Air Transport Services in Regional Australia – Trends and Access

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1 Introduction

Almost 17 years after the enactment of the Airline Agreement (Termination) Act 1990, regional aviation is again at the forefront of public policy. Policymakers face a range of concerns regarding the viability, sustainability, adequacy and accessibility of regional air services.

1.1 A BTRE study of the regional aviation market

In recent years, there has been much debate over the adequacy of air passenger services to and from regional communities. Policy makers have faced a range of concerns regarding the viability, sustainability, adequacy and accessibility of regional air services.

The BTRE considered that an evidence-based approach to understanding the past and current state of the regional aviation industry would play a useful role in providing an additional strand in regional aviation policy development. The resulting study consolidated 22 years of historical data and developed a comprehensive database for regional aviation analyses. The database was drawn from the Department of Transport and Regional Service's AvStats database, which has gathered statistics on airline operation over the period. Considerable effort was put in to ensuring that the database was consistent in definitions and maintained a high degree of comparability over time. Analyses based on these consistent time series provided a clearer picture of the patterns of air travel in regional aviation over time, and hence should form a more solid basis for policy formulation.

The study attempted to:

- offer a better understanding of the state of the industry over time, and
- better inform policy choices with regard to more marginal regional air routes.

Analyses undertaken using the constructed datasets included:

- in-depth analyses of past and current trends in regional aviation;
- geospatial analyses on the accessibility of air services in regional communities;
- projections of possible future trends for air traffic movements on regional air routes; and
- an exploration of the fundamental associations between the distribution of population in urban centers/localities and trends in regional aviation traffic.

1.2 An overview of policy background

The Australian aviation industry was deregulated in October 1990. Deregulation ended 30 years of government controls in capacity, airfares and entry to the industry. As part of the microeconomic reform agenda in Australia, deregulatory legislation was introduced to seek improvement in air service quality, promote competitive air fares and encourage efficient operators in the industry. These objectives were aimed to be achieved by:

- reducing barriers to entry;
- encouraging fair competition;
- avoiding interventions that favored one business over another; and
- supporting industry and communities as they adjusted to changes in the market.

Under the deregulated environment, *interstate* regional air services have been largely operating within the broader competition policy controls that apply to other industry sectors. Regulations for *intrastate* regional air services remain in the province of individual States and Territories. The policy and regulatory environments vary between States. Victoria, Tasmania, the Australian Capital Territory and the Northern Territory have withdrawn regulations of intrastate aviation services, while New South Wales, Queensland, South Australia and Western Australia retain some regulatory restrictions and/or subsidies for some services.

In addition to the regulatory interventions that influence regional air service markets in several states, there are also other interventions at all levels of government. At national level, the Australian Government provides assistance to local communities through the Remote Air Service Subsidy Scheme, the Regional Partnerships Programme, and the Regional Airports Funding Program. The Australian Government has also provided assistance through the Rapid Route Recovery Scheme to former Ansett regional affiliates following the collapse of the parent airline, and continues to subsidise air services charges through the Enroute Charges Rebate Scheme for certain regional aircraft operations

At the state level, several states provide direct assistance to airport development through programs such as the Queensland Rural and Remote Airport Development Program and the Western Australian Regional Airports Development Scheme. Other programs, such as the Queensland Investment Incentives Scheme, have been used to provide incentives to aviation-related investment in that state. As mentioned, states also use direct subsidy/regulation of specific routes.

At the local government level, many regional airports are owned and operated by local governments and councils. Airports are able to offer incentives through subsidised charges or risk-sharing agreements with operators to encourage the provision of services to their local area.

The rationale for the continuation of these government interventions after deregulation was primarily:

- to ensure provision of ‘essential’ regular scheduled air services on certain non-viable regional air routes; and
- to promote stable and consistent regular scheduled air services in small viable markets.

Following the collapse of Ansett services in 2001, the Australian Government enunciated that its support for market based aviation policies rests strongly on the premise of:

- a safe, secure and sustainable aviation sector;
- price and service competition for consumers where possible; and
- reasonable access to services for regional communities.
- of population in urban centers/localities and trends in regional aviation traffic.

2 Trends in Regional Aviation Traffic

The definition of 'regional aviation' in the BTRE study included all regular scheduled air services:

- between metropolitan areas and regional areas; or
- between regional areas.

This is a wider definition of regional aviation than is usual in BTRE statistics (where regional *passengers* are those not carried by the major airlines), but is consistently applied over the 22 years of data (1984 to 2005). This leaves 'domestic aviation' as solely capital city to capital city traffic.

The first finding of the study, as can be seen in Figure 1, was that regional aviation as a whole grew more slowly (4.4% per year) than domestic (capital-capital) aviation (6.2% per year).

