1979

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

# REPORT

relating to the proposed

# REDEVELOPMENT OF BRISBANE INTERNATIONAL AIRPORT - INITIAL WORKS OF PHASE 1

Queensland

(Tenth Report of 1979)

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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

# REDEVELOPMENT OF BRISBANE INTERNATIONAL AIRPORT - INITIAL WORKS OF PHASE 1

## R E P O R T

By resolution on 29 August 1979, the House of Representatives referred to the Parliamentary Standing Committee on Public Works for investigation and report to the Parliament the proposed redevelopment of Brisbane International Airport - Initial Works of Phase 1.

The Committee has the honour to report as follows:

### THE REFERENCE

1. The proposal referred to the Committee is for the construction of the initial works associated with the proposed redevelopment of Brisbane Airport to the north-east of the existing airport and comprises:

- reclamation of the site with sand filling dredged from Moreton Bay to accommodate the proposed new runway, taxiways, apron, building areas and roadways;
- the construction of a floodway channel to divert the flood waters presently discharging across the site;
- construction of a 3500 metre runway and associated taxiway system; and
- other associated engineering preparatory works.

2. The estimated cost of the proposal when referred to the Committee was $98 million at July 1979 prices.

## THE COMMITTEE'S INVESTIGATION

3. The Committee received written submissions and drawings from the Department of Transport and the Department of Housing and Construction and took evidence from their representatives at public hearings in Brisbane on 16, 17, 18 and 30, 31 October 1979, and in Canberra on 23 October 1979. The Committee also received submissions and took evidence from representatives of the Queensland Government, Brisbane City Council, the Australian Federation of Air Pilots, Trans Australia Airlines and Ansett Airlines of Australia. Senator D.J. MacGibbon, the Honourable K.M. Cairns, MHR, Mr. D.M. Cameron, MHR, Mr. D.F. Jull, MHR, Mr. K.H. Vaughan, MLA, Mr. T.J. Burns, MLA (supported by Mr. J.W. Houston, MLA, Mr. T.M. Mackenroth, MLA, Mr. E.F. Shaw, MLA), the Honourable Sir William Knox, MLA, and Mr. T.J. Gygar, MLA, provided written submissions and gave evidence. At the Committee's request, Qantas Airways Limited provided a written submission and evidence was taken from its representatives.

4. The Committee also received written submissions and took evidence from representatives of the Civil Air Operations Officers' Association of Australia, the General Aviation Association, Nudgee Golf Club, Australian Littoral Society and the Keep Sandgate Beautiful Association.

5. Prior to the hearing, the Committee visited the Queensland University to examine a working hydraulic model of the proposed floodway channel scheme and then inspected the existing facilities of the Brisbane Airport and the site for the proposed redevelopment.

6. The Committee's proceedings will be printed as Minutes of Evidence.

## BACKGROUND

7. During World War II, the old aerodrome site at Eagle Farm was developed to serve as a terminal for trans Pacific military air services. Military requirements and the relatively small volume of traffic involved, determined the location of the aircraft aprons and hangars close to the Pinkenba railway line.

8. Eagle Farm was commissioned as Brisbane's regular public transport airport in 1948 and the existing buildings were converted to terminals and other uses. The wartime runways were utilised until 1958 when the present main runway was commissioned in a location close to one of the original runways.

9. 1970/71 Review During 1969, it became evident that the then current master plan for Brisbane Airport would not meet the forecast needs for civil aviation. As a consequence, a joint committee, the Brisbane Airport Advisory Committee, consisting of representatives of the Commonwealth Government, the State of Queensland and the Brisbane City Council was formed in February 1971.

10. The Advisory Committee's terms of reference were to revise and update the requirements of Brisbane Airport, to ensure that the airport continued to operate without causing undue noise nuisance in existing urban areas, and to ensure that the development of other than existing urban areas remained compatible with aircraft operations.

11. In January 1972, the Advisory Committee presented a report entitled "Advisory Committee Report on the 1970/71 Review of Primary Airport Facilities to Serve the Future Needs of Brisbane".

12. The Advisory Committee's recommendations may be summarised as follows:

(a) That the adoption of a concept, known as Concept Q, which envisaged an airport that would be developed astride the northern boundary and to the north-east of the existing airport, should be the basis of a master plan for Brisbane Airport.

(b) That urgent action be taken to develop the aircraft movement area and building area master plans in detail.

(c) Investigations be made into the requirements for land acquisition and the availability of sand (for site filling) in Moreton Bay.

(d) That the first stage of aerodrome construction works, together with associated road access and engineering services should be undertaken in the order of:

(i) a new east side runway;

(ii) facilities for Health, Customs and Immigration activities, passenger accommodation, aircraft and car parking in the new building area;

(iii) the balance of the terminal area facilities;

(iv) cross runway.

(e) That appropriate rezoning be carried out to ensure compatibility of airport operations with land use adjacent to the airport.

13. Concept Q (see plan D) would enable the provision of airport facilities and infrastructure (associated buildings, drainage and roads access works) which:

- provided high ultimate capacity including widely spaced parallel runways which would cater for the regular public transport needs of greater Brisbane beyond the turn of the century;
- was compatible with planning envisaged for the Brisbane Metropolitan area and nearby seaport development;
- would greatly reduce aircraft noise to the City and the closely settled residential area;
- would ease the current height limitations on the central City and Spring Hill areas;
- would enable the removal of the curfew currently applying to the existing airport; and
- could be integrated with existing airport facilities during its development.

14. In February 1972, the Advisory Committee's recommendations were accepted in a joint statement by the then Prime Minister and the Premier of Queensland, and land acquisition commenced in May 1973.

15. 1973 Coombs' Task Force Report In June 1973, the Coombs' Task Force in their report, "Review of the Continuing Expenditure Policies of the Previous Government" (Parliamentary Paper No. 143/1973) reviewed the major expenditure proposed for Brisbane Airport.

16. The report questioned the validity of the traffic forecasts on which the arguments for development were based and suggested that the growth of passenger traffic, and hence aircraft movements, would be slower if more appropriate pricing policies, extending to cost recovery from general aviation users, were followed.

17. The report anticipated that the growth rate in aircraft movements would be substantially reduced with the introduction of wide-body jets in the late 1970s, and finally, that the number of aircraft movements at Brisbane Airport could be reduced by transferring general aviation operations to other airfields.

18. The report recommended four alternative possibilities which were:

- defer the project for a specified period;
- decide upon the timing of the project after a report from the then Government's Urban and Regional Committee;
- carry out the necessary minimum of site preparation while prolonging as far as possible the use of the existing facilities (e.g. by transferring general aviation operations elsewhere); and
- commission a detailed cost/benefit analysis of the project.

19. The Government decided that major redevelopment should be deferred pending full economic evaluation.

20. 1975 Bureau of Transport Economics (BTE) Report In September 1973, the BTE commenced an economic evaluation of airport requirements in the general Moreton Region. An interim report confined to a consideration of the most appropriate site for a new international terminal for Brisbane was issued in

March 1974. This report concluded that the most desirable course of action was to construct a new terminal near the north-east end of the present runway.

21. The construction of the international terminal, which was exempted from investigation by the Public Works Committee on the grounds of urgency, commenced on the recommended site in July 1974 and was completed in December 1975.

22. The BTE report on the full study, "Brisbane Airport: Economic Evaluation of Alternative Development Strategies" (Parliamentary Paper No. 100/1976) published in July 1975, considered a number of alternative development strategies,but in the final analysis compared the development of new facilities (Concept Q from the 1971 Advisory Report) and redevelopment based on the existing runway complex. It concluded "that on economic considerations the development of Brisbane Airport should be based on the existing runway complex", and the selection of this alternative was based upon the following principal considerations:

- the movement forecasts suggest that the existing runway complex will provide adequate capacity until about 2010 (subject to a policy decision to restrict general aviation aircraft movements after 1995);
- there would be a discounted cost difference (at 1974 prices) of $18 million (10% discount rate) and $15 million (7% discount rate) in favour of full redevelopment around the existing runway system;
- the retention of the existing runways allows development options to remain open should the demand for air travel, aircraft technology, or operational techniques vary from the study's assumptions;
- from the national viewpoint, there is no resource cost associated with the restrictions placed on building heights in central Brisbane; and

- the likely upper boundary of discounted cost for noise disamenity is $2 million (at 1974 prices).

23. The least-cost alternative for the airport development proposed by the BTE included:

- the construction of one new terminal complex on the north-east side of the existing main runway;
- the extension of the parallel taxiway system on the north-east side of the existing main runway;
- the development of airline maintenance facilities at the north-west side of the existing main runway;
- the expansion of the 1976 international terminal (by mid-1980) followed by the construction of an international terminal and apron (by early 1985);
- other works including the enlargement of aprons, car parks, and construction of ground facilities and access roads.

24. The indicative cost of the works, which were due for completion in mid-1995, was $127 million at March 1974 prices.

25. Department of Transport Re-evaluation As a result of a re-evaluation of the proposal by the Department of Transport, which was carried out subsequent to the release of the BTE report, using updated forecasts and dollar estimates on some items previously unquantified (e.g. noise disamenity, operating penalties relating to limited airspace, building height limitations and passenger time delays due to runway congestion), the Department determined that there existed a $4 million cost difference at 7% discount rate in favour of building a new airport and a $3 million cost difference at 10% discount rate in favour of full redevelopment of the existing airport.

26. All costs were in 1974 dollar values, the same basis as the BTE study, and the re-evaluation covered the same 30-year period as the BTE analysis. The re-evaluation concluded that the costs associated with all the factors referred to above would favour construction of the new airport.

