 as at June 2009.[2] For consistency across data sources we employ the population data as at June 2008, this allows robust sources for population estimates within the surrounding regions as well. This gives an official estimate of 346,000 as at June 2008.[3] Table 2.1 shows the population for the surrounding areas ranges from 40,000 in Queanbeyan to 10,200 in the Cooma-Monaro area. In total this brings the population in Canberra and the surrounding regions to some 452,000 people.

[2] ABS Catalogue Number 3201.0 – Population by Age and Sex, Australian States and Territories, June 2009

[3] ABS Catalogue Number 3218.0 – Regional Population Growth, Australia, 2007-08

Table 2.1: Population of ACT and surrounding areas as at June 2008

Area	Population
ACT	346,000
Queanbeyan	40,000
Goulburn Mulwaree	28,000
Yass Valley	14,000
Palerang	14,000
Cooma-Monaro	10,000
Total	**452,000**

Source: ABS Catalogue number 3201.0 – Regional Population Growth, Australia, 2007-08

To construct a reasonable estimate for potential resident aircraft on the airfield it is useful to compare the ACT region with other regions within Australia. Table 2.2 shows the population and resident aircraft numbers for several airfields with similar characteristics to the Williamsdale proposal. Parafield is the exception to this but is included as it is a secondary airfield in Adelaide, the smallest state capital in Australia.

Table 2.2: Other airfields

Airfield	Population	Resident aircraft
Aldinga (Onkaparinga LGA)	158,000	90
Cessnock	50,000	82
Murray Bridge	19,000	56
Parafield (Salisbury LGA)	127,500	160

Source: ABS Catalogue Number 3218.0 – Regional Population Growth, Australia, 2007-08, consultation with relevant airfield operators.

Cessnock, located in the Hunter Valley region in NSW, has a population of 50,000. Its airfield is the primary field in the area and is located close to the winery region making it ideal for tourist flights in the area. Excluding transient aircraft, around 80 aircraft are parked on the airfield on a permanent basis. Maintenance services are provided at the airfield with qualified staff able to service and maintain both general aviation and RAA registered aircraft.

Parafield is a secondary airfield in Adelaide and complements the main international airport located closer to the city centre. The population of Salisbury, the local government area that Parafield is located in, is 127,500, however, in reality the airfield provides services for the broader Adelaide area with a population of 1.2 million.

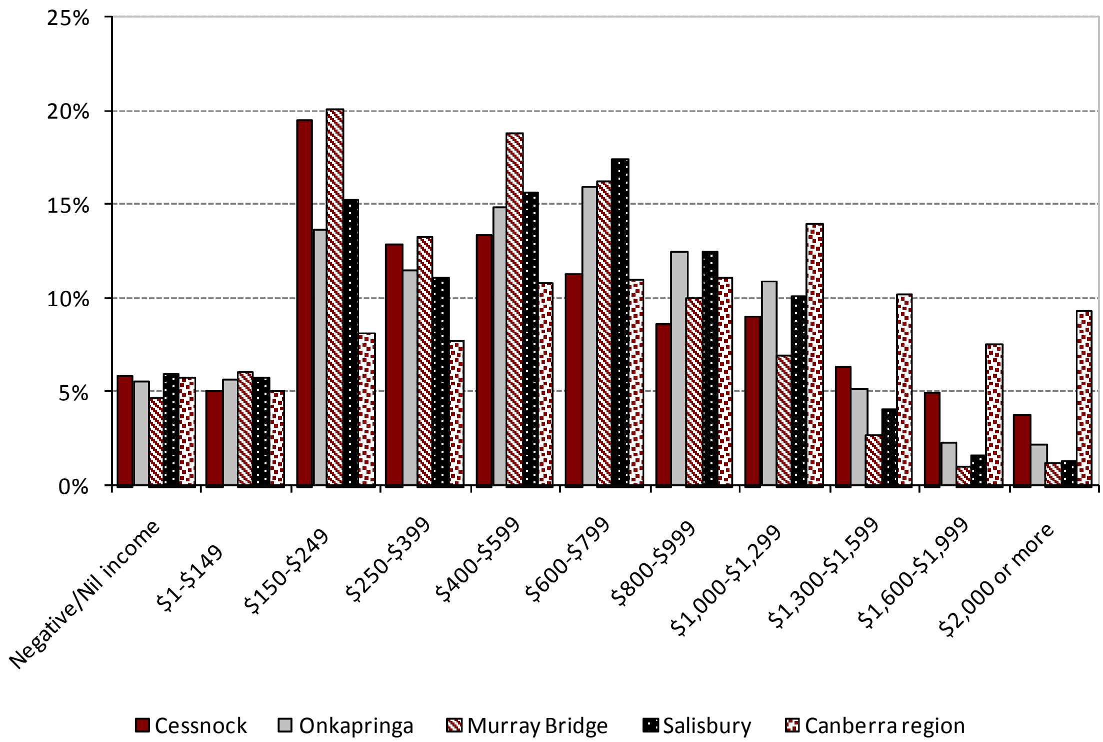
The airfield has some 160 resident aircraft and over 70 businesses located consisting of maintenance facilities, flying training and pilot supplies businesses. In total these businesses employ around 500 staff and provide services to private and commercial aircraft operators as well as training domestic and international students.

