> Part B – Development Concept

Part B of this MP presents CAL's Development Concept for the airport in more detail.

The proposed Development Concept for the end of the planning period 2024/25 is shown in Figure 11. For ease of explanation, the Development Concept is split into two categories:

- Aviation Development Concept; and
- Land Development Concept

The potential economic impacts arising from the Development Concept are also assessed.

Camden Airport

Master Plan
2004/05

> Figure 11

Camden Airport Development Concept - 2024/2025

LEGEND

- AIRSIDE TENANCY BUILDINGS & ASSOCIATED TAXIWAYS
- AIRCRAFT MOVEMENT & PARKING AREA
- RUNWAY COMPLEX, HELIPAD & ASSOCIATED CLEARANCES
- CAMDEN AIRPORT BUSINESS SUPPORT ZONE
- CAMDEN AIRPORT SUPPORT ZONE
- MIXED USE AERONAUTICAL/CAMDEN AIRPORT BUSINESS SUPPORT ZONES
- ENVIRONMENT PROTECTION ZONE
- INTERNAL ROAD (INDICATIVE ALIGNMENT)

> Aviation Development Concept

Camden Airport

Master Plan
2004/05

> Aviation Development Concept

10.1 Aviation Development Concept – Overview

As shown in Figure 3 previously, the 2024/24 Development Concept for Camden Airport started with determining the Aviation Development Concept.

The process of developing the Aviation Development Concept included the following steps:

- **step 1** – determining key objectives and principles;
- **step 2** – preparing traffic forecasts;
- **step 3** – preparing facilities requirement analysis;
- **step 4** – developing the aviation concept.

These steps are described in the following Sections.

10.2 Aviation Development Concept – Objectives & Principles

The objectives and principles under-pinning the aviation planning process for are set out below.

10.2.1 Objectives

CAL's objectives for the aviation business at Camden Airport include:

- **retaining and enhancing Camden Airport's role as the leading recreational GA facility in NSW** – Camden Airport is a leading centre for gliding, sports and other forms of recreational flying. Through this MP, CAL is seeking to cement Camden Airport's role as recreational facility; and
- **providing sufficient capacity to meet forecast demand** – Hoxton Park Airport is scheduled to close by 2008. As a result, Camden Airport will have to meet its own forecast growth as well as activity expected to transfer from Hoxton Park Airport.

In addition to the business objectives quoted above, CAL has a range of other, aviation related objectives that were taken into account in the master planning process. These include:

- **maintaining safe and secure operations** – CAL is determined to maintain its record of safe and secure aviation operations. Apart from its statutory, regulatory and licence obligations to do so, CAL believes that maintenance of Camden Airport's reputation as a safe and secure airport is a key business continuity and customer attraction issue; and
- **meeting CAL's statutory and regulatory obligations** – CAL intends to fully meet the various statutory requirements of airport ownership contained within the Airports Act 1996, the Civil Aviation Safety Regulations, the Transport Security Act and Regulations. CAL will also determine that any developments are planned taking into account Local and State planning frameworks and regulations.

10.2.2 Principles

In addition to the objectives outlined above, key principles governing the Aviation Development Concept include:

- **utilisation of existing facilities** – given the level and nature of the facilities at Camden Airport, this MP has adopted the principle of utilising existing facilities to the maximum extent possible;
- **selection of design aircraft** – the aviation planning under-pinning this MP is based on the selection of a design aircraft – that is, the largest aircraft likely to use the airport on a regular basis; and
- **improvement of facility access** – the MP includes improvements to the road system at Camden Airport to improve access to the site.

These business and aviation objectives are consistent with the setting aside of the airport site for aerodrome purposes under Camden LEP No.48.