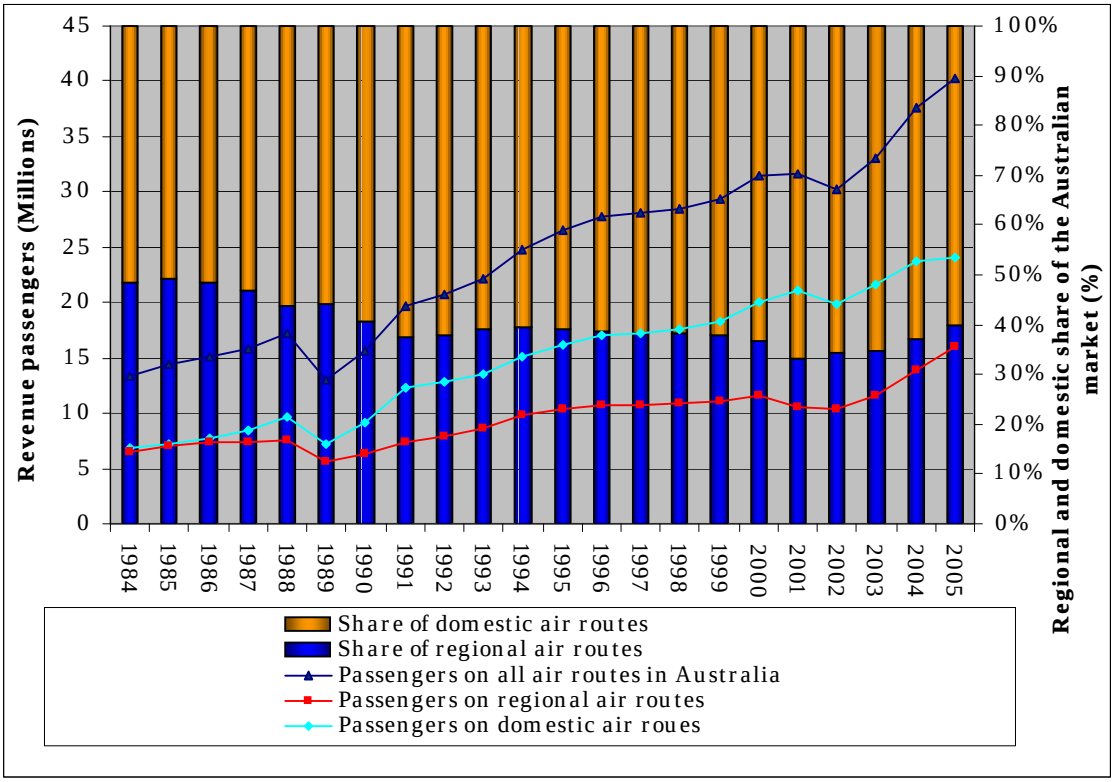

Figure 1: Domestic and regional air passengers, 1984-2005.

This phenomenon of slower growth in regional aviation is almost entirely due to absolute declines in the regional airport to regional airport traffic (see Table 1 and Figure 2).

Table 1: Comparison of air sector growth, 1984 to 2005.

	Revenue Passengers	Revenue Passengers	Annual
Sector	1984 (million)	2005 (million)	Growth (%)
Capital - Capital	6.7	24	6.2
Total Regional	6.5	16	4.4
Regional - Capital	4.4	14.5	5.8
Regional - Regional	2.2	1.5	-1.8

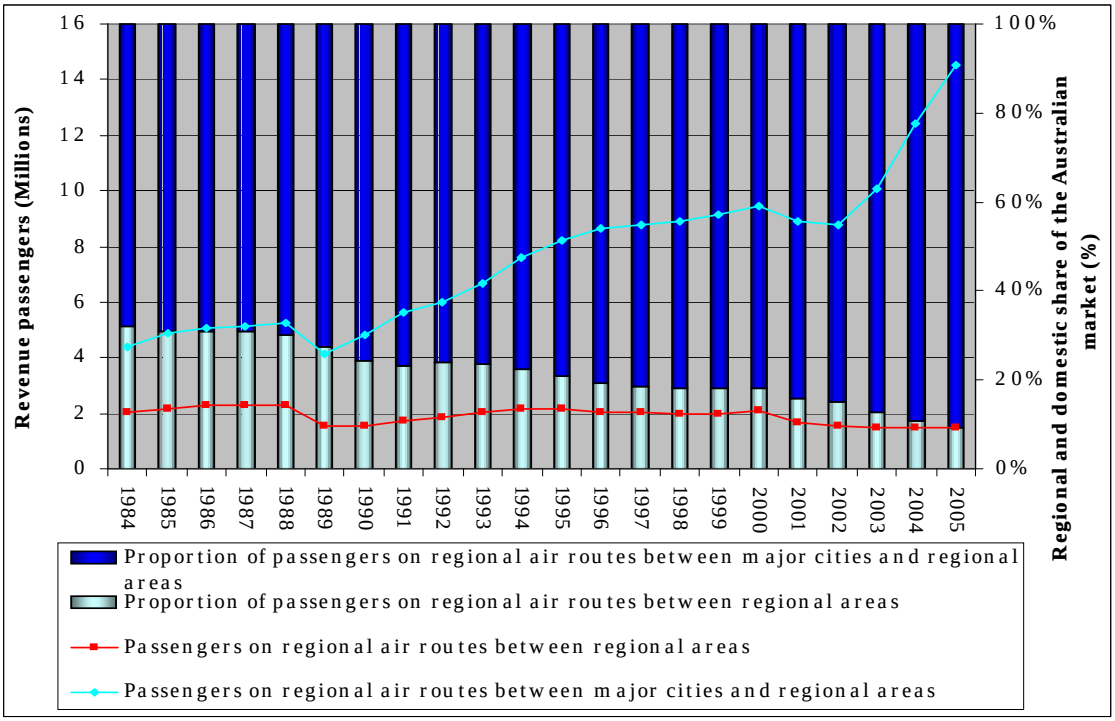

Figure 2: The regional-regional and capital-regional components of regional air travel.

