The Parliament of the Commonwealth of Australia

Inquiry into the Sydney 2000 Olympics

- The adequacy of existing and planned aviation services and infrastructure -

Report from the House of Representatives
Standing Committee on Transport,
Communications and Infrastructure

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HOUSE OF REPRESENTATIVES STANDING COMMITTEE ON TRANSPORT, COMMUNICATIONS AND INFRASTRUCTURE

(37TH PARLIAMENT)

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1. Replaced Mr Paul Neville MP 20 September 1994.

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TERMS OF REFERENCE

That the House of Representatives Standing Committee on Transport, Communications and Infrastructure inquire into and report on the implications for Australia's transport and communications systems arising from the staging of the Sydney 2000 Olympic Games with particular reference to:

Communications

- the adequacy of broadcast spectrum availability
- the adequacy of transmission facilities

Transport

- the adequacy of existing and planned aviation services and infrastructure
- the adequacy of existing and planned land transport services and infrastructure

The Committee is requested to report from time to time on its terms of reference giving priority, where appropriate, to facilities that need a longer lead time to be established.

RECOMMENDATIONS

The committee recommends that:

1. The Government set target dates for the completion of various stages of Sydney West airport, including the year in which the airport would be opened, and that the Government publish this information.

[paragraph 4.10]

2. About June 1998 a study be commissioned to examine the capacity of Sydney Kingsford Smith airport to cope with forecast passenger movements for the year 2000 and beyond.

[paragraph 4.11]

3. A joint Commonwealth/State study be undertaken on the adequacy of existing and proposed roads infrastructure at Sydney Kingsford Smith airport upto the year 2000.

[paragraph 4.12]

CHAPTER 1

INTRODUCTION

The reference

1.1 On 19 November 1993 the then Minister for Transport and Communications, Senator the Hon Bob Collins, requested the committee to inquire into and report on the implications for Australia's transport and communications systems arising from the staging of the Sydney 2000 Olympic Games, with particular reference to:

Communications

- the adequacy of broadcast spectrum availability
- the adequacy of transmission facilities

Transport

- the adequacy of existing and planned aviation services and infrastructure
- the adequacy of existing and planned land transport services and infrastructure

1.2 The committee was requested to report from time to time on its terms of reference giving priority, where appropriate, to facilities that need a long lead time to be established.

Conduct of the inquiry

1.3 The committee decided to concentrate initially on the adequacy of existing and planned aviation services and infrastructure for the Sydney 2000 Olympic Games. For this purpose a sub-committee comprising Mr P F Morris (chairman), Mr Mack and Mr O'Connor was appointed to inquire into the adequacy of these services and report to the committee.

1.4 The reference was advertised in *The Sydney Morning Herald* and *The Daily Telegraph Mirror* of 4 December 1993. Over 50 submissions were received and evidence was taken at five public hearings - from April to June 1994. Details on the conduct of the inquiry, which include the names of persons/organisations who made submissions and who appeared before the committee at public hearings, are at Appendix 1.

Decision on Badgerys Creek airport

1.5 The major issue in the adequacy of existing and planned aviation services and infrastructure was whether the proposed airport at Badgerys Creek should be upgraded to allow large international jet aircraft to land there. This issue was tied to the question of whether Sydney Kingsford-Smith airport (SKSA) had the capacity to cope with the 2000 Games.

1.6 In its white paper on employment and growth of 4 May 1994, *Working Nation*, the Government announced its decision 'to accelerate development of Badgerys Creek Airport by constructing a runway capable of handling landings and take-offs of major aircraft'. The paper added that this decision provided the opportunity for the subsequent development of terminal capacity by the year 2000, and would 'help alleviate any peak period congestion at Kingsford-Smith Airport'. The proposal was for the new 2900 metre runway to be commissioned during the financial year 1998-99. (*Working Nation*, Australian Government Publishing Service, May 1994, p.167)

1.7 The Government decision has overtaken the importance of the inquiry. However, the question of whether SKSA can cope with the 2000 Games is still relevant. If it cannot, then the commissioning of Badgerys Creek Airport (now called Sydney West airport) well before the Games is vital.

Structure of the report

1.8 The question of whether aviation infrastructure can or cannot cope requires substantial statistical analysis. This cannot be avoided. Chapter 2 sets the scene for this analysis by constructing an analytical framework. Although much of the framework is based on the evidence, other parts reflect the views of the committee.

1.9 This framework is then applied in chapter 3 to the information provided to or collected by the committee. This chapter can be divided into three parts. First, there are figures and relevant discussion on forecast/estimates of passenger movements for the Olympic year,that is the calendar year 2000 or the financial year 2000-01. This is followed by projections of capacity. The second and most important part of the chapter is the comparison of passenger movements with capacity. Finally, these results are cross-checked for consistency against other data such as aircraft movements.

1.10 The last chapter (Conclusions) discusses other matters such as passenger facilitation and security and contains the views of the committee on what should be done to ensure that aviation infrastructure can cope with the 2000 Olympics.

CHAPTER 2

CAN SYDNEY KINGSFORD-SMITH AIRPORT COPE WITH THE YEAR 2000 OLYMPICS?: THE METHODOLOGY

Introduction

2.1 Submissions were divided on whether or not SKSA could cope with the 2000 Olympics. The Liverpool City Council, the Penrith City Council, the Second Sydney Airport Coalition and Hazelton Airlines said or implied that SKSA will not have the capacity to satisfy demand well before the 2000 Olympics. They wanted or recommended the fast tracking of Badgerys Creek airport to handle international jet aircraft by that year.

2.2 These organisations received support for their fast tracking proposal from a large number of mostly one page submissions from other councils and others. Of the total first submissions on aviation (less those on helicopters) 22 or around 70 per cent supported the fast tracking of Badgerys Creek.

2.3 The airlines, the Federal Airports Corporation (FAC) and its consultant, Access Economics, said or implied that SKSA will have the capacity to cope with demand and that any Olympic overflow could be satisfied by a number of strategies; for example, off-peak travel and redeployment of larger aircraft.

2.4 A large amount of statistical information was submitted in support of each point of view. The committee has no intention of chasing every statistical rabbit down its burrow. Rather, it seeks to construct a framework for analysis that can be used to answer the question about SKSA coping with the Olympics.

2.5 Application of this framework to some of the information provided allows the committee to make a key comparison, of forecast passenger movements with projected capacity around at the year 2000. This requires further elaboration. What has to be done is to check:

- whether underlying demand is bumping up against capacity in the year 2000 or before, and

- if it is, how can any Olympic surge be met if it occurs.

