

Portland Airport Master Plan

2009- 2013



24 March 2009

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Master Plan Summary

The 2009 Portland Airport Master Plan has two objectives. The first objective is to report on the current status (2009) of the Portland Airport. The status review includes: infrastructure, passenger numbers, aircraft movements, and airport finances.

The second objective of the Portland Airport Master Plan is to examine actual and potential airport operations for the next five years (2009-2013). The examination includes new and proposed air routes to Portland, forecast passenger movements to the year 2030, direct employment opportunities generated by the proposed modernization of the Portland Airport, expanded airline activity and the resulting economic impact that will result for Glenelg Shire from the upgraded Portland Airport.

Portland Airport's most important contribution to the south west of Victoria is its role as a regional gateway for domestic business and leisure travel. The business community has made it quite clear that they see the development of the Portland Airport as being vital to the south west regions economic growth. At the same time the preparation of this Master Plan has allowed us to appraise and reflect on the impacts for growth.

In developing air services from Portland Airport, Glenelg Shire's vision is to play a leading role in the economic development of the south west region by providing an increasing range of frequent scheduled services to and from destinations required by business. The Master Plan includes a range of effective mitigation measures which seek to reduce, minimize and pro actively manage the adverse effects of growth, whilst seeking to realize the social and economic benefits of air travel. Airport management also aims to meet the growing demand for leisure travel by residents within the airport catchment area by widening the choice of services to the area and as a gateway for the tourists in the south west.

Throughout the development of the Master Plan we have sought to engage with the local community and the key stakeholders that have an interest in the development of Portland Airport

The Master Plan considers the development of the airport in three phases.

1. It reports on the current infrastructure highlighting the current strengths, weakness, opportunities and threats that exist for the Portland Airport in its current configuration.
2. It outlines development proposed to accommodate growth between 2009 and 2013. This section describes the development that will be needed to increase the capacity of the airport to accommodate in excess of 15,000 passengers per annum at 2013. This figure is a combination of Portland and Regional based passengers. The Master Plan appraises the environmental, economic and social impacts of this growth.
3. The Master Plan also looks forward beyond 2013 and includes indicative land use plans showing how the airport might expand to handle the passenger growth to 2020.

The goals and objectives of the Portland Airport Master plan are simple and clear.

Goal 1 – Provide an airport that is safe and reliable

Goal 2 - Develop an airport that is consistent with Commonwealth, State, regional and local growth plans and economic development policies.

Goal 3 – Develop the airport in a manner which is flexible and adaptable to changing conditions in the aviation world which is cost effective and offers a high level of service to the airport's consumers

Goal 4 – Enhance the economic importance of the Portland Airport to Glenelg Shire and to the Greater Green Triangle Area

Specific Development Goals for 2009-2013

1. Relocate the JetA1 and Avgas facilities off the airport apron to a location near the aero club.
2. Extend the area of the apron to accommodate larger types of aircraft and improve aircraft parking and taxiing mobility
3. Double the size and capacity of the current main hangar
4. Develop an administration / office facility in the main hangar
5. Develop a conference room addition to the Portland Airport Terminal
6. Develop an administration and crew area office addition to the Portland Airport Terminal
7. Develop extra taxi ways and aircraft parking and private hangar facilities at Portland Airport

Section 1 Portland Airport Today

1. Purpose of the Portland Airport Master Plan

The purpose of Portland Airport Master Plan is two fold. The first purpose is to provide an overview of the current operational status of the Portland Airport. The overview takes into consideration current passenger volumes, general aviation movements, facilities and infrastructure. A Strength, Weakness, Opportunities and Threats (SWOT) analysis was performed on the existing Portland Airport infrastructure. The analysis indicated:

Strengths

- Good existing infrastructure on which to base development
- A large site allowing for future development

Weakness

- Current low passenger numbers
- Only 3 air routes originating from Portland (Portland-Hamilton, Portland-Avalon, Portland via Hamilton to Essendon)

Opportunities

- Attract aviation based commercial activities to airport
- Expand route network
- Increase Freight operations

Threats

- Further funding for future development is not available

The SWOT analysis became the catalyst for the second dedicated role of the Portland Airport Master Plan. The second role was to look forward and forecast future passenger demand and infrastructure required by the Portland Airport for the next 20 year time frame. Demand Passenger forecasts were made on a Portland and Regional basis using three growth scenarios (2%, 4% and 6% per annum). Infrastructure requirements were examined to identify what modernization would be required to meet the forecast passenger demand and to service existing and expanding maintenance and engineering works. The result was the identification of a series of engineering and construction tasks to modernize the Portland Airport which when completed would allow Glenelg Shire to gain the maximum economic return from the Portland Airport.

2. The Importance of the Portland Airport to Glenelg Shire

Having a constrained or diminished Portland Airport would decrease the quality of health care, decrease the odds of a viable economic future, reduce the ability of local, state and Commonwealth agencies to respond to disasters and emergencies and lower the viability of rural businesses.

The importance of an airport can not be understated, Melbourne's Tullamarine airport has been described as one of the major arteries in the Victorian economy, if that is the case then the Portland Airport is the veins and capillaries for a healthy and productive economic system in the Glenelg Shire and surrounding region.

Benefits derived from one usage of an airport can, when added to another usage, result in a broad menu of attributes available from the facility. The benefits to the community are derived not from the flights themselves, but from the purpose of the flights.

In summary, the benefits to the Glenelg Shire include the following: (1) enhanced quality of life; (2) access to needed professional services; (3) improved quality of healthcare; (4) effective and timely response to disasters, emergencies, and fires; (5) support for local businesses, including agriculture and timber businesses; (6) improved ability to petition government; (7) community life enrichment; (8) critical asset for economic development; and (9) an improved sense of well-being.

The Portland Airport is fully integrated into the life of the Glenelg community. Citizens are touched in many ways not always evident, but always effective. The Portland Airport serves many roles in relation to Economic Development, Health Care and Emergency Services, Business and Commerce, Tourism and Enriching community life in Glenelg Shire.

2.1 Economic Development

If a community has any hope of recruiting new businesses, airports must be part of the local infrastructure. When a business looks to relocate it performs an analysis on the potential relocation target assets i.e. the physical plant, services, educational opportunities, political structure, infrastructure, and so forth. If a community is to make it past the first round for consideration, certain assets must be present. In almost every case, to make a firm's short-list, the airport "box" must be checked. The majority of firms who are seeking a site to relocate or build a new facility will not consider a community without an airport. The community is eliminated from the short-list even before they have a chance to sell their other attributes.

Portland is fortunate in that the current Portland Airport has been in existence since 1982 and currently performs various economic development roles including:

- Increasing economic growth in Portland and the Glenelg Shire

- The Portland Airport provides access to services, medicine, connecting national flights, and business travel.
- The Portland Airport provides tourism accessibility
- The Portland Airport makes recruitment of businesses easier. It's easier to get them here and keep them here.
- The Portland Airport presents a modern face.
- The Portland Airport provides economic development opportunities.
- The Portland Airport enhances local businesses with their transportation needs

2.2 Health Care & Emergency Services

Improved quality of health care is a benefit to rural residents made possible by rural airports. Air ambulance service from rural airports to urban medical centers has become routine.

In recent years, medical technology and specialists have concentrated in urban areas. This is due to a number of factors, not the least of which is the higher income and population levels that characterise urban centers. Urban and suburban areas are better able to support the latest technology that specialists need, as well as the specialists themselves.

The high cost of new medical technology, the demand for specialisation, the economies of repeated procedures, and the need for a large patient base to pay for these factors concentrates high-level medical treatment facilities in or near urban centers. These factors, coupled with the difficulty that rural hospitals have in recruiting and retaining personnel, creates a situation in which rural hospitals, while providing an excellent level of care within the framework of their equipment and personnel, must send many patients to urban hospitals. When possible, that specialised knowledge is imported by bringing the specialist to the rural area physically or virtually, using video-conferencing and other digital communication technologies.

Rural airports are used to support many of the activities of fire fighting operations, police agencies, and for natural disaster response. An additional benefit is the fact that the airport will be there if and when it is needed as an alternative to other modes of transportation. The importance to the residents of communities of the use of their airports during disasters or emergencies, while difficult to quantify, is a “hidden” asset that might not be noticed until it is critically needed.

2.3 Business and Commerce

With increasing specialisation affecting both Australian businesses and the lives of private citizens, air transport access to the expertise and markets found in urban areas takes on an increasing importance to rural communities.

“Access” is a critical benefit provided to rural communities by their airports. For the most part, construction and environmental engineers, digital communication technologists, specialised lawyers, communications systems specialists, financial specialists, wastewater specialists and other essential specialists live and work in or near urban centers. In today’s economic environment, rural communities cannot stay isolated and still hope to survive. To maintain

economic viability, rural communities must maintain access to urban centers for this type of specialisation. The Portland Airport provides that “Access” for the Portland community.

2.4 Tourism

The Parliament of Victoria’s Inquiry into Rural and Regional Tourism (*Final Report July 2008: Air Services 5.19 - 5.27*) provides clear evidence of potential long term impacts to tourism in regional Victoria if air services are not developed to meet both domestic and international tourism demand. Likewise, the benefits to the tourism industry through improved air services and facilities are being widely recognised, in particular the motivation of tourism operators to develop more product to meet the increasing demand.

The Report states:

- “The provision of air services, at a reasonable cost, is becoming more and more important for tourism in rural and regional Victoria. With the introduction of low-cost carriers into the airline market, and the trend towards shorter breaks, many Australians are turning to the option of flying to holiday destinations. There is also concern that regional Victoria is losing ground as Melbournians choose to fly interstate or overseas for holidays rather than touring Victoria by car. Improved air services are essential to counter this trend and to benefit from projected increases in international tourism”.

These concerns were reflected during the Committee’s public hearings where two main issues arose in relation to air services: firstly, the need for increased direct access into Melbourne for international tourists, and secondly the need for improved airport facilities and air services in regional Victoria.

Turning first to the issue of air access into Melbourne, a number of peak industry bodies including Tourism Alliance and the Victoria Tourism Industry Council pointed to the projected growth of international tourism and the critical importance of increasing direct international flights into Melbourne. The Australian Hotels and Hospitality Association submission stressed the need to create easy access into Victoria for international tourists rather than landing in Sydney and arranging connecting flights. They believe that direct flights deliver cheaper fares, minimise delays for passengers and provide choice, access and certainty for business and tourist travelers.

The need for improved air access into regional Victoria was also raised frequently at hearings and in submissions. This included direct flights into regional centres from Sydney and other interstate cities, as well as more and cheaper flights from Melbourne. This was seen as particularly important for those destinations that are more remote from Melbourne.

Mr. Wayne Kayler-Thomson, of the Victorian Tourism Industry Council, told the Committee:

- “Some of our remote destinations do need better air access, because visitors, particularly international visitors, often do not have the time to spend in road touring, therefore any quicker access we are able to make will make a difference into the future. From Tourism

Victoria, to industry organisations, local government representatives and tourism operators, there was general agreement on this point”.

Located at the western end of the Great Ocean Road, Portland’s strategic location is critical in terms of tourism. The Great Ocean Road is Victoria’s greatest tourism icon and is also recognized as one of Australia’s premier touring regions.

With over 7.5 million domestic overnight & daytrip visitors and 159,000 international visitors per annum, to the Great Ocean Road region and 546,000 total visitors per annum to the Limestone Coast region, the need to ensure suitable air facilities is becoming much more evident, and the fly/drive market will play an important part in future growth.

Located midway between Melbourne & Adelaide, Portland is uniquely positioned to take advantage of the growing touring market along the Melbourne to Adelaide Touring Route. The ability to offer fly in/out or fly/drive options to this important travelling market is critical to the growth of future tourism product development and investment opportunities for the region.

2.5 Enriching Community Life

Flights from the Portland Airport touch almost every sector of life in Portland and the Glenelg Shire. Taken individually, each activity may seem inconsequential but viewed as a whole; the Portland Airport does enhance the quality of life for the residents of the community it serves.

The Portland Airport acts as a “portal” to the world by serving business and commerce, recreation, family, health and safety needs for the residents of Portland and Glenelg. Another benefit which can be attributed to the Portland Airport is an improved sense of well being.

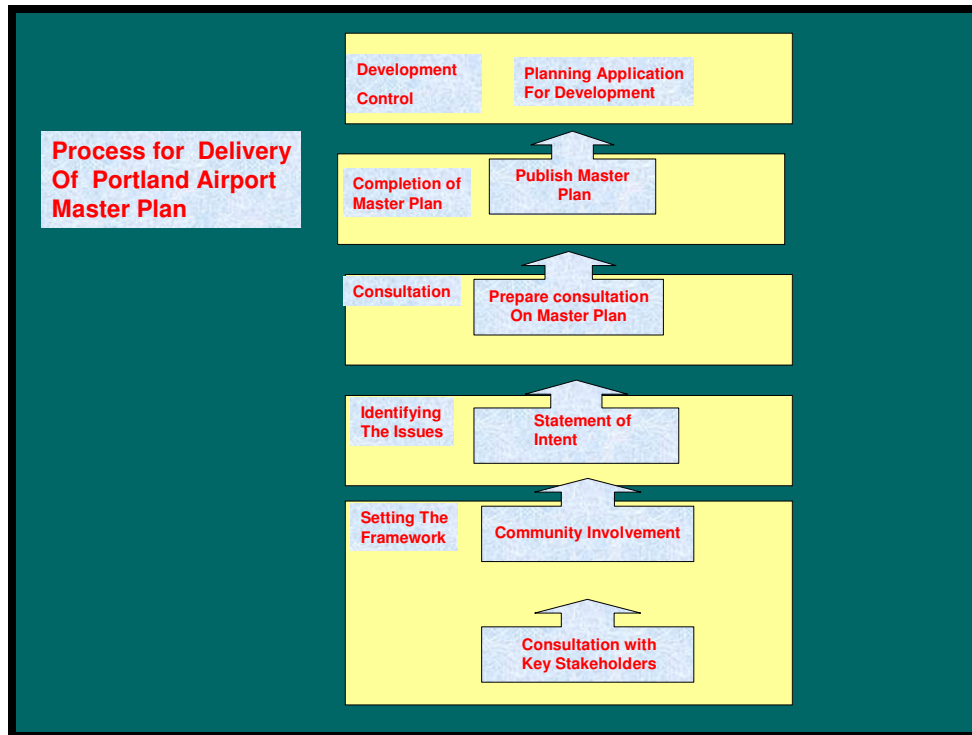
The role of an airport can be viewed as a symbol. “The airport is a symbol of hope for our future, a star to which we are hitching our wagon to.” The future of Portland, Glenelg Shire and region are directly linked to the Portland Airport.

3. The Process of Delivering the Master Plan

The aviation sector is an essential part of the efficient operation of the Australian economy. The sustainable development of our aviation industry largely depends upon private investment and the effective management of the businesses which make up the sector. In 2008 the Commonwealth Government initiated the process to develop a National Aviation Policy Statement. This statement would examine five areas including: the Aviation Industry, Infrastructure, Safety, Security and Community Protection.

The Portland Airport is approaching its 27th year of operation in its current location. The National Aviation Policy Statement acted as a catalyst for the development of a Master Plan and marketing plan for the Portland Airport. The process for the development and delivery of the Master Plan is shown below.

Figure 1 Process for Delivery of Portland Airport Master Plan



The Master Plan provides a framework or guide for the development and marketing of the Portland Airport. Key stakeholders that were consulted during the preparation of the plan include:

- Sharp Aviation
- Committee for Portland
- Shire Councillors
- Shire Staff
- General aviation officials
- Department of Transport
- CASA
- Various universities offering aviation degrees.

The following methodology was adopted in the development of the Portland Airport Master Plan:

1. Collect and analyse data on airline and other aviation activity from a range of stakeholders.
2. Report on the current status of the Portland Airport
3. Utilise this data to define possible future traffic scenarios based on projected annual passenger numbers, aircraft types and service frequencies.

4. Evaluate what the scenarios mean in terms of providing upgraded or expanded facilities particularly in terms of:
 - Taxiway and apron requirements;
 - Aircraft parking arrangements;
 - Passenger terminal facilities;
 - Other aviation facilities; and
 - Landside development.
5. Identify potential sources of additional revenue for the airport, in terms of industrial and commercial development opportunities

The data and consultation process enabled identification and better understanding of the factors which might influence future traffic levels and characteristics at the Portland Airport. This information was then used to develop “Low”, “Medium” and “High” growth traffic scenarios incorporating the likely influence of both aircraft and service frequency.

4. Key Issues from the Consultation

Private discussions were held between Sharp Airlines and Glenelg Shire regarding proposed changes to the Portland Airport.

The proposed development of Portland Airport would involve:

- The relocation of the JetA1 and Avgass facilities off the airport apron to a location near the aero club.
- Extending the area of the apron to accommodate larger types of aircraft and improve aircraft parking and taxiing mobility
- Doubling the size and capacity of the current main hangar
- The development of an administration / office facility in the main hangar
- The development of a conference room addition to the Portland Airport Terminal
- The development of a administration and crew area office addition to the Portland Airport Terminal
- The development of extra taxi ways and aircraft parking and private hangar facilities at Portland Airport

Further to these discussions talks were held on the development of new routes which would include Portland. The viability of a Portland to Mount Gambier service which would continue on to Adelaide was foreshadowed for commencement in 2009.

The role of the establishment of a Commonwealth Co-Operative Research Center (CRC) focusing on renewable energy and its impact and the Portland Airport were discussed. Increased passenger traffic as the result of the CRC with member universities from Adelaide and Melbourne and other CRC partners would need to be catered for. Another potential of the CRC

may be the relocation or establishment in part or in full of a university aviation degree program which would utilize the Portland Airport.

With the advent of proposed new routes, tourism numbers may increase. To add momentum and impetus to the growth in tourism and the airport, additional funds could be dedicated to the marketing of the Portland Airport and the Portland area.

Consultations that have been conducted for various airports in Australia and throughout the world have shown that the environmental impact issues that are of the most concern to the general public are: public transport and surface access, noise, air pollution, climate change, landscape and visual impact.

In relation to the noise issue the management of the Portland Airport is committed to working with airlines and general aviation enthusiasts and residents to ensure that the aircraft operating at the Portland Airport are the quietest and most modern available. The proposed developments of the airport will not compromise local air quality standards.

The Portland Airport has carefully considered the landscape and visual impacts of the expansion proposals. The preferred options for development have been chosen to avoid detrimental visual and adverse effects. An effective landscape scheme would be developed to screen and soften any major structures.

Climate change is a significant issue and the Portland Airport is committed to playing its part in meeting internationally agreed targets for greenhouse gas emissions reductions. Aviation's contribution to global warming, relating to other economic sectors is currently small, however aviation's contributions to global warming are forecast to rise as the demand for air travel grows and other sectors achieve cuts in their greenhouse emissions.

5. General Background

5.1 Australian Aviation

5.1.1 Introduction

Australia has responsibility for 11 per cent of the world's airspace. The aviation sector is an essential part of the efficient operation of the Australian economy. The sustainable development of our aviation industry largely depends upon private investment and the effective management of the businesses which make up the sector.

Aviation activity has grown strongly over the last twenty years, driven by broader economic growth, increased tourism, regulatory reform, and enhanced industry efficiency including investment in aviation infrastructure and technology.