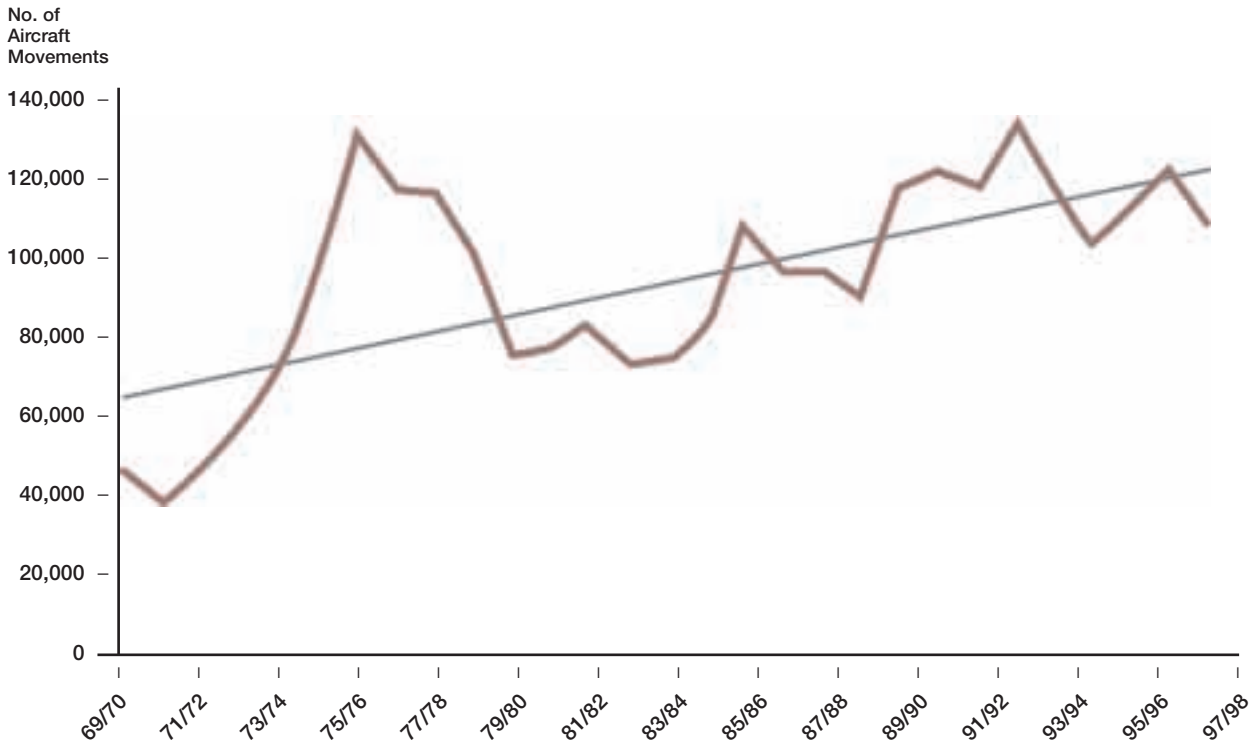
10.3 Traffic Forecasts

10.3.1 Why Prepare Traffic Forecasts?

Traffic forecasts are critical to an airport master planning process as they form the basis of facilities requirements analysis. This essentially determines the changes to facilities required to meet the traffic forecast, and from this, land requirements can be determined and impacts can be identified and addressed. The facility requirements driven by aviation traffic forecasts include:

- runways, taxiways and ancillary aviation facilities such as engine run-up bays;
- apron and aircraft parking areas; and
- hangars and other tenant areas.

Figure 12
Camden Airport Aircraft Movements
– 1969/70 to 1997/98



Source: Department of Transport & Regional Services andAirservices Australasia

Consequently, 20 year forecasts for aircraft movements at Camden Airport have been prepared to facilitate the planning process. The traffic forecast process also allows the determination of design aircraft.

10.3.2 Forecast Considerations

The traffic forecasts for Camden Airport were developed, taking into consideration the following issues:

- growth of the existing Camden Airport GA traffic, based on historical growth patterns;
- current and projected economic conditions and industry-specific factors;
- traffic that may transfer to Camden Airport due to the closure of Hoxton Park Airport by 2008;
- traffic that may transfer from Camden Airport to other airports within the Sydney Basin and other airports such as Wedderburn and Warnervale, mainly private aircraft and smaller operations; and
- a comprehensive survey of airport tenants and users which gathered short term (3 year) forecasts.