27. Government approval to proceed with the preparation of the proposal was granted in June 1978.

## THE NEED

28. Airline Traffic Forecasts Airline traffic for Brisbane Airport ranks third among airports in Australia and the forecasts for future traffic indicate continuing growth in all types of traffic. The figures for domestic and international airline passenger traffic for capital city airports for the twelve months ending December 1978 are:

Capital City Passenger Movements - 1978

| | Domestic | International | Total |
|---|---|---|---|
| Sydney | 5 399 722 | 1 919 631 | 7 319 353 |
| Melbourne | 4 628 254 | 739 271 | 5 367 525 |
| Brisbane | 2 250 540 | 272 188 | 2 522 728 |
| Adelaide | 1 757 635 | - | 1 757 635 |
| Perth | 812 436 | 225 341 | 1 037 777 |
| Canberra | 961 963 | - | 961 963 |
| Hobart | 447 790 | - | 447 790 |
| Darwin | 234 268 | 22 099 | 256 367 |

Note: A passenger movement is an originating or terminating passenger.

Statistics on Regulation 203 (commuter) movements are not available. Commuter traffic is considered later.

29. *International Traffic* Brisbane international passenger movements have increased from 4562 in 1960 to 272 188 in 1978 indicating an average annual growth rate of 25.5%. Over

the period 1974 to 1978, the growth rate was 19.4%. It has been forecast by the Department of Transport that international passenger movements will continue to increase but at lessening rates of growth, i.e. 9% per annum on 1977 levels to 1985 and 5% thereafter.

30. International aircraft movements have increased from 260 in 1960 to 3140 in 1978 representing an average annual growth rate of 14.8%. Aircraft movement forecasts were derived by the Department of Transport from passenger movement forecasts after assuming 4% growth rates on 1977 average passenger-per-aircraft-figures.

31. International freight has also experienced a sharp increase having risen from 13 tonnes in 1960 to 4152 tonnes in 1978.

32. Listed below are the forecast figures for the period 1980-2000 for international passengers and aircraft movements provided to the Committee by the Department of Transport.

Forecast International Airline Movements

| Year | Passengers | Aircraft |
|---|---|---|
| 1980 | 316 000 | 3510 |
| 1985 | 500 000 | 4540 |
| 1990 | 638 000 | 4800 |
| 1995 | 814 000 | 5030 |
| 2000 | 1 039 000 | 5280 |

33. In evidence to the Committee, Qantas stated that it agreed with the Department of Transport forecasts for international passenger movements for the period 1980 to 2000. However, Qantas believes that the forecast of international aircraft movements may be overstated because of the following factors:

- the introduction of cheaper international air fares operating on a point-to-point basis will increase the average number of passengers per aircraft movement at a faster level than projected by the Department of Transport;

- with an increase in passenger numbers, airlines will tend to operate more direct routings whenever they become more economically viable;

- to operate services with multiple stops in Australia is expensive and each additional call at Brisbane would increase current operating costs for Qantas between $6000 and $8500 per call.

34. The relativity of aircraft movements in relation to capacity, shows in 1976/77 that Qantas operated 1752 movements with mostly B707 aircraft, whereas in 1979/80 Qantas is expected to operate only 1192 movements with B747 aircraft, despite a 10% increase in passenger movements.

35. *Domestic Traffic* Domestic passenger movements at Brisbane have increased from 526 217 in 1960 to 2 250 540 in 1978 representing an average annual growth rate of 8.4%. Domestic airline aircraft movements increased from 18 721 in 1960 to 35 304 in 1978 indicating an average annual growth rate of 3.6%.

36. Listed below are the forecast figures for the period 1980 to 2000 for domestic passenger and aircraft movements provided by the Department of Transport.

Forecast Domestic Airline Movements

| Year | Passengers | Aircraft |
|---|---|---|
| 1980 | 2 890 000 | 36 000 |
| 1985 | 4 335 000 | 39 000 |
| 1990 | 5 533 000 | 45 000 |
| 1995 | 7 063 000 | 52 000 |
| 2000 | 9 012 000 | 56 000 |

Note: - The Department of Transport forecasts for domestic passenger movements up to 1985 were obtained by extrapolation of passenger data for the period 1970-1978. Forecasts for later years assume a growth rate of 5% per annum from 1985 onwards reflecting the assumed approach of market maturity.

- It has been presumed that the next replacement aircraft for the domestic airlines will be wide-body jets with approximately 230 seats. If smaller aircraft with 185 seats are chosen instead, the forecasts for domestic aircraft movements will be understated by approximately 5% for 1985 and 25% for 1990. The 1995 figures may be only understated by approximately 10% due to the possible introduction of second generation wide-body aircraft with 280 seats.

37. Domestic freight has increased from 9355 tonnes in 1960 to 27 656 tonnes in 1978 at an annual average growth rate of 6.2% per annum. It is expected that freight will continue to increase but at a slightly lesser rate of growth.

38. *Forecasts by Domestic Airlines* In submissions to the Committee, both AAA and TAA produced forecasts of domestic passenger movements which differ significantly from those provided by the Department of Transport. The table below compares the forecasts provided to the Committee by the Department of Transport, AAA and TAA and those used by the BTE.

Domestic Passenger Movements
(millions)

| | BTE[1] | DOT[2] | AAA[2] | TAA[2] |
|---|---|---|---|---|
| 1980 | 3.468 | 2.890 | 2.5 | 2.382 |
| 1985 | 5.082 | 4.335 | 3.3 | 3.040 |
| 1990 | 7.085 | 5.533 | 4.2 | 3.880 |
| 1995 | - | 7.063 | 5.4* | 4.952 |
| 2000 | 13.625 | 9.012 | 6.9* | 6.320 |

* extrapolated.

1. BTE Report - Economic Evaluation of Brisbane Airport.
2. Evidence to Public Works Committee.

39. Both domestic airlines agree that the growth rate of 8.45% per annum assumed by the Department of Transport between 1980 to 1985 is far too high - TAA assumes a growth rate of 5% per annum for that period.

40. TAA believes that the Department of Transport's figure of 2.890 million passenger movements in 1980 gives too high a base on which to work for the remaining years. In its submission, TAA stated that the actual growth rate between 1979 and 1980 is likely to be approximately 2% which it believes is mainly due to an increasing number of Sydney/Queensland Coast flights over-flying Brisbane. In 1978, this traffic which now by-passes Brisbane, amounted to about 2% of domestic passenger movements at Brisbane.

41. Based on the provisional figure of 2.276 million passenger movements for the year ending 30 June 1979, a growth rate of over 20% would be required to achieve the Department of Transport base figure of 2.890 million in 1980.

42. In its submission, AAA stated that the forecasts prepared by the Department of Transport in support of the proposal indicate a substantially lower level of future demand than was considered by the BTE when it concluded that the construction of the new airport should be delayed for as long as possible.

43. The Department of Transport in evidence stated that it accepted that the forecasts presented in its submission may not be realised but it had no reason to believe that the forecasts are biased in either direction. The Committee has some doubts on the soundness of the forecasts of the Department which seem to be mainly based on extrapolation of past statistics.

44. *Commuter Traffic* The average annual growth rate for aircraft movements in the commuter sector has been 27.5% ranging from 828 movements in 1968 to 9425 in 1978.

45. The increase in passenger movements from 2116 in 1968 to 49 500 in 1978 represents an annual average growth rate of about 37%. This sector is forecast to continue to increase but at the reduced rate of 16% per annum until 1985, and 7% per annum thereafter.

46. The table on the following page lists the Department of Transport figures for commuter passengers, and aircraft movements.

| Year | Passengers | Aircraft |
|---|---|---|
| 1980 | 67 000 | 10 840 |
| 1985 | 141 000 | 16 220 |
| 1990 | 198 000 | 19 020 |
| 1995 | 278 000 | 22 390 |
| 2000 | 389 000 | 25 950 |

47. Freight in the commuter sector has also shown a considerable increase ranging from 29 tonnes in 1968 to 159 tonnes in 1978 indicating an average annual growth rate of 18.6%. Together with passenger and aircraft movement forecasts, freight is expected to increase but at a lesser rate.

48. *Other Aviation* This heading covers all aircraft movements other than regular public transport operations by airlines and commuter operations and includes military, light and heavy general aviation aircraft and all non-scheduled aircraft movements.

49. Recent aircraft movements, 1972 to 1978, in this sector have increased from 16 029 to 32 797 representing an annual average growth rate over the period of about 13%.

50. The table below lists the Department of Transport forecast figures for all other aircraft movements.

| Year | Movements |
|---|---|
| 1980 | 39 900 |
| 1985 | 57 150 |
| 1990 | 73 350 |
| 1995 | 94 300 |
| 2000 | 121 600 |

51. *Total Traffic* There exist significant variations between the forecasts provided by the Department of Transport and the airline operators for domestic passenger movements.

52. All forecasts, however, indicate a substantially lower level of future demand than was considered by the BTE when it concluded that construction of the new airport should be delayed for as long as possible.

53. It is apparent, notwithstanding the forecasting variations referred to above, that the major area of aircraft movement growth, in absolute and relative terms, is in the other aviation sector, which is discussed in detail at paragraphs 57 - 62.