In 1986-87, when Australia's domestic airline industry operated under the regulated "two airline policy", 36.7 million passengers passed through Australia's airports. In 2006-07 that figure had grown to 112.8 million passengers, an average annual growth rate of 5.8 per cent. Over the same

period, Australia's economy grew by 3.4 per cent annually, while its population grew by only 1.3 per cent each year. Aviation has clearly been a high growth industry.

Today's airline passenger is more likely to fly on routes not envisaged twenty years ago, overflying hubs to non-capital city destinations. Airlines offer a range of services and fares, from premium first and business class services, to affordable no-frills fares, making air travel accessible to more people than ever before.

Investment at airports must continue to meet the needs of a growing aviation industry, while also allowing for proper consideration of developments and appropriate recognition of the impacts on local communities.

The aviation industry faces challenges in meeting its environmental responsibilities and minimizing its greenhouse gas emissions. Aviation contributes approximately two per cent of global carbon dioxide emissions but the growth of the aviation industry means that contribution will probably increase.

5.2 Key Challenges

5.2.1 Domestic Services

The Australian domestic aviation industry was deregulated in 1990 to encourage:

- increased responsiveness by airlines to consumer needs;
- a wider range of fares and types of services to provide enhanced travel opportunities;
- increased competition and pricing flexibility, leading to greater economic efficiency in the industry; and
- A continuation of Australia's world-renowned safety record.

The objectives of deregulation have been largely met, with a more efficient industry providing greater responsiveness to most consumer needs, a greater range of services, lower fares and a high record of safety. In 2006-07, there were 45.3 million passenger movements on Australia's domestic airlines, compared to 15.3 million in 1986-87.

5.2.2 Regional Aviation

Key challenges – Regional air services

Passenger traffic has grown strongly on major trunk routes, with passengers enjoying increased frequencies of service, modern aircraft and access to low fares. However, services to less populated areas have in many cases declined over recent decades. Air travel in remote areas is comparatively expensive and at a lower level of service. While regional air services have long been recognised as primarily a state and territory government responsibility, successive Australian Governments have played a role in maintaining some regional air services.

5.2.3 Skills Needs in the Aviation Industry

Key challenges – Skill needs

The Australian aviation industry is currently experiencing a shortage of experienced pilots, aircraft maintenance engineers and air traffic controllers. The skills shortage in aviation has not occurred overnight, and the shortage of a skilled workforce has the potential to cause economic, safety and planning problems for the aviation industry and the communities they serve.

5.2.4 Aviation Emissions and Climate Change

Key challenges - Aviation emissions and climate change

Greenhouse gas emissions from aircraft engines are the subject of significant public attention in response to the forecast growth in air traffic, scientific evidence about the impact of climate change and escalating community concern.

Carbon dioxide emissions from aviation account for about 2% of global emissions. Aviation's contribution to climate change is considered to be greater than its carbon dioxide emissions alone because of other greenhouse gases emitted, the altitude where most aviation emissions occur and other associated effects.

New aircraft are 70 per cent more fuel efficient than 40 years ago and 20 per cent more efficient than 10 years ago. With global demand for aviation growing at about 5 per cent per year and efficiency gains from new technologies such as more efficient air traffic control and new aircraft designs running at about 1-2 per cent per year, greenhouse gases from aviation are projected to grow at around 3 per cent per year for the foreseeable future.

Historically, measures to reduce aviation emissions have primarily been driven by the commercial imperative to reduce fuel consumption and the associated cost. There are currently no legislative or regulatory requirements for the aviation industry to reduce aviation greenhouse gas emissions.

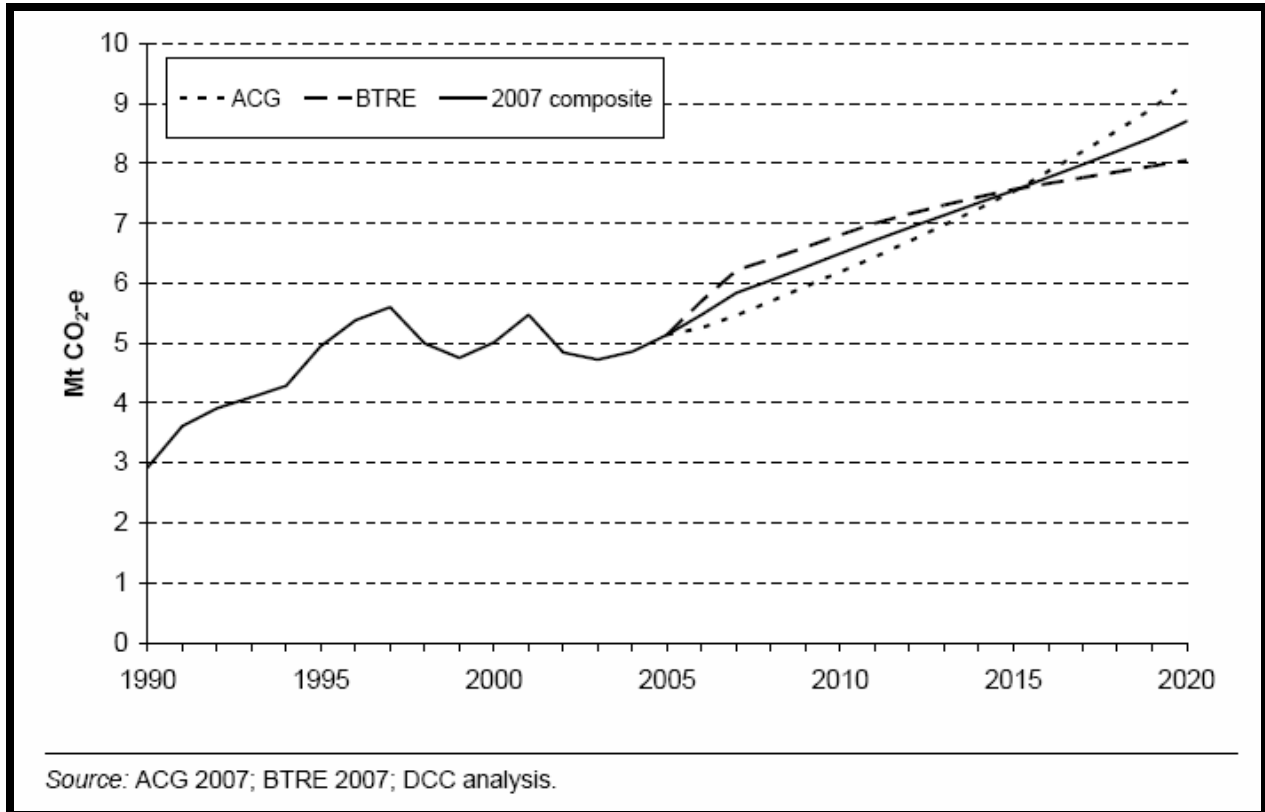
Emissions from the domestic aviation sector are projected to be 6.5 Mt CO₂-e per annum in the Kyoto period, 122 per cent higher than 1990 levels. By 2020, emissions are projected to be 8.7 Mt CO₂-e, 198 per cent over 1990 levels. These levels are substantially higher than previously projected, reflecting more optimistic tourism and demand profiles than in the 2006 projection.

Despite accounting for only 6.4 per cent of total Transport emissions in 2005, emissions from domestic aviation are projected to grow 4.8 per cent per annum between 2005 and 2010, and 3.0 per cent per annum between 2010 and 2020. By comparison, emissions from the much larger road sector grow more slowly at 1.5 per cent during both periods.

Emissions from domestic aviation fell between 2001 and 2003 due mostly to depressed demand from Australian and tourist passengers following the collapse of Ansett and a reduction in international tourism following fears of terrorism. However, recent trends have displayed strong growth in domestic passenger numbers and this is expected to continue throughout the projections period. Current data also shows an acceleration of the rate of fleet renewal. This is

driven both from new entrants, such as Tiger Airways, and existing operators placing large orders for new aircraft. The introduction of newer aircraft brings the average fleet fuel efficiency assumptions down when compared to the previous projection. Bureau of Transportation and Regional Economics (BTRE) (Figure 2) have projected aviation emissions to be greater than ACG in the short-term (to 2015).

Figure 2 Projected Emissions from Australian Aviation Activities 1990-2020



5.2.5 Aircraft Noise

Key challenges - Aircraft noise

Aircraft noise remains a sensitive issue for communities around many airports. While the aviation industry has lowered the amount of noise individual planes make with significant improvements in the design of aircraft, the increase in the number of flights has increased the impact of noise.

Land use planning around airports is guided by the Australian Noise Exposure Forecast (ANEF) system, but questions have been raised about the reliability of the ANEF system and the reliability of long-term ANEF forecasts as a basis for predicting the impact of aircraft noise. There is no general requirement for airports other than the 22 federally leased airports to publish forecasts.

5.3 General Aviation

The term *General Aviation*, or GA, refers to a range of aviation-related activities, individuals and businesses, primarily occurring in smaller aircraft and at secondary airports. These activities include:

- Charter and low-capacity passenger-carrying operations
- Business flights
- Aerial agriculture
- Commercial pilot training
- Aeromedical, search and rescue, aerial fire fighting and coast watch
- Other aerial work such as surveying and photography
- Aircraft maintenance and repair work
- Private pilot training;
- Sports aviation
- Recreational flying

The compelling issues confronting the industry fall into one of five categories:

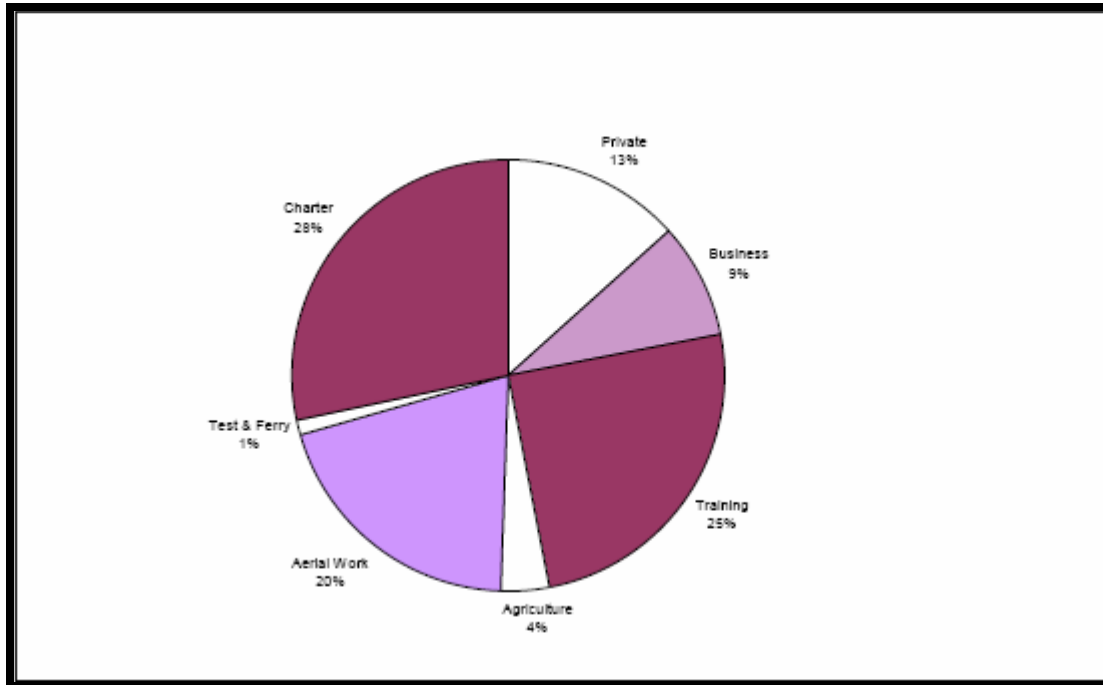
- The competitive position of the industry and the overall viability of GA businesses;
- Access to secondary capital city and regional airports where GA businesses have traditionally been based;
- Skills, particularly availability of pilots, instructors and engineers;
- The regulatory environment; and
- The ageing aircraft fleet.

The Australian GA industry is in a state of transition. Some sectors are growing strongly while others are in decline with some individual businesses struggling to remain viable. In particular the less regulated, recreational part of the industry is growing strongly, a positive development in its own right but also presenting effective competition for commercial flying which finds itself in a more traditional regulated environment.

Aviation is a comparatively old business by Australian standards, dating back to the first two decades of the twentieth century and sharing common elements in its development with military flying.

Changes surrounding the GA industry over the past twenty years have been profound. Privatisation of airports increases in the cost of aircraft and fuel and changes in the safety and security regulatory environment have all played important parts.

Figure 3 Breakdown of General Aviation Activity



6. Background to Portland Airport and Glenelg Shire

6.1 History and Location of the Portland Airport

The Portland Airport, located at Cashmore is some 14 kilometers west of Portland. It was officially opened in September 1982. The airport consists of a sealed main runway of 1616 metres, a secondary unsealed runway of 1,180 metres, a Terminal building, hangar and re-fueling facilities.

6.2 Physical Description

The following summary gives an overview of the current infrastructure at the Portland Airport and its capabilities. A series of photos over the following pages shows the current infrastructure of the Portland Airport. Table 1 provides a physical description of the Portland Airport.

Table 1 Physical Description of Portland Airport

Location	14 kilometers west of Portland
IATA description	PTJ
ICAO description	YPOD
Owner	Glenelg Shire
Year of Construction	1982
Size	128 hectares
Main Runway	Sealed Length 1616 meters Wide 30 meters Strength 850 kappa
Secondary Runway	Unsealed Length 1180 Meters
Navigation Aids	Non directional Beacon (NDB); Global Positioning Satellite (GPS)
Lighting	T Visual Approach Slope Indicator System Pilot activated
Hangar Space – Council	
Aircraft Parking	Unlimited on grass
Fuel Available	Jet A-1; Avgas
Terminal Building Tenants	Sharp Airlines, Hertz rentals
Aero Club	Club rooms and hangar
Melbourne Distance by Air \ Time by air direct	308 kms \ 1.0 hours
Distance by road \ Time by road	4.5 hours

Figure 4 Panoramic View of Portland Airport



Figure 5 Hangar Facility



Figure 6 Terminal Building



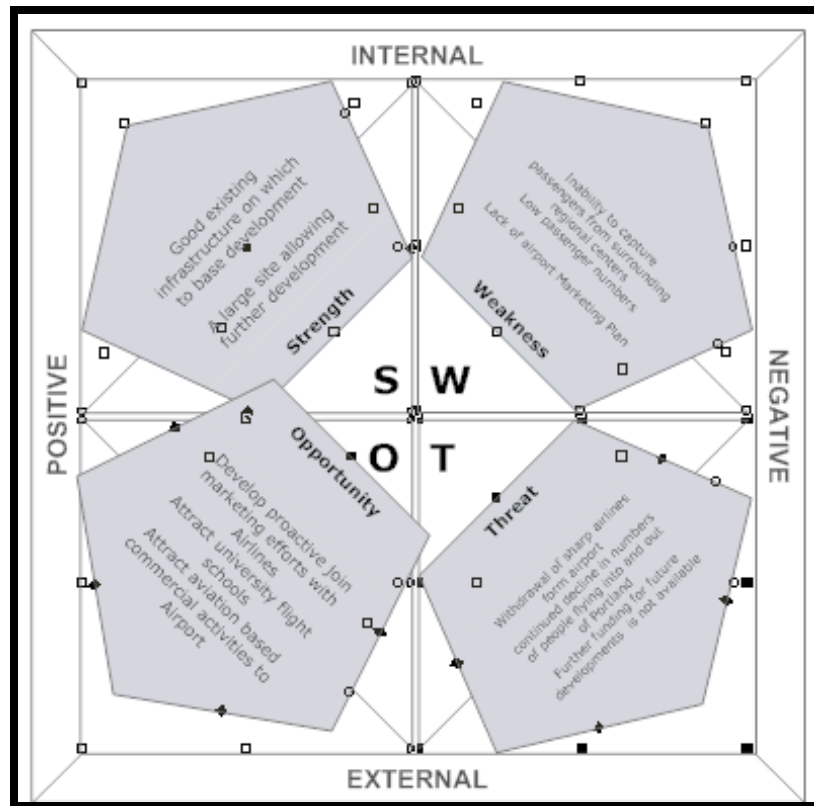
Figure 7 Portland Airport Apron



6.4 Airport SWOT Analysis

The following chart summarises the key Strengths, Weaknesses, Opportunities and Threats (SWOT) to the Portland Airport.

Figure 8 SWOT Analysis



The SWOT analysis highlighted that the Portland Airport highlighted the following:

Strengths

- Good existing infrastructure to base development
- A large site allowing for future development

Weakness

- Current low passenger numbers
- Only 3 air routes originating from Portland (Portland-Hamilton, Portland-Avalon, Portland via Hamilton to Essendon)

Opportunities

- Attract aviation based commercial activities to airport
- Expand route network
- To increase freight operations

- Develop grow existing Regular Transport Passenger (RTP) (tourism) market

Threats

- Further funding for future development is not available
- Large operating deficit is incurred to run airport.
- Sole RTP provider – limits transport options, limits revenue capacity

7 Glenelg Shire

7.1 Area

Glenelg Shire (Figure 9) is located on the south coast of Australia in south-western Victoria, about 360 kilometers west from Melbourne. Glenelg Shire is bounded by West Wimmera Shire in the north, Southern Grampians and Moyne Shires in the east, the South Australian border in the west and the Southern Ocean in the south.

Figure 9 Glenelg Shire Map



Source: Glenelg shire

The Shire encompasses a total land area of 6,200 square kilometers, including national parks, pine plantations and coastline. Much of the rural area is used for plantation timber, farming, grazing and dairying.

7.2 Population

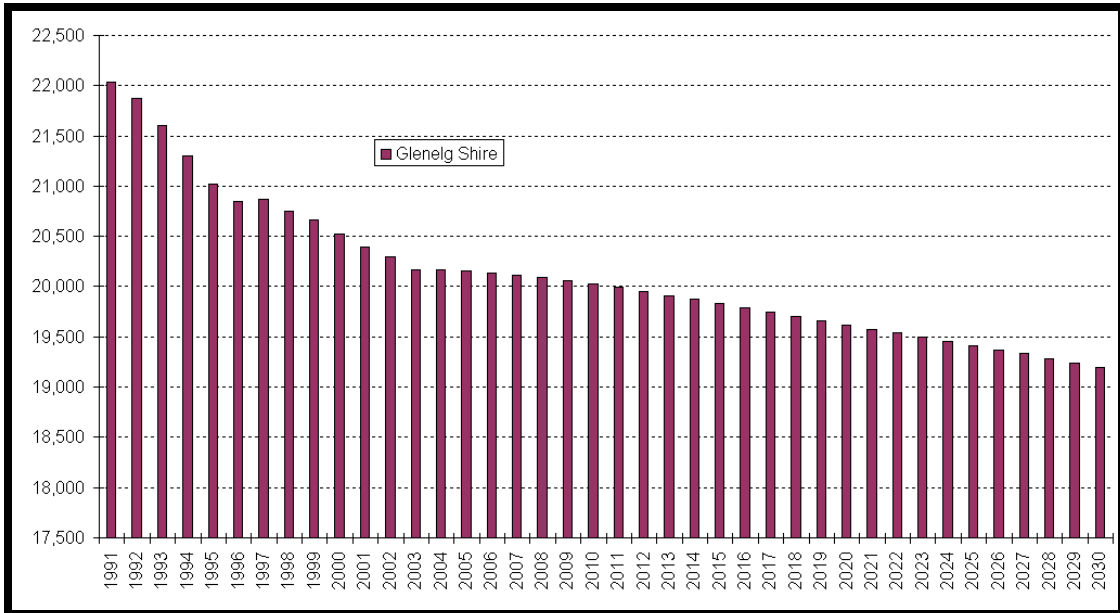
The population declined slightly during the 1990s, from nearly 20,600 in 1991 to 19,200 in 2001, then increased slightly to 19,700 in 2006.

