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REGIONAL PUBLIC TRANSPORT IN AUSTRALIA: LONG-DISTANCE SERVICES, TRENDS AND PROJECTIONS

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FOREWORD

Passenger transport services to regional areas provide important connections with other major population centres. For many areas, public transport services enable services to be imported into regional areas and for regional and remote residents to access services in the larger regional population centres or State capitals.

The aim of this paper is to provide information to inform policy on long-distance regional public transport services. The paper provides a snapshot of all such public transport services across Australia in 2000–01, the level of demand and characteristics of regional passenger travel and projections of future trends in regional passenger travel, produced using the Bureau of Tourism Research and Bureau of Transport and Regional Economics (BTR/BTRE) non-urban passenger transport model.

This report is the first part of the BTRE's research into long-distance regional public transport. A companion paper, on the regulatory arrangements and assistance measures relating to regional public transport is also in progress.

This report was undertaken by David Mitchell and Adam Sidebottom under the direction of Phil Potterton. Valuable contributions were made by Merilyn Basset, Mark Cregan, Geoff Frost, David Gargett, Krishna Hamal, Peter Hoss, Roger Fisher, Peter Kain, Sharyn Kierce, Lyn Martin, Andrew Mogg, Tim Risbey, Kym Starr, John Streeter and Stephen Wheatstone. Terry Johnson programmed the BTR/BTRE passenger model, under the direction of David Gargett, used to generate the projection result presented in chapter 5.

The BTRE acknowledges the contributions and considerable assistance provided by State and Territory transport agencies, industry associations and regional transport operators. Appendix I lists all organisations that provided the BTRE with input and advice on this part of the study.

Tony Slatyer
Executive Director

Bureau of Transport and Regional Economics
Canberra
March 2003

CONTENTS

FOREWORD		**iii**
... AT A GLANCE		**xxv**
EXECUTIVE SUMMARY		**xxvii**
CHAPTER 1	**INTRODUCTION**	**1**
	What is regional public transport?	2
	Geographic classifications used in this study	4
	Principal data sources and concepts	7
	Outline of the report	9
CHAPTER 2	**HISTORICAL TRENDS IN NON-URBAN AND REGIONAL PASSENGER TRAVEL**	**11**
	Factors affecting the demand for non-urban and regional passenger travel	12
	Trends in non-urban and regional passenger travel	16
	Cost of regional passenger travel	24
CHAPTER 3	**PROVISION OF REGIONAL PUBLIC TRANSPORT SERVICES**	**37**
	New South Wales	38
	Victoria	47
	Queensland	51
	South Australia	58
	Western Australia	63
	Tasmania	70
	Northern Territory	73
	Australian Capital Territory	76
	Access to regional public transport services	76
CHAPTER 4	**TRAVEL CHARACTERISTICS**	**91**
	Non-urban passenger travel	91
	Overview of the NVS and IVS data	92
	Summary of domestic travel by australian residents and foreign arrivals	94

	Regional passenger travel demand	102
CHAPTER 5	**TRAVEL DEMAND PROJECTIONS**	**123**
	The BTR/BTRE non-urban passenger transport model	124
	Base case assumptions	127
	Regional passenger travel projections	134
	Regional passenger travel projections by State and Territory	140
APPENDIX I	**ORGANISATIONS CONTACTED DURING THE COURSE OF THIS STUDY**	**163**
APPENDIX II	**REGIONAL PASSENGER TRANSPORT SERVICE PROVIDERS**	**165**
APPENDIX III	**OVERVIEW OF THE NVS AND IVS DATA**	**177**
APPENDIX IV	**COMPARISON OF THE NVS AND IVS DATA AND TRANSPORT SOURCE DATA**	**185**
APPENDIX V	**GEOGRAPHIC CLASSIFICATIONS USED IN THIS STUDY**	**203**
APPENDIX VI	**STATE AND TERRITORY REGIONAL PASSENGER TRAVEL PATTERNS**	**221**
APPENDIX VII	**REGIONAL PASSENGER TRAVEL—FARES, TRAVEL COSTS AND TRAVEL TIMES**	**241**
GLOSSARY		**251**
REFERENCES		**257**
ABBREVIATIONS		**265**

TABLES

Table 2.1	Population and population growth, 1991 and 2001, by region	13
Table 2.2	Population growth, 1991 and 2001, by region and population category	14
Table 2.3	Estimated average taxable income earned per taxpaying person, by region, 1990–91 and 1998–99	16
Table 2.4	Rate of growth in air passenger traffic[a] to and from regional airports between 1986–87 and 2000–01, by number of passengers	20
Table 2.5	Estimated total non-urban rail passenger trips 1987–88 and 2000–01	21
Table 3.1	Number of rail and coach services in selected NSW regional towns, 2000–01	44
Table 3.2	Regional airlines operating in NSW in 2000–01	46
Table 3.3	Air passenger travel from NSW towns with direct daily air service to Sydney, 2001	47
Table 3.4	Number of rail and coach services in selected Victorian towns, 2000–01	50
Table 3.5	Victorian interstate regional air routes, 2000–01	51
Table 3.6	Number of rail and coach services in selected Queensland towns, 2000–01	55
Table 3.7	Major regional aviation routes in Queensland, 2000–01	57
Table 3.8	Regional airlines operating in Queensland, 2000–01[a]	57

Table 3.9	Regional airlines operating in South Australia, 2000–01	61
Table 3.10	Regional air routes in South Australia, 2000–01	61
Table 3.11	Major regional air routes in northern Western Australia, 2000–01	69
Table 3.12	Major regional air routes in southern Western Australia, 2000–01	70
Table 3.13	Number of regional coach services in Tasmania, by route, 2000–01	71
Table 3.14	Number of passengers on regional aviation services to King and Flinders Islands, 2000–01	73
Table 3.15	Major regular scheduled service intrastate[a] regional air routes in the Northern Territory, 2000–01	74
Table 3.16	Domestic resident Population by state / Territory and Section of State / Territory, 1996	83
Table 3.17	Provision of regional public transport services to urban centres and localities, 2000–01	85
Table 3.18	Number of urban centres and localities beyond the assumed reasonable access distance to regional public transport services, 2000–01	86
Table 3.19	Number of urban centres and localities within the assumed reasonable access distance of a regional rail or coach service, by population size, 2000–01	87
Table 4.1	Estimated non-urban passenger travel, 2000–01	92
Table 4.2	Total domestic passenger travel, 1998–2000	95
Table 4.3	Total passenger travel by main transport mode, 2000	96
Table 4.4	Total passenger travel by distance travelled[a] to main destination, 2000	97
Table 4.5	Travel by purpose, 2000	99
Table 4.6	Travel by household income, 2000	100
Table 4.7	Travel by age of survey respondent, 2000	101

Table 4.8	Summary of non-urban and regional passenger travel, 2000	103
Table 4.9	Total number of domestic trips by region of origin, 2000	107
Table 4.10	Health-related trips as a proportion of all trips by region of origin, 2000	114
Table 4.11	Proportion of non-metropolitan resident trips by State / Territory by destination region	119
Table 5.1	Mode share competitiveness indices for domestic passenger trips	126
Table 5.2	Average annual growth in projected population, by State / Territory by region, 1999-2020	129
Table 5.3	Actual and projected passenger travel by trip type and region of origin, 1999 and 2020	136
Table 5.4	Actual and projected domestic passenger travel by trip type and metropolitan and non-metropolitan region of origin, 1999 and 2020	137
Table 5.5	Projected growth in total passenger travel by mode by trip type, 1999–2020	139
Table 5.6	Actual and projected regional passenger travel by metropolitan / non-metropolitan[a] origin region by mode of transport, NSW, 1999 and 2020	141
Table 5.7	Projected growth in regional passenger travel by tourism region of origin by transport mode, NSW, 1999–2020	142
Table 5.8	Actual and projected regional passenger travel by metropolitan / non-metropolitan[a] origin region by mode of transport, Victoria, 1999 and 2020	144
Table 5.9	Projected growth in regional passenger travel by tourism region of origin by transport mode, Victoria, 1999–2020	146
Table 5.10	Actual and projected regional passenger travel by metropolitan / non-metropolitan[a] origin region by mode of transport, Queensland, 1999 and 2020	148

Table 5.11	Projected growth in regional passenger travel by tourism region of origin by transport mode, Queensland, 1999–2020	149
Table 5.12	Actual and projected regional passenger travel by metropolitan / non-metropolitan[a] origin region by mode of transport, South Australia, 1999 and 2020	151
Table 5.13	Projected growth in regional passenger travel by tourism region of origin by transport mode, South Australia, 1999–2020	153
Table 5.14	Actual and projected regional passenger travel by metropolitan / non-metropolitan[a] origin region by mode of transport, Western Australia, 1999 and 2020	155
Table 5.15	Projected growth in regional passenger travel by tourism region of origin by transport mode, Western Australia, 1999–2020	156
Table 5.16	Actual and projected regional passenger travel by metropolitan / non-metropolitan[a] origin region by mode of transport, Tasmania, 1999 and 2020	158
Table 5.17	Projected growth in regional passenger travel by tourism region of origin by transport mode, Tasmania, 1999–2020	159
Table 5.18	Actual and projected regional passenger travel by metropolitan / non-metropolitan[a] origin region by mode of transport, Northern Territory, 1999 and 2020	160
Table 5.19	Projected growth in regional passenger travel by tourism region of origin by transport mode, Northern Territory, 1999–2020	161
Table 5.20	Actual and projected number trips[a] by transport mode, Australian Capital Territory, 1999 and 2020	162
Table II.1	List of regional airlines operating revenue passenger services in 2000–01	166
Table II.2	Ansett and subsidiary destinations, 2000–01	167
Table II.3	Qantas / QantasLink destinations, 2000–01	168

Table II.4	Long distance rail passenger service operators	169
Table II.5	Long-distance scheduled coach service operators – interstate operator	169
Table II.6	Long-distance scheduled coach service operators – NSW rail replacement service operators	170
Table II.7	Long-distance scheduled coach service operators – NSW intrastate 'commercial contract' and other non-rail replacement operators	170
Table II.8	Long-distance scheduled coach service operators – Victorian 'rail replacement' operators	172
Table II.9	Long-distance scheduled coach service operators – Victorian 'privately marketed coach service' operators	173
Table II.10	Long-distance scheduled coach service operators – Queensland intrastate operators	174
Table II.11	Long-distance scheduled coach service operators – South Australian intrastate operators	174
Table II.12	Long-distance scheduled coach service operators – Western Australian intrastate operators	174
Table II.13	Long-distance scheduled coach service operators – Tasmanian intrastate operators	175
Table II.14	Information contained in BTRE database of scheduled inter-regional coach and rail passenger services	175
Table III.1	Total National Visitor Survey responses by respondent's region of origin by metropolitan and non-metropolitan areas, 1998–2000	178
Table III.2	Total survey respondents reporting one or more overnight and or day trip by respondent's region of origin by capital city and balance-of-state, 1998–2000	179
Table III.3	Total survey respondents reporting one or more overnight and or day trip by respondent's region of origin, 1998–2000	180

Table III.4	Number of respondent trips by origin and destination, 2000	181
Table III.5	Number of survey respondents (NVS 2000) and population by age (Census 2001)	184
Table III.6	Number of survey respondents (NVS 2000) and population by gender (Census 2001)	184
Table IV.1	Total foreign arrivals, 1998–2000	187
Table IV.2	Total number of domestic trips, 1998–2000	187
Table IV.3	Number of domestic 'stop–stop' journeys, 1998-2000	188
Table IV.4	Comparison of domestic air passenger traffic with BTR NVS and IVS data, 1998–2000	189
Table IV.5	Total domestic air trips between selected city pairs	191
Table IV.6	Air passenger O–D fraction for selected city pairs	192
Table IV.7	Queensland rail services	193
Table IV.8	Comparison of Queensland Rail country passenger numbers and BTR tourism data, 1998–2000	193
Table IV.9	Comparison of Western Australian Government Railways country rail passenger numbers and BTR tourism data, 1998–2000	194
Table IV.10	Comparison of Australind passenger numbers and BTR tourism data, 1998–2000	195
Table IV.11	Comparison of V/Line rail passenger numbers and BTR tourism data, 1998–2000	196
Table IV.12	Comparison of Sydney-Canberra rail passenger numbers and BTR tourism data, 1998–2000	198
Table IV.13	Comparison of Overland rail passenger traffic and BTR tourism data, 1998–2000	199
Table IV.14	Comparison of Indian Pacific (Sydney–Perth) rail passenger traffic and BTR tourism data, 1998–2000	199
Table IV.15	Comparison of Bass Strait passenger ferry patronage and BTR tourism data, 1998–2000	200

Table V.1	1998–2000 Tourism Regions	206
Table V.2	Rural, Remote and Metropolitan Area (RRMA) zones	215
Table V.3	ARIA categories and score ranges	216
Table V.4	ABS Remoteness Area classification	218
Table V.5	Regional classification used by Bray (2000)	219
Table VI.1	Number of domestic resident trips by region and State / Territory of origin, 2000	222
Table VII.1	Estimated average motoring costs for a Holden Commodore 3.8 litre	242
Table VII.2	Average retail price unleaded petrol, July 2001	242
Table VII.3	Comparison of full economy one-way fares and travel times for travel from Sydney to selected regional destinations, July 2001	243
Table VII.4	Comparison of full economy one-way fares and travel times For travel from Melbourne to selected regional destinations, July 2001	245
Table VII.5	Comparison of full economy one-way fares and travel times for travel from Brisbane to selected regional destinations, July 2001	246
Table VII.6	Comparison of full economy one-way fares and travel times for travel from Adelaide to selected regional destinations, July 2001	247
Table VII.7	Comparison of full economy one-way fares and travel times for travel from Perth to selected regional destinations, July 2001	248
Table VII.8	Comparison of full economy one way fares and travel times for travel from Hobart to selected regional destinations, July 2001[a]	249
Table VII.9	Comparison of full economy one way fares and travel times for travel from Darwin to selected regional destinations, July 2001	250

FIGURES

Figure 1.1	Statistical local areas, 1996	5
Figure 1.2	Tourism regions, 1998–2000	6
Figure 1.3	Garnaut et al. (2001) geographic classification	7
Figure 2.1	Population growth by Statistical Local Area (ASGC 2001), 1991–2001	15
Figure 2.2	Non-urban passenger kilometres travelled, by mode, 1940–2001	17
Figure 2.3	Mode share trends in non-urban passenger travel	18
Figure 2.4	Passenger car ownership rate, 1940–2001	25
Figure 2.5	Combined passenger car and light commercial vehicle ownership rates by metropolitan / non-metropolitan areas, 1998	25
Figure 2.6	Real price index of new motor vehicle purchases by households	26
Figure 2.7	Real automotive gasoline price index	27
Figure 2.8	Index of average real air fares across selected intrastate regional air routes[a], 1992–2002	28
Figure 2.9	Real non-urban rail passenger rates, by operator, 1989–90 to 1997–98	29
Figure 2.10	Comparison of one-way intrastate coach service economy fares, july 1987[a] and July 2001	30
Figure 2.11	Comparison of full economy one-way fares for travel between Sydney and selected regional centres, July 2001	32

Figure 2.12	Comparison of full economy one-way fares for travel between Melbourne and selected regional centres, July 2001	33
Figure 2.13	Comparison of full economy one-way fares for travel between Brisbane and selected regional centres, July 2001	33
Figure 2.14	Comparison of full economy one-way fares for travel betweenAdelaide and selected regional centres, July 2001	34
Figure 2.15	Comparison of full economy one-way fares for travel between Perth and selected regional centres, July 2001	34
Figure 2.16	Comparison of full economy one-way fares for travel between Hobart and selected regional centres, July 2001	35
Figure 2.17	Comparison of full economy one-way fares for travel between Darwin and selected regional centres, July 2001	35
Figure 3.1	Regional aviation services in Australia, 2000–01	39
Figure 3.2	Regional rail and coach services in NSW, 2000–01	42
Figure 3.3	Pattern and frequency of regional rail and coach services in NSW, 2000–01	43
Figure 3.4	Coach services between northen NSW and Brisbane	45
Figure 3.5	Regional aviation routes in NSW, 2000–01	46
Figure 3.6	Regional rail and coach services in Victoria, 2000–01	48
Figure 3.7	Pattern and frequency of regional rail and coach services in Victoria, 2000–01	49
Figure 3.8	Regional rail and coach services in Queensland, 2000–01	53
Figure 3.9	Pattern and frequency of regional rail and coach services in Queensland, 2000–01	54
Figure 3.10	Regional aviation in Queensland, 2000–01	56

Figure 3.11	Regional rail and coach services in South Australia, 2000–01	59
Figure 3.12	Pattern and frequency of regional coach and rail services in South Australia, 2000–01	60
Figure 3.13	Regional aviation in South Australia, 2000–01	62
Figure 3.14	Regional coach and rail services in southern Western Australia, 2000–01	64
Figure 3.15	Regional coach services in northern Western Australia, 2000–01	65
Figure 3.16	Pattern and frequency of regional coach and rail services in southern Western Australia, 2000–01	66
Figure 3.17	Pattern and frequency of regional coach services in northern Western Australia, 2000–01	67
Figure 3.18	Regional aviation in Western Australia, 2000–01	68
Figure 3.19	Regional coach services in Tasmania, 2000–01	71
Figure 3.20	Pattern and frequency of coach services in Tasmania, 2000–01	72
Figure 3.21	Regional coach services in the Northern Territory	75
Figure 3.22	Regional air services in the Northern Territory	75
Figure 3.23	Location of urban centres and localities beyond assumed reasonable access distance of regional public transport services, 2000–01	80
Figure 3.24	Location of urban centres and localities beyond assumed reasonable access distance of regional coach and rail passenger transport services, 2000–01	81
Figure 3.25	Urban centres and localities beyond reasonable access distance of rail and coach services – Northern Territory	88
Figure 3.26	Urban centres and localities beyond reasonable access distance of rail and coach services – Hinterland regions	88

Figure 4.1	Proportion of total passenger trips by mode of transport and distance travelled[a] to main destination, 2000	98
Figure 4.2	Proportion of total passenger trips by distance travelled[a] to main destination and mode of transport, 2000	98
Figure 4.3	Proportion of domestic travel by household income by mode, 2000	100
Figure 4.4	Propensity to travel by age of respondent, 2000	101
Figure 4.5	Proportion of travel by age by mode of transport, 2000	102
Figure 4.6	Propensity to travel by State and Territory, 2000	104
Figure 4.7	Proportion of trips by State of origin by mode of transport, 2000	104
Figure 4.8	Proportion of trips by State of origin by trip purpose, 2000	105
Figure 4.9	Proportion of trips by State of origin by trip distance, 2000	106
Figure 4.10	Travel propensity by regional classification, 2000	107
Figure 4.11	Proportion of domestic trips by origin and destination region, 2000	108
Figure 4.12	Domestic trips by region of origin by mode of transport	109
Figure 4.13(A)	Private car passenger travel patterns, 1998–2000	110
Figure 4.13(B)	Coach passenger travel patterns, 1998–2000	110
Figure 4.13(C)	Rail passenger travel patterns, 1998-2000	111
Figure 4.13(D)	Air passenger travel patterns, 2000–01	111
Figure 4.14	Domestic trips by region of origin by distance	113
Figure 4.15	Domestic trips by region of origin by trip purpose, 2000	113

Figure 4.16	Health related trips by region of origin by Transport mode, 2000	114
Figure 4.17	Proportion of trips by metropolitan area residents, by age of respondent by mode of transport, 2000	115
Figure 4.18	Proportion of trips by non-metropolitan area residents, by age of respondent by mode of transport, 2000	116
Figure 4.19	Proportion of trips by metropolitan area residents, by age of respondent by purpose of trip, 2000	117
Figure 4.20	Proportion of trips by non-metropolitan area residents, by age of respondent by purpose of trip, 2000	117
Figure 4.21	Proportion of trips by non-metropolitan area residents, by mode of transport by purpose of trip, 2000	118
Figure 4.22	Average day trip distance, non-metropolitan to non-metropolitan region trips, by State / Territory, 2000	120
Figure 5.1	Base case population growth projections, 1999–2020	129
Figure 5.2	Projected population growth by Statistical Local Area, 1999–2020	130
Figure 5.3	Actual and projected Australian population age structure, 1999 and 2051	133
Figure V.1	Statistical Local Areas, 1996	204
Figure V.2	Regional Classification of Garnaut et al. (2001)	205
Figure V.3	Tourism regions, New South Wales, 1998–2000	208
Figure V.4	Tourism regions, Victoria, 1998–2000	209
Figure V.5	Tourism regions, Queensland, 1998–2000	210
Figure V.6	Tourism regions, South Australia, 1998–2000	211
Figure V.7	Tourism regions, Western Australia, 1998–2000	212
Figure V.8	Tourism regions, Tasmania, 1998–2000	213
Figure V.9	Tourism regions, Northern Territory, 1998–2000	214

Figure V.10	ARIA values for Statistical Local Areas	217
Figure V.11	ABS Remoteness Area classification	218
Figure VI.1	Travel by NSW non-metropolitan residents to metropolitan areas, by mode, 2000	223
Figure VI.2	Travel by NSW non-metropolitan residents to non-metropolitan areas, by mode, 2000	223
Figure VI.3	Travel by NSW non-metropolitan residents to metropolitan and non-metropolitan regions, by trip purpose	224
Figure VI.4	Travel by Victorian non-metropolitan residents to metropolitan areas, by mode.	225
Figure VI.5	Travel by Victorian non-metropolitan residents to other non-metropolitan areas, by mode.	226
Figure VI.6	Travel by Victorian non-metropolitan residents to metropolitan and non-metropolitan regions, by trip purpose.	226
Figure VI.7	Travel by Queensland non-metropolitan residents to metropolitan areas, by mode	228
Figure VI.8	Travel by Queensland non-metropolitan residents to other non-metropolitan areas, by mode.	228
Figure VI.9	Travel by Queensland non-metropolitan residents to metropolitan and non-metropolitan regions, by trip purpose	229
Figure VI.10	Travel by South Australian non-metropolitan residents to metropolitan areas, by mode.	230
Figure VI.11	Travel by South Australian non-metropolitan residents to other non-metropolitan areas, by mode.	230
Figure VI.12	Travel by South Australian non-metropolitan residents to metropolitan and non-metropolitan regions, by trip purpose	231
Figure VI.13	Travel by Western Australian non-metropolitan residents to metropolitan areas, by mode.	233

Figure VI.14	Travel by Western Australian non-metropolitan residents to other non-metropolitan areas.	233
Figure VI.15	Travel by Western Australian non-metropolitan residents to metropolitan and non-metropolitan regions, by trip purpose	234
Figure VI.16	Travel by Tasmanian non-metropolitan residents to metropolitan areas, by mode.	235
Figure VI.17	Travel by Tasmanian non-metropolitan residents to other non-metropolitan areas, by mode.	235
Figure VI.18	Travel by Tasmanian non-metropolitan residents to metropolitan and non-metropolitan regions, by trip purpose	236
Figure VI.19	Travel by non-metropolitan residents in the Northern Territory to metropolitan areas, by mode.	238
Figure VI.20	Travel by non-metropolitan residents in the Northern Territory to non-metropolitan areas, by mode.	238
Figure VI.21	Travel by Nothern Territory non-metropolitan residents to metropolitan and non-metropolitan regions, by trip purpose	239

BOXES

Box 1.1	Some key terms used in the report	3
Box 1.2	Geographic classifications used in this report	5

... AT A GLANCE

- While the precise figure is not known, travel to or from non-metropolitan regions grew by less than the average annual growth rate in all non-urban (including inter-capital) travel of 2.8 per cent a year over the 1980s and 1990s. Lower growth in population and household incomes of non-metropolitan residents contributed to this differential trend.
- Domestic air travel grew by 5.7 per cent a year over the 15 years to 2000–01 and air travel to and from non-metropolitan areas grew by 1.4 per cent a year over this period. In contrast, non-urban coach patronage has barely changed and non-urban rail travel has declined by about 3 per cent a year. Travel by private car, the overwhelmingly dominant mode, increased by 1.8 per cent a year.
- Almost all Australians (over 99 per cent) living outside the metropolitan areas in urban centres and localities of 200 persons or more are within a notional reasonable access distance of a long distance air, coach or rail service. 'Reasonable access' is defined as within a road distance of up to 120 kilometres to an airport with three or more return services per week and within 16 kilometres of a passenger rail station or coach stop. (Around two million Australians live outside urban centres and localities).
- Residents of inland regions make more long-distance trips than residents of other regions, while residents of remote regions make the fewest. Mode choice also varies by region type, with travel distance, average income levels and service availability apparently key drivers. Notably, air travel is used for 8 per cent of trips by remote area residents, more than any other region type. The private car is used for around 80 per cent of trips in all regions.
- Business and personal (including health-related) trips comprise a higher proportion of long-distance trips for non-metropolitan than for metropolitan residents. For remote and capital city Australians, the proportions are 34 per cent and 18 per cent, respectively.
- Regional travel is projected to grow by 1.3 per cent a year to 2020, compared with 1.9 per cent for total national (non-urban) travel. Air travel's share is projected to increase slightly. The coach share is projected to remain unchanged and the rail share is projected to decline.
- The projections also show: strong growth in passenger travel to and from northern Australia (fed by increasing tourism), low growth to and from South Australian and Tasmanian regions, and declining travel from many inland areas (areas of lower projected population growth).

EXECUTIVE SUMMARY

In October 2001, as part of the Government's *Keeping Australia Moving* statement, the Deputy Prime Minister and Minister for Transport and Regional Services, the Honourable John Anderson MP announced that the Bureau of Transport and Regional Economics (BTRE) would undertake an analysis of the likely pattern of future demand for regional public transport services in Australia. The Australian Transport Council (ATC) agreed in August 2002 to support this study.

SCOPE OF THE STUDY

The focus of this study is on long-distance regional public transport, set in the context of overall regional travel, including private car travel. Short-distance or local travel is outside the scope of the report. Inter-capital travel is similarly outside the scope, other than for comparative purposes, or where data limitations necessitate its inclusion.

'Regional areas' are those outside the capital cities and non-capital city metropolitan areas (such as Geelong, Wollongong or the Gold Coast). Accordingly, 'regional public transport services' comprise services to and/or from such areas. That is, the definition includes services from a capital city or metropolitan area to a non-metropolitan area, but excludes services operating only between metropolitan areas.

Much of the analysis and, in particular, the travel demand projections (chapter 5) uses the Bureau of Tourism Research's tourism region classification. This divides Australia into 91 regions, 16 of which may be categorised as metropolitan, using the Australian Bureau of Statistics yardstick of a population of 100 000 persons or more and 75 as non-metropolitan[1]. In size, regions range from comparatively small areas (for example, the capital cities, non-capital city metropolitan areas and some peri-metropolitan areas) to very large areas in

[1] Two large and therefore 'non-metropolitan' BTR regions in Queensland include the cities of Townsville and Cairns—metropolitan areas on the Australian Bureau of Statistics' 2001 census definition.

New South Wales, Queensland, South Australia, Western Australia and the Northern Territory.

Throughout the report, regional public transport and regional travel are contrasted with 'non-urban' public transport and travel. 'Non-urban' travel comprises all travel outside major metropolitan centres and includes inter-capital travel. For air transport, non-urban travel is, simply, all travel.

DATA AVAILABILITY AND STUDY TIMING

Due to the lags in availability of travel activity and survey data, the major data sources for the report predate the entry into administration of Ansett Airlines and its subsidiaries in September 2001. Coinciding with the adverse impact on global air travel of the terrorist attacks in the United States, this event and Ansett's subsequent cessation of services had a significant downward impact on regional aviation services and patronage in 2001–02. While the long term implications of Ansett's withdrawal for both regional air travel and overall regional travel remain unclear, the current environment of significant change presents some difficulties for this report, in particular for the demand projections. More recent information has, however, been included throughout the report, wherever feasible.

HISTORICAL TRENDS

Sources of growth in travel

Total non-urban passenger travel grew by an average of 2.8 per cent a year from 1980 to 2001. With inter-capital travel having increased at 3.5 per cent a year over this period, the annual rate of growth of regional travel was something less than 2.8 per cent a year. How much less is not clear.

Total demand for non-urban passenger travel has been influenced by population growth that has averaged 1.3 per cent a year over the past three decades and 1.2 per cent a year since 1991. Population growth has been lower in non-metropolitan Australia (0.8 per cent a year between 1991 and 2001) than in metropolitan areas (1.4 per cent a year). There has also been strong growth in population along the coastal fringe of New South Wales, Queensland and Western Australia. Conversely, population has declined in remote areas of New South Wales, Queensland and Tasmania.

Income growth is also an important determinant of the rate of growth in travel. Nationally, real average weekly earnings grew by 1.4 per cent a year between 1971 and 2001. The limited readily available data suggest that incomes of non-metropolitan households are, on average, lower and have grown more slowly than incomes of capital city households.

There are very limited available data on trends in regional or non-urban travel costs. It is likely that the cost of private car travel has fallen over the past 40 years with improved road conditions (reducing travel times and vehicle operating costs) and reduced vehicle ownership costs, due to lower import tariffs and other influences. These factors are only partially offset by fuel costs that have been higher in the past 20 years than in the earlier period. Vehicle ownership rates are slightly higher in non-metropolitan than in metropolitan regions.

Public transport fares have been generally stable in the 1990s, but with a slight upward trend in some modes and routes. Real regional air fares data show a slight increase in business and full economy fares and a decline in discount fares. Overall it appears that real air fares on regional airline operated routes were broadly similar in July 2001 to those prevailing in 1992. Non-urban coach fares for centres on inter-capital routes increased in the 1990s, albeit following a period of intense price competition in the 1980s. In contrast, non-urban coach fares to and from a number of other regional centres have fallen. Average non-urban rail fares increased over the 1990s.

Trends in the travel modes

Air travel to and from regional airports (not including the tourist centres of Cairns, Townsville, Alice Springs and Uluru) grew at an average of 1.4 per cent a year from the mid 1980s to 2000–01, from 6.7 million passenger movements to 8.2 million passenger movements, compared with a national average growth in air passenger travel of 5.7 per cent a year.

While comparable regional data are not available, non-urban bus patronage has remained more or less unchanged, at around 11.7 billion passenger kilometres since 1987–88. Non-urban rail patronage is estimated to have declined by 2.8 per cent a year from 2.9 billion passenger kilometres in 1987-88 to 2.0 billion passenger kilometres in 2000–01. In contrast, travel by private car increased by an estimated 1.8 per cent a year to 86 billion passenger kilometres in 2000–01.

The private car share of non-urban travel has declined since the mid-1970s from around 76 per cent to 65 per cent on a passenger kilometre travelled basis. This is largely due to the corresponding increase in air travel (involving generally longer distance trips) from around 11 per cent to around 26 per cent. While the share of coach travel increased prior to the deregulation of domestic aviation in 1990, it has since declined partially to around 9 per cent in 2000–01. The rail share has declined slowly and steadily, to 1.5 per cent.

Cost of alternative travel modes

The difference in the cost of travel in the various modes is an important driver of these contrasting mode shares. The avoidable per person cost of private car

travel (including fuel and use-related depreciation and maintenance costs) is generally less than the monetary cost of coach and rail travel (which are very similar to each other). The avoidable cost of car travel (per person) is also usually less than a quarter of the cost of a full adult economy air fare.

Together with the convenience and other features of car travel, this helps explain car's predominant position. However, concession fares for bus and rail are in many cases lower than the avoidable per person cost of private car travel. Concession fare passengers make up a high proportion of regional coach and rail patronage.

SERVICE COVERAGE

Regional public transport services tend to be organised in a radial pattern. These are around capital cities and, to a lesser extent, major inland centres (particularly in New South Wales). Tasmania has two radial nodes, Hobart and Launceston, and in Queensland, in addition to services radiating from Brisbane, there are also services connecting Rockhampton and Townsville with inland centres.

Secondly, there are extensive coastal services (chiefly coach), particularly along the eastern seaboard in New South Wales and Queensland and also in southern Western Australia. This 'network effect' can result in comparatively high levels of service, even for smaller locations. Services connecting inland centres that are not part of these radial or coastal routes are much less common, which leaves just one business (McCafferty's) operating nationally in this market.

All jurisdictions[2] have air and coach services. All jurisdictions other than Tasmania and the Northern Territory have intrastate rail services. Rail services make up a larger proportion of regional public transport services in New South Wales and Queensland, than elsewhere. In addition, charter aviation plays an important role in the many areas of Australia, particularly in Queensland, Western Australia and the Northern Territory where it services indigenous communities and mining centres.

Access to public transport services

As of 2000–01, almost all Australians (over 99 per cent) living outside the metropolitan areas in urban centres and localities of 200 persons or more were within a reasonable access distance of a regional rail, coach or air service. Adapting Spear and Weil (1999), a recent American study, 'reasonable access' is defined as within a road distance of between 70 to 120 kilometres (depending

[2] The Australian Capital Territory is, for the purpose of this report, part of the Canberra-Queanbeyan metropolitan region and is included with New South Wales.

on the standard of road) of an airport with three or more return air services per week and within 16 kilometres of a passenger rail station or a regional passenger coach stop. It is an essentially distance-based concept and does not address service levels.

More than three quarters of the remainder, who total around 30 000 persons, lived in the jurisdictions with the largest geographic areas (Queensland, Western Australia and the Northern Territory). Charter air services play a prominent role for many such locations, which include the mining towns of Leonora and Tom Price.

However, the analysis also shows that there are more than 290 urban centres and localities, comprising a total population of around 300 000, that are within the defined reasonable access distance of an air service but not of a coach or rail service.

Around two million Australians live outside urban centres and localities. Information about their degree of access to public transport services is not readily available and has not been sought for this study.

TRAVEL CHARACTERISTICS

The Bureau of Tourism Research's 2000 National Visitor Survey and International Visitor Survey offer insights into who travels in regional Australia, where, how, how much and why. The information is in terms of 'trips', and includes trips undertaken for leisure, business and personal reasons but excludes routine trips, primarily for commuting to work and education. Trips involve travel from one place and return. While primarily inter-regional, the data include only those trips that exceed 25 kilometres in length.

Travel destinations

For all jurisdictions other than New South Wales and the Northern Territory, over 90 per cent of trips by non-metropolitan residents are to an intrastate destination. Other intrastate non-metropolitan areas are the destination for more than 50 per cent of non-metropolitan resident trips.

Travel by type of region

With 22 trips per person per year, inland residents travel the most, followed by coastal residents (19 trips). Other metropolitan and capital city residents make 15 and 14 trips per person per year respectively. Remote residents make 12 trips per person per year. The capacity of metropolitan dwellers to meet their travel needs within 25 kilometres of home may explain their comparatively

lower trip rates. For remote residents, it is likely that relatively longer distance to destinations is a deterring factor.

Choice of travel mode

The private car is the predominant non-urban transport mode, accounting for over 87 per cent of trips. Air accounts for approximately 5 per cent of trips. Rail and coach account for approximately 4 and 3 per cent of trips respectively. (These proportions contrast with those indicated above: the car share is smaller and the air share correspondingly larger, when distance travelled, rather than number of trips, is the basis of analysis).

In terms of public transport mode choice, air travel comprises 8 per cent of travel for remote residents and 7 per cent for capital city residents, but only 2 to 3 per cent of trips by all other residents. Coach and rail together comprise 10 per cent of travel for other metropolitan residents.

Travel distance

For distances of up to 400 kilometres, the private car has a non-urban mode share of around 90 per cent of trips, with surface public transport modes making up most of the balance (although air has a small mode share for trips between 200 and 400 kilometres).

For trips between 400 and 1200 kilometres, the private car share is around 50 per cent, with the air travel mode share around 40 per cent. The air travel share increases to more than 65 per cent for trips of more than 1200 kilometres.

For the surface public transport modes, the coach mode share is relatively constant with distance travelled, while the rail share tends to decline. Coach travel is between 3 and 4 per cent of trips across all distances. Rail comprises over 4 per cent of trips of less than 100 kilometres, around 3 per cent for trips between 100 and 1200 kilometres and less than 1 per cent of all trips over 1200 kilometres.

Travel purpose

Around 80 per cent of all trips are for the purposes either of visiting friends and relatives or holiday/leisure. Thirteen per cent of trips are for business and 7 per cent are for other purposes (i.e. personal trips including health-related ones).

Business and personal trips comprise a higher proportion of travel for non-metropolitan than metropolitan Australians. The proportions range from 34 per cent of travel for remote residents to 18 per cent for capital city dwellers. It

seems likely that metropolitan residents can achieve more of their travel objectives with trips of less than 25 kilometres than can others. Notably, trips for health-related reasons, while negligible for capital city residents, comprise as much as 5 per cent and 6 per cent of trips for remote and inland residents respectively. For remote residents, air travel is used for 14 per cent of such trips.

Travel and household income

Private car travel accounts for more than 80 per cent of travel across all household income groups and is closer to 90 per cent for most income groups. Air travel comprises an above average share of trips (11 per cent) for those with annual household incomes of more than $78 000. Coach and rail, in contrast, account for 17 per cent of all trips by those with incomes below $16 000.

Travel and age

Long-distance travel decreases with age, with 15 to 24 year olds making 18 trips a year, 25 to 64 year olds each making around 16 trips a year and those 65 and over making 11 trips a year.

The private car accounts for around 80 per cent or more of travel for all age groups. However, public transport is especially significant for those under 24 (19 per cent of travel) and over 65 (22 per cent). These age groups also have average household incomes that are lower than households in the 25 to 64 age bracket. They are also the age groups most likely to have access to education or pensioner travel concession fares.

Choice of public transport mode varies with age. Persons aged 15 to 24 and 65 years and above undertake most of their public transport trips by coach and rail. In contrast, more than half of the non-urban public transport travel by 25 to 64 year olds is by air. This reflects higher average incomes and higher workforce participation, with a correspondingly greater need for business travel, in this age group. Business-related trips are almost 50 per cent of all air trips, but only around 10 per cent of trips by all other modes.

For non-metropolitan residents aged 65 and over, personal trips comprise 20 per cent of all travel, compared with less than 10 per cent for metropolitan dwellers.

TRAVEL DEMAND PROJECTIONS

The travel demand projections are derived using the Bureau of Tourism Research and Bureau of Transport and Regional Economics' non-urban passenger transport model. The model provides indicative trends in inter-

regional passenger travel demand, based on assumed changes in population, household income and travel costs.

Travel demand estimates for the projection base year, 1999, are informed by National Visitor Survey and International Visitor Survey data for the years 1998, 1999 and 2000.

Key assumptions

The Australian Bureau of Statistics projects population growth of around 0.9 per cent a year nationally to 2020, a slightly slower rate of growth than the recent past. The trends include generally below average growth in inland and remote areas and in coastal regions of South Australia and Tasmania, contrasted with above average growth in coastal Queensland, Western Australia and the Northern Territory. On a jurisdiction basis, the projections are based on above average population growth in Queensland, Western Australia and the Northern Territory, below average growth in Victoria and South Australia and declining population in Tasmania.

Growth in international tourists is assumed to gradually decline from 9 per cent a year in the 1990s, to 5 per cent a year by 2020. Nevertheless, international tourist travel as a proportion of total travel is projected to increase over the period. The forecast growth in international visitor numbers has a large impact on overall travel growth to and from some regions, especially areas of coastal Queensland and the Northern Territory.

The projections also reflect growth in average real weekly earnings of 1.4 per cent a year, similar to the trend rate over the past 30 years.

Other issues

Preliminary Air Traffic Statistics data suggests that passengers carried by regional airlines may have fallen by up to a quarter between 2000–01 (before the withdrawal of Ansett) and 2001–02. As the 2000–01 level of air traffic has a large impact on the base year for the projections, it is possible that the projected long-term air mode share and also the level of total regional travel may prove to be too high.

The projections also assume no significant change to existing regulatory and assistance arrangements. Thus reductions in concession fares for rail and coach services in New South Wales and the introduction of financial assistance to coach operators on identified transport-disadvantaged routes in Queensland (both announced in 2002) do not influence the projections.

Finally, due to the constraints of the model, the projections do not take account of the ageing of the population, i.e. with an increased proportion of those aged

65 and over. Assuming that the travel and mode preferences of the over 65s of tomorrow are similar to those of today's, the projections may entail some limited overestimation of total travel. In addition, the public transport share (i.e. coach and rail patronage, but not air traffic) will, if behaviour is unchanged, be underestimated and the private car share correspondingly overestimated.