Aldinga is located in South Australia approximately 45km south of Adelaide. It is part of the Onkaparinga local government area and has a population of almost 160,000. The airfield is very active and has 90 aircraft located there on a permanent basis. In addition to this aircraft maintenance can be carried out at the field and flying training facilities are available. The airfield plays an active role in local tourism offering charter flights and scenic tours of the local area. The airfield also has an active social community with pilots flying in from other airports to visit and participate in local activities.

Murray Bridge is located farther afield some 75km south east of Adelaide. In a town of only 19,000 the airfield has more than 50 resident aircraft and is home to an active flying club and gliding club providing flight training services to the local area.

Income data for each of the local government areas these airfields are located in is presented in Chart 2.1 together with the Canberra region as defined earlier. The data used here is weekly incomes and is taken from the 2006 Census data provided by the ABS.

Chart 2.1: Income distribution across regions



Source: ABS Census data 2006

Income comparisons amongst these regions and the Canberra region show Canberra has a disproportionately small number of people with low incomes ($0 - $399) and an equally disproportionate number of high income earners ($1000 or more). Table 2.3 shows the share of income across three weekly income brackets for each region. The average share is also presented alongside the shares for Canberra.

Table 2.3: Average income shares

Weekly income	Cessnock	Onkapringa	Murray Bridge	Salisbury	Average	Canberra
$0 - $399	43%	36%	44%	38%	40%	26%
$400 - $999	33%	43%	45%	45%	42%	33%
$1000 or more	24%	21%	12%	17%	18%	41%

Source: ABS Census data 2006

Around 40% of workers in the other regions earn $399 or less per week with another 40% earning up to $999. Just 18% earns more than $999 per week in these regions. This compares with the relatively high income earned in Canberra and the surrounding areas where a little more than 40% earn over $1000 per week and a further 33% are earning between $400 and $999 per week. Only one quarter of workers is earning less than $400 per week.

2.2 Demand for a second airfield facility

The high incomes and relatively large population in Canberra would suggest potentially unmet demand for aviation related activity. In addition to this, there appears to be considerable interest in aviation in the ACT, evidenced by:

- The Canberra International Airport open day in 2006 attracted more than 7,500 visitors with this number doubling to 15,000 in 2007 and 2008, and more than 18,000 in 2010.[4]
- Brindabella Airlines Flight Training currently operates from Canberra International Airport and has expressed an interest in operating from an alternative facility located close to Canberra.[5]
- The Canberra Aero Club has been in existence for over 70 years and has in excess of 100 members.
- The Australian Air Force Cadets currently have two squadrons, 315 and 334, located in Canberra.
- Canberra has an active squadron of the Australian Air League which meets weekly.
- The Canberra Gliding Club meets every Monday evening in Woden and runs flying activities every weekend.
- Nearby aero clubs including Tumut, Southern Highlands (Goulburn) and the Snowy River Aviators (Adaminaby) are all well attended by Canberra residents.

With 196 aircraft currently on the general aviation register (in the ACT) and around 47 on the RAA register, this gives the potential for around 240 aircraft to be permanently located at Williamsdale. In addition to this there are currently more than 850 people in the ACT who

[4] Based on information contained in Canberra International Airport's Hub newsletter (editions 34, 41, 47 and 54). Available at - http://www.canberraairport.com.au/air_media/hub10.cfm, accessed 18 February 2010.