Data from the 2006 ABS Census indicates that Glenelg Shire has:

- An age profile characterised by higher proportions of children and older persons;
- More than double the average proportion of Indigenous residents compared to Victoria;
- Lower than average full-time employment compared to the State average;
- Lower than average levels of labour force participation;
- A higher than average unemployment than State and Western SD averages;
- Slightly higher than average proportion of couple families without children than the state average;
- Slightly lower than average proportions of single parent households;
- Higher than average levels of car ownership compared to the average;
- Average weekly incomes that are 17% lower than the State average;
- Average monthly housing loans that are significantly lower (-30%) than the State average;
- A lower average weekly rent payment than the State average (-39%);
- A lower than average proportion of persons with non-school qualification;
- Less than half the average proportion of persons with a Bachelors degree or higher in comparison to the average;
- Higher than average proportion of persons with a certificate qualification;
- Higher than average proportions of persons occupied as managers & administrators (15.6%), tradespersons and related workers (13.2%), intermediate production & transport workers (13.6%), labourers and related workers (12.4%); and
- Most dominant industries of the workforce are agriculture, forestry and fishing, manufacturing, and retail trade.

The population is forecast in accordance with current trends to decline from 20,600 to 19,194 over the period 1991 to 2030, a decrease of 2,845 persons or a fall of 12.9%. Figure 10 illustrates future population levels and growth rates for the Glenelg Shire.

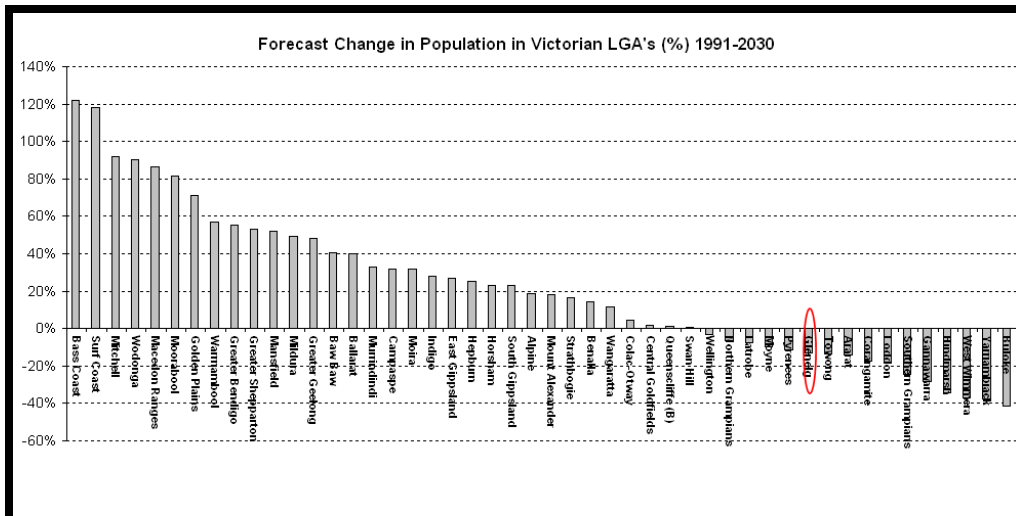
Figure 10 Future Population levels and Growth Rates for Glenelg



Source: Department of Sustainability & Environment and MacroPlan Australia

In terms of comparisons with other Victorian Local Government Areas (LGA's), Glenelg is expected to see a net decrease in population over the period 2001 to 2030. In contrast, more than half of Victoria's LGAs are expected to see population growth over the period. Figure 11 highlights Victorian LGA population growth

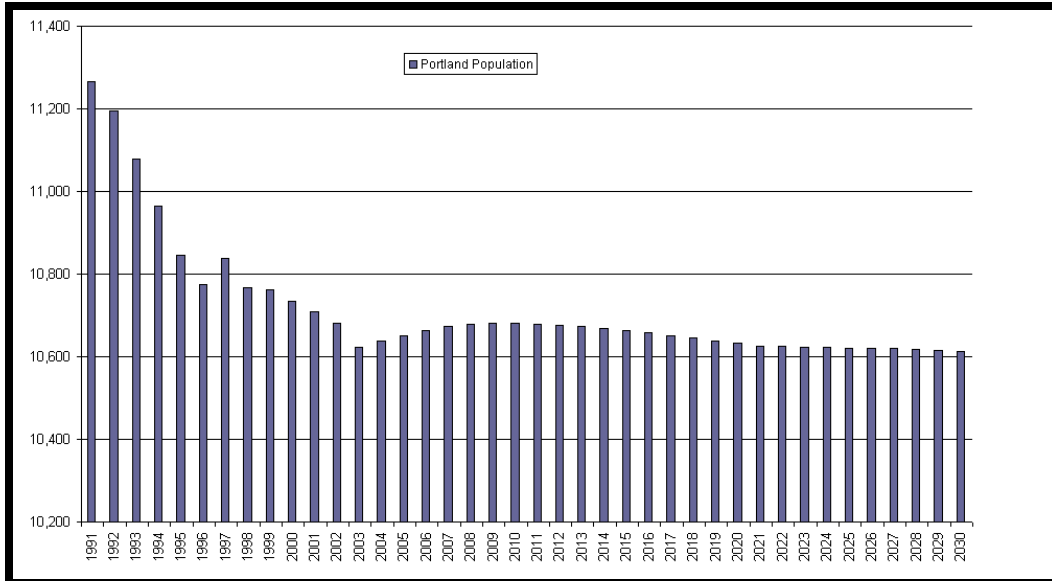
Figure 11 Victorian non-metropolitan LGA population growth



Source: DSE and MacroPlan Australia

Portland's population is expected to decline from 11,266 to 10,614 from 1991 to 2030. Figure 12 highlights the Portland Population Projection from 1991 to 2030

Figure 12 Portland Population Projection 1991 to 2030

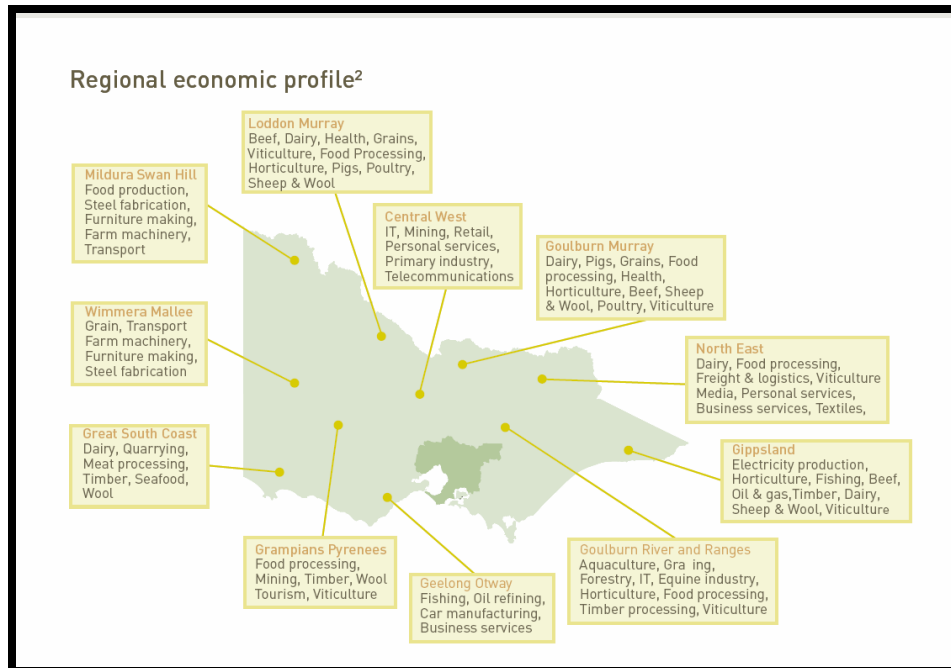


Source: DSE and MacroPlan Australia

7.3 Local Economy

The major economic activities in the south western region of Victoria are: dairying, farming, manufacturing, fishing, forestry and manufacturing.

Figure 13 Regional Economic Map



Source: Department of Planning

The provision of air services, at a reasonable cost, is becoming more and more important for tourism in rural and regional Victoria. With the introduction of low-cost carriers into the airline market, and the trend towards shorter breaks, many Australians are turning to the option of flying to holiday destinations. There is also concern that regional Victoria is losing ground as Melbournians choose to fly interstate or overseas for holidays rather than touring Victoria by car. Improved air services are essential to counter this trend and to benefit from projected increases in international tourism.

In 2008 the Parliament of Victoria conducted an inquiry into Rural and Regional tourism. The committee reported on the concerns relating to air services: firstly, the need for increased direct access into Melbourne for international tourists, and secondly the need for improved airport facilities and air services in regional Victoria

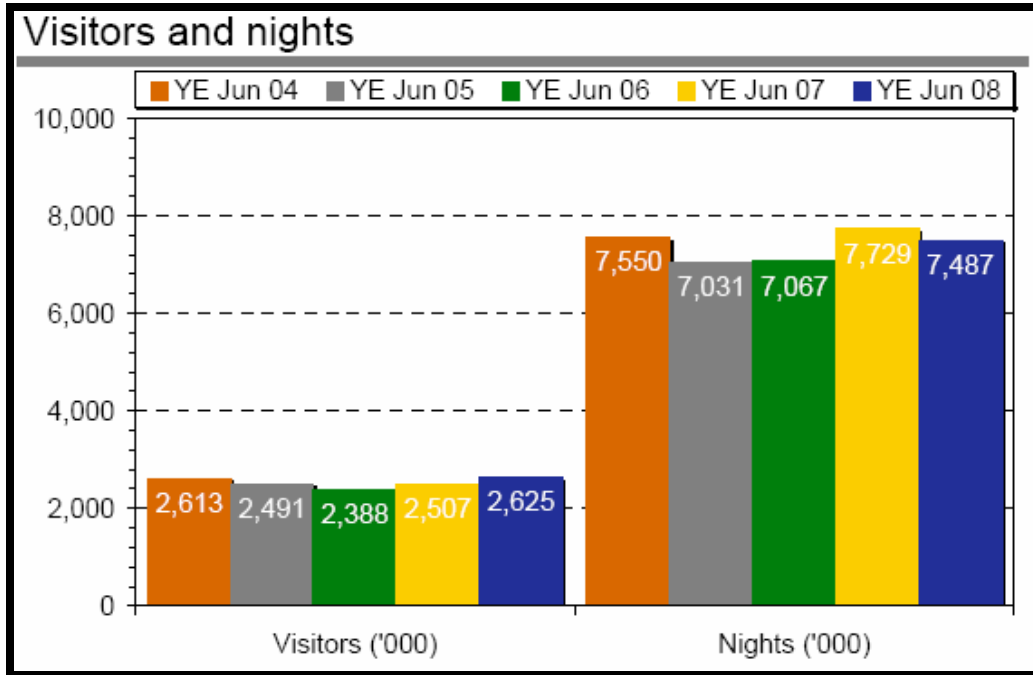
The need for improved air access into regional Victoria was also raised frequently at hearings and in submissions. This included direct flights into regional centres from Sydney and other interstate cities, as well as more and cheaper flights from Melbourne. This was seen as particularly important for those destinations that are more remote from Melbourne.

7.4 Tourism Impacts

As with most coastal towns, tourism plays a significant role in the local economy. Portland has approximately 120 businesses that rely directly on tourism for the majority of their trade. A range of other businesses use tourism dollars in addition to their reliance on the local community. This has led to a range of local tourism organisations that work to promote the region and increase visitation numbers.

Glenelg Shire has a range of tourism draw cards including cultural heritage, eco-tourism, beaches, trekking, fishing and a series of festivals throughout the year. Although no complete data exist on the actual visitation numbers to the region, the tourist information centres collect visitation data that can be used to evaluate tourism trends. Figure 14 highlights the number of domestic overnight visitors that visited Glenelg using the Great Ocean Road. Air transport accounts for 4.6% of all visitor movements.

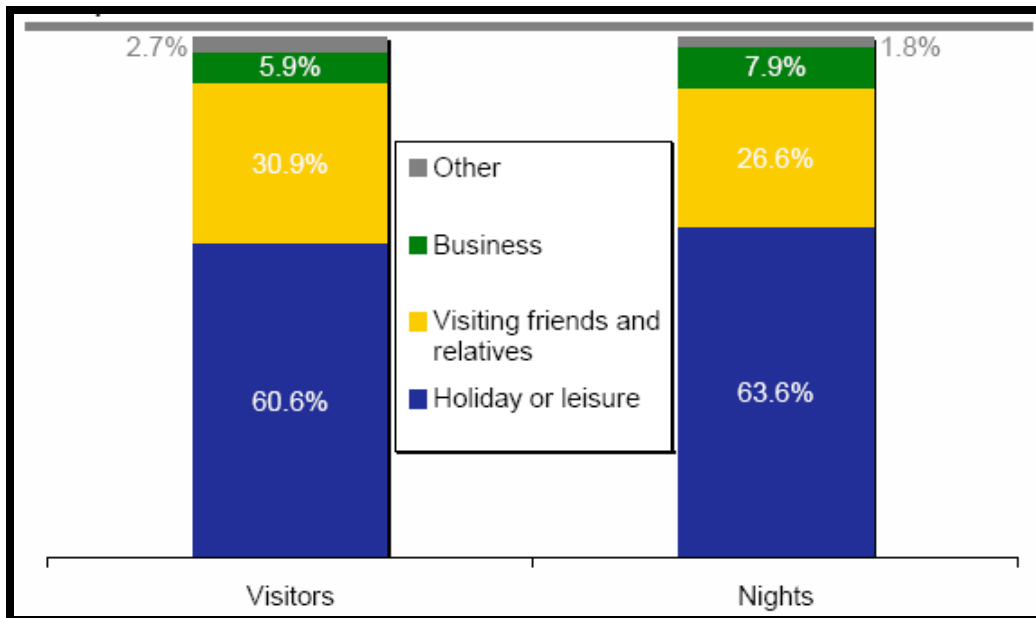
Figure 14 Number of Domestic Overnight Visitors



Source: Glenelg Shire

The vast majority of those visitors came on holiday visits; only 6 percent of the visitors came for commercial or business activities.

Figure 15 Reason for Visiting Glenelg Shire

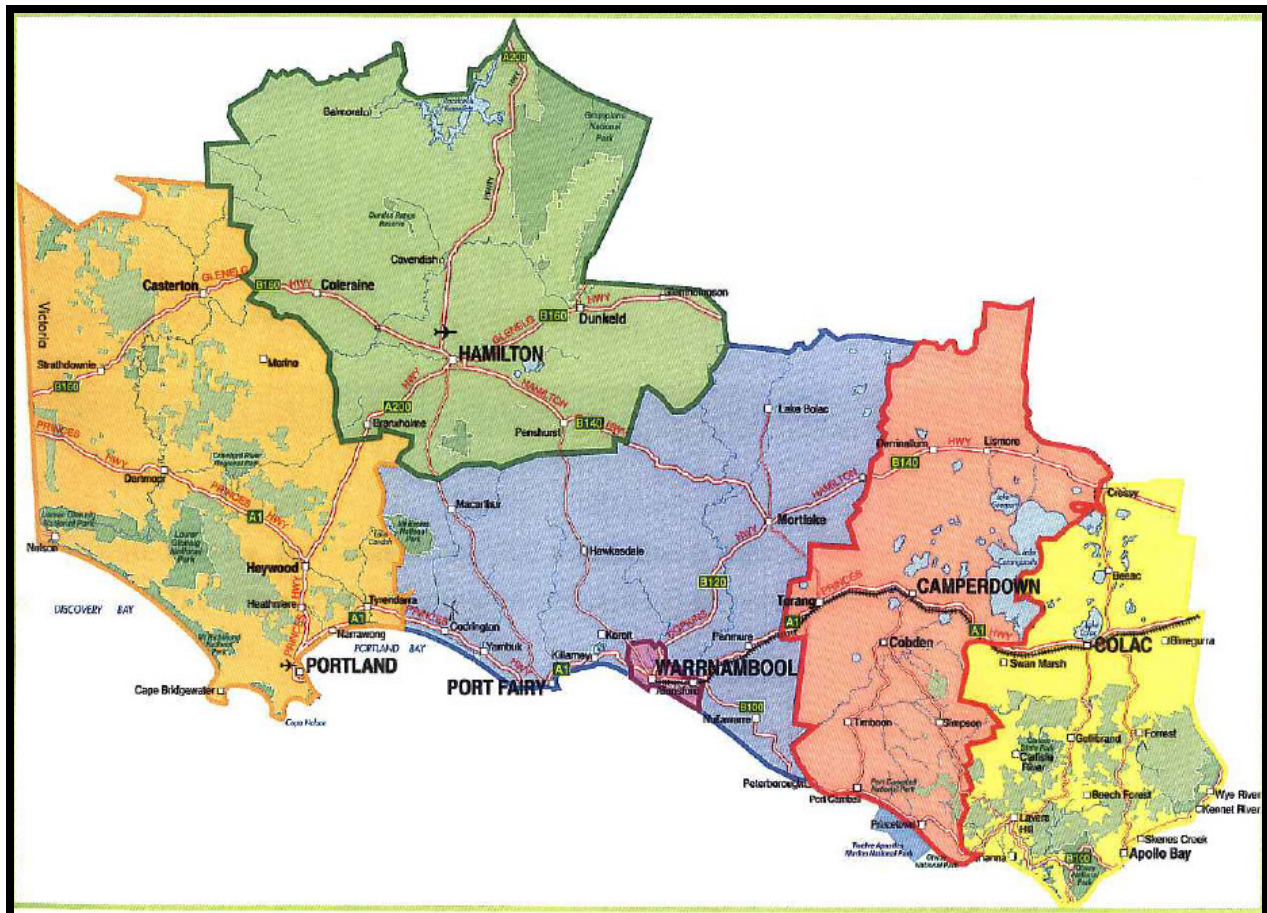


Source: Glenelg Shire

7.6 Regional Economic Strategy

The Great South Coast region is comprised of six municipalities (Colac Otway Shire, Corangamite Shire, Glenelg Shire, Moyne Shire, Southern Grampians Shire and the City of Warrnambool).

Figure 16 Great South Coast Region



Source: SED Consulting

The region boasts strong agriculture and tourism industries supported by vibrant regional centres and established health, education and community services. Table 2 highlights the number of employed 15 years of age and older by industry through the region.