The drops in regional-regional passenger traffic have had their counterpart in losses and turnover in air routes (scheduled air links between centres), airlines and airports. Figure 3 shows that the 'exit' of air routes has been heavily from those routes with under 50 000 revenue passengers per year. The point at which a route stands to attract more than one operator is probably double this level – i.e. above 100 000 passengers per year. Routes to some regional centres, such as Armidale, Tamworth, Mildura and Dubbo, fulfil these criteria and these centres have in fact strengthened as regional hubs.

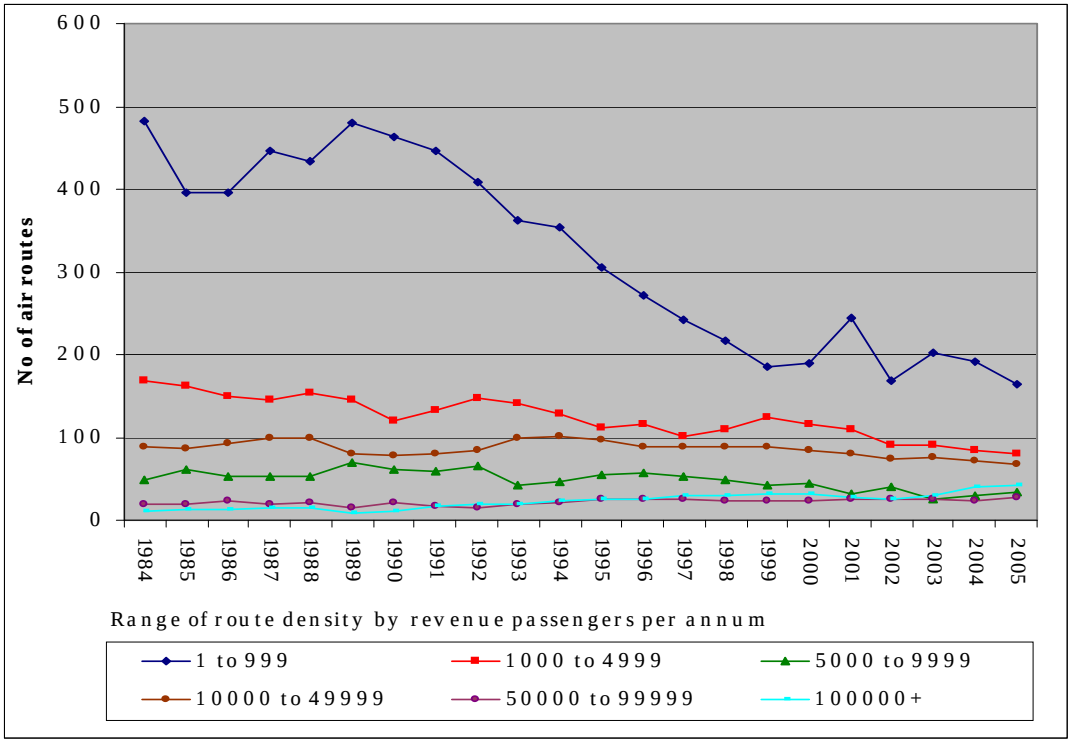

Figure 3: Trends in air routes by size (revenue passengers per year).

Also prone to exit are shorter routes, where road travel is an increasingly convenient option, with better roads (for example in Northern Victoria) and better cars. Figure 4 shows that routes shorter than 800 kilometres have been declining in number over the period.