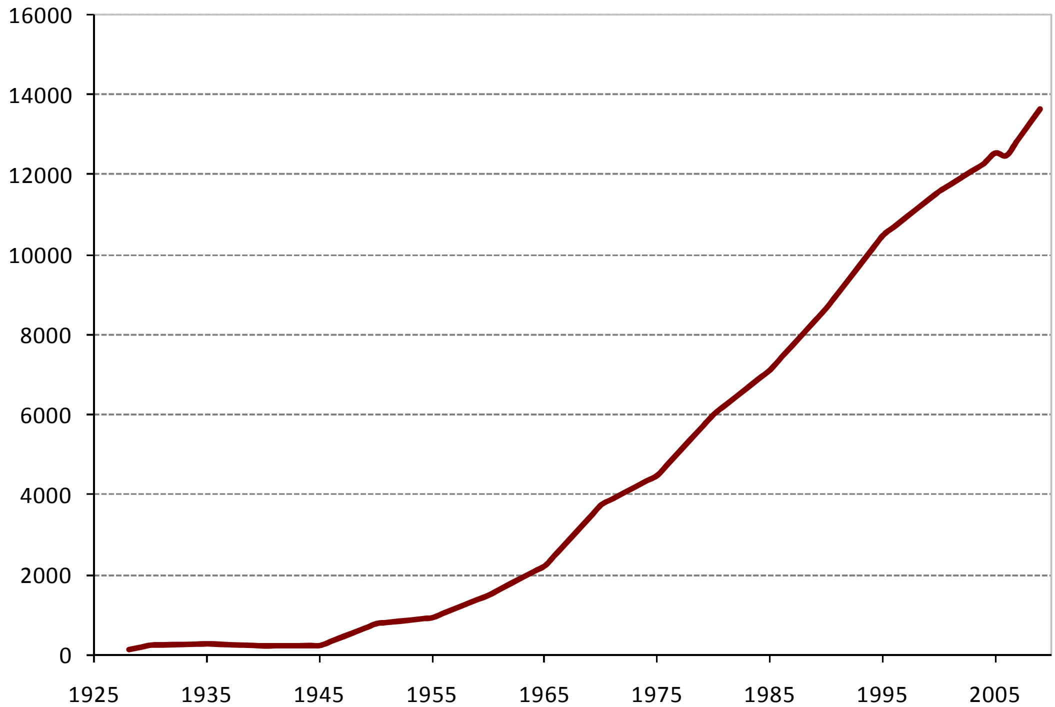
[5] This facility has recently announced that flying training operations will cease from late 2010 due to the high costs and operational difficulties associated with Canberra International Airport.

have been granted privileges to fly consisting of 691 pilots who hold licences issued by CASA and a further 166 with RAA issued pilot certificates with recent growth in both sectors being strong in recent years.[6]

For the purposes of the revenue estimates used in this study the growth rate of aircraft is fixed at 1% per annum for general aviation aircraft and 3% per annum for RAA registered aircraft, these estimates are considered to be long term, sustainable growth rates given recent history.

General aviation has grown from a mere 102 aircraft in 1928 to in excess of 13,000 today. The number of aircraft on the register has grown steadily over this period with sharp increases recorded from around 1960 onwards (see Chart 2.2). In recent times the only yearly decline in numbers was experienced in 2006 although the Civil Aviation Safety Authority attributes this decline to legislative changes that resulted in some 300 aircraft being removed from the register. From 2000 onwards, the average year on year change in the number of aircraft on the register has been 1.86% including 2006 year where aircraft numbers fell.

Chart 2.2: General aviation aircraft numbers (# of aircraft)



Source: Civil Aviation Safety Authority, Civil Aircraft Register

Growth in the RAA sector has been solid with membership and aircraft numbers growing as per Table 2.4. The data shows membership has grown at an average annual rate of more than 10% while aircraft numbers have also shown a solid increase over the same period. In more

[6] Based on aircraft and pilot data supplied by the Civil Aviation Safety Authority and Recreational Aviation Australia. In addition to these figures there are a number of military pilots currently based in Canberra. While these pilots are not captured in the CASA and RAA figures they do fly aircraft hired from local schools and clubs in order to remain current while employed in non-flying roles within defence. This suggests there may be a higher level of demand than that indicated here.

recent years growth has slowed, no doubt due, in part, to the economic climate. In this sense the 3% growth rate applied in the forecasts is a reasonable but conservative estimate of aircraft registrations going forward.