Forecasts of passenger movements

2.6 In respect of demand there are three different markets at SKSA, namely, international, domestic and regional, each with different characteristics and different growth rates. Therefore, forecasts of passenger movements up to the year 2000 and beyond are required for each of these markets, although a single weighted figure would be the equivalent of three separate figures. Ansett and Qantas support this approach.

2.7 The FAC says that 'in economic terms, the word *forecast* means an estimate of future events based on economic modelling of the historical relationships between two or more variables'. The corporation adds that this definition differentiates forecasts from other types of estimates (such as those based on surveys), guesses and marketing targets (submission 32, page 10).

Capacity - runways

2.8 Capacity is a wider concept and can be divided into three parts - runways, terminals and other capacity. Runway capacity is normally expressed in terms of peak hour capacity or practical annual capacity. Peak hour capacity is the maximum number of aircraft movements that can be handled in one hour. For a particular airport runway capacity is a function of a range of factors including runway configuration, airspace arrangements, prevailing weather conditions, aircraft mix and environmental factors. The FAC says that capacity could be restricted by the traffic mix which might show a number of smaller aircraft mixed with larger aircraft. This results in longer separations between landings because of air turbulence created by larger aircraft (submission 32, page 23).

2.9 Practical annual capacity is the number of annual movements corresponding to an acceptable level of average delay -four minutes is the widely accepted criterion (House of Representatives, *Debates*, answer to question on notice, 9 May 1994, p. 511).

2.10 The FAC says that determining the capacity of a system of runways is a highly complex and theoretical exercise. The corporation gives four factors that limit runway capacity - the curfew, bad weather, the traffic mix and the type of air traffic control system (submission 32, p.23). On the other hand, increases in load factor, the substitution of larger for smaller aircraft and increases in the size of aircraft can increase the passenger carrying capacity of an airport. However, the capacity of any airport is finite.

Capacity - terminals

2.11 Terminal capacity, expressed as the number of passengers processed, is also a very important ingredient of capacity. At SKSA the international terminal is operated by the FAC on a common user basis and consequently the FAC does not lease gates to any airlines. However, certain airlines are traditionally located on the same gate each day. For example, Qantas aircraft are always located on the central pier. Responsibility for expansion of international terminal facilities lies with the FAC (submission 58).

2.12 The corporation says that the majority of domestic terminals at the corporation's airports, as well as much of the expansion land around the domestic terminals, are subject to long term leases between the federal government and Ansett and Australian (now Qantas) airlines. The leases were made before the establishment of the FAC (submission 32, p.8).

2.13 The domestic terminal lease of Ansett (Qantas has similar lease conditions) extends for ten years or more beyond 2000. For SKSA the leases contain considerable scope for terminal and apron expansion up to the end of 1997 (Ansett, submission 17).

Capacity - other

2.14 There are other aspects or ingredients of capacity. They include check-in and baggage handling facilities, the overall capability of the airport to clear passengers and the capacity of the roads system leading into or out of the airport.

Comparing forecasts of passenger movements with projected capacity

2.15 After forecasts of passenger movements and projections of capacity have been completed, the key task is to compare the one with the other. This is done usually in two ways. The first is to match forecasts of annual passenger movements with projected annual terminal capacity. This should be done separately for the international and the domestic/regional sectors.

2.16 Because passenger movements are not spread evenly throughout the day, the second way of matching demand with capacity is to compare peak or busy hour forecast passenger movements with projected hourly terminal capacity. Ansett says that the off-peak passenger movements of SKSA is sometimes as low as half of the peak hour movement rate (transcript page 157).

2.17 These results need to be cross checked with other information to ascertain reliability. For example, to say that in the year 2000 the terminals (international or domestic) will have the capacity to handle forecast busy hour passenger movements is not enough. We need to know whether the runways have the capacity to take the required number of aircraft movements that can carry the forecast number of busy hour passengers.

2.18 Forecasts of passenger movements should also be cross checked against the number of aircraft movements. The committee sees the latter as being a derived figure, derived from the number of passenger movements but including, where appropriate, allowance for increase in load factor and the substitution of larger for smaller aircraft. Ansett says that much of the demand for access to SKSA has been accommodated by increases in the number of seats per aircraft movement so that there has been greater growth in passenger numbers than aircraft movements (transcript page 156)

2.19 Finally, it is also necessary to access whether the other ingredients of capacity - check-in and baggage handling and the roads system can handle projected demand or can be developed in sufficient time to handle the projected passenger movement numbers.

CHAPTER 3

CAN SYDNEY KINGSFORD SMITH AIRPORT COPE WITH THE YEAR 2000 OLYMPICS?: THE ANALYSIS

Introduction

3.1 This chapter follows the structure of the preceeding one. First, data is provided on passenger movements (demand) followed by that on capacity. Then the two are compared to ascertain if SKSA can cope with the 2000 Olympics. Finally, these results are cross checked against aircraft movements, runway capacity and other aspects of capacity.

3.2 The market for aviation services is segmented. Although interrelated to some extent, international, domestic and regional air travel are quite separate markets. Demand in each of these markets is likely to be influenced by different factors and it is therefore to be expected that rates of growth of demand in these markets will also differ. This is an important consideration for the present exercise, since the relative blend of traffic will influence comparisons between passenger demand and terminal capacity, the number of aircraft movements and the mix of aircraft types.

3.3 The committee was presented with a range of forecasts/estimates on the growth of passenger movements and aircraft movements up to and beyond the year 2000. Such a range is not unexpected.

3.4 Unfortunately, a number of submissions provided only aggregate estimates of passenger and aircraft movements for the year 2000. This limited the usefulness of these submissions to some extent. However, other submissions did provide the required detail which allowed the committee to draw conclusions on the ability of the international, domestic and regional sectors to cope in the Olympic year.

3.5 The committee reiterates that its major task is to compare forecast passenger movements against projected capacity in the Olympic year. If Olympic influx can be catered for in the off-peak period the key question then is whether 'busy hour' comparisons of passenger movements and capacity show whether or not underlying demand growth is bumping up against capacity in that year.

Forecasts of passenger movements

(a) Impact of Olympics

3.6 There were two distinctively different points of view on the on the ability of SKSA to cope with the additional demand arising from the 2000 Olympics. The Liverpool City Council and the Penrith City Council concluded or implied that the Olympic 'influx' would place enormous pressure on the system in the year 2000 or that SKSA will not have sufficient runway or terminal capacity to cope with the influx (Submission 19, page 2 and 24, pages 13 and 14).

