The Parliament of the Commonwealth of Australia

Parliamentary Standing Committee on Public Works

Report relating

to the proposed

Extension to the main runway at Adelaide International Airport

(Fourth Report of 1997)

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THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA
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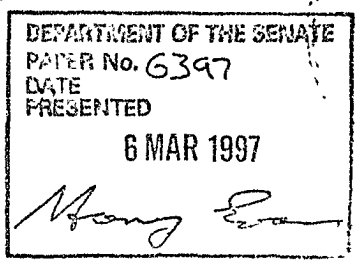

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ISBN 0 644 49939 7

Produced by the Australian Government Publishing Service

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MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

(Thirty-Second Committee)

Mr Neil Andrew MP (Chairman)
Mr Colin Hollis MP (Vice-Chairman)

Senate	**House of Representatives**
Senator Paul Calvert	Mr Richard Evans MP
Senator Alan Ferguson	Mr John Forrest MP
Senator Shayne Murphy	Mr Ted Grace MP
	Mr Michael Hatton MP*

* Replaced The Hon Michael Lee MP on 26 June 1996

Committee Secretary: Bjarne Nordin

Inquiry Secretary: Michael Fetter

Administrative Officer: Lynette Sebo

EXTRACT FROM THE VOTES AND PROCEEDINGS OF THE HOUSE OF REPRESENTATIVES

No. 55 dated 3 December 1996

PUBLIC WORKS — PARLIAMENTARY STANDING COMMITTEE — REFERENCE OF WORK — EXTENSION TO THE MAIN RUNWAY AT ADELAIDE INTERNATIONAL AIRPORT

Mr Jull (Minister for Administrative Services), pursuant to notice, moved — That, in accordance with the provisions of the *Public Works Committee Act 1969*, the following proposed work be referred to the Parliamentary Standing Committee on Public Works for consideration and report: Extension to the main runway at Adelaide International Airport.

Question-put and passed.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

Extension to the main runway at Adelaide International Airport

On 3 December 1996, the House of Representatives referred to the Parliamentary Standing Committee on Public Works for consideration and report the proposed extension to the main runway at Adelaide International Airport.

THE REFERENCE

1. The terms of the reference were as follows:

> The Federal Airports Corporation, on behalf of the State and Federal Governments, proposes to construct a runway extension at Adelaide International Airport. This extension has been identified by the South Australian Government as a priority infrastructure project. The development is supported by the Commonwealth.
>
> The runway extension will provide the opportunity for direct flights to Asian destinations. Direct flights are considered necessary for facilitating tourism and the export of produce and products from South Australia and, thus, the economic growth of the State.

2. When referred to the Committee the estimated out-turn cost of the proposed work was $48 million.

THE COMMITTEE'S INVESTIGATION

3. The Committee received written submissions from the Federal Airports Corporation (FAC) and the South Australian Department of Transport (SADOT) and took evidence from FAC and SADOT officials at a public hearing held at Parliament House, Adelaide, on 7 February 1997. The Committee also received written submissions from the following organisations and individuals and took evidence from them at the public hearing:

- South Australian Farmers Federation;
- South Australian Employers' Chamber of Commerce and Industry;
- South Australian Exporters Association;
- Singapore Airlines Limited;
- Glenelg Residents Association; and

- Australian Residents Association.

4. Written submissions were also received from the following individuals and organisations:

- Ms Liz Penfold MP - Member for Flinders - South Australian Parliament;
- Lincoln Airlines Pty Limited;
- South Australian Economic Development Authority;
- Eyre Regional Development Board;
- Glenelg Chamber of Commerce Incorporated;
- South Australian Tourism Commission;
- City of Holdfast Bay;
- Westward Ho Golf Club Incorporated;
- Ansett Australia;
- Commonwealth Fire Board; and
- Environment Australia - Environment Protection Group.

5. Prior to the public hearing, the Committee inspected Adelaide Airport and the suburbs surrounding the airport. The inspection encompassed the following areas, features and structures:

- the proximity of residential housing on the north-east of the main runway and the approach lights located adjacent to and within housing blocks;
- the end of the existing main runway and the localiser which will require relocation as part of the project;
- the earth mound trial embankment;
- the site from Tapleys Hill Road, including the existing Patawalonga Creek;
- the site from the existing Patawalonga South Golf Course;

- the site from the Glenelg Sewage Treatment works; and
- nearby residential areas of Glenelg North.

6. A list of witnesses who appeared at the public hearing is at APPENDIX A. The Committee's proceedings will be printed as Minutes of Evidence.

BACKGROUND

Location

7. Adelaide International Airport is located adjacent to the eastern shores of St Vincent Gulf, five kilometres from the Adelaide Central Business District. The airport is bounded on three sides by Henley and Grange, West Torrens and Glenelg. On its western boundary are Tapleys Hill Road and the West Beach Trust Recreation Area.

Development

8. Covering an area of 759 hectares, the Airport was commissioned in 1955, when airline services were transferred from Parafield. Since that time the Airport has been progressively upgraded to meet the requirements of larger aircraft and increasing traffic to become a substantial investment. Today, the Airport caters not only for the State's domestic and international aviation needs but also intra-State, charter and other commercial and private operations from Adelaide.

9. Regular international services commenced in November 1982, when a separate international terminal was constructed to accommodate an influx of overseas visitors. The Airport now services direct flights to and from most States and international destinations and offers passenger and freight connections around the globe. The Airport houses 84 businesses, providing on-site employment for more than 3,000 people. A further 8,400 people are engaged in airport-related activities in the community. A number of commercial enterprises have been established on the Airport site, including an export park which was completed in 1990. This enterprise is a modern commercial complex which offers warehousing, offices, controlled atmosphere and cold storage facilities.

10. The Committee has examined and reported on a number of major investments in airport infrastructure since the Airport was commissioned:

- a proposal, estimated to cost $1.78 million (1967 prices), for the development of airfield pavements and extensions to the terminal building *(Committee's Tenth Report of 1967 - Parliamentary Paper 110/1967)*;

- a proposal, estimated to cost $2.35 million (1978 prices), for the redevelopment of Airways facilities *(Committee's First Report of 1978 - Parliamentary Paper 166/1978)*;
- a proposal, estimated to cost $7.5 million, for the upgrading of airport facilities for the introduction of wide bodied aircraft by the domestic airlines *(Committee's Second Report of 1982 - Parliamentary Paper 50/1982)*; and
- a proposal, estimated to cost $10.9 million, for the construction of a new international terminal *(Committee's Fifth Report of 1982 - Parliamentary Paper 98/1982)*.

Runways

11. The two runways at the Airport are the main (05/23) runway, 2528 metres long, and the secondary (12/30) runway, 1652 metres long. In 1968, the main runway was extended by 350 metres at the south-western end and during 1981, it was extended by a further 90 metres.

12. Table 1 below, shows the number of aircraft movements and passengers handled at Adelaide International Airport.

Table 1 - Adelaide International Airport Statistics

1995/1996 Financial Year

Domestic Passengers	3,432,737
International Passengers (exc transit)	220,337
Domestic on-carriage	13,678
Total Passengers	3,666,752
Regular public transport aircraft movements	63,940
General aviation aircraft movements	45,190
Total aircraft movements	109,130

Curfew

13. Aircraft movements at the Airport are subject to a daily curfew, commencing at 11.00pm and concluding at 6.00am. The curfew is regulated by the Commonwealth through the Department of Transport and Regional Development. The State Government is, however, involved in the operation of the curfew through its membership of the Adelaide Airport Environment Committee. The curfew arrangements allow the Federal Minister for Transport to

make exemptions to aircraft operating within the curfew when there is clear benefit to the community with very little impact. The arrangements allow the Minister, acting in response to recommendations from the FAC-chaired Adelaide Airport Environment Committee, to consider applications for various in-curfew operations and to approve or disallow them.

14. The Federal Minister has a record of rigorous assessment with approvals given only under unusual circumstances. An example of an operation not permitted by the curfew, but exempted by the Minister, was granting Qantas permission for inbound flights from Singapore to land at 5.00am during winter months. A community impact study was undertaken after six months. In response to questions about the curfew, a senior South Australian Government official advised the Committee as follows:

> It is probably worth putting on the record that the State Government has not advocated in the past, and does not now advocate, abolition of Adelaide airport's curfew. It recognises that an airport in a city location like this has to have a curfew. It is a fact of life and is not going to go away. (Transcript, p. 135)

THE NEED

Outline

15. The State believes that a major objective in State economic development is the facilitation of access to commodity export markets and tourism. The current runway length is insufficient to make maximum use of long-range wide bodied aircraft for the shipment of freight direct to Asian destinations. There is a need, therefore, to lengthen the runway to facilitate additional freight capacity (particularly to Asian ports on existing flights), greater opportunities for direct international export of South Australian products and the development of international tourism to the State.