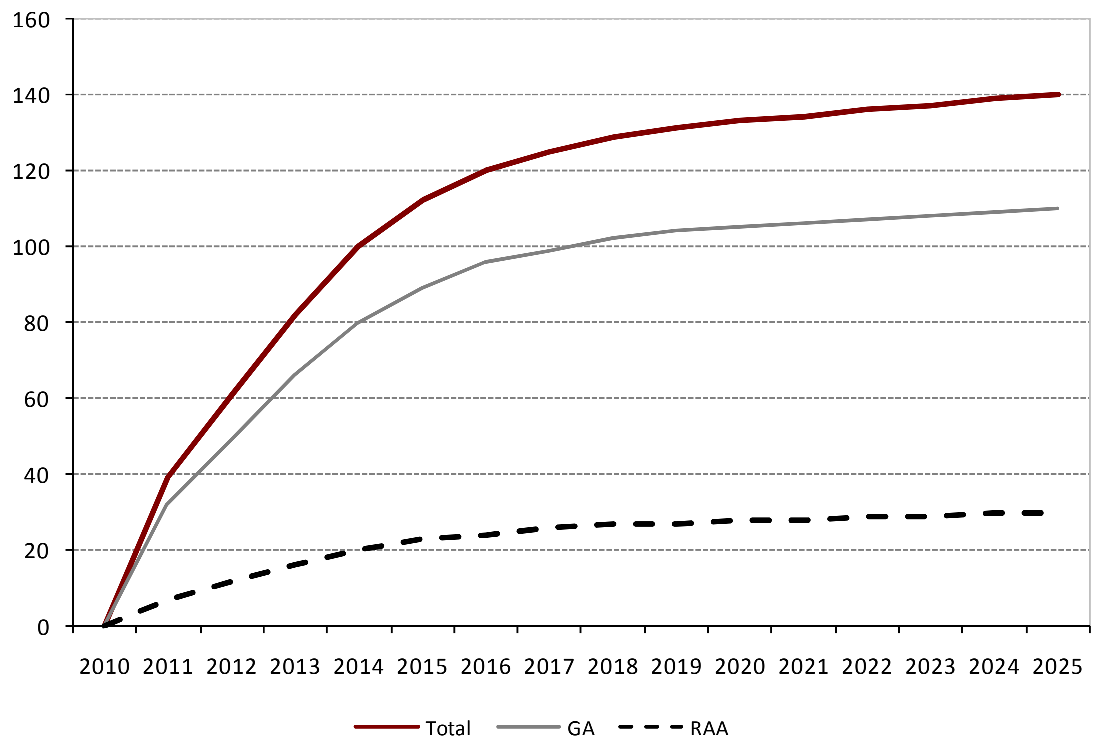
Table 2.4: RAA growth

Year	Membership	Aircraft
2005	5,996	1,799
2006	6,946	2,147
2007	7,800	2,493
2008	8,440	2,805
2009	9,186	2,995

Source: Recreational Aviation Australia.

Despite the high numbers of aircraft that would potentially use the new airfield as a home base, we assume no more than 50% of these actually relocate to the airfield on a permanent basis. To project the adoption rate over time we use a typical 'S' curve.[7] The resulting aircraft demand potential is shown in Chart 2.3. By 2017, 50% of the aircraft in the region are captured and use the airfield as their home field with GA registered aircraft representing the majority of these. From this time onwards the only increase in aircraft numbers comes from the underlying growth rates outlined earlier.

Chart 2.3: Potential demand for a second airfield (# of aircraft)



[7] The 'S' curve is estimated using the formula 0.5*(1/(1+exp(0.7*(4-t)))).

In addition to those aircraft using the airfield as a permanent base, demand may arise from emergency services (who have expressed an interest in using the airstrip for fire fighting operations) and other transient traffic landing at the field.

2.3 Employment opportunities

Employment at the airfield will mainly be driven by the number of aircraft using the facilities. Experience at the other locations discussed in section 2.1 shows that around 1 full time maintenance person would be required for every 20 aircraft. Based on the aircraft projections above, 7 full time maintenance people would be required by 2017 when aircraft numbers reach around 140. This estimate in itself could be considered as conservative in the sense that it assumes no maintenance is conducted on aircraft other than those using the airfield as a home base. Furthermore, the additional maintenance work would not come at the expense of existing maintenance carried out at CIA as little work is currently carried out on GA aircraft there now. In reality, aircraft owners and operators often fly their aircraft to locations such as Wagga Wagga, Moruya and Cootamundra for maintenance. Although the effects are not considered here, this suggests there may be the potential for maintenance business to come from off field aircraft.

Flying training is a growing sector in Australia and a significant employer in the aviation sector. The BITRE (2008) notes that flying hours associated with training activities increased from 424,000 hours in 2006 to 485,600 in 2008. Table 2.5 shows the training hours flown each year for general aviation.