Table 2 Industry of Employment Great South Coast

Industry of Employment - Count of employed persons aged 15 years and over ^v							
	Colac-Otway	Corangamite	Gleneilg	Moynes	Southern Grampians	Warrnambool	Total GSC
<i>Agriculture, forestry, fish</i>	1323	2509	1316	2347	1649	325	9469
<i>Retail trade</i>	1024	710	931	693	881	2080	6319
<i>Health, social ass.</i>	1010	638	942	716	967	1864	6137
<i>Manufacturing</i>	1011	570	1686	620	435	1540	5862
<i>Construction</i>	672	492	560	465	560	1221	3970
<i>Education & training</i>	558	464	523	409	608	1247	3809
<i>Accommodation. & food services</i>	748	341	497	412	453	1162	3613
<i>Public admin. & safety</i>	526	236	350	310	474	693	2589
<i>Transport, post, warehouse</i>	406	322	477	265	217	533	2220
<i>Wholesale trade</i>	395	307	229	218	215	527	1891
<i>Other services</i>	310	181	268	161	259	507	1686
<i>Professional, scientific, tech services</i>	223	149	229	170	251	528	1550
<i>Not stated</i>	241	204	247	185	205	258	1340
<i>Admin. support services</i>	414	115	179	112	125	373	1318
<i>Financial, insurance</i>	110	76	110	94	136	316	842
<i>Electricity, gas, water, waste</i>	76	56	104	42	58	187	523
<i>Information media & telecommunications</i>	107	43	52	40	85	176	503
<i>Real estate services</i>	90	33	90	44	48	184	489
<i>Arts & recreation services</i>	99	47	73	57	48	152	476
<i>Mining</i>	21	47	32	24	156	50	330
TOTAL	9,364	7,540	8,895	7,384	7,830	13,923	54,936

Source: SED Consulting (2008)

Over eight billion dollars worth of development projects have either been approved or are in the approval process throughout the region indicating how strong the regional economy is.

Table 3 Major Investment and Development Projects across Great South Coast

	Total Projects	Average Value (\$m)	Total Value (\$m)	Commenced		Planning Approved		Pre Planning		Opportunity	
				No.	Total Value (\$m)	No.	Total Value (\$m)	No.	Total Value (\$m)	No.	Total Value (\$m)
Colac-Otway	12	\$66	\$791	3	\$16	3	\$53	4	\$617	2	\$105
Corangamite	14	\$66.9	\$936	1	\$150	3	\$69	9	\$632	1	\$85
Glenside	20	\$91	\$1,811	4	\$100	2	\$260	9	\$36	5	\$1,415
Moyne	19	\$239	\$4,534	2	\$8	7	\$1,717	7	\$2,002	3	\$807
Southern Grampians	16	\$19	\$308	3	\$5	9	\$278	0	-	4	\$26
Warrnambool	12	\$27	\$323	6	\$242	3	\$24	1	\$14	2	\$43
Great South Coast	93	\$94	\$8,706	19	\$523	27	\$2,402	30	\$3,301	17	\$2,481

Source: SED Consulting (2008)

Portland and Hamilton, within the Great South Coast region, currently are the only airports with scheduled regular air services that service the Great South Coast.

8 Regulatory and Policy Context Regarding Portland Airport

8.1 Regional Planning

The South West Regional Transport Plan has been prepared to identify the key transport network demands and subsequent impacts on the transport network, and to develop a number of strategies to ensure provision of accessible, safe and environmentally sound transport infrastructure to support the vital economic growth of the region. A series of objectives have been developed including:

- Provide an integrated transport network which enhances the competitiveness of the region's industry and commerce
- Provide a transport network that promotes improved social, community and industry accessibility and connectivity
- Provide a transport network that establishes environmental accountability

Regional airports provide an important transport link in the South West region of Victoria. Dr Craig Shepherd, principal economist from the National Institute of Economic and Industrial Research (NIEIR) recently reported that regional communities with competitive air services have twice the rate of economic growth of those without competitive air service. Those Australians who live in regional Australia depend on this infrastructure for their social and economic wellbeing. Portland Airport is recognized as the major engineering hub for regional aviation in South West Victoria. The airport needs to expand its engineering capacity via expanding its current hangar facility.

8.2 Local Planning Context

Local planning control of Portland Airport is administered through the Glenelg Shire Planning Scheme. The Shire's planning for development is outlined under the Municipal Strategic Statement (MSS). Planning will be based on:

- Supporting economic development on the Shire's natural and locational assets
- Focusing urban growth in and around existing townships
- Protecting and enhancing items, places and areas of natural and cultural heritage
- Supporting quality tourism developments
- Developing transport links based on the Shire's air and rail networks and its location on a coastal highway
- Ensuring sustainable management and protection of the natural resources of soils, water and coastal areas: and
- Protecting and conserving biodiversity in the Shire including provision for habitat areas for native plants and animals.

In the Glenelg Municipal Strategic Statement, Clause 21.05 states that the development of international links from the airport is seen to be one of the drivers for facilitating the achievement of the above vision. National connections (i.e. Sharp airlines \ Jet Star) are currently being provided through scheduled services from Portland to Avalon Airport. The MSS also recognises the airport as underdeveloped, in that it states the airport facilities at Portland are able to be substantially upgraded. (Clause 22.04.05)

8.3 Airport Security / Airport Safeguarding

New federal legislation requires that Portland Airport to be a security controlled airport and the Glenelg Shire which owns and operates the airport develop a Transport Security Program (TSP).

The Aviation Transport Safety Act (ATSA) and Aviation Transport Security Regulations (ATSR) came into force on 10 March 2005, replacing Parts 3 and 3A of the Air Navigation Act (ANA), and Part 7 of the *Air Navigation Regulations 1947*. The ATSA established a new regulatory framework to safeguard against unlawful interference with aviation, and the ATSR provides the details necessary for the ATSA to operate as intended.

The changes in the law strengthened Australian aviation transport security systems and enabled a broader and more inclusive approach to aviation security. The ATSA and ATSR emphasise the need for Aviation Industry Participants (AIPs) to demonstrate a fuller awareness of their general

responsibility to contribute to the maintenance of aviation security: ATSA s.16 (1) (a). The ANA imposed a large number of prescriptive measures, while the ATSA and ATSR focus more on outcomes.

ATSA s.16 (1) states that a Transport Security Program (TSP) for certain AIPs (which includes an airport operator) must demonstrate that the participant:

- Is aware of the participant's general responsibility to contribute to the maintenance of aviation security; and
- Has developed an integrated, responsible and proactive approach to managing aviation security; and
- Is aware of, and has the capacity to meet, the specific obligations imposed on the participant under the ATSA and the ATSR; and
- Has taken into account relevant features of the participant's operation in developing activities and strategies for managing aviation security.

ATSA s.16 (2) states that a TSP for an Aviation Industry Participant (AIP) must set out the following:

- How the participant will manage and co-ordinate aviation security activities within the participant's operation (*you should consider what communication and control procedures are in place; whether the roles and specific tasks of AIP management staff are defined clearly; whether the communication and control arrangements appear likely to enhance security measures; and whether there is sufficiently broad representation on relevant Airport Security Committees (ASCs)*); and
- How the participant will co-ordinate the management of aviation security with other parties (including Commonwealth agencies) who have responsibilities for, or are connected with, aviation (*consider whether the Terms of Reference for the ASC are described within the TSP; other government agencies are involved with security; the duties of these agencies are clearly outlined in the TSP; which management positions are represented on the ASC; and which position has overall responsibility for management of the TSP*);
- The technology, equipment and procedures to be used by the participant to maintain aviation security (*have standard operating procedures been formulated and implemented?*);
- How the participant will respond to aviation security incidents (*measures may include communication and control, implementation of security measures, public safety and continuity of essential operations. Are the response roles of other agencies clearly described?*);

- The practices and procedures to be used by the participant to protect security compliance information (*you should consider document (paper and electronic) control/protection, identification and classification, access control, email classifications, and document distribution and destruction*);
- The other AIPs who are covered by, or operating under, the program (*are there effective communication and control procedures to ensure all AIPs covered under the TSP can implement their responsibilities under the TSP?*);
- The consultation that was undertaken with other AIPs who are covered by, or operating under, the program

Glenelg Shire prepared a Transport Security Program which was approved and came into force as of 2/3/2005. This TSP was reviewed as a result of regulatory changes and the new TSP was approved by the Department of Infrastructure, Transport, Regional Development and Local Government (DITRDLG) and came into force on 24/12/2008. The TSP will remain in place for 5 years, unless replaced.

8.4 Environment Regulation

Environmental regulation for the Portland Airport is mainly state based. The major relevant acts include the Environment and Planning Act, the Wildlife Act, Native Flora and Fauna Act and Victoria Biodiversity Strategy. Commonwealth legislation which impacts on airport operations includes the Commonwealth Air Navigation Act. Environmental issues that might reasonably be expected to be associated with the master plan implementation include:

- Effects on landform;
- Impact on flora and fauna;
- Removal of trees;
- Impact on indigenous and heritage sites;
- Construction impacts;
- Downstream and on-airport effects of increases in stormwater discharge;
- Acquisition of property; and
- Impact of aircraft noise exposure and external land use planning

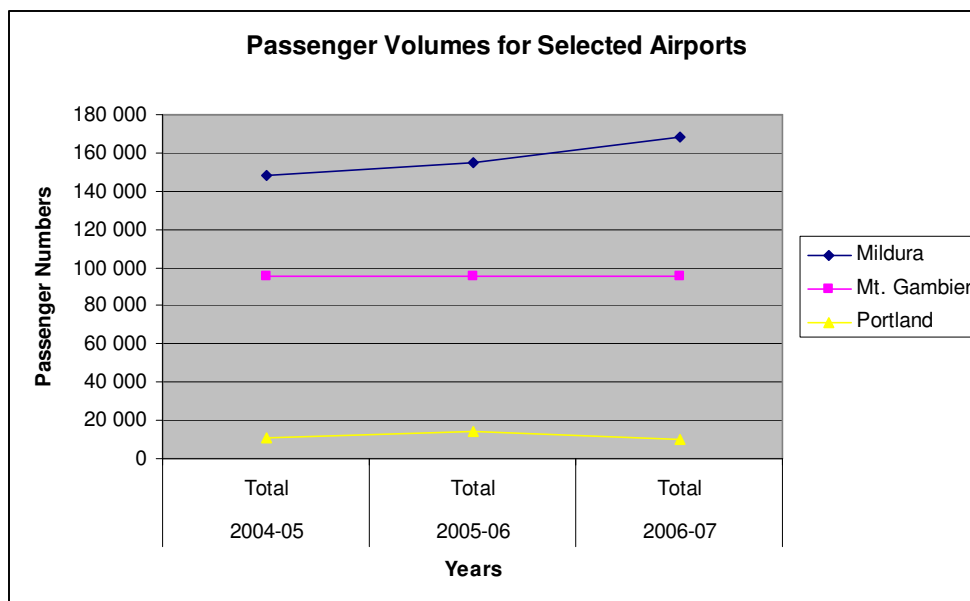
9. Current Passenger Volumes

9.1 Current Traffic Characteristics

A commercial passenger service is offered by Sharp Airlines based out of Hamilton. Sharp Airlines use both Essendon (Melbourne) and Avalon Airports (Geelong) to serve Portland. The schedule provides daily return services from both airports with connecting flights to Hamilton. In 2006-2007 the Portland Airport handled 10,300 passengers. A comparison between Mildura (i.e. population 30,000) Mount Gambier (population 24,000) and Portland (population approximately

10,000) is shown in Figure 17. The respective passenger volumes for 2006-2007 were Mildura 167,983, Mount Gambier 95,502 and Portland 10,139.

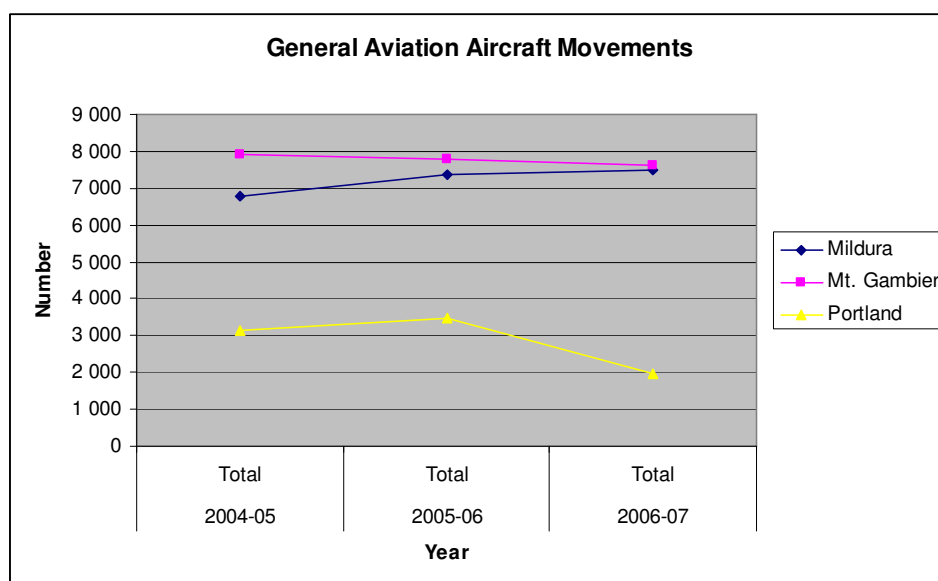
Figure 17 Commercial Airline Passenger Numbers for Selected Airports



Source: Department of Transport

General Aviation traffic at the Portland Airport represents between 2,000 to 3,500 aircraft movements per year. Most of this movement is generated either from the Portland Aero club or visiting aircraft.

Figure 18 General Aviation Aircraft Movements For Selected Airports



Source: Department of Transport

10. Current Portland Airport Budget and Economic Impacts

The following table shows the airport profitability to the council over the period 2006-2007 through 2008 -2009.

Table 4 Airport Profit and Loss Statement 2006-2007 / 2007 -2008 / 2008-2009

Portland Airport			
Profit and Loss Statement			
	Actual 2006/2007	Actual 2007/2008	Budget 2008/2009
	\$	\$	\$
INCOME			
Commission	11,977	16,215	8,500
Property Lease / Rental	7,528	8,258	10,500
Sales		3,338	1,000
Buildings Lease / Rental	24,962	22,148	25,000
Landing and Passenger Fees	133,642	138,300	135,000
Miscellaneous	313	453	500
Government Grant	36,321	0	0
Total Income	214,743	188,712	180,500
EXPENDITURE			
Salaries	104,069	133,416	126,330
Contract; Material and Labour	69,498	40,721	41,600
Fuel and Oil	1,454	2,246	700
Equipment, Vehicle and Machinery	20,210	17,311	23,050
Utilities	11,189	12,956	10,300
Insurances	5,523	4,890	6,000
Office Expenses	3,454	7,942	17,300
License Fees	1,447	121	400
Buildings Maintenance	10,505	23,530	0
Miscellaneous	244	30	300
Depreciation	50,000	50,000	50,000
Capital Expenditure	17,810	53,842	85,000
Total Expenditure	295,404	347,003	360,980
Net Loss	(80,661)	(158,291)	(180,480)

10.2 Income Sources and Issues Arising

10.2.1 Passenger Revenue

Passenger revenue has remained relatively static over the past 3 years averaging in the mid \$130,000 mark per annum.

10.2.2 Rental Income

The two areas of rental income i.e. property lease and building lease have recorded different rates of growth. Property lease / rental income have shown a dramatic increase in growth of 34% over two years. Building rental income has remained static over the past two years.

10.2.3 Fuel Income

Fuel income has decreased over the past two years.

10.2.4 Casual Landing Charges

Revenue from casual landing charges has remained constant over the past two years.

10.2.5 Depreciation

Depreciation has remained constant at \$ 50,000 per annum

11 Current Airport Usage

11.1 Introduction

Air service operations at the Portland Airport can be categorized as either being licensed operators or private operators.

11.2 Licensed Air Operators

There is a range of businesses holding Air Operator's Certificates issued by the Civil Aviation Safety Authority (CASA) under the Civil Aviation Act (1998). These organisations are licensed to use aircraft for commercial purposes and can be broken down into the following categories.

11.2.1 Regular Public Transport

Regular Public Transport (RPT) represents scheduled air services for passengers or freight. RPT air services for passengers have operated since the late 1960's from the Portland Airport.

11.2.2 Air Charter Services for Passengers or Freight

Daily freight service to Hamilton

11.2.3 Flying Training Services

Sky Scooters with 6 students per annum

11.2.4 Aerial Work

Currently there is no aerial work being undertaken at the Portland Airport

11.2.5 Private Aviation

Limited

11.3 Summary of Aircraft Movements

The summary for aircraft movements per week at the Portland Airport is

Type	Movements per Week
Bank / freight plane movements per week	20
Sharp Aviation per week	50
Air Ambulance per week	6
Air Charter per week	10
Fire Bomber	2
Sky Scooters Flight training	12
Heli-xplore	4
Private	20
Aircraft for maintenance	6

11.4 Aviation Support Services

Current aircraft maintenance and engineering work is conducted for a variety of parties in the main Portland hangar.

Section 2 Portland Airport Future Directions

12. Introduction

Summary Section 2 of the Master Plan outlines the future opportunities, goals and directions which the Portland Airport plans to undertake in the next five years. These goals include determining the growth rate Glenelg Shire wants for the Portland Airport. To be a viable and profitable regional airport the Federal Department of Infrastructure suggest a passenger volume in excess of 15,000 passengers per annum.

13. Objectives for Growth

The growth objectives for the Portland Airport are:

- To increase the current airline Portland and Regional based passenger numbers to approximately 20,000 by 2012.

- To increase general aviation movements through the development of fly-in tourism and new economic and business development initiatives.
- Portland Airport to become a training center for a university aviation degree program as a by-product of a Co-operative Research Center (CRC) being examined for Portland.

14. Projected Traffic

Two forecasts have been developed; one represents the Portland area while the second forecast is a regional forecast (i.e. Portland, Hamilton and surrounds). Each forecast has three growth rates. International aviation has experienced a 5 or 6% growth per annum over the last decade. For the purpose of developing forecasts for potential growth patterns three scenarios were considered.

The high growth scenario reflects the current international growth rate of 6% average annual passenger growth per annum. This scenario is the most optimistic and does not take into consideration the current world economic slow down. The high growth scenario is predicated on new routes being developed by Sharp Airlines utilizing the Portland Airport (i.e. Portland to Mount Gambier then on to Adelaide and Warrnambool to Portland)

The mid growth scenario, based on a 4% average annual passenger growth per annum is considered to be the most likely, as historical trends are no guarantee of future growth. A number of factors have been included in this scenario including the current world economic slowdown, one new route being developed (i.e. Portland to Mount Gambier then on to Adelaide), and the volatility of world oil prices.

The low growth scenario is based on a 2.5 % average annual passenger growth per annum and reflects a major contraction in the world economy with no new routes and no growth in the local tourism market.