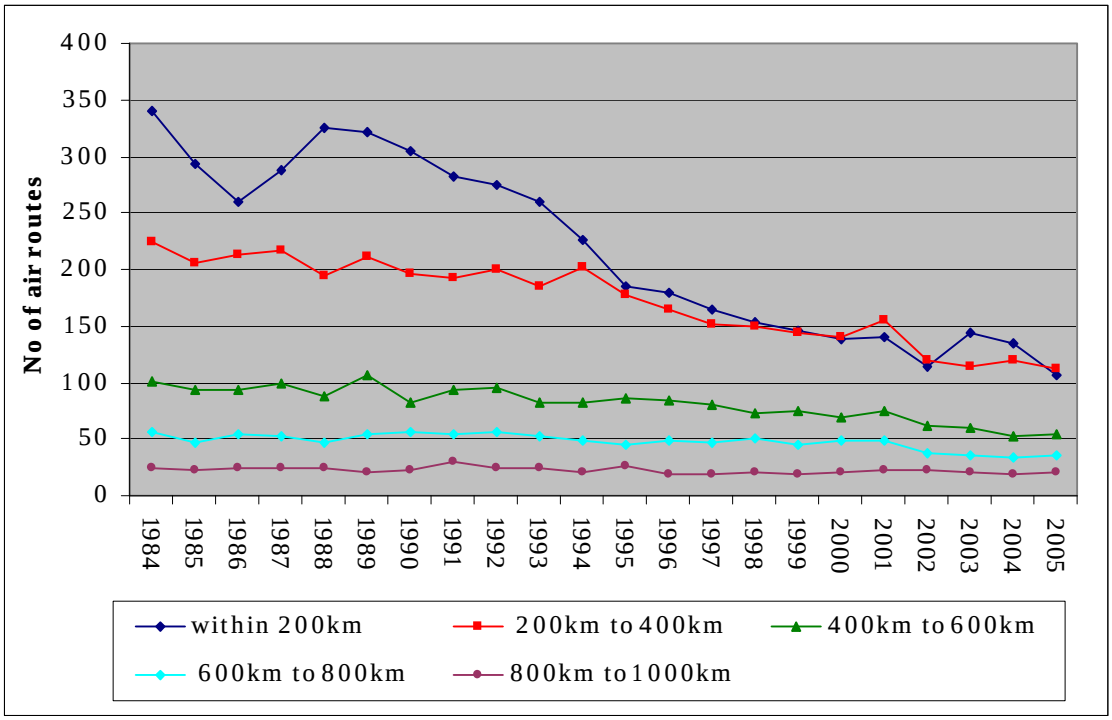

Figure 4: Number of air routes by route distance up to 1000 kilometres.

The geographic spread of route losses and gains is varied. Figure 5 shows the turnover of and changes in air routes in New South Wales in just the 5 years from 2000 to 2005.

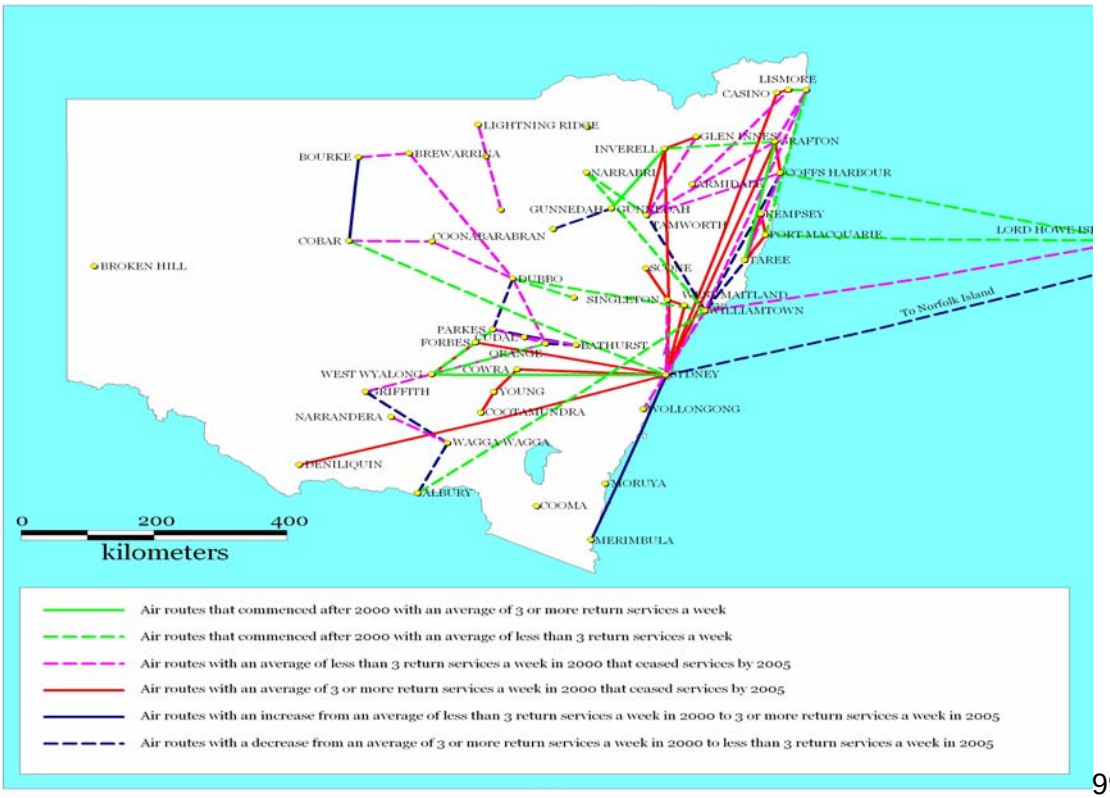

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Figure 5: Changes in air routes in New South Wales, 2000-2005.

Thus, the drops in regional-regional passenger traffic have had their counterpart in losses and turnover in air routes. But also affected were airlines and airports. Table 2 shows airports commencing services in regional areas between 2000 and 2005. Correspondingly, Table 3 lists regional airports that closed during the same period.

Table 2: Regional airports that commenced services between 2000 and 2005.