Projection results

Regional travel is projected to grow by 1.3 per cent a year between 1999 and 2020, compared with growth of 1.9 per cent a year for national travel. At the overall national level, there is a general concentration of travel to and from metropolitan areas and larger regional centres (i.e. those with populations greater than 20 000).

There is also strong growth in passenger travel to and from North Queensland (above 2.5 per cent a year for Cairns), the Northern Territory (above 2.5 per cent a year for many areas, with especially strong growth for Uluru and Kakadu regions) and the Kimberley region in Western Australia (around 3.5 per cent a year).

Conversely, there is low growth in passenger travel to and from South Australian (1 per cent a year) and Tasmanian regions (0.3 per cent a year) and a decline in passenger numbers from many inland areas of Australia.

The private car's share of regional travel is projected to remain unchanged at 89 per cent of trips. Air travel's share is projected to increase from 3.5 per cent to over 5 per cent in 2020 (involving an annual rate of growth of 2.8 per cent a year, including travel by international visitors). Coach travel's share is projected to remain approximately 3.7 per cent. Rail's share is projected to decline from 2 per cent in 1999 to 1 per cent in 2020.

CHAPTER 1 INTRODUCTION

In October 2001, as part of the Government's *Keeping Australia Moving* statement, the Deputy Prime Minister and Minister for Transport and Regional Services, the Honourable John Anderson MP announced that the Bureau of Transport and Regional Economics (BTRE) would undertake a major analysis of the likely pattern of future demand for inter-regional public transport services in Australia.

The Minister also announced an intention for the Australian Transport Council (ATC) to examine governments' subsidy and regulatory policies to ensure that they do not discriminate against providers of long-distance transport services. At the August (2002) ATC meeting, Ministers agreed that jurisdictions would undertake a stocktake of their regulatory and assistance measures relating to regional public transport and to support the BTRE study.

The Minister's October 2001 announcements were made against the background of disruption to regional air transport services following a sustained period of air fare discounting and the entry into administration of Ansett Airlines. In addition, there were concerns that McCafferty's, a major interstate long-distance coach operator, might withdraw from some of its inland coach services. McCafferty's claimed that it was disadvantaged by lack of access to State Government reimbursement of concession fares and by restrictions on its operations within some States.

Against this background, the study aims to assist in the development of a policy framework for ensuring that long-distance public transport services adequately meet the needs of Australians in regional areas for transport access to essential services and for mobility, in an efficient manner.

This report analyses the past and likely future trends in the market for long-distance regional public transport and the supply of these services. Another report (BTRE 2003, forthcoming) reviews the regulations as well as Commonwealth, State and Territory assistance schemes affecting long-distance regional public transport.

The BTRE has not previously undertaken a study that focussed exclusively on regional passenger transport services. Previous BTRE studies of passenger transport have generally been mode specific, and include: *Regional Aviation*

Competitiveness (BTE 2000a) and *Intrastate Aviation: Performance and Prospect* (BTE 1988a) for air; the *Australian Long Distance Coach Industry Review* (BTE 1985a) and *Intrastate Bus Services in New South Wales: Trial Entry Liberalisation* (BTE 1987a) for coach; and one study on long-distance rail passenger transport, *Study of East-West Rail Passenger Services: The 'Indian Pacific' and 'Trans Australian'*, BTE (1977).

WHAT IS REGIONAL PUBLIC TRANSPORT?

For the purposes of this study, the BTRE has assumed that long-distance 'regional public transport' services include all regular scheduled transport services either to or from non-metropolitan areas[3]. This definition includes services linking non-metropolitan areas to metropolitan areas as well as services between, and some trips within, non-metropolitan areas, but excludes all travel exclusively between metropolitan centres. As far as possible[4], it also excludes local public transport and travel for the purposes of commuting to work and education.

In discussing the overall trends in passenger travel, the BTRE has also drawn on aggregate data for total 'non-urban passenger travel'. Non-urban passenger travel, in contrast to 'regional passenger travel', includes all travel outside major metropolitan centres, including intercapital trips (see box 1.1).

According to the available transport and tourism data (outlined in the discussion of the major data source later in this chapter), non-urban passenger travel totalled approximately 130 billion passenger-kilometres in 2000, and approximately 190 million domestic passenger trips in 2000 (NVS 2000). According to tourism data, regional passenger travel accounts for approximately 65 per cent of all non-urban passenger trips by domestic residents. About 27 per cent of Australia's population live in non-metropolitan areas, but they account for some 39 per cent of non-urban passenger trips.

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[3] The convention adopted for much of this report is that all capital city Statistical Divisions (SDs) and other Statistical Local Areas (SLAs) that contain all or part of an urban centre with 100 000 persons or more in 1996—Newcastle, Wollongong, Central Coast, Gold Coast–Tweed Heads, Geelong, and Townsville—are referred to as 'metropolitan areas'. All other areas are non-metropolitan (Garnaut et al. 2001). However, for the regional passenger travel projections, discussed in chapter 5, metropolitan areas include all of the aforementioned regions except Townsville. The geographic boundaries used for the 1998 to 2000 National Visitor and International Visitor Surveys do not easily permit separation of the Townsville metropolitan area from surrounding non-metropolitan areas.

[4] The profile of services presented in chapter 3 is based on the published timetables of long-distance public transport operators. To the extent these operators also undertake local services, these services may be included in the chapter.

BOX 1.1 SOME KEY TERMS USED IN THE REPORT

Regional passenger travel and non-urban passenger travel

The principal concepts of passenger travel used in the report are 'regional passenger travel' and 'non-urban passenger travel'.

'Regional passenger travel' is defined as travel to or from non-metropolitan areas. This includes travel between non-metropolitan and metropolitan areas, as well as travel between non-metropolitan areas. Regional passenger travel does not include travel between capital cities (inter-capital travel) and travel between metropolitan areas (inter-metropolitan travel).

'Non-urban passenger travel' is defined as all travel outside major metropolitan centres, including inter-capital and inter-metropolitan travel.

Where the report refers to passenger travel by a specific mode, the mode is indicated as part of the term. For example, regional passenger travel by air is referred to as 'regional air passenger travel'.

The terms 'regional public transport' and 'non-urban public transport' have the same meaning as regional passenger travel and non-urban passenger travel, but refer only to the public transport modes: air, rail, coach and ferry.

Inter-regional and intra-regional passenger travel

The terms 'inter-regional passenger travel' and 'intra-regional passenger travel' are used, principally in chapter 5, to describe passenger travel between and within the 91 BTR tourism regions (see appendix V).

'Inter-regional passenger travel' includes all passenger trips between separate BTR tourism regions (see box 1.1 for a description of the BTR tourism regions). As such, it includes travel between metropolitan regions.

'Intra-regional passenger travel' includes all passenger trips where the trip origin and trip destination lie within the same BTR tourism region.

Domestic and regional airline data

The report also presents data on air passengers carried by 'domestic airlines' and 'regional airlines', drawn from the Air Transport Statistics (ATS) database (2001).

'Domestic airline passenger traffic' includes all passengers carried by 'domestic airlines'. Domestic airlines are those airlines operating regular passenger transport services and having high capacity aircraft—defined as more than 38 seats—in their fleet. (In 2000–01, the 'domestic airlines' operating in Australia were Qantas, Ansett, Virgin Blue and Impulse.)

'Regional airline' passenger traffic includes all passengers carried by regional airlines. 'Regional airlines' include all airlines operating regular air passenger transport services and having exclusively low capacity aircraft within their fleets (i.e. aircraft with 38 seats or less).

Passengers carried by regional airlines should not to be confused with regional air passenger travel, as some regional airlines operate inter-capital and inter-metropolitan services, such as Sydney–Canberra, Sydney–Melbourne and Newcastle–Sydney. Additionally, some air services to non-metropolitan areas are operated by domestic airlines.

While most of the information presented in this report relates to regular scheduled public transport services, for some remote regions, such as the mining centres in northwest Queensland, Western Australia and the Northern Territory, charter aviation services are the major form of 'public' transport service. Recognising the importance of these services to remote areas, the BTRE has incorporated some available information on charter services.

GEOGRAPHIC CLASSIFICATIONS USED IN THIS STUDY

The BTRE has adopted the convention that 'regional areas' constitute all non-metropolitan areas in Australia. While there are a range of definitions of what constitutes 'regional Australia', most definitions appear to include those areas outside the metropolitan centres. For example, Lockie (2000) argues that "for most people rural and regional Australia is where metropolitan Australia isn't". The Commonwealth Department of Transport and Regional Services' (DOTARS) Regional Australia internet page[5], referred to "programmes and services relevant to people living in *non-metropolitan, rural and remote* Australia"—also inferring that regional Australia includes all non-metropolitan areas.

There are a number of different geographic classification schemes used to classify regional areas in Australia. Examples include the Rural, Remote and Metropolitan Areas (RRMA) classification, developed in 1994 by the then Department of Primary Industries and Energy and the then Department of Human Services and Health, and the Accessibility Remote Index of Australia (ARIA) classification (Department of Health and Aged Care 1999). More recently, the Australian Bureau of Statistics (ABS) has developed its own Regional Classification scheme (ABS 2001e and 2001f).

Three related geographic classification schemes are used throughout this report: (i) the 1996 Australian Standard Geographic Classification (ASGC) Statistical Local Area (SLA) structure (ABS 1996); (ii) the Bureau of Tourism Research's (BTR) tourism region classification; and (iii) the regional classification adopted by Garnaut et al. (2001). These three classification schemes are outlined in box 1.2, and further details are provided in appendix V.

For the passenger travel projections (presented in chapter 5), the principal geographic classification is the BTR tourism region classification. The 1998 tourism region classification divided Australia into 91 separate areas. In size, these range from comparatively small areas, such as capital cities, other metropolitan centres and the Australian Capital Territory, to very large areas in

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[5] Commonwealth Department of Transport and Regional Services' (DOTARS) Regional Australia, (http://www.dotrs.gov.au/regional/index.htm), February 2002.

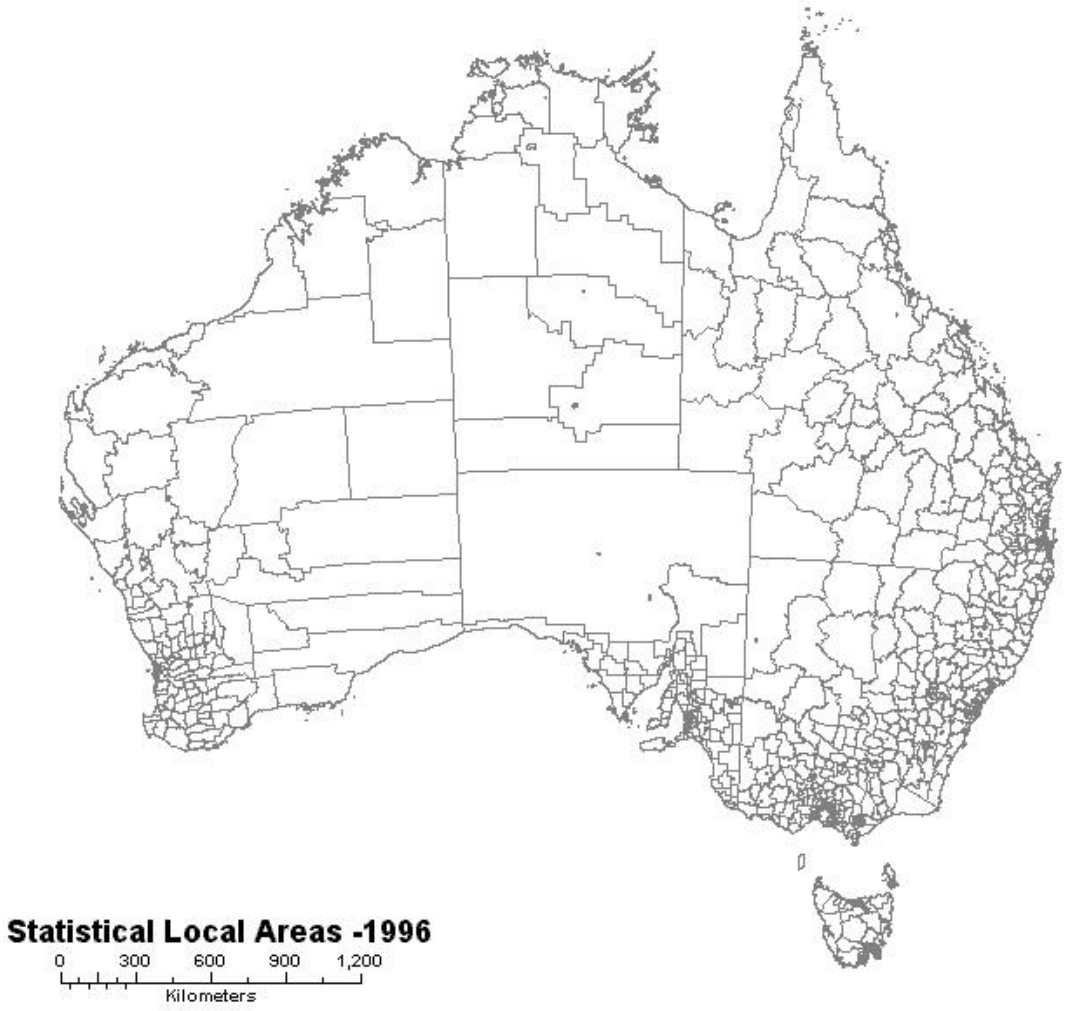
BOX 1.2 GEOGRAPHIC CLASSIFICATIONS USED IN THIS REPORT

Three different geographic classifications are used in this report: Statistical Local Areas (SLAs), BTR tourism regions and the 'remoteness-based' geographic classification used by Garnaut et al. (2001). A brief description of each is outlined below. Appendix V provides further details on these and other geographic classifications used in this report.

Statistical Local Areas

SLAs are a general purpose spatial unit used in collecting and disseminating information from the Census of Population and Housing (ABS 2002d). Figure 1.1 illustrates the SLA boundaries for the 1996 Australian Standard Geographic Classification (ASGC) (ABS 1996). Many other geographic classifications, including the BTR tourism regions (described below), are constructed from SLAs.

FIGURE 1.1 STATISTICAL LOCAL AREAS, 1996



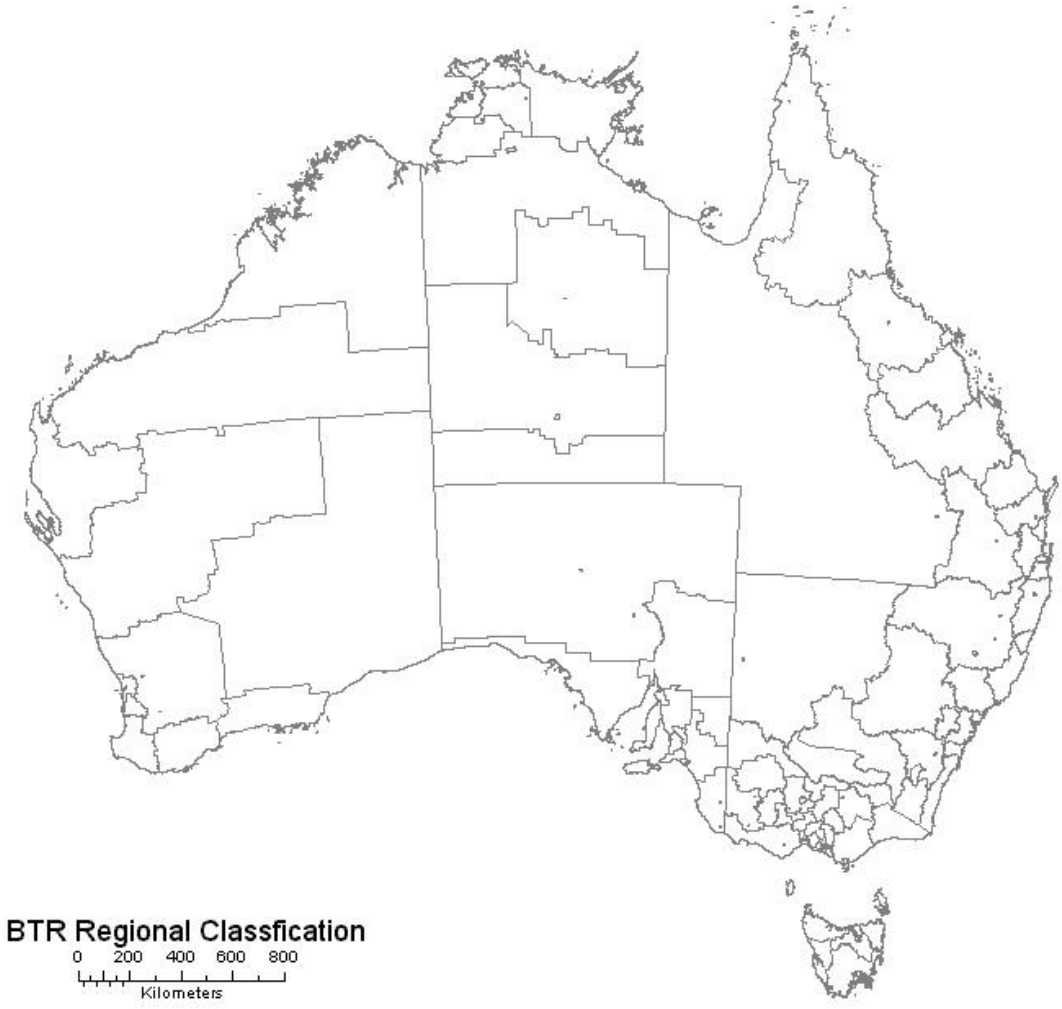
Source ABS (1996).

BOX 1.2 GEOGRAPHIC CLASSIFICATIONS (CONTINUED)

BTR Tourism Regions

The principal sources of data used to produce the regional passenger travel projections are the annual National Visitor Survey (NVS) and International Visitor Survey (IVS) (BTR 2000 and 2001). The NVS and IVS record all origin–destination trips undertaken by survey respondents between and within tourism regions. The tourism region classification consists of 91 separate regions, based on agglomerations of SLAs. Figure 1.2 illustrates the tourism regions used for the 1998, 1999 and 2000 NVS and IVS collections. (A full listing of the BTR tourism regions, and more detailed figures illustrating the regions, is provided in appendix V.)

FIGURE 1.2 TOURISM REGIONS, 1998–2000



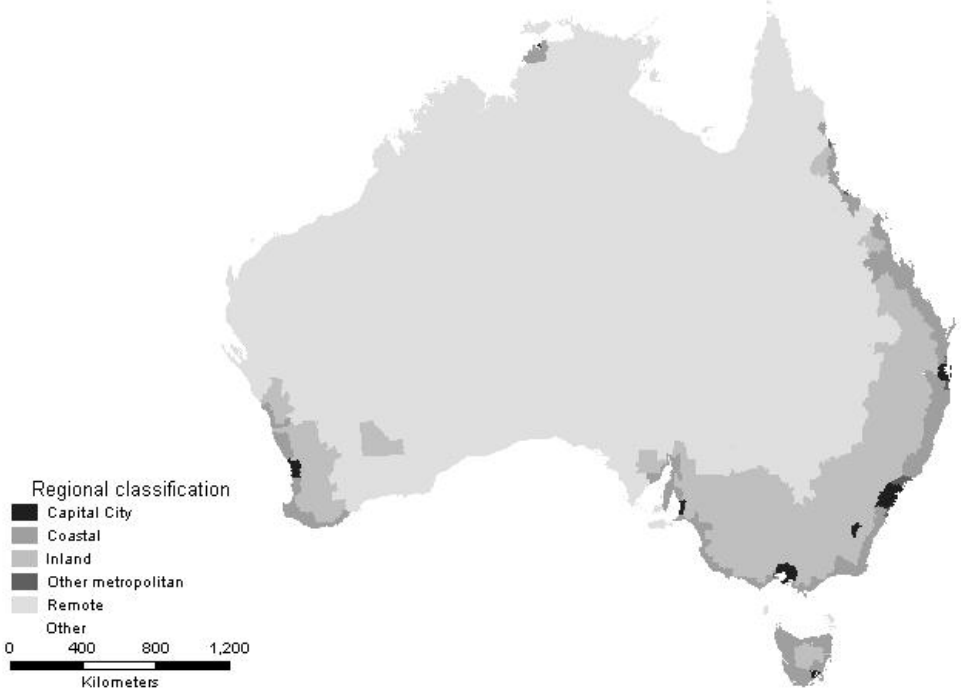
Sources ABS (2002a) and BTR (2002a)

BOX 1.2 GEOGRAPHIC CLASSIFICATIONS (CONTINUED)

Garnaut (et al 2001) regional classification

The 'remoteness-based' geographic classification used by Garnaut et al. (2001) is used in chapter 4 of this report to summarise regional passenger travel patterns and the characteristics of travellers. The classification separates the country into 5 different geographic areas: capital cities, other metropolitan centres, coastal, inland and remote. Figure 1.3 illustrates the Garnaut et al. geographic classification. (Further details are provided in appendix V.)

FIGURE 1.3 GARNAUT ET AL. (2001) GEOGRAPHIC CLASSIFICATION



Sources ABS (1996) and Garnaut et al. (2001).

New South Wales, Queensland, South Australia, Western Australia and the Northern Territory.

PRINCIPAL DATA SOURCES AND CONCEPTS

The Bureau of Tourism Research's (BTR) National Visitor Survey (NVS) and International Visitor Survey (IVS) are the major sources of data on regional passenger travel used in this study. The NVS survey's over 80 000 residents and the IVS 20 000 international visitors annually. Together, the NVS and IVS provide estimates of all eligible domestic overnight and day trips by Australian residents and international visitors aged 15 years and above.

To be eligible for inclusion in the NVS, an overnight trip must be to a place at least 40 kilometres from home, with a stay of at least one night away from home, which is less than 12 months in duration. And a day trip involves travel for a round trip distance of at least 50 kilometres, where the respondent is away from home for at least four (4) hours. Day trips as part of overnight travel are excluded, as are routine trips such as commuting between work/school and home.

The NVS and IVS provide the most comprehensive single source of data on origin-destination passenger travel, by geographic area, across all transport modes in Australia.

Other sources of non-urban and regional passenger travel, used in the preparation of this report, include the Air Transport Statistics (ATS) database (DOTARS 2001a), data from published annual reports of State rail authorities, and data provided directly to the BTRE, during the course of this study, by transport operators. None of these 'transport source' data provides the same level of detail on regional passenger travel as provided by the NVS and IVS. (A comparison of the NVS and IVS with selected transport data is provided in appendix IV.)

The 'transport source' data does not readily conform to the definition regional passenger transport used in this study. For example, the published Air Transport Statistics data reports air passenger traffic carried by 'domestic airlines'—those airlines performing regular public transport (RPT) services whose fleets contain high capacity aircraft, for example Qantas and Virgin Blue—and 'regional airlines'—those airlines performing regular public transport (RPT) services whose fleets contain only aircraft of 38 seats or less. Domestic airlines may provide services to and from non-metropolitan airports and regional airlines frequently provide services between major metropolitan centres. Where possible, the study has used transport source data to provide estimates of long-term trends in regional passenger travel.

Data availability

A critical issue for this report, and particularly the projections presented in chapter 5, is data timeliness and availability. In particular, the entry into administration of Ansett Airlines, and its subsidiaries, (and the impact on global air travel of the terrorist attacks in the US) in September 2001 had a significant effect on regional airline services and patronage in 2001–02. Preliminary ATS data suggests that passengers carried by regional airlines may have fallen by up to a quarter between 2000–01 and 2001–02.

The BTRE has made efforts to incorporate the latest available data in its analysis. Understandably, transport data often lags activity by some degree. At the time the research was undertaken, the latest available passenger travel data

was for the full financial year 2000–01 or calendar year 2000. For example, the Air Transport Statistics (ATS) data was only available for the financial year 2000–01 and the NVS and IVS, the principal data sources used as the base period for the projections, were only available up to calendar 2000. The 2001 NVS survey results only became available in September 2002 and the ATS regional air passenger travel data for 2001–02 had not yet been finalised as at October 2002.

The longer term implications of the cessation of Ansett services remain unclear at the time of writing. Nevertheless, because post-cessation survey data were not available at the time of the study (and indeed will not become available to a significant extent until the second half of 2003), it was not possible to seek to incorporate the effect of the recent events directly in the quantitative estimates.

OUTLINE OF THE REPORT

An overview of the historical trends in non-urban passenger travel, and the factors influencing the demand for non-urban and regional passenger travel are described in Chapter 2. The information covers trends in regional populations and incomes, and changes in regional public transport fares and private vehicle travel costs.

Chapter 3 describes the network of non-urban public transport services to regional areas in 2000–01 (and in some cases early 2002). In the course of the study, the BTRE has compiled a database of all timetable and patronage data for long-distance passenger transport services across Australia. With the timetable data, the BTRE has assessed the current level of provision of public transport services to different regional areas.

Chapter 4 provides an overview of the demand for regional passenger travel, including an analysis of the characteristics of passengers travelling on regional public transport services. The characteristics of passenger travellers are based largely on the NVS and IVS data (BTR 2000 and 2001), supplemented by information provided by transport operators.

Chapter 5 describes the BTRE's analysis of the likely pattern of future demand for inter-regional public transport services in Australia. The chapter outlines the BTR/BTRE passenger travel model, the base case assumptions, and the future traffic projections.

CHAPTER 2 HISTORICAL TRENDS IN NON-URBAN AND REGIONAL PASSENGER TRAVEL

Passenger travel is primarily influenced by population, incomes and the cost of travel. Other factors, such as travel time, trip purpose and service frequency influence the choice of mode. This chapter provides an overview of the trends in 'non-urban passenger travel', and changes in factors influencing the demand for non-urban and 'regional passenger travel' over the past fifteen years. The purpose of the review is to provide an historical context with which to view the current demand for, and existing set of, public transport services to and from regional areas, and to provide background information on the trends underlying the travel projections outlined in chapter 5. Much of the available historical transport data is only available at a very aggregate level for non-urban passenger travel. The non-urban passenger travel trends, nonetheless, provide some valuable insights into the likely trends in regional passenger travel.

Over the past twenty-five years, there have been significant policy and structural changes in the long-distance non-urban passenger transport market. Although not covered in detail here, Commonwealth and State government policy initiatives and spending on transport infrastructure have had a significant influence on the relative cost of travel. Changing demographics, household income growth and evolving travel preferences have also played a part in shaping the current demand for long-distance passenger transport and the existing patterns of travel. External influences too, such as fluctuations in the exchange rate and the price of fuel, and improved vehicle technology, affect both household incomes and the price of many transport inputs, and shape the long-distance passenger transport market. All these factors affect the transport choices made by individuals seeking to best meet their transport needs at a reasonable cost.

The chapter begins with an overview of the changes in regional population growth and income growth, and then discusses the broad trends in non-urban and regional passenger travel for the major public transport modes: air, coach and rail, and private car travel. What data is available suggests that non-urban and regional public transport fares have increased relative to the cost of private vehicle travel, and the chapter also provides some data on longer-term trends in fares. The chapter concludes with a direct comparison of current monetary costs

of travel to selected non-metropolitan centres for the main public transport modes and private vehicle travel.

FACTORS AFFECTING THE DEMAND FOR NON-URBAN AND REGIONAL PASSENGER TRAVEL

Demographic changes

From 1991 to 2001, the Australian population increased from 17.3 to 19.5 million persons, growth of 1.2 per cent per annum, slightly slower than between 1986 and 1996, when population growth averaged 1.4 per cent per annum. Population growth across many non-metropolitan areas in Australia has generally been less than population growth in most metropolitan centres.

Table 2.1 shows the growth in population within different geographic areas, based on the geographic classification of Garnaut et al. (2001), updated to match the 2001 Australian Standard Geographic Classification (ASGC) (ABS 2001c). By State and Territory, Queensland, Western Australia and the Northern Territory have experienced the strongest growth in population, while NSW and Victoria have experienced just below the national average growth. Population growth has been lowest in South Australia and Tasmania.

Population growth has been quite strong in all capital cities with the exception of Adelaide and Hobart. Brisbane, Darwin and Perth have experienced the strongest rates of population growth over the past 15 years. Of other metropolitan centres outside capital cities, those in Queensland have experienced the strongest population growth.

The data also shows strong growth in population along the coastal fringe of NSW, Queensland and Western Australia. Much of the growth in population in these areas is driven by retirees and other persons migrating to those locations with higher amenity values (Garnaut et al. 2001).

Aggregate population levels have grown in inland areas in every State, albeit at a much slower rate of growth than the national average. In remote areas, population growth was less than State and Territory average rates of population growth. Remote area populations declined in NSW, Queensland and Tasmania.

Overall, population in non-metropolitan areas grew by 0.8 per cent per annum between 1991 and 2001, while population in metropolitan areas grew by more than 1.3 per cent per annum over the same period.

TABLE 2.1 POPULATION AND POPULATION GROWTH, 1991 AND 2001, BY REGION

State	Region					
	Capital city[a]	Other metropolitan	Coastal	Inland	Remote	Total
Estimated resident population, 1991 ('000 persons)						
New South Wales	3 698.1	720.7	585.2	855.1	39.7	5 898.7
Victoria	3 155.6	151.9	197.6	915.3	..	4 420.4
Queensland	1 358.0	568.6	562.2	315.8	156.4	2 961.0
South Australia	1 056.6	..	151.4	185.9	52.4	1 446.3
Western Australia	1 188.8	..	187.1	112.8	147.4	1 636.1
Tasmania	190.7	..	248.5	24.7	2.9	466.8
Northern Territory	86.4	..	1.5	..	77.6	165.5
Australian Capital Territory	288.6	..	..	..	..	288.6
Other Territories	..	..	..	..	0.7	0.7
Total	11 022.7	1 441.2	1 933.4	2 409.6	477.1	17 284.0
Estimated resident population, 2001 ('000 persons)						
New South Wales	4 187.4	812.6	692.0	879.3	38.0	6 609.3
Victoria	3 488.8	160.1	218.4	955.4	..	4 822.7
Queensland	1 653.4	813.0	678.8	334.8	155.1	3 635.1
South Australia	1 110.5	..	153.8	197.1	53.4	1 514.9
Western Australia	1 397.0	..	244.6	112.7	151.8	1 906.1
Tasmania	197.8	..	248.0	24.5	2.6	472.9
Northern Territory	108.2	..	1.9	..	89.9	200.0
Australian Capital Territory	321.7	..	..	..	..	321.7
Other Territories	..	..	..	..	2.6	2.6
Total	12 464.8	1 785.7	2 237.5	2 503.9	493.4	19 485.3
Average annual growth in ERP 1991-2001 (per cent per annum)						
New South Wales	1.25	1.21	1.69	0.28	–0.44	1.14
Victoria	1.01	0.52	1.01	0.43	..	0.87
Queensland	1.99	3.64	1.90	0.59	–0.09	2.07
South Australia	0.50	..	0.15	0.59	0.20	0.46
Western Australia	1.63	..	2.72	–0.01	0.29	1.54
Tasmania	0.36	..	–0.02	–0.09	–0.99	0.13
Northern Territory	2.27	..	2.73	..	1.48	1.91
Australian Capital Territory	1.09	..	..	..	..	1.09
Other Territories	..	..	..	..	13.45	13.45
Total	1.24	2.17	1.47	0.38	0.34	1.21

.. not applicable

a. Capital cities include the capital city Statistical Divisions. Other metropolitan centres include those urban areas with more than 100 000 persons in 1996—Newcastle, Wollongong, Central Coast, Gold Coast–Tweed Heads, Geelong, Gold Coast, Sunshine Coast, Townsville–Thuringowa and Cairns. See appendix V for a description of the geographic areas.

Sources ABS (2002e), Garnaut et al. (2001) and BTRE estimates.

Aggregate population growth across all inland areas masks some differences between different sized population centres, a point noted by Garnaut et al. (2001). Table 2.2 shows the growth in population by regional area by size of

population centre. Population growth was lower, on average, across smaller population centres and declined overall in inland and remote areas with less than 2 000 persons.

TABLE 2.2 POPULATION GROWTH, 1991 AND 2001, BY REGION AND POPULATION CATEGORY

(per cent)

Region	*Population category (persons)*					*Total*
	More than 100 000	*20 000–100 000*	*10 000-20 000*	*2 000-10 000*	*Less than 2 000*	
Capital City[a]	13.1	..	..	..	..	13.1
Other metro.	23.9	..	..	..	..	23.9
Coastal	..	17.1	13.1	15.6	11.6	15.7
Inland	..	5.5	4.7	3.2	–7.1	3.6
Remote	..	6.7	4.8	3.3	–6.1	4.1
Total	14.3	12.7	8.1	6.2	–5.2	12.7

.. not applicable.

a. Capital cities include the capital city Statistical Divisions. Other metropolitan centres include those urban areas with more than 100 000 persons in 1996—Newcastle, Wollongong, Central Coast, Gold Coast–Tweed Heads, Geelong, Gold Coast, Sunshine Coast, Townsville–Thuringowa and Cairns. See appendix V for description of the geographic areas.

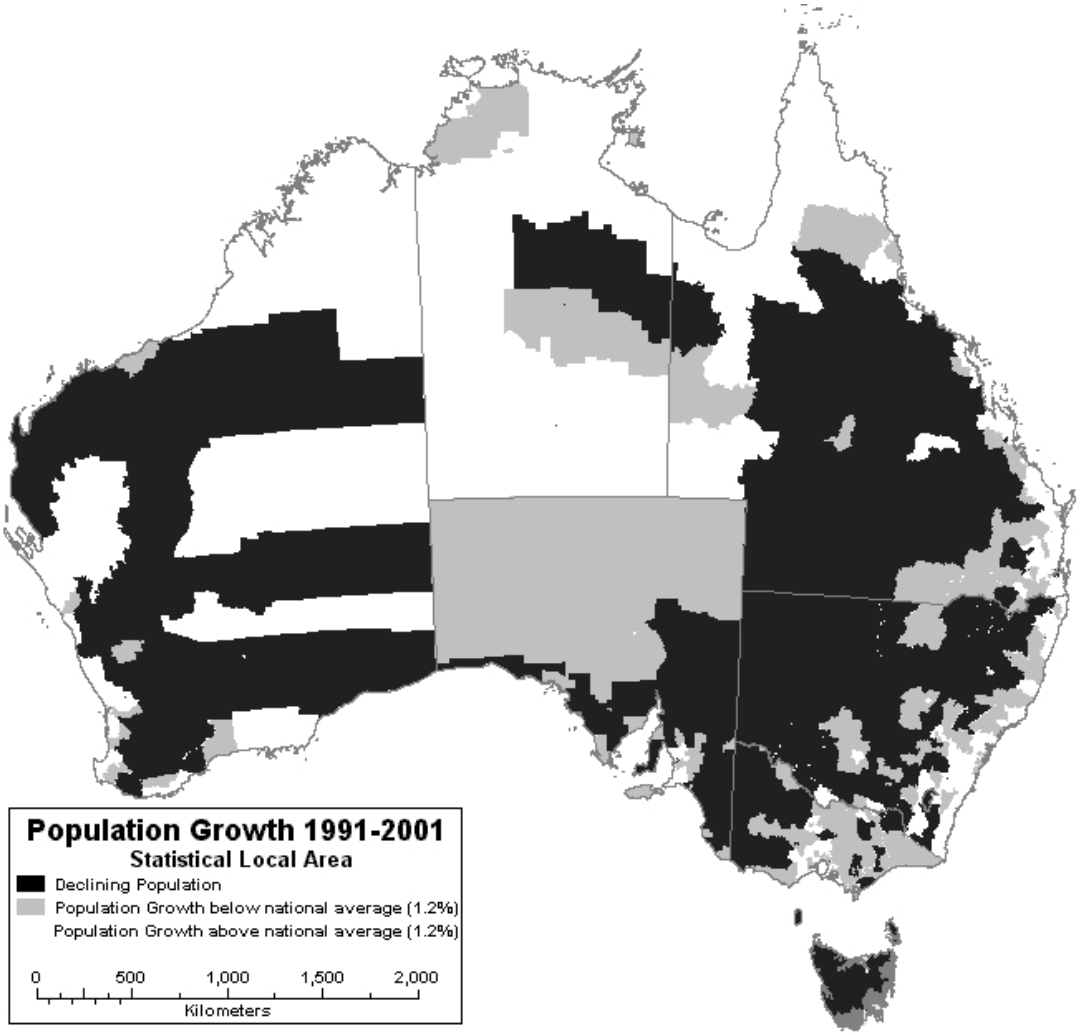
Sources ABS (2002e), Garnaut et al. (2001) and BTRE estimates.

Figure 2.1 illustrates the growth in population, between 1991 and 2001, by statistical local area (SLA). It shows that, by SLA, populations have declined across much of the inland and remote areas of Australia, with the exception of some areas in Western Australia and the Northern Territory, where tourism or mining are important industries, and in specific inland centres in NSW, Victoria and Queensland, the so called 'sponge centres' (PC 1999b). Also apparent is the strong population growth in the coastal areas of NSW and Queensland, and in southwest Western Australia.

Part of the explanation for differing rates of population growth across different areas are attributable to changes in industry performance and employment. Garnaut et al. (2001) compared the changes in population and employment between the 1986 and 1996 Censuses, across different regional areas. They found manufacturing, tourism and other service industries were important drivers of employment and population growth in inland and rural Australia (Garnaut et al. 2001, p. 2). The agricultural and mining sectors, however, experienced significant reductions in employment, contributing to the decline in population in those areas primarily dependent on the agriculture and mining industries. Garnaut et al. (2001) and the PC (1999a), among others, point to the long-term decline in the agricultural terms-of-trade, and hence declining farm incomes, as one of the factors contributing to the decline in rural and regional populations. Over the period from 1959 to 2001, real returns to agriculture declined by over 50 per cent (ABARE 2001), and since the mid-1970s total job loss from broadacre agriculture has been over 2 per cent per annum (PC 1999a).

The trends in regional population growth between 1986 and 1996, identified by Garnaut et al. (2001), the BRS (2000) and others, appear to have continued to 2001.

FIGURE 2.1 POPULATION GROWTH BY STATISTICAL LOCAL AREA (ASGC 2001), 1991–2001



Sources ABS (2001d and 2002d) and BTRE estimates.

Income trends

Average incomes, and growth in average incomes, differ by region. Lloyd, Harding & Hellwig (2000) found that, on average, household incomes of non-metropolitan area residents are lower and appear to have grown less rapidly than have incomes of metropolitan area residents.

Other evidence also supports this finding. Table 2.3 shows the estimated average taxable income earned by taxpaying persons (i.e. persons with annual taxable incomes of approximately $6 000 or more) in 1990–91 and 1998–99, by

geographic area. Minor manipulation of the data reveals that the average taxable income of metropolitan area residents (capital city and other metropolitan areas) was almost 20 per cent higher than the average taxable income of non-metropolitan area taxpaying residents. Remote area taxpayer incomes are almost as high as average taxable incomes of capital city area residents, but this probably reflects the fact that taxable income data includes the higher earnings of individuals working in the mining sector and excludes those remote area residents with incomes below the tax threshold.

Taxable incomes of capital city residents grew by 2.3 per cent per annum between 1990–91 and 1998–99, higher than the growth in taxable incomes of any other area. Overall, taxable incomes of non-metropolitan area residents have grown by less than 2 per cent per annum, compared with growth of over 2.2 per cent per annum in the average taxable income of metropolitan area residents.

TABLE 2.3 ESTIMATED AVERAGE TAXABLE INCOME EARNED PER TAXPAYING PERSON, BY REGION, 1990–91 AND 1998–99

Region	*Average taxable income*		*Change*
	1990-91	*1998-99*	
	($A at 2001-02 prices)		*(per cent per annum)*
Capital city	34 023	40 777	2.29
Other metropolitan	31 845	36 775	1.82
Coastal	28 774	33 569	1.95
Inland	28 899	33 886	2.01
Remote	34 413	39 664	1.79
Total	32 679	38 850	2.19

Sources ATO (1991 and 1999) and BTRE estimates.