3.7 The FAC, Ansett and Qantas considered that the Olympics would not create additional demand that the system could not handle. This view relied on such factors as the size of the displacement effect (whereby travellers who might otherwise have visited Sydney through SKSA would postpone their travel to avoid Olympic traffic), the potential use of off-peak capacity, the substitution of larger aircraft and the fact that Olympic visitors may use charter aircraft which are likely to have high load factors - 90 per cent of aircraft seat capacity (Submissions 17, page 6, 32 pages 17,18 and transcript page 128).

3.8 Little purpose would be served by examining the figures and figuring used to support each point of view. However, the committee notes that the KPMG Peat Marwick study made for the Sydney 2000 Bid Committee found that the most likely scenario was an increase of 160 157 visitors to Sydney in the year 2000. The Chief Executive of the Bid said that planned terminal capacity is sufficient to process peak in-bound demand prior to the Games (FAC, submission 32, pages 17,18).

3.9 After examining and adjusting the KPMG estimates, Access Economics concluded that, at most, Olympic visitors might generate around 350,000 international passenger movements and 120,000 domestic/regional passenger movements in the year 2000. However, the Access figures of 0 per cent to 2 per cent show that the travel displacement effect may be so great as to entirely offset these movements, leaving a net Olympics impact of zero (Submission 32, attachment A, page 23).

3.10 These estimates took into consideration information collected on the Los Angeles and Seoul Olympics. Access said information on the Barcelona Olympics was limited and the net passenger demand impact not clear.

3.11 The Department of Transport provided up to date information on Barcelona. The department quoted from the Director of Barcelona airport who affirmed that during the Olympic period '... normal traffic decreased so that actual growth (was) even higher ... since most part of traffic movements were motivated by the Olympic games' (Submission 52).

(b) International passenger movements

3.12 Forecast international passenger movements for the year 2000 are shown in Table 1.

TABLE 1

FORECASTS/ESTIMATES OF INTERNATIONAL PASSENGER MOVEMENTS AT SKSA IN THE YEAR 2000
('000 passenger movements)

Federal Airports Corporation	7420
Department of Transport	7900
International Air Transport Association	8540
Access Economics	8600

Sources: Submission numbers 32(FAC,Access), 52(DoT) and Exhibit 6, part 8 for IATA.

3.13 The number of passenger movements, international, domestic and regional for the period 1984-85 to 1992-93 for SKSA is at Appendix 2. Several forecasts/estimates of international passenger movements for the period up to the year 2000 and beyond were given to the committee.

Because some were for calendar years and others for financial years it is difficult to show in a table forecast growth in international passenger movements for the period 1994 to 2000 and beyond.

3.14 Access Economics gave a range of 8.35 million to 8.6 million for international passenger movements for the year 2000 and these figures included the impact of the Olympics. The IATA figures do not include Olympic impact (their report was dated May 1992) and would increase to about 8.9 million if the Access impact of the Olympics calculations were included.

3.15 In the case of both the IATA and the Department of Transport the methodology underlying the figures are not known. The Access forecasts are based on extrapolations of passenger movements over the period 1984-85 to 1992-93.

3.16 The FAC stated that its forecasts were prepared by BAA P/L (international) and Tourism Futures (domestic). The corporation described the way these forecasts are prepared. After relevant data is collected, assumptions about key economic variables such as private consumption expenditure, foreign trade and airfares are then fed into the model. Other variables such as future aircraft size and government policy are also taken into consideration.

3.17 The major differences between the different points of view on whether or not SKSA can cope with the 2000 Olympics centred around forecasts of passenger movements. The Governor of the Reserve Bank has said that '(f)orecasting, as everyone knows, is a hazardous and imperfect process ... . But there is no getting away from the need for it'. (The Art of Monetary Policy, B Fraser, 23rd Conference of Economists, Surfers Paradise, 26 September 1994). Aviation Industry Research says that forecasts of international air passenger movements involving Australia are complicated by factors such as uncertainties regarding passenger movements generated by the Olympic Games, airport capacity and International Bilateral Aviation Agreements (Report No. 3 June 1994).

3.18 In an industry such as airports where increases in capacity are usually very lumpy (because they are large, when first commissioned there is usually a lot of excess capacity) and have relatively long lead times forecasting the rate of growth of demand should be linked with investment

decisions. If forecasting is not part of this decision making process then its value is limited. Experience shows that all estimates are wrong. Success in estimating is to be least wrong.

3.19 The forecasts of the FAC have been criticised as being conservative. The critics have included not only the councils (Liverpool City Council, transcript page 48) but also the airlines (Hazelton Airlines, transcript page 37 and Qantas, page 129). Qantas says that FAC forecasts are generated predominantly for financial control and, over the years, have been conservative.

3.20 Sensitive to this type of criticism, the FAC sought to counter it by reference to its performance. The submission compared the 1992-93 forecast with the actual figures for international passenger movements and this allowed the corporation to conclude that 'the Corporation's central forecasts compared extremely well with actual growth in passenger movements, with little variance overall ...'. The graphed information showed that for the most part actual results were lower than forecasts for international passenger movements at SKSA (Submission 32, page 14). The FAC also said that requests from Cairns airport and the New Zealand international airports to join the FAC forecasting process further demonstrated the acceptability of its forecasts.

3.21 In 1992-93 domestic passenger movements at SKSA comprised close to 65 per cent of the total. The FAC said it could not provide similar performance information for its domestic forecasts. The reasons given included a smaller time period for domestic forecasts and that 'in virtually each year in which domestic forecasts have been produced, exogenous factors such as the pilots' strike and the deregulation of the airline industry have made any accurate comparison of forecasts with actuals difficult' (Submission 58).

(c) Domestic and regional

3.22 Information on future domestic passenger movements was not as forthcoming as that on international passenger movements. Both Access Economics and the Department of Transport provided data on the former. When asked to provide forecasts for the former the FAC said that following the government announcement to privatise the FAC airports, 'it was agreed that the Corporation would not release any further forecasting data'. Instead, the FAC provided the 1993 forecasts.

3.23 The inability of the FAC to provide its most recent domestic forecasts is a minor handicap because there are other ways of obtaining similar information. On page 17 of its first submission the FAC says that between 1993 and 2012 for SKSA international passenger movements will increase at an average annual rate of 5.7 per cent while total passenger movements will increase at 4.4 per cent.