Regional airports / State					
NT	QLD	SA	Tas	VIC	WA
Yuendumu	Ballera	Clifton Hills	Cambridge	Hamilton	Ravensthorpe
	Durham Downs	Cordillo Downs	Cape Barren Island	Warrnambool	
	Durrie	Cowarie	Strahan		
	Glengyle	Dulkaninna			
	Moranbah	Etadunna			
	Oakey	Innamincka			
	Palm Island	Moolawatana			
	Roseberth	Mulka			
		Mungaranie			
		Nappa Merrie			

Table 3: Airports that ceased regular air services between 2000 and 2005.

Regional airports / State					
NSW	NT	QLD	SA	VIC	WA
Brewarrina	Bathurst Island	Bamaga	Cleve	Shepparton	Argyle
Casino	Borroloola	Brampton Island	Woomera	Swan Hill	Busselton
Cootamundra	Croker Island	Toowoomba	Wudinna	Wangaratta	Margaret River
Cowra	Garden Point				Mount Keith
Cudal	Kings Canyon				Shark Bay
Deniliquin	Roper River				
Forbes	Snake Bay				
Glen Innes	South Goulburn Island				
Kempsey					
Nyngan					
Scone					
Singleton					
West Maitland					
Young					

Just as routes and airports have come and gone, the same applies doubly to airlines. Just a few of the airlines operating in each State in 1984 were still there by 2005. Table 4 shows the period of operation of airlines in Victoria from 1984 to 2005. Not one of the original operators in 1984 was still operating in 2005. This picture of rapid turnover is apparent in all other States and Territories.

Table 4: Regional airlines operating in Victoria, 1984-2005.

	Number of air routes served in Victoria																					
Airlines	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
SHARP AVIATION																		1	1		2	4
REGIONAL EXPRESS																			3	3	2	2
EASTERN AUSTRALIA AIRLINES																			1	2	2	2
ISLAND AIRLINES TASMANIA																	1	1	1	1		
KENDELL AIRLINES	5	7	2	4	2	2	2	4	5	4	4	2	2	2	2	2	2	2	2			
SOUTHERN AUSTRALIA AIRLINES PTY LTD			1	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2			
ISLAND AIRLINES													1	1	1	1	1					
HORIZON AIRLINES																1	1					
AIRLINES OF TASMANIA PTY LTD											1	1	1	1								
HAZELTON AIRLINES PTY LTD										1	1	1	1									
PENINSULA AIR SERVICES										1	3	3										
PHILLIP ISLAND AIR CHARTER											1	1										
GAWNE AIRLINES											1											
FLINDERS ISLAND AIRLINES				3	17	21	11															
REGIONAL AIRLINES			3																			
PACIFIC AVIATION PTY LTD		1	2																			
MURRAY VALLEY AIRLINES	1	1	1																			
LLOYD AVIATION JET CHARTER PTY LTD			1																			

Thus, to sum up, the study has found that there were several trends apparent in the data:

- regional aviation as a whole grew more slowly than capital-capital traffic;
- within regional aviation, capital-regional traffic grew almost as fast as capital-capital traffic (which was largely due to the new low-cost services of Jet Star and Virgin Blue servicing new non-capital-city hubs, and to regional-capital-regional hubbing replacing direct regional-regional links),
- but regional to regional traffic actually declined substantially;
- the shake-outs of the industry have seen large changes in regional routes and regional airlines operating on them.

3 Projections of Regional Aviation

With a wealth of 22 years of historical data in passenger movements on regional air routes, projections were generated using extrapolative methods. In this approach, forecasts for a series are a function solely of time and past values, not of other variables. Estimates are presented for passenger movements on regional air routes up to the year 2016.

The projections are neither predictions nor forecasts. Instead, they are conditional projections. They are, rather than attempting to look for what will happen, an attempt to explore an indicative future for passenger movements on regional air routes if the current situation is extended. As such, they are only indicative of what might emerge in terms of future traffic levels in the sector. In a sector as prone to radical change as regional aviation, they must be regarded as one 'possible' outcome among many.

That said, the total number of passenger movements on regional air routes is projected to grow at an average annual growth rate of 2.5 per cent, from about 16 million in 2005 to 21 million in 2016 (see Figure 6). Total passenger movements on regional air routes between

major cities and regional areas are projected to grow at an average annual growth rate approximately 2.9 per cent, which is above the overall projection of passenger movements on regional air routes (Figure 7). Various influences will affect growth, from positive effects from the rapid growth of the mining sectors in WA and Queensland, to negative effects from continuing drought in NSW, Victoria and South Australia. The traffic on regional to capital routes is projected to grow from 14.5 million in 2005 to 20.3 million in 2016.

Following a prominent downward trend for the past few years, little growth is projected for passenger movements on regional air routes between regional areas from 2005 and 2016 (Figure 8), with the number of passenger movements projected to increase only marginally.