TRENDS IN NON-URBAN AND REGIONAL PASSENGER TRAVEL

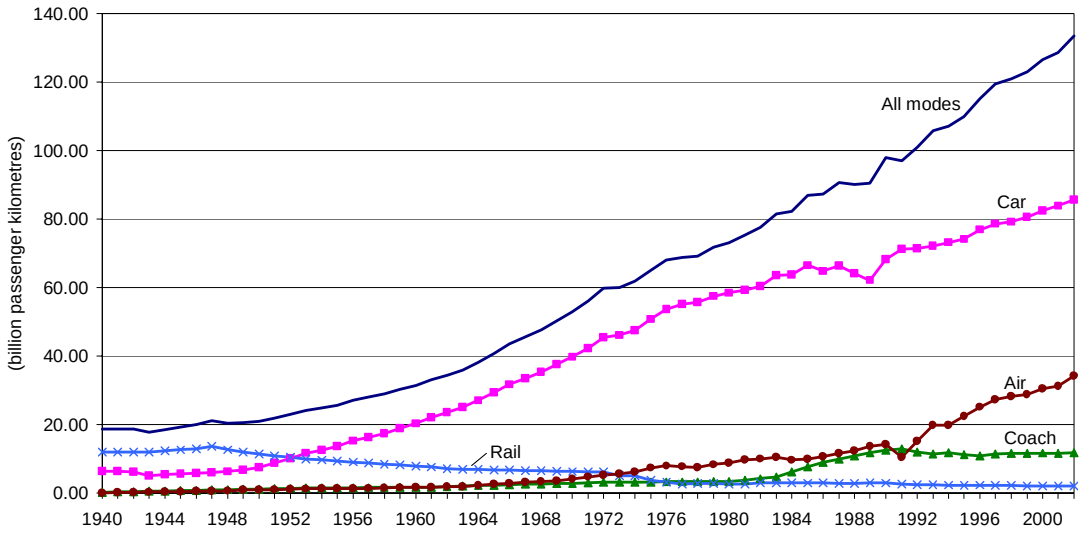
Non-urban passenger travel

Since 1945 total non-urban passenger travel (measured in terms of passenger-kilometres (pkm)) has increased by 3.5 per cent per annum. Figure 2.2 shows estimated passenger kilometres travelled by mode of transport from 1940 to 2001. Since 1980, total non-urban passenger travel has increased from 75 billion pkm to over 133 billion pkm in 2001 (average growth of less than 2.8 per cent per annum). Much of the growth over the last twenty years has been attributable to increased coach travel in the 1980s and then increased air travel during the 1990s.

Figure 2.3 illustrates the trend in mode share of long-distance non-urban passenger transport over the period 1940 to 2001. The data shows that following World War II, rail travel was the most popular mode of transport for non-urban

passenger travel. However, as private motor vehicles became cheaper and vehicle ownership increased, rail travel was supplanted by the private car as the major mode of non-urban passenger travel. Rail's current share of all travel is less than 2 per cent. In its favour, along with the added convenience, the private car provided access to a wider range of trip destinations than did rail and coach travel. Although total private car travel has continued to increase, its share of total passenger kilometres travelled has declined since the early 1980s, primarily because passenger coach travel and air travel have had periods of significant growth. Today, private car travel accounts for almost 65 per cent of all non-urban passenger kilometres travelled.

FIGURE 2.2 NON-URBAN PASSENGER KILOMETRES TRAVELLED, BY MODE, 1940–2001

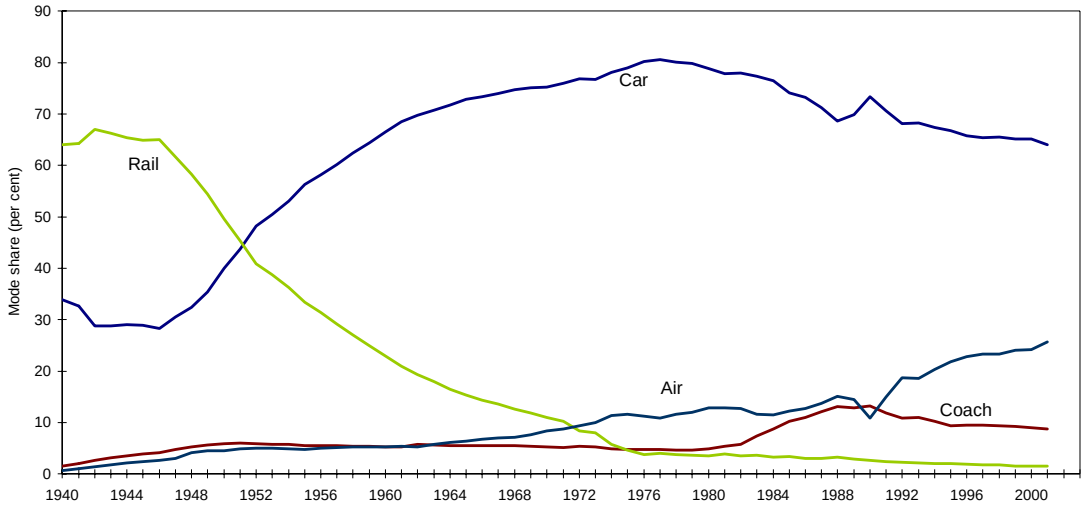


Sources ABS (SMVU), ATS database, Rail Authority annual reports and BTRE estimates.

Coach travel's share of long-distance passenger kilometres travelled increased significantly from the mid-1980s, and continued to increase until deregulation of domestic aviation in October 1990. Following the entry of several new operators in 1980 (BTE 1985c), the long-distance (interstate) express coach market was highly competitive and fares fell substantially. By 1985 there were four major operators and 6 other smaller operators providing long-distance express coach passenger services, and at its peak there were about 15 operators providing services on the east coast (Ian Cooper, pers. comm. 2002). There does not appear to be any single regulatory or other policy change to which the growth in coach travel at this time can be directly attributed. However, some of the reasons given for the entry of new operators include relative freedom of entry and exit to the industry and the availability of easy finance (BTE 1985c). The high level of competition contributed to lower fares and increased patronage (BTE 1985c). Since deregulation of domestic aviation, in October 1990, total long-distance coach travel is estimated to have remained more or less constant, at around 12 billion pkm. Consequently, coach travel as a share of

total long-distance travel has declined to around 9 per cent. Today there is only one express coach operator (McCafferty's) providing a network of services between every mainland State and Territory capital city.

FIGURE 2.3 MODE SHARE TRENDS IN NON-URBAN PASSENGER TRAVEL



Source BTRE estimates.

Air travel grew reasonably strongly through the 1980s and then increased quite rapidly throughout much of the 1990s, following domestic deregulation (see figure 2.2). Growth in air travel slowed in the later 1990s, as fares stabilised, with a mode share of around 26 per cent. In 2001–02, with the demise of Ansett and the impact on resident and tourist travel of the terrorist attacks in the United States, total domestic air travel is estimated to have fallen by 10 per cent over 2000–01 levels.

Regional public transport

The non-urban public transport data showed that total non-urban passenger travel (measured in pkm) has grown quite strongly over the past 20 years, by 2.8 per cent per annum, fuelled lately by strong growth in air passenger travel. What can be said about trends in regional public transport? The data on total non-urban passenger travel is very sketchy, and what data is available on regional passenger travel is even sparser—there is good aviation data, some rail data, but very little long-distance coach data. This section presents some evidence on changes in regional public transport patronage and fares. Because of the paucity of data, the comparison uses a snapshot of passenger travel over the last decade and a half. The general picture arising from this analysis suggests similar trends in regional passenger travel to those observed for total non-urban passenger travel—growing air passenger travel, declining rail travel and more or less constant coach travel.

Regional air passenger travel

Based on Air Transport Statistics (ATS) 'traffic-on-board' data, between 1986–87 and 2000–01, total air passenger travel to and from non-metropolitan area airports[6] grew by 1.4 per cent per annum. Including air passengers to and from Townsville and Cairns increases the growth rate of total air passenger travel to and from such 'non-metropolitan' airports, to 2.1 per cent per annum. Over the same period, growth in total air passengers through airports at the major metropolitan and selected tourist centres averaged 6.5 per cent per annum.

Passenger travel to and from larger regional airports (measured on a passenger throughput basis) has, on average, grown faster than for smaller regional airports. Indeed, smaller airports have, on average, experienced far slower growth or declining air passenger traffic since 1986–87. Table 2.4 shows the growth in traffic to and from airports in non-metropolitan centres over the period 1986–87 to 2000–01, categorised by State and airport passenger throughput. (The estimates in table 2.4 include airports now receiving services that did not have services in 1986–87, and airports that no longer support regular public transport (RPT) services.) Even for the larger regional airports, however, growth in total air passenger traffic has been far more muted than growth in air passenger travel between the major capitals and tourist centres.

The number of airports served by regional aviation operators has also decreased over the last 15 years, from 251 airports in 1986–87 to 194 airports in 2000–01. According to ATS data, there are 79 airports now no longer receiving RPT air services that were used in 1986–87, while an additional 22 airports had RPT air services in 2000–01 but no services in 1986–87. Many of the airports that have lost services in NSW are in regional areas that are within 100–200 kilometres of an existing air service. Examples of such centres include Condobolin, Cessnock, Corowa, Temora and Tumut. In Queensland and South Australia, many of the airports now not served were in the remote areas close to the Queensland–South Australia border. In Western Australia, the airports no longer served appear to be a mix of short hop flights from Perth, e.g. Rottnest Island and Bunbury, and more remote centres, such as Marble Bar. In the Northern Territory the airports no longer served are spread around the Territory. Except for some of the larger ports, such as Bunbury, and the holiday ports of Rottnest Island and Great Keppel Island, most of these airports typically had small passenger throughput in 1986–87.

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[6] Non-metropolitan area airports include all airports other than those in the major metropolitan and selected tourist centres of Adelaide, Alice Springs, Brisbane, Cairns, Canberra, Coolangatta, Darwin, Hobart, Melbourne, Newcastle, Perth, Sydney, Townsville and Uluru.

TABLE 2.4 RATE OF GROWTH IN AIR PASSENGER TRAFFIC[a] TO AND FROM REGIONAL AIRPORTS BETWEEN 1986–87 AND 2000–01, BY NUMBER OF PASSENGERS

(per cent per annum)

State / Territory	*Total airport traffic 2000–01 (passengers per annum)*						
	More than 100 000	*40 000–100 000*	*20 000–40 000*	*10 000–20 000*	*2 000–10 000*	*Less than 2 000*	*All airports*
NSW	2.9	2.45	–0.08	–3.89	–5.44	–11.91	1.63
Vic	5.86[b]	..	–0.66	..	..	–2.61	4.35
Qld	1.73	3.31	0.97	3.58	–2.65	–1.63	1.64
SA	..	3.26	6.76	8.74	2.37	–14.35	1.91
WA	3.57	–0.18	–1.17	0.39	–10.38	–3.01	0.32
Tas	1.25[c]	..	2.79[d]	..	–5.56[e]	..	1.20
NT	4.81[f]	..	..	–0.7	–1.1	0.41	3.04
All	2.17	2.16	1.21	1.90	–2.97	–15.84	1.44

.. not applicable.

a. Rates of growth in airport traffic based on air passengers by traffic-on-board.

b. Mildura (Vic)

c. King Island (Tas)

d. Growth in all traffic inflated by growth in Hobart air traffic, which averaged 5.2 per cent per annum. All other major airports in Tasmania (Launceston, Devonport and Burnie) experienced declining passenger traffic.

e. Flinders Island (Tas).

f. Gove (NT)

Sources ATS database and BTRE estimates.

Non-urban (country) passenger rail services

There is little historical data on regional passenger travel by rail with which to compare current travel patterns. In its stead, this section compares changes in non-urban rail passenger travel by State, and uses this to infer changes in regional rail passenger travel.

Total non-urban rail patronage has generally declined over the last 15 years, from 2.9 billion passenger-kilometres (pkm) in 1987–88 to 2.0 billion pkm in 2000–01 (see figure 2.2). Total non-urban rail passenger (one-way) journeys are estimated to have declined from 10.2 million passenger journeys in 1987–88 to 9.8 million passenger journeys in 2000–01 (table 2.5). Over the same period, total intercapital rail passenger journeys, around 10 per cent of total non-urban rail passenger journeys, are also estimated to have fallen, from 1.6 million passengers in 1987–88 to 1.1 million passengers in 2000–01.

Table 2.5 provides a comparison of total non-urban rail passenger journeys in 1987–88 and 2000–01[7]. The data shows that non-urban passenger rail patronage has declined across all operators since 1987–88, with the exception of Victoria,

[7] In order to estimate total rail passenger trips for 1987–88, the BTRE has had to make assumptions about the number of trips undertaken by road coach in NSW and Victoria.

where total rail passenger trips are estimated to have increased by over 2 million, and Western Australia, where total non-urban rail passenger travel has grown by 1.2 per cent per annum between 1987–88 and 2000–01. By extension, total regional rail passenger travel is estimated to have remained around 8.6 million passenger trips.

TABLE 2.5 ESTIMATED TOTAL NON-URBAN RAIL PASSENGER TRIPS 1987–88 AND 2000–01

('000 passenger journeys)

Operator	*1987-88*		*2000-01*	
	Rail	*Road coach*	*Rail*	*Road coach*
Countrylink[a]	3 650	300	1 554	540.9
V/Line[b]	4 978	500	7 097	970
QR[c]	1 045	–	607	–
AN / GSR	353	–	240	–
WAGR (Westrail)[d]	219	174	258	240
Total patronage	10 245	974	9 755	1750.9
Intercapital and 'regional' travel				
Intercapital travel	1 613		1 074	
Total 'regional' travel	8 632		8 681	

a. Road coach passenger trips not separately enumerated in 1987–88. BTRE assumed 300 thousand Countrylink passenger trips by road coach in 1987–88.

b. Road coach passenger trips not separately enumerated in 1987–88. BTRE assumed 500 thousand V/Line passenger trips by road coach in 1987–88.

c. Excludes the Tourist train services. Tourist train passenger trips not separately enumerated in 1987–88. Assumed 230 thousand passenger trips on Kuranda Scenic Railway in 1987–88 (based on published patronage in 1986–87 and assuming increase in total passenger trips between 1986–87 and 1987–88 equal to the increase experienced in the previous financial year).

d. 1987–88 WAGR rail passenger estimates include all Country rail and intrastate passengers travelling on an interstate services (approximately 9 000 passenger trips). Interstate passenger trips on interstate services assumed to be included in AN's estimate of total passenger trips on the Indian Pacific and Trans-Australian services.

Note All figures will include the impact of service withdrawals.

Sources SRA (1988 and pers. comm. 2002), STA (1988), V/Line (pers. comm. 2002), WAGR (1988 and 2001), QR (1988 and pers. comm. 2002), AN (1988), Great Southern Railways (pers. comm. 2002) and BTRE estimates.

The non-urban rail patronage statistics for Victoria, unlike the non-urban rail passenger travel data for most other jurisdictions, include a significant proportion of 'commuter' rail trips (i.e. regular commuter rail journeys to and from Melbourne). Although exact statistics on total 'commuter' rail passenger journeys are not available, it is possible that, unlike in most other States, long-distance non-urban rail passenger travel in Victoria increased between 1987–88 and 2000–01[8].

[8] The State Transit Authority (STA) (1988) estimated that approximately 3.1 million rail passenger journeys, or, in other words, more than half of all journeys on V/Line country passenger services in 1987–88, were 'commuter' passenger journeys to and from Melbourne. V/Line (pers. comm. 2002) assumes, as a 'rule-of-thumb', that approximately 30 per cent of

Regional coach passenger travel

The BTRE estimates that total non-urban road coach passenger kilometres travelled have remained more or less unchanged, at around 11.7 billion passenger kilometres, since 1987–88 (figure 2.2). Data allowing a comparison of trends in regional coach passenger travel, however, is not readily available. Instead, the following section provides a snapshot of coach services existing in 1984–85 (based on the Bureau of Transport Economics' reviews of the express coach industry (BTE 1985a and 1985b)) together with a brief description of those operating today. Chapter 3 provides a more detailed review of the current provision of coach services to and from regional areas.

In 1984–85, there were between 40 and 50 operators providing long distance coach travel (BTE 1985b, p. 3), with the majority being intrastate operators. Ten operators provided intercapital services, providing coach transport for those regional population centres on the intercapital routes. Of those ten interstate operators, four major operators dominated the market: Ansett Pioneer, Greyhound, Deluxe Coachlines and Australian VIP Leisure Tours (VIP) (BTE 1985b, p 4). A further three were small to medium sized companies: Across Australia Coachlines (AAC), Olympic East West (OEW) and McCafferty's, while the remaining three were small operators providing return services on a limited number of intercapital routes: Aussie Express, Northwest Express and Intertours.

Of the four major operators, only Greyhound and Ansett Pioneer provided express coach services between each of the mainland capitals. According to BTE (1985b, p. 10), in servicing intercapital routes, these two companies provided an extensive coverage of inland towns and cities, particularly in NSW. Of the other operators, Deluxe operated to all capital cities except Darwin. By 1987–88, Deluxe was operating services to and from Darwin as well. VIP operated services between Perth and the Eastern States, as well as services up the Queensland coast to Cairns. OEW and AAC operated across the southern half of Australia between Brisbane and Perth. In 1984–85, McCafferty's operated only one interstate route: Brisbane-Sydney.

Almost all the major interstate carriers have since exited the industry or were purchased by other operators, so that today there are only a handful of

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all passenger journeys, across the whole of the V/Line network, are 'commuter' journeys. This assumption implies there were 2.4 million commuter journeys in 2000–01, and, by corollary, total 'non-commuter' rail in Victoria grew from 1.8 million journeys in 1987–88 to 4.7 million journeys in 2000–01, average annual growth of 7 per cent per annum. It is not clear, however, whether the 1988 and 2001 estimates of total commuter rail are directly comparable. If, for example, one assumes that a large proportion of total passenger trips on the high volume rail lines between Melbourne and Bendigo, Ballarat and Geelong, were commuter passenger trips, then up to 5 million rail passenger journeys may be 'commuter' trips, which would imply that all other non-urban rail passenger journeys declined between 1987–88 and 2000–01.

interstate coach operators: McCafferty's (Greyhound), Firefly, and Pioneer Motor Service. Of these, only McCafferty's could be said to operate an extensive interstate coach services across the whole of Australia.

In each of the mainland states, in 1984–85, there were a large number of private operators providing intrastate coach services. The State rail authorities also operated road coach services at that time. The following points briefly outline the pattern of regional intrastate coach services in each State and Territory in 1984–85.

- In NSW, 'localised' route services were concentrated on the north coast and inland areas and south between Canberra and the south coast. Kirklands provided services in northern NSW between Ballina and Sydney, between Lismore and Tenterfield, and between Lismore and Tweed Heads. Skennars provided services between Sydney and Port Macquarie and Port Macquarie and Tamworth. Other services include Newcastle–Forster, (Bulahdelah Bus Company), Moree–Tamworth, Inverell–Tenterfield, and Cessnock–Sydney. In the south two operators (P.J. Evans and Murrays) provided services between Canberra–Bega, Canberra–Narooma and Canberra–Wollongong.
- In Victoria, long distance intrastate coach services were operated under contract to V/Line, similar to the situation prevailing today (see chapter 3).
- In Queensland, there was an extensive network of coach services. The majority of intrastate services were located along the east coast, between the major population centres: Brisbane, Rockhampton, Mackay, Townsville and Cairns. Other services were provided inland between Cairns–Karumba, Townsville–Mt Isa, Rockhampton–Longreach, Brisbane–Longreach and Longreach–Mt Isa. Many of the services were provided by interstate operators, for example, Greyhound provided services between Brisbane–Cairns, Brisbane–Mt Isa, Brisbane–Longreach, Townsville–Mt Isa and Rockhampton–Longreach. McCafferty's was the largest operator in Queensland (BTE 1985b).
- The major intrastate operators in South Australia were Premier Stateliner (Adelaide to Renmark, Ceduna, Arkaroola, Loxton, Pt Lincoln, Quorn and the Northern Territory border via Port Augusta), Murray Bridge Passenger Service (Adelaide–Pinaroo), Premier (Adelaide to Meningie and Moonta), Briscoes (Yorke Peninsula) and Mt Gambier Bus Services (Adelaide–Mt Gambier). Ansett Pioneer and Greyhound both had license to carry passengers intrastate on their regular interstate services between Melbourne–Adelaide and Adelaide–Perth.
- In Western Australia, WAGR provided the majority of road coach services to the south west of the State. The interstate operators provided services to the north west of the State.
- In the Northern Territory, interstate operators provided the majority of road coach services.

A quick comparison suggests that the geographic coverage and pattern of road coach services provided to much of regional Australia has not changed significantly over the past decade and a half. This does not, however, imply anything about changes in total services and patronage.

COST OF REGIONAL PASSENGER TRAVEL

As stated at the beginning of this chapter, the cost of travel influences total travel and the choice of transport mode. The remainder of the chapter provides estimates of changes in the cost of travel to and from regional areas, for public transport and private vehicle travel. Private vehicle travel costs are also included here, because long-term declines in the overall cost of private vehicle travel are a significant factor underlying the predominance of private vehicle travel to and from regional areas.

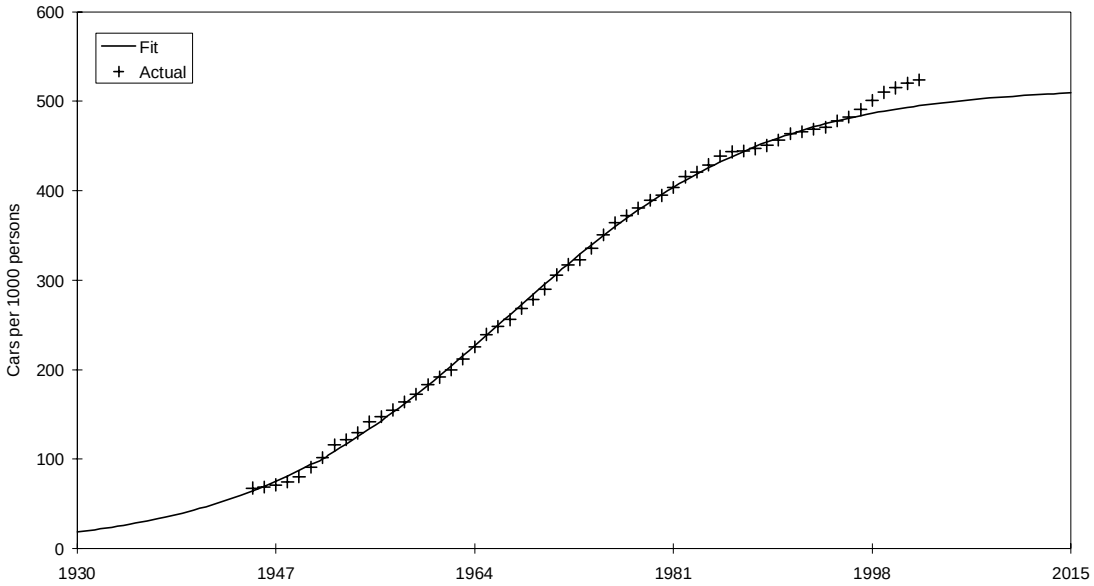
Private vehicle travel

Fuel prices and vehicle prices, together with administration costs and vehicle taxes and charges, are the major monetary costs of private vehicle travel. Declining vehicle costs and the improved fuel efficiency of vehicles, together with increasing household incomes have lead to increasing vehicle ownership and use.

Motor vehicle ownership

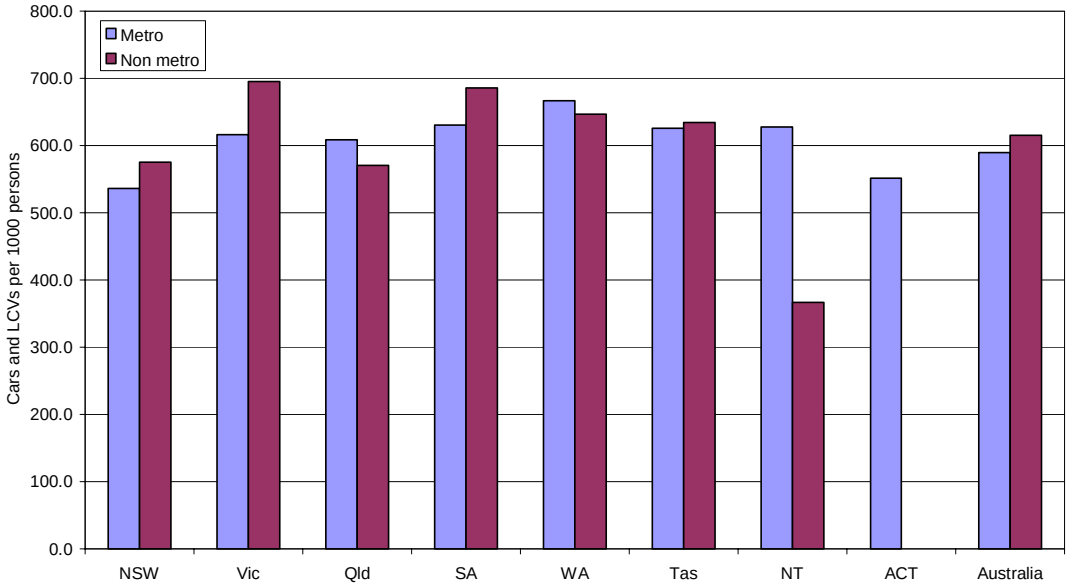
Figure 2.3 illustrated the significance of private motor vehicle as a proportion of travel by all modes. Underlying the growth in private car use has been growth in private car ownership. Car ownership increased from just under 200 cars per thousand persons in 1960 to over 500 cars per thousand persons today. Figure 2.4 illustrates car ownership rates and the fitted logistic trend in car ownership rates. Increased vehicle ownership has broadened peoples' travel choices, increased the range of activities that people can access and increased the amount of private vehicle travel. The above-trend increase in private vehicle ownership, since 1996, appears to be partly driven by reductions in the real price of motor vehicles (discussed below).

FIGURE 2.4 PASSENGER CAR OWNERSHIP RATE, 1940–2001



Sources BTE (1998) and BTRE estimates.

FIGURE 2.5 COMBINED PASSENGER CAR AND LIGHT COMMERCIAL VEHICLE OWNERSHIP RATES BY METROPOLITAN / NON-METROPOLITAN AREAS, 1998



Sources ABS (2001d) and BTRE estimates.

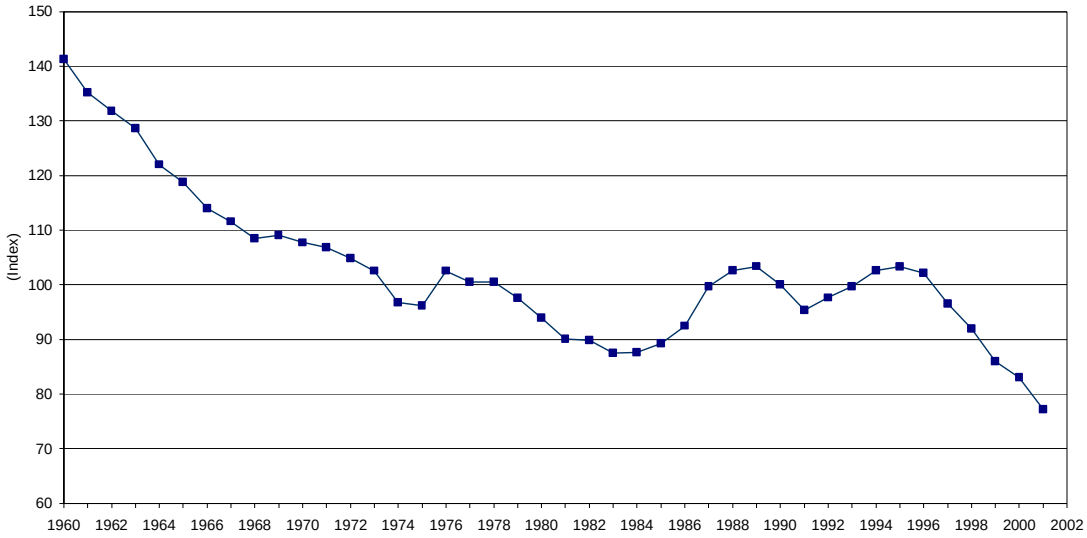
Growth in private motor vehicle ownership has also occurred in non-metropolitan areas. Figure 2.5 shows light vehicle (passenger cars and light commercial vehicle) ownership rates, for 1998, split by State and Territory and metropolitan / non-metropolitan areas. (Metropolitan areas include all capital

city Statistical Divisions (SD) plus Illawarra and Hunter SDs in NSW and Barwon SD in Victoria.) Generally, private motor vehicle ownership is higher in non-metropolitan areas than in metropolitan areas, with the exception of Queensland, Western Australia and the Northern Territory, where part of the reason for lower non-metropolitan ownership rates in these States and Territories appears to be attributable to lower vehicle ownership rates among indigenous residents.

New motor vehicle prices

The growth in private motor vehicle ownership has been driven by the long-term decline in the real price of motor vehicles over more than 40 years. The real price of motor vehicles (measured by the implicit price deflator of household expenditure on motor vehicles divided by the consumer price index (CPI)) declined by approximately 45 per cent (or 1.5 per cent per annum) between 1960 and 2001 (see figure 2.6). The decline in the price of motor vehicles reflects both reductions in the real cost of production of motor vehicles and in the tariffs on imported motor vehicles. (The increase in real motor vehicle prices in Australia experienced between 1983–84 and 1987–88 probably reflects the depreciation of the Australian dollar against most other major currencies at that time.) Further reductions in tariffs on new motor vehicles during the 1990s have contributed to recent reductions in the price of new cars.

FIGURE 2.6 REAL PRICE INDEX OF NEW MOTOR VEHICLE PURCHASES BY HOUSEHOLDS

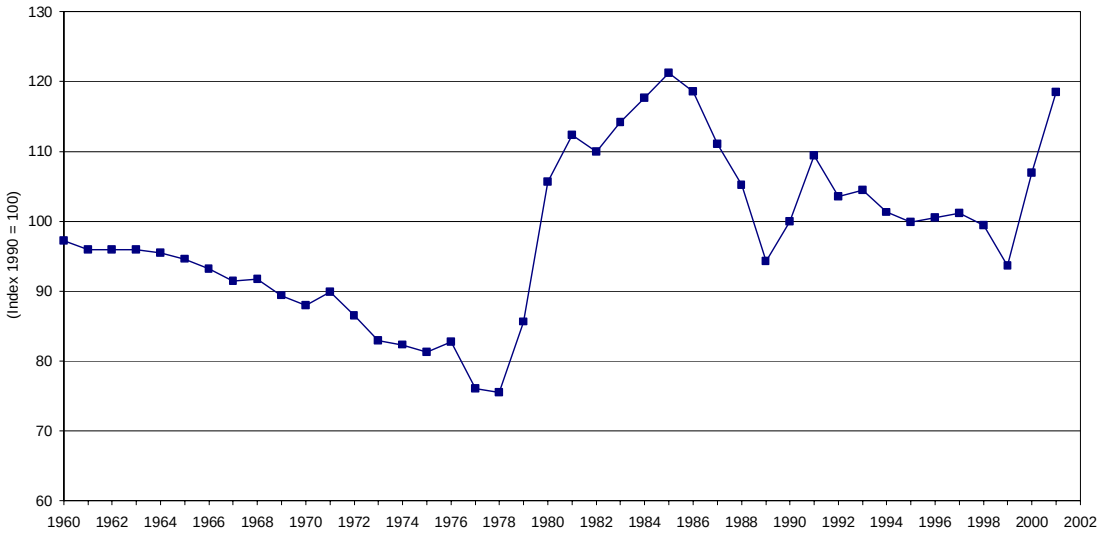


Sources ABS (2001g and 2001h) and BTRE estimates.

Long-term increases in the real price of automotive gasoline have not altered the growth in private vehicle travel. Prior to the recent (2000 and 2001) spike in automotive gasoline prices (shown in figure 2.7), real automotive fuel prices

were about equal to the real price in 1960. Through this period the real price of automotive gasoline has varied significantly. Improvements in the average fuel economy of new vehicles would have partly offset the fuel price rises.

FIGURE 2.7 REAL AUTOMOTIVE GASOLINE PRICE INDEX



Sources ABS (2000b and 2001h) and BTRE estimates.

Overall, the private cost of motoring is probably lower today than it was in 1960. The private motoring component of the CPI (ABS 2001h) indicates that, between 1960 and 2001, private motor vehicle ownership and operating costs have fallen, in relation to all other goods and services. Declining fuel and motor vehicle prices during the 1960s resulted in real declines in the cost of private motoring. Increased fuel prices during the 1970s have been partially offset by increasing vehicle fuel efficiency. Even since the late-1980s, the average cost of owning and operating a private motor vehicle appears to have declined in real terms. A comparison of the estimated average cost of operating a typical large or medium sized private motor vehicle has fallen in real terms by as much as 10 to 14 per cent between 1987 and 1999 (NRMA 1987 and 1999).

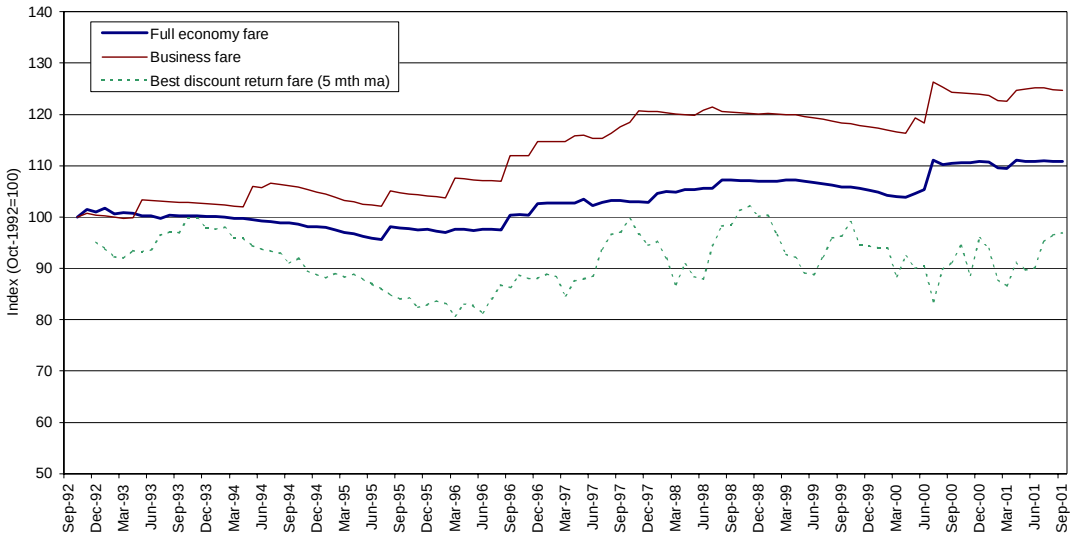
Regional air fares

How has the cost of air travel to and from regional centres changed over time? The BTRE air fares database contains estimates of air fares for a range of regional air routes. The estimates include the airline surcharge (up to August 2001) and, from June 2000, the GST. Figure 2.8 shows the changes in real full economy, business class and a five-month moving average of the published 'best discount' return fare for intrastate regional air routes between December 1992 (the commencement of the BTRE air fares database collection) and September 2001. The data shows that full economy fares were around 10 per cent higher in July 2001 in comparison with the level prevailing in 1992 and

business class fares were 25 per cent higher. Best discount return fares, however, were around 8 per cent lower, in July 2001, in comparison with the equivalent fare in 1992. (The jump in fares in July 2000 is attributable to the imposition of the goods and services tax (GST).)

Although it is not possible to draw any firm conclusions, as the number of passengers travelling on each fare class is not known, the data appears to suggest that real air fares on regional airline operated were broadly similar in July 2001 to fares prevailing in 1992.

FIGURE 2.8 INDEX OF AVERAGE REAL AIR FARES ACROSS SELECTED INTRASTATE REGIONAL AIR ROUTES[a], 1992–2002



a. Includes only those intrastate routes for which data has been collected continuously since 1992. The 34 routes are: Sydney –Albury, Casino, Coffs Harbour, Norfolk Island, Tamworth and Wagga Wagga; Brisbane–Cairns, Hamilton Island, Mackay, Mount Isa, Proserpine, Rockhampton and Townsville; Cairns–Hamilton Island, Townsville and Weipa; Mackay to Rockhampton; Perth–Broome, Carnarvon, Derby, Geraldton, Karratha, Kalgoorlie, Leonora, Newman, Paraburdoo and Port Hedland; Broome–Derby and Kununurra; Karratha–Port Hedland; Darwin–Alice Springs, Gove and Groote Eylandt; and Alice Springs–Uluru.

Note The estimates exclude charges and taxes other than the GST.

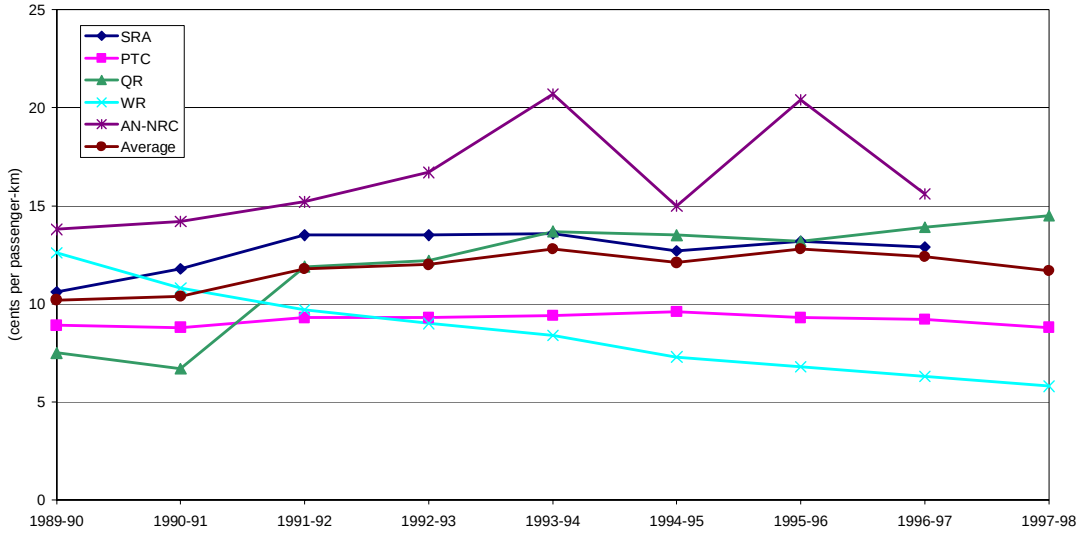
Sources BTRE air fares database and BTRE estimates.

Regional rail fares

The Productivity Commission report into rail reform (PC 1999b, p. 48) estimated real average non-urban rail passenger fares for the period 1989–90 to 1997–98. The estimates are illustrated in figure 2.9. The data shows that non-urban rail passenger fares increased by 1.7 per cent per annum, on average, over the eight-year period between 1989–90 and 1997–98. Given that around 90 per cent of all non-urban rail passenger travel is likely to be regional rail passenger trips, the increase in regional rail passenger fares would, in all likelihood, be similar to the change in non-urban fares.

The overall trends mask differences in real fares across each jurisdiction. Average non-urban passenger rates increased in Queensland (by 8.6 per cent per annum) and New South Wales (by 2.8 per cent per annum) between 1989–90 and 1997–98, declined slightly in Victoria, and fell by more than 50 per cent in Western Australia over this period. It is likely that, declining average non-urban passenger fares in Victoria and Western Australia, contributed to the growth in rail patronage observed in those States (table 2.5, above).

FIGURE 2.9 REAL NON-URBAN RAIL PASSENGER RATES, BY OPERATOR, 1989–90 TO 1997–98



Source PC (1999b).

Regional coach fares

Figure 2.10 provides a comparison of regional express coach fares in July 2001, for interstate travel between capital cities and particular regional centres, with those fares prevailing in July 1987 (converted to 2001-dollar values). The fares shown in figure 2.10 are full economy one-way adult fares (available from published fare schedules). The data shows that changes in real coach fares has varied across routes—on some routes fares have increased over the last decade and a half while on other routes fares have fallen.