Inadequate Runway Length

16. The length of the main runway imposes payload constraints on wide-bodied international aircraft. With a length of 2,528 metres, the main runway is more than 1,000 metres shorter than the runways in Sydney, Melbourne and Brisbane. Darwin and Perth also have substantially longer runways. The existing runway is of insufficient length to accommodate fully laden freighters flying direct to any major Asian port. Additionally the runway is of insufficient length to accommodate some fully laden passenger flights (which also have the ability to carry freight to destinations beyond Singapore under some conditions). At

present, therefore, international flights out of Adelaide are scheduled on the basis of runway length.

17. The Committee was advised by the FAC that the length of the existing runway has never compromised safety.

Airfreighted Exports

18. At present, over 75 per cent of South Australia's exports moved by airfreight are perishable goods. Under current arrangements, 63 per cent is exported through other Australian airports. This is due to the shortage of export freight capacity at Adelaide imposed by the length of the main runway. The significant percentage of South Australian airfreight exports carried through other Australian airports penalises the State's export potential by reducing the competitiveness of exports. These penalties are:

- higher transport costs;
- uncertainties in the delivery of goods on time; and
- a reduction in the quality of perishable goods due to increased travelling time to market.

19. The arrival of airfreighted perishable goods at their destination on time and in an unspoilt condition is of critical importance.

Benefits of Runway Extension

20. By extending the main runway, export costs would be reduced, thus assisting South Australian exporters to be more competitive in international markets. More specifically, South Australian exporters would enjoy the benefits of:

- reduced export costs and greater competitiveness in international markets;
- greater certainty that airfreighted exports arrive at their destinations on time and in an unspoilt condition;
- increased freight capacity on some existing international flights out of Adelaide; and
- facilitation of a wider range and greater frequency of international passenger flights and the introduction of freighter flights to Asian hubs offering access to other markets.

21. The Committee was advised that the benefits of improved export options, reduced delivery times, the ability to provide high quality goods on time - reliably and at reduced costs, would make goods exported from Adelaide more attractive overseas. This would increase export markets, enhance their viability, provide economic returns and benefit the State.

22. Tables 2 and 3, below, show the current pattern of airfreight movements imports and exports by destination:

TABLE 2 - Total South Australian air freight movements 1994-1995 (imports and exports)

	Tonnes through Adelaide Airport	Tonnes through other airports	Total tonnage through Adelaide %	Total tonnes
Exports				
Perishables	7,085	8,289	46	16,062
Non-perishables	3,047	2,999	50	5,354
Total Exports	10,132	11,288	47.3	21,416
Imports				
Perishables	267	13	95	560
Non-perishables	4,835	906	84	4,050
Total Imports	5,102	919	85	4,610
Total	**15,234**	**12,207**	**56**	**27,437**

Source: ABS 1995 (unpublished data)

TABLE 3 - Tonnage of freight of South Australian origin by export destination 1994-1995

Destination	Tonnes through Adelaide Airport	Tonnes through other airports	Total tonnes	% through Adelaide Airport
Japan	1,331	3,758	5,089	26
Singapore	2,423	1,049	3,472	70
USA	536	2,101	2,637	20
Hong Kong	1,510	1,092	2,602	58
UAE	1,220	45	1,265	96
New Zealand	422	808	1,230	34
Taiwan	61	525	586	10
UK	468	86	554	85
Malaysia	380	164	544	70
Switzerland	239	171	410	58
Other	1,540	1,489	3,029	51
Total	10,132	11,288	21,416	47

Source: ABS 1995 (totals subject to rounding - unpublished data)

State and Commonwealth Involvement

23. The State Government raised concerns with the Commonwealth about limitations of runway length inhibiting exports and State economic development. In 1993, a working group was formed to identify constraints and improvements required to accommodate existing and potential demands. The working group, with representation from the State Government and the FAC, concluded that the length of the main runway imposes restrictions on aircraft operations. A concept design and costing report, which examined alternative options for developing the main runway, was prepared by the FAC.

Runway Length

24. A runway length of 3,100 metres was selected because this is the maximum length which can be constructed while maintaining takeoff gradients over the limiting obstacle - the Glenelg Sewage Treatment works and the maximum length which satisfies the economic objectives of the State.

25. Analysis indicated that the selected runway length of 3,100 metres would be sufficient to accommodate full volumetric payloads on all types of aircraft in passenger configurations to all North Asian destinations, under the worst planning conditions. It is also sufficient to accommodate Boeing 747 freighter aircraft with full payloads to South-East Asian freight hubs and Boeing 747-400 freighters to Hong Kong with about 90 per cent payload.

26. The selected runway length would not be sufficient for Boeing 747 aircraft to take-off at their maximum certified operating weights. This requires 3,650 metres. However, the additional benefit would not justify the substantial cost of relocation of the Glenelg Sewage Treatment works because the most used freighter aircraft, the Boeing 747-100/200, even at their maximum permitted operating weights, lack the range to operate with full payloads to North Asian airports under worst planning conditions. These aircraft, when operating under these conditions, even out of Melbourne or Sydney which have the required runway length, must make fuel stops prior to their destination.

Planned Aircraft Mix

27. Most export freight out of Australia is carried on passenger aircraft. Dedicated freighter aircraft provide some significant advantages to shippers, including the capability to carry large dimensional cargo and larger pallets which cannot fit in the lower-deck holds of passenger aircraft. The South Australian Government envisages that a mix of international passenger and freight flights would use the runway for two reasons.

28. During 1995/96, only half of the residents of South Australia who travelled overseas used international flights through Adelaide. The same proportion of international visitors, whose principal destination was Adelaide, used international flights through Adelaide. The State Government believes the practice of international passengers travelling overseas through international gateways, would make the achievement of significant increases in the numbers of international passenger flights through Adelaide unlikely in the short term. The State Government does, however, expect some additional flights by airlines already serving Adelaide over the next several years, especially as they seek to substitute smaller aircraft on Adelaide routes and to de-link their Adelaide flights with other ports. Aircraft smaller than the Boeing 747 presently operating, such as Airbus A330s and Boeing 777s, also require the additional runway length planned. These flight increases will facilitate the introduction of more flexible tourism packaging but are unlikely to be sufficient to accommodate export requirements.

29. Freighter flights offer large increments of freight capacity while at the same time providing advantages to shippers. In 1995/96, about 268 tonnes of export freight capacity per week was available out of Adelaide when average weekly exports totalled 407 tonnes. That is, even if all available capacity had been used, an average of 138 tonnes per week would have required transhipment to interstate gateways. In fact, a weekly average of 230 tonnes of exports was transhipped in 1995/96 (57 per cent of total exports). A single freighter flight, shared with Melbourne, can offer 50 tonnes of capacity out of Adelaide.

30. The State Government believes it would not be unreasonable to expect implementation of additional passenger flights to Singapore, Kuala Lumpur and Hong Kong and freighter flights paired with another Australian arrival gateway, to the same destinations within the next five years. It is harder to predict the time frame in which new services to destinations in Japan, Korea and Taiwan may be implemented. However, such flights cannot ever be achieved without the runway extension which should be regarded as basic infrastructure essential to the operation of an international gateway.

Single Airfreight Port

31. The Committee raised with FAC and State Government witnesses, the practicalities of having a single major international airfreight port instead of providing each international airport with airfreight facilities. The Committee was advised that 90 per cent of airfreight in and out of Australia is carried on passenger aircraft. Furthermore, one of the basic rules of airfreight operations is the less number of times an airfreight consignment is handled, the better its quality will be.

Cargo Loading Infrastructure

32. The Committee questioned the adequacy of facilities currently available at Adelaide Airport to handle the storage and loading of perishable exports. The Airport has a state-of-the-art cold store. The two major airlines must have the equipment to handle general cargo movements. There would, however, be additional equipment required for freighter operations which would enable larger items of freight to be handled.