3.24 When the 1993 domestic/regional forecasts provided by the FAC are added to the FAC forecasts for international passenger movements, the resulting total passenger movements are calculated to grow at an annual rate of 4.3 per cent over the period 1992-93 to 2011-12. This compares with the 4.4 per cent mentioned in the FAC submission and leads the committee to accept the 1993 forecasts as being suitable for its purposes. Unfortunately, no figure is available for the Olympic year (2000-01) from the 1993 forecast. However, interpolation of the data provides an estimate of domestic passenger movements of 13.96 million and 687,000 for regional passenger movements in 2000-01. Total domestic/regional passenger movements are thus 14.65 million in that year.

3.25 The 1993 forecasts do not include any Olympics effect. Access, however, has assessed as an upper limit that 120,000 domestic/regional passenger movements might be generated by the Olympics. Adding this to the total yields a total domestic/regional passenger movement estimate of 14.77 million.

3.26 An alternative approach for generating domestic/regional passenger forecasts is to take the actual total passenger movements provided by Department of Transport aviation statistics (AVSTATS) and increase this by a constant average annual rate of 4.4 per cent to the year 2000-01. After subtracting international passenger movements (growing at a constant annual rate of 5.7 per cent over the same time period) an estimate of domestic and regional passenger movements in the Olympics year can be obtained. This arithmetic produces a figure of 14.59 million domestic and regional passenger movements for the year 2000-01. Again, incorporating the Access Economics upper estimate of the Olympics effect raises this figure to 14.71 million.

3.27 The forecasts/estimates of domestic and regional passenger movements at SKSA for the year 2000-01 (the Olympic year) are shown at Table 2.

TABLE 2

FORECASTS/ESTIMATES OF DOMESTIC AND REGIONAL PASSENGER MOVEMENTS AT SKSA FOR YEAR 2000-01
('000 passenger movements)

Committee	
(a) Based on FAC 1993 forecasts	14770
(b) Extrapolation of AVTSTATS data	14710
Department of Transport	15300
Access Economics	15820

Note: (a) and (b) Based on information provided by the FAC

Source: FAC submissions 32 (page 17) and AVSTATS (appendix 2), Department of Transport submission 52 and Access Economics paper in FAC submission.

3.28 The figure of 15.82 million is not a figure in the Access report but one inferred by the committee. At page 23 of its report Access Economics gives upper bound estimates of Olympic Games inclusive passenger movements at SKSA for the year 2000. The figure for domestic and regional is 16.82 million. At page 25 Access subtracts 'about 1 million regional passenger movements' and says in effect that the new net figure comes within 1 per cent to 2 per cent of projected terminal capacity. The inferred figure of 15.82 million falls within this range of 15.84 million to 15.68 million.

3.29 The committee notes that for regional passenger movements Access says that best trend analysis would produce a figure that is too high. Access says that possible regional demand by the year 2000 may reach 1 million movements rather than the 2 million suggested by trend equations (Submission 32, attachment A, page 7).

Capacity - runways

3.30 The current average number of aircraft movements is 57 an hour. The CAA has advised the department that the new parallel runway would be developed in a number of phases as follows:

- **Phase 1**, (late 1993 to February 1995) the period between the completion of the new runway and the commissioning of the control tower and associated facilities

  - expected maximum movement rate of 50-55 an hour

- **Phase 2**, (February 1995 to 1996), the period between the commissioning of the new control tower and the commissioning of the Parallel Approach Runway Monitor (PARM)

  - expected maximum movement rate would increase to around 65 an hour

- **Phase 3**, (1996 and onwards) following commissioning of the PARM

  - expected maximum movement rate would increase to over 80 an hour.*

[*The committee understands that this would be the figure for the Olympic year as well.]

3.31 Paragraphs 2.5 and 2.6 discussed the factors that could affect runway capacity. Bad weather, for example, could reduce capacity significantly. On the other handling there appear to be factors that could increase the hourly number of aircraft movements. The major factor appears to be the mix of smaller and larger aircraft referred to directly by the FAC (Submission 32, page 23) and indirectly by the CAA which says that '(v)ery bluntly, if you look at any one-hour period of time, with two exceptions, ... we could operate the airport with almost no delay'. The CAA added that '(t)here are delays built into the system now, because of the lack of ground handling runways' (transcript page 210).

3.32 The division of runway capacity according to international and domestic/regional requirements was provided only by Access Economics. Access said that the international terminal should be able to handle about 33 aircraft in the peak hour and the domestic terminals 52 aircraft per hour in the year 2000. Access concluded that the 'total peak hourly terminal capacity of 85 aircraft for Sydney airport would still be within the runway capacity of the airport by the year 2000' (Submission 32, attachment A, page 24).

3.33 The practical annual capacity of the runway system is the number of movements corresponding to an acceptable level of average delay, and four minutes is the widely accepted criterion. The FAC says that it is not simply a case of multiplication of figures, for if this were so once the parallel runway was completed the aircraft movement capacity of SKSA would be around 700800 movements a year.

3.34 However, after various factors such as curfew, annual weather patterns, traffic mix and the type of aircraft control systems are taken into account, the annual aircraft movements capacity of the SKSA runway system will be 353000 movements. This figure is based on an average annual delay of 4 minutes and the completion and use of the parallel runway (Submission 32, page 23).

Capacity - terminals

(a) international

3.35 Terminal capacity, expressed as the number of passenger processed is also an important ingredient of capacity. At SKSA the processing capacity at the international terminal is about 6.5 million passenger movements. The refurbishment of Pier B in 1989, the completion of Pier C in 1992, the addition of Pier A with five extra gates and additional remote parking positions before the year 2000 and an extension of Pier B will increase processing capacity to 10.4 million passenger movements a year (FAC, Submission 32, page 21).

(b) domestic

3.36 Significant investment in its passenger facilities provide Ansett with a strong incentive to meet any future long term capacity needs by adding on to those facilities at SKSA. Ansett adds that its domestic terminal lease contains considerable scope for terminal and apron expansion. Ansett is reviewing its strategic needs in this regard and the staging of the 2000 Olympics in Sydney has been included in this review.

3.37 Ansett's aircraft gates, including 19 at the terminal of which 12 have aerobridges, provide processing capacity for 5000 passengers an hour in either direction (Submission 17). Ansett said that increasing this to 27 gates will depend on the outcome of discussions with the airport owner and consequent variation of the lease.

3.38 The committee notes that the Access Economics calculations of capacity at the domestic terminals 'assumes that ... Ansett will have completed its eastern terminal concourse extension, increasing its total number of gate parking positions to 27' (Submission 32, attachment A, page 24). The committee also observes that if this increase is not achieved, then in terms of the Access analysis, SKSA will not have sufficient domestic terminal capacity to cope with forecast domestic passenger movements in the Olympic year.