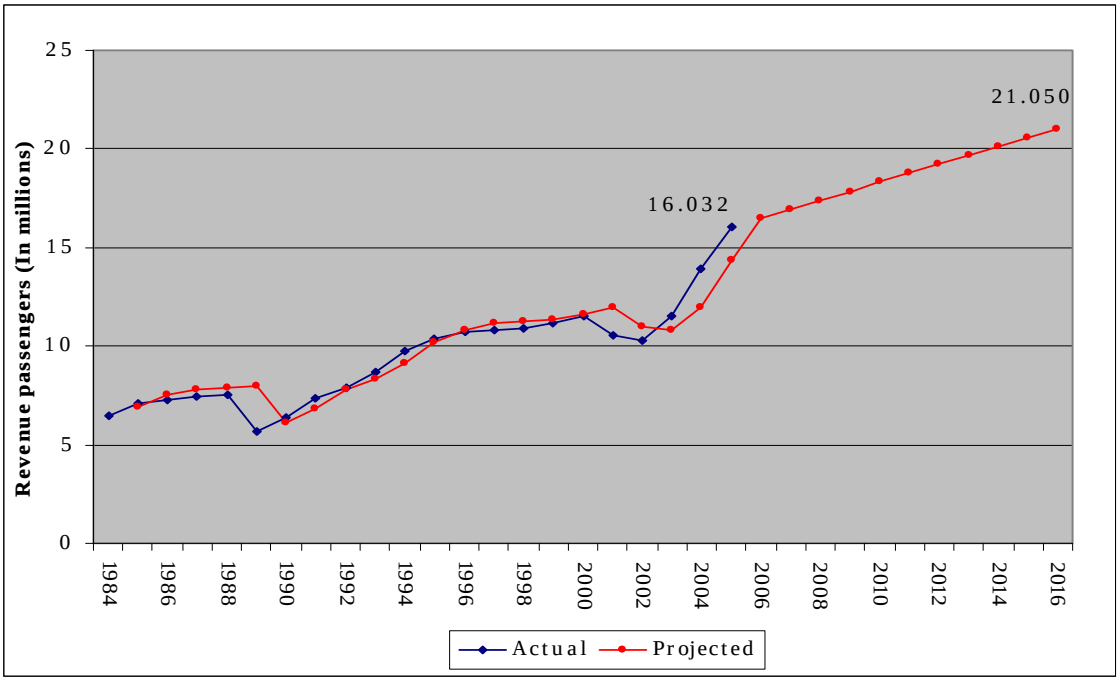

Figure 6: Projected passenger movements on regional air routes in Australia.

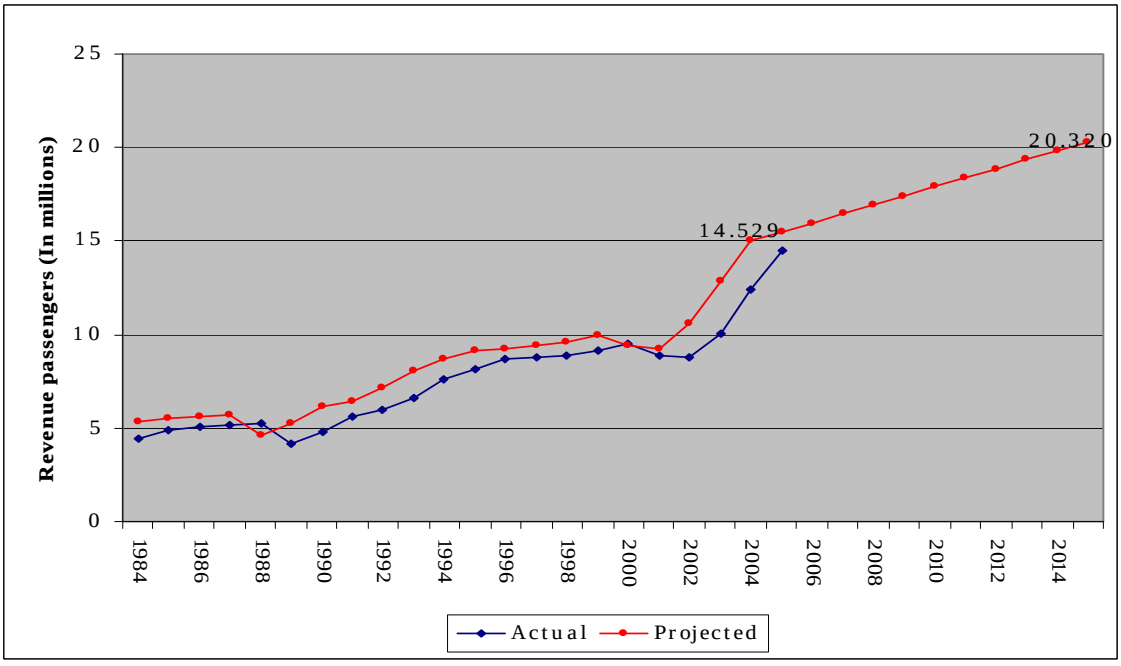

Figure 7: Projected passenger movements on regional air routes between regional areas and capital cities.