Support for the Need

33. A number of organisations with an interest in fostering South Australian exports and the economic development of the State made submissions to the Committee in support of the need for the main runway to be extended. These organisations were the:

- South Australian Employers' Chamber of Commerce and Industry (SAECCI). This organisation does not contend that simply lengthening the runway will be sufficient to ensure the desired economic benefits. SAECCI advised the Committee that it will be necessary for a concerted campaign to be undertaken to sell the potential of the extra capacity which will become available. The lessons of a joint campaign by the business community (through SAECCI) and the South Australian Government in achieving a massive increase in the throughput and efficiency at the South Australian port facility will be applied to the enhanced airport.

- Lincoln Airlines Pty Ltd. This Airline has been providing airfreight services between Port Lincoln and Adelaide for the past five years since the inception of the export of live crayfish. Although the export market has developed over the past five years, it is being hindered significantly by the lack of cargo space available on international flights to Hong Kong and other Asian destinations. The Airline and other operators have the capacity to transport possibly five times the existing shipments between Port Lincoln and Adelaide using existing aircraft. The current program to extend the export season by keeping crayfish in holding pens beyond the duration of the catching season, may also require additional freight services. The Airline believes the export of live crayfish can only be increased by a drastic improvement in international cargo services from Adelaide. Extending the main runway is crucial to enable direct fully laden international flights to depart from Adelaide;

- South Australian Economic Development Authority. The Authority reiterated the State Government's views concerning the shortcomings of existing facilities and the need for runway extensions being of critical importance to efforts to obtain a wider range and greater frequency of international flights;

- Eyre Regional Development Board and Ms Liz Penfold MP. The Board and Ms Penfold pointed to the significant contribution the three key industries in the region make to the States economy: the grain harvest and livestock produces $300 million; the fishing industry, which is growing rapidly, produces $150 million; and tourism another $60 million. In short, the region directly injects $510 million into the South Australian economy. Regional industries already export large quantities of high value products to the Asian region. To support the case for the runway extension, the Board advised the Committee that over 5,600 tonnes of tuna is currently exported by airfreight, with more than 80 per cent being airfreighted through Sydney or Melbourne. The crayfish industry exports in excess of 900 tonnes, which requires transhipment through Sydney or Melbourne.

- South Australian Tourism Commission. The Commission believes the need to extend the main runway is of State-wide significance and, when completed, will benefit the tourism industry.

Committee's Conclusions

34. The current runway length of Adelaide International Airport imposes payload constraints on departing wide bodied international aircraft.

35. Under existing arrangements more than half of the airfreight from South Australia is exported through other Australian airports. This penalises the State's export potential by reducing competitiveness due to higher transport costs, uncertainties in the timely delivery of goods and a reduction in the quality of perishable goods.

36. There is a need to lengthen the runway to make full use of airfreight capacity (especially to Asian airports on existing flights) provide greater opportunities for direct export of South Australian products and enhance the development of international tourism to the State.

37. Analysis has indicated that the selected runway length of 3,100 metres would be sufficient to accommodate full volumetric payloads on all types of aircraft in passenger configurations to all North Asian destinations, under the worst planning conditions. This length is also sufficient to accommodate Boeing 747 freighter aircraft with full payloads to South-East Asian hubs and Boeing 747 - 400 freighters to Hong Kong with a 90 per cent payload.

ALTERNATIVES CONSIDERED

Runway

38. A range of alternatives have been considered for the extension of the runway. These alternatives were assessed in terms of their environmental and community impacts, cost, their impacts on airport and road operations and compliance with the objectives of providing a runway of suitable length. Extending the runway to 3,100 metres will require the runway to be extended by 572 metres.

39. Alternatives considered were:

- extending the main runway by 572 metres to the south-west;
- extending the main runway in both directions inside and out of the current airport boundary;
- extending the runway by 572 metres to the north-east;
- using the existing north-west to the south-east runway;
- construction of a new runway; and
- relocating the airport.

40. The preferred alternative is extending the main runway by 572 metres to the south-west.

41. The Committee questioned the practicalities of extending the runway in both directions. The FAC advised that this would have a significant impact on the community, especially on the residents of West Richmond, located on the north-eastern end of the runway. If this option were adopted, there would be a requirement to demolish houses to achieve OCLs required for aircraft to effectively use the available length of runway. There would also be significant noise impacts.

Justification

42. None of the above alternatives, with the exception of the preferred alternative, were considered feasible. Most would fail to provide a runway of sufficient length to meet the objectives of the project and/or would have significant community impacts. In particular, the alternative of extending the runway to the north-east would result in significant property acquisition from the West Richmond area. Additionally, this alternative would significantly increase noise levels along the main flight path for the airport. Noise amelioration would also be required on a large scale.

43. Whilst the alternative to relocate the airport could remove current and potential future conflicts with the adjacent community, it is considered impractical because of the costs of developing a new airport and the significant changes that would be required to the States transport industry. It has been estimated that the net loss to the community of relocating the airport would be in the order of $1.5 to $2.0 billion.

Roads

44. The preferred option would result in the closure of Tapleys Hill Road in its present location. Various alternatives were investigated for the diversion of the road around the extended runway. These alternatives were assessed to determine their environmental and social impacts and construction costs. Alternatives which were considered are outlined below.

Short Deviation

45. The alignment for this alternative for the diversion of Tapleys Hill Road would commence south of the Air Services building and curve around the proposed runway extension and connect with the existing road at Anderson Avenue. A causeway would be constructed across the Patawalonga Basin with a new bridge provided over Brownhill Creek.

Long Deviation

46. This alternative would involve a similar alignment to the previous proposal but cross the Patawalonga Basin further to the west and as a result, sever Anderson Reserve. A bridge would need to be provided over the Patawalonga Basin and a new signalised intersection would be required at Anderson Avenue, which would also access Warren Avenue.

Short Tunnel

47. In this alternative, Tapleys Hill Road would be diverted under and just beyond the 150 metre long Runway End of Safety Area in a 60 metre long tunnel. The proposed road would then cross the Patawalonga Basin via a new bridge over Brownhill Creek and connect back to the existing road just north of the Sturt River bridge.

Long Tunnel

48. The long tunnel alternative would involve the construction of a 420 metre long tunnel to the west of and adjacent to the existing alignment of Tapleys Hill Road and under the proposed runway extension and taxiway. This alternative is proposed to start adjacent the Air Services building and connect back at the bridge over the Brownhill Creek outlet channel.

Controlled Crossing

49. A number of other alternatives such as a controlled crossing or closing the road were considered for Tapleys Hill Road. However, they are considered unfeasible due to safety concerns with aircraft operations, expected delays to road traffic and impacts of traffic diversion.

Africaine Road

50. The proposed runway extension would also affect Africaine Road which is a local road that provides access to communities to the west of Tapleys Hill Road. This road can be replaced with deviation alternatives but cannot be for the tunnel alternatives due to safety concerns with the proposed junction with Tapleys Hill Road.

Cost Comparisons

51. The estimated costs for the above alternatives are indicated below and include service relocation costs, construction of the realigned airport drain and replacement for Africaine Road:

- Short Deviation: $17.1 million
- Long Deviation: $20.0 million
- Short Tunnel: $24.0 million
- Long Tunnel: $42.5 million

Preferred Alternative

52. The short deviation is the preferred alternative as it provides similar impacts to the short and long tunnel alternatives at a lower cost. The short tunnel also has operational problems if the runway is further extended at a later date. While the long deviation has similar construction costs to the short deviation, it has a major impact on the operations of the Glenelg Baseball Club on Anderson Reserve, which would require relocation.

53. A number of organisations supported either tunnel option, believing less land would need to be resumed. If the tunnel option were selected, there would remain a requirement at the end of the runway, for a safety area and navigation aids which would require land to be transferred for airport functions.

54. The Committee also raised with the FAC the possibility that the main runway may need to be extended further in future and that if this were to occur, whether it would be more prudent to provide one of the tunnel solutions. SADOT officials advised that the Glenelg Sewage Treatment works, located at the end of the runway, would need to be relocated to enable the required clearance surfaces to be obtained. It would not be possible to amortise the cost of relocation against the marginal benefits resulting from the capacity to further lengthen the runway in future.

55. The road deviation will add 150 metres of transit time for cars. This has been computed to be equivalent to six or seven seconds of travelling time.

Committee's Conclusions

56. Extending the runway to 3,100 metres would require an extension of 572 metres. Alternatives assessed against environmental and community impacts, cost and the impact on airport and road operations, indicate that extending the runway to the south-west is the best solution.