3.39 Ansett also contended that the concept of annual capacity is limited. It said that:

> '(t)he concept of annual capacity is of limited use in this context. It depends on how long and over what period of days and weeks peak activity can be sustained. This is influenced by many things other then physical space and facilities, many of which are beyond an airline's control.'

3.40 Ansett added that if it could sustain maximum operating capacity throughout the *theoretical* annual capacity would range from 30 million to 60 million passengers a year (Submission 59).

3.41 The Qantas domestic terminal has 10 aircraft gates and handles about 4.2 million passenger movements a year. Qantas has a major project to redevelop its domestic terminal capacity at SKSA. The redevelopment will

take the current aircraft gate capacity from 10 to 18 in 1998. With 18 gates Qantas could handle about 7.5 million passengers a year (Submission 33, pages 2,3 and Submission 60).

3.42 In response to a request Qantas also provided information on increases to its domestic terminal capacity at SKSA. Qantas divided its response into three stages. In each of these three stages Qantas said it could add 3, 7 and 12 gates respectively and each stage would take 18 months to complete (Submission 60). The committee notes that this could increase the theoretical domestic terminal passenger carrying capacity of Qantas by an additional 9 million passenger movements a year.

Comparing forecasts of passenger movements with capacity

(a) international

3.43 Matching forecasts of passenger movements with terminal capacity and then cross checking the result with runway capacity and aircraft movements is the key part of the exercise in determining whether SKSA can cope with the 2000 Olympics.

3.44 The international sector does not appear to present many problems. The international terminal will have a capacity to process 10.4 million passenger movements a year by the year 2000 and this is more than sufficient to meet the range of forecast passenger movements given in Table 1 - 7.42 million (FAC) to 8.6 million (Access). Capacity is also sufficient to handle the adjusted IATA forecast of 8.9 million.

3.45 Because passenger movements are not spread evenly throughout the day the second way is to compare peak or busy hour forecast passenger movements with projected hourly terminal capacity. The current busy hour passenger processing capacity at SKSA is about 3400 and this compares with actual movements of 3280 passengers in 1992-93. The international sector is very close to capacity.

3.46 The FAC provided forecasts of busy hour demand based on its forecast of total passenger movements, using a growth rate of 4.47 per cent. The corporation explained that this growth rate is lower than that of annual passenger growth due to the ability to increase the number of hours operating at peak conditions during the day. The busy hour forecast for the

year 2000 was 4700 passenger movements. The FAC increased this by 16 per cent (the Access Economics forecast for international passenger movements was 16 per cent higher than that of the FAC) to produce a busy hour figure of 5450 passenger movements.

3.47 The conclusion is that capacity of the international terminal of 5800 is more than enough to handle the number of busy hour passenger movements of 5480. The committee notes that the figures yield a 94 per cent capacity usage.

3.48 The figures stand up to a cross check with runway capacity. Access has referred to the runway system handling 33 international aircraft movements in the peak hour. This is equivalent to 166 passengers an aircraft, well below the average passenger carrying capacity of 287, of inbound flights into Australia in 1992-93 (AVSTATS, International Scheduled Air Transport, 1992-93, Transport and Communications, Table 4, page 12 - seats available divided by number of flights).

3.49 Both major airlines indicated scope for carrying more passengers a flight by substitution of larger for smaller aircraft, and increasing the load factor. Qantas referred to aircraft substitution in general and specifically to substitution of larger for smaller aircraft on Asian routes (transcript pages 145-151). Ansett said it could increase the overall seat utilisation of its aircraft by at least 20 per cent (transcript page 156).

3.50 All this and the ability to utilise off-peak hours suggest strongly that the international sector can handle any surge in passenger movements caused by the Olympics, over and above that provided for in the forecasts. The analysis also suggests that lack of international terminal capacity rather than insufficient runway capacity could be the underlying reason for the inability to increase the capacity of the busy hour.

(b) domestic and regional

3.51 In matching forecast passenger movements with capacity the FAC compared the range of passenger movement forecasts with terminal capacity for the international sector and concluded that capacity is more than sufficient.

3.52 The same cannot be said for the domestic/regional sectors. Access Economics says that by the year 2000 the domestic terminals (Ansett plus Qantas) will have a combined capacity of 16 million passengers a year.

3.53 Comparison of terminal capacity and domestic passenger movement figures in table 2 give a capacity usage range from 91.9 per cent to 98.9 percent. The higher Access domestic/regional passenger movements figure is very close to terminal capacity. The Access conclusion is as follows:

> As regards the domestic terminal, and after subtracting about 1 million regional passenger movements, *annual* projected passenger movements also appear to be within the projected terminal capacity planned by Ansett and Qantas, although the margin of spare capacity (about 1% - 2%) apparently is small, unless a new domestic competitor(s) enters the market (Submission 32, attachment A, page 25).

3.54 The figures (15.82 million passenger movements and 16.0 million capacity) yield a capacity usage of 98.9 per cent. On the assumption of significant demand bunching into early morning and evening peaks, Access says 'the average hourly passenger movement generated from the monthly capacity ... must imply a significantly higher "busy hour" capacity as well'. A further implication drawn by the organisation is that 'there is significant unused terminal capacity for significant parts of each day' (attachment A, pages 26,27).

3.55 Ansett adds its weight to this view. Referring to SKSA it says that off-peak passenger movements of that airport is sometimes as low as half, or less, of the peak hour movement (transcript page 157). Given this and the capacity usage figure of 98.9 per cent, **the committee concludes that there is a prima facie case that domestic terminal capacity at SKSA will not be able to cope with busy hour domestic passenger movements in the Olympic year.**

3.56 The committee sought and obtained busy hour figures from Ansett and Qantas on their domestic operations. The figures provided showed a total of 2640 passenger movements during the busy hour. These figures were lower that FAC 1992-93 estimates for the international terminal. Domestic passenger movements are more than twice the

international movements at SKSA (see appendix 2) and the domestic terminals have significantly more capacity than the international terminal. For these reasons the committee decided not to use the Ansett and Qantas busy hour figures for projecting busy hour capacity in the Olympic year.

3.57 The FAC says that the 'busy hour' is a theoretical concept and should not be equated with the busiest hour. The starting point for calculating the busy hour is to obtain a 5 per cent figure of yearly throughput (total passenger movements).

3.58 Next, figures for the busiest hours, hour by hour, are added together until they equal the 5 per cent throughput figure. The next busiest hour below this 5 per cent total is designated as the busy hour and the number of passenger movements during this hour represents the busy hour figure used in FAC calculations.