Table 2.5: Flying time associated with training ('000 hours)

Year	Hours	Percent change on previous year
2006	424.0	2.0
2007	455.4	7.4
2008	485.6	6.6

Source: Bureau of Infrastructure, Transport and Regional Economics, General Aviation Activity 2008

RAA has experienced strong growth in the training sector as well. The number of flight training facilities accredited to provide training under the supervision of the organisation has increased from 100 in 2005 to more than 150 in 2009 (Table 2.6), an average growth rate of 11.5% per year.

Table 2.6: Recreational Aviation Australia flight training facilities

Year	Number of flight training facilities	Percent change on previous year
2005	100	Unknown
2006	113	13
2007	128	13
2008	139	9
2009	154	11

Source: Recreational Aviation Australia

Most capital cities in Australia have a secondary airfield from which smaller aviation related businesses and training organisations can operate. With no secondary location in Canberra, operators are forced out of the region or face the higher costs associated with the additional security requirements placed on major airports dealing with fare paying customers. These additional costs in Canberra have resulted in many businesses closing down, including several flying schools, as they cannot compete with the lower priced options interstate. In addition to providing a more cost competitive base for local operators to utilise, a secondary airfield in Canberra would have several advantages over the main airport facilities when it comes to flight training:

- Being located outside of controlled airspace allows students to focus on the basic skills of flying rather than be distracted by the added complexities of dealing with air traffic control.
- Close proximity to various types of airspace makes the transition from *ab initio* training to more complex cross country flying involving controlled airspace, military zones, etc. less costly in terms of flying time and thus training costs.
- Less traffic means more efficient access into and out of the airfield and the ability to conduct more circuits in an hour leading to more efficient use of time for pilots.

These factors combine to make the training and small business opportunities at a secondary airfield competitive with locations such as Bankstown in the Sydney region, Archerfield in Brisbane and so forth. The secondary airfield would also be competitive for interstate and international students given its close proximity to a major capital city and easy access to commercial flights. In contrast to this, many of these activities are no longer commercially viable at CIA resulting in any potential economic benefits accruing to other states.

Brindabella Airlines Flight Training has been operating from CIA since 2000 and is the last flying school to be operating within the ACT. When it commenced operations in 2000 there were 6 profitable schools operating from the airport. From September 2010 they will cease to operate citing airport costs and operational pressures as a critical factor in their decision. The manager of the facility, Lara Corry-Boyd has said, "a second smaller airfield within reach of Canberra would [make] it much easier to continue operating".[8]

The school currently employs 10 flying instructors and ground instructor and a chief flying instructor to oversee the school. In addition to this there are approximately two administrative staff and a number of personnel employed to maintain the 13 aircraft used in flight training operations. A secondary airfield would create the opportunity for this business to continue operating in the ACT and maintain the existing levels of employment associated with it.

Universities and other tertiary organisations also engage in flight training at other airfields around the country. The University of NSW, Swinburne University of Technology, the University of South Australia and Griffith University provide several examples of tertiary education providers offering training in the sector. With three universities, the University of Canberra, the Australian National University and the Australian Defence Force Academy, as well as an additional tertiary provider, Canberra Institute of Technology, there is scope for formal education programs to be developed and marketed to a global audience. Given their reach into international markets, and especially Asia, these institutions would be well placed to capture part of the lucrative pilot training market in China and India that is currently the domain of interstate training organisations. Catering to this market would create employment in the education and aviation industries together with export opportunities for the region.

The potential for significant aircraft manufacturing and sales activity also exists for a site located near Canberra. Several RAA aircraft businesses have expressed interests in operating from a Canberra based location, however, the controlled airspace inhibits their ability to do so and prevents them from relocating. The addition of a second airfield outside of the airspace boundaries would allow them to operate from a location with better access to a major Australian city.

Jobs associated with incidental operations at the airfield would also be created. Demand for services such as fuelling, pilot supplies, etc. may create further demand for labour and hence stimulate employment in the region.

[8] Canberra Times 16 March 2010, "Costs ground ACT's last flight school"

3 The proposed airfield

The proposed location for a secondary airfield in the ACT would be at Williamsdale to the south of Canberra. The site is approximately 30 to 40 minutes drive from the centre of Canberra.

3.1 Landing areas

The airfield would be established with a grass landing strip in order to generate immediate revenues and cash flow. The landing strip would be a 1000 metre strip aligned roughly parallel with the Monaro Highway in an almost north/south direction.