54. Existing Runways The main 04/22 runway runs north-east and south-west, is 2365 metres long and is capable of handling commercial aircraft up to B747 size. However, runway length imposes payload penalties on long range flights, e.g. with its current variant of the B747, Qantas cannot achieve full passenger and cargo payloads to Singapore, Hong Kong, Kuala Lumpur, Honolulu or Tokyo. Because of the nature of the terrain and other obstructions, it has not been possible to provide an instrument landing system (ILS) at the 04 end of the main runway. Whilst modern planning practice aims at providing an instrument landing capability to all runway ends, no evidence was presented to the Committee to indicate that traffic at Brisbane has been affected by this shortcoming. An ILS capability is proposed for both ends of the 02/20 runway. The secondary 13/31 runway runs north-west and south-east, is 1530 metres long and is capable of handling aircraft up to F27 (Fokker Friendship) size.

55. Runway Capacity The practical capacity of the main 04/22 runway is assessed by the Department of Transport to be approximately 155 000 aircraft movements per annum. The main and secondary 13/31 runway configuration increases this capacity to approximately 165 000 aircraft movements per annum. The increase in capacity is only small because of the aircraft limitations imposed by the secondary runway e.g. F27 type aircraft and below.

56. In evidence to the Committee, the Department of Transport made it clear that there is not a problem with runway capacity at Brisbane Airport at this time. Capacity exists on the existing runways to cater for the numbers of aircraft movements being experienced.

57. The table below shows the Department of Transport projected aircraft movements for the period 1980-2000.

Forecast Aircraft Movements

| Year | International | Domestic | Commuter | Other Aviation | Total |
|---|---|---|---|---|---|
| 1980 | 3510 | 36 000 | 10 840 | 39 900 | 90 250 |
| 1985 | 4540 | 39 000 | 16 220 | 57 150 | 116 910 |
| 1990 | 4800 | 45 000 | 19 030 | 73 350 | 142 180 |
| 1995 | 5030 | 52 000 | 22 390 | 94 300 | 173 720 |
| 2000 | 5280 | 56 000 | 25 950 | 121 600 | 208 830 |

58. The Committee was informed that of the aircraft in the other aviation category, the percentage of heavy aircraft (i.e. greater than 5700 kg all up weight) would vary from 15% in 1980 to 21.5% in 2000. If aircraft movements are considered solely in terms of heavy aircraft only, the number of forecast aircraft movements for the year 2000 is shown below.

| International | Domestic | Commuter | Other Aviation (heavy aircraft only) | Total |
|---|---|---|---|---|
| 5280 | 56 000 | 25 950 | 26 144 | 113 374 |

59. It is quite clear that the existing 04/22 and 13/31 runways at Brisbane, with a combined capacity of 165 000 aircraft movements per annum could cater for the heavy aircraft component of the forecast traffic to the year 2000. It is also clear that the existing runways have the capacity to cater for forecast aircraft movements until at least 1990 and possibly longer.

60. The Committee notes that other aviation movements (excluding heavy aircraft) make up 37.58% of total movements in 1980 and 45.71% of total movements in 2000.

61. Other aviation movements (excluding heavy aircraft) are clearly an important factor in any consideration of runway capacity at Brisbane, particularly as the aircraft movement capacity of the proposed 02/20 main runway is approximately 155 000 movements per annum.

62. *Committee's Conclusion* Based on the range of forecasts for aircraft movements until the 1990s, which is well within the capacity of the existing main runway, the Committee considers that a need has not been established for the immediate development of the proposed 02/20 runway.

63. Curfews A curfew on jet aircraft operations between 11.00 p.m. and 6.00 a.m. is currently in force because of the noise pollution experienced in the adjacent urban areas. Emergency situations and mercy flights are excluded from the curfew.

64. The Department of Transport stated in evidence that the following possible benefits would occur with the removal of curfew conditions:

- improved ability to recover from inevitable disruptions to airline services and to cater for any increased demand during holiday peak traffic periods;
- improved convenience to passengers from schedules not constrained by the curfew;
- increased opportunity for commercial initiatives such as through off-peak schedules or late charters;
- improved ability to schedule international services;
- greater utilisation of the domestic jet fleets and the possibility of reducing costs and charges; and
- improved utilisation of the investment in the airport.

65. The airline operators, Trans Australia Airlines (TAA), Ansett Airlines of Australia (AAA) and Qantas, agreed that a curfew-free airport in Brisbane would have operational advantages and TAA's statement that "as a policy, the airlines would like to see all airports curfew-free, but it depends at what cost it is to be achieved" best summarises the operators' position.

66. The domestic operational advantages which would be gained from an airport free of jet curfew restrictions were stated to be:

- the carriage of freight (about 14% for TAA and a similar amount for AAA) could be consigned in jet aircraft, which are more economical than the turboprop aircraft currently used for this purpose; and
- in very specific times of the year, the holiday periods, which amount to a total of about 35 days, it would be possible to schedule out-of-curfew flights to meet peak demand.

67. Qantas, while it could not quantify the operational advantages which would accrue to its international operations from a curfew-free airport at Brisbane, has so far been able to schedule its services to comply with the existing curfew restrictions without commercial penalties.

68. The domestic airline operators were of the opinion that while the lifting of the curfew would result in the possibility of a small increase in the utilisation of their fleets, such a potential advantage would incur increased operating costs, a major component of which would be attributable to staff penalty rates.

69. The Committee was informed that elimination of the curfew could have an economic benefit to the consumer of freighted goods, although no evidence was made available to substantiate the claim.

70. The domestic operators agreed that except for the peak holiday periods referred to above, no great passenger demand for out-of-curfew flights exist.

71. The Committee believes that consideration should be given to reducing the present curfew period on those occasions when peak holiday demand warrants it.

72. The Committee notes with interest the conclusions of the Domestic Air Transport Policy Review Committee (Vol.1,p.6) regarding the relaxation of curfews: "The Committee has considered this

possibility, but concluded that there had not been a convincing demonstration that economic gains to the airlines would be such as to warrant the increase in public disturbance it would cause at present. The Committee notes, however, that developments projected for reduction of aircraft noise, planned airport and facility developments in the future may warrant reconsideration of this attitude".

73. *Committee's Conclusion* The Committee does not accept that the total elimination of the curfew at the present time at Brisbane Airport will generally provide any significant benefit to the users of passenger or freight services.

74. Height Restrictions The 1971 Advisory Committee judged that the building height restrictions within the Brisbane Central Business District (CBD) were not in the best interests of Brisbane, and, as a consequence, the proposed runway alignments for the new airport have been influenced by that decision.

75. The Department of Transport's proposal proceeded on the basis that, as far as the building height restrictions within the CBD of Brisbane were concerned, such restrictions were not a desirable planning feature.

76. The Department has not been able to quantify the costs associated with the need for height restrictions in the CBD of Brisbane. The BTE report concluded, however, that from a national viewpoint, there is no resource cost associated with the restrictions placed on building heights in central Brisbane.

77. Representatives of the Queensland Co-ordinator General's Department did not see the building height restrictions, which are restricted to about 480 feet (48 floors) above ground level near the City Hall and about 340 feet (34 floors) in the Spring Hill area, as an inhibiting factor in the development of Brisbane for the next 25 years, at least.

78. The local town planning authority, the Brisbane City Council, stated in evidence that it had not experienced any problems with building approvals in the CBD because of airport height limitations, and in the CBD of Brisbane no high-rise building application has been refused by Council.

79. However, the Department of Transport has itself placed height restrictions on several proposed developments at an early planning stage and in such cases the Brisbane City Council would not necessarily know that height limitations had been imposed because of the airport approach clearances.

80. The Committee noted that of the 46 applications made to the Department of Transport between 1966 and 1979, they have either been approved or a compromise design has been achieved. In one instance a structure to 530 feet in the CBD was approved.

81. No stated requirement in the Brisbane building by-laws limits the maximum height of buildings, and no evidence was presented to the Committee to suggest that the Brisbane City Council would approve very high structures if, or when, the aviation restrictions were removed.

82. *Committee's Conclusion* The Committee considers that the building height restrictions within the Brisbane Central Business District are not, of themselves, sufficient reason to advance the requirement for the proposed work at this time.

83. Noise The Committee is very conscious of the noise problems associated with the existing 04/22 runway and is aware that the Noise Exposure Forecast (NEF) system does not fully represent the adverse effect on people. However, no readily applicable alternative system is available for assessment and no evidence was produced to indicate the extent of adverse effects of aircraft noise on people's health.

84. The Noise Exposure Forecast (NEF) for any particular situation is expressed as a number (e.g. 30 NEF) derived from a complex set of calculations taking account of:

- the numbers of aircraft flying over or past a particular location;
- the noise levels of individual aircraft;
- the relative 'noisiness' of different sound frequencies;
- the presence of tonal components;

- the duration of the noise;
- the increased disturbance likely to be associated with flyovers occuring at night.

85. The primary purpose of the NEF system is as a guide for land use planning, e.g. areas subjected to aircraft noise exposures of 30 NEF or higher are usually regarded as undesirable for residential purposes.

86. Community response to aircraft noise is generally expressed in terms of the percentage of the population seriously annoyed, where serious annoyance is taken to represent interference with activities such as sleep, conversation, enjoyment of radio and television, to a degree where those affected consider aircraft noise to detract substantially from the amenity of the area.

87. The Department of Transport advised the Committee that the criteria used for assessing the number of people annoyed by aircraft noise in a noise affected area as defined by the NEF system is as follows:

(a) At 25 NEF level
- 20% of the exposed population are seriously annoyed;
- a further 20% of the exposed population are annoyed.

(b) At the 30 NEF level
- 35% of the exposed population are seriously annoyed;
- a further 25% of the exposed population are annoyed.