In NSW, for example, real coach fares have increased for travel from Sydney to centres on the NSW north coast, while real fares appear to have fallen for trips between Sydney and Albury and on the services to inland NSW centres such as Orange and Dubbo. The increase in fares on the intercapital routes may be attributable to the reduction in the number of competing express coach operators providing intercapital services since 1987 (and discussed previously).

FIGURE 2.10 COMPARISON OF ONE-WAY INTRASTATE COACH SERVICE ECONOMY FARES, JULY 1987[a] AND JULY 2001

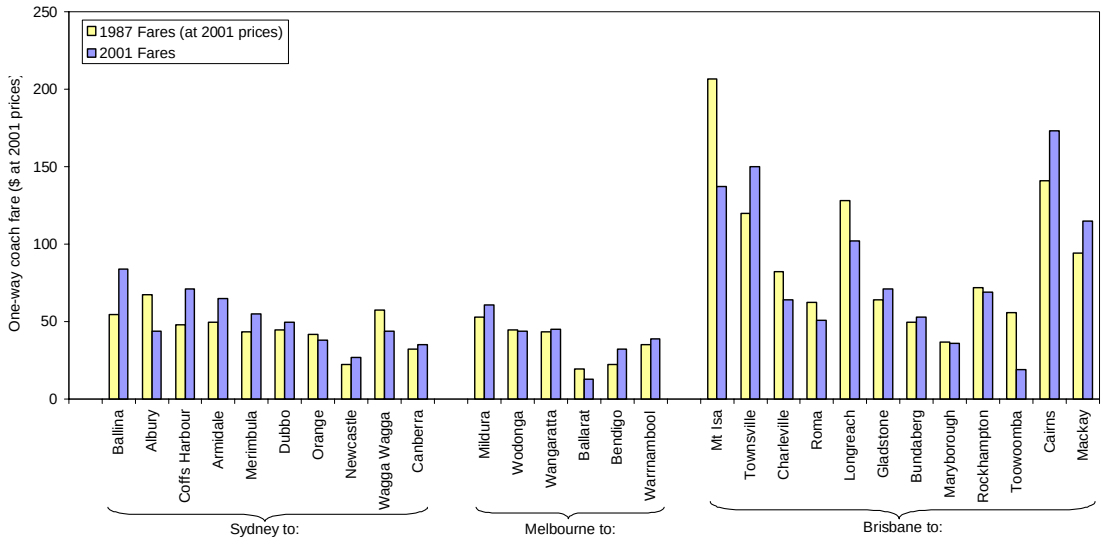
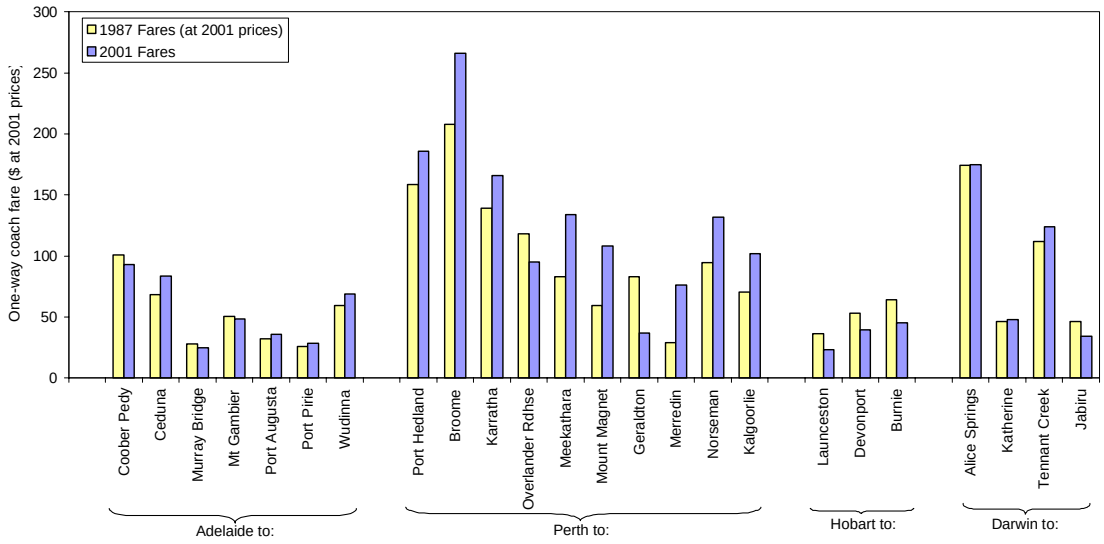


FIGURE 2.10 COMPARISON OF ONE-WAY INTRASTATE COACH SERVICE ECONOMY FARES, JULY 1987[a] AND JULY 2001 (CONTINUED)



a. Historical coach fares for travel between Hobart and Launceston, Devonport and Burnie based on fares prevailing in mid-1980.

Sources McCafferty's (2001a, 2001b and pers. comm. April 2002), V/Line (2001), Countrylink (2001), Tasmanian Travelways (Aug–Sep 1980, p. 4) and BTRE estimates.

In Victoria, fares have varied by between +40 and –33 per cent on services to Bendigo and Ballarat, respectively. On other selected routes real fares are slightly higher today than they were in 1987.

In Queensland, the story is similar. The general observed pattern, since 1987–88, is that real coach fares have fallen by as much as one-third on routes between Brisbane and the remoter inland centres of Longreach, Roma, Charleville and

Mt Isa. On the main coastal route, between Brisbane and Cairns, real fares have increased by 20–25 per cent for services between Brisbane and the regional coastal centres. Again, the reduction in the number of interstate operators competing on coastal routes may be responsible for the real increase in fares on these routes.

In South Australia, for all selected routes but Adelaide–Ceduna, real coach fares are between –10 and +10 per cent of real fares in 1987. For the Adelaide–Ceduna route, which would have been well served by the interstate express coach operators in 1987, real fares have increased since 1987.

In Western Australia, real coach fares have increased significantly on most of the selected routes since 1987, with fares up by 163 per cent for trips between Perth and Merredin. For travel to Kalgoorlie real coach fares are up by over 40 per cent, and for travel to Broome, Port Hedland and Karratha real coach fares are around 20 per cent higher.

In the Northern Territory, fares between Darwin and the other centres are today up to 10 per cent above the real coach fares prevailing in 1987.

For Tasmania, the BTRE was only able to obtain coach fare data from mid-1980. The data shows that coach fares between Hobart and the other major population centres (Launceston, Devonport and Burnie) have all fallen in real terms since 1980.

Cross-modal comparison of current fares

The final section of this chapter provides a brief comparison of relative costs of travel to and from regional areas for each of the main public transport modes and private car travel.

Figures 2.11 to 2.17 illustrate regional public transport fares, and private vehicle travel costs, as at July 2001, for a range of predominantly intrastate routes. (All supporting data is provided in appendix VII.)

The data shows that, generally, air is the most expensive mode of travel. Rail and coach are generally the next most expensive, while private car travel, based on an 'avoidable cost' measure, divided by the average vehicle occupancy for non-urban car travel, is generally the lowest cost transport mode, for full-fare-paying adults.

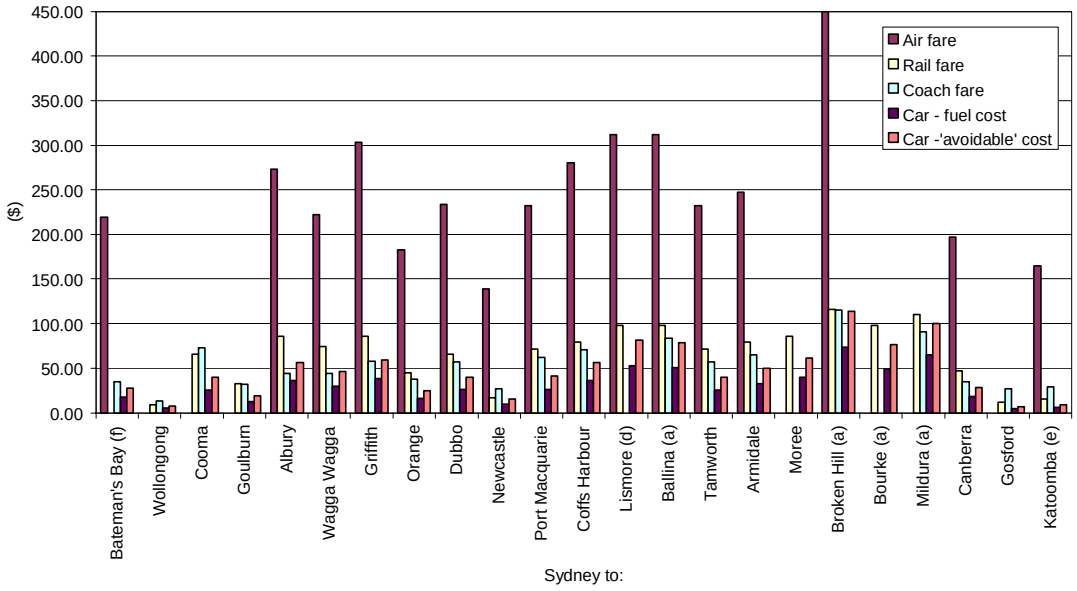
The general points to note from these figures are:

- Air fares are generally higher than the cost of other modes of transport, often around four times as much as the 'avoidable' cost of private car travel.
- Rail and coach fares are generally very similar to each other; and

- The direct fuel costs of private vehicle travel (assuming a large family car as the standard vehicle[9]), for the same journey, is generally below the cost of a coach or rail fare. Even on the avoidable cost estimates presented here, after accounting for an average passenger vehicle loading of 1.8 passengers per vehicle (for long trips), the cost of private car travel is well below the full-adult coach and rail fare.

Concession coach and rail fares (where the concession fare is half the full economy fare), however, are very competitive with the cost of private car travel. For many routes, a concession coach or rail fare will be cheaper than the cost of a private car trip, which would partly explain the higher proportion of coach and rail travel by concession fare passengers. (Chapter 4 provides details of the characteristics of non-urban and regional public transport passenger travel.)

FIGURE 2.11 COMPARISON OF FULL ECONOMY ONE-WAY FARES FOR TRAVEL BETWEEN SYDNEY AND SELECTED REGIONAL CENTRES, JULY 2001



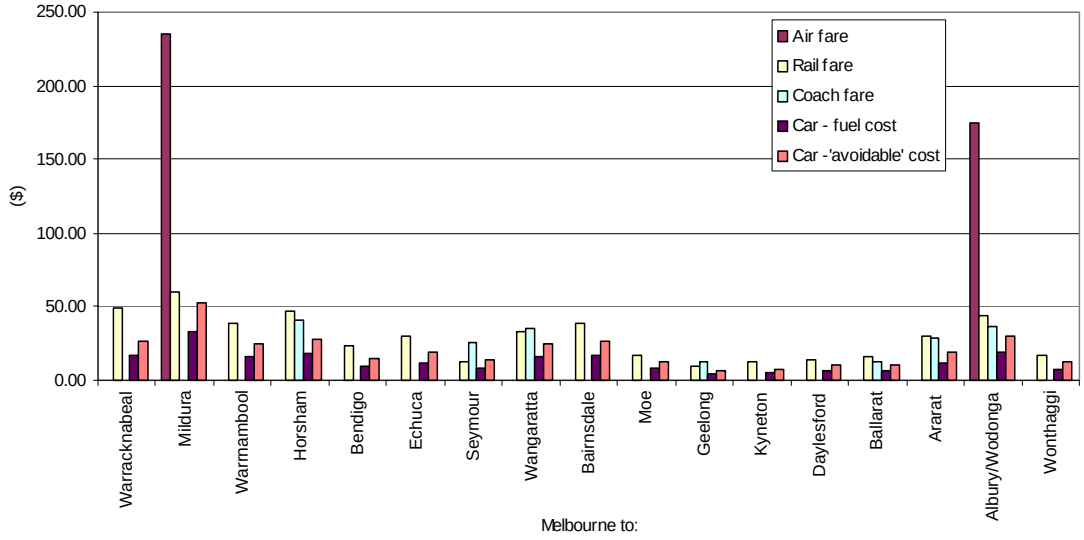
Sources McCafferty's (pers. comm. 2002), State Rail Authority of NSW (pers. comm. 2002), BTRE air fares database and BTRE estimates.

The relative cost data helps to explain the dominance of car travel for regional passenger travel. Private vehicle travel is often more convenient and may provide a quicker and more direct service than rail and coach travel. Additionally, a private vehicle also provides greater transport flexibility at the

[9] The private vehicle operating cost estimates are based on the NRMA estimates of the vehicle operating costs for a privately owned Holden Commodore 3.8 litre vehicle (NRMA 1999), held for ten years and averaging 15 000km per annum. Two sets of costs were estimated: (i) the direct fuel costs only; and (ii) an estimate of the 'avoidable cost' of a trip. The avoidable costs of car travel include fuel, tyres, and a proportion of the average cost of maintenance and repairs, and depreciation expenses. See appendix VII for details.

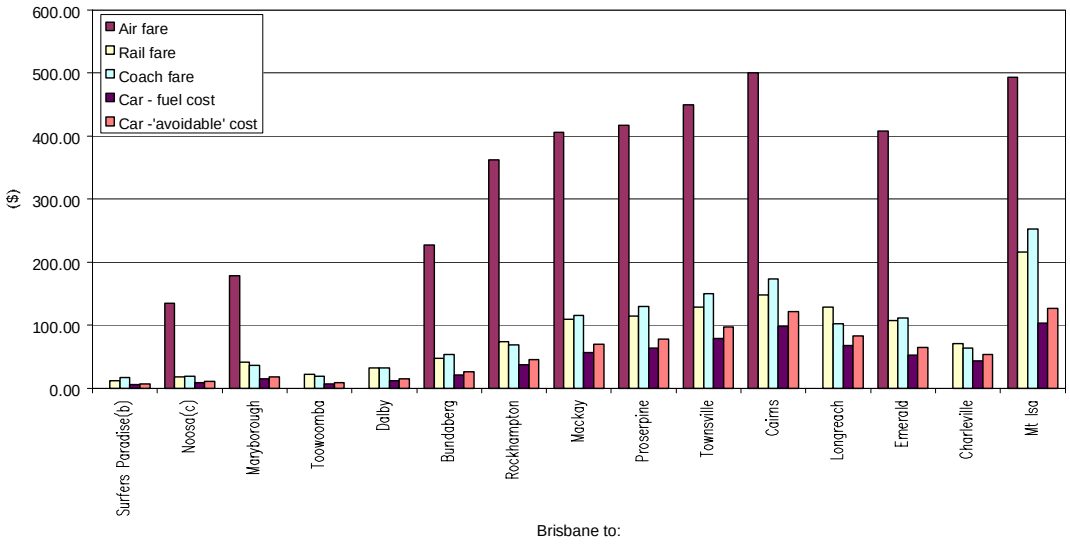
destination. All these factors help explain why mode shares for rail and coach travel are generally small.

FIGURE 2.12 COMPARISON OF FULL ECONOMY ONE-WAY FARES FOR TRAVEL BETWEEN MELBOURNE AND SELECTED REGIONAL CENTRES, JULY 2001



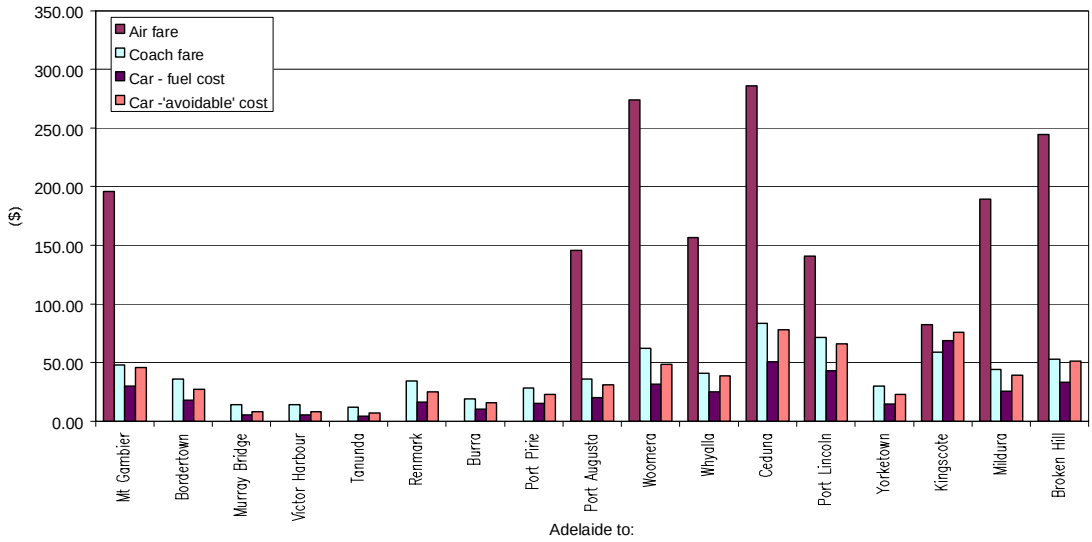
Sources V/Line (pers. comm. 2002), McCafferty's (pers. comm. 2002), BTRE air fares database and BTRE estimates.

FIGURE 2.13 COMPARISON OF FULL ECONOMY ONE-WAY FARES FOR TRAVEL BETWEEN BRISBANE AND SELECTED REGIONAL CENTRES, JULY 2001



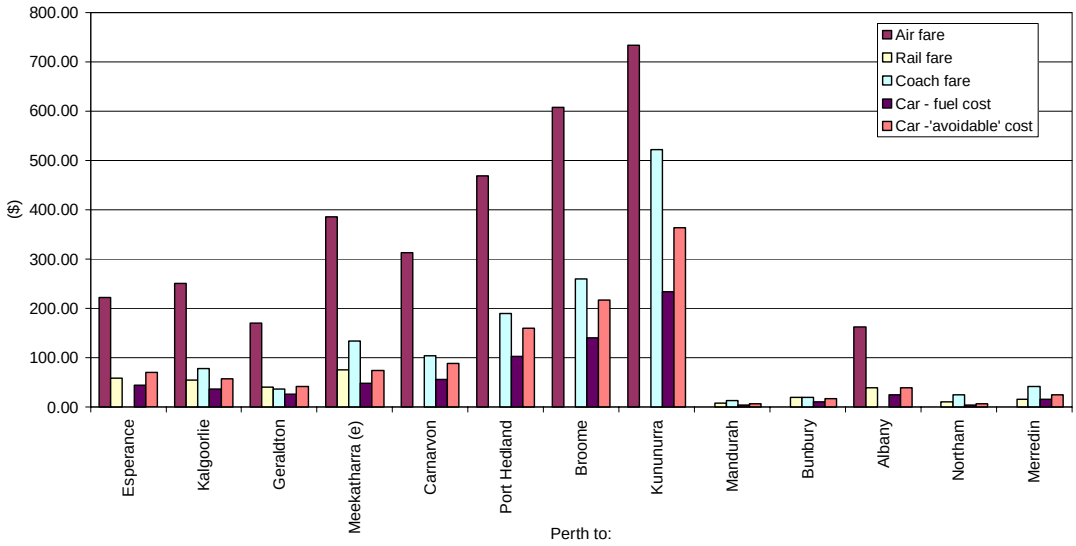
Sources Queensland Railways (pers. comm. 2002), McCafferty's (pers. comm. 2002), BTRE air fares database and BTRE estimates.

FIGURE 2.14 COMPARISON OF FULL ECONOMY ONE-WAY FARES FOR TRAVEL BETWEENADELAIDE AND SELECTED REGIONAL CENTRES, JULY 2001



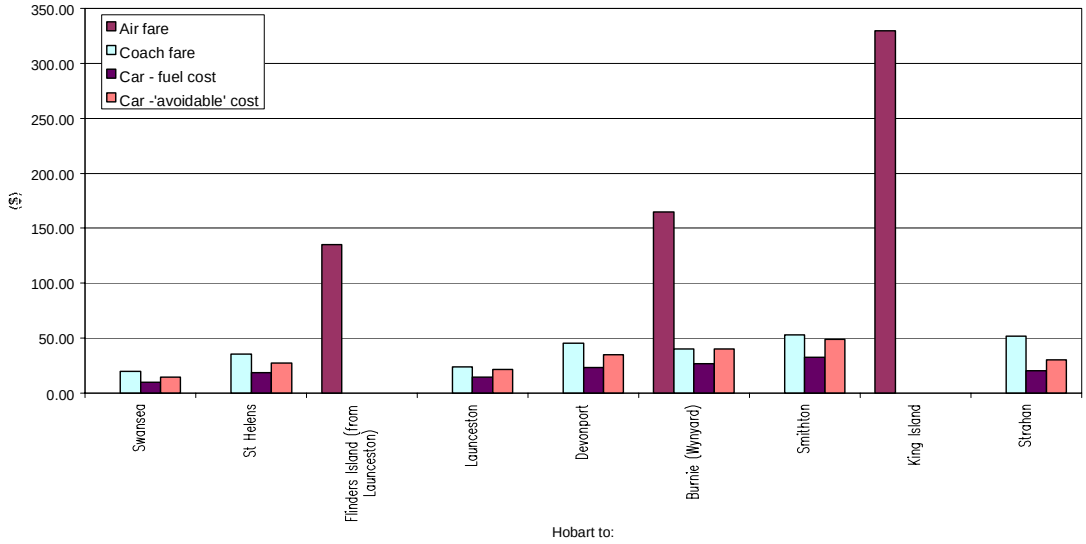
Sources Public Transport Board SA (pers. comm. 2002), McCafferty's (pers. comm. 2002), BTRE air fares database and BTRE estimates.

FIGURE 2.15 COMPARISON OF FULL ECONOMY ONE-WAY FARES FOR TRAVEL BETWEEN PERTH AND SELECTED REGIONAL CENTRES, JULY 2001



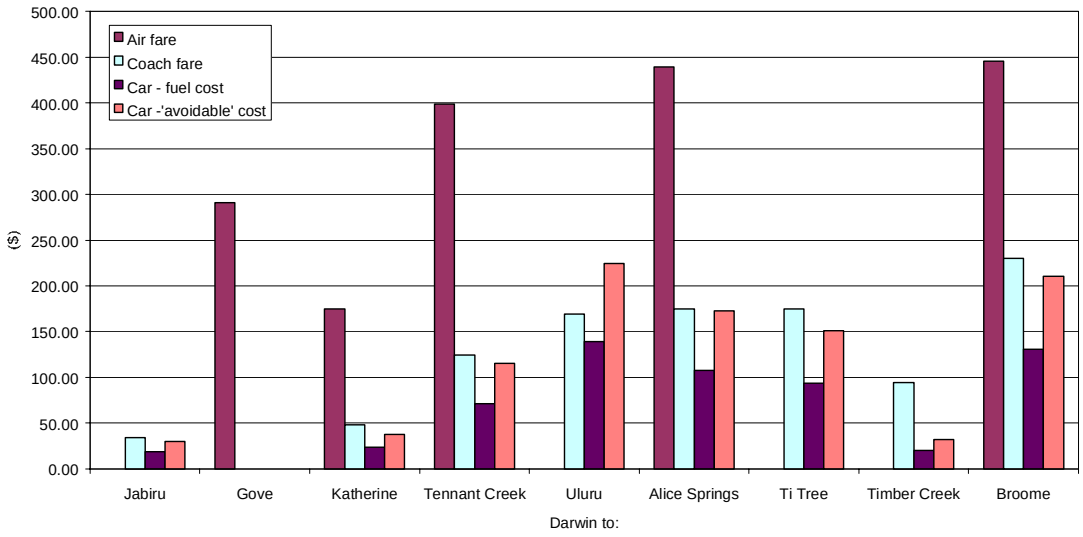
Sources Western Australian Government Railways Commission (pers. comm. 2002), Western Australian Department of Transport (pers. comm. 2002), McCafferty's (pers. comm. 2002), BTRE air fares database and BTRE estimates.

FIGURE 2.16 COMPARISON OF FULL ECONOMY ONE-WAY FARES FOR TRAVEL BETWEEN HOBART AND SELECTED REGIONAL CENTRES, JULY 2001



Sources BTRE air fares database, Tasair (http://www.tasair.com.au/, 2 August 2002), Tigerline Travel (pers. comm. 2002), Redline Coaches (pers. comm. 2002) and BTRE estimates.

FIGURE 2.17 COMPARISON OF FULL ECONOMY ONE-WAY FARES FOR TRAVEL BETWEEN DARWIN AND SELECTED REGIONAL CENTRES, JULY 2001



Sources McCafferty's (pers. comm. 2002), Airnorth, (http://www.airnorth.com.au/, 2 August 2002), BTRE air fares database and BTRE estimates.

CHAPTER 3 PROVISION OF REGIONAL PUBLIC TRANSPORT SERVICES

Access to long-distance public transport services is vital for many people living in regional areas. Rail and coach services often provide access to essential services and they are the key to mobility for those without access to a private car. Air services often play a similar role for persons living in remote areas. As far as the BTRE is aware, there has been little, if any, quantitative research into the accessibility of regional public transport services across the whole of Australia.

This chapter describes the geographic coverage of long-distance 'regional public transport' services in each State and Territory. In many States, State Governments often play a key role in the provision of regional public transport services (especially coach and rail services) within their jurisdiction.

The geographic coverage of existing regional public transport services appears to be quite extensive. Approximately 1 596 separate non-metropolitan population centres of 200 persons or more, comprising over 99 per cent of the population living in non-metropolitan centres of 200 persons or more, are within a 'reasonable access' distance (defined later in the chapter) of a regional air, coach or rail transport service. Servicing these towns and cities are 1 256 coach, 504 rail and 444 separate regional air routes.

Public transport services to regional areas are provided by a mix of private and public operators. Most air and coach services are provided by private operators. Many coach services are provided under contract to State and Territory government, but in most States non-urban rail services are provided by State Government-owned business enterprises.

The majority of regional public transport services radiate from State and Territory capitals. Arguably the radial pattern of public transport services is due to both the demand for transport to the major capital cities and the historical pattern of services, especially rail networks. The majority of air services to regional Australia also operate radially from State capitals to intrastate locations.

This chapter has two main parts. The first half outlines the existing set of non-urban and regional public transport services in each State and Territory, including a description of the general nature of the arrangements underpinning the provision of those services[10]. The second part provides an analysis of the geographic coverage of the existing set of public transport services. All rail and coach service data provided in this chapter is based on timetable information of all long-distance non-urban transport services in 2000–01 collated by the BTRE. All air passenger service data is based on the Air Transport Statistics (ATS) database (2001) estimates of services operated in 2000–01.

Recent adjustments in the regional aviation market, and the temporary cessation of services following the entry into administration of Ansett Airlines and its affiliates in September 2001, have affected regional air services. These events coincided with the adverse impact on global air travel of the terrorist attacks in the United States. At the time the research for this report was undertaken, data for the full year 2001–02 was not available. It is evident, however, that since 2000–01 services have ceased, or reduced in frequency, on a number of regional air routes. There are also some routes on which services have been added since 2000–01, reflecting changes in market conditions. Figure 3.1 shows regular scheduled services air routes to or from non-metropolitan area airports, where there were at least 3 return services per week (on average), in 2000–01.

NEW SOUTH WALES

In NSW, regional public transport services are provided by both public and private operators.

Rail

The State Rail Authority of NSW (StateRail) operates practically all non-urban passenger rail services in NSW, under the Countrylink banner. (Great Southern Railways (GSR) operates the Indian-Pacific and The Ghan, which provide passenger rail services between Sydney and Broken Hill.) The Countrylink rail services consist of the XPT and XPLORER services, which operate, in a radial pattern from Sydney as far as Armidale, Grafton, Dubbo, Moree, Murwillumbah and Broken Hill, and interstate to Melbourne, Brisbane and Canberra. CityRail also provide some connecting rail services between Sydney and extending as far as the surrounding centres of Lithgow, Goulburn, Newcastle (Maitland) and Wollongong (and Nowra).

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[10] As mentioned in chapter 1, as part of its study into regional public transport services, the BTRE is also reviewing regulatory and assistance arrangements applying to regional public transport. The results of that review will be published in a separate BTRE Working Paper (BTRE 2003, forthcoming).

FIGURE 3.1 REGIONAL AVIATION SERVICES IN AUSTRALIA, 2000–01

Note This figure displays all routes with an average of three or more return services per week over 2000–01. Alice Springs–Darwin is considered a trunk route and is not included in the figure.

Source ATS database (2001).

Coach

Express coach services in NSW are provided by private operators either as purely commercial services, such as the interstate services operated by McCafferty's, Firefly, Murray's and Premier Motor Service or under contract to StateRail or Transport NSW.

StateRail has contracts with a large number of private coach operators to provide 'rural coach services'. These contracts involve not only coach/train connections but also stand alone coach routes. Many operators contracted to StateRail also provide other inter- and intra-regional services from the town in which they are based.

In addition to the interstate operator services and Countrylink contracted road coach services, approximately 74 operators provide regional coach services under commercial contracts to Transport NSW. In 2001, there were approximately 230 separate commercial contracts providing three different types of services: local town, village-to-town services, and town-to-town services. For the purposes of this study, only town-to-town have been included in this review.

In NSW, all coach operators must be accredited with Transport NSW. In 2001, there were almost 450 accredited long distance, tourist & charter operators in NSW. Appendix II provides a list of all coach operators providing Countrylink coach services and all rural and regional coach operators in NSW in 2000–01.

Regular scheduled regional rail and coach services

From available timetable information, there are currently 41 express coach operators in NSW. These operators provide services to 360 towns on 219 unique[11] routes. Three rail operators[12], operating 22 unique routes, provide services to and from 83 regional towns in NSW.

Complementary Countrylink coach services cover 98 towns across NSW. Competing operators service 189 towns of which 86 are not served by the Countrylink network. Figure 3.2 shows the pattern of inter-regional rail and express coach services across NSW.

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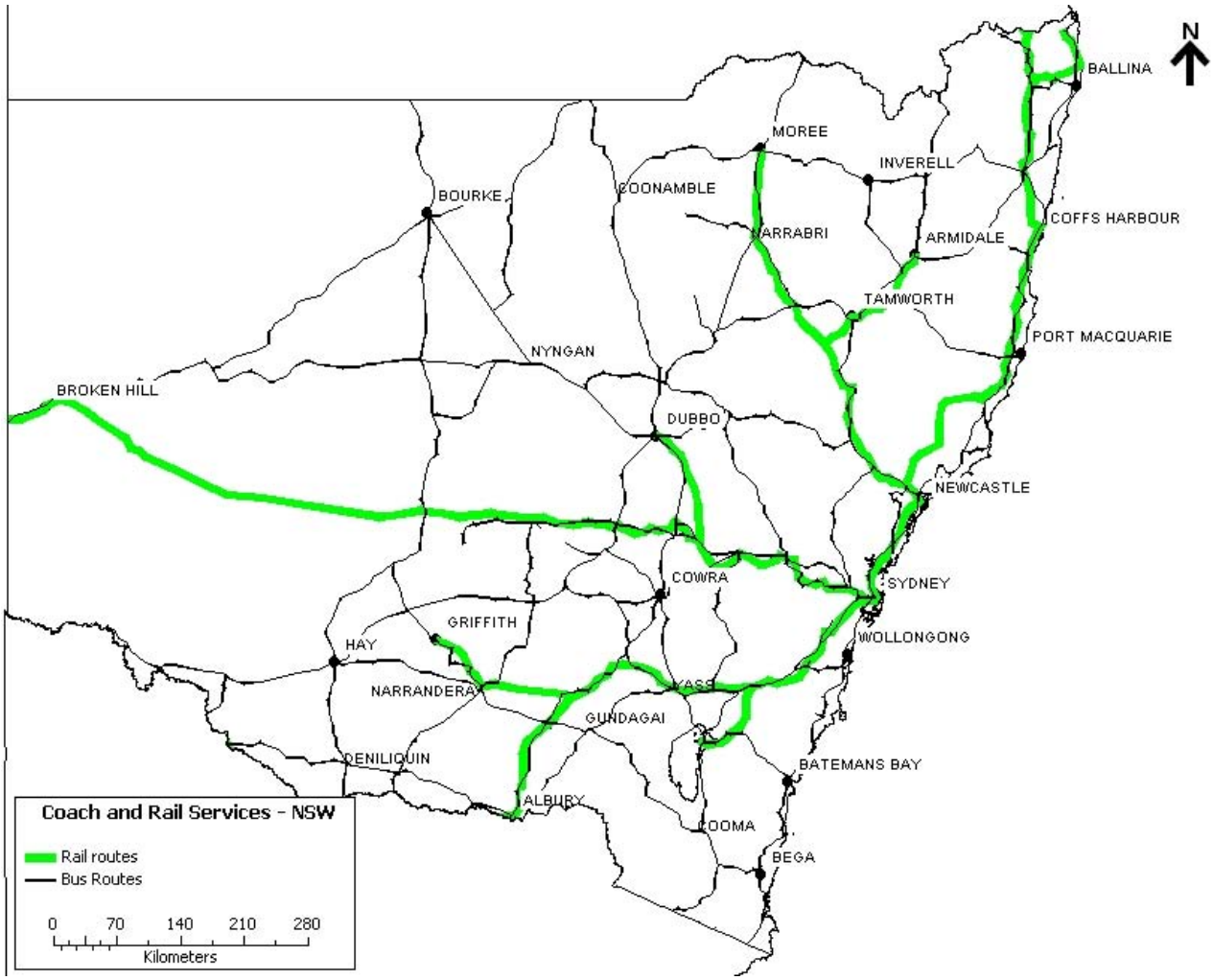
[11] A unique origin–destination pair. Note that multiple operators may be servicing a single, unique route.

[12] Including V/Line who operate rail services between Melbourne and Albury (NSW).

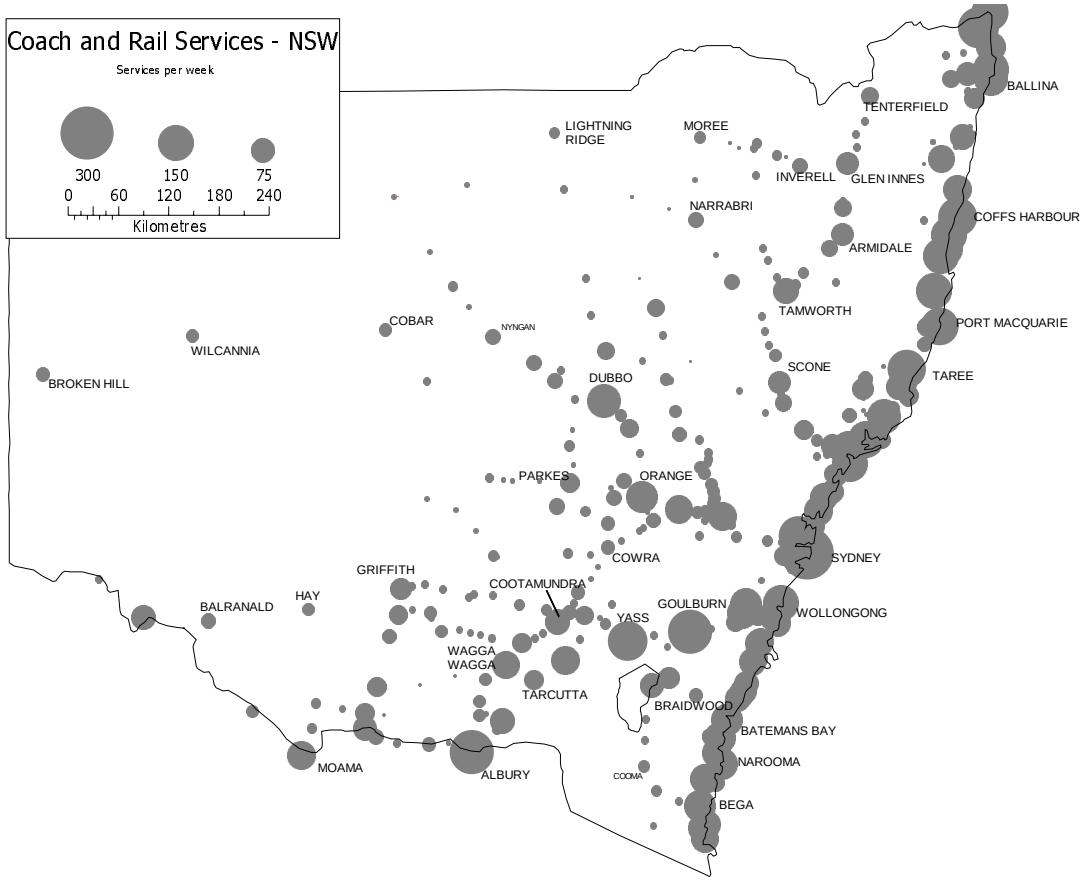
FIGURE 3.2 REGIONAL RAIL AND COACH SERVICES IN NSW, 2000–01



Source Operator timetables.

The majority of regional public transport services in NSW operate in a radial pattern to and from Sydney. However, there are also a number of major rural centres, such as Dubbo, Albury, Bathurst and Moss Vale, which have a relatively high number of services, and appear to function as hubs for services to and from smaller regional centres. Figure 3.3 shows the current pattern and frequency of coach and rail services to regional centres in NSW.

FIGURE 3.3 PATTERN AND FREQUENCY OF REGIONAL RAIL AND COACH SERVICES IN NSW, 2000–01



Source Operator timetables.

Evident from figure 3.3 is the large number of services to population centres along the coast of NSW. The level of service along the entire coast of NSW is relatively high, regardless of population size; due mainly to the provision of interstate services between Sydney and Brisbane, catering to domestic and foreign tourist passenger travel. In addition to these coastal routes, there are a number of corridors in NSW with high service levels. In particular, towns along the Hume Highway have a large number of services, with more than 10 buses per day stopping at small towns such as Holbrook and Tarcutta. In addition to this route, figure 3.3 indicates high services in the Sydney–Dubbo and Canberra–Wagga Wagga corridors.

Table 3.1 lists number of coach and rail services for selected towns in NSW. Apparent from table 3.1, is the high level of services to and from coastal towns in comparison to inland centres. Coastal towns such as Byron Bay, Nambucca Heads, Ballina, and Batemans Bay have higher levels of service than inland centres with a similar number of residents. Some inland centres do have a relatively large number of services, in particular Dubbo, Bathurst / Orange, Mittagong / Moss Vale, Albury and Goulburn. More remote centres, such as Broken Hill, Tamworth / Armidale, Griffith and Bourke, have fewer services.

TABLE 3.1 NUMBER OF RAIL AND COACH SERVICES IN SELECTED NSW REGIONAL TOWNS, 2000–01

Town	*No. services per week*	*Town*	*No. services per week*	*Town*	*No. services per week*
Albury	218	Forbes	39	Murwillumbah	192
Armidale	69	Forster	59	Muswellbrook	42
Ballina	140	Glen Innes	71	Nambucca Heads	133
Batemans Bay	124	Goulburn	215	Narrabri	36
Bathurst	101	Grafton	97	Nowra	101
Bourke	8	Griffith	67	Orange	122
Bowral	58	Gunnedah	37	Parkes	52
Broken Hill	30	Inverell	37	Port Macquarie	166
Byron Bay	154	Kempsey	152	Queanbeyan	74
Casino	49	Kiama	14	Sawtell	35
Coffs Harbour	178	Leeton	26	Tamworth	83
Cooma	24	Lismore	73	Taree	169
Cootamundra	86	Lithgow	108	Tweed Heads	161
Corowa	31	Mittagong	128	Ulladulla	87
Cowra	32	Moree	24	Wagga Wagga	98
Deniliquin	17	Moss Vale	117	Young	32
Dubbo	142	Mudgee	35		

Source Operator timetables.