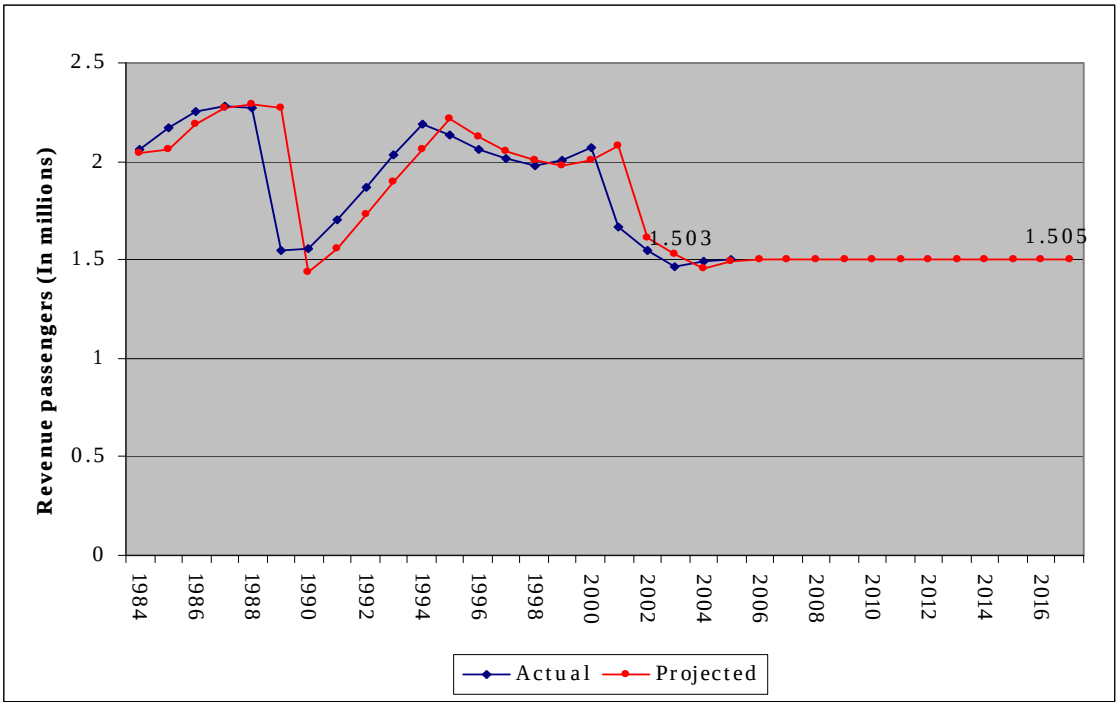

Figure 8: Projected passenger movements on regional air routes between regional areas.

4 Access to Regional Aviation

Accessibility is a general term used to describe the extent to which a system could be reached by as many people as possible. It is not to be confused with 'usability' which describes how easily a system could be used by any type of user.

An airport catchment analysis was performed by the BTRE to evaluate the ability to access regional air services by residents in urban centres or localities. An airport catchment area is the potential geographic areas for drawing passengers. The analysis identified the size and location of target population that were within a specified reasonable access distance of an airport. The following analysis (Figure 9) is based on the assumption of reasonable access distance of 120km for all airports, regardless of airport size. The notion of reasonable access distance is subjective and arbitrary. The 120 km distance seeks to approximate a travel time of 1 ½ to 2 hours to an airport. It was specified as a 'crow-flys' distance to allow assessment by computer of the many regional centres and their hinterlands. As such it allows only broad examination of accessibility.

Figure 9: Locations beyond reasonable access distance to air services in 2005.

The analysis indicates that there were 1 490 towns and cities within the assumed reasonable access distance of 120 km of an airport with regular scheduled air passenger services. This constitutes close to 87.2 per cent of all centres (Table 5). The result also indicates that a total of 16.7 million persons, or 98 per cent of residents living in towns and cities, were within the assumed reasonable access distance to air services (Table 5).

Table 5: Provision of regional air services to towns and cities, 2005.

Population size	Centres within reasonable access distance of 120 km		Centres beyond reasonable access distance of 120 km	
	No. of urban centres and localities	Population ('000)	No. of urban centres and localities	Population ('000)
Less than 2 000	1101	781	184	113
2 000 -19 999	331	1859	33	141
20 000 - 99 999	44	1691	2	81
100 000 +	14	12346	0	0
Total	1490	16676	219	336

Of the total Australian population living in towns and cities, about 90 per cent have access to large airports (airports serving one per cent or more of regional air passengers), another eight per cent have access to smaller regional airports, and two per cent are lacking 'reasonable' access to air services (greater than 120 kilometres).

Table 6 lists the number and combined population of the towns and cities within and beyond assumed reasonable access by population size across states and territories in 2005. Victoria has the largest number of centres (109) and persons (220723) beyond the assumed reasonable access distance to regional air services. But it must be born in mind that rural

Table 6: Provision of regional air services to towns and cities by state and territory, 2005.