(c) At the 40 NEF level
- 60% of the exposed population are seriously annoyed;
- a further 30% of the exposed population are annoyed.

88. The Brisbane Airport Development - Project Environment Study - Vol. II Aircraft Noise Nuisance Report states: "The criterion used in this study for assessing the likely effects

of airport redevelopment upon residential areas has been that it is undesirable for such areas to be subjected to aircraft noise in excess of 25 NEF".

89. Evidence produced indicates that the number of dwellings affected in 1977 to 25 NEF and higher for the 04/22 runway was 2565. The Committee was also informed that Sydney (26 725), Perth (6380) and Adelaide (5400) have considerably more dwellings within the 25 NEF and higher contour than Brisbane.

90. The number of dwellings in Brisbane affected by the forecast 1985 NEF to 25 and higher would be 3500 due to the greater number of aircraft movements and, if it were not for the quieter engines to be introduced during this period, the increase in the number of dwellings affected would be much greater.

91. The increase in the number of movements is caused partly by forecast new traffic and partly by the inability to operate both landings and take-offs to the north during higher traffic densities.

92. It should be noted that extension of runway 04/22 to the north will reduce the number of dwellings in the 25 NEF or higher contour because aircraft taking off to the south-west on runway 22 would be at a higher altitude over the affected area.

93. The number of dwellings within the 25 NEF and higher for the proposed runway 02/20 is 48. The number of dwellings similarly affected for the 16/34 direction would be 195.

94. No evidence was presented to the Committee that complaints of annoyance due to aircraft noise were restricted to those areas within the 25 NEF contour and no guarantee could be given that complaints would decrease with any new alignment. On the contrary, it was stated that people newly affected by noise could be very annoyed whether inside the 25 NEF contour or not.

95. The Committee is aware that no significant attempt has been made to survey the noise affected areas in Brisbane to gather evidence on the effects of aircraft noise on people.

96. The Committee was informed that a great deal of research had been undertaken into the problem of aircraft-related noise. The resultant advances in noise reduction can be demonstrated by comparing B707 noise levels with the B747 at the certification measuring distances:-

(a) measured at take-off, 3.5 nautical miles from start

| | | |
|---|---|---|
| B707 | 114 | EPNdB* |
| B747 | 106 | EPNdB* |

The difference of 8dB is a reduction of some 85% in noise intensity;

(b) measured on landing, 1 nautical mile from threshold

| | | |
|---|---|---|
| B707 | 120 | EPNdB |
| B747 | 106 | EPNdB |

The difference of 14 dB is a reduction of some 96% in noise intensity.

* EPNdB - Equivalent Perceived Noise Decibel.

97. Similar noise improvements (10 dB or an 88% reduction on take-off and 6dB or 75% reduction on landing) are available for aircraft such as the Airbus A300, B767 over the present B727 aircraft.

98. *Committee's Conclusion* The Committee recognises the noise problem in certain Brisbane residential suburbs and agrees that eventual redevelopment of Brisbane Airport should remove or reduce this nuisance. The current noise problem is not, itself, sufficient reason to immediately redevelop the Airport.

99. Mr. Humphreys, Member for Griffith, disassociates himself from the second sentence of this conclusion.

100. Existing Domestic Terminal Area The domestic terminal area is contained in a small triangular site bounded by the Pinkenba railway line and industrial development to the south, the approach splay of the main (04/22) runway to the west, the secondary (13/31) runway to the north and the approach splay of the secondary (13/31) runway to the east.

101. The domestic terminal area which originally contained the international terminal virtually reached a point of saturation in 1975. Following the opening of the new interim international terminal building late in 1975, the old international terminal building was demolished allowing additional car parking space. Extra aircraft parking positions also became available.

102. The Queensland Government proposes a major road crossing of the Brisbane River in the vicinity of the airport as part of the future North-South Freeway. The proposal incorporates a new road link from Kingsford-Smith Drive to Nudgee Road, generally along the airport's western boundary, and would be a major component of airport access. The Department of Transport believes that the provision of this road will be a further constraint on the existing terminal area.

103. Based on the expected opening in 1986 of Phase 1 of the redevelopment of Brisbane International Airport, the Committee was informed that the Department of Transport and the domestic carriers are planning for minimal expansion works to the existing terminal area to overcome present congestion. However, both Trans-Australia Airlines and Ansett Airlines of Australia, prior to the Government decision to proceed with redevelopment, had proposed expansion of the existing terminal area to cater for their needs until the early 1990s.

104. In addition, evidence presented to the Committee indicates that by the planned conversion to the less space-consuming nose-in-parking system, the apron area would be sufficient to about the 1990s.

105. The Department of Transport plans car park modifications and expansion and road works estimated at approximately $600 000. The lack of car parking space in the terminal area has been a problem for some time and construction is presently in hand for additional car parking areas and road works. These road works will provide a circulatory road system to facilitate traffic flow in the terminal area and help to alleviate congestion. Further remote car park construction works will be required over the next few years to meet the expected demand.

106. In a submission to the Committee, Trans-Australia Airlines (TAA) stated that its policy is to extend the life of existing facilities for as long as possible until full utilisation is reached, in the interest of keeping operating costs and the level of fares to a minimum. In TAA's view, the current state of the existing terminal buildings, aprons, roads and services is such that it is possible, with some improvements, to cater for its forecast traffic for the next twelve to fifteen years.

107. Prior to a firm Government decision on the redevelopment of the airport, TAA had started a long term expansion program. This commenced with a $2 million flight catering centre, located a short distance from the terminal area, and site preparation for a new cargo terminal. Plans were also proposed for major expansion of the passenger terminal and relocation of the aircraft maintenance facilities. TAA now proposes passenger terminal expansion and cargo terminal modification of approximately $1.9 million in lieu of planned expenditure in excess of $4 million.

108. In 1977, Ansett Airlines of Australia (AAA) commissioned the design of a new passenger terminal to be constructed on the existing site. The design, which was for a three-level building with provision for aerobridges and able to accommodate wide-body aircraft, was intended with some planned expansion to cater for AAA's requirements into the 1990s. This plan has been shelved and AAA now proposes a terminal expansion estimated at approximately $1.5 million.

109. *Committee's Conclusion* The Committee accepts that upgrading of current domestic terminal facilities is warranted and should be permitted as proposed by AAA and TAA.

110. Extension of 04/22 Runway In reviewing the BTE Report in February 1977, the Aviation Industry Review Committee concluded that the existing 04/22 main runway of 2365 metres would be adequate until 1980, when an extension of 305 metres would be desirable to enable international operators to carry full payloads on B747 aircraft between Brisbane/Singapore and reasonable payloads between Brisbane/Hong Kong and Brisbane/Manila.

A runway length of up to 2900 metres was projected by 1985 to permit full payloads from Brisbane to Manila, Hong Kong and Honolulu.

111. Since the findings of the Aviation Industry Review Committee, Qantas has ordered an improved version of the B747 for introduction in late 1981/82. These aircraft are equipped with Rolls Royce RB211-524D4 engines which have higher thrust and are more fuel efficient.

112. Evidence to the Committee indicated that other international operators are being similarly re-equipped.

113. Provided the existing clearway of 200 metres is retained, an extension of 200 metres to the current 04/22 runway will enable achievement of full passenger and cargo payloads on the following sectors:

Brisbane - Singapore
Brisbane - Hong Kong
Brisbane - Kuala Lumpur
Brisbane - Honolulu
Brisbane - Tokyo

114. The Committee has been advised by the Department of Housing and Construction that the order of costs associated with the extension of the existing 04/22 runway to the north-east by approximately 200 metres and 300 metres would be $11 million and $13 million respectively. Each amount includes a common figure of $8 million to strengthen the existing runway by applying a bituminous concrete overlay at an average thickness of 250mm to cater for increased take-off weights. The Committee considers that there may well be scope to reduce the strengthening where a limited life design is employed.

115 The Committee believes that limited extension of the existing 04/22 runway to the north-east by approximately 300 metres as an interim measure would enable greater utilisation of Brisbane Airport by international operators.

116. *Committee's Recommendation* Extension of the existing 04/22 runway to the north-east by approximately 300 metres be considered as an interim measure to enable greater utilisation of Brisbane Airport by international operators.

117. Mr. Humphreys is totally opposed to this recommendation.

118. Tourism In its submission, the Queensland Government stated what it regards as the deficiencies of the existing Brisbane Airport with regard to tourism, particularly international tourism:

- the insufficient length of the existing runway tends to have a negative effect on international tourism to or from the State;
- the fact that a fully laden B747 aircraft cannot depart Brisbane direct to a long-haul destination is a distinct disadvantage to departing Queensland residents who must travel to Sydney to connect with international flights;
- the curfew restricts the use of the airport, encouraging flights to depart and terminate at other airports;
- insufficient facilities for aircraft maintenance and for the transit of disembarking passengers to other Australian ports discourage international flights terminating in Brisbane.

119. The Committee agrees that the present 04/22 runway has deficiencies for certain international operations and has recommended at paragraph 116 extension of the 04/22 runway to enable greater utilisation of Brisbane Airport by international operators. The Committee has also made certain recommendations regarding a new international terminal - paragraphs 161 to 169 refer.

120. The major tourist attraction in Queensland appear to be the Great Barrier Reef and no evidence was produced to the Committee to indicate that tourists to the Great Barrier Reef would necessarily wish to land at Brisbane. In fact, evidence from TAA indicated (refer paragraph 40) that an increasing number of Sydney/Queensland Coast flights overfly Brisbane.