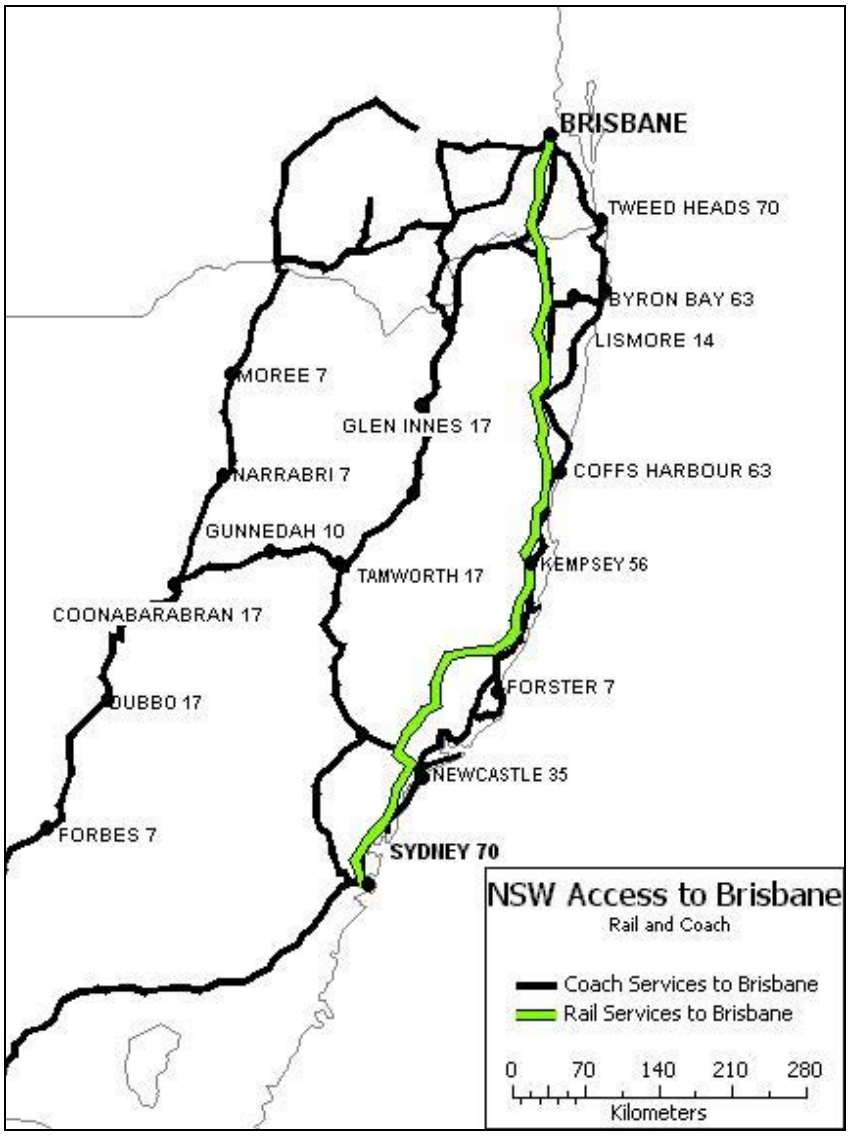
For residents in northern NSW and southern NSW, transport links to Queensland and Victoria are of particular importance. Figure 3.4 illustrates the number of coach and rail services, per week, and the transport routes between population centres in Northern NSW and Brisbane. There are 14 coach routes and one (1) rail route linking regional centres in NSW with Brisbane, with over 94 services per week providing links between 74 towns in Northern NSW. In southern NSW, the Victorian Department of Infrastructure (DOI) and V/Line contract road coach operators also provide services to southern NSW towns. (These are covered in more detail in the discussion of services in Victoria, later in the chapter.)

Regional Aviation

Intrastate regional aviation services in NSW consist mainly of routes radiating from Sydney to regional areas. In 2000–01, there were six regional airlines operating in NSW (table 3.2). The QantasLink group was by far the largest operator in the State, providing services to 16 regional centres. Hazelton Airlines operated services to 13 centres and was the other major operator in NSW during this period. Kendell Airlines operated services on a limited number of routes in NSW. Five smaller airlines, Aeropelican, Airlink and Air Facilities, Country Connection Airlines and Yanda Airlines, also provided

intrastate services in NSW in 2000–01. Country Connection and Yanda Airlines ceased RPT operations in May and April 2001, respectively.

FIGURE 3.4 COACH SERVICES BETWEEN NORTHEN NSW AND BRISBANE



Source Operator timetables.

In terms of passenger numbers, the major regional air routes in NSW are Sydney to Wagga Wagga, Tamworth, Dubbo, Coffs Harbour, and Albury. There were also a large number of smaller airports in regional NSW that, according to the ATS database in 2000–01 received only minimal services and would not generally be considered to have a regular air service.

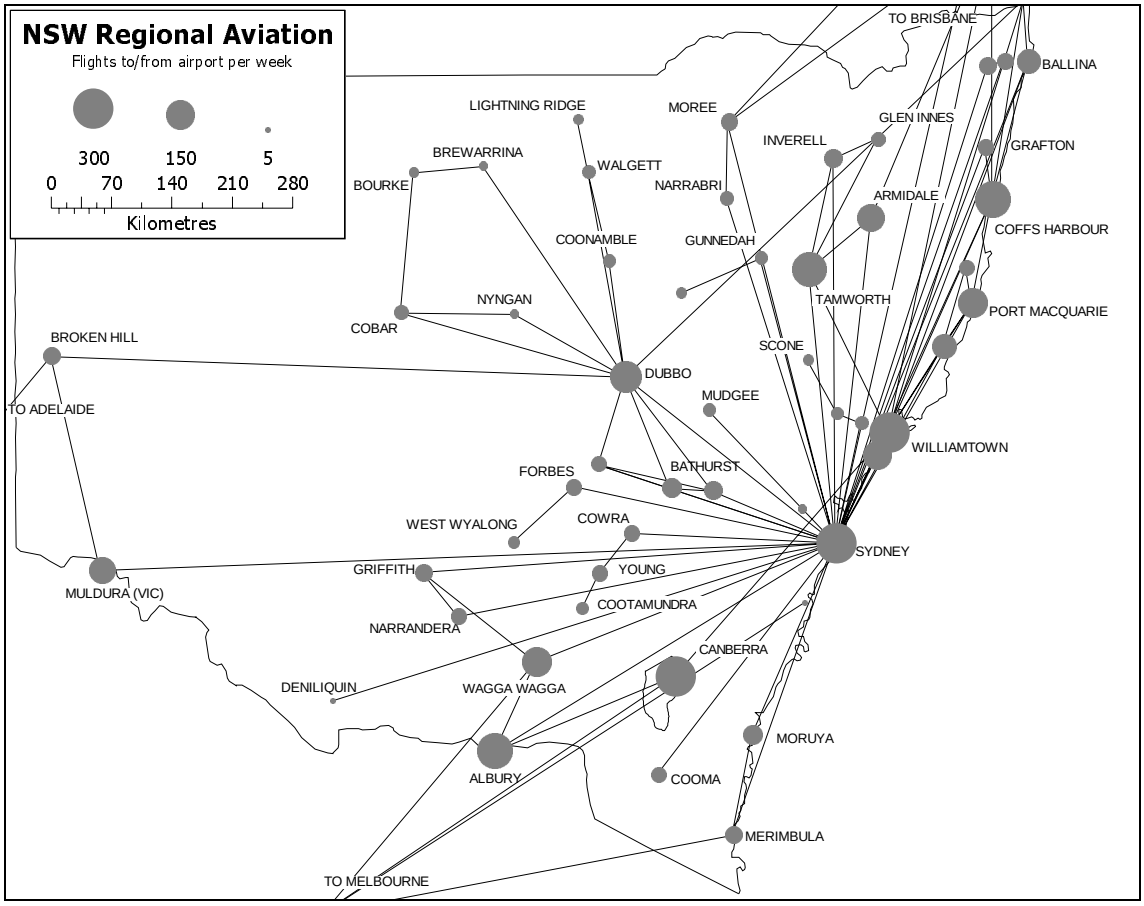
In 2001, 31 towns in NSW had a direct daily air service to Sydney. These and the number of flights are listed in table 3.3 and illustrated in figure 3.5.

TABLE 3.2 REGIONAL AIRLINES OPERATING IN NSW IN 2000–01

Operator	*Airports served*
Aeropelican	Newcastle, Hunter Valley
Hazelton Airlines	Ballina, Bathurst, Broken Hill, Coffs Harbour, Dubbo, Griffith, Lismore, Merimbula, Moruya, Narrandera, Orange, Parkes and Port Macquarie.
QantasLink (includes subsidiaries: Eastern Australia Airlines, Southern Australia Airlines and Impulse.)	Albury, Tamworth, Armidale, Taree, Ballina, Wagga, Canberra, Moree, Coffs Harbour, Narrabri, Cooma, Newcastle Dubbo, Port Macquarie, Kempsey, Lord Howe Island and Grafton.
Kendell Airlines	Albury, Wagga, Canberra, and Broken Hill.
Air Facilities	Canberra and Albury.
Air Link	Bourke, Cobar, Coonamble, Dubbo, Lightning Ridge, Mudgee, Nyngan and Walgett.
Country Connections	Cootamundra, Cowra, Forbes, West Wyalong and Young.
Yanda Airlines	Coonabarabran, Gunnedah, Scone, Singleton and West Maitland.

Sources Operator websites and ATS database (2001).

FIGURE 3.5 REGIONAL AVIATION ROUTES IN NSW, 2000–01



Source ATS database (2001).

TABLE 3.3 AIR PASSENGER TRAVEL FROM NSW TOWNS WITH DIRECT DAILY AIR SERVICE TO SYDNEY, 2001

Airport	*No. passengers per year*	*No. flights per year*	*No. flights per week*
Belmont (Newcastle)	91 951	7 880	152
Coffs Harbour	172 647	6 976	134
Albury	124 492	6 697	129
Tamworth	103 145	6 179	119
Dubbo	116 920	5 889	113
Wagga Wagga	119 337	5 319	102
Ballina	101 834	4 862	94
Williamtown (Newcastle)	72 909	4 248	82
Port Macquarie	56 664	3 439	66
Taree	54 963	2 927	56
Armidale	56 655	2 560	49
Orange	43 056	2 047	39
Bathurst	28 979	1 877	36
Cooma	20 191	1 882	36
Moruya	25 309	1 734	33
Casino	30 103	1 363	26
Mudgee	3 012	1 202	23
Forbes	2 721	1 076	21
Griffith	20 723	1 020	20
Cowra	4 459	1 052	20
Lismore	21 474	974	19
Narrandera	20 701	1 002	19
Parkes	15 015	899	17
Grafton	22 185	796	15
Narrabri	16 836	741	14
Moree	16 477	736	14
West Maitland	1 632	675	13
Gunnedah	1 455	606	12
Inverell	5 514	403	8

Note These estimates represent one-way traffic-on-board passenger movements between airport pairs, irrespective of the direction of travel.

Source ATS database (2001).

VICTORIA

Rail and coach services

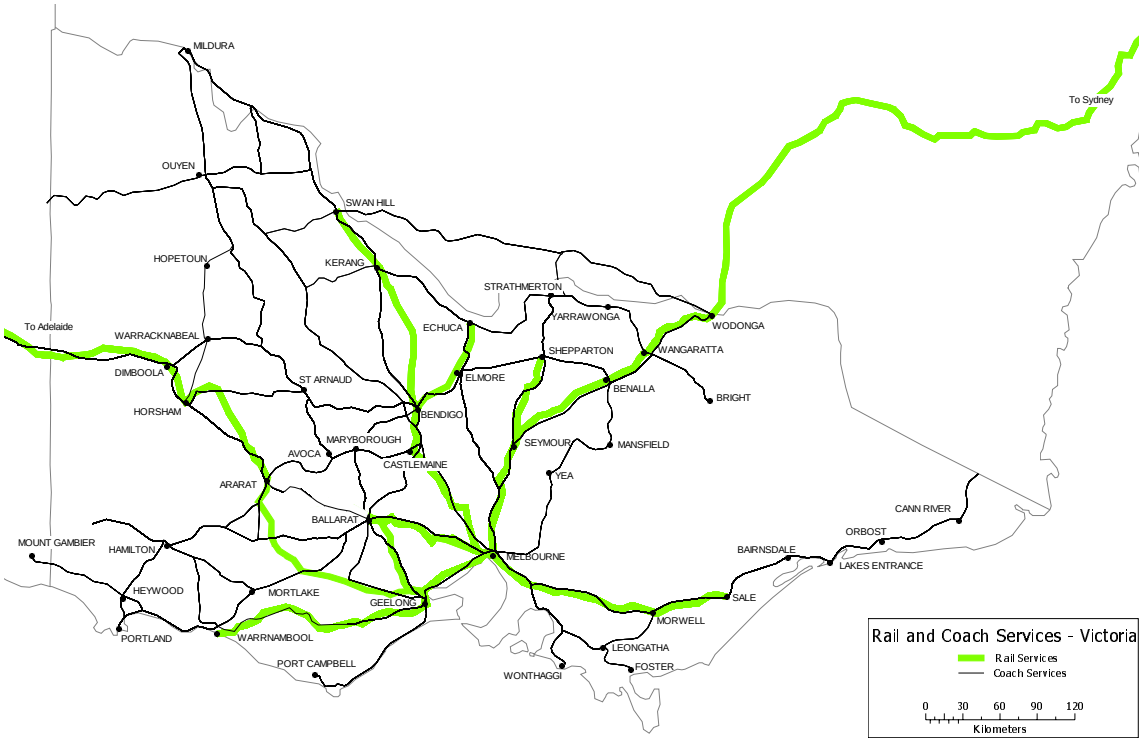
In Victoria, all intrastate non-urban (country) rail and road coach services are provided by privately owned companies under either long-term franchise or service agreements with the Victorian Department of Infrastructure (DOI). The National Express Group was awarded a 10-year franchise with the DOI in August 1999, to operate the V/Line network of country rail and road coach

passenger services. (National Express withdrew from the V/Line passenger franchise in December 2002, leaving services to be managed by the State Government until new arrangements are finalised.) V/Line rail services extend from Melbourne to Geelong, Ballarat, Albury (Wodonga), Swan Hill, Echuca and Sale.

Hoys Roadlines and West Coast Railways (WCR) also operate country rail passenger services under long-term services agreements with the DOI. Hoys Roadlines operates services between Shepparton and Melbourne, and WCR between Melbourne–Geelong–Warrnambool.

Intrastate regional road coach services are provided by private operators either under contract to the DOI (referred to as 'privately marketed coach services') or under subcontract to the National Express Group (referred to as 'rail replacement coach services'). Victorian-based road coach services extend to all parts of the State and into southern NSW (Moama, Albury, Bega and Narooma), the ACT and South Australia (Mt Gambier). Figure 3.6 illustrates the coverage of Victoria's rail and coach networks.

FIGURE 3.6 REGIONAL RAIL AND COACH SERVICES IN VICTORIA, 2000–01



Source Operator timetables.

Two interstate express coach operators, McCafferty's and Firefly, and two rail operators, GSR and StateRail, also provide interstate regional public transport services to and from Victoria. The private coach operators have restricted pick-up and set-down rights for intrastate passengers in Victoria.

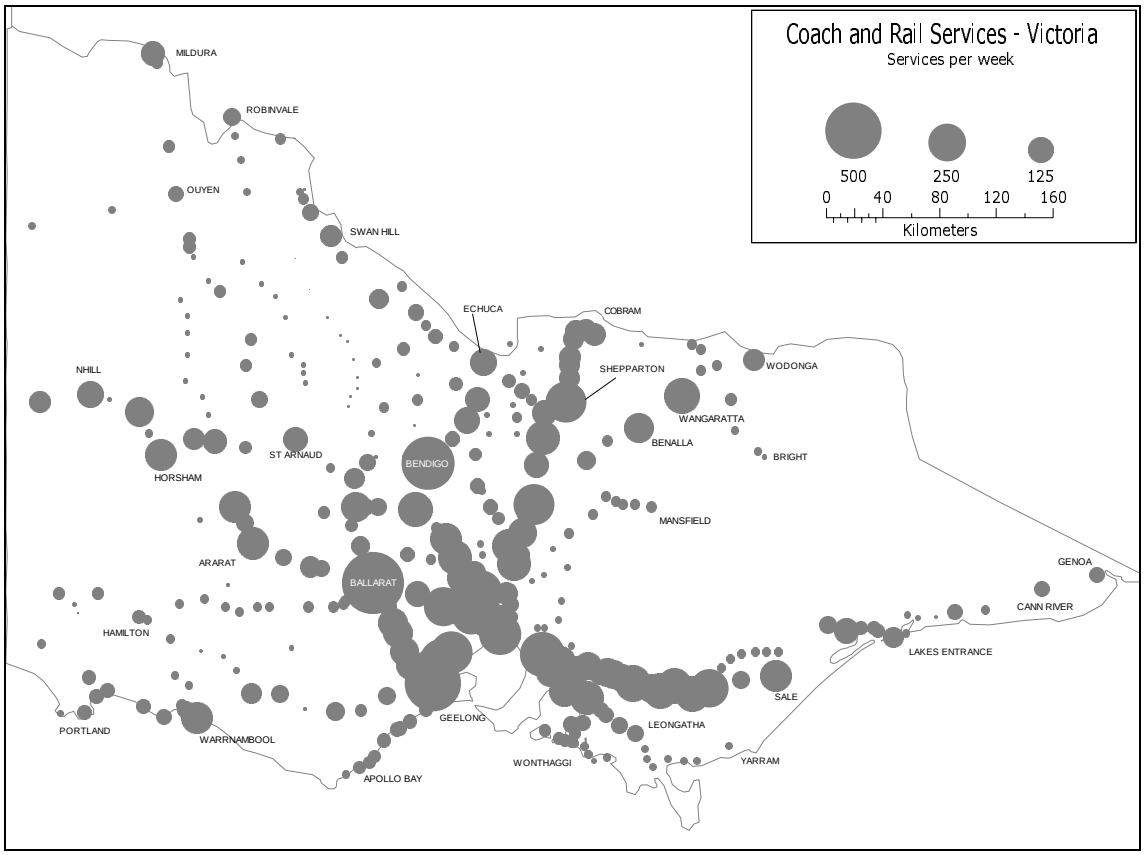
The Bass Strait Passenger Ferry, operated by TT-Line is discussed in the Tasmanian section of this chapter.

Regular scheduled regional rail and coach services in Victoria

From timetable information available in 2000–01, there were nine express coach operators in Victoria. These operators provide regional public transport services to 322 towns on unique routes. In addition, there are five rail operators in Victoria running 54 unique routes, providing services to 85 towns.

Figure 3.7 illustrates the pattern and frequency of regional rail and coach services in Victoria, and table 3.4 presents the weekly number of regional rail and coach services to and from regional towns in Victoria.

FIGURE 3.7 PATTERN AND FREQUENCY OF REGIONAL RAIL AND COACH SERVICES IN VICTORIA, 2000–01



Source Operator timetables

Victorian towns have a generally good level of rail and coach services. This is especially the case in central Victoria, which has extensive rail and coach services. Table 3.4 provides clear evidence of this with towns such as Seymour, Shepparton, Bacchus Marsh, Castlemaine and Wangaratta all having more than 200 rail and / or coach services per week. Whilst the rest of the state is well

served, there are significantly less services in the west and southeast of the State. Centres such as Portland, Wonthaggi, Torquay and Hamilton all have significantly fewer regional public transport services than those towns in central Victoria.

Victoria plans to re-introduce rail passenger services on the Ballarat–Ararat, Melbourne–Mildura, Melbourne–Leongatha and Sale–Bairnsdale lines during 2003 and 2004 (DOI, 2002b), and provide faster rail services on the routes from Melbourne to Geelong, Ballarat, Bendigo and Traralgon by 2006 (DOI, 2002a).

TABLE 3.4 NUMBER OF RAIL AND COACH SERVICES IN SELECTED VICTORIAN TOWNS, 2000–01

Town	*No. services per week*	*Town*	*No. services per week*	*Town*	*No. services per week*
Ararat	191	Horsham	190	Seymour	289
Bacchus Marsh	264	Kyabram	56	Shepparton	282
Bairnsdale	129	Lakes Entrance	93	Stawell	183
Ballarat	571	Lara	309	Swan Hill	99
Benalla	167	Maryborough	168	Torquay	46
Bendigo	352	Mildura	112	Traralgon	256
Castlemaine	219	Moe	225	Wangaratta	231
Colac	77	Morwell	225	Warragul	232
Echuca	134	Portland	48	Warrnambool	183
Hamilton	44	Sale	192	Wodonga	95
				Wonthaggi	20

Source Operator timetables.

Regional aviation

Because of the small geographic size of the State, there is little demand for intrastate regional air travel in Victoria. In 2000–01, the two intrastate regional air routes operating in Victoria were Melbourne–Portland and Melbourne–Mildura. The Melbourne–Portland services carried over 16 000 passengers and the Melbourne–Mildura services over 115 000 passengers in 2000–01. In addition to these services, QantasLink operated a Melbourne–Mount Hotham route in the June-September period. Approximately 4 return services per week are operated on this route during this period.

Whilst there is not a great deal of intrastate aviation in Victoria, there are services from Mildura and Shepparton to population centres in other states (table 3.5).

TABLE 3.5 VICTORIAN INTERSTATE REGIONAL AIR ROUTES, 2000–01

Victorian airport	*Connecting airport*	*No. passengers per year*	*No. flights per year*
Mildura	Broken Hill	938	184
Mildura	Sydney	1 092	184
Portland	Mount Gambier	11 058	853
Mildura	Adelaide	7 826	1 244
Shepparton	Sydney	na	26
Swan Hill	Sydney	na	65

na not available

Note Shepparton and Swan Hill routes have less than 1 service per week. This may be due to the services only being run for a part of the year (2001).

These estimates represent one-way traffic-on-board passenger movements between airport pairs, irrespective of the direction of travel.

Source ATS database (2001).

QUEENSLAND

Rail

Queensland Railways (QR), the Government-owned railway, provides all intrastate non-urban passenger rail services in Queensland. Rail services operate along the coast between Brisbane and Cairns, providing links to regional population centres in-between, and inland between Townsville–Mt Isa, Rockhampton–Longreach and Brisbane–Charleville. QR also operates three tourist train services: the Kuranda Scenic Railway (Cairns–Kuranda), the Savannahlander (Cairns–Forsayth) and the Gulflander (Normanton–Croydon). These are primarily tourist-based services and are not considered RPT services. QR subcontract 'rail extension' road coach services between Charleville–Quilpie, Charleville–Cunnamulla, and Longreach–Winton, which connect with the train services. Interstate rail services between Brisbane and NSW are operated by StateRail (Countrylink).

Coach

Non-urban passenger coach transport is deregulated in Queensland and, until recently, there was little State-based financial support for intrastate coach operations. There are only a handful of coach operators in the State, McCafferty's is the largest and operates coach services throughout the State.

In August 2002, the Queensland Government introduced 10 new long-term contracts with private operators to provide regional coach services to identified 'transport disadvantaged' communities. Most of these population centres already had coach services, however, the number of services to many of these centres had declined over the past two years and further reductions were planned (Queensland Department of Transport, pers. comm. October 2002). For

example, the Mackay–Emerald service was operated privately prior to the new contracts, but did not call in to Moranbah (Qld). The new contract service agreements will see the service also call into Moranbah. The 10 routes are:

- Bowen–Armuna–Eriaba–Collinsville
- Brisbane–Toowoomba–Miles–Theodore–Moura–Biloela–Mt Morgan–Rockhampton
- Brisbane–Toowoomba–Roma–Blackall–Longreach–Cloncurry–Mt Isa
- Brisbane–Toowoomba–Roma–Charleville
- Mackay–Nebo–Moranbah–Clermont–Capella–Emerald
- Rockhampton–Emerald–Longreach
- Toowoomba–Dalby–Moonie–St George–Cunnamulla
- Toowoomba–Millmerran–Goondiwindi–Nindigully–St George–Dirranbandi–Hebel–Lightning Ridge
- Townsville–Mingela–Charters Towers–Hughenden–Cloncurry–Mt Isa
- Townsville–Mingela–Charters Towers

Figure 3.8 shows the intrastate rail and coach services in Queensland in 2000–01.

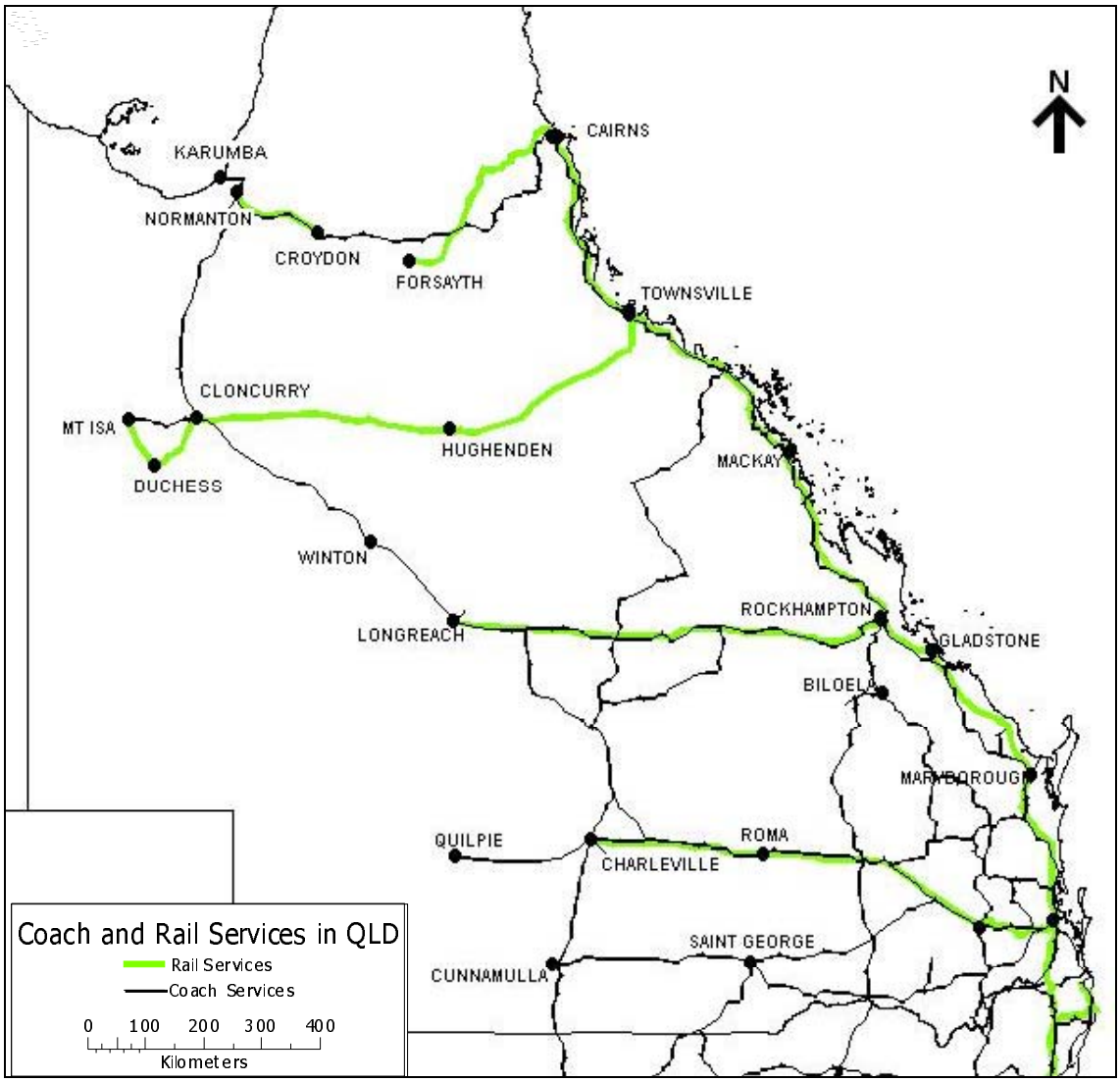
Regular scheduled regional rail and coach services in Queensland

There are currently nine express coach operators in Queensland. These operators provide services to 162 towns on 64 unique routes. There are two rail operators in Queensland operating 31 unique routes, providing services to 73 towns.

As figure 3.9 shows, the general pattern and frequency of regional rail and coach services in Queensland involves a comprehensive network in the southeast with a major corridor along the coast to Cairns in the north. As expected, the highest concentration of services is in the southeast of the State with a high level of service also available along the entire coast.

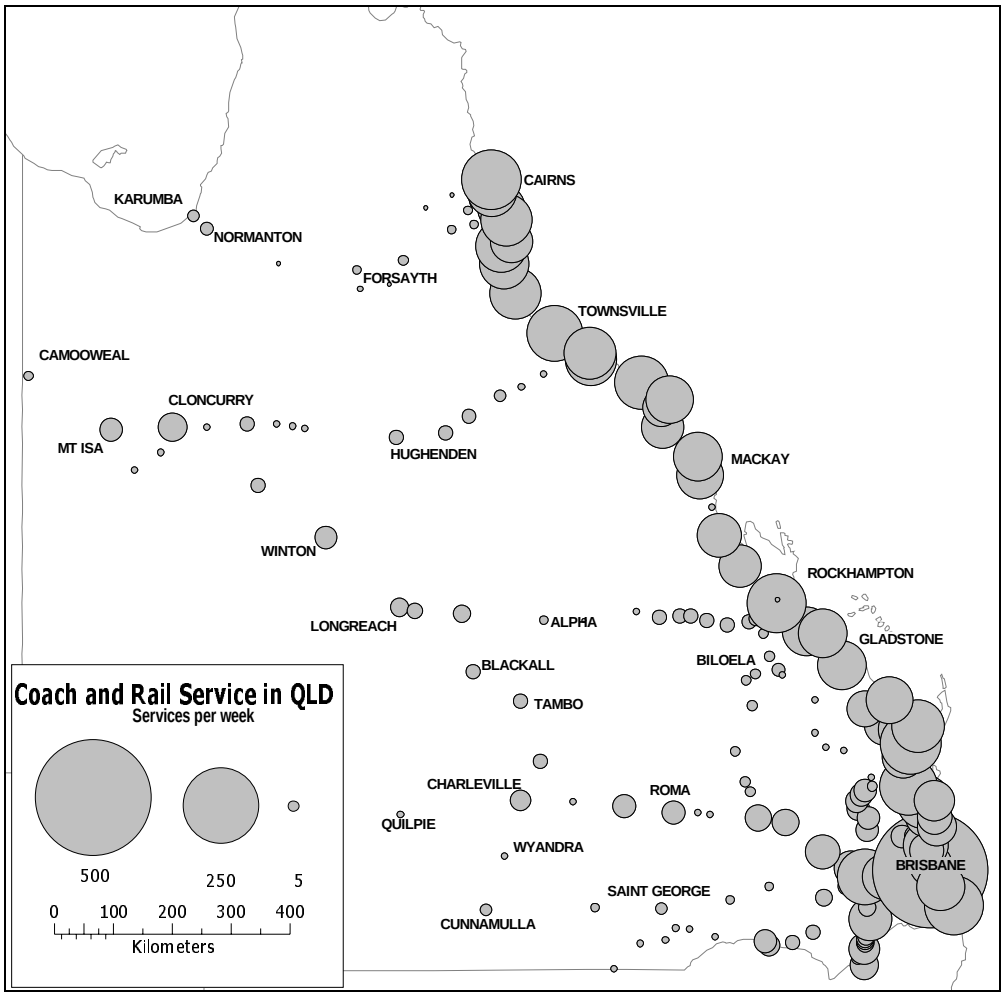
Towns along the Queensland coast have approximately 100 to 150 regional coach or rail services per week, irrespective of population. There are relatively few services to/from centres away from the three inland corridors. Table 3.6 lists the number of weekly regional rail and coach services to regional towns throughout Queensland in 2000–01.

FIGURE 3.8 REGIONAL RAIL AND COACH SERVICES IN QUEENSLAND, 2000–01



Source Operator timetables.

FIGURE 3.9 PATTERN AND FREQUENCY OF REGIONAL RAIL AND COACH SERVICES IN QUEENSLAND, 2000–01



Source Operator timetables.

TABLE 3.6 NUMBER OF RAIL AND COACH SERVICES IN SELECTED QUEENSLAND TOWNS, 2000–01

Town	*No. services per week*	*Town*	*No. services per week*	*Town*	*No. services per week*
Ayr	131	Gladstone	117	Mount Isa	28
Biloela	12	Goondiwindi	18	Mount Morgan	8
Blackwater	14	Gordonvale	119	Nambour	93
Bowen	138	Gracemere	14	Nanango	31
Bundaberg	108	Gympie	156	Oakey	64
Burpengary	63	Hervey Bay	133	Proserpine	75
Caboolture	103	Home Hill	129	Rockhampton	162
Cairns	160	Ingham	129	Roma	32
Caloundra	79	Innisfail	129	Sarina	109
Charleville	26	Kingaroy	31	Stanthorpe	34
Charters Towers	4	Longreach	22	Tewantin	63
Chinchilla	41	Mackay	117	Toowoomba	116
Dalby	64	Mareeba	2	Townsville	147
Emerald (Qld)	4	Maroochydore	65	Tully	129
Gatton	106	Maryborough	171	Warwick	47

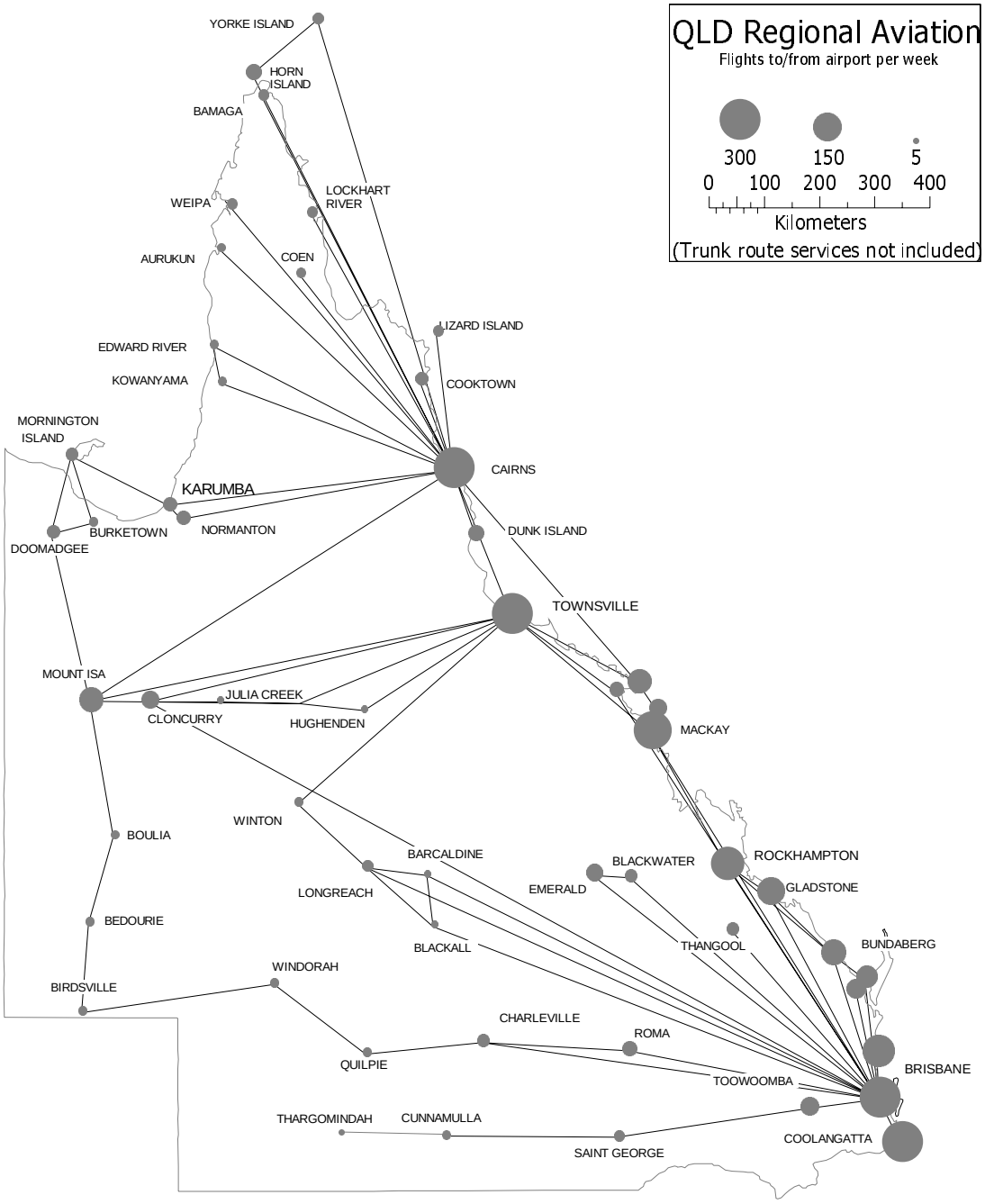
Source Operator timetables.

Regional aviation services

The pattern of regional aviation services in Queensland in 2001 reflects the unique characteristics of Queensland. Unlike other states, services do not radiate solely out of the State capital. Townsville and Cairns also serve as hubs for services to northwest Queensland. The majority of services in Queensland are either direct origin–destination services, or 'mail-run' services, which service a number of stops along a particular route. An example of a 'mail-run' service is the Macair service to Mt Isa, which also stops at Charleville, Quilpie, Windorah, Birdsville, Bedourie and Boulia. Figure 3.10 illustrates the pattern of regional air services in Queensland in 2000–01.

The major regional air routes in Queensland are along the coast. Major services operate daily between Brisbane and the coastal cities of Townsville, Cairns, Mackay, Rockhampton and Gladstone. In western Queensland, the major routes are Brisbane–Mt Isa, Brisbane–Charleville and Brisbane–Longreach (Queensland Transport 2002). Table 3.7 displays some of the major regional routes in Queensland (excluding the major coastal routes). There were six regional airlines providing services to regional areas in Queensland (see table 3.8).

FIGURE 3.10 REGIONAL AVIATION IN QUEENSLAND, 2000–01



Source ATS database (2001).

TABLE 3.7 MAJOR REGIONAL AVIATION ROUTES IN QUEENSLAND, 2000–01

Airport 1	*Airport 2*	*No. passengers per year*	*Flights per week*
Cairns	Horn Is. (Thursday Is.)	44 862	28
Townsville	Mount Isa	35 851	34
Emerald	Brisbane	33 248	35
Maryborough	Brisbane	33 038	32
Weipa	Cairns	29 455	14
Mount Isa	Cloncurry	26 708	26
Hervey Bay	Brisbane	24 260	38
Cloncurry	Brisbane	17 832	14
Roma	Brisbane	15 517	18
Longreach	Brisbane	14 691	11
Emerald	Blackwater	10 739	10
Brisbane	Blackwater	10 363	10
Thangool	Brisbane	9 531	21
Normanton	Cairns	7 899	14
Townsville	Cloncurry	6 701	6
Mount Isa	Cairns	3 881	10
Charleville	Brisbane	3 252	5

Note These estimates represent one-way traffic-on-board passenger movements between airport pairs, irrespective of the direction of travel.

Source ATS database (2001).

TABLE 3.8 REGIONAL AIRLINES OPERATING IN QUEENSLAND, 2000–01[a]

Operator	*Airports served*
Macair	Brisbane, Burketown, Cairns, Cloncurry, Cooktown, Doomadgee, Edward River, Kowanyama, Mornington Island, Mt Isa, Normanton, Townsville.
QantasLink	Thursday Island, Horn Island, Weipa, Cairns, Townsville, Mt Isa, Proserpine, Mackay, Longreach, Barcaldine, Emerald, Blackwater, Blackall, Roma, Charleville, Bundaberg, Gladstone, Rockhampton, Brisbane and Gold Coast.
Flight West	Bedourie, Birdsville, Boulia, Charleville, Cloncurry, Cunnamulla, Gladstone, Hughenden, Julia Creek, Longreach, Mt Isa, Quilpie, Richmond, St George, Thargomindah, Toowoomba, Townsville, Windorah, Winton and Brisbane.
Airnorth	Cairns (connecting with airports in Northern Territory).
Eastland Air	Toowoomba and Brisbane.
Sunshine Express Airlines	Brisbane, Bundaberg, Hervey Bay and Maroochydore.
Skytrans Airlines	Arukun, Cairns, Coen, Lockhart River (Iron Range), Horn Island (Thursday Island) and Yorke Island.

a. For most of 2000–01, Flight West Airlines (FWA) operated many of the air routes to western Queensland under contract to the Queensland Government. Following the voluntary liquidation of FWA on 19 June 2001, the Queensland Government, with the cooperation of QantasLink, Eastland Airlines and Macair, acted to ensure that these services continued to operate. The contracts for the routes formerly operated by FWA, due to expire in November 2001, were subsequently put out for tender and awarded to QantasLink and Macair in July 2001.

Source ATS database (2001).