A study conducted by Airport Technical Services determined the site to be suitable for single engine and light twin engine aircraft and noted its suitability as an aerial base for fire fighting using both fixed and rotary wing aircraft.

The airfield location has an elevation of approximately 2,300 feet and is sited in an area where the controlled airspace lower limit is at 4500 feet above mean sea level. Aircraft tracking along the ILS flight path to Canberra will be at an elevation of at least 5000 feet, more than 2500 feet above the airfield elevation. Aircraft in the circuit area of the Williamsdale airfield will be at 1000 feet above ground level leaving 1500 feet vertical separation between aircraft and at least 1000 feet clearance from the control zone.

3.2 Aircraft parking

Aircraft parking facilities will be provided from the time the airfield becomes operational. This would commence with a grassed parking area fitted with suitable aircraft tie downs in a similar fashion to the majority of parking currently available at CIA. Space for hangar facilities could also be provided for those pilots wishing to erect undercover parking for their aircraft.

3.3 Costing

The airfield costs are broken into two categories – capital expenditure and operating expenditure.

The main components of the capital expenditure are:

- Land acquisition;
- Landing area construction;
- Fencing;
- Building;
- Electrical works; and
- Roadworks.

The cost estimates for these items sum to approximately $1.1 million with the largest items being the purchase and construction of the landing area. An allowance of $500,000 has been given for land purchase with the cost for establishing the grass landing being approximately $300,000.

The construction costs are based on quotes given by Hewitt Constructions and include:

- Site establishment, environmental control and survey;
- Earthworks for the construction of a grass runway;
- Costing for works related to stormwater drainage; and
- Contingency for unexpected costs.

Fencing would be established to prevent unauthorised access from the road side of the property and be upgraded to a full boundary fence at a later date. Similarly, building construction and road works would be carried out at a basic level until such time that finances permit improving the infrastructure.

Operational expenses include the ongoing expenses associated with the running of the airfield. The costs include:

- Salaries and superannuation;
- Airfield maintenance;
- Utilities;
- Office and administration costs;
- Waste disposal (refuse, sewerage, cleaning, etc.);
- Insurance, legal and professional fees; and
- Airfield leasing costs and rates charges.

The biggest contributors to the operational expenses are insurance costs and salaries. Insurance is estimated to be in the order of $20,000 per year while salaries vary over time. It is envisaged that the airfield will be run on a largely voluntary basis, however, a small charge has been allowed for salaries.

During the first three years of operation a $15,000 expense has been allowed for a part time employee to supervise airfield operations and track aircraft movements. After this period it is expected that movements will grow to a level that warrants a full time employee and the salary expenses increase to $45,000 per annum. In addition to this, superannuation expenses have been included at a rate of 9%.

The total operating expenses are expected to run at about $60,000 to $65,000 per annum in the first three years with this increasing to approximately $100,000 in the years following the appointment of a full time employee.

3.4 Revenues

Revenue streams will come from three main sources – long term aircraft parking fees, aircraft landing fees and overnight parking fees.

In broad terms, three types of parking will be offered at the airfield – parking on the grass, shared hangar space and private hangar space. RAA registered aircraft are limited to two seats and thus tend to be smaller than their GA counterparts so a distinction is made between charges for the two types. In addition to this RAA aircraft tend to be younger and employ newer technologies much more than GA aircraft. This impacts the likelihood of them being parked outdoors versus using hangars that protect them from the elements. Table 3.1 shows a breakdown of the share of aircraft likely to use each parking option and indicative fees.

Table 3.1: Aircraft parking breakdown

	General aviation		Recreational aviation	
	Share (%)	Annual fee ($)	Share (%)	Annual fee ($)
Grass parking	65	650	45	500
Shared hangar	25	975	35	750
Private hangar	10	1,170	20	900

Source: CRAA estimates based on information from other airfields with similar characteristics

With 7 RAA registered aircraft and 32 GA registered aircraft the revenues for 2011 would be in the order of $30,000. Growth in aircraft numbers (see Chart 2.3 above) will see revenue from aircraft parking grow to $100,000 by 2020.

According to Avdata, the company engaged to collect airport charges for CIA, landing charges are $21.42/t maximum takeoff weight per movement at Canberra.[9] Bankstown, Sydney's secondary airfield, charges $14.69/t while Archerfield in Brisbane charges $13.80/t. Avdata shows regional airfields such as Moruya and Wagga Wagga are cheaper at $8.36/t and $7.76/t respectively.