57. Extending the runway to the south-west will require diversion of Tapleys Hill Road or a tunnel to be constructed under the extended runway. On the basis of cost the short deviation option is preferred.

THE PROPOSAL

Scope

58. The scope of the proposed works is:

- extending the existing taxiway;

- installing new lights along the runway and taxiway;
- relocating navigational aids, the wind direction indicator and anemometer;
- increasing the capacity of the Airports power generation equipment;
- constructing new stormwater drains, access roads and boundary fences; and
- reducing the height of obstacles at the ends of the runway.

Runway

59. The project involves the extension of the main runway by 572 metres to the south-west, across Tapleys Hill Road and into the Patawalonga Golf Course to provide a total runway length of 3,100 metres.

60. Extensive earthworks will be required to raise the level of the extended runway and taxiway by two metres above the existing level. The runway extension pavement will comprise a granular pavement with a grooved asphalt surface as is the existing runway.

61. The extension would be constructed approximately 200 metres beyond the existing boundary, across Tapleys Hill Road and into the Patawalonga South Golf Course. As a result, approximately 27 hectares of land needs to be acquired from the West Beach Trust, a statutory government authority established under a South Australian Act.

62. The Committee raised with the FAC the possible need to provide a retardation mechanism at the end of the runway which could cushion aircraft in the event of an aborted takeoff. The FAC advised that the 350 metres from the end of the runway to Tapleys Hill Road provides a reasonable safety margin.

Taxiway

63. The taxiway will not be extended to the length of the runway, due to problems with the type and depth of material in the Patawalonga Creek. The cost of excavating this material and refilling the creek would be in the order of $5.0 million. The taxiway will be shorter by approximately 150 metres to obviate the cost of the removal of this unsuitable material and replacement with structural filling. Savings of $1.2 million will result. Air Services Australia and the Civil Aviation Safety Authority have agreed that there would be no significant impact on aircraft operations by the shortened taxiway.

64. The Committee questioned the implications of the shortened taxiway on aircraft operations. The Committee was assured that the implications of the proposed configuration are minor. All international passenger aircraft would be able to operate from the point where the taxiway enters the runway. Older freighter aircraft, such as Boeing 747-200s would need to proceed to the end of the runway before taking off. Some runway capacity is lost but the number of movements from these aircraft will be minimal. The preferred take-off direction, used by 75 per cent of aircraft, is over the sea. The full length of 3,100 metres will be available to these aircraft.

Tapleys Hill Road

65. As Tapleys Hill Road will be severed by the extended runway, a deviation of the road around the runway is proposed. The alignment of the road is designed to minimise impact on West Beach Recreation Reserve (Golf Course and Baseball Club) by the provision of a causeway and bridge across the Patawalonga Basin. The works associated with the road include a replacement for the Sturt River Bridge and Reece Jennings recreational bikeway, upgrading the Warren Avenue intersection to reduce delays and improve safety and provision for on-road cyclists. The new road will comprise two lanes in each direction and provide for recreational and commuting cyclists. Due to the high traffic loadings, a composite pavement comprising cement treated materials with an asphalt surface is proposed across the Patawalonga Basin with new concrete bridges constructed across Brownhill Creek and the Sturt River.

66. Landscaping will be undertaken along the route, including the provision of a viewing platform for watching aircraft take-off and land. Access to the platform will be from the new Africaine Road.

Africaine Road

67. Africaine Road is to be replaced. The location of the junction with Tapleys Hill Road was determined by the need to provide lighting which does not penetrate the OLS for the runway. The alignment of the road was selected to minimise the likelihood of traffic diverting from Tapleys Hill Road to Military Road. A granular pavement with a thin asphalt surface is considered appropriate for the replacement road.

Blast Fence

68. A blast fence will be constructed at the end of the runway on the airport boundary to protect the users of Tapleys Hill Road. The blast fence will be approximately 4.3 metres above the level of the road and 180 metres long. Final design of the fence is currently being investigated as part of the design process.

The use of mounding would be restricted by the limited width of the land available. However, some mounding would reduce the height of the fencing required.

Patawalonga Creek

69. The Patawalonga Creek and Patawalonga South Golf Course will require modifications as a result of the extended runway. The existing creek channel will be filled in and a new channel provided as part of the redevelopment of the golf course. These modifications are currently being designed and implemented as part of a separate project by the Urban Projects Authority.

Services

70. Relocation of various services is required as a result of the runway extension and includes SA Water mains, SA Gas Corporation gas mains and two reclaimed water mains from the Glenelg Sewage Treatment works. In addition to these affected services, there will be some minor service relocations associated with Tapleys Hill Road between Warren Avenue and Anderson Avenue due to the reconstruction of the Sturt River bridge.

Obstacle Limitations

71. The OLS of the main runway is to be changed as a result of the runway extension. Consequently, there will be new obstacles such as trees and power poles which would restrict aircraft operations. It is therefore proposed to underground sections of power line which run along Military Road, Morley, Passmore and Britton Streets (low voltage) and Marion Road (high voltage). Additionally, there are approximately 25 Norfolk Island Pines in the Glenelg Sewage Treatment works and trees in numerous other locations at both ends of the main runway that require trimming or removal so as not penetrate the OLS.

Airport Drain

72. The drain running along the western boundary of the airport will require relocation around the proposed runway extension. This drain will be designed to reduce bird hazards and will need to be covered near the end of the runway to reduce the attraction of birds and subsequent risk to aircraft operations.

73. Landscaping will be undertaken to improve the visual impact of the drain. The choice of plantings will also discourage birds which are hazardous to aircraft operations.

Committee's Conclusion

74. Each component in the scope of the proposed works is directly related to the runway extension and can therefore be justified.

ENVIRONMENTAL IMPACT ASSESSMENT

Statutory requirements

75. On 1 June 1995, the South Australian Minister for Housing, Urban Development and Local Government Relations formally requested the preparation of an Environmental Impact Statement (EIS) under the terms of the South Australian *Development Act 1993*. As the Commonwealth is providing a significant amount of the funding, the proposal was also referred to the appropriate Commonwealth agency for consideration. On 26 August 1995, the Commonwealth Minister for the Environment requested that an EIS be prepared pursuant to the Commonwealth *Environment Protection (Impact of Proposals) Act 1974*. To satisfy the requirements of both Governments, it was agreed that a single assessment be conducted in the form of a joint Commonwealth/State EIS. The SADOT was designated as the proponent.

76. An EIS was prepared to satisfy both State and Commonwealth requirements by the firm of Rust PPK Pty Ltd and was simultaneously released by State and Commonwealth authorities on 3 June 1996. The consultation period concluded on 29 July 1996. Forty-two formal written submissions and 11 informal ones were received from the public along with 19 agency submissions. The proponent then prepared a final EIS or Response Document, dated 20 November 1996 and copies were made available to those who had made submissions on the EIS.

Environmental Impact Statement

77. The EIS assessed a range of issues associated with the extended runway and diversion of Tapleys Hill Road. The major issues raised through the formal consultation process were:

- the accuracy of noise predictions, impacts and amelioration measures;
- potential impact of airport operations and road on the Patawalonga South Golf Course;
- The impact of removal of Africaine Road on the surrounding road networks;

- the economic justification for the runway extension;
- preference for a tunnel option rather than a road deviation based on potential for future extension of the runway and perceived lack of impact on the West Beach Trust Reserve;
- management of stormwater, future flows and the impact on water quality within the Patawalonga;
- future airport development scenarios, particularly the new terminal;
- the effect of birdstrikes on aircraft operational safety;
- impact on flora and fauna, particularly the Wilsonia grasses and the butterflies; and
- issues of pollution in general, air quality and overall construction impacts.

78. The Response Document investigated these issues in detail with the findings relating to major issues detailed below.

79. Extension of the runway as proposed to the south-west by 572 metres was feasible whereas other options would be impracticable because of significant additional costs, noise impacts or safety problems.

80. The tunnel option for the deviation of Tapleys Hill Road would have similar impacts to the short deviation but would be at a significant additional cost. It would also preclude the relocation of Africaine Road. Although the tunnel option would allow further extension of the runway to the south-west, this was considered to be unlikely and would require relocation of the Glenelg Sewage Treatment works at considerable cost. Therefore, the short road deviation is the more viable and preferred option.