10.3.3 Historical Traffic Patterns

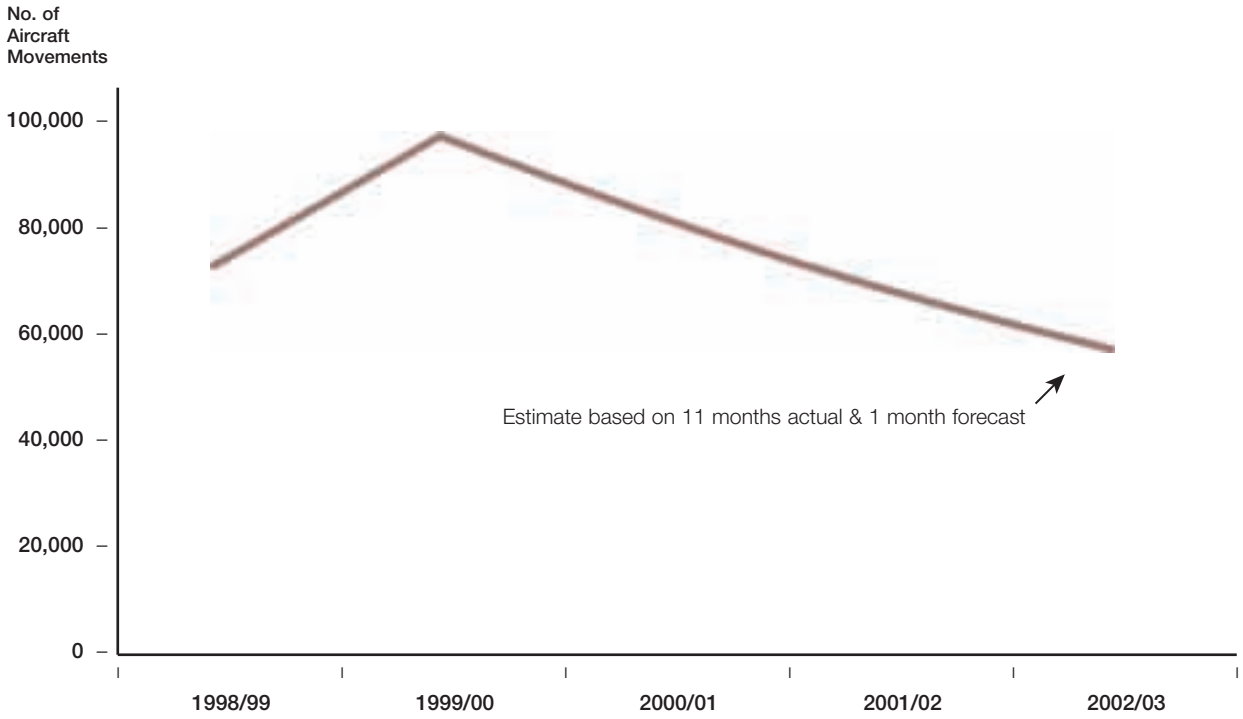
While the annual number of aircraft movements at Camden Airport has proved to be relatively volatile, over a long period of time, traffic levels have exhibited some degree of growth.

Figure 12 sets out annual aircraft movement numbers over a 29 year period between 1969/70 and 1997/98. The Figure identifies a traffic high of 134,000 aircraft movements in 1992/93 and an annual compound annual average growth rate of 3 per cent.

More recent traffic history is highlighted in Figure 13, which shows the annual number of aircraft movement between 1998/99 and 2002/03. Official data on aircraft movements post 2002/03 is not consistent with other historical data due to a change in ATCT hours of operation in 2003 from seven days per week to two (aircraft movement statistics are provided by Airservices Australia for traffic during ATCT hours).

> Aviation Development Concept

Figure 13
Camden Airport Aircraft Movements
– 1998/99 to 2003/04



Source: Airservices Australia

For the purposes of the DMP, it has been assumed that traffic for 2003/04 is similar to 2002/03.

Figure 13 highlights a decline in traffic at Camden Airport between 1998/99 to 2002/03, although during the majority of this period, CAL records, based on daily visual counts of aircraft sighted on the airport, indicate that the number of aircraft located at the Airport on a daily basis has not altered significantly.

10.3.4 Aircraft Movements Forecast

The aircraft movements traffic forecast for Camden Airport is presented in Table 3. Over the planning period, traffic is forecast to grow to 136,000.

The compound annual growth rate over the planning period is 3.3 per cent. This level of activity is similar to the historical high of 134,000 movements experienced in 1992/93.

The key aspects of the traffic forecast include:

- **the limited value of 2003/04 data** – due to the limited nature of the official Airservices Australia airport movement data for 2003/04 caused by the reduction of the ATCT hours, the forecast for 2003/04, and the starting point for the forecast, has been calculated using the 2002/03 Airservices movement data, as 2002/03 represented the last full year of seven day ATCT coverage;
- **long term growth of 1.5 per cent per annum** – the forecast includes reasonable annual growth of 1.5 per cent for the GA traffic at Camden Airport, based on long term historical growth rates and an assessment of industry factors; and
- **Hoxton Park Airport transfers** – the long term growth of 1.5% adopted as the underlying organic growth for Camden has been supplemented in the period up to 2008 by a forecast assumption that around 50 per cent of the current traffic at Hoxton Park Airport will be accommodated at Camden Airport. This Hoxton Park traffic influx is highlighted by the higher annual growth forecast in the period 2004/05 to 2007/08.