Table 5 summarises the assumed average growth rates for each of the scenarios

Table 5 Growth Forecast Scenarios

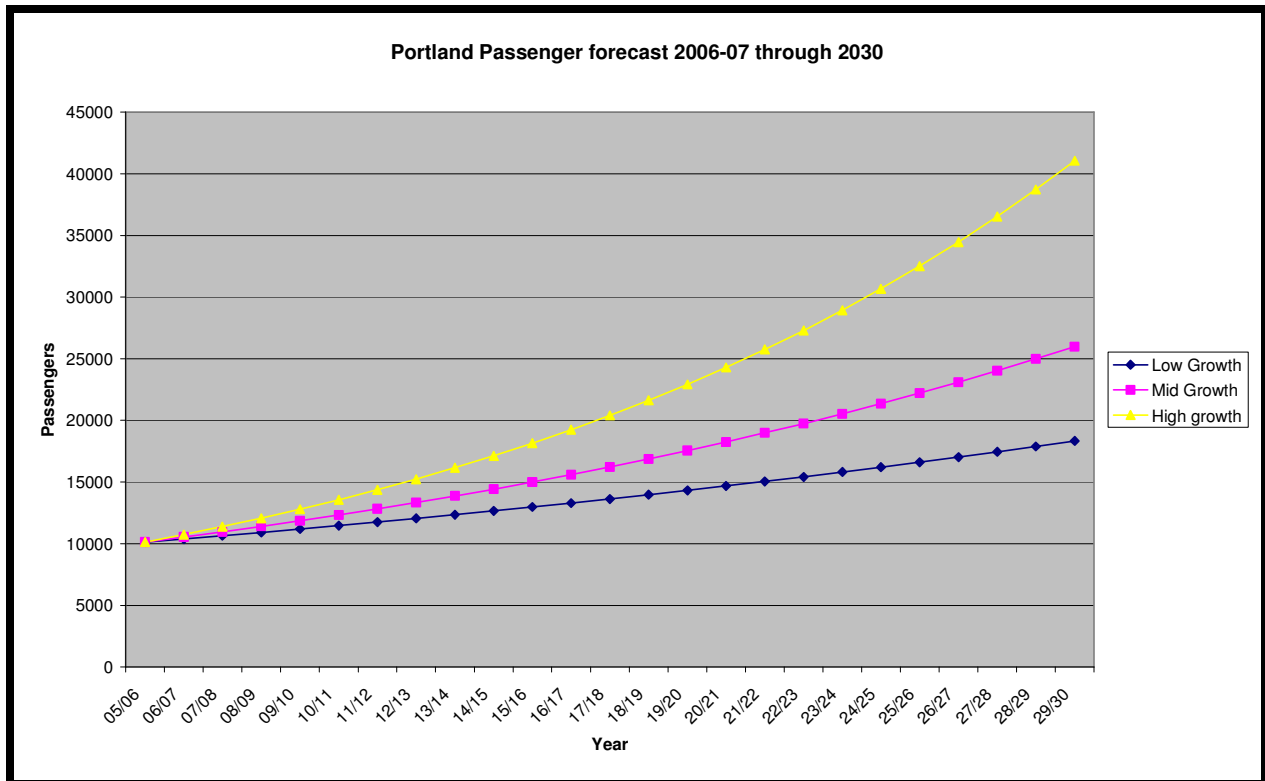
Scenario	Average Annual RPT Traffic Growth
Low-Growth	2.5%
Mid-Growth	4%
High-growth	6%

Base year (Year 0) passenger traffic (for the financial year 2005-2006) has been estimated by increasing the 2004-2005 passenger traffic by the year on year growth experienced for the first half of the 2005 -2006 financial year. The resulting forecast passenger numbers for the next 25 years are given in Table 6 and Figure 19.

Table 6 Portland Airport Passenger Projected Forecast 2006-07 - 2030

Year		Scenario		
		Low-growth	Mid-Growth	High-Growth
0	2005/06	10139	10139	10139
1	2006/07	10392	10545	10747
2	2007/08	10652	10966	11392
3	2008/09	10919	11405	12076
4	2009/10	11192	11861	12800
5	2010/11	11471	12336	13568
6	2011/12	11758	12829	14382
7	2012/13	12052	13342	15245
8	2013/14	12353	13876	16160
9	2014/15	12662	14431	17130
10	2015/16	12979	15008	18157
11	2016/17	13303	15609	19247
12	2017/18	13636	16233	20402
13	2018/19	13977	16882	21626
14	2019/20	14326	17557	22923
15	2020/21	14684	18260	24299
16	2021/22	15051	18990	25757
17	2022/23	15428	19750	27302
18	2023/24	15813	20540	28940
19	2024/25	16209	21361	30677
20	2025/26	16614	22216	32517
21	2026/27	17029	23104	34468
22	2027/28	17455	24029	36536
23	2028/29	17891	24990	38728
24	2029/30	18339	25989	41052

Figure 19 Portland Passenger Forecast 2006-07 - 2030

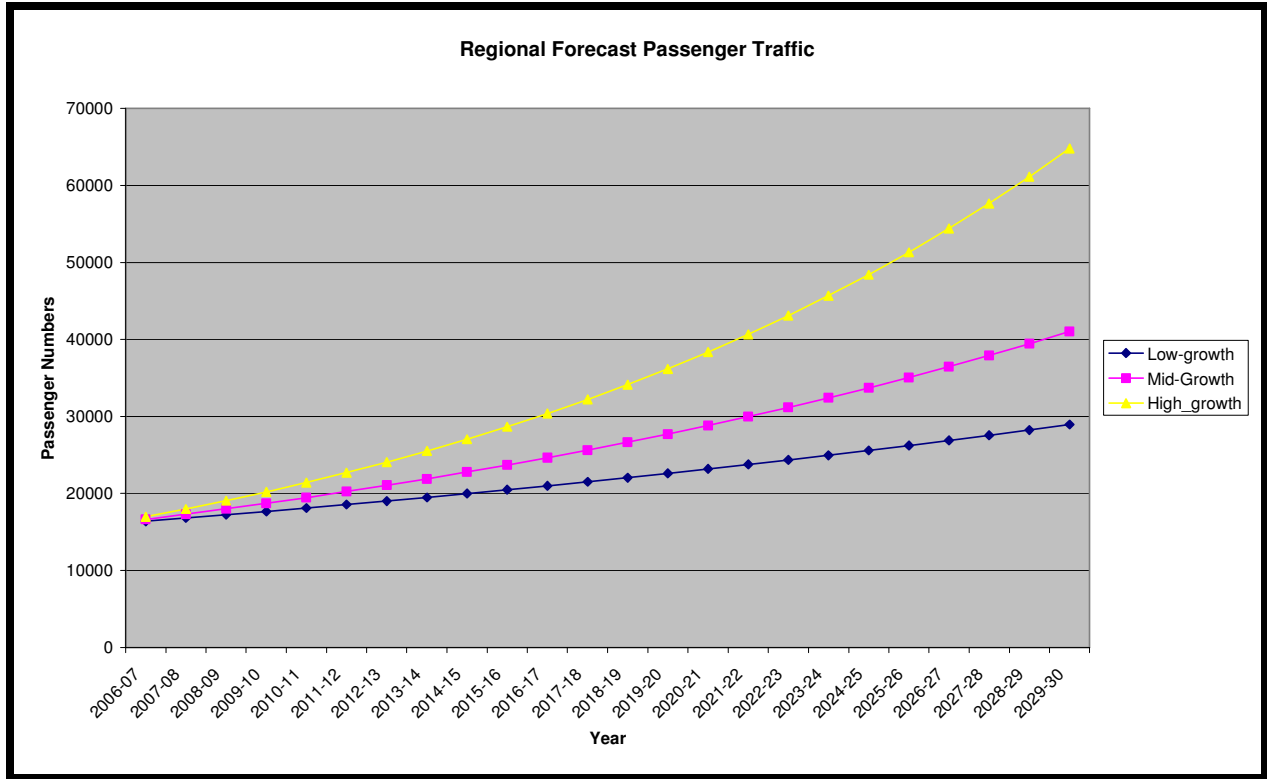


As in Figure 19 Portland based passenger volumes in 2012 -2013 will range from 12,052 to 15,245 depending on which of the three scenarios is applied to develop the forecasts.

Table 7 Regional Passenger Forecast 2006-07-2030

Year		Scenario		
		Low-growth	Mid-Growth	High-Growth
0	2005/06	16000	16000	16000
1	2006/07	16400	16640	16960
2	2007/08	16810	17306	17978
3	2008/09	17230	17998	19056
4	2009/10	17661	18718	20200
5	2010/11	18103	19466	21412
6	2011/12	18555	20245	22696
7	2012/13	19019	21055	24058
8	2013/14	19494	21897	25502
9	2014/15	19982	22773	27032
10	2015/16	20481	23684	28654
11	2016/17	20993	24631	30373
12	2017/18	21518	25617	32195
13	2018/19	22056	26641	34127
14	2019/20	22608	27707	36174
15	2020/21	23173	28815	38345
16	2021/22	23752	29968	40646
17	2022/23	24346	31166	43084
18	2023/24	24955	32413	45669
19	2024/25	25578	33710	48410
20	2025/26	26218	35058	51314
21	2026/27	26873	36460	54393
22	2027/28	27545	37919	57657
23	2028/29	28234	39435	61116
24	2029/30	28940	41013	64783

Figure 20 Regional Forecast Passenger Traffic 2006-07-2030



As in Figure 20 regional based passenger volumes in 2012 -2013 will range from 19,019 to 24,058 depending on which of the three scenarios is applied to develop the forecasts.

14.1 Target Passenger Numbers over the Next 5 years

What number of passengers would the Council as airport owner like to see flying through the airport? Historically approximately 13,000 have been the most to use the airport in one year. This master plan believes that to surpass this level a series of events need to take place. The first involves route expansion from Portland Airport. The scheduled RPT carrier for Portland, Sharp Airlines is adding Mount Gambier and Adelaide to destinations already being serviced from Portland.

The second action is to develop and promote tourism strategies that use the Airport as one of its key features and methods of getting to Portland and visiting Glenelg Shire. The Portland Airport has had a promise of a direct marketing campaign since its inception in 1982, to date no marketing program as ever been undertaken on behalf on the Airport. In 1982 a sum of \$20,000 was to be allotted this never eventuated. In the preceding business and marketing plan for the Portland Airport which ended in 2005 the subject of a marketing program was again mentioned for the Portland Airport but was never undertaken.

It is suggested that the following annual passenger numbers (Table 6) are achievable with ongoing and effective marketing by the council in conjunction with the RPT operators. These numbers reflect the mid growth projections of 4% growth per annum.

Table 8 Targeted Annual Portland Passenger Numbers

Year	Numbers	Increase on Previous year
2008-09	11,405	439
2009-10	11,861	456
2010-11	12,336	475
2011-12	12,829	493
2012-13	13,342	513

If a marketing / promotional program for the Portland Airport was developed it may be assumed that the projected increase in passenger volumes have the potential to increase even further.

The projected regional figures (Table 9) also reflect mid growth projections of 4 % per annum and do not take into consideration Glenelg Shire's efforts to obtain a Co-operative Research Center (CRC) with its subsequent university campus proposed to be located in the Portland area.

Table 9 Targeted Annual Regional Passenger Numbers

Year	Numbers	Increase on Previous year
2008-09	17998	692
2009-10	18718	720
2010-11	19466	749
2011-12	20245	779
2012-13	21055	810

15 Projected Airport Finances over the Next Five Years

The projected Portland Profit and Loss Statement for the period 2009-10 through 2012-13 (Table 10) are based on the following assumptions:

- Projected passenger numbers are from Table 8
- Head Tax of \$11.30 per passenger*
- Passenger fees = head tax x number of passengers per year
- Landing fees are based on 2008 aircraft volumes
 - Bank Service 1040 flights per year @ \$10.00 per landing
 - Sky scooters 620 flights per year @ \$ 10.00 per year
 - Private General Aviation 520 flights per year @ \$10.00 per year.

The projected Regional Profit and Loss Statement for the period 2009-10 through 2012-13 (Table 11) are based on the following assumptions:

- Projected passenger numbers are from Table 9
- Head Tax of \$11.30 per passenger *
- Passenger fees = head tax x number of passengers per year
- Landing fees are based on 2008 aircraft volumes
 - Bank Service 1040 flights per year @ \$10.00 per landing
 - Sky scooters 620 flights per year @ \$ 10.00 per year
 - Private General Aviation 520 flights per year @ \$10.00 per year.

*Glenelg Shire is currently reviewing its Head Tax charge with the current RPT provider. No decision has yet been made on how the Head Tax may be restructured or what the new tax may be. For the purpose of the Master Plan it was agreed to use the current Head Tax Figure of \$11.30 per passenger.

The Profit and Loss Statements illustrated in Tables 10 and 11 do not take into account inflation and are based on 2008 costs and forecast revenue streams.

Portland based passengers

Table 10 represents the projected Profit and Loss Statement for the Portland Airport for the period 2209-10 through 2012-13.

Table 10 Portland Airport Projected Profit & Loss Statement 2009-10 through 2012-13

Portland Airport				
Profit and Loss Statement				
	Projected 2009-10	Projected 2010-11	Projected 2011-12	Projected 2012-13
INCOME				
Commission	8,500	8,500	8,500	8,500
Property Lease / Rental	10,500	10,500	10,500	10,500
Sales	1,000	1,000	1,000	1,000
Buildings Lease / Rental	25,000	25,000	25,000	25,000
Landing and Passenger Fees	169,768	173,463	177,260	181,147
Miscellaneous	500	500	500	500
Government Grant	0	0	0	0
Total Income	215,268	218,963	222,760	226,647
EXPENDITURE				
Salaries	126,330	126,330	126,330	126,330
Contract; Material and Labour	41,600	41,600	41,600	41,600
Fuel and Oil	700	700	700	700
Equipment, Vehicle and Machinery	23,050	23,050	23,050	23,050
Utilities	10,300	10,300	10,300	10,300
Insurances	6,000	6,000	6,000	6,000
Office Expenses	17,300	17,300	17,300	17,300
License Fees	400	400	400	400
Buildings Maintenance	0	0	0	0
Miscellaneous	300	300	300	300
Depreciation	50,000	50,000	50,000	50,000
Capital Expenditure	85,000	85,000	85,000	85,000
Total Expenditure	360,980	360,980	360,980	360,980
Net Loss	(145,712)	(142,017)	(138,220)	(134,333)

Region Based Passengers

Table 11 represents the projected Profit and Loss Statement for the Portland Airport for the period 2209-10 through 2012-13.

Table 11 Project Profit and Loss Statement for Regional Based Passengers 2009-2013

Portland Airport Regional Profit and Loss Statement	Projected 2009-10	Projected 2010-11	Projected 2011-12	Projected 2012-13
INCOME				
Commission	8,500	8,500	8,500	8,500
Property Lease / Rental	10,500	10,500	10,500	10,500
Sales	1,000	1,000	1,000	1,000
Buildings Lease / Rental	25,000	25,000	25,000	25,000
Landing and Passenger Fees	233,353	241,817	250,619	259,772
Miscellaneous	500	500	500	500
Government Grant	0	0	0	0
Total Income	278,853	287,317	296,119	305,272
EXPENDITURE				
Salaries	126,330	126,330	126,330	126,330
Contract; Material and Labour	41,600	41,600	41,600	41,600
Fuel and Oil	700	700	700	700
Equipment, Vehicle and Machinery	23,050	23,050	23,050	23,050
Utilities	10,300	10,300	10,300	10,300
Insurances	6,000	6,000	6,000	6,000
Office Expenses	17,300	17,300	17,300	17,300
License Fees	400	400	400	400
Buildings Maintenance	0	0	0	0
Miscellaneous	300	300	300	300
Depreciation	50,000	50,000	50,000	50,000
Capital Expenditure	85,000	85,000	85,000	85,000
Total Expenditure	360,980	360,980	360,980	360,980
Net Loss	(82,127)	(73,663)	(64,861)	(55,708)

16 Development Requirements to 2012

The main development requirements to 2012 are as follows:

1. The relocation of the JetA1 and Avgas facilities off the airport apron to a location near the aero club.
2. Extend the area of the apron to accommodate larger types of aircraft and improve aircraft parking and taxiing mobility
3. Double the size and capacity of the current main hangar
4. The development of an administration / office facility in the main hangar
5. The development of a conference room addition to the Portland Airport Terminal
6. The development of an administration and crew area office addition to the Portland Airport Terminal
7. The development of extra taxi ways and aircraft parking and private hangar facilities at Portland Airport

16.1 Aviation Fuel Storage

Portland Airport has both Jet A-1 and Avgas stored in underground tanks located within the airside. These fuelling facilities are owned by Air BP and Council provides the dispensing service via the Airport Staff. The Jet A-1 (40,000 litres) adjoins the main apron directly on front of the Terminal Building, whilst the Avgas (30,000 litres) adjoins the light aircraft apron to the east of the main apron.

The Jet A-1 installation is currently earmarked for relocation, due to public safety set back standards. The demand for Avgas is small and without growth and development resulting in an increased General Aviation presence will most likely be removed due to this low demand, as has been evidenced in other locations throughout Australia. If the Avgas is retained then the facility will also require relocation to allow for the Stage 1 extension of the apron. Each relocation of these facilities is estimated at **\$500,000** each which will provide swipe card dispensing equipment.

16.2 Aircraft Parking Apron

Limited aircraft parking is available on the main apron and also on the light aircraft apron. The light aircraft apron has parking spaces for four light aircraft. The main apron has permanent daily demands from Sharp Airlines which operate from the main apron and their adjoining maintenance hangar leased from Council. Sharp Airlines regularly has 2 Metro Liners parked on the apron, with a third in front of their maintenance hangar located to the west of the existing apron. The current situation leaves very little or no apron space for other AIPs such as charter aircraft, royal flying doctor Service (RFDS) and the daily freight plane.

Extension of the apron is a current priority. This will be constructed in an easterly direction in stages to address requirements at any time. There is considerable land/space available to the east of the current apron for future expansion. The first immediate stage will approximately double

the current aircraft parking space and at time of writing is estimated to cost **\$350,000**. The second stage is estimated to be of the order of **\$200,000** at time of writing and will be constructed as demand requires.

16.3 Hangars

Glenelg Shire Council owns the hangar located to the west of the Terminal Building which is currently leased to Sharp Airlines for their maintenance operations. Sharp Airlines has indicated that additional space is required for their operations and has requested that the hangar be extended. A doubling of the hangar space is estimated at **\$500,000**. The cost of developing an administrative facility in the hangar would be **\$80,000**.

16.4 Passenger Terminal

The Passenger Terminal provides seating for 24 people. Current demands for seating are met. Future growth in passenger numbers will require the development of the terminal building to provide for the increased numbers, for processing as well as accommodating waiting and amenities for the increased numbers. It is anticipated that the estimated projected growth will require the doubling in size of the terminal building and facilities at some point in the future. There is currently a lack of meeting facilities at the airport. There is a current need for this type of facility to accommodate airport type meeting activities to avoid having to travel the distance into Portland to attend such meetings remote from the point of focus of such meetings. This requirement will increase as growth and usage patterns proceed and develop. The construction of a meeting facility could easily be constructed as an addition to the terminal building at an estimated cost of **\$100,000** at time of writing. The addition of the administration and crew area office has been estimated to cost approximately **\$100,000**

16.5 Current Demand for Car Parking

Car parking for passengers and staff is located to the north of the terminal building. Currently 72 car parks are available; currently rarely does demand go beyond 50%.

16.6 Potential Locations for Future Airport Car Parking

There is land available on the northern side of the existing carpark suitable for future expansion. There is sufficient land to triple the car parking capacity. Car parking demand will be a direct result of development and growth of passenger numbers and other activities which will drive the requirement for additional parking but in the longer term this can be provided. A doubling of the car parking area is estimated at **\$225,000** at time of writing.

16.7 Staff Car Parking

Currently all staff use either the public car park area or the car park area adjacent to the Sharp Airlines Hangar. To date there have been no security or safety issues arising as a result of this practice.

16.8 Runway and Taxiway

Portland Airport has two runways; the main sealed runway 08/26 is 1616 metres in length since it was recently extended from 1417 metres. The secondary gravel runway 17/35 is 1180 metres in length.

Aircraft operators have reported to Airport Management, that the gravel runway has a detrimental effect on propellers due to its loose surface. Requests have been made to have the 17/35 runway sealed. The estimated cost of constructing and sealing the 17/35 runway is **\$1,500,000** at time of writing.

16.9 Road Layout

Portland Airport is located on Bridgewater Lakes Road, Cashmore. The main entrance road off Bridgewater Lakes Road is a two way dual carriageway road of approximately 600m in length from the entrance to the terminal building. At the terminal building the road circles the car parks, enabling easy access to the car parks. This road is well located to allow for any future expansion for car parking.