121. Defence Aspects The Department of Transport informed the Committee that the Department of Defence had been kept fully informed of the planning details for the proposed redevelopment of Brisbane Airport but had not specified any particular defence requirements for inclusion in the project. At the request of the Committee, the Department of Defence provided the following statement setting out its position in relation to the proposed redevelopment: "Defence would welcome the prospect of an improved airport for Brisbane. Generally the enhancement of the overall transport infrastructure would be of defence advantage in contingent circumstances. However, Defence does not envisage any immediate or direct operational advantage".

## THE PROPOSAL

122. The proposed redevelopment of Brisbane Airport is intended to provide a new international standard airport to service Brisbane and replace the existing Eagle Farm facility. The redevelopment is located north-east of, and adjacent to the existing airport. It is intended for use conjointly with the existing airport during the initial stages of redevelopment. The location places the new airport building area some 13 km from the Brisbane Central Business District.

123. The initial works of Phase 1, which is the subject of this reference to the Committee, comprises the following major work:

- clearing portion of the site;
- construction of a floodway to divert floodwaters around the site;
- filling the site to levels that will allow adequate drainage;
- provision of main field drainage; and
- construction of a 3500 metre 02/20 runway and associated taxiways able to cater for B747, DC10, Airbus A300 and B727 jet aircraft.

124. Other components of Phase 1 initial works are:

- relocation of the South-East Queensland Electricity Board feeder cable to the Pinkenba industrial area which traverses the new airport runway site;
- construction of a 1.4 km road diversion, and relocation of consumer services to Nudgee Beach;
- security fencing of the airport site; and
- a site office containing accommodation for project staff, material quality control laboratory, and public display and information facilities.

125. The Department of Transport proposes to submit for Government consideration during 1980, proposals for the remaining works necessary to complete Phase 1 and make it operational. It is expected that these will include domestic terminal buildings and aprons, extension of the existing international terminal and aprons, a control tower, a fire station and other buildings to house Department of Transport services and facilities, engineering services, access roads and car parks and various navigational aids including instrument landing systems and approach and airport lighting. These works are expected to cost in the order of $74 million making a total cost of $172 million for Phase 1.

126. *Committee's Conclusion* The Committee agrees that the proposed concept for the ultimate redevelopment of Brisbane Airport is satisfactory.

127. Mr. Humphreys does not agree with this conclusion.

128. Alternative Sites Three alternative locations for a major airport to serve the future needs of Brisbane were considered by the Brisbane Airport Advisory Committee. These sites were situated:

- to the south in the Beenleigh area;
- to the north near Caboolture; and
- to the north-east of the existing airport.

129. The Beenleigh site was rejected because it was 45 km by road from Brisbane and very high surface access costs were associated with development. Cost of acquiring land would also have been very high and airport development would have reduced the acreage of sugar cane, seriously affecting the local industry.

130. The Caboolture site was slightly undulating, 53 km from Brisbane, and surface access costs would again have been high.

131. The Advisory Committee determined that an airport at either Caboolture or Beenleigh would have had serious disadvantages to either the Sunshine or Gold Coasts, and concluded that the preferred location for the airport was to the north-east of the existing airport.

132. In evidence, the Department of Transport re-affirmed that the cost of surface access to the more distant sites, such as Beenleigh or Caboolture, imposes very high cost penalties upon the community.

133. Details of Proposed Site The area of the site available for airport purposes is approximately 3011 hectares of which 1866 hectares lie within the area of the existing airport. The site would allow for the ultimate development of two wide spaced parallel runways, a cross wind runway, new domestic and international terminals and associated ground facilities.

134. The site is bounded by Bramble Bay and the settlements of Nudgee Beach and Cribb Island to the north, and the Brisbane City Council sewage treatment works, an oil refinery and Pinkenba township to the east.

135. Industrial land adjacent to the Brisbane River forms the southern boundary, with residential suburbs and Nudgee Golf Course on the western boundary.

136. The redevelopment is located predominantly in areas of mangroves and salt marsh adjacent to Serpentine Creek. The creek bed meanders over the alignment of the proposed 02/20 runway and its parallel taxiway. The apron and building areas are located in areas which are currently mangroves, salt marsh or open grassland. The sub-surface soils include 24 to 30 metres of soft, saturated soils overlaying up to 13 metres depth of sand of variable density on firm gravel or bedrock.

137. Development of the site for airport purposes requires the diversion of floodwaters discharging onto the site, and site filling of the aircraft movement area (runway, taxiway, apron) and building area.

138. Airport levels and drainage design will ensure that aircraft pavements, buildings and access roads are not rendered unusable by flooding either from rainfall (of an intensity likely to occur on average not more than once every fifty years) or for

more than six hours after the flood peak resulting from cyclone associated rainfall and/or tidal surge (likely to occur on average not more than once every one hundred years).

139. Proposals with regard to the design and mangement of the airport and its environs to minimise bird strikes have been developed. However, it is likely that, at least in the short term, the rate of bird strikes will be greater than presently experienced at Brisbane Airport.

140. The Committee is firmly of the view that the Queensland Government should accept full responsibility for all areas external to the boundary of the airport on their completion.

141. The Committee also believes that the Commonwealth should ensure that it is indemnified against legal action which might be taken against it as a result of airport redevelopment.

142. *Committee's Conclusion* The site, to the north-east of the existing airport, is considered suitable for the redevelopment of Brisbane Airport.

143. Acquisition Approval to proceed with the acquisition of the 1800 hectares of land was given in 1973. Since then, 530 hectares of privately owned land has been acquired and action is currently proceeding to acquire 900 hectares of State/Crown land. A further 270 hectares of Brisbane City Council freehold land is also currently being acquired. Approximately 30 hectares of private freehold land remain to be acquired. It was decided not necessary to acquire some 70 hectares of the Nudgee Golf Course.

144. At the commencement of acquisition, 390 dwellings existed at Cribb Island and the Jackson Estate, the main residential areas. Former owners still occupy about 90 of the properties which have been acquired. Notices to vacate before 31 March 1980 were recently issued to all tenants.

145. The Department of Administrative Services has liaised with these residents, the Department of Social Security and the Queensland Commissioner for Housing in order that the problems of resettlement, particularly of the aged, may be minimised.

146. Floodway The airport reclamation in the Kedron Brook flood plain will interfere with the existing flow paths of periodic floods across this area, as well as reducing flood plain water storage capacity. The major water outlet of the flood is Serpentine Creek, and it will be filled for most of its length by construction of the 02/20 runway and associated facilities.

147. A 6 km drainage channel located in a floodway reserve, free of development, has been proposed to ensure that land outside the airport site is not subjected to worse floods than before construction of the airport. This will compensate for the loss of natural drainage paths and will also collect discharges of local drains.

148. It is proposed that the floodway channel will be located along the western side of the ultimate airport development discharging into Bramble Bay between Nudgee Beach and Cribb Island.

149. Nudgee Golf Club In evidence to the Committee, the Nudgee Golf Club stated that it will be disadvantaged by the presence of the proposed floodway adjacent to its boundary and that it would no longer be able to purchase adjoining land to expand its facilities.

150. The Nudgee Golf Club proposed that it lease adjoining land from the Commonwealth at a nominal figure and in return would maintain the land at its own expense.

151. The Committee has been advised that of the areas sought, a portion is within the floodway reserve and may be available for lease, subject to satisfactory negotiations between the Nudgee Golf Club and the Commonwealth. As a result of detailed design, the remaining portion sought is no longer required for floodway purposes and can therefore be relinquished

by the Commonwealth. The Nudgee Golf Club is therefore free to pursue some form of acquisition.

152. Environmental Considerations The proposal has been examined by the Department of Science and Environment in accordance with the provisions of the Environment Protection (Impact of Proposals) Act 1974. The environmental implications of the proposed works have been considered in an Environmental Impact Statement (EIS), the draft of which was released in December 1978.

153. The major detrimental effect will be the loss of the Serpentine Creek and its associated mangrove forest and salt marsh areas. While the area of mangrove within the airport development amounts to approximately 6% of the total area of mangroves in Moreton Bay as at May 1973, the Serpentine Creek system is important because it is one of the most extensive areas of creek mangroves in the Moreton Region. However, there will be partial replacement of the loss of mangroves in the development of the tidal inlet of the floodway.

154. The environmental study recommendations on minimisation of the effects of the project during construction and operation have been adopted in the design.

155. *Committee's Conclusion* The Committee agrees that the general scope of the initial works of Phase 1 are necessary for the ultimate redevelopment of Brisbane Airport.

156. Runway Directions Considerable evidence was taken from interested parties such as the Australian Federation of Air Pilots, Queensland Federal and State Members of Parliament, and the Civil Air Operations Officers' Association that the 02/20 direction selected for the proposed main runway was not the best available. It was also stated that operating assumptions taken by the Department of Transport in relation to tailwind and crosswind conditions could not be applied in practice. If these statements are accepted, there would be a need to revise the Department of Transport evidence on the number of dwellings affected, as the percentage of operations over the CBD would

increase and a need to include a cross runway in Phase 1 works would be created.

157. As to the optimum direction of the new runway, the Committee accepts the Department of Transport evidence that having regard to all factors which influenced the new airport layout, the 02/20 direction is the best available.

158. In regard to tailwind operations, the Committee accepts the Department of Transport statements and has been provided with evidence of Air Traffic Control operating instructions wherein the parameters used are stated.