3.59 The 5 per cent busy hour is recognised worldwide as being an appropriate measure of peak period demand and is used whenever facilities are designed for passenger or customer throughput (submission 58).

3.60 The conclusion at paragraph 3.55 does not necessarily mean that SKSA will be short of capacity. When asked to provide rough figures on future additions to terminal capacity Qantas gave information which showed that with adequate planning domestic terminal capacity could be increased to cope with increased demand - see paragraph 3.42.

Comparing forecasts of passenger movements with aircraft movements

3.61 The absence of domestic busy hour information precludes the cross checking against runway capacity and aircraft movements that the committee undertook for the international sector. However, the information provided allows the committee to check the projections of aircraft movements for the three sectors, international, domestic and regional combined.

3.62 There were large differences between the projections made by the FAC and the councils. The committee sees forecasts of aircraft movements as being essentially a derived figure, derived from the number of forecast passenger movements. The two should be consistent and it is this consistency that the committee will test in the following paragraphs.

3.63 For SKSA the FAC forecast was for aircraft movements to grow at an average annual growth rate of 2.4 per cent for the period 1992-93 to 2012-13. The corporation later increased its year 2000 forecast of 278750 movements by 16 per cent (the Access Economics forecast for international passenger movements was 16 per cent higher than that of the FAC) to produce an upper bound aircraft movements forecast of 323350 movements a year. The Access Economics figures were 280000 to 288000 aircraft movements a year in the year 2000.

3.64 The number of aircraft movements and the number of passenger movements per aircraft movement for the period 1984-85 to 1992-93 at SKSA is shown at Appendices 3 and 4 respectively. When the 1992-93 average of 77 passengers per aircraft movement (also used by the FAC in submission 58) is applied to forecast total passenger movements in the Olympic year (8.6 million + 15.82 million, tables 1 and 2) this produces a figure of just over 317000 aircraft movements in the Olympic year.

3.65 This figure is below the capacity figure of 353000 movements a year and also below the FAC and Access figures. The former figure would be reduced when increased load factor and substitution of larger for smaller aircraft are included in the calculations.

3.66 In short, the calculations of the committee, and that of the FAC, are consistent with forecasts of passenger movements.

3.67 Several sumbissions referred to congestion at SKSA, some claiming that congestion would continue even after the commissioning of the new parallel runway. Congestion can be alleviated to some extent by the abandonment of cluster scheduling and the introduction of hubbing.

3.68 It has been common practice to schedule departures and arrivals either concurrently or within a short interval. This practice of cluster scheduling normally results in delays to aircraft because the runway systems cannot accommodate multiple operations at the one time (House of Representatives *Debates*, answer to question on notice, 9 May 1994, page 511). The Civil Aviation Authority referred to peak periods where there could be up to 13 aircraft wanting to use the one runway at the same time (transcript page 209).

3.69 Ansett told the committee that cluster scheduling is not soemthing which Ansett would be responsible for in the future. The company has decided never to schedule Ansett departures or arrivals simultaneously with each other (trancript pages 182-3).

3.70 Newcastle airport can be developed as a regional hub or hub-buster. Hubbing, by bringing regional passengers to SKSA in larger aircraft or by overflying Sydney to destinations such as Melbourne or Brisbane, can reduce the pressures on SKSA. It would be most difficult at this stage to quantify the impact of hubbing on airport capacity at SKSA.

Comparing forecast passenger movements with other aspects of capacity

3.71 The committee raised with Ansett the apparent mismatch between terminal capacity of 5000 passengers an hour and baggage handling capacity of 2500 passengers an hour. The Ansett response was that all gates are not yet used by the largest aircraft they are capable of handling. The company assured the committee that increases in the capacity of check-in and other baggage handling facilities can be achieved readily over a relatively short period at a time when the need for additional facilities is more certain (Submission 56).

3.72 The final matter is the roads system in and out of SKSA. Qantas said that the current road system servicing SKSA is inadequate for today's level of traffic, not to mention future passenger growth (Submission 32, page 4). Both Ansett and Qantas were asked to respond to FAC information on the developments of road access to SKSA.

3.73 For different reasons both airlines consider that the roads systems present problems for the future (Submission 59 and 60). This is a matter that requires attention.

CHAPTER 4

CONCLUSIONS

Passenger facilitation and security at SKSA

4.1 There are other matters associated with the provision of aviation services and infrastructure for the 2000 Olympics. In their submissions the FAC and the Department of Transport described what was being done in respect passenger facilities and aviation safety.

4.2 The National Passenger Processing Committee (NPPC) was established as a forum to coordinate customs, immigration and quarantine clearance of passengers at Australia's international gateways. The FAC says that already the NPPC has been very effective in reducing delays at SKSA by co-ordinating the staffing levels of customs, immigration and quarantine agencies with scheduled peaks in arrivals and departures.

4.3 The NPPC will be examining whether there is a need to make any special arrangements to ensure the efficiency and timely facilitation of passengers associated with the Olympic games through customs, immigration and quarantine processes.

4.4 The Federal Government has the role of developing administering, oversighting and monitoring the implementation of prescribed minimum standards for the security of civil aviation within Australia. The Department of Transport says that the staging of the Olympics is expected to have a significant security impact for a number of reasons including the potential to attract terrorist activity because athletes are a visible symbol of national identity.

4.5 Protective security will be coordinated at the Commonwealth level through the Special Interdepartmental Committee on Protection Against Violence (SIDC-PAV). A sub-committee of SIDC-PAV has been established to coordinate the details of the Commonwealth's involvement in security for the Olympics.

4.6 Protective security and response arrangements to support the New South Wales Government and in particular the NSW police will be handled through the Standing Advisory Committee on Commonwealth/State Cooperation Against Violence. Coordination of these and other measures at the airport level will be the responsibility of the established Airport Security Committee.

4.7 It is early days for schemes on passenger facilitation and security for the 2000 Games and because of this little purpose would be served in evaluation their effectiveness.

Can SKSA cope with the 2000 Olympics?

4.8 The committee concludes that the combined capacity of SKSA and Sydney West airport is sufficient to meet underlying demand growth including growth in international and domestic passenger movements generated by the Sydney Olympics. However, if the construction of Sydney West airport does not proceed according to schedule there is a problem because the committee has concluded that there is a prima facie case that domestic terminal capacity at SKSA will not be able to cope with busy hour passenger movements in the Olympic year.

4.9 The worst case scenario that emerges is when the construction of Sydney West airport is behind schedule in the late 1990's and there is insufficient time to increase domestic terminal capacity at SKSA for the 2000 Games.