Table 3.2: Landing charges

Location	$/tonne	Typical
Canberra	21.42	23.56
Bankstown	14.69	16.16
Archerfield	13.80	15.18
Moruya	8.36	9.20
Wagga Wagga	7.76	8.54

Note: Typical fees are based on a Cessna 172 or Piper Warrior with a maximum takeoff weight of 1,100kg.

Source: Avdata and airport charging schedules.

For the analysis here landing fees are assumed to be a flat rate of $10 per landing for those aircraft that are not based at the airfield. Assuming 250 landings per year in 2011

[9] A typical Cessna 172 or Piper Warrior has a maximum takeoff weight of around 1,100kg making the per landing charges slightly higher than those specified here. For comparative purposes the per tonne pricing structure provides a useful benchmark.

(approximately 0.7 per day) will equate to $2,500 in revenue. After five years of operation this number is assumed to grow to 450 per year (1.2 per day) and generate $4,500 per year.

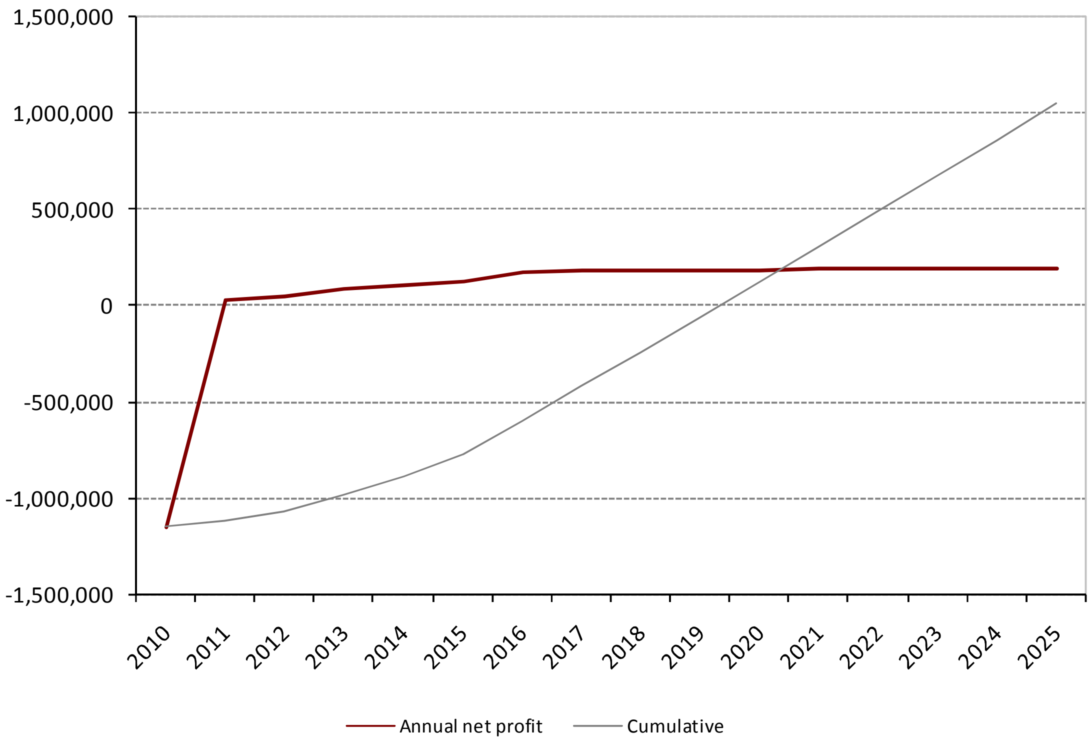
In addition to landing fees, most airfields also charge a parking fee. For Canberra, this is currently $22.38/t per day while at Archerfield it is $2.57/t with a minimum charge of $5.14 per day. An overnight parking fee of $15 per aircraft (including landing fee) for visiting aircraft is used here. In 2011, 50 overnight stays are projected with this growing to 250 by 2015. This will offer a further $750 to $3,750 in annual revenue.

Other revenues from site leases, rent, etc. are not considered in this analysis due to the uncertainty surrounding take up and lease/rental rates.

3.5 Net revenue

Chart 3.1 shows expected profits over time. Yearly net revenues are expected to be positive from 2011 onwards, however, the airfield is not assumed to breakeven until 2019/20, the 10th year of operation assuming a 2010 commencement date.