16.10 General Aviation

Portland Airport's General Aviation activity consists of the following:

- Charter and low-capacity passenger-carrying operations
- Business flights
- Aerial agriculture
- Commercial pilot training
- Aeromedical, search and rescue, aerial fire fighting and coast watch
- Other aerial work such as surveying and photography
- Aircraft maintenance and repair work
- Private pilot training;
- Sports aviation
- Recreational flying

The growth potential of this group needs to be explored. Development progression and active promotion of the Airport to potential additional related businesses to encourage them to operate from the Airport will add to the growth and provide the additional usage that is needed to retain Avgas facilities which are seen as vital to retaining such activity at this facility.

16.11 Mail and Freight

Portland is serviced by a daily freight plane from Essendon Airport.

16.12 Airspace

Currently uncrowded, with approximately 4 movements per hour and therefore has a great potential for additional activity.

16.13 Land Use Plan

Portland Airport site is 128 hectares in area. Currently, around 22 hectares of this land is leased to adjoining property owners. Approximately 7 of the 22 leased hectares are beyond the eastern boundary of runway 08/26, and approximately ten hectares abut onto the public areas near the terminal building and car park.

16.14 Summary of Airport Development

Figure 21 highlights the current layout for the Portland Airport. Figure 22 is a pictorial layout of the proposed developments at Portland Airport. The figure highlights the car park extension, hangar and terminal development, apron extension and relocation of the refueling facility. Figure 23 is a summary of all development costs for the period 2009-2012 for the Portland Airport

Figure 21 Illustrates the Current Layout of the Portland Airport

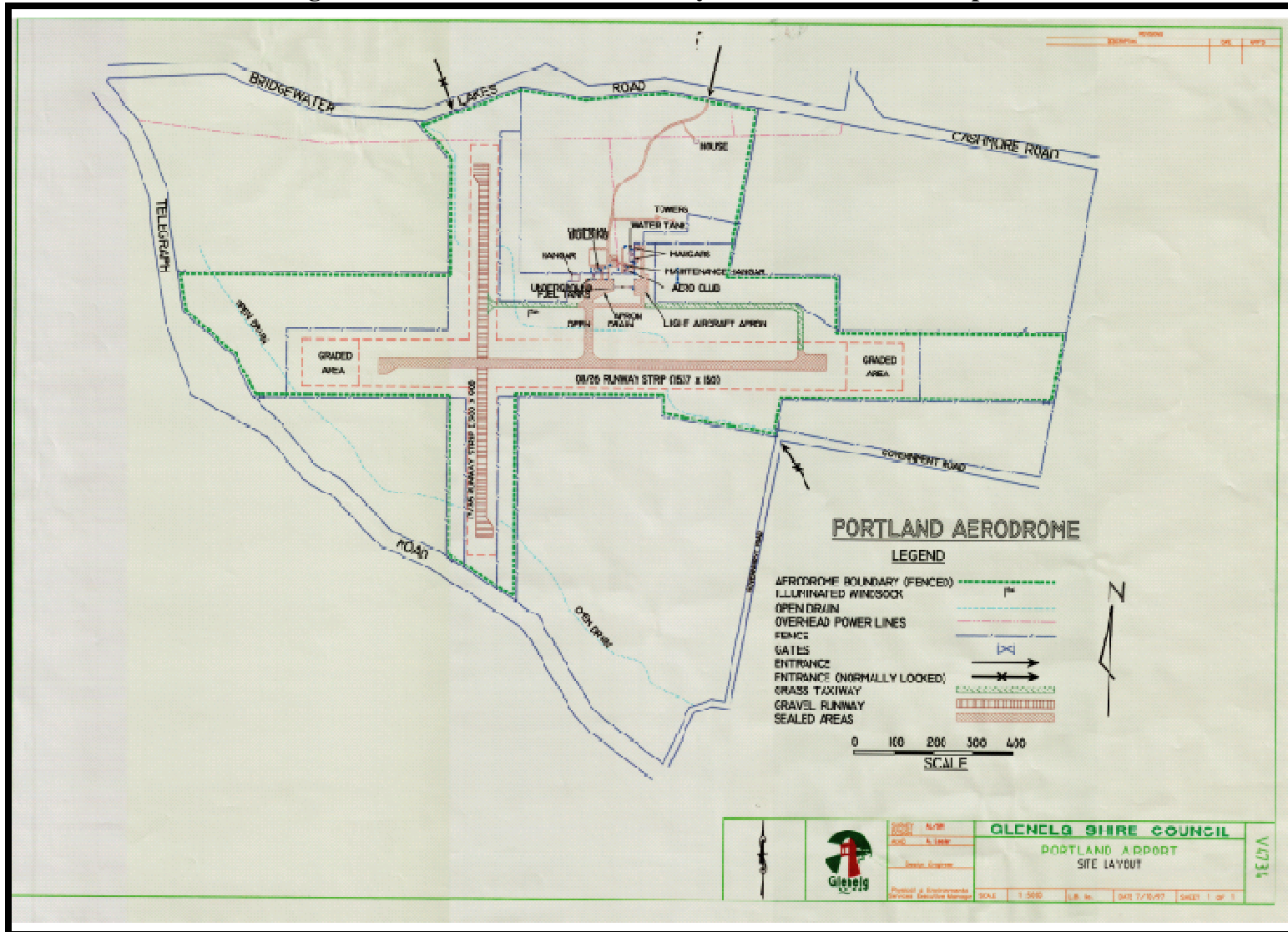


Figure 22 Proposed Airport Development

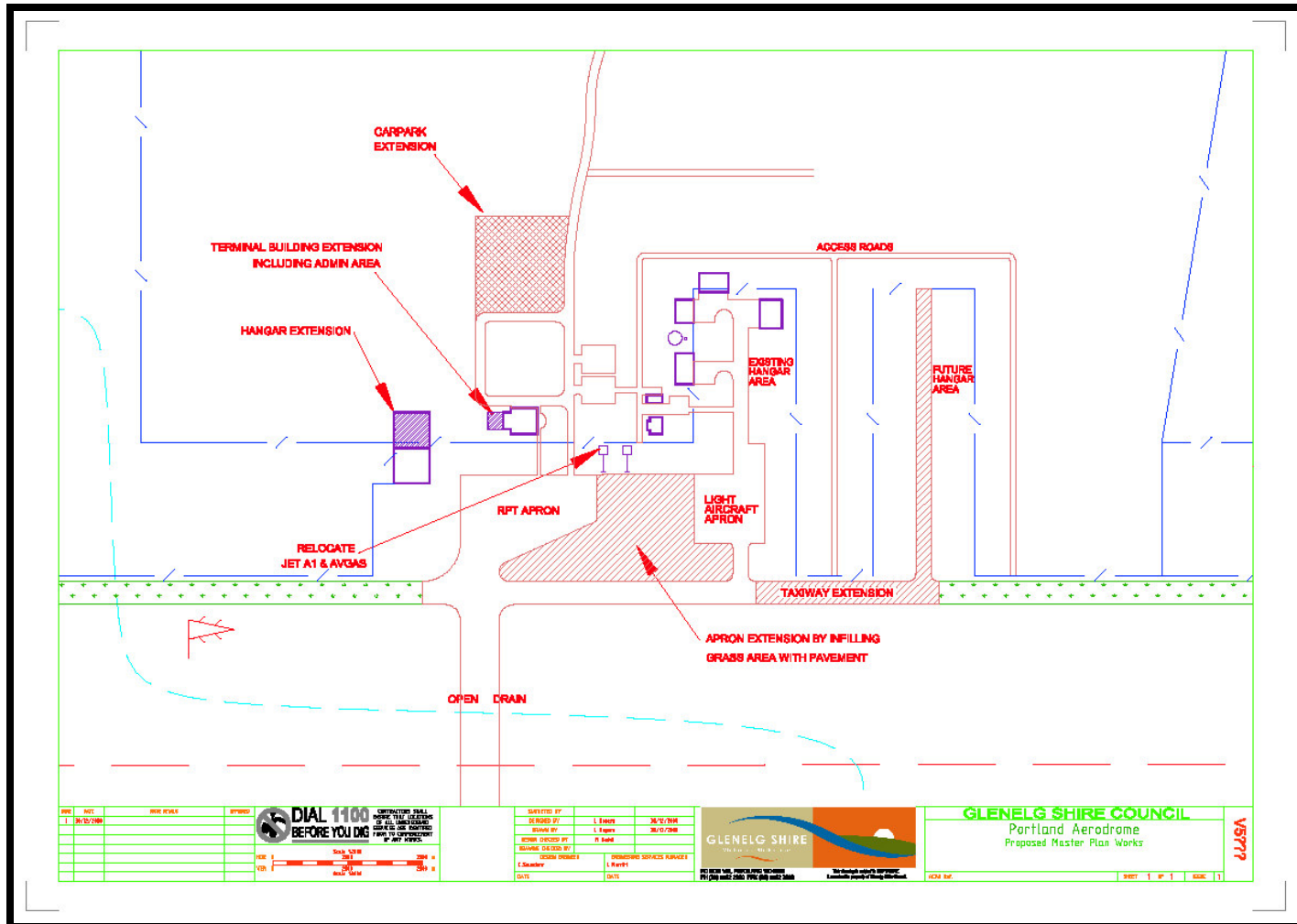



Figure 23 Summary of Development Costs

Portland Airport Master Plan Works - Estimates Summary					
Item No.	Description of Work	Estimated Quantity	Unit	Rate \$ (excluding GST)	Amount \$ (excluding GST)
1.0	Fuel Facility Relocation(AirBP Contribution)				
	JetA1	1	No.	\$ 250,000.00	\$ 250,000.00
	Avgas	1	No.	\$ 250,000.00	\$ 250,000.00
2.0	Apron Extension				
	Construction of sealed apron axtension	6600	m ²	\$ 53.03	\$ 350,000.00
3.0	Hangar Extension				
	Doubling of existing maintenance hangar area	530	m ²	\$ 943.40	\$ 500,000.00
4.0	4.1 – Flight Engineers Office				
	Construction of office space to be used by flight engineers	20	m ²	\$ 4,000.00	\$ 80,000.00
	4.2 – Pilots Briefing Room				
	Construction of pilot briefing room	30	m ²	\$ 3,333.33	\$ 100,000.00
	4.3 – Conference Room				
	Construction of conference room	30	m ²	\$ 3,333.33	\$ 100,000.00
5.0	Taxiway Extension				
	Construction of sealed taxiway extension	3700	m ²	\$ 54.05	\$ 200,000.00
SCHEDULE OF QUANTITIES AND PRICES TOTAL (excluding GST)					\$ 1,830,000

17. Environmental Impacts and Mitigation 2012

17.1 Air quality

Daily peak emission densities at the aerodrome site are shown to be only a small fraction of the corresponding densities in the town area which are considered to be at acceptable levels. Consequently, the deterioration in air pollution in the vicinity of the aerodrome will be minor and possibly below the level of detection.

17.2 Biodiversity

A list of flora and fauna observed in the Bats Ridge State Fauna Reserve 2 km to the south east of the airport is considered representative of the aerodrome locality. The list is attached as Appendix F.

17.3 Cultural Heritage

There are no known issues of cultural heritage involved the Portland Airport, its operations and future development.

17.4 Geology and Land Quality

Siliceous sand dunes and sheets cover most of the airport site with some swamp deposits. The water table at the airport is generally very high during winter and spring. Drainage from the aerodrome enters Wattle Hill Creek via the Cashmore drainage system.

17.5 Landscape and Visual

The site is relatively flat with some low rises beyond the site boundaries. Development of the aerodrome does not involve the removal or reshaping of any prominent topographical features.

17.6 Noise

Regardless of its size, the purpose for which it is used, who owns and operates it, or where it is registered, every civil aircraft operating in Australia is required to comply with the *Air Navigation (Aircraft Noise) Regulations 1984* under the Commonwealth's Air Navigation Act 1984. If it has not been continuously on the Australian Civil Aircraft Register since prior to 6 December 1990, an aircraft may not operate in Australia unless:

- It has a noise certificate; or
- It has been issued with a permit to operate without a noise certificate; or
- It has been assessed as being in an exempt category.

The penalty for operation in breach of the Regulations is a maximum fine of \$2,000 per operation. Before an aircraft, whether Australian-registered or foreign-registered, is operated in

Australia, it is essential that the aircraft be noise assessed to avoid the possibility of non-compliance with the Noise Regulations. In addition, an aircraft which has been modified in such a manner that its noise level(s) may be adversely affected also requires assessment (or re-assessment).

There are three grounds on which permission to operate an aircraft without a noise certificate may be granted. These are:

- The extent to which the aircraft exceeds the noise standard is not significant (this ground is not available for jet aircraft); or
- The historical significance of the aircraft justifies the permission; or
- The aircraft is to be used solely for a purpose that is in the public interest.

A permit to operate without a noise certificate may include conditions on operation of the aircraft.

What sorts of aircraft are exempt?

Some aircraft are exempted from the requirements of the Noise Regulations. These are state aircraft, hot air balloons, and propeller-driven aircraft that are specifically designed for, and used exclusively for:

- Aerobatics, or
- Fire fighting, or
- Agriculture.

Noise contours were developed for Portland Airport and are included in Appendix B. Australian experience indicates that land used controls should be placed on areas around aerodromes likely to be exposed to a Noise Exposure Concept (NEC) level of 25 or more and that building density in these areas are to be kept to a minimum. Existing housing density is of a rural nature and not within an excessive noise zone; it is therefore considered compatible. The area of fauna reserve is on the outer edge of the NEC 25-30 zone and, it is considered, would not be adversely affected by the airports operation.

17.7 Wind and Fog

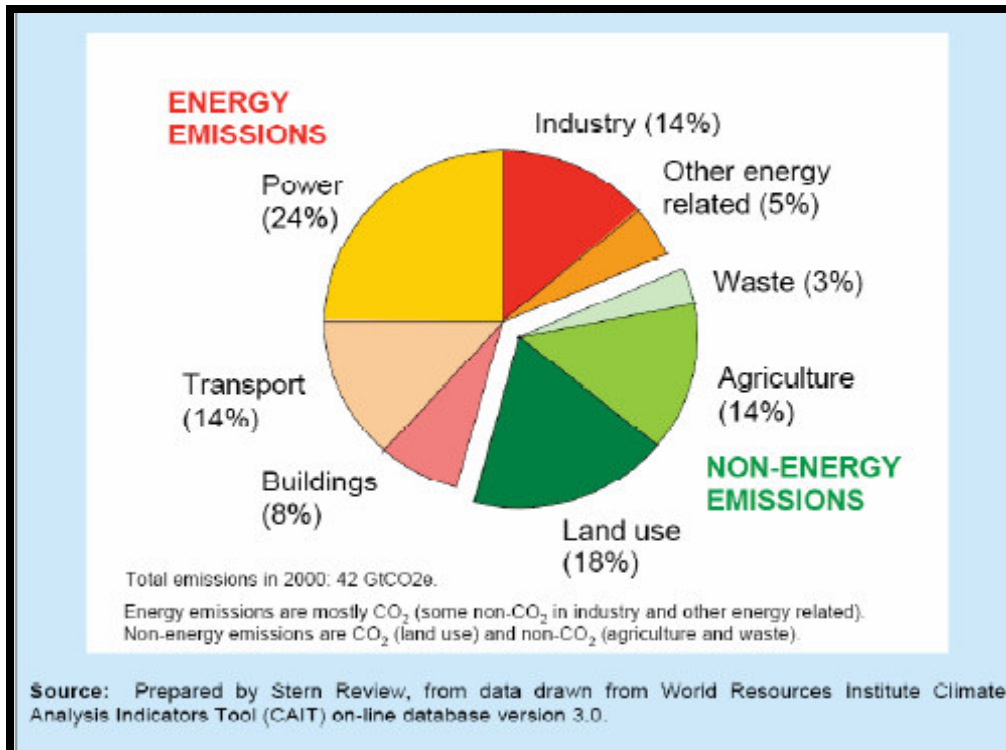
It is estimated that fog of less than 3 km visibility which could affect operations of the airport from 10 pm. to 10 am would occur on an average of 10 days per year.

18. Climate Change

Over the twentieth century, average air temperatures at the earth's surface increased by approximately 0.74 °C Intergovernmental Panel on climate Change (IPCC, 2007). It is almost

certain that greenhouse gas emissions (Figure 24 generated by human activities caused most of the observed increase in globally averaged temperatures since mid-20th century (IPCC, 2007).

Figure 24 Co² Emissions by Industry



These temperature increases have also influenced the global hydrological cycle. Precipitation in some regions of the world has increased significantly while more intense and longer droughts have been observed since the 1970s in other regions (IPCC, 2007).

Since 1990, the Intergovernmental Panel on Climate Change (IPCC) has provided regular comprehensive scientific assessments of past, present and future climate change with four scientific assessments having been undertaken to date – in 1990, 1996, 2001 and 2007.

The most recent assessment by the IPCC in 2007 made the following conclusions and projections about global climate change:

- The near certainty that global warming that has been observed over the last 50 years is attributable to human activities
- An average warming of 1.1 to 6.4 °C by 2009-99 relative to 1980-1999 temperatures

- An average sea level rise between 0.18 and 0.59 metres by 2009-99. These figures do not include the full effects of recent accelerated changes in ice sheet flow, recent observations of emissions or other possible severe feedback (exacerbation) effects. Sea level rise will inevitably continue for hundreds of years, even if atmospheric greenhouse gasses are stabilised.
- Increases in the amount of precipitation is very likely in high-latitudes, while decreases are likely in most subtropical land regions and
- Extreme climate events – hot extremes, heat waves and heavy rainfall are very likely to become more frequent

Historical global changes have been mirrored in Australia where average temperatures have increased by about 0.7 °C since 1910. Precipitation in Western Australia and along Australia's east coast has declined steadily since the mid-20th century, while precipitation has increased in the northwest. There has also been an increase in extreme rainfall events throughout Australia, particularly during winter. In summary, projections suggest that:

- The majority of Australia may warm 0.4 to 2.0 °C by 2030 and up to 6 °C by 2070 with slightly less warming near the coast - this may result in more evaporation and hot days and fewer cold nights
- Annual rainfall will generally decrease in the south and east (mainly in winter and spring)
- Wetter summers may be experienced by some inland and eastern coastal areas
- More frequent extreme rainfall.

Summary

The Master Plan has been developed to communicate the Glenelg Shire development plans for the Portland Airport to the State Government, the board of Regional Development Victoria (RDV) and a variety of stakeholders throughout Victoria and South Australia.

The Master Plan will now be considered by the Glenelg Shire Council for approval. It will be used as the basis for potential funding applications under the current RDV program.

Glossary of Terms

AAQS	Ambient Air Quality Standards
APE	Area of Potential Effect
AZD	Airport Zoning District
CASA	
CO	Carbon Monoxide
dBA	A-weighted Decibels
DOT	Department of Transport
EA	Environmental Assessment
GA	General Aviation
GPS	Global Navigation Satellite System
GSE	Ground Service Equipment
IFR	Instrument flight Rules
ILS	Instrument Landing System
INM	Integrated Noise Model
NAVAIDs	Navigational Aids
NDB	Non-directional Radio Beacon

Definitions

Access Taxiway

A taxiway that provides access to a particular location or area

Active Based Aircraft

Aircraft that have a current airworthiness certificate and are based at an airport

Actual Runway Length

The length of full width, usable runway from end to end or full strength pavement where those runways are paved

Administration buildings

A building or buildings accommodating airport administration activity and public facilities for itinerant and local flying, usually associated with general aviation fixed based operations.