SOUTH AUSTRALIA

Coach

In South Australia, all intrastate long-distance non-urban coach services (referred to as 'country bus services' in South Australia) are operated under contract arrangements with the Passenger Transport Board (PTB). There are 4 major operators: Premier Stateliner Coach Group, Yorke Peninsula Coaches, Murray Bridge Passenger Service, and Barossa Valley Coaches. Intrastate regional coach services extend to Mt Gambier and Bordertown in the south, to Renmark and Loxton in the east, north to Wilpena Pound and Roxby Downs and in the west to Whyalla, Port Lincoln, Streaky Bay and Ceduna.

In addition, McCafferty's and Firefly Coaches operate interstate coach services to and from South Australia, and three Victorian DOI contracts provide coach services connecting population centres in South Australia with regional Victorian centres.

Rail

There are no intrastate passenger rail services in South Australia. However, Great Southern Railways operate three interstate rail services: the Indian–Pacific, The Ghan and The Overland, that stop in South Australia.

Ferry

The SeaLink Kangaroo Island ferry provides surface transport between the mainland (at Cape Jervis) and Kangaroo Island. These services are operated by SeaLink, which runs two services per day throughout the year and additional services in the summer months.

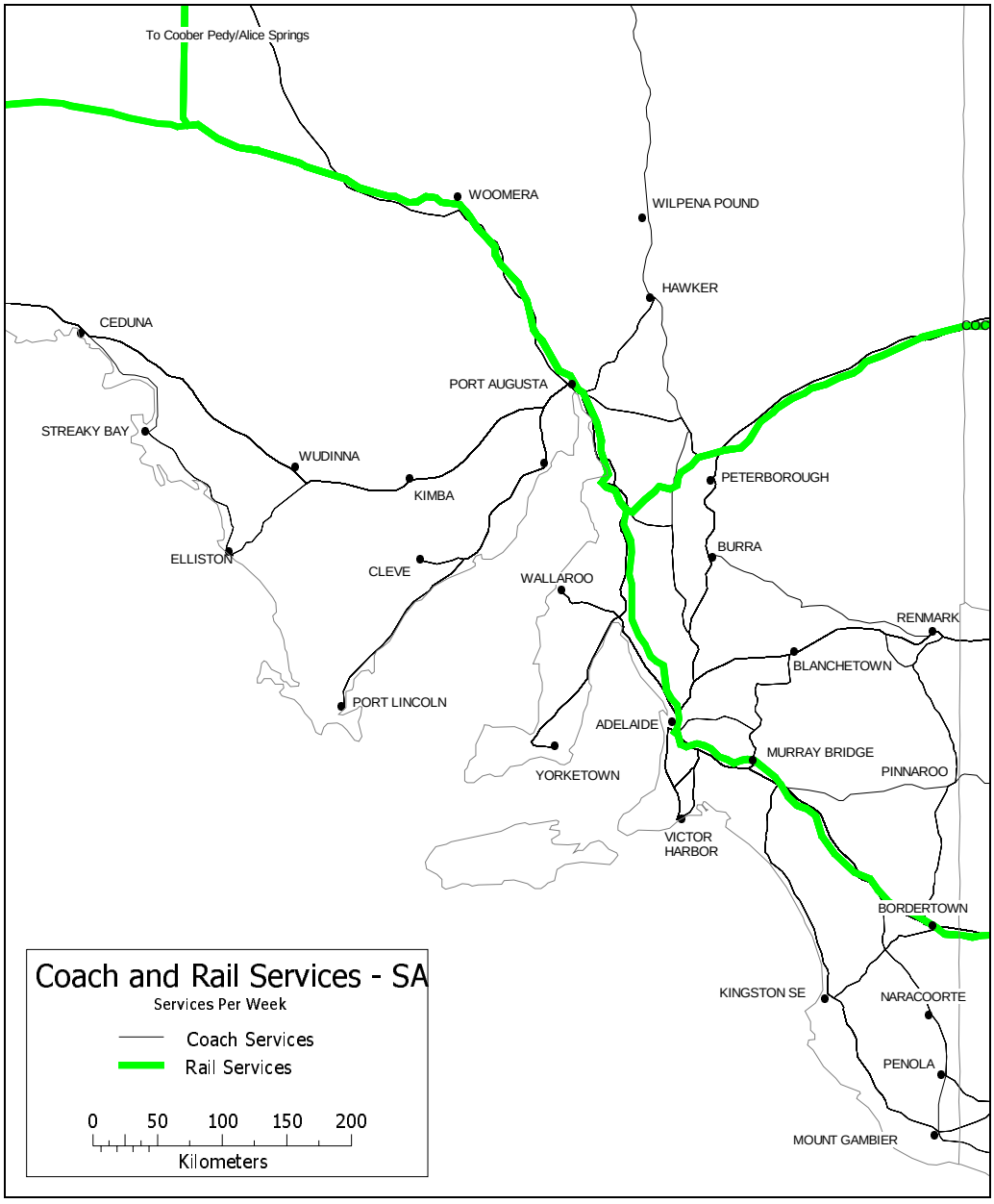
Regional public transport services in South Australia

In 2000–01, there were nine express coach operators providing regional passenger services in South Australia (four intrastate operators and five interstate). These operators provided services to 163 towns on 65 routes. In addition, there is one rail operator in South Australia running four unique routes, servicing four towns (including Adelaide).

Figure 3.11 illustrates the radial nature of regional coach services in South Australia. Of the 163 towns serviced by the coach network, 152 have a direct service to Adelaide. The major routes in South Australia are Adelaide–Mt Gambier, Adelaide–Port Augusta, Adelaide–Port Lincoln and Adelaide–Murray Bridge. A small number of shorter distance non-Adelaide based regional coach services exist. One route links the outlying Barrossa Valley towns with Nuriootpa / Angaston, an infrequent service links Port Augusta with

Roxby Downs and Wilpena, and a small route links Loxton and Moorook. Figure 3.11 also shows GSR's rail passenger services.

FIGURE 3.11 REGIONAL RAIL AND COACH SERVICES IN SOUTH AUSTRALIA, 2000–01

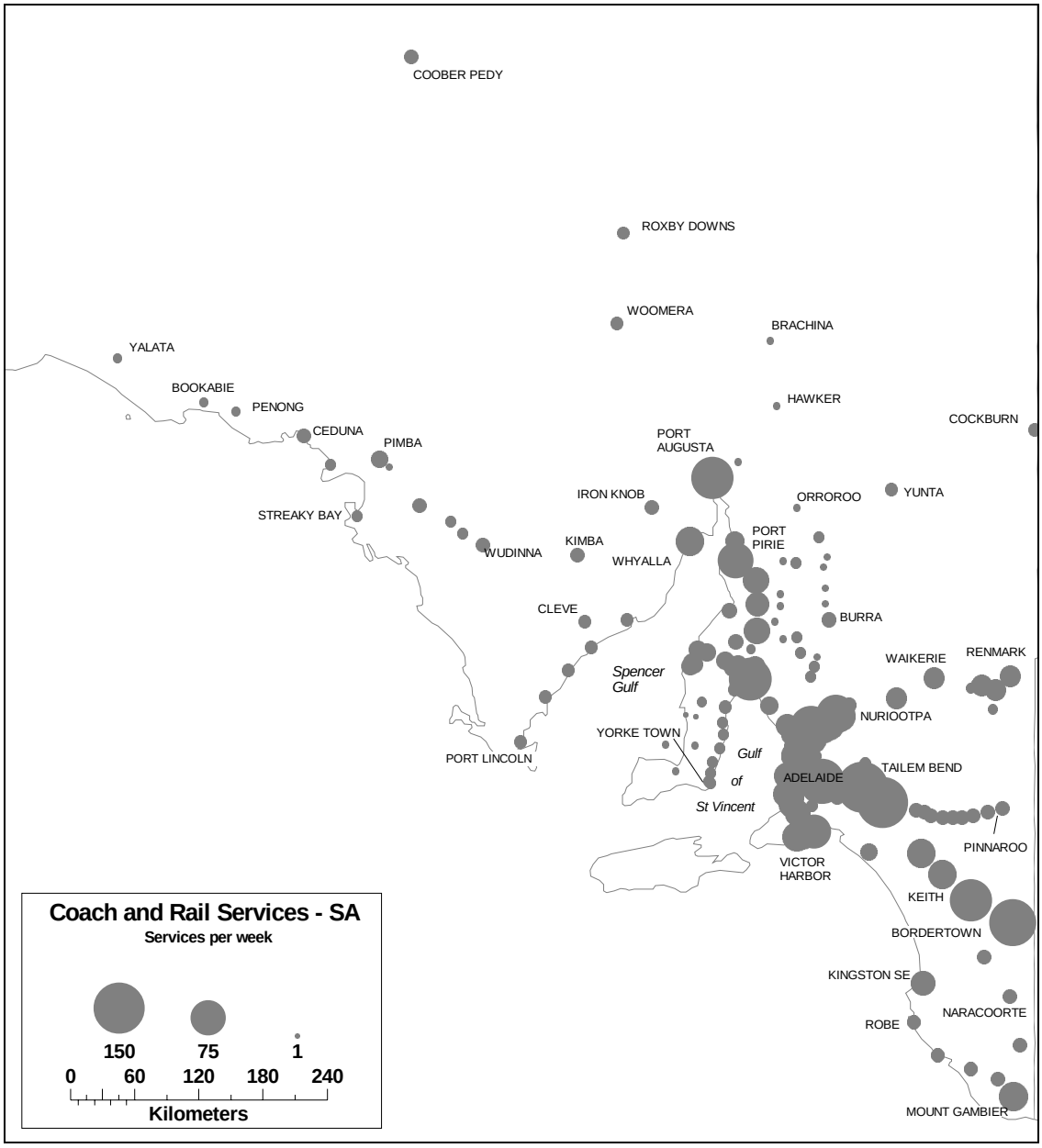


Sources Passenger Transport Board (pers. comm. 2002), Operator timetables.

Figure 3.12 shows the number of services across all of South Australia. It is clear from figure 3.12 that the south east of the state is relatively well served. Towns such as Mount Gambier, Kingston S.E., Renmark, and Murray Bridge all have more than two return services to Adelaide per day. The northern and western parts of South Australia do not have the same level of population as the southeast and hence the level of service is significantly less. However, daily services operate between Adelaide and the regional centres of Coober Pedy,

Woomera, Ceduna, Wilpena Pound, Port Augusta, Yorketown, Whyalla and Port Lincoln.

FIGURE 3.12 PATTERN AND FREQUENCY OF REGIONAL COACH AND RAIL SERVICES IN SOUTH AUSTRALIA, 2000–01



Source Operator Timetables

Regional aviation

In 2000–01, there were four regional airlines operating in South Australia. Table 3.9 lists intrastate regional airlines operating in South Australia in 2000–01, and the airports served. There was also a regular service between Melbourne and Mount Gambier (operated by Kendell and O'Connor Airlines).

TABLE 3.9 REGIONAL AIRLINES OPERATING IN SOUTH AUSTRALIA, 2000–01

Airline	*Airports served*
Airlines of South Australia	Adelaide, Cleve, Wudinna, Port Augusta, Port Lincoln, Leigh Creek
Emu Airways	Adelaide, Kingscote (Kangaroo Island)
Kendell Airlines	Adelaide, Ceduna, Kingscote, Mount Gambier, Coober Pedy, Olympic Dam, Port Lincoln, Whyalla
O'Connor Airlines	Adelaide, Mount Gambier, Renmark, Whyalla

Note Airlines of South Australia has since ceased operations to Cleve and Wudinna.

Source ATS database (2001).

Intrastate regional aviation services in South Australia operate in a radial pattern from Adelaide (illustrated in figure 3.13). Whilst most of these services are direct services, in 2000–01 there were a small number of 'mail runs' to Coober Pedy and Leigh Creek as well as one service which extended from Adelaide to Birdsville.

The coastlines of the Spencer Gulf and the Gulf of St Vincent produce a unique situation for South Australian regional aviation. Destinations such as Cleve / Wudinna, Port Lincoln and Ceduna take relatively longer to reach from Adelaide by surface transport, than air transport, due to the need to traverse north around the Spencer Gulf. For example an air service from Adelaide to Port Lincoln travels 245 km and takes one hour. A private car must travel 670 km, a trip of at least seven hours. Under these conditions, air is a relatively more attractive mode of transport on these routes than for similar distance air routes in other parts of Australia. In 2000–01, the Adelaide–Port Lincoln route was the largest intrastate air route in South Australia, followed by Adelaide–Kangaroo Island (another route crossing a body of water), Adelaide–Whyalla and Adelaide–Mount Gambier (table 3.10). Air services to Cleve / Wudinna were discontinued by the operator in 2000–01.

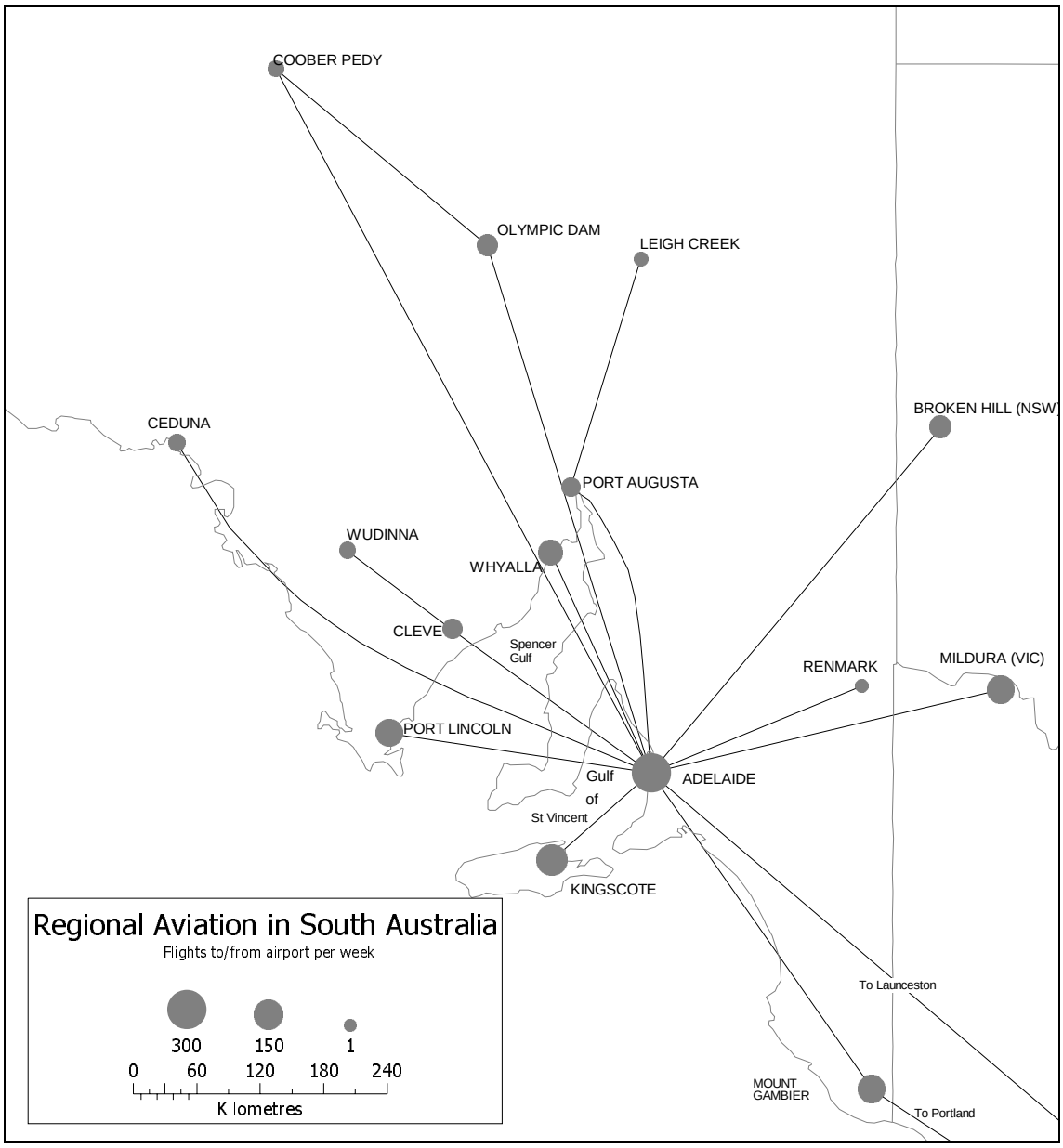
TABLE 3.10 REGIONAL AIR ROUTES IN SOUTH AUSTRALIA, 2000–01

Adelaide to:	*No. passengers per year*	*Flights per week*
Port Lincoln	96 272	113
Kangaroo Island	76 720	164
Whyalla	55 122	87
Mount Gambier	46 701	67
Olympic Dam / Coober Pedy	35 988	37
Ceduna	10 744	16
Port Augusta	8 257	23
Cleve / Wudinna	6 292	30

Note These estimates represent one-way traffic-on-board passenger movements between airport pairs, irrespective of the direction of travel.

Source ATS database (2001).

FIGURE 3.13 REGIONAL AVIATION IN SOUTH AUSTRALIA, 2000–01



Source ATS database (2001).

Recent changes in regional aviation in South Australia

Since the entry into administration of Ansett in September 2001, a number of regional air services have ceased operation in South Australia. Based on ATS (May 2002) statistics, the routes no longer operating in May 2002 were: Adelaide–Cleve–Wudina and Coober Pedy–Olympic Dam

WESTERN AUSTRALIA

Rail

The West Australian Government Railways Commission (WAGR) operates three rail services linking Perth with Bunbury (the Australind), Northam (the Avonlink) and Kalgoorlie (the Prospector). The Indian–Pacific operates from Perth to the eastern states, however, it does not provide intrastate public transport service for residents of towns along the rail line between Perth and Kalgoorlie. WAGR also operates an extensive network of road coach services (described below).

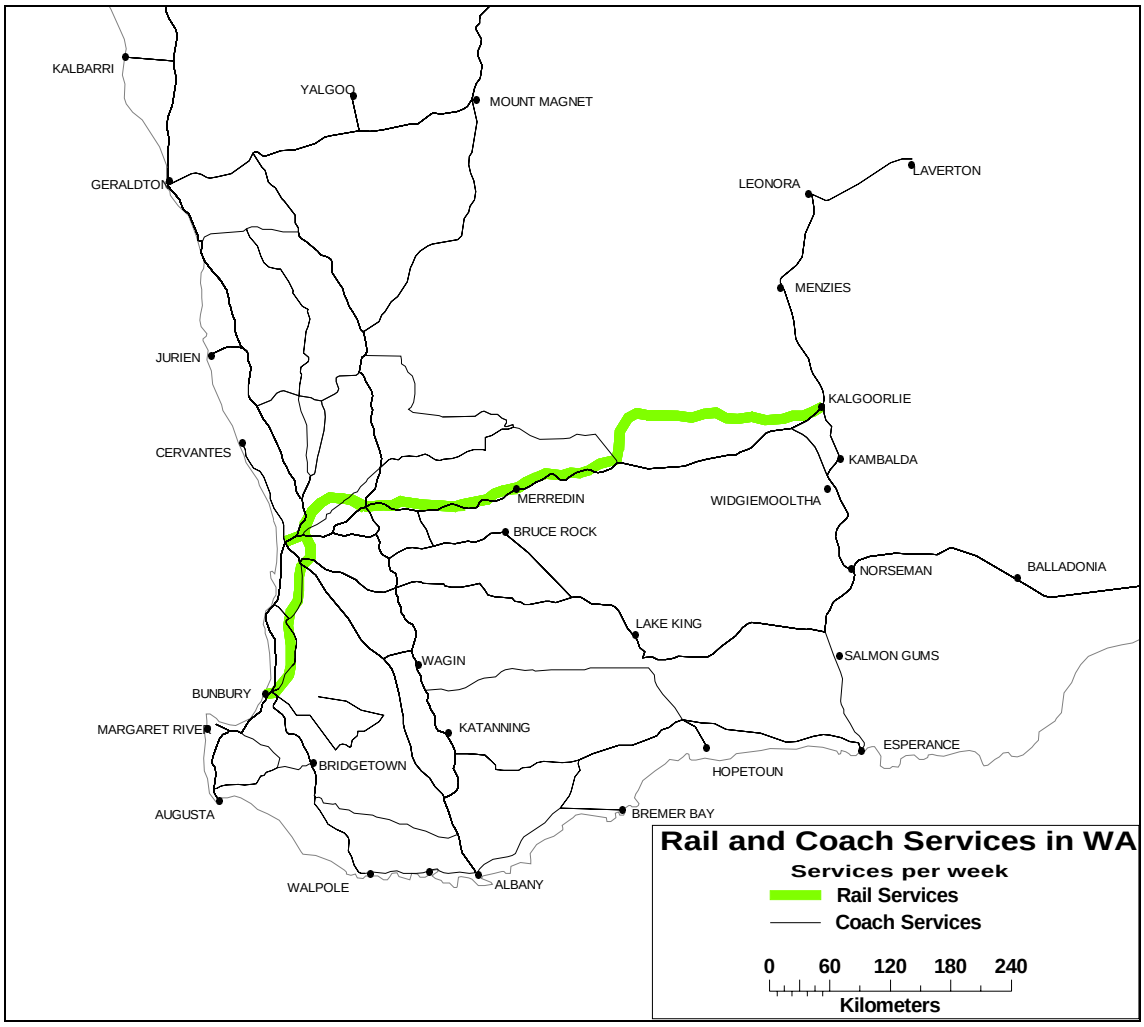
Road coach services

The majority of intrastate regional coach transport services in Western Australia are owned and operated by WAGR. The WAGR road coach network provides the majority of regional public transport services to towns in the southern third of the State (where 90 per cent of the Western Australian population resides[13]). There are four other private coach operators. McCafferty's (trading as Greyhound in Western Australia) operates interstate services between Western Australia and South Australia and the Northern Territory, catering for intrastate passenger travel in the north of the State. Integrity Coachlines also operates coach services between Perth and Broome. Goldfields Express operates coach services between Perth and Kalgoorlie and Southwest Coachlines operates services between Perth and Bunbury, and has a network of shorter distance services in the southwest of the State.

Figure 3.14 illustrates the current regional public transport routes in the southern third of the State, whilst figure 3.15 provides an illustration of the coverage of services to northern Western Australia.

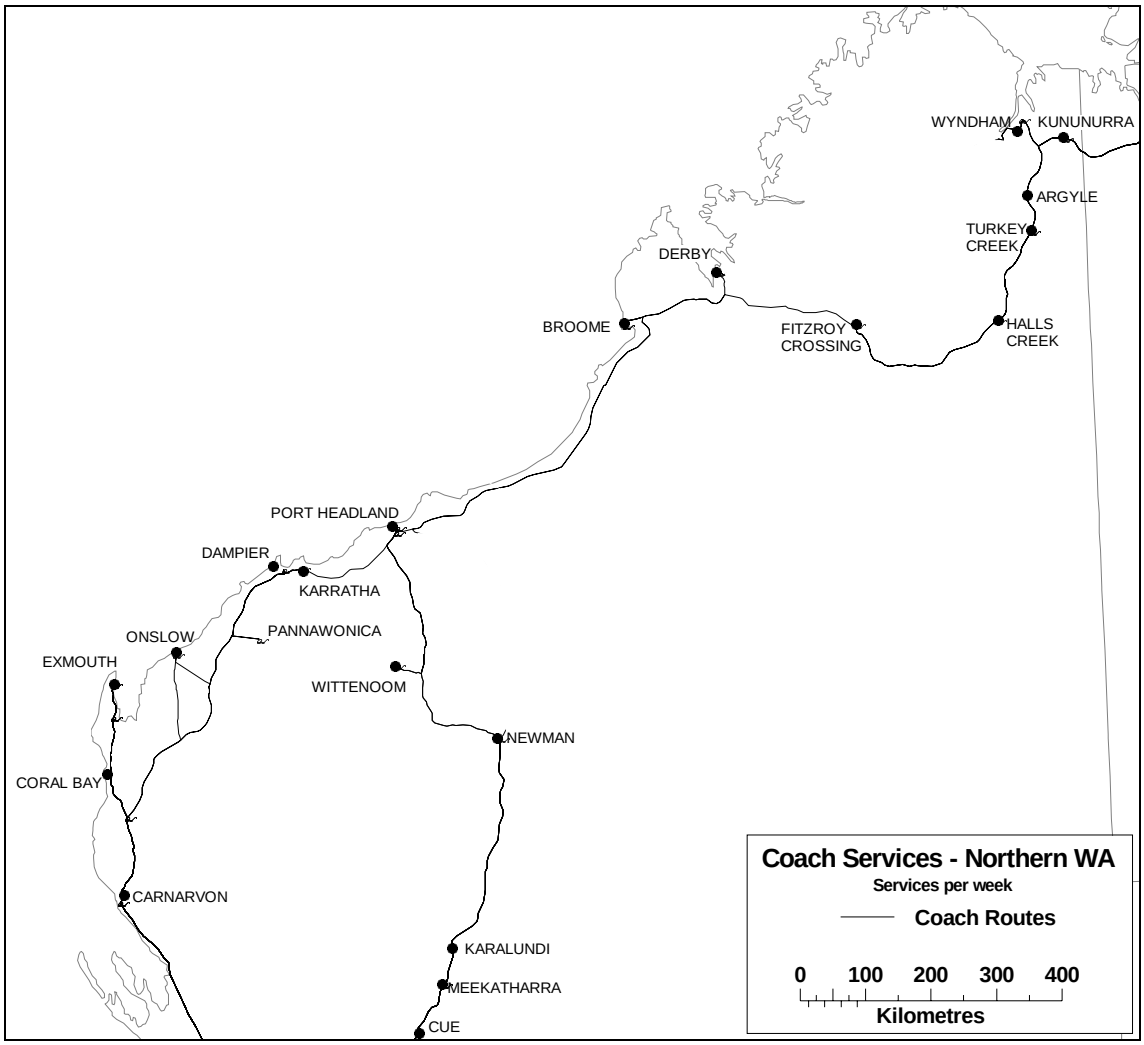
[13] Based on the 2001 Estimated Resident Population (ABS 2002e).

FIGURE 3.14 REGIONAL COACH AND RAIL SERVICES IN SOUTHERN WESTERN AUSTRALIA, 2000–01



Source Operator timetables.

FIGURE 3.15 REGIONAL COACH SERVICES IN NORTHERN WESTERN AUSTRALIA, 2000–01



Source Operator timetables.

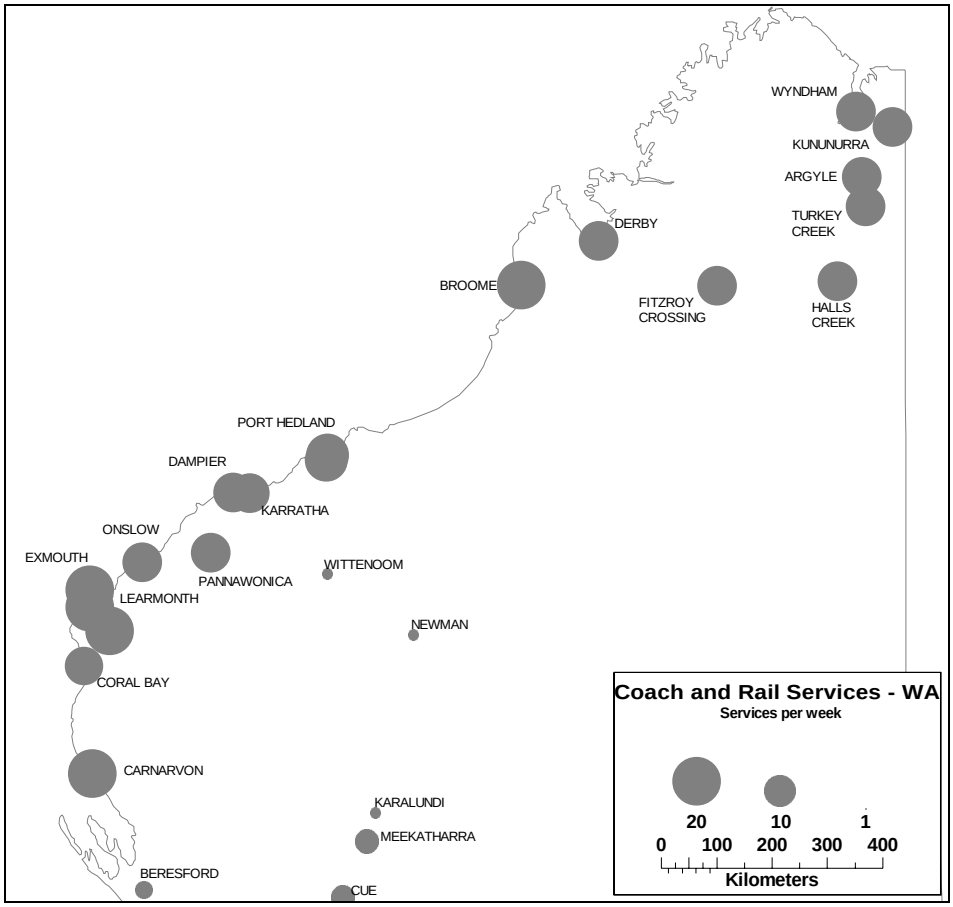
Regional public transport services in Western Australia

There are 99 regional coach routes and three rail routes in Western Australia. The majority of these services are located in the southwest of the state, where the majority of the population is located. These include the large centres of Bunbury and Albany and also smaller population centres such as Hopetoun and Wagin. There is also a high level of service along the main road/rail corridor to the eastern States via the towns of Merredin and Kalgoorlie. Along the coast to the north, the level of service drops sharply at Geraldton, with only a few coach routes proceeding all the way up the coast (figure 3.14). McCafferty's (Greyhound) operated a service along the Great Northern Highway (inland) to Port Hedland three times a week in 2000–01 (figure 3.15).

FIGURE 3.16 PATTERN AND FREQUENCY OF REGIONAL COACH AND RAIL SERVICES IN SOUTHERN WESTERN AUSTRALIA, 2000–01

Source Operator timetables.

FIGURE 3.17 PATTERN AND FREQUENCY OF REGIONAL COACH SERVICES IN NORTHERN WESTERN AUSTRALIA, 2000–01

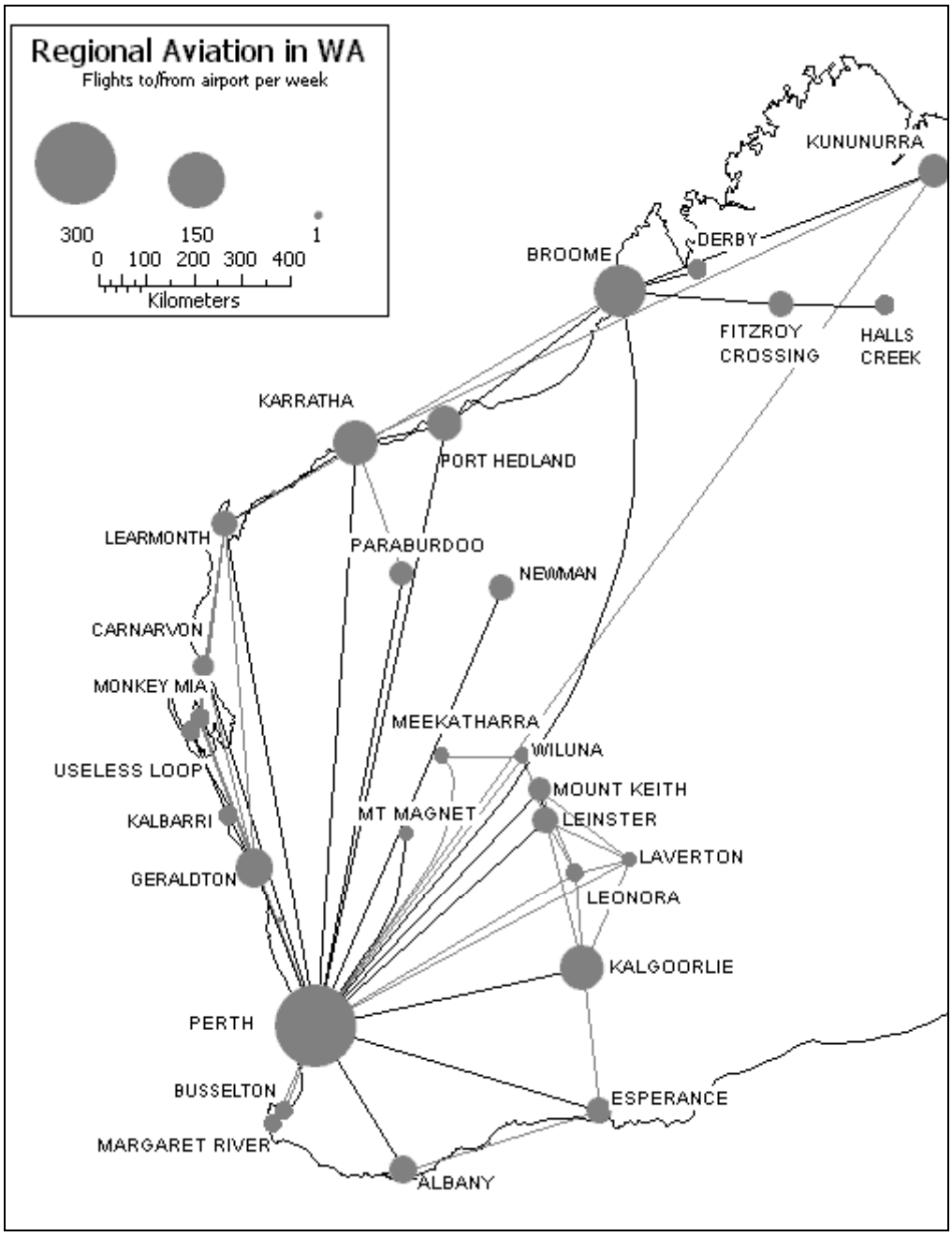


Source Operator timetables.

Regional aviation

The vast size of Western Australia, the high concentration of population in the southwest, and the importance of the mining industry produce a unique environment for regional aviation. Figure 3.18 illustrates the regional air routes in Western Australia. Due to the differing circumstances under which aviation operates in the southwest and the north of Western Australia, this section provides separate reviews of regional aviation services in these areas.

FIGURE 3.18 REGIONAL AVIATION IN WESTERN AUSTRALIA, 2000–01



Note This figure displays all regional aviation routes in the ATS database regardless of the frequency of those services.

Source ATS database (2001).

Regional air services—Northern Western Australia

In 2000–01, there were six airlines operating RPT services to northern Western Australia (i.e. Geraldton and points north), Qantas and Ansett (before its demise), provided services principally between Perth and Karratha, Port Hedland and Broome (the three major population centres in the north of the State). Northwest Regional Airlines provided services between Exmouth–

Karratha, Port Hedland–Broome and to remote centres such as Fitzroy Crossing and Halls Creek. Since the demise of Ansett, Qantas is the only provider of jet services to northern Western Australia. Flights from Perth provide regional passenger transport to Carnarvon, Learmonth, Karratha, Port Hedland, Kununurra and Broome and a number of other centres. Skywest also provided RPT services between Perth and the mining areas of Leinster, Meekatharra and Laverton in central Western Australia. Maroomba Airlines and Skippers Aviation also provided RPT services to the north of the State. In addition to these services, the major services are Perth–Argyle, Kununurra–Broome and Perth–Mount Keith. Patronage on air routes to centres in northern Western Australia is shown in table 3.11.

TABLE 3.11 MAJOR REGIONAL AIR ROUTES IN NORTHERN WESTERN AUSTRALIA, 2000–01

Airport 1	*Airport 2*	*No. passengers per year*	*Flights per week*
Perth	Karratha	159 019	62
Perth	Broome	147 310	51
Perth	Port Hedland	77 837	29
Perth	Argyle	22 418	5
Kununurra	Broome	20 492	13
Perth	Mount Keith	19 615	11
Perth	Carnarvon	13 378	8
Mount Keith	Leinster	11 345	8
Perth	Learmonth	8 535	6
Perth	Leonora	8 115	5
Perth	Kununurra	6 463	3
Derby/Curtin	Broome	6 349	12
Perth	Shark Bay	5 568	3

Note These estimates represent one-way traffic-on-board passenger movements between airport pairs, irrespective of the direction of travel.

Source ATS database (2001).

Regional air services—Southern Western Australia

The pattern of, and demand for, regional aviation in southern Western Australia is similar to that of other States such as South Australia and NSW. Unlike the northern Western Australia, aviation does not have an advantage due to the extreme distances involved in travelling around the region. A mix of tourists, mining operations, medical, business and personal travel drives demand for air services. According to the ATS database, three airlines provided air services to southern Western Australia in 2000–01, Skywest, Skippers Aviation and Maroomba. In terms of total patronage, the major routes in southern Western Australia link Perth to the major regional centres of Kalgoorlie, Geraldton, Albany and Esperance. Table 3.12 shows the number of

air passengers travelling from Perth to towns in the southwest of Western Australia.

TABLE 3.12 MAJOR REGIONAL AIR ROUTES IN SOUTHERN WESTERN AUSTRALIA, 2000–01

Perth to/from:	*No. passengers*
Kalgoorlie	182 301
Geraldton	72 553
Albany	44 383
Esperance	33 961

Note These estimates represent one-way traffic-on-board passenger movements between airport pairs, irrespective of the direction of travel.

Source ATS database (2001).

In addition to regular scheduled services, charter aviation, although not explicitly covered in this study, plays two important roles in servicing the remote areas of Western Australia. Firstly, many remote communities rely on charter aviation for essential transport needs and supplies. Secondly, the mining industry relies heavily on charter aviation to transport staff to and from remote workplaces. Based on ATS data (2001) and Western Australian charter aviation data (Western Australian Department of Planning and Infrastructure, pers. comm. 2002), charter aviation accounts for approximately 16 per cent of all air passenger movements in Western Australia.

TASMANIA

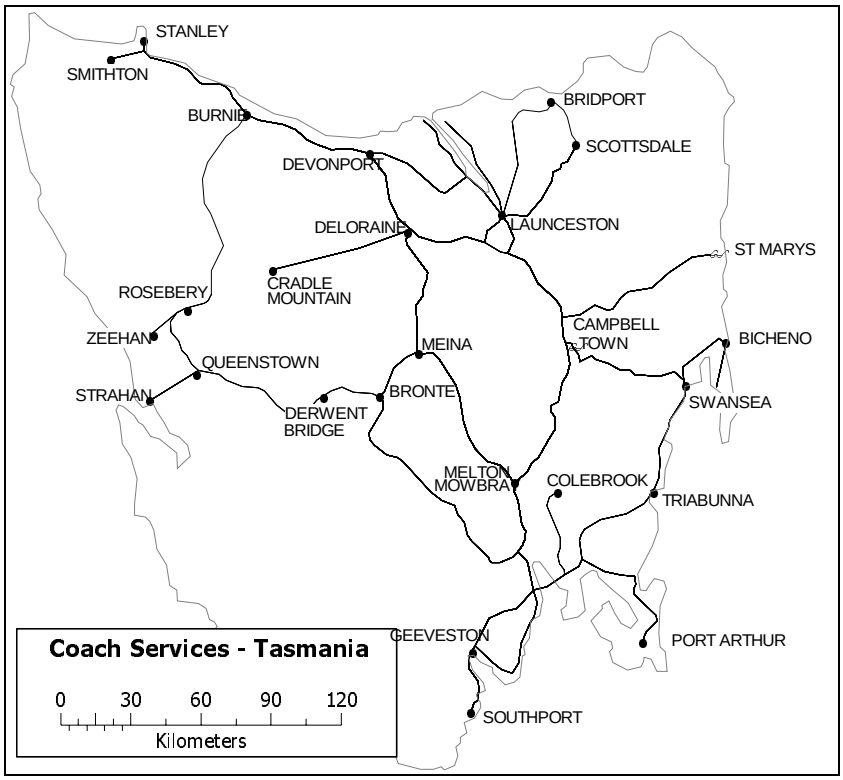
In Tasmania, there are no passenger rail services and only a small number of intrastate regional aviation services. The Bass Strait passenger ferry provides surface transport between Tasmania and the mainland.

Coach services

Two operators provide regional coach services in Tasmania: Redline Coaches and TassieLink Regional Coach Service (part of the TigerLine Travel group). Figure 3.19 illustrates the coach network in Tasmania.