81. There were only marginal differences in impact between closure of Africaine Road and its relocation. On balance it was found that the loss in accessibility to existing suburbs and reduced connectivity of the road network would justify the relocation of Africaine Road. This will result in some impacts to residents on Military Road. During the temporary closure of Africaine Road when the Patawalonga Creek is diverted, the opportunity will be taken for further study of the consequences of the roads temporary closure.

82. The economic evaluation of the project took account of all major effects of the airport improvement. Additionally, flow-on benefits were considered by the

State Government although not included in the economic benefit-cost analysis. The economic evaluation of the project showed that the runway extension is justified and will bring considerable benefits to the State.

Noise Exposure

83. A number of organisations expressed concern about the runway extensions adding to aircraft noise. In 1982, the subject of aircraft noise emerged with some force during the Committee's inquiries into the expansion of the domestic terminal and the construction of the international terminal. For this reason, a brief description of contemporary aircraft noise analysis relative to land use planning is included. It is based on the EIS and the Report of the Senate Select Committee on Aircraft Noise in Sydney (November 1995).

ANEF System

84. The Australian Noise Exposure Forecast (ANEF) System has been used for many years. It is based on the American Noise Exposure Forecast (NEF) system which was revised for Australian conditions to reflect the findings of a community survey published by the National Acoustics Laboratory (NAL) in 1982. The system interprets noise exposure information and forecasts the impact of various levels of noise exposure on communities around airports. Under the system, noise exposure levels are calculated in ANEF units, which take into account the following factors:

- the intensity, duration, tonal content and spectrum of audible frequencies of noise of aircraft take-offs, approaches to landing, and reverse thrust after landing (but not noise generated on the airport from aircraft taxiing and engine running during ground maintenance);
- the forecast frequency of aircraft types and movements on various nominated flight paths; and
- the average daily distribution of aircraft take-off and landing movements in both daytime and night-time hours.

85. This information is presented on maps in the form of contours joining points of equal noise exposure over a period as determined historically (Australian Noise Exposure Index - ANEI), or points of predicted exposure (Australian Noise Exposure Forecast - ANEF; Australian Noise Exposure Concept - ANEC). More specifically, the purposes of these measures of noise exposure have different functions for land use planning purposes:

- the ANEI is a plot of contours based on actual aircraft activities over a prescribed period, usually a year, which can be used to provide a baseline of current conditions;
- the ANEF is a plot of contours taking into account future changes in aircraft movements and fleet mix, and is a forecast of the noise exposure for a designated future year; and
- the ANEC is an estimate of the noise contours for changes in airport activities such as the development of, or modifications to, runways. The primary function of the ANEC is to assess the noise effects of various operational or airport development alternatives.

86. In order to determine noise impact a dose/response curve is used. This shows the relationship between noise exposure level and the subjective reaction of those exposed. The dose/response information currently in use in Australia derives from a survey conducted in 1982 by the NAL. The contours can be compared with identified acceptable land uses as shown in Table 4 below.

TABLE 4 - ANEF levels

	ANEF levels		
Building type	**Acceptable**	**Conditional**	**Unacceptable**
House, home units, flat, caravan park	< 20	20 to 25	> 25
Hotels, motels, hostel	< 25	25 to 30	> 30
Schools, university	< 20	20 to 25	> 25
Hospitals, nursing homes	< 20	20 to 25	> 25
Public buildings	< 20	20 to 30	> 30
Commercial buildings	< 25	25 to 35	> 35
Light industrial buildings	< 30	30 to 40	> 40
Other	All ANEF zones		

Source: Standards Association of Australia AS 2021 - 1994
Civil Aviation Authority, 1988

87. The ANEF system has been used for many years as a guide for land use planning and its standing as a valid planning tool has been strengthened by its promulgation as an Australian Standard (AS2021). The ANEF system has been used for assessing average long term community reaction to aircraft noise as a basis for land use planning around airports.

88. The ANEF system has a number of limitations and was criticised in 1995 by the Senate Select Committee on Aircraft Noise in its report *Falling on Deaf Ears*, on Aircraft Noise in Sydney *(Parliamentary Paper 345/1995)*. The Report canvassed the following acknowledged limitations of the ANEF system in that it:

- does not provide a complete picture;
- predicts community reaction and not individual reaction;
- predicts reaction to average noise exposure;
- does not predict impact on a changing noise environment;
- depends for accuracy on its forecasts and assumptions;
- uses data collected in 1980 to predict responses in 2010;
- classifies people only as seriously or moderately affected; and
- does not adequately deal with the frequency of noise events.

89. The Senate Committee recommended that the NAL explore the development of indices or other information for predicting the noise impact for communities faced with a changing noise environment.

Aircraft Noise

90. The SADOT submitted the following tables from the EIS Response Document which shows the impact of the runway extension on the Glenelg North area set against the background of other changes occurring. The SADOT pointed out that the runway extension marginally increases the noise levels and impacts measured by the predicted maximum decibel (dBA) levels anticipated and the Number of People Affected (NOPA) calculations based on ANEC modelling. However, these increases are noticeably less than the noise level reductions that are predicted to occur due to the phasing out of the Chapter 2 aircraft such as the Boeing 727, before the runway extension is available for use.

TABLE 5 - Glenelg North - Changes in maximum expected take-off noise levels (dBA)(1) (worst case scenarios)

Intersection Location	Current (2)	Immediately before project completion (2)	Immediately after project completion (2)
Warren and Shannon Avenues	94	87	89
Tapleys Hill Rd and Anderson Ave	91	85	87
Anderson and Adelphi Avenues	93	89	90
Patawalonga Ftg and Anderson Ave	95	93	94
Warren Ave and James Melrose Rd	92	84	88
Glen Crt and James Melrose Rd	92	87	87

(1) Maximum movement swathe or over flight noise levels of any aircraft.
(2) For applicable aircraft mixes at that time.
Source: Vipac, 1996.

91. The next table shows the numbers of persons residing within ANEF bands for three scenarios, existing (1995), and in 1998 before and after the runway extension. The values are presented to the nearest 10 persons.

TABLE 6 - Glenelg North persons residing within ANEF contour bands

ANEF	Current (1995)	Before Project Completion (1998)	After Project Completion (1998)
>30	50	0	10
25-30	270	140	100
20-25	690	520	570
Total	1,010	660	680

Further Monitoring of Noise at Adelaide

92. Further analysis of noise generated by aircraft was carried out following the release of the EIS in order to assess in more detail the worst case impact of single aircraft movements for taxiing and taking off. Also, the expected earlier phasing out of the noisier Chapter 2 aircraft substantially by the end of 1997 was assessed. The previous conclusions of the EIS were found to remain valid, that is:

- the number of people exposed to aircraft noise greater than 20 ANEC would decrease by the year 2010 compared with today;

- a significant decrease in noise will occur when the Chapter 2 aircraft are phased out of operation, at the latest by 2002 although it is anticipated these aircraft will be substantially phased out prior to the opening of the runway extension; and

- the extension of the runway closer to residences south-west of the airport (mainly in Glenelg North) may produce a small increase in typical maximum noise levels caused by aircraft taxiing and taking off. However, when Chapter 2 aircraft are removed from service there will be a reduction in noise levels in this area.

Government Consideration of the EIS

93. The Environment Assessment Branch of the Commonwealth Department of the Environment, Sport and Territories assessed the EIS and the Response Document and prepared an Environmental Assessment Report, dated January 1997, for consideration by the Commonwealth Minister for the Environment, Sport and Territories. The Commonwealth Minister may make comments, suggestions or recommendations to the Action Minister (in this case the Minister for Transport and Regional Development) on the environmental aspects of the proposal. The Action Minister is required to take into account such comments, suggestions or recommendations in making a decision on the proposal.

94. The relevant State Government Department also prepares an Assessment Report and the Development Application is then sent to the Governor, the final decision-maker for development activities defined by State legislation.

95. The Environmental Assessment Report makes the following recommendations:

- the FAC, as the airport operator, either directly or through another agency, undertake to monitor aircraft noise, especially taxiing and take-off noise, on surrounding residential areas, in particular the suburb of Glenelg North. The results of this monitoring should be presented to the Adelaide Airport Environment Committee for consideration and any consequential recommendation for follow-up action;

- Adelaide International Airport's Noise Abatement Procedures be reviewed when the results of the recommended monitoring become available. If appropriate, the Noise Abatement Procedures should be amended to minimise, as far as

possible, the overall community aircraft noise exposure around Adelaide International Airport; and

- the proposal be implemented in a manner consistent with the commitments and undertakings provided in the EIS and in subsequent information provided to the Department of Environment, Sport and Territories.