10.4 Airport Reference Code & Design Aircraft

The Design Aircraft selected for Camden Airport reflects the operating requirements of the most demanding aircraft expected to use the facility on a regular basis.

The Design Aircraft is used as the basis for comparing airport facilities against the operating requirements of the aircraft to determine where improvements may be needed. The Design Aircraft also helps to determine which Civil Aviation Safety Authority (CASA) planning and design criteria, as defined by the CASA's Manual of Standards (MOS) – Part 139 Aerodromes, should apply to the airport.

The Design Aircraft selected for use in the Camden master plan is the CASA Aerodrome Reference Code 2B. Aircraft in this category include Beechcraft 1900, Embraer EMB110, Metroliner II and Metroliner III. Although Code 2B aircraft only currently utilise Camden Airport on an occasional basis, the forecasts envision a growth in this traffic over time. The selection of Code 2B aircraft as the Design Aircraft also provides for maximum flexibility, should Camden Airport's role in accommodating traffic in the Sydney Basin change in the future. It should be noted that the majority of aircraft movements forecast to occur at the Airport will be generated by single-engine piston aircraft most commonly within the Reference Code 1A category. This category includes the light aircraft Cessna 172, Cessna 206, Piper PA31 and Piper PA34.

Table 3
Camden Airport Aircraft Movements Forecast – 03/04 to 24/25

Year	Aircraft Movements (per annum)	% Change
02/03 (actual)	68,660	
03/04*	69,438	–
04/05	78,480	13.0%
05/06	87,537	11.5%
06/07	96,610	10.4%
07/08	105,699	9.4%
08/09	107,285	1.5%
09/10	108,894	1.5%
10/11	110,527	1.5%
11/12	112,185	1.5%
12/13	113,868	1.5%
13/14	115,576	1.5%
14/15	117,310	1.5%
15/16	119,069	1.5%
16/17	120,855	1.5%
17/18	122,668	1.5%
18/19	124,508	1.5%
19/20	126,376	1.5%
20/21	128,271	1.5%
21/22	130,196	1.5%
22/23	132,148	1.5%
23/24	134,131	1.5%
24/25	136,143	1.5%

** Figure for 2003/04 estimated based 2002/03 actual due to reduction in air traffic control tower hours of operation*

10.5 Facility Requirements

A key step in the preparation of the Camden Airport MP is determining the land and facilities required to accommodate the forecast level of aircraft movements.

> Aviation Development Concept

The facilities requirements analysis process involves reviewing the traffic forecast driven requirements against existing facilities to determine what facilities need to be provided, upgraded or improved and the most efficient way in which the additional or upgraded facilities can be provided.

10.5.1 Proposed Requirements

The aircraft movements capacity of the Camden Airport runway and taxiway system has been estimated by Airservices Australia at approximately 210,000 aircraft movements per annum. This maximum number of movements has never been approached.

The traffic forecasts indicate that by 2024/25, aircraft movement numbers at Camden will reach approximately 136,000. This forecast is slightly more than the historical high of 134,600 (1992/93) but significantly less than the estimated capacity. As a result, no runway capacity increases are anticipated.

Based on the Design Aircraft identified above, runway and taxiway geometry and separations meeting Aerodrome Reference Code 2B standards will apply to those movement and operations areas where activity of aircraft of this type is expected to occur.

Proposed changes to the aviation infrastructure include:

- **taxiway modifications** – predominantly associated with extending the existing network to link up with newly developed sealed, grass parking areas and new and existing hangars;
- **engine-run-up bays** – there will be a requirement to relocate some existing run-up bays and to also construct additional ones;
- **helipad relocation** – relocation of the helipad to enable the development of new grass parking areas; and
- **navigation aids** – the facilities requirements analysis identified that the NDB will adequately serve the forecast level of traffic. The NDB, owned and operated by Airservices Australia, restricts development within a 150 metre radius and occupies land ideally suited for other forms of development. The recently published strategic plan prepared by the Australian Strategic Air Traffic Management Group (ASTRA) anticipates phasing out of the NDB by 2011. Consequently, long-term development plans for the airport assumes de-commissioning of the antenna and the availability of the site for alternative uses.