Together, the two private coach operators in Tasmania operate 42 routes providing public transport services between some 91 towns. In all, 47 towns have access to Hobart. The Tasmanian coach network does not operate in the traditional capital city radial pattern. The two major Tasmanian cities, Hobart and Launceston are the origin / destination of most services. Table 3.13 lists current coach routes and their frequencies.

FIGURE 3.19 REGIONAL COACH SERVICES IN TASMANIA, 2000–01



Source Operator Timetables

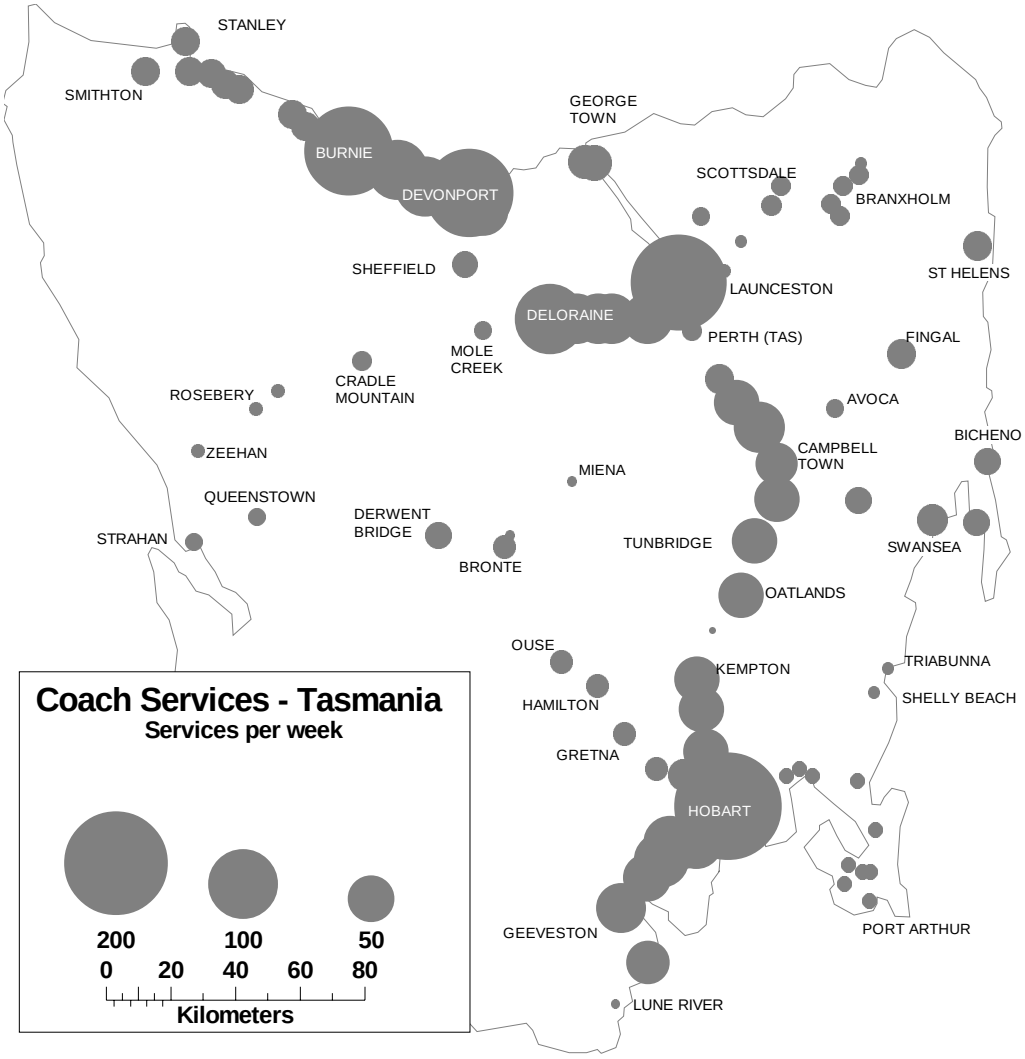
TABLE 3.13 NUMBER OF REGIONAL COACH SERVICES IN TASMANIA, BY ROUTE, 2000–01

Route	*No. services per week*	*Route*	*No. services per week*
Hobart–Bicheno	46	Launceston–Bicheno	10
Hobart–Burnie	31	Launceston–Cradle Mountain	9
Hobart–Derwent Bridge	30	Launceston–Deloraine	7
Hobart–Geeveston	21	Launceston–Derby	6
Hobart–Huonville	12	Launceston–Derwent Bridge	6
Hobart–Launceston	12	Launceston–George Town	5
Hobart–Lune River	12	Launceston–Mole Creek	5
Hobart–Port Arthur	12	Launceston–St Helens	4
Hobart–St Helens	10	Launceston–Strahan	3
Hobart–Strahan	10	Launceston–Winnaleah	6
Hobart–Swansea	10	Burnie–Smithton	5

Source Operator timetables.

The major routes in Tasmania link Hobart to the major regional centres of Launceston, Devonport and Burnie, and towns in between. In the west, Strahan is linked with Hobart by three return services per week, and to Launceston by three return services per week. Figure 3.20 illustrates the level of regional coach services in 2000–01.

FIGURE 3.20 PATTERN AND FREQUENCY OF COACH SERVICES IN TASMANIA, 2000–01



Source Operator timetables.

Regional aviation services

According to the ATS database, there were no intrastate air routes operating on the 'main island' in 2000–01. The major airlines operated services between Launceston, Hobart and the mainland. The only intrastate regular public transport air services operating in 2000–01 were between Tasmania and King and Flinders Islands, operated by Island Airlines Tasmania, King Island

Airlines and Tasair. The islands also received services from the mainland of Australia. Table 3.14 provides estimates of passenger numbers on these routes.

TABLE 3.14 NUMBER OF PASSENGERS ON REGIONAL AVIATION SERVICES TO KING AND FLINDERS ISLANDS, 2000–01

Route	*No. passengers per year*
Melbourne[a]–King Island	20 130
Burnie–King Island	6 954
Launceston–Flinders Island	4 980
Melbourne[a]–Flinders Island	1 800

a. Includes Moorabbin and La Trobe Valley Airports.

Note These estimates represent one-way traffic-on-board passenger movements between airport pairs, irrespective of the direction of travel.

Source ATS database (2001).

Bass Strait Ferry Services

TT-Line operates passenger ferry services between the mainland and Tasmania. The Commonwealth provides ongoing financial assistance for passengers travelling on the ferry, under the Bass Strait Passenger Vehicle Equalisation Scheme (BSPVES). The Tasmanian Government has recently purchased two new passenger ferries, to replace the existing ferry. The two ferries, which commenced operations in September 2002, each operate one service per day 7 days per week (with extra daily services during the peak season).

NORTHERN TERRITORY

McCafferty's (operating as Greyhound) is the sole provider of regular scheduled regional coach services in the Northern Territory. Most of the routes are part of its interstate coach network—from Darwin to Adelaide via Alice Springs to Brisbane via Mt Isa and to Perth via Broome. There are daily services to and from Darwin (although in most cases, the trip is longer than 24 hours).

There are also daily tourist-based services operating from Darwin to Kakadu and Alice Springs to Yulara/Uluru. Figure 3.21 illustrates regional coach services in the Northern Territory in 2000–01.

Apart from The Ghan, from Adelaide to Alice Springs, there are no regional rail services in the Northern Territory. (The completion of the Darwin–Alice Springs rail link will provide for rail passenger travel through to Darwin.)

Regional aviation

In 2000–01, the two major airlines, Qantas and Ansett, provided air services to Darwin, Alice Springs and Uluru. Two regional operators, Airnorth and

Missionary Aviation Fellowship (MAF) provided services to regional centres in the Northern Territory. In 2000–01 Airnorth operated services between Darwin and the main population centres of Katherine, Tennant Creek, Alice Springs, Arnhem Land (Maningrida, Milingimbi, Elcho Island, Lake Evella, Ramingining), the Kimberley region (Kununurra, Broome) and the Gulf of Carpentaria (Gove, Groote Eylandt, Cairns). MAF operated services between Darwin and Gove and locations in Arnhem Land. These routes are illustrated in figure 3.22 and table 3.16 provides estimates of passenger numbers on these routes. For many remote areas in the Northern Territory, transport services are also provided by light aircraft operating services on demand, rather than as regular scheduled services.

TABLE 3.15 MAJOR REGULAR SCHEDULED SERVICE INTRASTATE[a] REGIONAL AIR ROUTES IN THE NORTHERN TERRITORY, 2000–01

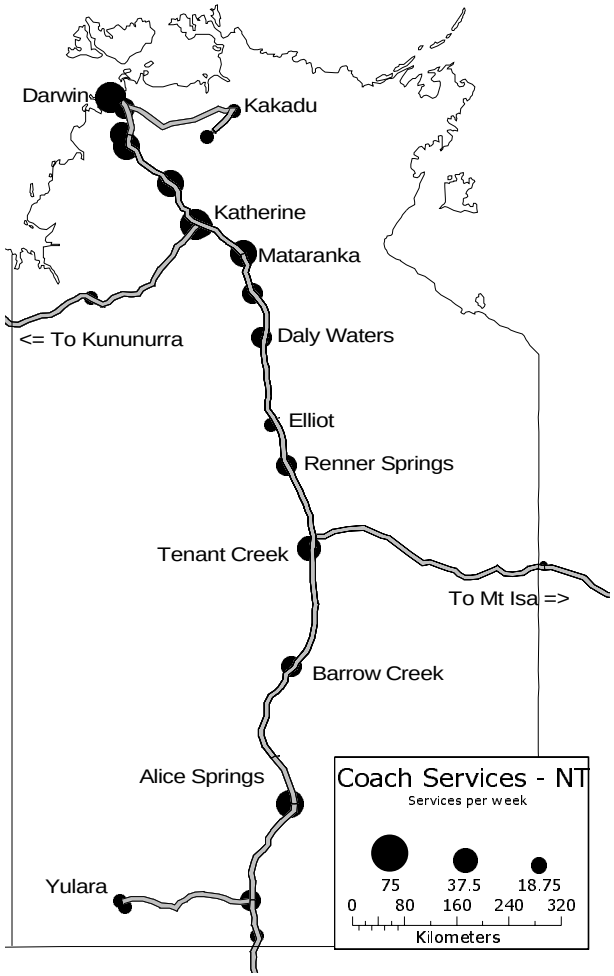
Airport 1	*Airport 2*	*No. passengers per year*	*Flights per week*
Darwin	Gove	80 844	28
Darwin	Macarthur River	19 081	18
Darwin	Maningrida	18 737	35
Darwin	Groote Eylandt	12 328	12
Darwin	Katherine	9 602	19
Tennant Creek	Katherine	6 188	12
Tennant Creek	Alice Springs	5 718	12
Maningrida	Elcho Island	5 646	20
Darwin	Bathurst Island	4 315	21
Lake Evella	Elcho Island	4 056	19
Lake Evella	Gove	3 677	19
Maningrida	Milingimbi	3 603	18
Gove	Elcho Island	3 516	16
Darwin	Garden Point	3 469	13
Ramingining	Milingimbi	3 413	18
Snake Bay	Garden Point	2 977	13
Darwin	Snake Bay	2 683	13
Groote Eylandt	Gove	2 456	11
Milingimbi	Elcho Island	2 289	11
Ramingining	Elcho Island	1 984	10
Ramingining	Maningrida	1 761	11

a. As these figures only include *intrastate* passenger movements, they may differ from the figures appearing in table 2.4.

Note These estimates represent one-way traffic-on-board passenger movements between airport pairs, irrespective of the direction of travel.

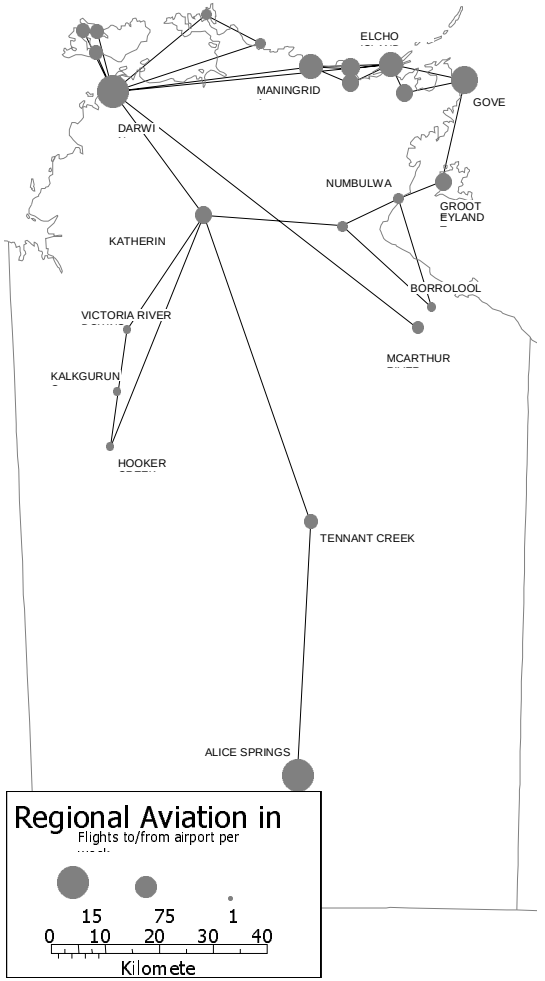
Source ATS database (2001).

FIGURE 3.21 REGIONAL COACH SERVICES IN THE NORTHERN TERRITORY



Source Operator timetables.

FIGURE 3.22 REGIONAL AIR SERVICES IN THE NORTHERN TERRITORY



Source Operator timetables.

AUSTRALIAN CAPITAL TERRITORY

All regional public transport services to and from the ACT are, by definition, interstate services. Regional public transport services connect the ACT with a large number of surrounding regions. CountryLink rail services operate three services a day between Sydney and Canberra.

With its proximity to Sydney and location close to the main arterial routes between Sydney–Melbourne and Sydney–Adelaide, coach services link the ACT with other capital cities and the surrounding regions.

Trunk and regional airlines operate intercapital air services to and from the ACT.

ACCESS TO REGIONAL PUBLIC TRANSPORT SERVICES

Having reviewed the geographic scope of inter-regional public transport services for each State and Territory, the remainder of this chapter provides an analysis of the proximity of existing regional public transport services to regional population centres. The analysis is based on a geospatial mapping of regional population centres and listed stops, from published non-urban public transport timetables. The method is drawn from Spear and Weil's (1999) study of the accessibility of public transportation services by small communities in the United States.

It should be noted that the quantitative results presented here do not include more than 2 million persons living in communities of less than 200 persons. The geographic location of communities of less than 200 persons is not currently available (ABS 1998), and consequently, it was not possible to assess the proximity to regional public transport services for these residents. Some of these communities may, in fact, be located within reasonably close proximity to existing regional public transport services, and so to that extent this analysis will understate the total number of persons with access to regional public transport services.

The analysis reported here is just one means of assessing the access provided by regional public transport services. There are other, equally valid, measures of the accessibility of (regional public) transport services. Service frequency and service timeliness, for example, may be important to potential users of public transport services in regional areas—services that arrive or depart between midnight and dawn or services that do not permit a day return journey may be considered 'less accessible' than services that do. Another, more formal, measure of accessibility is 'network connectivity' (or 'total accessibility')—the degree to which a location is connected to other different locations (see, for example, Rodrigue et al. 2002). The results presented here measure only the

geographic coverage of existing regional public transport services, but the data could be used to analyse other measures of transport accessibility.

Data sources

Using published timetable information, of scheduled non-urban rail and coach transport service operators, the BTRE compiled a database of all rail stations and coach stops served by non-urban public transport services in 2000–01. The database includes all long-distance public transport services, regardless of whether they are operated by private or publicly-owned public transport service providers[14]. A comparable list of all regional airports, through which regional aviation services operated in 2000–01, were derived from the ATS database (2001).

Population data was drawn from the 1996 Census of Population and Housing data for urban centres and localities (UC/L) with 200 persons or more (ABS 1998)[15].

The geographic location of UC/Ls and public transport service stop locations were assigned using the *Gazetteer of Australia 2001* database of geographical locations (Geoscience Australia 2001). All persons living in each UC/L were assigned to the single geographic location listing in the *Gazetteer*. This assumption introduces a degree of imprecision to the analysis. In reality, the population is likely to be dispersed across a geographic area, and not necessarily centred around the assigned geographic point. The implications are that the estimated population found to be within the assumed access distance to a public transport service may overstate the actual number of persons living within that distance of an actual service stop. There is, however, no way of estimating the impact of this assumption on the results.

Assumptions

The critical assumption in this analysis is the definition of a 'reasonable access' distance. Spear and Weil (1999) defined a reasonable access distance to be the maximum distance people would be willing to travel to access inter-regional public transport services. Based on data from the US American Travel Survey (BTS 1997), which included estimates of the distance people travelled from

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[14] The Transport Data Centre's Rural and Regional Transport Services Snapshot (TDC 2002) provides a similar, more detailed, data set of all public transport services in regional NSW. As far as the BTRE is aware, no similar electronic collections of all regional transport services exist in other States and Territories.

[15] At the time of writing, although preliminary results from the 2001 Census were available, results at the UC/L level were not.

home to the point they accessed air, coach or rail services, Spear and Weil assumed the following access distances for US intercity passenger transport:

- For air transport services: 120 km to a large or medium-sized hub airport[16], and 40 km to small or non-hub airport having at least a daily service, or an airport subsidised under the U.S. Department of Transportation's Essential Air Service (EAS) program.
- For intercity rail services: 40 km to an intercity passenger rail station, having at least a daily rail service in each direction with scheduled departures between 5 am and midnight.
- For intercity bus services: 16 km to an intercity bus station or stop.

For Australia, there are no such estimates of the distance travelled by residents from home to the point of access to long-distance public transport services. Consequently, the assumed access distances applied here are based on the US estimates, albeit with some modifications. In particular, different access distances were applied for air travel and rail travel.

Rather than classifying airports as large or small, as per Spear and Weil (1999), the access distance for each airport has been chosen based on the quality of the road link to each airport. The reasonable access distance to airports accessible via higher quality roads were assumed to be greater than the access distance to airports reached only via lower quality roads. The road classification was based on the road layer in the *AUSLIG TOPO-10M* topographic data set (AUSLIG 1993). In the AUSLIG data, roads are classified as either a Principal Road, Secondary Road or Minor Road / Track. Using *TransCAD* (Caliper 2002)—the transportation GIS software package—each airport was assigned a road class value based on the class of the closest road.

For each airport, the following reasonable access distances were assumed[17]:

- For airports accessible via a Principal Road, a reasonable access distance of 120 km was assumed (96 airports met this criteria).
- For airports accessible via a Secondary Road, a reasonable access distance of 90 km was assumed (36 airports met this criteria).
- For airports accessible via a Minor Road / Track, a reasonable access distance of 70 km was assumed (17 airports met this criteria).

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[16] Hub airports are defined by the US Federal Aviation Administration based on annual aircraft movements (Spear and Weil, 1999, p. 67).

[17] The assumed access distances imply an approximate travel time of one to one-and-a-half hours to the airport by private car.

A reasonable access distance of 16 km was assumed for both rail and coach services; similar to the access distance for coach but less than the access distance for rail (40 km) assumed by Spear and Weil (1999).

For all regional centres, it was assumed that a service provided reasonable access if there were three or more return services per week to that regional centre. This assumption has most effect on the number of air services included as regular services.

Effect of varying the reasonable access distance and service frequency assumptions

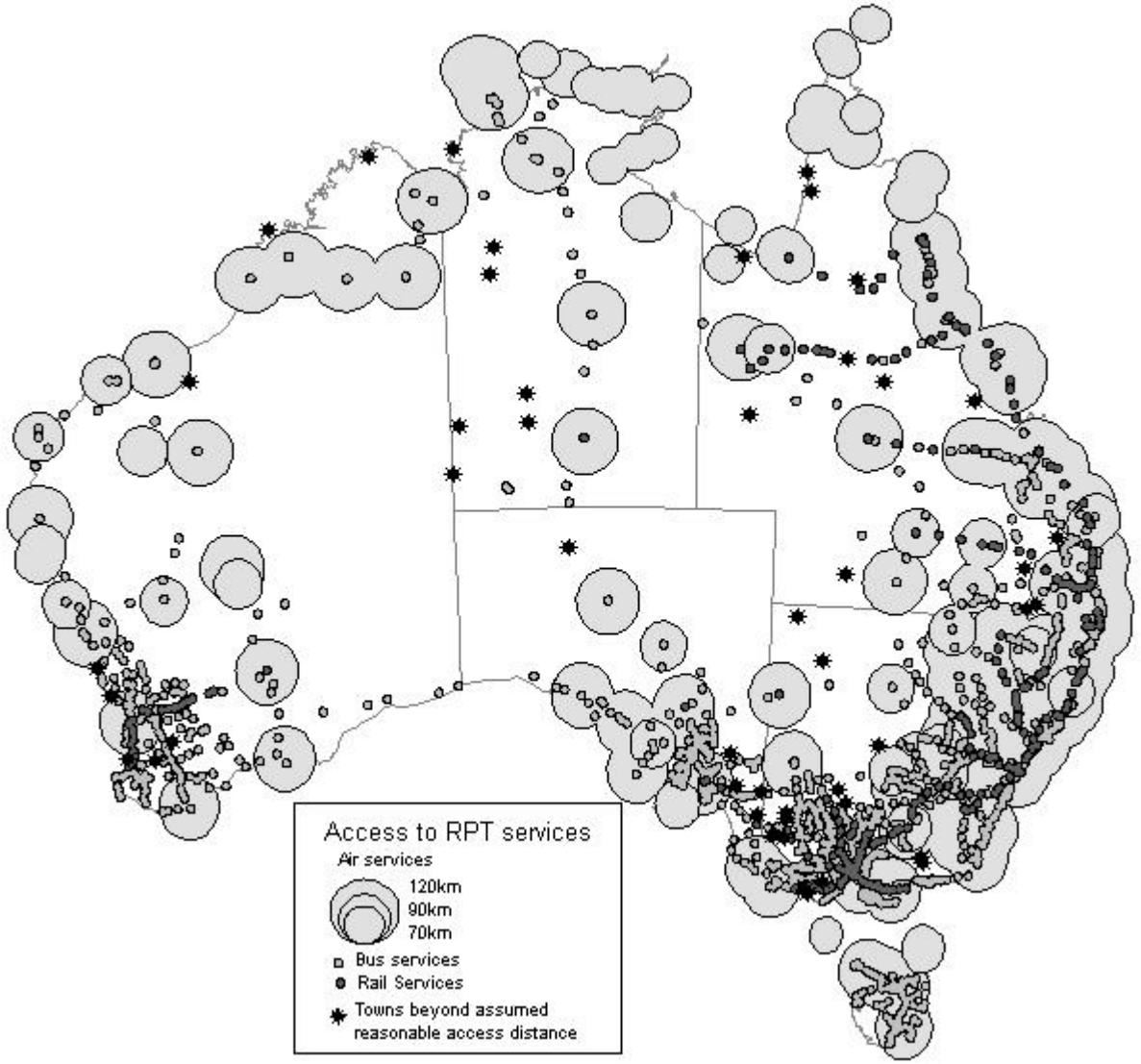
The assumed access distance and minimum service frequency will influence the number of persons estimated to be within a reasonable access distance of public transport services. The BTRE undertook some analysis of the sensitivity of the results to these assumptions. The sensitivity analysis suggests that, at least for air services, varying the minimum service frequency had a larger impact on the number of persons found to be within a reasonable access distance of a service than varying the assumed access distance. For example, assuming an access distance of 120 km to all air services and at least a daily return service, resulted in 115 fewer UC/Ls, containing 186 thousand persons, outside the assumed reasonable access distance.

For rail services, the BTRE analysed the impact of extending the assumed rail access distance to 40 km (as per Spear and Weil). Varying this assumption resulted in an additional 378 UC/Ls, 832 thousand persons, lying within a reasonable access distance of rail services. Many of these centres are in New South Wales, Victoria and Queensland, and lie just outside an inter-regional rail corridor. The impact on access to all transport modes, however, was only minor. Extending rail's reasonable access distance to 40 km resulted in an additional seven (7) UC/Ls, 3 400 persons, now within a reasonable access distance of at least one regional public transport mode.

Methodology and results

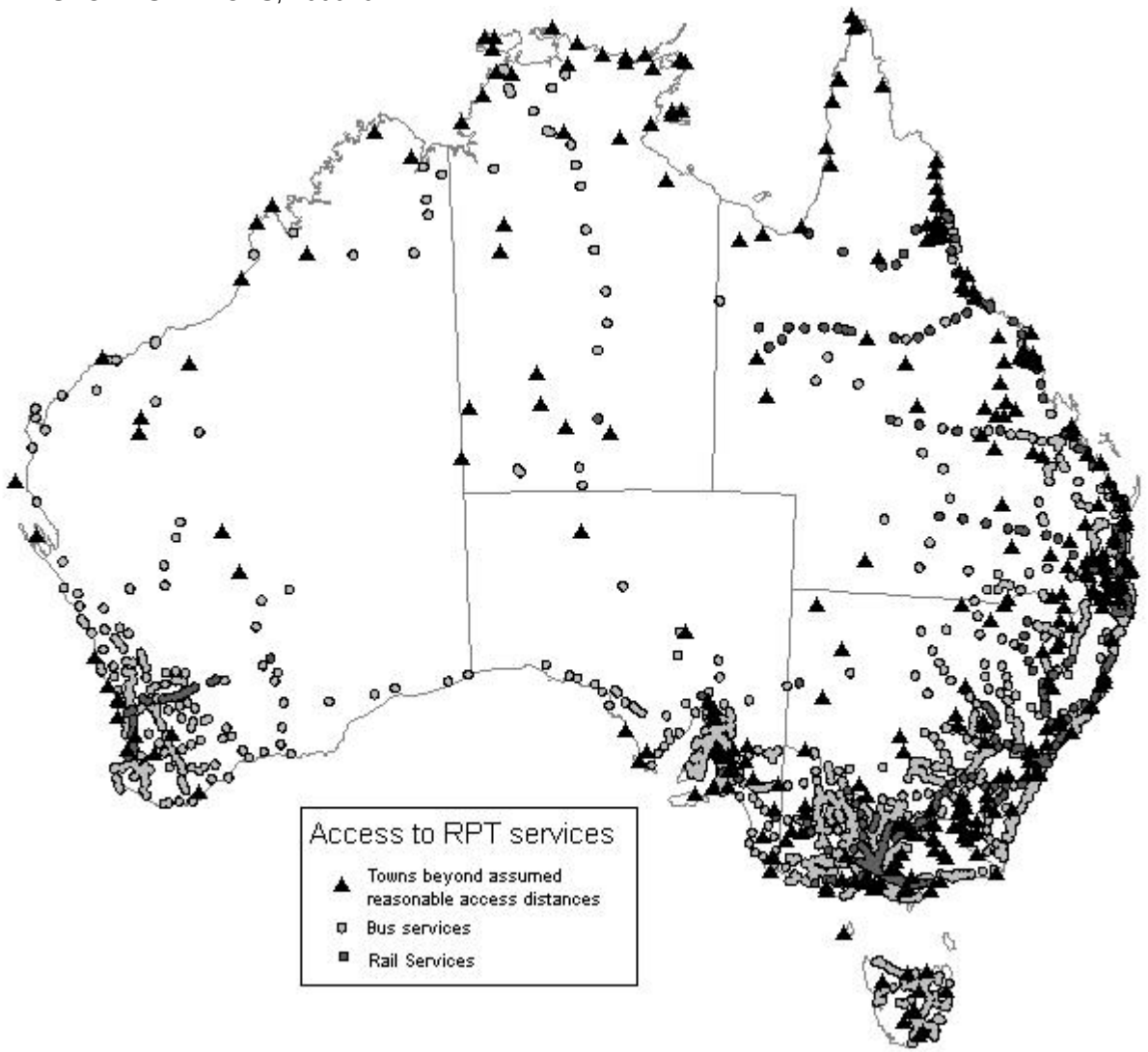
TransCAD was used to map all urban centres and localities of 200 persons or more and public transport service stops. Bands around the location of all inter-regional air, rail and coach services were set equal to the assumed reasonable access distance of a regular scheduled public transport service. The GIS software was then used to select all towns not within a reasonable access distance of a service. Figure 3.23 shows the coverage of inter-regional public transport services, for inter-regional coach, rail and air services, and the location of UC/Ls lying beyond the assumed access distance. Figure 3.24 shows the coverage of only inter-regional coach and rail services and the location of UC/Ls lying beyond the assumed reasonable access distance of those services.

FIGURE 3.23 LOCATION OF URBAN CENTRES AND LOCALITIES BEYOND ASSUMED REASONABLE ACCESS DISTANCE OF REGIONAL PUBLIC TRANSPORT SERVICES, 2000–01



Sources ABS (1998), ATS database (2001), AUSLIG (1993), Operator timetables and BTRE estimates.

FIGURE 3.24 LOCATION OF URBAN CENTRES AND LOCALITIES BEYOND ASSUMED REASONABLE ACCESS DISTANCE OF REGIONAL COACH AND RAIL PASSENGER TRANSPORT SERVICES, 2000–01



Sources ABS (1998), ATS database (2001), AUSLIG (1993), Operator timetables and BTRE estimates.

Inspection of figure 3.23 shows there were relatively few population centres in Australia not within a reasonable access distance to some form of scheduled public transport service in 2000–01. For the majority of towns identified as outside a reasonable access distance, most are just beyond these defined boundaries. Towns that were a significant distance from regular scheduled inter-regional public transport services were located principally in western NSW, far western Queensland, remote Northern Territory and the remote areas of Western Australia. These towns included Thargomindah (Qld), Elliston (SA), Whitecliffs (NSW), Yuendumu (NT), Tom Price (WA), and Tibooburra (NSW). Note that these are population centres beyond the assumed reasonable access distance of a service offering three of more return services per week. Some centres may have a less frequent regular public transport service. Thargomindah (Qld), for example, appears in figure 3.23 but had a twice weekly regular air service provided under contract to the Queensland Government.

Population of urban centres and localities

In 1996, including capital cities and other metropolitan centres, there were 1662 UC/Ls with a population of 200 persons or more (ABS 1998)[18]. Table 3.16 shows the number of domestic residents counted in the 1996 Census (ABS 1997) by State/Territory and section of State/Territory. In 1996, there were 11.2 million domestic residents in capital cities and other major urban centres (63 per cent of the total domestic resident population). A further 25 per cent of the population lived in other UC/Ls. Approximately 2.1 million persons, or 11.5 per cent of the population, lived in communities of less than 200 persons (Rural and Migratory areas), outside the UC/L classification, and thus beyond the scope of this analysis[19].

Access to regional air services

In 2001, there were 194 airports served by scheduled RPT air services. Of those, 149 had an average of at least three services, each way, per day. There were 1405 UC/Ls within the assumed reasonable access distance of these airports, providing air transport links for around 15.3 million persons (or 97 per cent of domestic residents living in localities of 200 or more persons).

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[18] Three UC/Ls are on the off-shore territories of Christmas and Cocos (Keeling) Islands and are not explicitly considered in this analysis.

[19] As mentioned in the text, the ABS UC/L classification only assigns population centres of 200 persons or more to a geographic location. Population clusters in Rural and Migratory areas (ABS 1998), by definition less than 200 persons, are not assigned a geographic location. Hence, it is not possible to quantify the number of persons living in Rural and Migratory areas that are a within reasonable access distance of public transport services.

Of all UC/Ls outside capital cities and major urban areas (i.e. UC/Ls with less than 100 000 persons), 254 UC/Ls were not within the assumed reasonable access distance of an air service, comprising around 393 thousand persons (i.e. approximately 8 per cent of the domestic resident population in these UC/Ls). The majority of these centres are located in the southwest of Western Australia and western Victoria, often within two to three hours drive of the State capital.

TABLE 3.16 DOMESTIC RESIDENT POPULATION BY STATE/TERRITORY AND SECTION OF STATE/TERRITORY, 1996

(thousand persons)

	Section of State/Territory						
State	*Capital city*	*Other major urban*[a]	*Other urban*	*Bounded localities*[b]	*Rural*[c]	*Migratory*[c]	*Total*
NSW	3 242.2	778.8	1 277.0	133.3	561.7	2.6	5 995.5
Victoria	2 850.1	125.0	838.8	77.8	461.8	0.7	4 354.1
Queensland	1 280.5	371.6	1 023.5	102.6	538.8	2.2	3 319.2
SA	974.0	na	250.0	41.5	156.5	0.5	1 422.5
WA	1 087.4	na	392.4	46.7	183.6	2.9	1 713.0
Tasmania	125.7	na	207.5	27.2	97.6	0.6	458.6
NT	68.6	na	68.9	17.1	34.3	0.4	189.4
ACT	295.0	na	na	0.3	1.9	na	297.2
OT	na	na	1.9	0.6	0.8	na	3.3
All domestic residents	9 923.4	1 275.3	4 060.0	447.1	2 037.0	10.0	17 752.8
All persons[d]	10 001.0	1 290.7	4 090.9	449.2	2 049.3	11.2	17 892.3

na not applicable

a. Other major urban centres are those urban centres with more than 100 000 persons in 1996, and include: Newcastle, Wollongong, Central Coast, Gold Coast-Tweed Heads (Tweed Heads part) and Canberra-Queanbeyan (Queanbeyan part) in NSW; Geelong in Victoria; and Gold Coast-Tweed Heads (Gold Coast part) and Townsville-Thuringowa in Queensland.

b. Bounded localities include areas between 200 and 999 persons.

c. Rural and Migratory areas include all persons living outside of UC/Ls (population clusters of 200 persons or more).

d. Including overseas visitors in Australia counted in the Census who are not usual residents of Australia.

Sources ABS (1997 and 1998).

Access to regional rail services

In 2001, the seven non-urban rail operators provided connecting rail services that stopped at 214 UC/Ls[20]. There were 493 UC/Ls within the assumed reasonable access distance of these rail services, providing services for 13.3 million persons (85 per cent of the domestic resident population living in localities of 200 or more persons).

[20] This figure refers to UC/Ls in which a rail service actually stops.

Outside the major metropolitan areas, non-urban rail services provide transport links to 481 UC/Ls, comprising 2.4 million persons, or 51 per cent of the population in UC/Ls of less than 100 000 persons.

Access to regional coach services

Regional coach services are defined here to include both rail replacement coach services and other regular scheduled coach services. Assuming a reasonable access distance of 16 km, regional coach services provided connecting services to approximately 1283 UC/Ls, or approximately 15.3 million persons (97 per cent of domestic residents living in UC/Ls).

Of those UC/Ls of less than 100 000 persons, regional coach services provided public transport links for approximately 4.2 million persons, or 92 per cent of the domestic resident population living in such areas.

Access to all regional public transport services

Including all regional public transport services, over 99 per cent of the domestic resident population in UC/Ls (including capital cities and other major urban areas) were within the assumed reasonable access distance of least one mode of regional public transport. Ninety-six (96) per cent of persons in all UC/Ls were within the assumed reasonable access distance of at least two modes and 83 per cent had access to all three modes of transport.

Of those UC/Ls outside the capital cities and major urban centres, almost 99 per cent of such UC/Ls, comprising 4.6 million persons, were within the assumed reasonable access distance of at least one mode of transport that provided regular scheduled services at least three times per week. Approximately 30 000 persons were outside the assumed reasonable access distance to at least one mode of public transport operating in 2001. That is, approximately 1 per cent of the total population living in UC/Ls outside the major urban areas in 1996.

Access to regional public transport services by size of population

Table 3.17 shows the estimated number of UC/Ls, and the population within those towns, with and without regional public transport services in 2001, by type of transport service and size of urban centre. It shows that towns with populations above 20 000 are well served—with all such towns within a reasonable access distance of regional public transport services. Only Bunbury and Shepparton, with populations of 24 883 and 31 898 respectively, do not have regular scheduled air services. However, these centres are within 2 hours drive of Perth and Melbourne, respectively.

Not unexpectedly, the number of UC/Ls located beyond the assumed reasonable access distance of public transport services increases as the size of

the UC/L declines; often where passenger travel densities are likely to be thinner. Despite this, only 48 (of over 1 600) UC/Ls of 2 000 persons or less were outside of a reasonable access distance of any regular regional public transport service.

TABLE 3.17 PROVISION OF REGIONAL PUBLIC TRANSPORT SERVICES TO URBAN CENTRES AND LOCALITIES, 2000–01

Mode	*Population size*	*Centres within reasonable access distance*		*Centres beyond reasonable access distance*	
		No. towns	*Population ('000 persons)*	*No. towns*	*Population ('000 persons)*
	(persons)				
Air services	Less than 2 000	1 027	767	207	134
	2 000–20 000	317	1 807	45	203
	20 000–100 000	48	1 669	2	57
	More than 100 000	13	11 067	0	0
	Total	1 405	15 310	254	393
Rail services	Less than 2 000	304	238	930	663
	2 000–20 000	143	923	219	1 087
	20 000–100 000	34	1 191	16	535
	More than 100 000	12	10 941	1	126
	Total	493	13 293	1 166	2 410
Coach services	Less than 2 000	900	689	334	212
	2 000–20 000	320	1 830	42	180
	20 000–100 000	50	1 726	0	0
	More than 100 000	13	11 067	0	0
	Total	1 283	15 311	376	392
Any service	Less than 2 000	1 186	880	48	21
	2 000–20 000	360	2 001	2	9
	20 000–100 000	50	1 726	0	0
	More than 100 000	13	11 067	0	0
	Total	1 609	15 673	50	30

Sources ABS (1997 and 1998) and BTRE estimates.

Access to regional public transport services by State and Territory

Table 3.18 shows the total number of UC/Ls with no access to regional public transport services by State and Territory. The evidence shows the three largest jurisdictions in geographic terms, Queensland, Western Australia, and the Northern Territory have the largest number of persons in UC/Ls beyond a reasonable access distance to regional public transport. Western Australia and Queensland are the only States in which there are towns of more than 2 000 persons that were beyond the assumed reasonable access distance of any mode of public transport. Two of these towns, Weipa and Tom Price, are essentially mining towns, and at least in the case of the latter, there were regular charter air

services available to a significant proportion of the town's population in 2000–01. There are a number of similar mining towns of less than 2 000 persons, such as Marble Bar and Paraburdoo in Western Australia, that were outside a reasonable access distance of regular public transport services that also have regular charter air services.

TABLE 3.18 NUMBER OF URBAN CENTRES AND LOCALITIES BEYOND THE ASSUMED REASONABLE ACCESS DISTANCE TO REGIONAL PUBLIC TRANSPORT SERVICES, 2000–01

State	*Size of urban centres and localities (persons)*					*Total population (persons)*
	Less than 2 000	*2 000–20 000*	*20 000–100 000*	*More than 100 000*	*Total*	
NSW	6	–	–	–	6	2 512
Vic	9	–	–	–	9	3 409
Qld	12	2	–	–	14	14 573
SA	4	–	–	–	4	1 663
WA	9	–	–	–	9	3 654
Tas	–	–	–	–	–	–
NT	8	–	–	–	8	4 192
ACT	–	–	–	–	–	–
Total	48	2	–	–	49	30 003

Sources ABS (1997 and 1998) and BTRE estimates.

Access to rail and coach services

Figure 3.23 shows that there are large areas of Australia which have access to air services only, which is not surprising given the long distances and sparseness of the population in more remote areas. Whilst some of the towns in these regions may be located within 120 kms of an air service, the access to, and cost of air services may make them inappropriate for many everyday transport needs. In addition, the majority of aviation services in Australia radiate from the State and Territory capital cities. For residents needing to access services in regional centres, these aviation services may sometimes not meet the residents transport needs. Therefore, it is useful to separately analyse surface-based regional public transport.

Figure 3.24 identifies those UC/Ls that were beyond the assumed reasonable access distance to a rail or coach service. There were a total of 342 UC/Ls beyond the assumed access distance to rail or coach services, approximately 19 per cent of all UC/Ls. There were approximately 341 000 domestic residents in these centres. Excluding major metropolitan areas[21], this represents approximately 2 per cent of all persons living in UC/Ls of 200 persons or more.

[21] Includes all State and Territory capitals, Gold Coast–Tweed Heads, Central Coast, Wollongong, Geelong and Newcastle.