Administration Space

The space including, but not limited to, space for offices, cafeterias, conference rooms, lobbies, waiting rooms, garages, parking lots

Aeronautical Chart

A map representing a portion of the earth, made especially for use in air navigation

Air Navigation Facility (NAVIAD)

Any facility used or designed for use as an aid to air navigation

Airport

An area of land or water that is used or intended to be used for the landing and takeoff of aircraft, including its buildings and facilities

Airport Beacon

A navigational aid emitting alternating white and green flashes to indicate a lighted airport or white flashes only for an unlighted airport

Airport elevation

The highest point on an airport's usable runways expressed in feet above mean sea level

Airport Environs

The area surrounding an airport that is considered to be directly affected by the presence and operation of the airport

Airport Land Use Plan

A generalized plan depicting proposed land uses within the airport boundary. The land use plan is a required element of an airport master plan

Airport Master Plan

Appropriate documents and drawing concerning the development of a specific airport from a physical, economic, social and political jurisdictional perspective. The airport layout plan is a part of this plan.

Air route

Navigable airspace between two points which is identifiable

Airspace

Space in the air above the surface of the earth or a particular portion of such space, usually defined by the boundaries of an area on the surface projected upward

Air Traffic

Aircraft operating in the air or on an airport surface, exclusive of loading ramps and parking areas

Airway

A path through navigable airspace within which air traffic service is provided

Approach Area

The defined area over which landing and takeoff operations are made

Apron

A defined area, on a land airport, intended to accommodate aircraft for purposes of loading or unloading passengers or cargo, refueling, parking or maintenance

Bearing

The horizontal direction of an object or point, measured as an angle usually clockwise, from true or magnetic north through 360 degrees

Ceiling

The height above the surface of the earth of the lowest layer of clouds or obscuring phenomena that is reported as “broken”, “overcast” or “obscuration”.

Crosswind

A wind blowing across the line of flight of an aircraft

Decibel (dB)

A unit for measuring the volume of a sound, equal to the logarithm of the ratio of the intensity of the sound to the intensity of an arbitrarily chosen standard sound

Final Approach (IFR)

The flight path of an aircraft that is inbound to the airport on an approved final instrument approach course, beginning at the final approach fix or point.

Final Approach (VFR)

A flight path of a landing aircraft in the direction of landing along the extended runway centerline

General Aviation

That portion of civil aviation that encompasses all aviation except air carriers and large aircraft commercial operator

General Aviation aircraft

All civil aircraft except those used by air carriers

Instrument flight Rules (IFR)

Rules that govern the procedures for conducting instrument flight

Localizer (LOC)

An ILS navigation facility providing horizontal guidance to the runway centerline during approach and landing

NAVAID

Any facility used in aid of air navigation, including lights; equipment for disseminating weather information, signaling, radio direction finding, or radio or other electronic communication, and any other structure or mechanism having a similar purpose for guiding or controlling flight in the air or the landing or takeoff of aircraft.

Noise

Any sound that is considered to be undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying

Noise contours

Lines drawn on a map that connect points of equivalent DNL values. They are drawn in 5 dB intervals, DNL 70 values, DNL 65 values, and so forth.

100- Year Floodplain

An area subject to flooding with an annual frequency of 1:100

Runway Gradient (effective)

The average difference in elevation of the two ends of the runway divided by the runway length if no intervening point lies more than five feet above or below a straight line joining the two ends of the runway. If the criteria are not met, the runway profile will be segmented and aircraft data will be applied for each segment separately

Runway Orientation

The magnetic bearing of the centerline of the runway

Runway Strength

The ability of a runway to support aircraft of a designated gross weight for single, dual wheel and dual tandem wheel gear types

Taxiway

A defined path established for the taxiing of aircraft from one part of the airport to another

Terminal building

A building or buildings designed to accommodate the enplaning and deplaning activities of air carrier passengers

Terminal facilities

The airport facilities providing services for air carrier operations that serve as a center for the transfer of passengers and baggage between surface and air transportation.

VFR Airport

An airport without an authorized or planned instrument approach procedure

Visual Approach

An approach wherein an aircraft having air traffic control authorization may deviate from the prescribed instrument approach procedure and proceed to the airport of destination, served by an operational control tower, by visual reference to the ground.

Visual flight Rules (VFR)

Rules that govern the procedures for conducting flight under visual conditions

Wind cone

A free rotating fabric cone that indicates wind direction and wind force.

Wind Rose

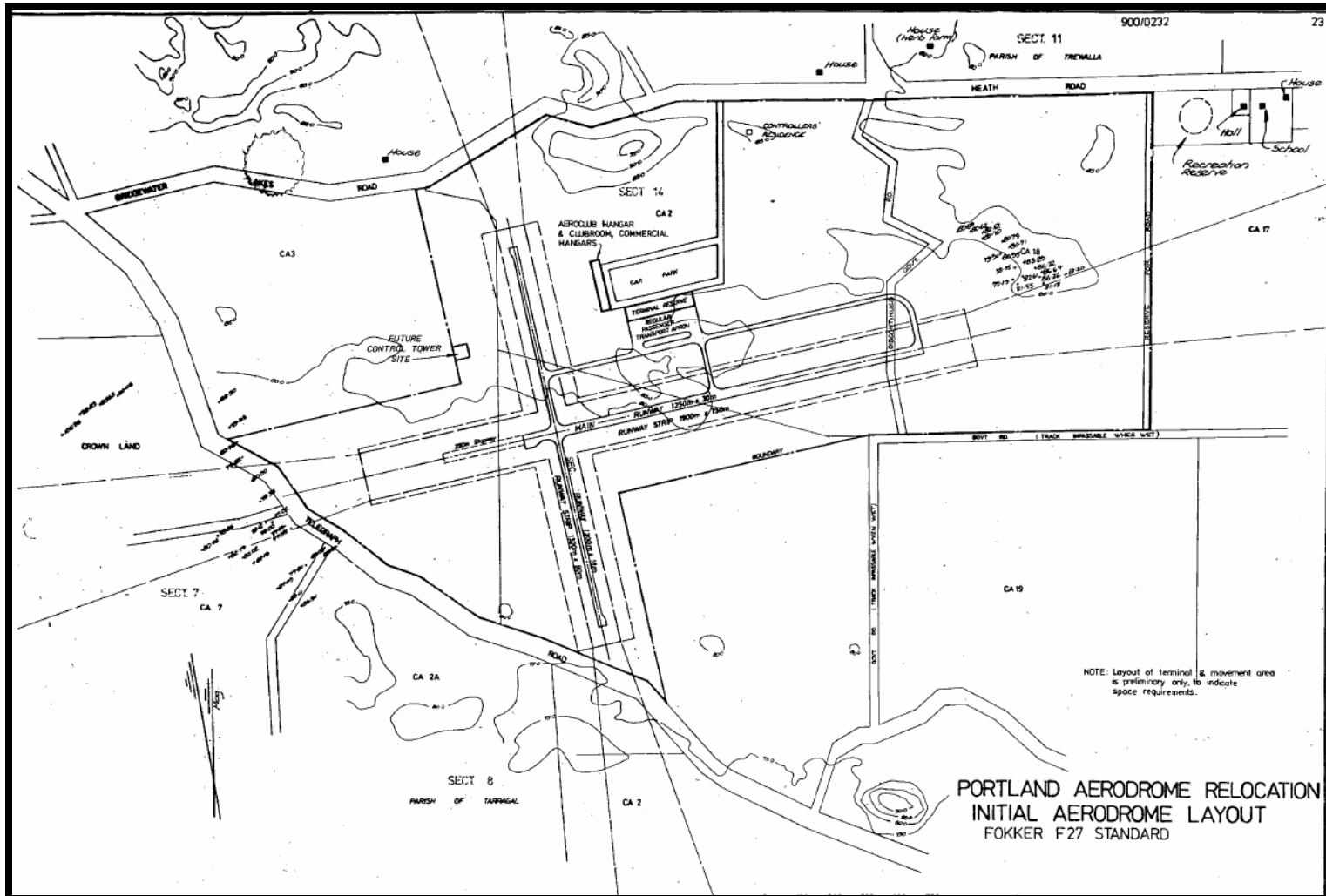
A diagram for a given location showing relative frequency and velocity of wind from all compass directions

Wind Tee

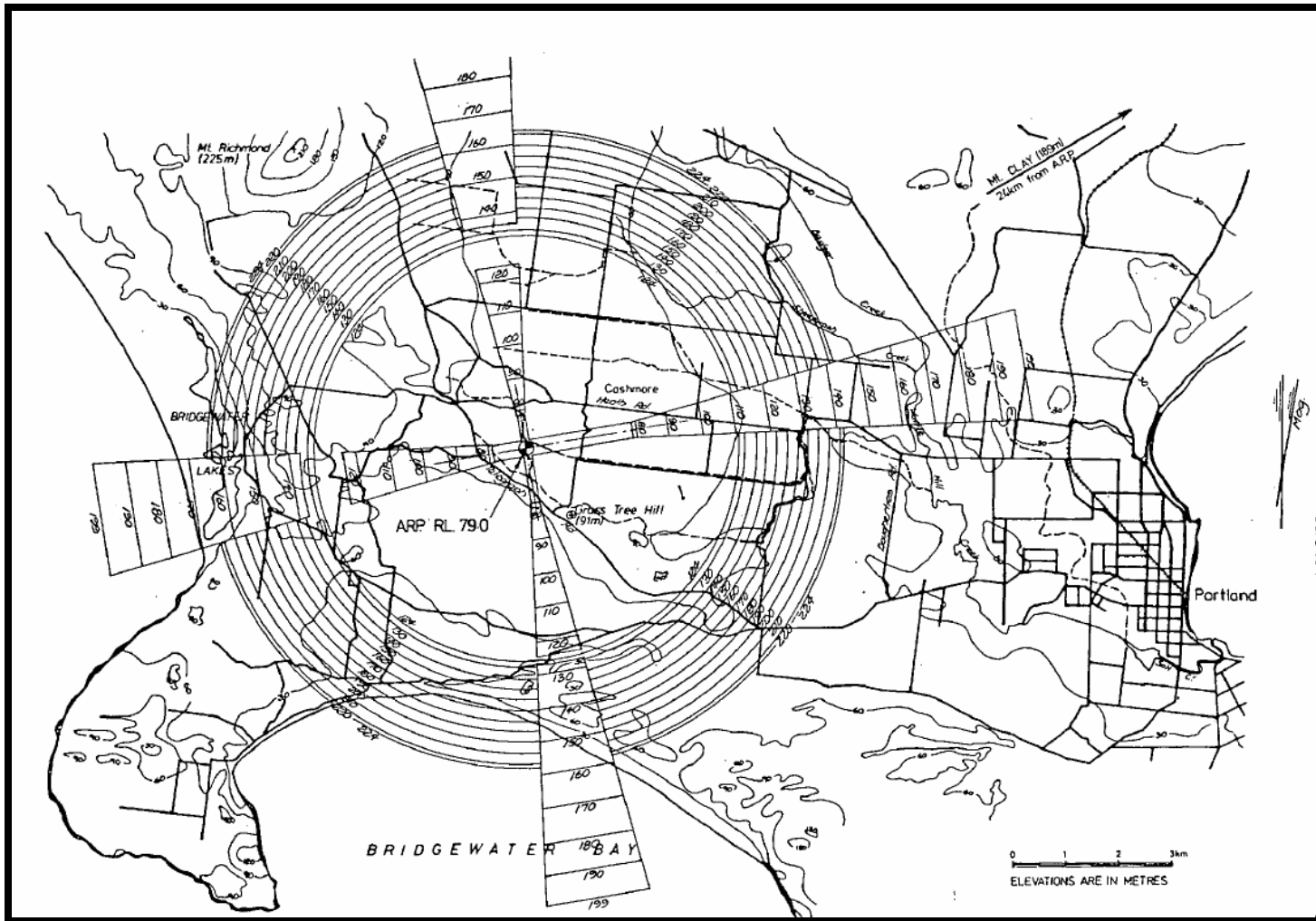
A tee shaped free rotating device that indicates wind direction

Appendix A Current Plans

Portland Airport Layout

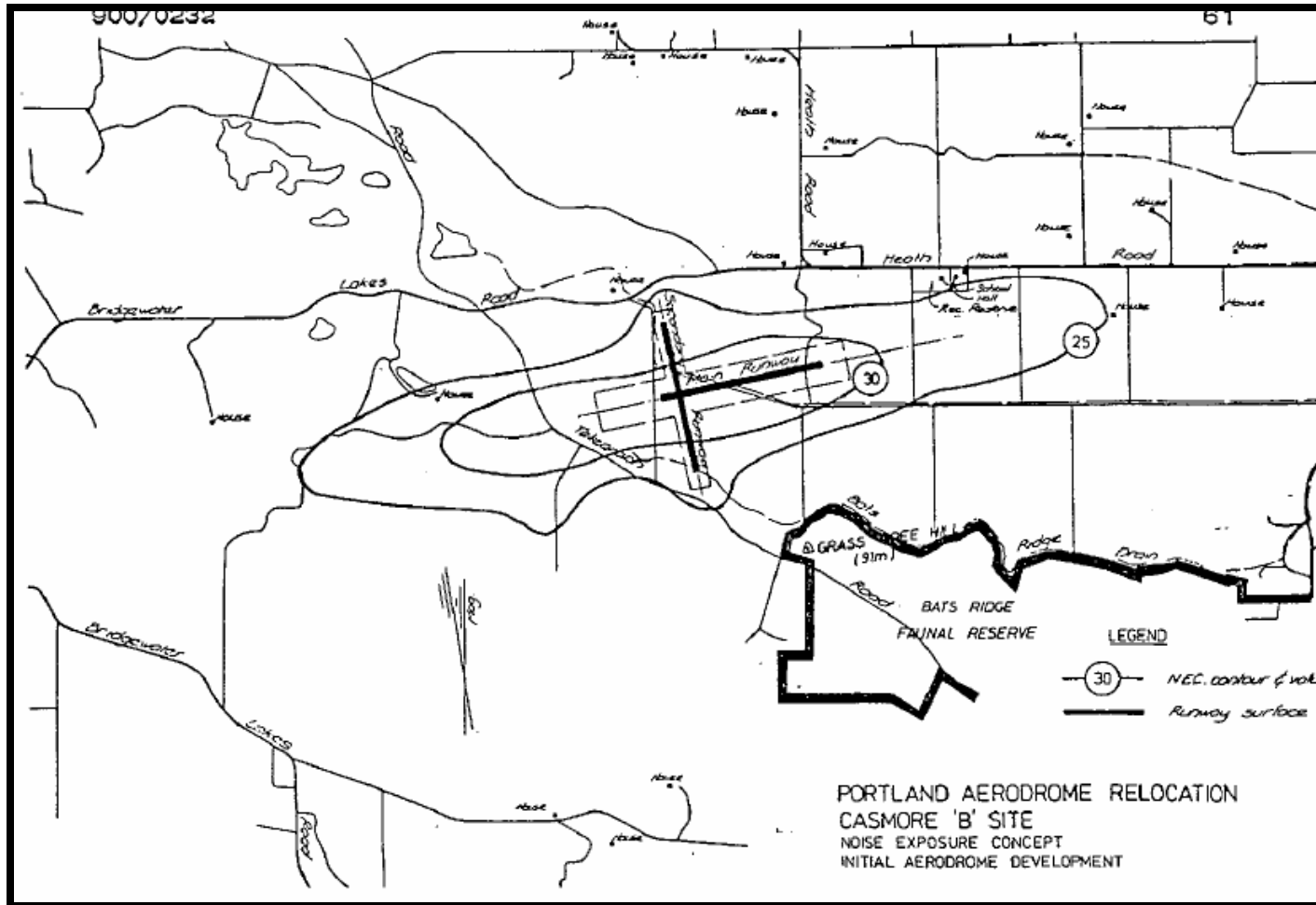


Portland Airport Flight Clearance Surfaces (Obstacles & Limitations Surfaces (OLS))



Appendix B Noise Contours

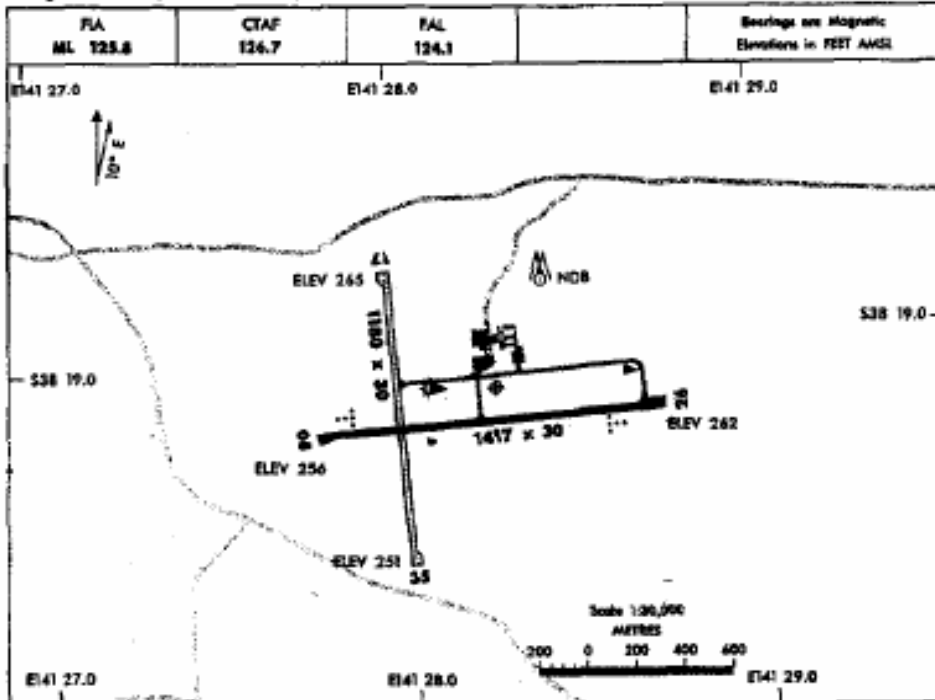
Noise Exposure Concept



Appendix C Portland Airport Lighting

**AERODROME CHART
PORTLAND VIC, (YPOD)**

Changes: MAG YAR, RWY 17/35 HDG, Editorial.