159. Turning to crosswind operations, the Committee is of the view that the selected runway direction is little different from the existing runway and no evidence was produced to indicate past accidents, incidents or diversions due to excessive crosswind. It will be necessary, however, to maintain the existing 13/31 secondary runway as part of the new airport to cater for smaller aircraft until a firm decision is made on the provision of a new crosswind runway.

160. The Committee notes that under the major redevelopment presently proposed, no cross runway will be available to major aviation for some years and the best alignment for a cross runway between direction 16/34 and 11/29 is still being studied by the Department of Transport. (See plans D and E.)

161. New International Terminal Building The Committee was informed that a new international terminal building would not form part of the Phase 1 works and that the existing international terminal would continue to operate for some period after the proposed opening of the new airport in 1986. A taxiway connection from the southern end of the proposed 02/20 runway would be provided for access to the existing international apron.

162. Allowance has been made in the indicative cost of $74 million for the remaining Phase 1 works for limited expansion of the apron and the existing international terminal to cater for

the expected growth in international passenger movements until the early 1990s. The present building and apron areas are suitable for conversion to other airlines activities such as pure freight operations when the new international terminal building becomes operational.

163. Concern was expressed by Qantas at the increased distances that aircraft would be required to taxi between the existing international terminal and the proposed 02/20 runway. Information provided by the Department of Transport indicates that the taxiing distances to the proposed 02/20 runway ends will be as follows:

| | | |
|---|---|---|
| 02 | take-off | 2.6 km |
| 20 | take-off | 6.45 km |
| 02 | landing | 5.55 km |
| 20 | landing | 3.8 km |

164. In its submission Qantas indicated the serious problems which can occur with heat build-up in aircraft tyres as a result of excessive taxiing distances. It referred to its experience at Honolulu where taxiing distances have increased from about 2 km to in excess of 6 km following the opening of the Honolulu Reef runway in October 1977. Prior to Qantas rescheduling flights to cooler periods of the day, the effect had been to double tyre failures during taxi and take-offs due to excessive heat build-up.

165. The Committee was informed that the airline industry is becoming increasingly concerned about remotely located runways particularly with the projected growth envisaged in the taxiing weights of wide-body aircraft.

166. The Australian Federation of Air Pilots pointed out that long taxiing distances can result in excessive heat build-up in aircraft brakes.

167. On the evidence presented to it, the Committee believes that the distance between the existing international terminal and the proposed 02/20 runway is too great for efficient and safe operations. In addition, excessive taxiing distances lead to increased costs.

168. The Committee has been advised by the Department of Housing and Construction that a new international terminal building would cost in the order of $23 million, although this would, to some extent, be reduced by the cost of expansion judged necessary to the existing international terminal - approximately $5 million.

169. *Committee's Recommendation* A new international terminal building should be included in Phase 1 works.

## COST RECOVERY

170. The Committee has closely examined the capital expenditure required from Commonwealth sources because:

(1) premature capital expenditure on Brisbane Airport could jeopardise essential airport developmental projects elsewhere in Australia;

(2) the aviation industry would be required to pay additional charges to pay for such capital expenditure through the cost recovery program.

171. Whilst the proposal referred to the Committee deals only with the initial works of Phase 1, it is clear that approval for this work will almost automatically require the provision of the additional facilities planned for the completion of Phase 1, at an estimated capital cost of $74 million.

172. The Committee examined four options in analysing the required Commonwealth capital expenditure:

- minimal upgrading of current facilities;
- initial works of Phase 1;
- total works of Phase 1;
- total works of Phase 1 plus new international terminal building.

173. The likely Commonwealth capital expenditure required to 1985/86 is:

| Year | Upgrade Existing | Initial Works Phase 1 | Total Works Phase 1 | Total Works Phase 1 + International Terminal Building |
|---|---|---|---|---|
| | $M | $M | $M | $M |
| 1979/80 | 2 | 3 | 3 | 3 |
| 1980/81 | 11 | 25 | 25 | 28 |
| 1981/82 | 1 | 25 | 31 | 32 |
| 1982/83 | 4 | 25 | 55 | 60 |
| 1983/84 | | 15 | 42 | 51 |
| 1984/85 | | 5 | 13 | 13 |
| 1985/86 | | | 3 | 3 |
| Total | 18 | 98 | 172 | 190 |
| Capitalised Cost for Recovery Purposes | $19.22M | $132.78M | $230.62M | $251.3M |

174. The above table does not include expenditure to upgrade current domestic terminals (which it is assumed will be borne by the domestic airlines), and does not include maintenance expenditure attributable for cost recovery purposes. It should be emphasised that even with the maximum amount of expenditure shown above, there would be no greater runway capacity than exists at the present time.

175. The cost recovery requirements in relation to Brisbane Airport already include the servicing of a current capitalised cost of some $34 million (incurred in respect of earlier development of the current airport and land acquisition for the new airport). Repayments in respect of this are shown in the first column of the table below.

176. The following table represents the repayments required over the next ten years, although it should be borne in mind that much of the recovery would actually be over a forty-year period.

177. The respective cost recovery amounts (interest and depreciation) anticipated in respect of the various options examined by the Committee to the year 1988/89 are:

| Year | Existing Assets | Upgrade Existing | Initial Works Phase 1 | Total Works Phase 1 | Total Works Phase 1 + ITB |
|---|---|---|---|---|---|
| | $M | $M | $M | $M | $M |
| 1979/80 | 3.18 | | | | |
| 1980/81 | 3.09 | | | | |
| 1981/82 | 3.04 | 1.74 | | | |
| 1982/83 | 2.98 | 1.70 | | | |
| 1983/84 | 2.93 | 2.20 | | | |
| 1984/85 | 2.88 | 2.32 | | | 2.07 |
| 1985/86 | 2.83 | 2.27 | 13.28 | 13.28 | 15.35 |
| 1986/87 | 2.75 | 2.22 | 16.27 | 28.74 | 31.28 |
| 1987/88 | 2.68 | 2.17 | 15.93 | 28.16 | 30.59 |
| 1988/89 | 2.60 | 2.12 | 15.60 | 27.58 | 29.96 |
| Total (10 years) | 28.96 | 16.74 | 61.08 | 97.75 | 109.25 |
| Total Cost Recovery (10 years) including Existing Commitment (Col. 1) | | 45.70 | 90.04 | 126.71 | 138.21 |

178. At the request of the Committee, the Department of Transport analysed the above cost recovery fitures in order to determine the possible effect on average air fares. Such calculations have been based on 1978/79 costs and passenger movements, because of difficulties in assessing the situation that will exist in 1986. The Department indicates that the calculations in respect of domestic air fares may be slightly overstated. The calculations provided by the Department of Transport (rounded to the nearest 10 cents) show the following increases in average air fares solely resulting from the alternative developments of Brisbane Airport.

| | Upgrade Existing | Initial Works Phase 1 | Total Works Phase 1 | Total Works Phase 1 + International Terminal Building |
|---|---|---|---|---|
| | $ | $ | $ | $ |
| International | 0.10 | 0.70 | 1.30 | 1.40 |
| Domestic Trunk and Rural | 0.20 | 1.20 | 2.10 | 2.20 |

179. The Committee agrees, with the exception of Mr. Humphreys, with the views put by Qantas, Trans-Australia Airlines and Ansett Airlines of Australia that premature major redevelopment of Brisbane Airport will place undue costs on Australian air travellers, and may jeopardise necessary airport works elsewhere in Australia. The Committee notes that the BTE Report in 1975 placed emphasis on the continuing use of the existing airport and airport facilities. The airlines strongly pressed that should immediate redevelopment proceed, the cost recovery program should be altered to lessen the effect of such premature capital expenditure on airlines costs and charges.

180. The Department of Transport, the airlines and the Australian Federation of Air Pilots indicated that major works were required at other airports throughout Australia. The domestic airlines expressed the view that a number of higher priority airport works are needed elsewhere to provide a level of service comparable with that currently available at Brisbane. Qantas recommended that the limited funds available for airport development could be better allocated to other areas where the need was greater and more urgent.

181. The Committee believes it necessary for the Department of Transport to identify such projects in priority listing on a national basis and provide indicative costs which would enable the Government to appreciate the likely air fare structure resulting from such works.

182. The earlier than necessary undertaking of the proposed work, in effect, represents over the next 10 years:

(i) a premature Commonwealth capital expenditure of from $154 million (completion of Phase 1) to $172 million (completion of Phase 1 plus international terminal building;

(ii) an additional cost recovery burden to the aviation industry of from $81.01 million (completion of Phase 1) to $92.51 million (completion of Phase 1 works plus international terminal building).

183. *Committee's Conclusion* As it has not been effectively demonstrated to the Committee that the proposed redevelopment deserves high national priority, the increases in domestic and international air fares that will result from full cost recovery of the project are considered premature.

184. Mr. Humphreys disassociates himself from this conclusion.

185. *Committee's Recommendation* The Committee recommends that the commencement of the works proposed in this reference be deferred until at least 1986 and recommends for consideration the works set out in paragraphs 103 to 116 above, which it believes will enable the current facilities to meet Brisbane's major airport needs to the year 1992.

186. If the works are deferred, the Committee recommends that the engineering aspects and airport facilities be reviewed and updated if necessary.

## SUMMARY OF MR. HUMPHREYS' OBJECTIONS TO THIS REPORT

187. Mr. Humphreys believes that the current and potential noise problem does provide sufficient evidence for the immediate redevelopment of the Airport. He is totally opposed to an extension of the existing runway as proposed by the Committee for social, environmental and safety reasons. Aircraft will continue to take-off towards the Central Business District of the City of Brisbane and endanger densely populated areas. There will be no relief from noise nuisance and pollution will persist.