4.10 The committee has devised two strategies to avoid the worst case. First, it will ask the Government to set target dates for the completion of various stages of Sydney West airport and to publish this information.

Recommendation 1

The committee recommends that the Government set target dates for the completion of various stages of Sydney West airport, including the year in which the airport would be opened, and that the Government publish this information.

4.11 The second strategy includes the comparison of forecasts of passenger movements with actual figures. This would tell decision makers what reliance they can place on the different forecasts. Fresh forecasts will be required about the middle of calendar year 1998. These forecasts should help determine the need for additional domestic terminal capacity at SKSA around the Olympic year 2000.

Recommendation 2

The committee recommends that about June 1998 a study be commissioned to examine the capacity of Sydney Kingsford Smith airport to cope with forecast passenger movements for the year 2000 and beyond.

4.12 Finally, there is a quesiton of the adequacy of the road system in and out of SKSA. Both Ansett and Qantas have raised the matter and both are not satisfied with current proposals for development.

Recommendation 3

The committee recommends that a joint Commonwealth/State study be undertaken on the adequacy of existing and proposed roads infrastructure at Sydney Kingsford Smith airport upto the year 2000.

Further inquiries

4.13 The terms of reference ask the committee to give priority, where appropriate, to facilities that need a long lead time to be established. The committee considers that it would be more appropriate for the Minister for Transport or the Minister for Communications to refer relevant 2000 Olympics projects to the committee. The committee chairman will drawn the attention of the ministers to this paragraph of the committee report.

PETER MORRIS MHR
Chairman

16 November 1994

Appendix 1

CONDUCT OF THE INQUIRY, WITNESSES AND EVIDENCE

The Inquiry

1. The reference was received from the then Minister for Transport and Communications on 19 November 1993 and advertised in the Sydney Morning Herald and Daily Telegraph Mirror on Saturday 4 December 1993. The advertisement said that the committee would commence its inquiry by examining the adequacy of existing and planned aviation services and infrastructure.

2. The advertisement called for submissions by 28 February 1994. Late submissions were accepted and because some major submissions were received in April or after it was not possible for the public hearings to commence earlier.

Witnesses

3. The following witnesses, arranged alphabetically according to organisation, appeared before the sub-committee at 5 public hearings:

ORGANISATION/ PERSONS	DATEVENUE
Ansett Australia Ltd	
Mr James Victor Kimpton Manager Aviation Policy	4 May 1994Canberra
Ms Genine Louise Vurtheim Wallinga Deputy Manager Aviation Policy	4 May 1994Canberra
Mr John Richard Langford Deputy Manager Aviation Policy	4 May 1994Canberra

ORGANISATION/ PERSONS	DATE	VENUE
Civil Aviation Authority		
Mr Buck Brooksbank General Manager Air Traffic Services Division	1 June 1994	Canberra
Mr John Capelletti Assistant General Manager Air Traffic Services Division Sydney District Office	1 June 1994	Canberra
Mr Graham Beer Manager Financial Strategy Finance and Administrative Division	1 June 1994	Canberra
Department of Transport		
Ms Anne Buttsworth Principal Adviser Aviation Division	8 June 1994	Canberra
Mr Neville Potter Assistant Secretary Rail Branch	8 June 1994	Canberra
Mr John Henchy Director Aviation Statistics Section Aviation Division	8 June 1994	Canberra
Mr John Kerr Assistant Secretary *International Relations Branch* Aviation Division	8 June 1994	Canberra

ORGANISATION/ PERSONS	DATEVENUE	
Mr Barry McAdie Director Special Projects Aviation Division	8 June 1994	Canberra
Mr Ted Milczarek Director Infrastructure Planning Section Aviation Division	8 June 1994	Canberra
Mr David Southgate Acting Director Environment Section Aviation Section	8 June 1994	Canberra
Mr Ray Turner Assistant Secretary Aviation Security Branch Aviation Division	8 June 1994	Canberra
Federal Airports Corporation		
Mr William Anthony Swingler Managing Director	7 April 1994	Parramatta
Mr Peter George Snelling Operations and Regional Airports	7 April 1994	Parramatta
Mr Sandy White Airport General Manager Badgerys Creek	7 April 1994	Parramatta
Mr Ivo Favotto Manager Corporate Strategy	7 April 1994	Parramatta

ORGANISATION/ PERSONS	DATE	VENUE
Mr Geoffrey Francis Carmody Director Access Economics	7 April 1994	Parramatta
The Glebe Society Incorporated		
Mrs Alison Olivia McKeown Convenor Aircraft and Glebe sub-committee	7 April 1994	Parramatta
Ms Jeanette Knox Convenor Traffic sub-committee	7 April 1994	Parramatta
Hazelton Airlines		
Mr Noel Valentine Bleakley Business Development Manager	7 April 1994	Parramatta
Liverpool City Council		
Mr Russell Winlaw Manager Strategic Planning	7 April 1994	Parramatta
Marrackville Council		
Mr Barry Noel Cotter Deputy Mayor	8 April 1994	Parramatta
Mr Peter John Arnett Manager Planning Services	8 April 1994	Parramatta

ORGANISATION/ PERSONS	DATE	VENUE
Newcastle Airport Ltd		
Mr Richard John Bomball Chairman	8 April 1994	Parramatta
Mr Arthur Dennis Chant Manager	8 April 1994	Parramatta
Penrith City Council		
Councillor Anthony Aquilina Councillor and Chairman of Economic Development and Employment	8 April 1994	Parramatta
Qantas Airways Ltd		
Mr John Anthony Richards Manager Strategic Planning - Airports	8 April 1994	Parramatta
Mr Brian Edward Kirkham Manager Inbound Tourism	8 April 1994	Parramatta
Mr Ian Graeme Robinson Sydney Airport Director	8 April 1994	Parramatta
Second Sydney Airport Coalition		
Mr John Bushell Research Officer	8 April 1994	Parramatta
Tourism Task Force		
Mr Shawn Edward Levin Convenor Olympic Infrastructure Working Group	8 April 1994	Parramatta

4. In addition the sub-committee inspected the Homebush Bay complex on 7 April 1994 and received an informal briefing from officers from departments and authorities of the New South Wales government.

Evidence

5. The evidence consists mostly of written submissions made to the committee, oral evidence taken at public hearings and documents received in the course of the inquiry. The written submissions which have been authorised for publication along with the oral evidence taken at public hearings will be bound and copies sent to the National Library and Parliamentary Library. A set will be retained in the committee office.