AERODROME LIGHTING

RWY	TAXIWAY: SIDELINE BLUE RL : PILOT ACTIVATED T24.1, PTBL
08 ⁰⁷⁷ 26 ²⁵⁷	AT-VASIS (3) LEFT SIDE 43 FT RL(I) AT-VASIS (3) LEFT SIDE 49 FT RL(I)
17 ^{M7} 35 ³⁴⁷	

NOTES

POD76AD1

AIP Australia
12 AUG 1999

AD ELEV 265
S38 19.1 E141 28.3

**AERODROME CHART
PORTLAND, VIC (YPOD)**

Appendix D Non Directional Beacon (NDB)

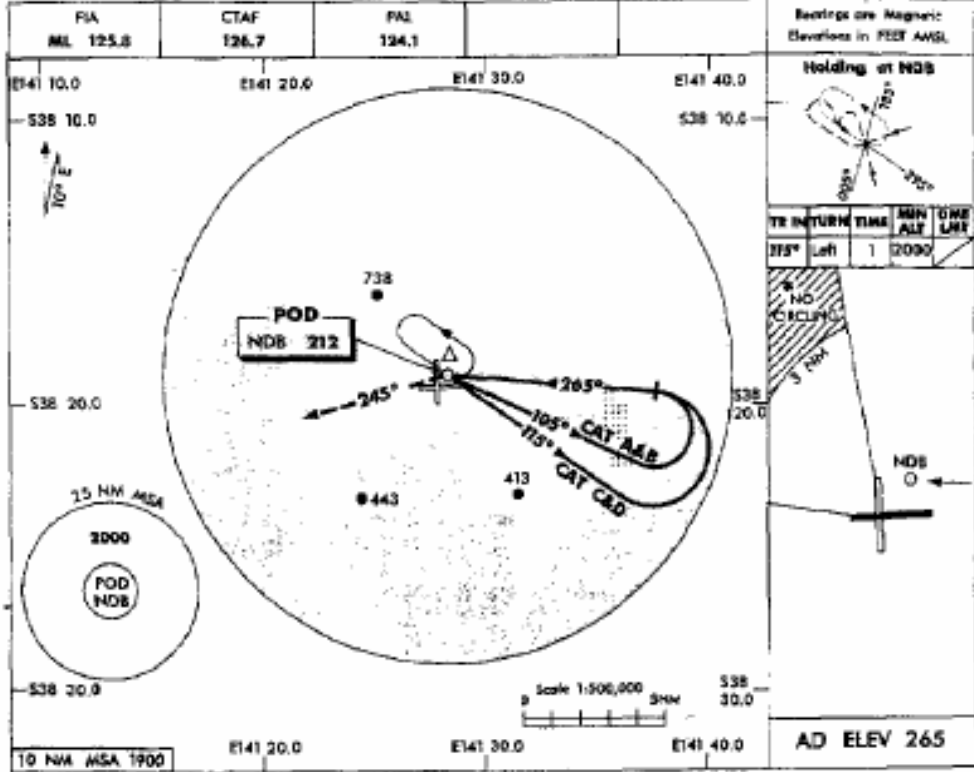
USE QNH

Attachment 4

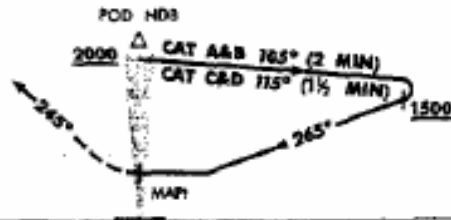
4.2 NDB Landing

PORTLAND, VIC (YPOD)

Changes: MAG VAR, 10 NM, MSA, Editorial



MISSED APPROACH TURN LEFT, TRACK 245°, CLIMB TO 2000FT.



NOTES

*1. NO CIRCLING IN SECTOR NORTH OF RWY 08/26 AND WEST OF RWY 17/35 BEYOND 3NM.

CATEGORY	A	B	C	D
CRUISE				
ALTERNATE	900 (635-2.4)	1080 (815-4.0)	1080 (815-5.0)	
	(1135-4.4)	(1315-6.0)	(1315-7.0)	

DME DIST									
ALT			NOT APPLICABLE						

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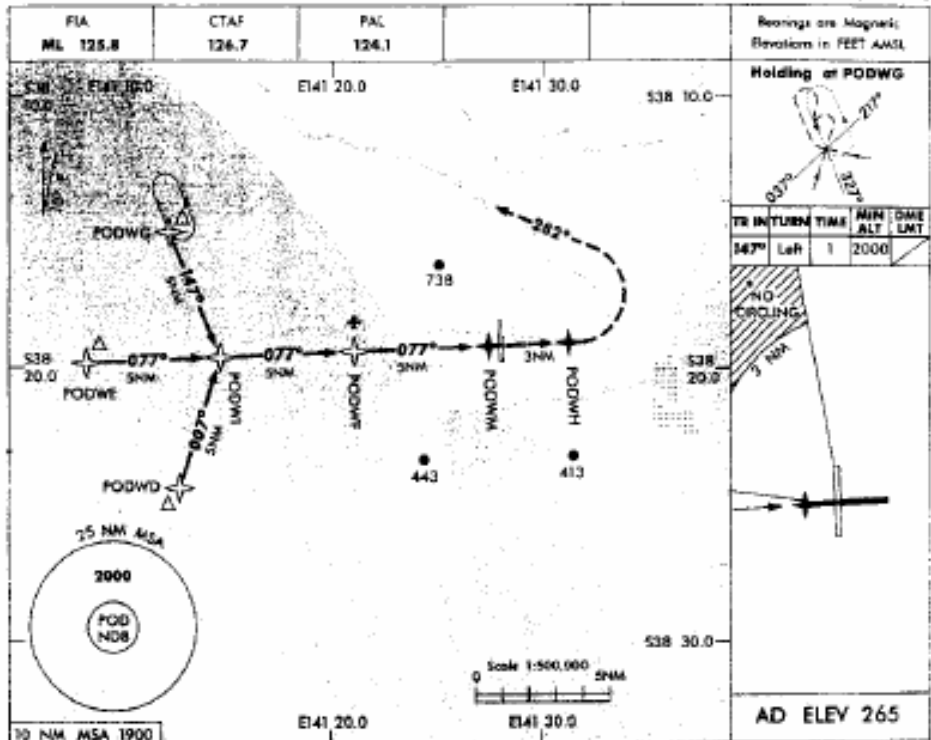
NDB
PORTLAND, VIC (YPOD)

Appendix E Global Positioning System (GPS) Landing Runway

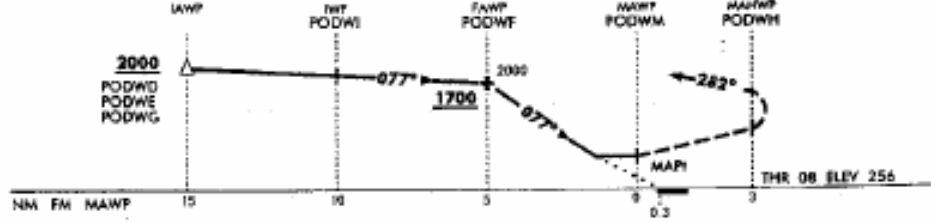
USE QNH

**RWY 08 GPS
PORTLAND, VIC (YPOD)**

Changes: NEW PROCEDURE.



MISSED APPROACH TRACK DIRECT TO PODWH THEN TURN LEFT, TRACK 282°. CLIMB TO 2000FT.



NOTES

- 1. MAX IAS: INITIAL : 210KT.
- *2. NO CIRCLING IN SECTOR NTH OF RWY 08/26 AND W OF RWY 17/35 BEYOND 3NM.

CATEGORY	A	B	C	D
GPS	860 (595-3.4)			NOT APPLICABLE
CIRCLING*	900 (635-2.4)	1080 (815-4.0)		
ALTERNATE	NOT APPLICABLE			

NM FM MAWP	5	4	3	2	1.5
ALT	2000	1675	1350	1030	860

AP Australia
12 AUG 1999

RWY 08 GPS
PORTLAND, VIC (YPOD)

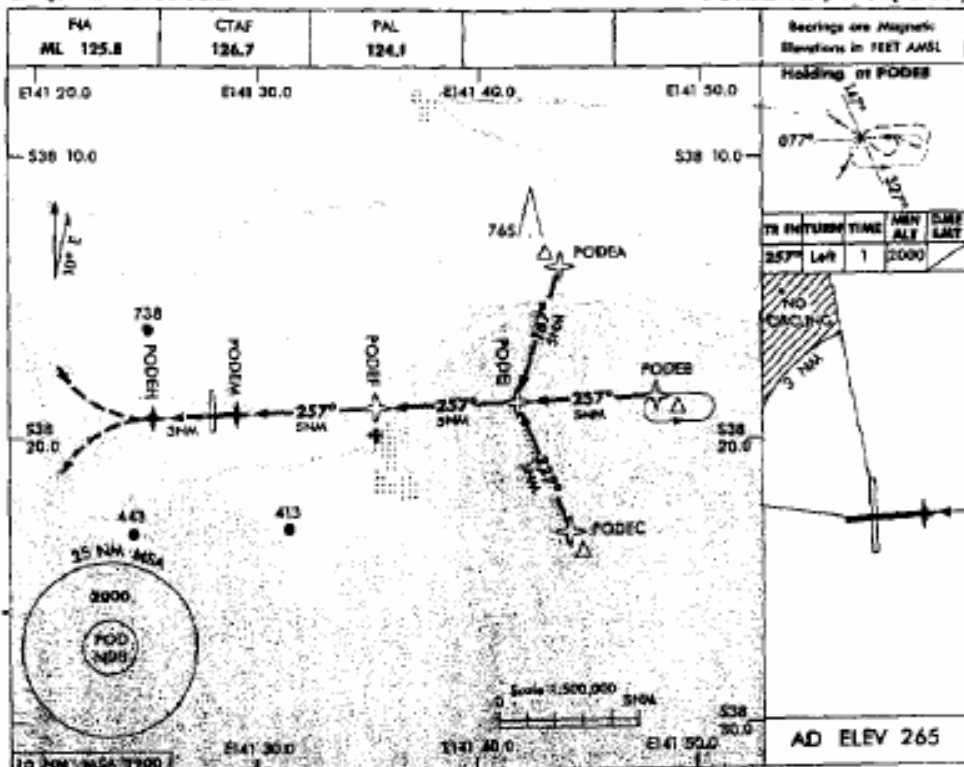
USE QNH

Attachment 4

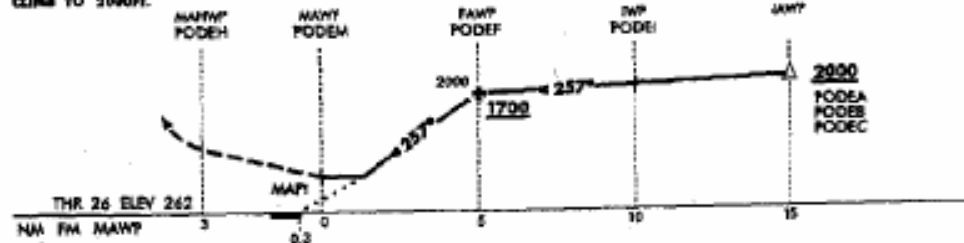
4.4 GPS Landing Runway

Changes: NEW PROCEDURE

PORTLAND, VIC (YPOD)



MISSED APPROACH TRACK DIRECT TO PODEFI THEN AS REQUIRED CLIMB TO 2000FT.



CATEGORY	A	B	C	D
	800 (535-3.0)			NOT APPLICABLE
	900 (635-2.4)		1080 (815-4.0)	
	NOT APPLICABLE			

- NOTES**
- MAX IAS: INITIAL = 210KTS.
 - NO CIRCLING IN SECTOR NTH OF RWY 08/26 AND W OF RWY 17/35 BEYOND 3NM.

NM FM MAWP	5	4	3	2	1.3					
ALT	2000	1680	1355	1035	800					

AIP Australia
12 AUG 1999

RWY 26 GPS
PORTLAND, VIC (YPOD)

Appendix F List of Flora and Fauna Observed in the Bats Ridge Fauna Reserve

BATS RIDGE STATE FAUNAL RESERVE

BIRDS

<u>Scientific name</u>	<u>Common name</u>
<i>Calyptorhynchus funereus</i>	Yellow-tailed black cockatoo
<i>Malurus cyaneus</i>	Superb blue wren
<i>Phalacrocorax melanoleucus</i>	Little pied cormorant
<i>Corvus coronoides</i>	Australian raven
<i>Ardea pacifica</i>	White-necked heron
<i>Threskiornis spinicollis</i>	Straw-necked ibis
<i>Gymnorhina tibicen</i>	White-backed magpie
<i>Zosterops lateralis</i>	Grey-backed silvereye
<i>Anthochaera carunculata</i>	Red wattlebird
<i>Colluricincla harmonica</i>	Grey shrike-thrush
<i>Pachycephala pectoralis</i>	Golden whistler
<i>Melithreptus lunatus</i>	White-naped honeyeater
<i>Halcyon sancta</i>	Sacred kingfisher
<i>Chenonetta jubata</i>	Wood duck
<i>Tachybaptus novaehollandiae</i>	Australasian little grebe
<i>Phalacrocorax fuscescens</i>	Black-faced cormorant
<i>Dacelo gigas</i>	Laughing kookaburra
<i>Cygnus atratus</i>	Black swan
<i>Emblema temporalis</i>	Red-browed finch
<i>Falcunculus frontatus</i>	Eastern strike tit
<i>Coracorax melanorhamphus</i>	White-winged cough
<i>Pardalotus punctatus</i>	Spotted pardalote
<i>Phalacrocorax carbo</i>	Black cormorant
<i>Biziura lobata</i>	Musk duck
<i>Turdus merula</i>	Black bird
<i>Phaps chalcoptera</i>	Common bronze wing
<i>Acanthiza lineata</i>	Striated thornbill
<i>Vanellus miles</i>	Spur-winged plover
<i>Pomatostomus superciliosus</i>	White browed babbler
<i>Carduelis carduelis</i>	Goldfinch
<i>Anas castanea</i>	Chesnut teal

BATS RIDGE STATE FAUNAL RESERVE

BIRDS (Cont'd)

<u>Scientific name</u>	<u>Common name</u>
<i>Elanus notatus</i>	Black kite
<i>Circus aeruginosus</i>	Swamp harrier
<i>Myiagra inquieta</i>	Restless flycatcher
<i>Acanthiza chrysorrhoa</i>	Yellow tailed thornbill
<i>Acanthorhynchus denuirostris</i>	Eastern Spinebill
<i>Stepera fuliginosa</i>	Black winged currawong
<i>Phalacrocorax varius</i>	Pied cormorant
<i>Anas rhynchotis</i>	Blue-winged Shoveller
<i>Larus novaehollandiae</i>	Silver gull
<i>Rhipidura fuliginosa</i>	Grey fantail
<i>Dromaius novaehollandiae</i>	Emu
<i>Ardea novaehollandiae</i>	White-faced heron
<i>Egretta alba</i>	White egret
<i>Acanthiza chrysorrhoa</i>	Yellow-tailed thornbill
<i>Hirunda neozena</i>	Welcome swallow
<i>Platycercus elegans</i>	Crimson rosella
<i>Phylidonyris novaehollandiae</i>	New Holland honeyeater
<i>Lichenostomus chrysops</i>	Yellow-faced honeyeater
<i>Lichenostomus leucotis</i>	White-eared honeyeater
<i>Myiagra cyanoleuca</i>	Satin flycatcher
<i>Anas superciliosa</i>	Black duck
<i>Fuleca atra</i>	Coot
<i>Platycercus eximius</i>	Eastern rosella
<i>Threskiornis mollucca</i>	White ibis
<i>Climactereris leucophaea</i>	White-throated tree creeper
<i>Platalea flavipes</i>	Yellow billed spoonbill
<i>Sericornis frontalis</i>	White-browed scrub wren
<i>Petroica multicolor</i>	Scarlet robin
<i>Alawda arvensis</i>	Sky lark
<i>Coturnix pectoralis</i>	Stubble quail
<i>Gallinula tenebrosa</i>	Dusky moorhen
<i>Coracina novaehollandiae</i>	Blackfaced cuckoo-shrike
<i>Grallina cyanoleuca</i>	Magpie lark

BIRDS (Cont'd)

<u>Scientific name</u>	<u>Common name</u>
<i>Epthianura albifrons</i>	White-fronted chat
<i>Rhipidura leucophrys</i>	Willie wagtail
<i>Eopsaltria griseagularis</i>	Yellow Robin
<i>Cuculus pynrharus</i>	Fan-tailed cuckoo
<i>Gallinago hardwickii</i>	Japanese snipe
<i>Podargus strigoides</i>	Tawny frogmouth
<i>Galinula ventralis</i>	Black-tailed native hen
<i>Rhipidura rufifrons</i>	Rufous fantail
<i>Acanthiza psilla</i>	Brown thornbill
<i>Ninox connivens</i>	Barking owl

MAMMALS

<u>Scientific name</u>	<u>Common name</u>
<i>Rattus fuscipes greyi</i>	Grey's bush rat
<i>Antechinus swainsonii</i>	Swainson's Antechinus
<i>Isodon obesulus</i>	Shortnosed Bandicoot
<i>Antechinus minimus</i>	Swamp Antechinus
<i>Pseudocheirus peregrinus</i>	Ringtailed Possum
<i>Trichosurus vulpecula</i>	Brush-tailed Possum
<i>Macropus rufogriseus</i>	Rednecked Wallaby
<i>Macropus giganteus</i>	Eastern grey kangaroo
<i>T. aculeatus</i>	Echidna
<i>Phascolarctos cinereus</i>	Koala
<i>Mus musculus</i>	House mouse
<i>Felis catus</i>	Cat
<i>Vulpes vulpes</i>	Fox
<i>Macropus fuliginosus</i>	Western Grey Kangaroo
<i>Petaurus breviceps</i>	Sugar Glider
<i>Petaurus australis</i>	Yellowbellied Glider
<i>Vombatus ursinus</i>	Wombat
<i>Wallabia bicolor</i>	Black Wallaby
<i>Rattus lutreolus</i>	Swamp rat
<i>Antechinus stuartii</i>	Brown Antechinus
<i>Perameles nasuta</i>	Longnosed Bandicoot

SNAKES

Copperhead snake
Tiger snake
Black snake
White-lipped snake

LIZARDS

Blotched bluetongue
White's skink
Grass skink
Garden skink
Striped skink

LIZARDS (Cont'd)

Scientific name _____

Three-lined Skink

Water Skink

FROGS

Litofia ewingi

Litofia aurea raniformis

Neobatrachus pictus

BATS RIDGE STATE FAUNAL RESERVE

PLANTS

<u>Scientific name</u>	<u>Common name</u>
<i>Eucalyptus baxteri</i>	Brown Stringybark
<i>Acacia pycnantha</i>	Golden Wattle
<i>Eucalyptus Nitida</i>	Shining Peppermint
<i>Acacia melanoxylon</i>	Black Wood
<i>Acacia mearnsii</i>	Black Wattle
<i>Acacia jophoral</i>	Coast Wattle
<i>Exocarpos cupressi</i>	Cherry Ballart
<i>Callitris columellaris</i>	White Cypress Pine
<i>Leptospermum juniperinum</i>	Prickly Tea-tree
<i>Leucopogon paryiflorus</i>	Coast Beart-heath
<i>Banksia marginata</i>	Silver Banksia
<i>Pteridium esculentum</i>	Austral Braken
<i>Lignum (species)</i>	
<i>Acacia mitchellii</i>	Mitchell's Wattle
<i>Eucalyptus viminalis</i>	Manna Gum
<i>Leptospermum lanigerum</i>	Wolly Tea-tree
<i>Banksia integrifolia</i>	Coast Banksia
<i>Leptospermum murrayioides</i>	Heath Tea-tree
<i>Daviesia (species)</i>	
<i>Melaleuca squarrosa</i>	Scented Paper-bark
<i>Acacia verticillata</i>	Prickly Moss
<i>Daviesia mimosioides</i>	Bitter Pea
<i>Brmineae</i>	Wine grass
<i>Senecio (species)</i>	
	Blue Tinsel Lilly
	Hairy Correa
<i>Leptospermum lanigerum</i>	Woolly Tea-tree
<i>Melaleuca (species)</i>	
<i>Cyperus (species)</i>	
<i>Xanthorrhoea Australis</i>	Australis Grass Tree
<i>Astroloma (species)</i>	