96. Several recommendations are made in the parallel Environment Assessment Report prepared by the South Australian Department of Housing and Urban Development for the consideration of their Minister.

Glenelg Residents Association

97. The Glenelg Residents Association made a number of comments to the Committee at the public hearing. Many issues had already been canvassed previously in the EIS process.

98. The Association expressed some scepticism about the precision of the ANEF system based on experiences at Sydney (Kingsford-Smith) Airport. The response from the SADOT suggested that any direct comparison with Sydney cannot be justified because there are major differences between the two projects. The Sydney airport third runway included the addition of a complete new runway, rather than an extension to an existing runway. The Sydney project also included a major change in the direction of aircraft movements. For example, aircraft movements over one area increased from 3 per cent to 29 per cent of all movements. No such changes are proposed as part of the Adelaide project. Furthermore, the total number of movements, the density of movements and the range of flightpaths are much greater and more complex in Sydney than in Adelaide.

99. Chief amongst concerns expressed by the Glenelg Residents Association was the validity of the ANEF System in predicting, with some precision, the number of people likely to be within the critical 20-25 (conditional) and greater than 25 ANEF (unacceptable) contour zones. The Association requested the Committee to:

- apply Australian Standard 2021 when considering noise amelioration;
- reject the conclusion in the EIS Response Document that noise impacts do not warrant a commitment to noise amelioration, and accept that Glenelg North is likely to have noticeable noise impacts;

- ensure that funds be provided for compensation and amelioration and these be determined using actual noise measurements;
- ensure that houses between Anderson Avenue/Warren Avenue and Burns, Lewis Streets, and Rothesay, Gosse and Bonython Avenues be considered for amelioration and that noise monitoring be conducted in these areas; and
- ensure that a budget be allocated for noise amelioration and decisions be made after noise measurements have been conducted.

100. In response, the SADOT made the following points:

- the ANEF system is not perfect but is the best measure available in determining cumulative noise exposure and the community's reaction;
- there are five noise monitoring stations located around the airport which have been in operation for 12 months, which provide a significant database of every aircraft movement at Adelaide Airport and provides data for the Adelaide Airport Environmental Committee on a quarterly basis;
- greater accuracy will be available from the results of State-funded enhanced noise monitoring study to be undertaken. The results of the study will improve the level of precision of predictions of noise events and the ANEC data;
- AS2021 provides guidelines for the determination of noise reduction requirements. There is no legislation prescribing these requirements be provided. This would be the responsibility of the Commonwealth and would need to be applied nationally if the requirements were mandatory; and
- consideration will be given to the need for noise amelioration following receipt of the results of the noise monitoring program and consideration of noise impacts and take-offs on Glenelg North.

Heritage Assessment

101. The Committee was advised by the FAC that there are no heritage impacts. Research in this area has revealed no sites of Aboriginal or sacred significance. The Kaurna Aboriginal Community Heritage Association has been advised of the proposed works and were involved in site inspections as part of the environmental assessment of the project.

102. The relevant authorities will be involved in the event of any Aboriginal artefacts or skeletal remains being discovered.

Committee's Conclusions

103. The proposal has been well publicised and an Environmental Impact Statement and Response Document were prepared at Ministerial direction.

104. An enhanced aircraft noise monitoring study will be undertaken at the State's expense to improve the level of precision of predictions of noise events from aircraft operations and the Australian Noise Exposure Concept data.

Committee's Recommendation

105. Consideration should be given for noise amelioration to houses in Glenelg North following receipt of the results of the noise monitoring study.

CONSULTATION

106. There has been consultation with the Departments of Treasury and Finance, Department of Industry, Manufacturing, Small Business and Regional Development (formerly EDA), State and Federal Departments of Transport, FAC, Department of Housing and Urban Development, Environment Protection Authority, South Australian Health Commission, West Beach Trust as well as Glenelg and West Torrens Councils.

107. A Master Project Control Group and the Project Managers convene on a monthly basis. These project coordination meetings bring together representatives from State and Federal Departments of Transport, FAC, Department of Housing and Urban Development and the Urban Projects Authority.

108. The community has been informed of the options for the realignment of Tapleys Hill Road via the EIS process. Numerous public meetings were held to discuss issues relating to the realignment of the road, in particular with regard to a replacement of Africaine Road and aircraft noise.

109. There has also been consultation with the Urban Projects Authority and Patawalonga Catchment Authority regarding design flood levels in the Patawalonga Basin due to the Glenelg Foreshore development. These groups have provided input into the planning for the road to prevent flooding of the road and surrounding areas.

BEST PRACTICE

110. Consultants are engaged based on Association of Consulting Engineers Australia (ACEA) Guidelines and Construction Industry Development Agency (CIDA) recommended Code of Practice, where price is only one factor in the selection process.

111. Contractors engaged in the remediation and construction works will be required to have a Quality Assurance System and engage in best practice techniques. This is in line with CIDA guidelines. All construction works for the project will be undertaken by competitive tender, with contractors working under appropriate quality assurance systems.

MASTER PLAN

112. The provision for the runway extension to the south-west of the existing main runway across Tapleys Hill Road was included in the Draft Airport Master Plan 1981 and subsequent updates of the Plan.

INTERNATIONAL STANDARDS

113. The runway and other airport works will be designed to the standards and guidelines set out by the International Civil Aviation Organisation and the Rules and Practices for Aerodromes. For the realignment of Tapleys Hill Road the appropriate Austroads and SADOT guidelines will be used in the design of the road and bridges.

TIMING, FUNDING AND PROPERTY ARRANGEMENTS

Timing

114. During the site inspection, the Committee was able to see the extent of works which are currently underway on the West Beach Recreation Reserve in order to free up land so that Tapleys Hill Road can be diverted around the runway extension. It is expected that the Patawalonga South Golf Course works will be completed by May 1997.

115. Road construction works were proposed to commence in February 1997 and be completed by November 1997. Construction of the runway could

commence in March 1997 and be completed in June 1998, with the taxiway and other airport works to be completed by November 1998.

116. The Committee questioned if this is an appropriate time to be undertaking major works at the Airport given that the Government has indicated its intention to lease the Airport in the near future. The SADOT advised the Committee that it would be appropriate for the work to be undertaken before the Airport is offered for lease because it believes any runway extensions would not be undertaken by a commercial operator.

117. Ansett Airlines raised the question of the cost of the project resulting in increased charges to the airlines. The FAC advised in response that the cost of the lease would not change significantly as a result of the runway extension. The proposed work will make the Airport more attractive to potential lessors.

Funding Arrangements

118. On 15 August 1995, the State and the Commonwealth announced agreement on arrangements. The Commonwealth, in the 1996/97 Budget agreed to provide $48 million for the project. The State Government has committed $20 million towards the cost of the project. The Commonwealth has agreed to reimburse the State for its expenditure when the Airport is leased.

119. The current planning estimate for infrastructure works of the runway extension project (excluding land owned by the State) is $48 million without allowing for inflation and contingencies. Land currently held by the State and the West Beach Trust, to the value of $4 million, is to be resumed. The value of the land required for the airport is estimated at $3.5 million. The remainder of the land is required for the road deviation.

120. The State has made funds available to facilitate preconstruction works. These have included rearrangement of the recreational facilities, design and tendering of the road works, design of the runway works and the ordering of long lead time navigation equipment. The State recognises its risk in making these expenditures prior to the Committee's approval. However, it is an arrangement to which all participants, including the Federal Department of Transport and Regional Development, have mutually agreed. The Committee was kept informed of these arrangements.

121. The State will undertake all off-Airport works to allow the extension to be constructed. The FAC will construct the runway extension and all associated on-Airport works. Both State and FAC works are included in the project cost.

Property Arrangements and Recurrent Expenditure

122. The subject land is held in the name of West Beach Trust pursuant to the *West Beach Recreation Reserve Act 1987.*

123. The proposed runway extension and realignment of Tapleys Hill Road will require land to be transferred subject to final design as follows:

- Approximately 20 hectares of land currently owned by the West Beach Trust to the FAC.
- Approximately 3 hectares of land (existing Tapleys Hill Road) currently owned by the Department of Transport to the FAC.
- Approximately 3.8 hectares of land currently owned by the West Beach Trust to the Department of Transport.
- Approximately 0.5 hectare of land currently owned by the Crown (under care and control of the City of Glenelg) to the Department of Transport.
- A portion of Africaine Road from the Department of Transport to the FAC.