10.5.2 Aircraft Parking & Storage

As traffic at Camden Airport grows, it is anticipated that demand for aircraft parking and storage facilities for both based and transient aircraft will also grow.

There currently is an estimated 3,000m^2 of designated grass tiedown area at the airport, accommodating an estimated 25 small aircraft parking positions. The existing designated grass tiedown areas are not heavily used, although there are some aircraft parked outside designated areas on grass around the airport. It is anticipated that this number of designated grass and light aircraft tiedown facilities will be increased to accommodate up to 48 light aircraft.

In addition to grass parking and tiedowns, there is currently sealed apron available to accommodate up to 20 based and transient aircraft in addition to hangar positions. It is anticipated that this level of apron parking will be increased to enable the airport accommodate up to 41 aircraft in addition to hangar positions.

In terms of gliders it is anticipated that the level of storage and parking requirement will rise from the current level of 40 to 45 over the planning period.

10.5.3 Tenant Areas

Based on the traffic forecast, it is estimated that an allowance needs to be made for an additional 14 new hangars (together with associated apron, taxiway and landside access areas) of various sizes. The proposed location of these new hangars will involve on-site assessment to ensure that the line of sight of the ATCT to the main runway is not impacted.

10.6 Aviation Development Concept – Summary of Proposals

The aviation concept presented in this MP has been developed taking into account the facilities required to accommodate the forecast level of traffic over the next 20 years as well as the objectives, principles and planning parameters outlined in earlier Sections.

In summary, the key elements of the aviation concept, at both an outline and at asset level are outlined below.

> Aviation Development Concept

10.6.1 Key Elements of the Aviation Development Concept – Outline

The Camden Airport Aviation Development Concept was presented in Figure 11. From an aviation perspective, the Concept highlights (in various shades of blue) all of the areas to be reserved for aircraft operations, aircraft movement and parking and airside tenant requirements. The Concept also highlights mixed use areas that could be utilised for aviation purposes if required.

The difference in land use allocations in the Aviation Development Concept, relative to existing land use allocations are as follows:

- land dedicated to the runway complex does not vary significantly; and
- land allocated for aircraft movement, parking and airside tenancy areas has increased as a result of the traffic forecast.

The Aviation Development Concept meets all of the objectives and includes all of the principles set out in Section 10.2.

10.6.2 Key Elements of the Aviation Development Concept – Asset Level

The details of the facility improvements and modifications identified are summarised below.

Taxiway Modifications

Proposed taxiway modifications planned are:

- extension of the West Feeder taxiway to accommodate new aircraft parking;
- designation of grass surface taxiways to serve new grass surface/light aircraft tiedown areas; and
- development of finger taxiways to serve new sealed apron aircraft parking positions and hangars.

Aircraft Parking and Storage

Proposed aircraft parking and storage modifications planned are:

- provision of additional sealed apron aircraft parking for based and transient aircraft north of the ATCT;
- provision of space for a mix of aircraft hangars adjacent to the new sealed aircraft apron, including T-hangars and larger corporate/commercial size facilities; and
- provision of 48 grass surface/light aircraft tiedown positions south and west of the existing centre of general aviation development. Single loaded tiedown positions are located between and adjacent to the existing East and West Feeder taxiways, with additional double loaded tiedowns to the south west. The double loaded tiedowns are accessed via new grass surface taxiways.

Helipad Relocation

Relocation of the existing helipad from south of the Runway 06 taxiway to the north side of the taxiway. This move is necessary to make way for development of new grass surface/light aircraft tiedown areas.

Engine Run-Up Bay Modifications

Proposed run-up bay modifications planned are:

- relocation of the existing engine run-up bay adjacent to the Runway 06/24 midfield exit taxiway to enable extension of the Runway 24 taxiway to connect with the West Feeder taxiway; and
- construction of an additional engine run-up bay at the north east end of the Runway 24 taxiway. This run-up bay is primarily intended to serve aircraft departing Runway 24.

Tenant Facilities

No changes are proposed to existing aviation tenant facilities. Additional future development will occur in designated areas.

Airservices Australia & Support Facilities

The NDB decommissioning is assumed to occur in 2011 as per current Airservices Australia plans. Once the NDB is decommissioned, the antenna site and critical area are assumed to become available for aviation and non-aviation development. If earlier development is required CAL will consult with Airservices Australia about appropriate options.