State	Population size	Centres within reasonable access distance of 120 km		Centres beyond reasonable access distance of 120 km	
		No. of urban centres and localities	Population	No. of urban centres and localities	Population
NSW	Less than 2 000	353	262,940	11	8,636
	2 000 -19 999	125	726,651	5	18,571
	20 000 - 99 999	16	520,739		
	100 000 +	4	4,266,551		
	Total	**498**	**5,776,881**	**16**	**27,207**
NT	Less than 2 000	35	20,639	17	8,926
	2 000 -19 999	7	27,594		
	20 000 - 99 999	3	116,557		
	100 000 +				
	Total	**45**	**164,790**	**17**	**8,926**
QLD	Less than 2 000	255	176,990	15	8,834
	2 000 -19 999	71	338,650	2	7,569
	20 000 - 99 999	9	454,449		
	100 000 +	4	2,174,129		
	Total	**339**	**3,144,218**	**17**	**16,403**
SA	Less than 2 000	104	71,391	29	14,370
	2 000 -19 999	25	158,604	29	17,454
	20 000 - 99 999	2	44,022		
	100 000 +	1	1,002,127		
	Total	**132**	**1,276,144**	**58**	**31,824**
TAS	Less than 2 000	81	54,780		
	2 000 -19 999	17	89,536		
	20 000 - 99 999	2	90,018		
	100 000 +	1	126,048		
	Total	**101**	**360,382**	**0**	**0**
VIC	Less than 2 000	193	133,271	54	34,700
	2 000 -19 999	65	391,320	12	53,167
	20 000 - 99 999	7	281,578	1	35,828
	100 000 +	2	3,290,365		
	Total	**267**	**4,096,534**	**67**	**123,695**
WA	Less than 2 000	76	58,187	62	37,598
	2 000 -19 999	21	126,928	9	44,609
	20 000 - 99 999	5	183,596	1	45,299
	100 000 +	1	1,176,542		
	Total	**103**	**1,545,253**	**72**	**127,506**
ACT	Less than 2 000	1	351		
	2 000 -19 999				
	20 000 - 99 999				
	100 000 +	1	309,799		
	Total	**2**	**310,150**	**0**	**0**

Victoria also has the benefit of a dense land transport network (car, coach and rail). Western Australia and Queensland also have a fairly high number of centres and persons beyond the assumed reasonable access distances to regional air services. The Northern Territory has a lower numbers of centres (28) and persons (13796) beyond the assumed reasonable access distances to regional air services. Tasmania and the Australian Capital Territory do not have any centres beyond the assumed reasonable access distances to regional air services.

As expected, most towns and cities that are beyond the assumed reasonable access distances to regional air services in states and territory have less than 2 000 persons. Victoria again has the highest number of centres with more than 2 000 person that were beyond the assumed reasonable access distances. Other centres with 2 000 persons or more that are beyond the assumed reasonable access distance are sparsely scattered in New South Wales, Queensland, South Australia and Western Australia. (The two centres within the 20 000 to 99 999 population size category, but without access to air services, are Shepparton in Victoria and Bunbury in Western Australia.)

5 Conclusions and Research Directions

The overall sparseness and remoteness of the settlement pattern in regional Australia poses the following challenges to the efficiency of air service provision to regional areas, in particular to smaller communities:

- Greater infrastructure requirements per head of population.
- Fewer gains from economies of scale.
- Less competitive pressures on the supplier.
- Lack of access to the benefits from agglomeration of other economies.

It is evident that the size of urban/community clusters is one of the critical factors to the level of air services provided. Smaller and isolated communities typically lack the population base to generate sufficient passenger demand for airlines to cover costs. The level of local economic activity may play a role in determining the level of air services a community receives. The level of income could also influence consumer willingness to pay for air services. As airlines are motivated to maximise profit, there are often less incentives to provide services to urban/community clusters with small passenger capacities and short stage lengths between stops, both factors requiring higher costs per kilometre.

Despite the fact that many small settlements in regional Australia are subjected to some geographical disadvantages, statistical evidence indicates that the vast majority of the population were within the assumed access distance to airports offering regular scheduled air services. However, the level of air services to many small and rural airports was fairly limited. Given the high number of rural airports and low populated catchment areas, it is inevitable that at any given time there will always be cases in the low density and short haul market that will struggle to remain viable. Air services to medium or small communities are increasingly dependent on the ability of the commercial airlines to provide efficient services in such low density regional markets.

The evidence-based approach used in the BTRE research reported on here helps to gain understanding of the past and current state of the regional aviation industry and plays a useful role in providing information for policy development related to regional aviation. The findings set up a platform to assist policy makers at all levels of government in determining the validity and appropriateness of assistance which may be extended to regional communities.

For example, some communities may find it difficult to generate sufficient demand needed to support scheduled, commercial air services even with a substantial subsidy. In many cases, there are often other alternatives other to regular air services that are more effective in enhancing community welfare (e.g. air charter, other mode of transports etc.).

It is important to recognise that federal action alone would not satisfy all small communities that see the need to obtain, retain or increase regular air services. Communities also play a crucial role in initiating and committing to sustain a supply of air services. As airlines alter their operations in response to financial pressures, there may be an increasing demand for governments to assist small communities in attracting and maintaining air services. Many communities were able to obtain and maintain their air services by taking a variety of steps, such as marketing or offering financial incentives to attract or enhance air services. It has been suggested that, in selecting communities for assistance, governments' efforts would be enhanced by recognising variations among those communities, helping to establish realistic goals, and identifying some indicators of local commitments.