124. Maintenance of the realigned Tapleys Hill Road is the responsibility of the Department of Transport and Africaine Road of the City of West Torrens.

125. The City of West Torrens will incur reduced maintenance costs for Africaine Road as the length of the new road will be 200 metres shorter than the existing road. It is expected that there will be reduced maintenance costs to the Department of Transport for Tapleys Hill Road as the project works will result in some deferral of road and bridge maintenance costs.

126. The FAC will be responsible for all ongoing maintenance within the new Airport boundary and the Airport drain.

REVENUE

127. The works will provide opportunities to increase heavy international aircraft movements through Adelaide Airport. These will produce some additional revenue in landing and other fees for the Airport operator but, because international aircraft movements currently only comprise 3.5 per cent of total regular passenger transport movements through Adelaide Airport, even substantial success in achieving additional international movements will have a relatively small revenue effect. It is not suggested that this, in itself, would be

sufficient to justify the project expenditure. That justification lies in the State economic benefits which the project works will facilitate.

128. The project works will increase the value of the Airport and result in the Commonwealth achieving a higher sale price for the Airport's lease than it would otherwise. AIDC Ltd, in a September 1994 consultancy for the State Government, estimated that the Commonwealth could realise between $5 million and $10 million in additional lease sale revenue as a result of the project works.

Committee's Recommendation

129. The Committee recommends the construction of extensions to the main runway at Adelaide International Airport at an estimated out-turn cost of $48 million.

CONCLUSIONS AND RECOMMENDATIONS

130. The Committees conclusions and recommendations and the paragraphs in the report in which they occur are set out below:

1. **The current runway length of Adelaide International Airport imposes payload constraints on departing wide bodied international aircraft. (Paragraph 34)**

2. **Under existing arrangements more than half of the airfreight from South Australia is exported through other Australian airports. This penalises the State's export potential by reducing competitiveness due to higher transport costs, uncertainties in the timely delivery of goods and a reduction in the quality of perishable goods. (Paragraph 35)**

3. **There is a need to lengthen the runway to make full use of airfreight capacity (especially to Asian airports on existing flights) provide greater opportunities for direct export of South Australian products and enhance the development of international tourism to the State. (Paragraph 36)**

4. **Analysis has indicated that the selected runway length of 3,100 metres would be sufficient to accommodate full volumetric payloads on all types of aircraft in passenger configurations to all North Asian destinations, under the worst planning conditions. This length is also sufficient to accommodate Boeing 747 freighter aircraft with full payloads to South-East Asian hubs and Boeing 747 - 400 freighters to Hong Kong with a 90 per cent payload. (Paragraph 37)**

5. **Extending the runway to 3,100 metres would require an extension of 572 metres. Alternatives assessed against environmental and community impacts, cost and the impact on airport and road operations, indicate that extending the runway to the south-west is the best solution. (Paragraph 56)**

6. **Extending the runway to the south-west will require diversion of Tapleys Hill Road or a tunnel to be constructed under the extended runway. On the basis of cost the short deviation option is preferred. (Paragraph 57)**

7. **Each component in the scope of the proposed works is directly related to the runway extension and can therefore be justified. (Paragraph 74)**

8. **The proposal has been well publicised and an Environmental Impact Statement and Response Document were prepared at Ministerial direction. (Paragraph 103)**

9. **An enhanced aircraft noise monitoring study will be undertaken at the State's expense to improve the level of precision of predictions of noise events from aircraft operations and the Australian Noise Exposure Concept data. (Paragraph 104)**

10. **Consideration should be given for noise amelioration to houses in Glenelg North following receipt of the results of the noise monitoring study. (Paragraph 105)**

11. **The Committee recommends the construction of extensions to the main runway at Adelaide International Airport at an estimated out-turn cost of $48 million. (Paragraph 129)**

Neil Andrew MP
Chairman

27 February 1997

APPENDIX A

WITNESSES

CHILDS, Mr Barry, President, South Australian Exporters Association, c/- South Australian Employers Chamber of Commerce and Industry, Commerce House, 136 Greenhill Road, Unley, South Australia, 5061

CHUGG, Mr Alan Mark, District Sales Manager, Cargo, Singapore Airlines Ltd, Aviation House, Adelaide Airport, South Australia, 5950

CORNISH, Mr Wayne, President, South Australian Farmers Federation, 122 Frome Street, Adelaide, South Australia, 5000

HARRISON, Mr Ian, General Manager, Policy Development, South Australian Employers Chamber of Commerce and Industry, Enterprise House, 136 Greenhill Road, Unley, South Australia, 5061

HAYMAN, Mr Donald Malcolm, Manager, Projects and Consulting Services, Federal Airports Corporation, 2A Lord Street, Botany, New South Wales, 2019

JOHNSTONE, Mr Rodney, National President, Australian Residents Association, PO Box 2240, Adelaide, South Australia, 5001

MILLN, Mr Michael David, Senior Adviser, Aviation, South Australian Department of Transport, PO Box 1, Walkerville, South Australia, 5018

MUNCE, Mr Barry Roderick, Consultant, Airplan, Federal Airports Corporation, 2A Lord Street, Botany, New South Wales, 2019

ROBERTS, Mr Ian Noel, Airport Runway Extension Project Coordinator, South Australian Department of Transport, Head Office, PO Box 1, Walkerville, South Australia, 5081

STEWART, Mr Terry John, Project Manager, South Australian Urban Projects Authority, Level 8, Riverside Centre, North Terrace, Adelaide, 5000

TEAGUE, Dr Peter Fletcher, Senior Acoustic Consultant, Consultant to Rust PPK Pty Ltd, Vipac Engineers and Scientists, PO Box 2419, Kent Town, South Australia, 5067

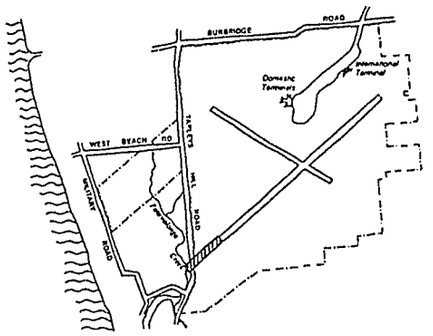
TREE, Mr John Laurence, Manager, Technical Services, Federal Airports Corporation, 1 James Schofield Drive, Adelaide International Airport, South Australia, 5950

TUSTIN, Dr Don, President, Glenelg Residents Association Inc., 2 Rugless Terrace, Glenelg, Adelaide, South Australia, 5045

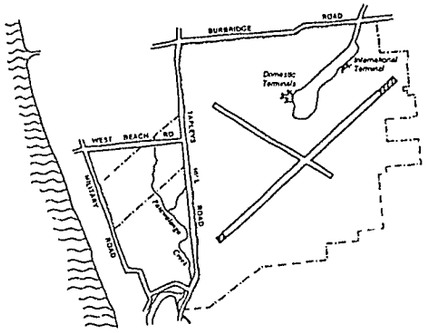
WALLACE, Mr Douglas Thomas, Manager, Planning, Consultant to the South Australian Department of Transport, Rust PPK Pty Ltd, GPO Box 398, Adelaide, South Australia, 5001

APPENDIX B

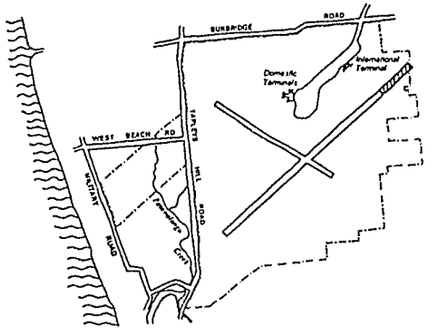
PROJECT MAPS AND DRAWINGS



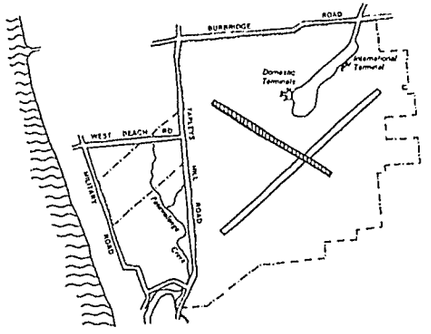
Option 1 - Extend the main runway by 572 metres to the south-west