6. The submissions authorised for publication are as follows:

NUMBER	ORGANISATION/PERSON
1	Citizens Revolt Against Sound Harassment (CRASH)
2	Dubbo City Council
3	Mr S West
4	Hazelton Air Services Pty Ltd
5	Manly Council
6	Mr T Quinn
7	The Council of Casino
8	Sydney Helicopter Service
9	Resident's Against Heliport
10	Mr/Ms E Bryne
11	The Glebe Society Inc

NUMBER	ORGANISATION/PERSON
12	Northside Residents Against Helicopter Noise - J C Kassler, Member
13	Northside Residents Against Helicopter Noise
14	Blue Mountains Commuter and Transport Users Association
15	Heli-Consultants Pty Ltd
16	Newcastle Airport Limited
17	Ansett Australia
18	Central Coast Regional Development Corporation
19	Liverpool Council
20	Australian Tourist Commission
21	Professor Philip Laird
22	Second Sydney Airport Coalition
23	Jeannette McHugh MP
24	Penrith City Council
25	McCafferty's
26	Mr Kirk Bendall
27	Mr D J Blackwood
28	ACPA Australian Car-Pooling Agency

NUMBER	ORGANISATION/PERSON
29	OTAMA Sands
30	Marrickville Council
31	The Tourism Task Force
32	Federal Airport Corporation
33	Qantas
34	Parkes Shire Council
35	Hume Shire Council
36	Barraba Shire Council
37	Bathurst City Council
38	Liverpool City Council
39	Second Sydney Airport Coalition
40	City of Broken Hill
41	City of Albury
42	Australian Tourism Industry Association
43	Shire of Murray
44	Murrumbidgee Shire Council
45	The City of Orange
46	Bathurst City Council
47	Civil Aviation Authority

NUMBER	ORGANISATION/PERSON
48	Department of Transport
49	Western Sydney Regional Organisation of Councils
50	Jeannette McHugh MP
51	Tamworth City Council
52	Department of Transport
53	Healthy Cities Illawarra
54	Warren Shire Council
55	Penrith City Council
56	Ansett Australia
57	Civil Aviation Authority
58	Federal Airports Corporation
59	Ansett Australia
60	Qantas
61	Federal Airports Corporation

7. The following exhibits were received and included in the records of the committee:

EXHIBIT NO	DESCRIPTION
1.	Sydney 2000 Olympics - the bid document
2.	Sydney Olympic Games 2000 - SOCOG progress report, February 1994

EXHIBIT NO	DESCRIPTION
3.	SOCOG FACT SHEETS
4.	SOCOG Act - 1993 No. 67
5.	Tables on Estimates of risk to a person on the ground through aircraft crash and recommended individual fatality risk criteria for various land uses (Marrickville Council)
6.	The following documents enclosed with the 7 June submission from the Penrith City Council: 1. Civil Aviation Authority "Sydney Air Traffic Movements" 2. E.I.S Second Airport Selection "Forecast Annual Passenger Movements" 3. Australian Tourism Commission "Tourism Market Potential Targets 1993-2003" 4. Department of Transport and Communication "Air Transport Statistics - International Scheduled Air Transport 1992-1993" 5. D.O.T.C. "Avstats Occasional Paper "Changing Patterns in the Domestic Aviation Industry" 6. D.O.T.C. Avstats Occasional Paper "Compilation of Aviation and Tourism Forecasts"

EXHIBIT NO		DESCRIPTION
6(con't)	7.	I.A.T.A. - Asia Pacific "Air Traffic Growth and Constraints"
	8.	I.A.T.A. - Asia-Pacific "Aircraft Movement Forecasts - The Outlook at Key Airports and on Key Air Routes 1985 - 2020 Extracts"
	9.	Kinhill "Proposed Third Runway - Draft Environmental Impact Statement"
	10.	WSROC and Chamber of Manufacturers - Confidential letter to Senator B Collins*
	11.	Penrith City Council "Rural Development - Advice and Guidelines for Applications"
	12.	Penrith City Council - Map of Region
	13.	Statistics on Outer Western Sydney and Penrith
	14.	2WS - Air Travel Survey
	15.	Penrith Profile

* Treated as a confidential exhibit

Appendix 2

SYDNEY KINGSFORD SMITH AIRPORT

- Passenger Movements - (1984-85 to 1992-93)

Year	International	Domestic	Regional	Total
1984-85	2 661 646	5 900 743	288 320	8 850 709
1985-86	2 896 425	6 326 749	276 695	9 499 869
1986-87	3 260 543	6 660 129	266 029	10 186 701
1987-88	3 853 992	7 374 065	266 837	11 494 894
1988-89	4 135 019	7 541 281	357 386	12 033 686
1989-90	4 135 303	5 497 040	472 420	10 104 763
1990-91	4 146 269	7 638 310	580 191	12 364 770
1991-92	4 424 193	10 003 034	650 472	15 077 699
1992-93	4 647 515	10 042 329	779 500	15 469 344

Source: AVSTATS, Department of Transport, Table 85, Scheduled Regular Transport Airport Traffic Data 1982/83-1992/93.

The committee has been advised that in case of any disagreements between published statistics, Table 85 should be used. That table incorporates all previously revised data for the international, domestic and regional airline sectors.

Appendix 3

SYDNEY KINGSFORD SMITH AIRPORT

- Aircraft Movements -
(1984-85 to 1992-93)

Year	International	Domestic	Regional	Total
1984-85	20 077	76 714	34 656	131 447
1985-86	20 917	83 895	33 086	137 898
1986-87	23 344	87 425	33 392	144 161
1987-88	26 284	92 750	33 938	152 972
1988-89	29 816	92 132	41 798	163 746
1989-90	32 101	58 941	48 568	139 610
1990-91	32 069	85 312	48 592	165 973
1991-92	33 145	100 666	49 304	183 115
1992-93	36 144	107 150	57 500	200 794

Source: AVSTATS, Department of Transport, various publications.

Appendix 4

SYDNEY KINGSFORD SMITH AIRPORT

- Number of passenger movements per *aircraft movement* -
(1984-85 to 1992-93)

Year	Total passenger movements	Total aircraft movements	Average
1984-85	8 850 709	131 447	67
1985-86	9 499 869	137 898	69
1986-87	10 186 701	144 161	71
1987-88	11 494 894	152 972	75
1988-89	12 033 686	163 746	73
1989-90	10 104 763	139 610	72
1990-91	12 364 770	165 973	74
1991-92	15 077 699	183 115	82
1992-93	15 469 344	200 794	77

Source: Derived from appendices 2 and 3.