Chart 3.1: Yearly and cumulative profits



Despite the airfield operating with positive cash flows in a relatively short period of time, from a commercial point of view the airfield is not likely to be an attractive prospect. This is because of the large upfront capital costs.

The net present value of the airfield, using a 7% discount rate, is -$333,500 for the period 2010 to 2020. The internal rate of return, the discount rate at which the net present value of the project is zero, is 1.5%, well below generally acceptable rates of return for a commercial investment. The net present value for a range of discount rates is given in Table 3.3 below.

Table 3.3: Net present value of airfield (2010 – 2020)

3%	7%	11%	IRR
-$106,604	-$333,502	-$499,789	1.5%

Note: Discount rates used for sensitivity are based on the Office of Best Practice and Regulation guidelines for cost benefit analysis. NPV and rates of return are expressed in real terms.

Source: Access Economics estimates

3.6 Non-airfield revenues

These revenues are attributable to the airfield but do not accrue to the airfield operator. That is, they are a direct result of the airfield being established, however, they arise from the business activities of other firms on the field.

Every aircraft is required, by law, to undergo an extensive inspection regime once a year or once for every 100 hours flown, whichever occurs first. The requirements for who does the inspection are different between RAA and GA registered aircraft so the estimates provided here are conservative in that they only account for the GA aircraft. Furthermore, they assume only 1/3 of the aircraft based on the field are maintained on the field. In reality the expectation is that a much higher proportion of aircraft would be maintained on the field and aircraft from other locations would also be serviced. Moreover, the estimates are based on one annual inspection being carried out on each aircraft when many aircraft may in fact fly more than 100 hours per year and therefore require more than this.

The average cost of an annual inspection for a single engine, fixed undercarriage aircraft is around $5000. With 11 aircraft being serviced in 2011 and 35 in 2020 this results in maintenance revenues of between $53,000 and $173,000 per year.

Flying schools will also generate revenue on the field. Two types of licences are considered here and the estimates are conservative for a number of reasons.

The two licences are the private pilot licence (PPL) and the commercial pilot licence (CPL). Each of these have different minimum requirement in terms of theory and practical experience. Many people self study for both licences so the theory costs are not considered in this analysis. For the practical experience, the calculations are based on the minimum requirements of 40 hours flying time for the PPL and 150 hours for the CPL. Despite these requirements many pilots take longer to achieve their licence (especially for the PPL). In addition to this there are strict requirements surrounding the timeframe in which a CPL student must fly the 150 hours required for the licence. Many students do not meet this requirement and must fly an extra 50 hours (total of 200 hours) to obtain their licence.

The average hourly rate for the flying time also varies between licence type. This is due to the requirement that a certain number of hours must be flown in a ‘complex aircraft’ for the CPL which increases the costs.

The training figures used here also do not consider additional training beyond the licence issue. These additional activities may include night flying ratings, aircraft feature endorsements, instrument ratings, etc. Each of these factors considered together suggest that the estimates provided here are conservative in nature.

Assuming 5 of each licence are issued in 2011 and this grows to 10 by 2015 and is maintained from this point onwards there would be between 200 and 400 hours flown for PPL students and 750 and 1000 hours for CPL students. Using an average hourly cost of $250 for PPL and $280 for CPL this amounts to between $260,000 and $520,000 in additional annual revenue. It should be noted that these figures are conservative estimates, Brindabella Airlines Flight Training currently flies some 4000 hours per year for training whereas the estimates given here allow for only 1900 in total at the end of 2025. In addition to this the opportunities for attracting international students outlined in chapter 2 will increase these estimates even further.

4 Conclusions

This *prima facie* study of a secondary airfield in the Canberra region suggests that there is demand for such a facility.

Based on the preliminary analysis, the airfield would generate an internal rate of return of less than 1.5%. While this falls below the rate required by most commercial investors, alternative business models, such as a not-for-profit venture, may be suitable.

Having said this, a more rigorous and detailed analysis needs to be undertaken in order to ascertain detailed estimates of the costs of establishing the airfield, ongoing operational costs and the level of demand for the facilities. Refining these numbers will help to make a clearer judgement in terms of the financial returns of an airfield and also inform a cost benefit analysis that considers the broader economy wide impacts of such a project.

Furthermore, suitable models for ongoing operation of the airfield need to be explored to develop a governance structure that meets the needs of the community while also ensuring the ongoing viability of the airfield. Such a structure also needs to encourage the on field presence of aircraft owners, aviation related businesses and other interested parties as well as minimise the risks associated with the project.