188. Mr. Humphreys does not agree that the proposed concept for the ultimate redevelopment is satisfactory. A re-examination of both the direction and location of the main runway should be carried out and consideration given to the construction of a cross runway simultaneously with the main runway. The two runway solution Mr. Humphreys believes is necessary to ensure the safety of aircraft operations in almost all weather conditions.

## RECOMMENDATIONS AND CONCLUSIONS

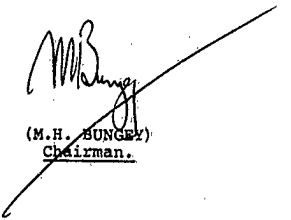
189. The recommendations and conclusions of the Committee are set out below. Alongside each is shown the paragraph in the report to which it refers.

| | | Paragraph |
|---|---|---|
| 1. | BASED ON THE RANGE OF FORECASTS FOR AIRCRAFT MOVEMENTS UNTIL THE 1990s, WHICH IS WELL WITHIN THE CAPACITY OF THE EXISTING MAIN RUNWAY, THE COMMITTEE CONSIDERS THAT A NEED HAS NOT BEEN ESTABLISHED FOR THE IMMEDIATE DEVELOPMENT OF THE PROPOSED 02/20 RUNWAY. | 62 |
| 2. | THE COMMITTEE DOES NOT ACCEPT THAT THE TOTAL ELIMINATION OF THE CURFEW AT THE PRESENT TIME AT BRISBANE AIRPORT WILL GENERALLY PROVIDE ANY SIGNIFICANT BENEFIT TO THE USERS OF PASSENGER OR FREIGHT SERVICES. | 73 |
| 3. | THE COMMITTEE CONSIDERS THAT THE BUILDING HEIGHT RESTRICTIONS WITHIN THE BRISBANE CENTRAL BUSINESS DISTRICT ARE NOT, OF THEMSELVES, SUFFICIENT REASON TO ADVANCE THE REQUIREMENT FOR THE PROPOSED WORK AT THIS TIME. | 82 |
| 4. | THE COMMITTEE RECOGNISES THE NOISE PROBLEM IN CERTAIN BRISBANE RESIDENTIAL SUBURBS AND AGREES THAT EVENTUAL REDEVELOPMENT OF BRISBANE AIRPORT SHOULD REMOVE OR REDUCE THIS NUISANCE. THE CURRENT NOISE PROBLEM IS NOT, ITSELF, SUFFICIENT REASON TO IMMEDIATELY REDEVELOP THE AIRPORT. | 98 |
| 5. | THE COMMITTEE ACCEPTS THAT UPGRADING OF CURRENT DOMESTIC TERMINAL FACILITIES IS WARRANTED AND SHOULD BE PERMITTED AS PROPOSED BY TRANS-AUSTRALIA AIRLINES AND ANSETT AIRLINES OF AUSTRALIA. | 109 |

| | | Paragraph |
|---|---|---|
| 6. | EXTENSION OF THE EXISTING 04/22 RUNWAY TO THE NORTH-EAST BY APPROXIMATELY 300 METRES BE CONSIDERED AS AN INTERIM MEASURE TO ENABLE GREATER UTILISATION OF BRISBANE AIRPORT BY INTERNATIONAL OPERATORS. | 116 |
| 7. | THE COMMITTEE AGREES THAT THE PROPOSED CONCEPT FOR THE ULTIMATE REDEVELOPMENT OF BRISBANE AIRPORT IS SATISFACTORY. | 126 |
| 8. | THE SITE, TO THE NORTH-EAST OF THE EXISTING AIRPORT, IS CONSIDERED SUITABLE FOR THE REDEVELOPMENT OF BRISBANE AIRPORT. | 142 |
| 9. | THE COMMITTEE AGREES THAT THE GENERAL SCOPE OF THE INITIAL WORKS OF PHASE 1 ARE NECESSARY FOR THE ULTIMATE REDEVELOPMENT OF BRISBANE AIRPORT. | 155 |
| 10. | A NEW INTERNATIONAL TERMINAL BUILDING SHOULD BE INCLUDED IN PHASE 1 WORKS. | 169 |
| 11. | AS IT HAS NOT BEEN EFFECTIVELY DEMONSTRATED TO THE COMMITTEE THAT THE PROPOSED REDEVELOPMENT DESERVES HIGH NATIONAL PRIORITY, THE INCREASES IN DOMESTIC AND INTERNATIONAL AIR FARES THAT WILL RESULT FROM FULL COST RECOVERY OF THE PROJECT ARE CONSIDERED PREMATURE. | 183 |
| 12. | THE COMMITTEE RECOMMENDS THAT THE COMMENCEMENT OF THE WORKS PROPOSED IN THIS REFERENCE BE DEFERRED UNTIL AT LEAST 1986 AND RECOMMENDS FOR CONSIDERATION THE WORKS SET OUT IN PARAGRAPHS 103 TO 116, WHICH IT BELIEVES WILL ENABLE THE CURRENT FACILITIES TO MEET BRISBANE'S MAJOR AIRPORT NEEDS TO THE YEAR 1992. | 185 |

Paragraph

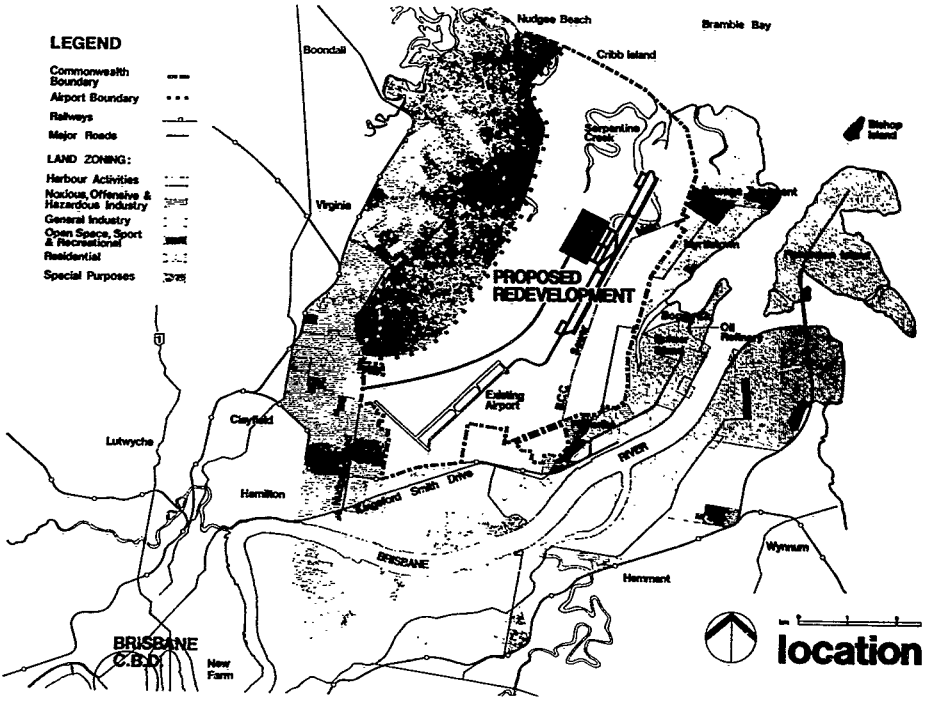
13. IF THE WORKS ARE DEFERRED, THE COMMITTEE RECOMMENDS THAT THE ENGINEERING ASPECTS AND AIRPORT FACILITIES BE REVIEWED AND UPDATED IF NECESSARY. 186