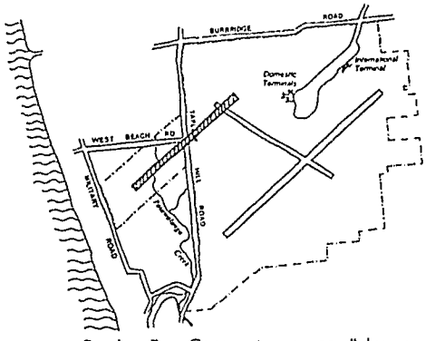
Option 2 - Extend the main runway in both directions



Option 3 - Extend the main runway by 572 metres to the north-east



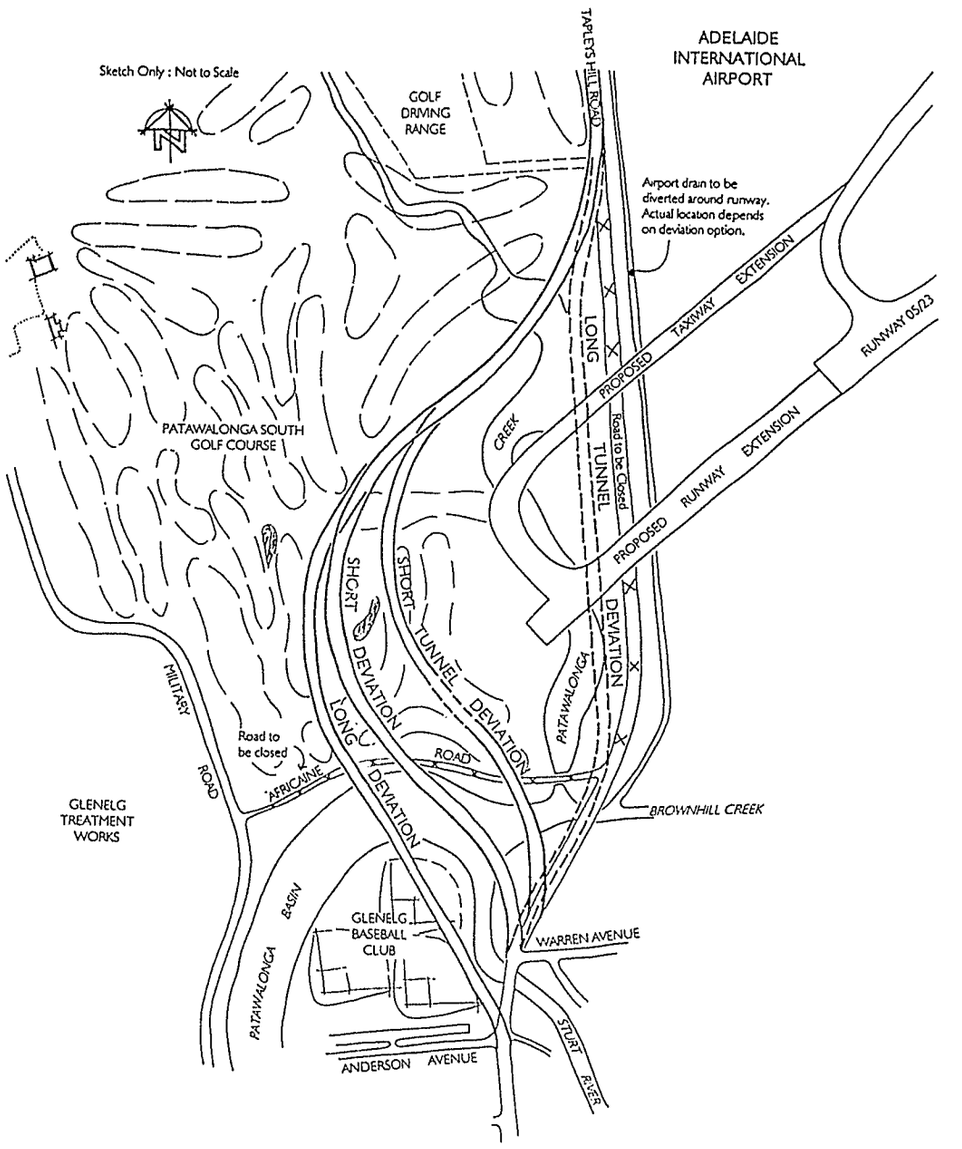
Option 4 - Utilise the cross runway



Option 5 - Construct a new parallel runway

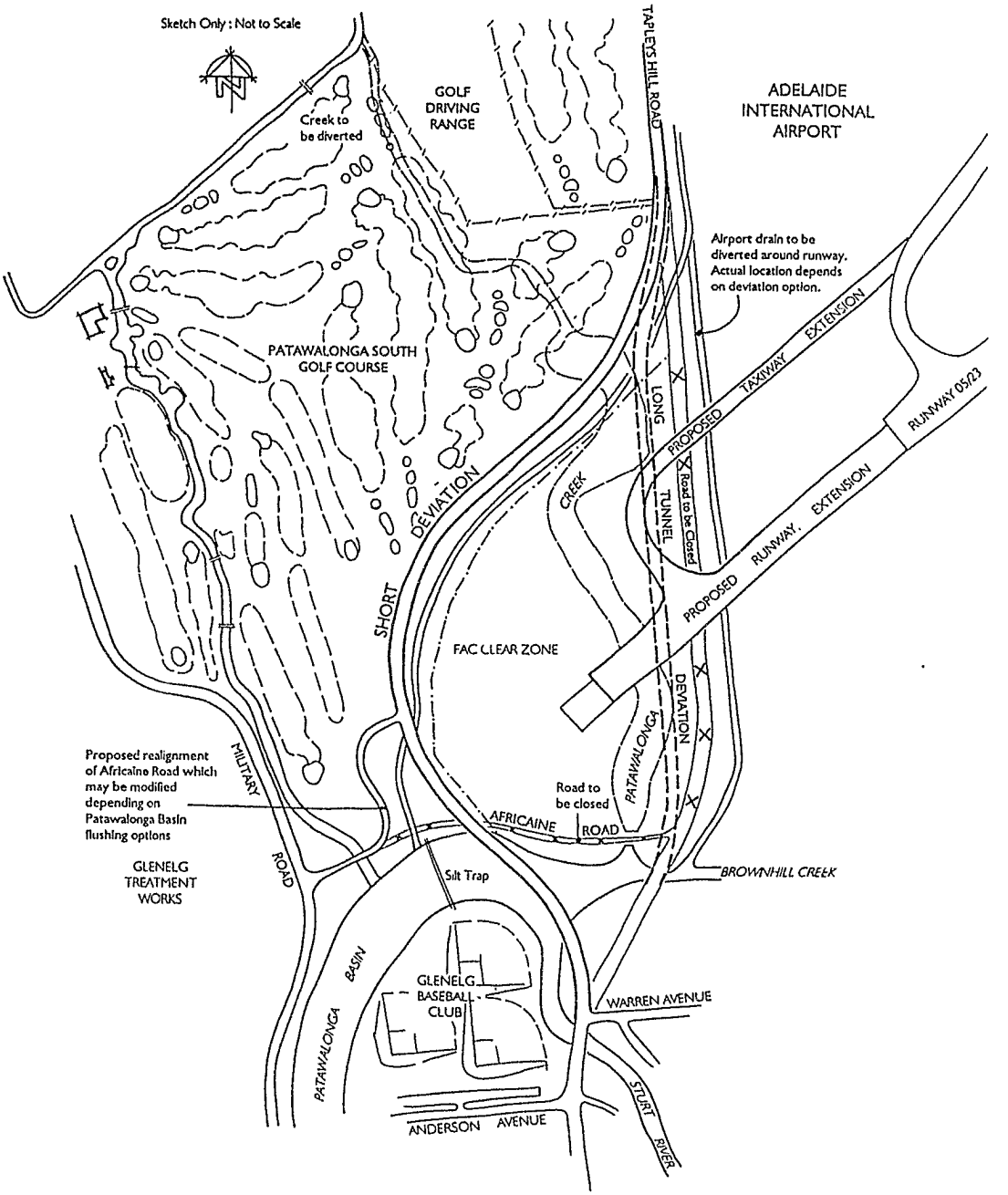
Runway Options

FIGURE 1



Road Alternatives

FIGURE 2



The Project

FIGURE 3