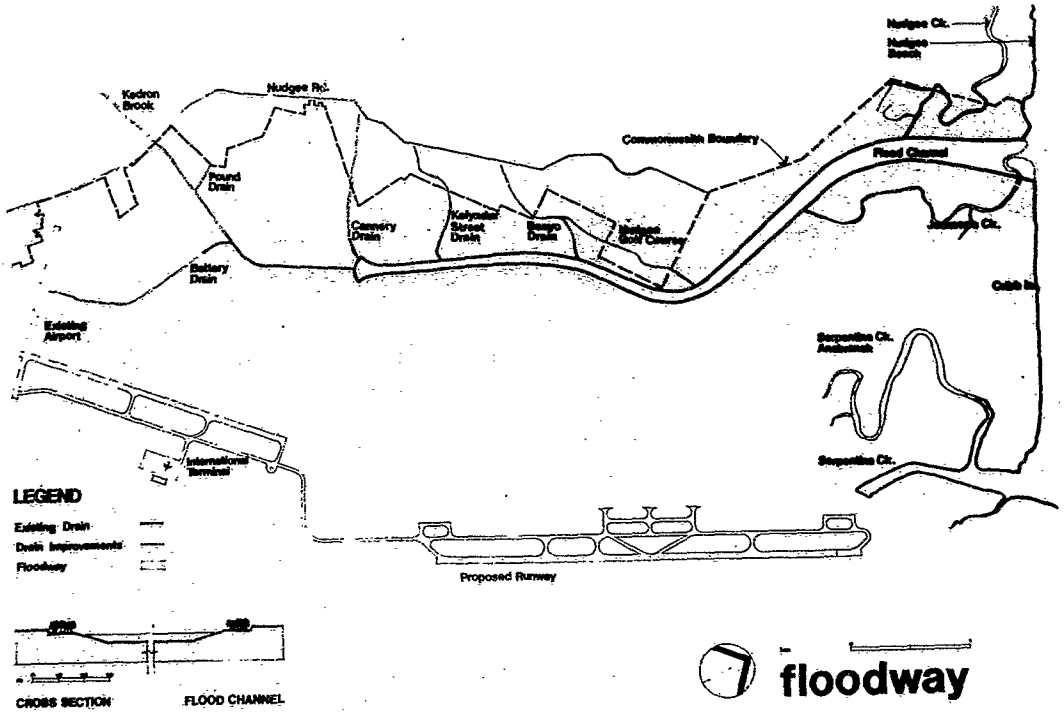


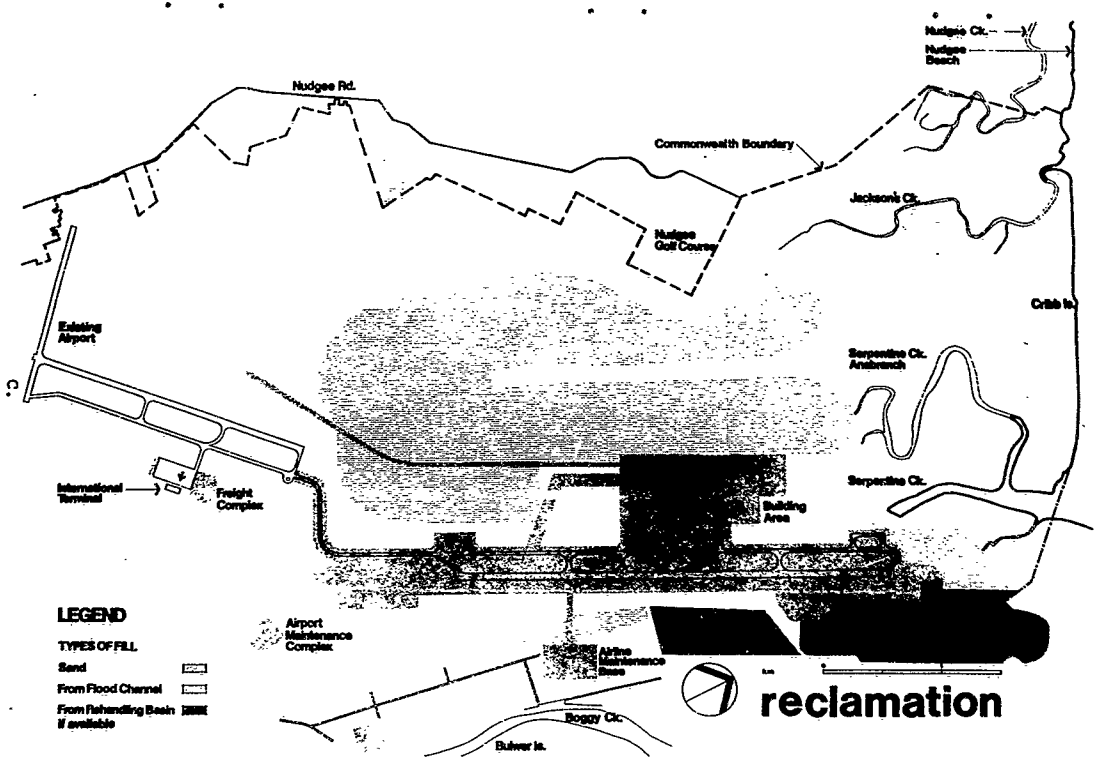
(M.H. BUNGEY)
Chairman.

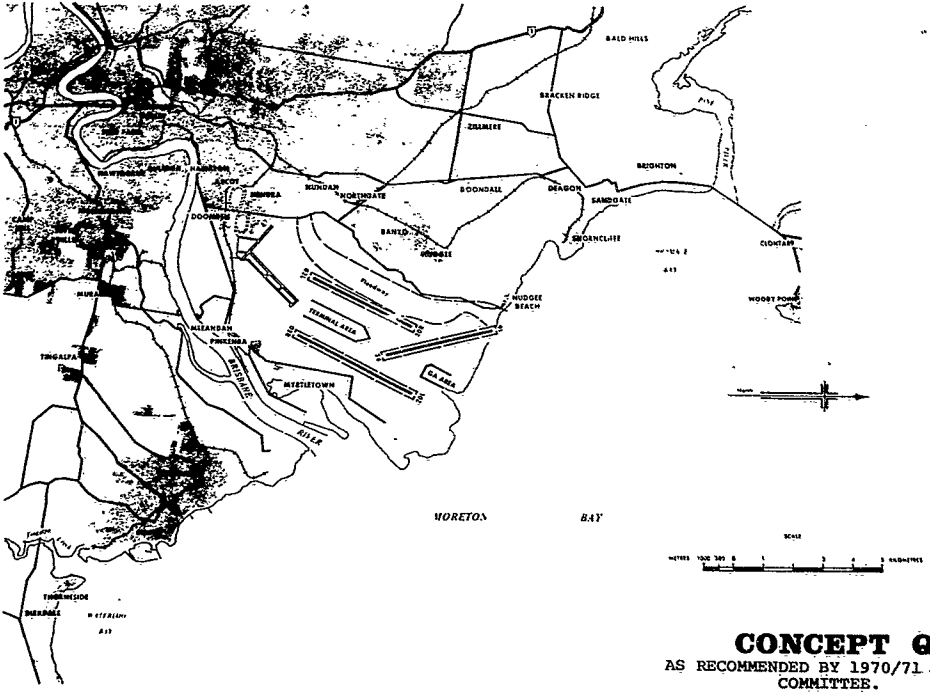
Parliamentary Standing Committee on Public Works,
Parliament House,
CANBERRA, A.C.T.

20 November 1979.


LEGEND
Commonwealth Boundary
Airport Boundary
Railways
Major Roads
LAND ZONING:
Harbour Activities
Noxious, Offensive & Hazardous Industry
General Industry
Open Space, Sport & Recreational
Residential
Special Purposes
Nudgee Beach
Bramble Bay
Boondall
Cribb Island
Serpentine Creek
Bishop Island
Virginia
PROPOSED REDEVELOPMENT
Oil Refinery
Existing Airport
Clayfield
Lutwyche
Hamilton
Kingsford Smith Drive
RIVER
BRISBANE
Wynnum
Hemmant
BRISBANE C.B.D.
New Farm
location


Kedron Brook
Nudgee Rd.
Pound Drain
Cemetery Drain
Kalynda Street Drain
Bosco Drain
Nudgee Golf Course
Commonwealth Boundary
Flood Channel
Nudgee Cr.
Nudgee Beach
Bakery Drain
Existing Airport
International Terminal
Serpentine Cr. Anabranch
Serpentine Cr.
Proposed Runway
LEGEND
Existing Drain
Drain Improvements
Floodway
CROSS SECTION
FLOOD CHANNEL
floodway

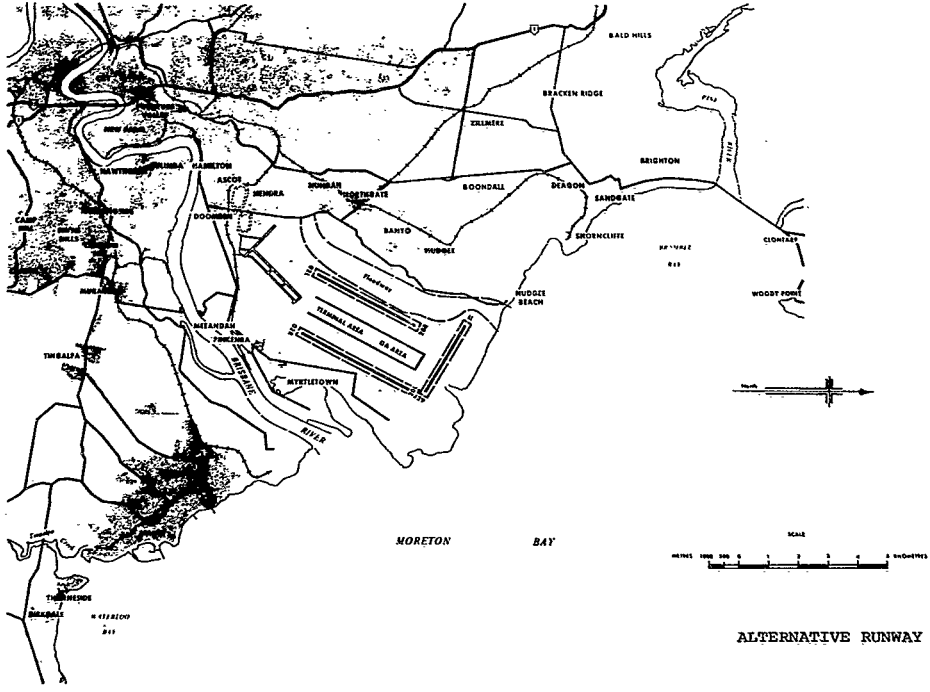

Nudgee Cr.
Nudgee Beach
Nudgee Rd.
Commonwealth Boundary
Nudgee Golf Course
Jacksons Cr.
Cribb Is.
Existing Airport
Serpentine Cr. Anabranch
Serpentine Cr.
International Terminal
Freight Complex
Building Area
LEGEND
TYPES OF FILL
Sand
From Flood Channel
From Rehandling Basin if available
Airport Maintenance Complex
Airline Maintenance Base
Boggy Cr.
Bulwer Is.
reclamation




D.

# CONCEPT Q

AS RECOMMENDED BY 1970/71 ADVISORY COMMITTEE.




ALTERNATIVE RUNWAY ALIGNMENT