Table 3.19 shows the number of towns, and the proportion of the population, with access to rail and coach services by population size. Approximately 75 percent of small towns (UC/Ls of 2 000 persons or less) were within a reasonable access distance of rail and/or coach services, representing 79 per cent of domestic residents in this category. Over 92 per cent of medium sized towns (2 000–20 000 persons) were within the assumed reasonable access distance of rail and coach services, whilst no towns in the largest category were not covered by services.

TABLE 3.19 NUMBER OF URBAN CENTRES AND LOCALITIES WITHIN THE ASSUMED REASONABLE ACCESS DISTANCE OF A REGIONAL RAIL OR COACH SERVICE, BY POPULATION SIZE, 2000–01

Population (persons)	*Access to rail or coach*	*Towns*		*Population*	
		(No.)	*(per cent)*	*('000 persons)*	*(per cent)*
Less than 2 000	Yes	928	75	712	79
	No	306	25	189	21
2000–20 000	Yes	326	90	1 858	92
	No	36	10	152	8
20 000–100 000	Yes	50	100	1 726	100
	No	0	0	0	0
More than 100 000	Yes	13	100	11 067	100
	No	0	0	0	0
Total	Yes	1 317	79	15 362	98
	No	342	21	341	2

Sources ABS (1997 and 1998) and BTRE estimates.

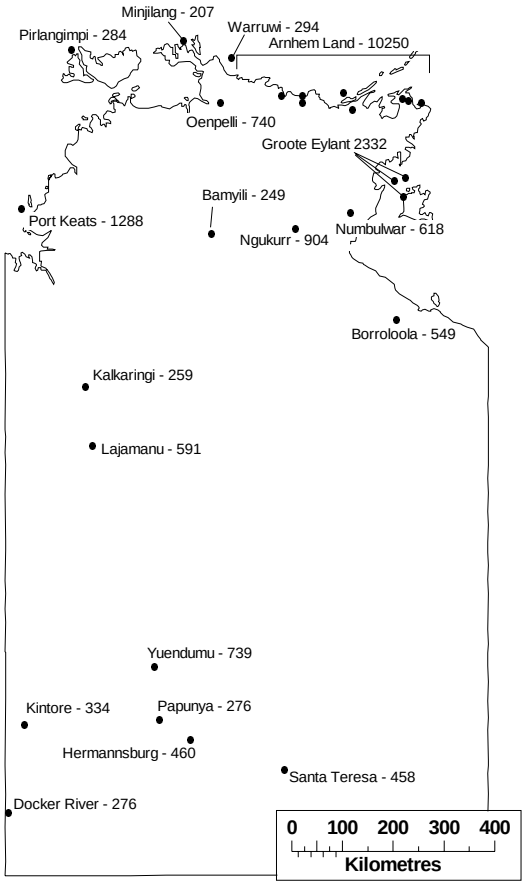
Population centres beyond the assumed reasonable access distance of coach and rail services

Many of the UC/Ls identified as beyond a reasonable access distance lie in two areas: the Northern Territory and in the NSW and Queensland hinterland, and this section provides some commentary on those areas.

There were 28 UC/Ls in the Northern Territory which have sizeable populations but were not served by regular surface inter-regional public transport (figure 3.25). Approximately 20 000 persons reside in these 28 communities, over 52 per cent of the Northern Territory population, outside Darwin and Alice Springs. Over 72 per cent of these people however, live in communities in Arnhem land and 'the islands' for which road transport is not feasible in the wet season.

Table 3.18 shows that eight (8) of these UC/Ls do not have access to a regular scheduled air service either. A number of these UC/Ls are located in the remote

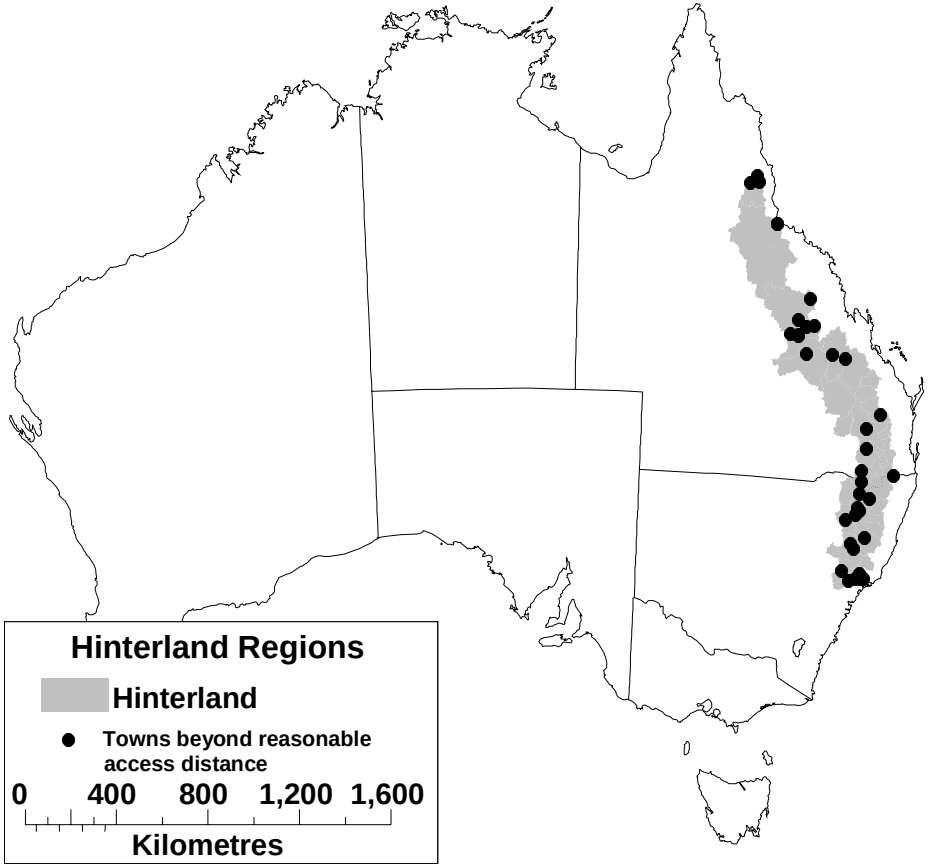
FIGURE 3.25 URBAN CENTRES AND LOCALITIES BEYOND REASONABLE ACCESS DISTANCE OF RAIL AND COACH SERVICES – NORTHERN TERRITORY



Note Many of these centres have regular air freight services, provided under the RASS programme and air passenger services provided on demand.

Sources ABS (1998), AUSLIG (1993) and Operator timetables.

FIGURE 3.26 URBAN CENTRES AND LOCALITIES BEYOND REASONABLE ACCESS DISTANCE OF RAIL AND COACH SERVICES – HINTERLAND REGIONS



Sources ABS (1998), AUSLIG (1993) and Operator timetable.

southwest of the Territory. (It should be noted, however, that for many remote communities in the Northern Territory, transport services are provided by light aircraft, operating services on demand, rather than as regular scheduled services.) Secondly, a large number of the UC/Ls beyond the assumed reasonable access distance to rail or coach services were located in the hinterland areas of the eastern seaboard (figure 3.26). The majority of these are within 50 km of an existing service. There were approximately 31 000 persons residing in the 32 towns identified in figure 3.26. The largest cluster of these towns is located in a strip, which stretches from the Hunter Region of NSW to the Sunshine Coast hinterlands.

Another cluster of UC/Ls beyond the reasonable access distance to rail or coach services in 2000–01 is located inland from Rockhampton and Mackay in Queensland. These are not remote places where one would expect access to rail and coach services to be difficult—the total population of this hinterland region identified in figure 3.25 is over 508 000 persons. Many of these UC/Ls, however, tend to be away from main transport routes. For example, the UC/Ls identified in northern NSW and southern Queensland are generally situated between the Newell and New England highways, where most coach services tend to operate.

It would be possible extend the analysis presented here by linking the socioeconomic characteristics of UC/Ls, contained in the Census data (ABS 1997), to the UC/Ls within and beyond the assumed reasonable access distance. That analysis was not undertaken for this project.

Overview of access analysis

Overall, these results, based on 2000–01 public transport services and 1996 Census data, suggest that a relatively high proportion of persons in UC/Ls (of 200 persons or more) have access to at least one mode of regional public transport service. Approximately 99 per cent of the population living in UC/Ls outside the capital cities and other major urban centres were within the assumed reasonable access distance of at least one mode of regular scheduled public transport services (operating services three or more days per week). These results are obviously dependent on the choice of reasonable access distance.

Given that aviation services are not always a feasible option (due to cost and distance considerations), further analysis was conducted into the accessibility of rail and coach services only. The analysis indicates that 93 per cent of persons living in all UC/Ls with populations of less than 100 000 persons have access to a regular scheduled rail or coach service. In most States, many rail and coach services (and also air services to smaller communities) are provided under State regulatory control and/or with State financial assistance.

CHAPTER 4 TRAVEL CHARACTERISTICS

Where do regional residents travel? How much do people travel? How far? For what purpose? This chapter reviews the current pattern of inter-regional passenger travel in Australia, and the characteristics of those travelling. The analysis draws on both available transport data and the BTR's National Visitor Survey (NVS) and International Visitor Survey (IVS).

The chapter begins with a review of the size and scope of the long-distance passenger transport task, based on transport data and the tourism[22] data. The main body of the chapter reviews the characteristics of travellers and transport mode choice, for travel to and from non-metropolitan regional areas, based on the BTR tourism data. The final section reviews the patterns and trends of regional passenger travel in each State and Territory.

NON-URBAN PASSENGER TRAVEL

Using available transport data, the BTRE estimates that the total non-urban passenger transport task measured 134 billion passenger-kilometres (pkm) in 2000–01. Private car travel accounted for 64 per cent of all trips by distance, air 26 per cent, and rail and coach travel around 2 and 9 per cent respectively (table 4.1). These estimates are very approximate as, apart from the Air Transport Statistics (ATS) database, there are few comprehensive transport data sets on long-distance non-urban passenger travel in Australia. The ATS database provides comprehensive data on air passenger travel, and rail authority annual reports provide information on total non-urban rail travel, but for long-distance coach and private car travel there are no consolidated statistics. Estimates of non-urban pkm travelled by private car and coach are inferred from the Survey of Motor Vehicle Use (SMVU) (ABS 2001b) data.

In terms of the number of non-urban passenger journeys, the available transport data estimates there were 34 million passenger trips by air, 9.8 million

[22] For ease of expression, and to differentiate between the NVS and IVS data and data supplied to the BTRE by transport operators, the term 'tourism data', where used, refers to the BTR's NVS and IVS data collections. The term 'transport data' refers to transport data collections such as DOTARS Air Transport Statistics (ATS) data collection and data provided by operators to the BTRE during the course of this study.

by rail and 0.6 million trips on ferries outside urban areas. There are no estimates of the number of non-urban passenger journeys by private car and scheduled coach services.

TABLE 4.1 ESTIMATED NON-URBAN PASSENGER TRAVEL, 2000–01

Mode	*Passenger-kilometre task*	*Share*	*Passenger journeys*[a]	*Share*
	(billion pkm)	*(per cent)*	*(million trips)*	*(per cent)*
Car	85.6	64.1	na	na
Air[b]	34.2	25.6	34.0	na
Rail	2.0	1.5	9.8[d]	na
Coach	11.7	8.8	na	na
Ferry[c]	0.1	0.1	0.6	na
Total	133.6	100	na	na

na not available.

a. A passenger journey is here defined to be a one-way passenger movement.

b. Includes air passenger travel by domestic and regional airlines and charter air operations (ACG 2001).

c. Bass Strait and Kangaroo Island passenger ferry services only.

d. Includes V/Line inter-urban passenger trips between Melbourne–Geelong, but does not include inter-urban trips carried by CityRail between Sydney–Wollongong and Sydney–Newcastle or inter-urban trips carried by QR CityTrain between Brisbane–Gold Coast and Brisbane–Nambour.

Sources ATS database (2001), ABS (2001b and earlier issues), SRA(2001), QR (2001), WAGR (2001), V/Line (pers. comm. 2002), Great Southern Railways (pers. comm. 2002), Apelbaum Consulting Group (2001), SeaLink (pers. comm. 2002) and BTRE estimates.

In terms of the pattern of passenger trips and the characteristics of travellers, apart from the ATS database, there is little comprehensive transport source data. The BTR tourism data, however, provides detailed information on travel undertaken by residents from different regions across Australia. It is this data upon which much of the following discussion of regional passenger travel is based.

OVERVIEW OF THE NVS AND IVS DATA

The National Visitor Survey (NVS, BTR 2001) interviews around 80 000 Australian residents aged 15 years and over, each year. It records details of all travel undertaken by Australian residents, including trips involving nights away from home and day trips, as well as trips by Australians overseas.

Most of the discussion of passenger travel in this chapter is couched in terms of passenger trips. A 'trip' is the basic collection unit used in the NVS to obtain information about travel undertaken by Australians (BTR 2001). For domestic residents, a 'passenger trip' is defined as all travel from an origin to the survey respondent's main destination. Only trips to a destination of at least 25 km from home, by persons 15 years and over are recorded by the NVS. Trips that are part of a regular commute, to work or school, are excluded from the survey. A single passenger trip encompasses both the outward and return 'journey'.

The NVS data contains data on trips separated by type of traveller: holiday and leisure travel, business travel, visits to friends and relatives, and other types of tourism are included. The NVS also provides a reasonably comprehensive coverage of travel to and from regional areas (discussed below).

The International Visitor Survey (IVS) interviews approximately 20 000 overseas visitors, aged 15 years or more, departing from major Australian airports each year (BTR 2002). The IVS records information on all travel undertaken between major destinations in Australia, including origin, destination and mode of transport. All passenger travel undertaken by international visitors are here reported in terms of separate domestic one-way passenger journeys.

Together, the NVS and IVS provide a unique source of information on long-distance passenger travel in Australia. The BTR/BTRE non-urban passenger model, employed for the projections of future trends in inter-regional passenger transport (described in chapter 5) uses the NVS and IVS data as a measure of the base inter-regional passenger transport movements.

Because the NVS and IVS are designed to measure tourist travel, the BTRE undertook some research to test whether the data agrees with available transport data. Two areas of consequence for the current study are: (i) that the NVS and IVS provide an adequate coverage of travel by non-metropolitan residents; and (ii) the accuracy with which the NVS and IVS data reflects current transport patterns. These issues are addressed below.

Regional coverage

The NVS sample has been designed to optimise the reliability of regional estimates of number of visitors—respondents are representative of the Australian population based on place of residence, age and sex (BTR 2001, p. 55). The 2000 NVS sample includes respondents from each of 90 tourism regions and records travel to each of those 90 regions. The profile of sample respondents also matches the age and gender profile of the wider Australian population. A brief review of the geographic coverage and demographic profile of the 2000 NVS is included in appendix III.

Comparison of NVS and IVS with transport data

The BTRE attempted to assess the accuracy of the NVS and IVS data by comparing it with transport source data for selected air and rail markets. Appendix IV provides a description of comparisons between tourism and transport source data for selected air, rail and passenger ferry markets.

Comparing the tourism and transport data is not straightforward and, in many cases, it is not possible to validly compare the two sets of data. The tourism data

measures total trips on an origin-destination basis, whereas much of the transport data measures total passenger travel on a particular route or total travel between two points, not necessarily the origin or destination of the trip.

Despite these differences, it is possible to reconcile the two data sets in some markets. The BTRE's investigations suggest that, in such markets, the tourism data approximates actual passenger travel quite well at an aggregate level and is a reasonable match at more disaggregate levels. In particular, there appears to be a reasonable match between the tourism-based estimates and transport data for total domestic air travel and for travel in particular rail markets. For some routes and markets, the tourism data exhibits year-to-year variation that, when averaged over a three year period, may also be reconciled with the transport data. The BTR tourism data is currently the best-available single source of data on inter-regional passenger travel patterns.

Because the NVS is a household based survey, there is a chance that certain types of trips, such as business trips, may be under-reported in the sample. Informal correspondence with the BTR confirms that the sampling procedures used to collect the data are designed to minimise any such possible biases. For example, in the event of no one being at home when the interviewer calls, four additional call backs are to be made at different times of likely availability during the week following, before the household can be classified as a non-contact. Calls to households are typically made after business hours to increase the likelihood of contact.

The next section looks at the characteristics of all passenger travel.

SUMMARY OF DOMESTIC TRAVEL BY AUSTRALIAN RESIDENTS AND FOREIGN ARRIVALS

According to the NVS, between 1998 and 2000 there were, on average, 235 million domestic passenger trips by Australians (aged 15 years and over) each year (table 4.2). Of these trips, approximately 73.5 million trips were overnight trips and, on average, 161.8 million trips were day trips. In addition, there were 3.9 million and 4.1 million international visitors to Australia in 1998 and 1999[23], respectively. International visitors undertook approximately 10 million separate domestic (one-way) journeys between (tourism) regions within Australia in each of 1998 and 1999. Table 4.2 provides a summary of the total passenger travel undertaken within Australia in calendar years 1998, 1999 and 2000.

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[23] Delays in the processing of the overseas arrivals and departures data has delayed the publication of estimates of international visitors from August 2000. Consequently, there are no estimates of international visitor travel available for the year 2000. The ABS expects estimates of international visitor numbers from July 2001 will be available in late 2002 or early 2003 (ABS 2002b).

TABLE 4.2 TOTAL DOMESTIC PASSENGER TRAVEL, 1998–2000

(million passenger trips)

Year	*1998*	*1999*	*2000*
Day trips	153.1	170.9	161.5
Overnight trips	73.8	73.0	73.8
Total domestic trips	226.9	243.9	235.2
Domestic travel by international visitors[a] *(million passenger journeys)*	9.6	10.1	9.9[b]

a. Based on the number of separate international visitor journeys between BTR tourism regions.

b. Estimate of full year based on January–June foreign arrivals multiplied by 2.

Sources NVS 1998, 1999, 2000, BTRE estimates.

Domestic travel patterns and the characteristics of travellers

This section provides an overview of general travel patterns and the characteristics of domestic travel by domestic residents and international visitors.

Unless otherwise specified all statistics are based on the 2000 NVS and IVS data. The 2000 NVS data was the first to code both the origin and destination of all overnight trips by Statistical Local Area (SLA). The day trips data has included information on both origin and destination by SLA since the inception of the NVS. The SLA-based NVS data is used later in this chapter to analyse domestic travel by residents of regional (non-metropolitan) areas[24].

Mode choice and travel distance

The private motor vehicle is the dominant mode of transport for domestic travel. According to the NVS, over 76 per cent of all overnight trips were by private motor vehicle in 2000[25]. Air is the next most significant mode, accounting for nearly 15 per cent of all domestic trips, while rail and coach each accounted for 3 per cent of all overnight trips by domestic residents in 2000. For day trips the private motor vehicle is even more important, accounting for over 91 per cent of trips. Rail and coach account for 4 per cent and 3 per cent, respectively, and air for less than 1 per cent of all day trips.

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[24] The 2000 NVS is based on the 1999 Australian Standard Geographic Classification (ASGC). As the BTRE has used the 1996 ASGC for much of the analysis contained within this report, some cleaning and re-mapping of the SLA code data in the NVS had to be undertaken. These adjustments are not recorded in this report.

[25] Because the average non-urban trip length is shorter for car than on other modes, car travel's share of all non-urban passenger trips is higher on a passenger-trip basis than on a passenger kilometre basis (data in chapter 2). By corollary, the share of non-urban passenger travel by air, coach and rail is higher on a passenger kilometre basis than on a passenger trip basis.

Of all trips between (tourism) regions by international visitors, car travel is again the most significant mode of transport, accounting for 41 per cent of trips. Not surprisingly, air and coach travel also account for a significant proportion of all such trips, carrying approximately 24 and 27 per cent of trips, respectively.

Table 4.3 lists the number of passenger trips by main mode of transport.

TABLE 4.3 TOTAL PASSENGER TRAVEL BY MAIN TRANSPORT MODE, 2000

	Overnight trips		*Day trips*		*Total domestic trips*		*Int'l visitor travel*[b]	
Mode	*Trips (million trips)*	*Share (per cent)*	*Trips (million trips)*	*Share (per cent)*	*Trips (million trips)*	*Share (per cent)*	*Journeys (million journeys)*	*Share (per cent)*
Car	56.57	76.7	147.05	91.1	203.62	86.5	4.08	41.0
Air	11.35	15.4	1.15	0.7	12.5	5.3	2.40	24.1
Rail	2.47	3.3	7.17	4.4	9.64	4.1	0.23	2.3
Coach	2.54	3.5	5.04	3.1	7.58	3.2	2.64	26.5
Ferry	0.16	0.2	0.27	0.2	0.43	0.2	0.16	1.6
Other[a]	0.53	0.7	0.78	0.5	1.31	0.6	0.44	4.5
Not stated	0.14	0.2	–	–			–	–
Total	73.8	100	161.5	100	235.3	100	9.94	100.0

a. Includes 'combination' mode trips such as Air/Car and Ferry/Car, which are less than 0.5 per cent of total overnight and day trips.

b. Estimate of full year based on January–June foreign arrivals multiplied by 2.

Sources NVS 2000, IVS 2000 and BTRE estimates.

Table 4.4 presents estimates of the number of domestic trips by trip distance. The trip distance was based on the great circle distance[26] between the geographic centroid of each SLA. Because the great circle distance is the shortest distance between any two points, the estimated travel distance will tend to understate the actual travel distance[27].

Based on these estimates, table 4.4 shows that just under 50 per cent of overnight trips are to a destination within 200 kilometres of 'home' (origin region), and 70 per cent to a destination with 400 kilometres of home. Of all day trips, just on three-quarters are to a destination within 100 kilometres of home.

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[26] The great circle distance is the shortest distance between any two points on the globe, measured over the Earth's surface.

[27] This may partly explain, for example, why 4.5 per cent of trips were to a destination within 40 kilometres of the origin region, yet overnight trips are defined to include only those trips to a destination at least 40 kilometres from home. Similarly, the BTR definition of day trips include only those trips with a round trip distance of at least 50 kilometres, yet the figures in table 4.4 indicate that about 30 per cent of day trips are to a destination within 40 kilometres of the home region.

The average (great circle) distance travelled, in 2000, was 416 km for all overnight trips and 90 km for day trips.

For international visitors, half of all domestic inter-regional trips are between 100 and 800 km in length. International visitor trips are more wide-ranging, with 20 per cent of trips greater than 800 km.

TABLE 4.4 TOTAL PASSENGER TRAVEL BY DISTANCE TRAVELLED[a] TO MAIN DESTINATION, 2000

	Overnight trips		*Day trips*		*Total domestic trips*		*Int'l visitor travel*[c]	
Distance (km)	*Trips (million trips)*	*Share (per cent)*	*Trips (million trips)*	*Share (per cent)*	*Trips (million trips)*	*Share (per cent)*	*Journeys (million journeys)*	*Share (per cent)*
0–40	3.31	4.5	47.59	29.5	50.9	21.7	0.03	0.3
41–100	15.66	21.2	74.54	46.2	90.2	38.4	0.86	8.6
101–200	17.46	23.7	28.05	17.4	45.51	19.4	1.36	13.7
201–400	15.75	21.4	6.77	4.2	22.52	9.6	1.55	15.6
401–800	12.49	16.9	1.88	1.2	14.37	6.1	2.12	21.3
801–1200	3.36	4.6	0.74	0.5	4.1	1.7	0.49	4.9
Above 1200	5.50	7.5	0.57	0.4	6.07	2.6	1.50	15.1
Not stated	0.22	0.3	1.12	0.7	1.34	0.6	2.04	20.6
Total[b]	73.7	100	161.3	100	235	100.0	9.94	100

a. Distance based on the great circle distance between origin and destination SLA.

b. Total may not add to because not all data points contained valid SLA codes.

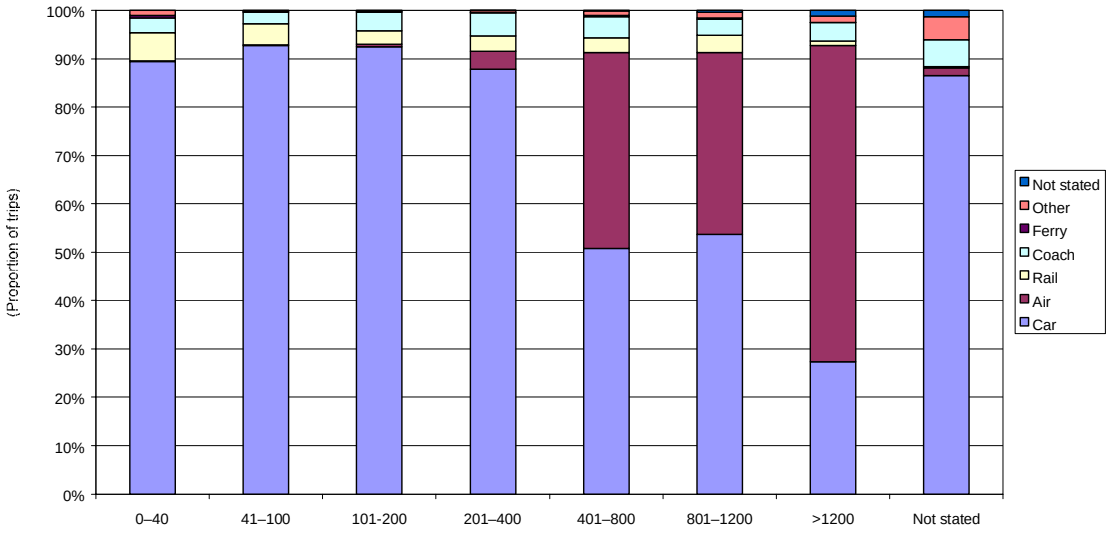
c. Includes only those inter-regional trips by international visitors.

Sources NVS 2000 and BTRE estimates.

Figure 4.1 illustrates the proportion of domestic resident trips by trip distance and mode of transport. The figures confirm that car is the predominant mode for travel of up to 1200 km, accounting for over 90 per cent of all trips under 400 km and around 50 per cent of all trips of between 400 and 1200 km. Air travel becomes more significant for trips over 400 km, carrying around 65 per cent of all domestic passenger trips above 1200 km. The share of travel by rail and coach varies by distance—rail appears to be more significant for trips under 100 km, while coach travel becomes more significant for trips between 100 and 800 km.

Figure 4.2 illustrates the proportion of trips by distance travelled and mode of transport. It shows that approximately 94 per cent of all car trips are to a destination within 400 km, while the reverse is true for air—over 90 per cent of air trips are to a destination above 400 km from home.

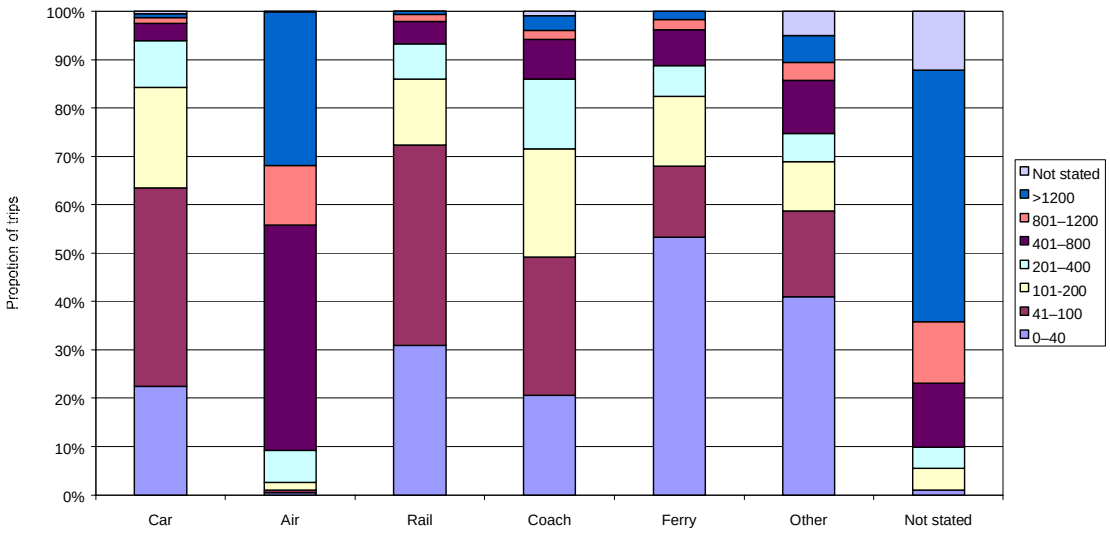
FIGURE 4.1 PROPORTION OF TOTAL PASSENGER TRIPS BY MODE OF TRANSPORT AND DISTANCE TRAVELLED[a] TO MAIN DESTINATION, 2000



a. Distance based on the great circle distance between origin and destination SLA.

Sources NVS 2000 and BTRE estimates.

FIGURE 4.2 PROPORTION OF TOTAL PASSENGER TRIPS BY DISTANCE TRAVELLED[a] TO MAIN DESTINATION AND MODE OF TRANSPORT, 2000



a. Distance based on the great circle distance between origin and destination SLA.

Sources NVS 2000 and BTRE estimates.

Of the other land transport modes, as suggested above, rail trips are generally shorter distance in nature with approximately 70 per cent of rail trips to a destination within 100 km of home. Coach trips, however, are generally longer in nature with over 50 per cent of trips to a destination beyond 200 km from home. 'Other' type trips include combination car / air and car / ferry trips, partly

explaining why there are significant numbers of both short and long distance trips.

Reason for travel

The NVS also asks respondents the main purpose of their trip. The NVS classifies over 18 different trip purposes, which may be grouped into four broad categories: visiting friends and relatives (VFR), holiday / leisure, business, and other. The 'other' trip category includes personal appointments, health-related trips and combined business / leisure trips.

Most overnight trips are for VFR, holiday / leisure or business. VFR and holiday / leisure trips, together, are the largest share of all trips, making up over 75 per cent of all overnight trips and 80 per cent of all day trips (see table 4.5). Business trips are the next most significant trip purpose making up approximately 20 per cent of overnight and 10 per cent of day trips. Other purpose trips account for only 4 per cent of overnight trips and 9 per cent of day trips.

Specific health-related trips make up 1.3 per cent of all overnight and 2.8 per cent of all day trips.

TABLE 4.5 TRAVEL BY PURPOSE, 2000

Purpose	*Overnight trips*		*Day trips*		*All trips*	
	Passenger trips (million)	*Share (per cent)*	*Passenger trips (million)*	*Share (per cent)*	*Passenger trips (million)*	*Share (per cent)*
VFR	23.37	31.68	47.17	29.21	70.54	29.99
Holiday/leisure	32.55	44.12	83.40	51.65	115.94	49.29
Business	14.62	19.82	16.84	10.43	31.46	13.37
Other	3.24	4.39	14.06	8.71	17.30	7.35
Total	73.8	100	161.5	100	235.2	100

Note VFR – Visiting friends and relatives

Sources NVS 2000 and BTRE estimates.

Socioeconomic profile of travellers

Household income

The NVS also contains information on the socioeconomic profile of survey respondents, including respondent age, household income and sex. Table 4.6 shows the proportion of trips by domestic residents by income group and figure 4.3 the choice of mode by the household income.

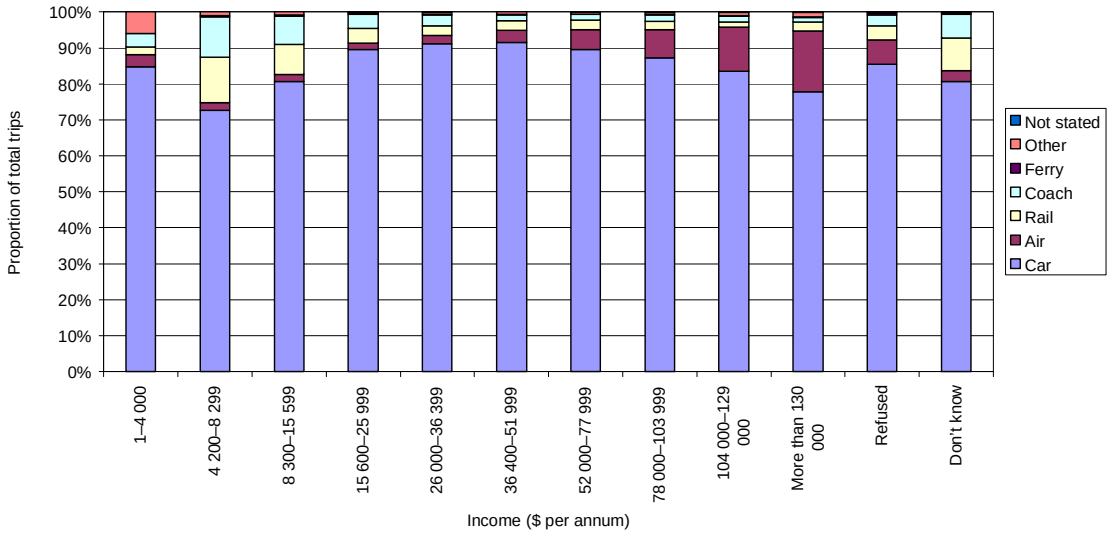
TABLE 4.6 TRAVEL BY HOUSEHOLD INCOME, 2000

Household income	*Overnight trips*		*Day trips*		*All trips*	
	Passenger trips	*Share*	*Passenger trips*	*Share*	*Passenger trips*	*Share*
($)	*(million)*	*(per cent)*	*(million)*	*(per cent)*	*(million)*	*(per cent)*
0–4 000	0.10	0.14	0.26	0.16	0.36	0.15
4 200–8 299	0.65	0.88	1.72	1.07	2.37	1.01
8 300–15 599	3.41	4.62	9.97	6.18	13.38	5.69
15 600–25 999	5.29	7.17	15.63	9.68	20.92	8.89
26 000–36 399	6.10	8.26	16.39	10.15	22.49	9.56
36 400–51 999	9.64	13.07	22.60	13.99	32.23	13.70
52 000–77 999	13.20	17.89	27.03	16.74	40.23	17.10
78 000–103 999	9.21	12.48	16.63	10.30	25.84	10.98
104 000–129 000	4.22	5.72	6.71	4.15	10.92	4.64
More than 130 000	5.63	7.63	7.04	4.36	12.67	5.39
Refused	7.21	9.78	15.33	9.50	22.54	9.58
Don’t know	9.12	12.37	22.14	13.71	31.27	13.29
Total	73.8	100	161.5	100	235.2	100

Sources NVS 2000 and BTRE estimates.

From figure 4.3 it is apparent that coach and rail travel carry a significantly higher proportion of all trips by those with incomes below $15 600 per annum. Air travel comprises a higher proportion of total travel for those with incomes above $52 000 per annum. Car travel, however, remains the most common mode of transport across all income groups, accounting for up to 90 per cent of all travel by those with household incomes between $15 600 and $78 000 per annum.

FIGURE 4.3 PROPORTION OF DOMESTIC TRAVEL BY HOUSEHOLD INCOME BY MODE, 2000



Sources NVS 2000, BTRE estimates.

Age

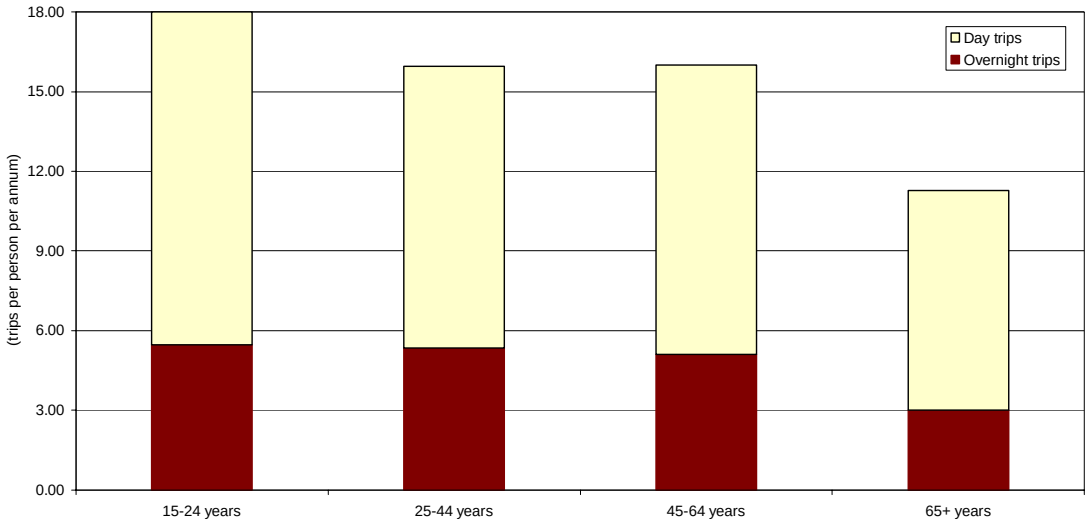
Table 4.7 shows the number of trips by age of survey respondent and figure 4.4 the travel propensity by age of survey respondent. The notable feature of figure 4.4 is the decline in the number of trips per capita with age—those aged 65 years and older average almost 30 per cent fewer trips than the population as a whole.

TABLE 4.7 TRAVEL BY AGE OF SURVEY RESPONDENT, 2000

Age	*Overnight trips*		*Day trips*		*Total trips*	
	Passenger trips (million)	*Share (per cent)*	*Passenger trips (million)*	*Share (per cent)*	*Passenger trips (million)*	*Share (per cent)*
15–24 years	14.01	18.99	32.19	19.94	46.20	19.64
25–44 years	29.94	40.58	59.25	36.70	89.19	37.91
45–64 years	22.12	29.99	47.14	29.20	69.27	29.45
65+ years	7.70	10.44	21.05	13.04	28.76	12.22
Not stated	–	–	1.83	1.13	1.83	0.78
Total	73.8	100	161.5	100	235.2	100

Sources NVS 2000 and BTRE estimates.

FIGURE 4.4 PROPENSITY TO TRAVEL BY AGE OF RESPONDENT, 2000

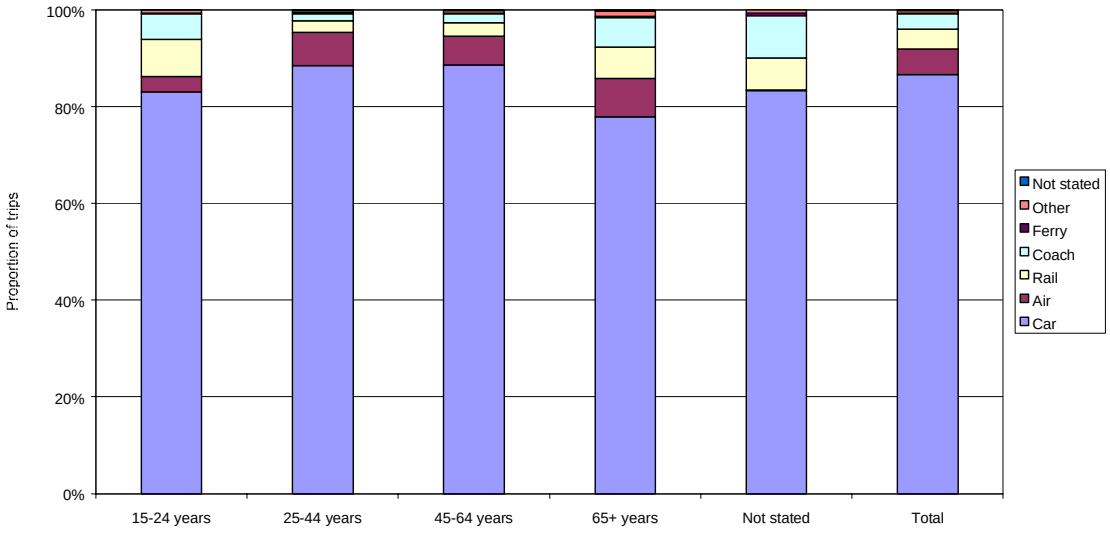


Sources NVS 2000, ABS (2002d), BTRE estimates.

When split by mode of transport and age (figure 4.5), the NVS data shows that car travel is the most important mode of transport across all age groups, accounting for approximately 75 per cent of overnight trips and over 80 per cent of day trips for all age groups. The NVS data also shows that rail and coach modes are more highly utilised by younger (15–24 years) and older persons (65+ years)—rail and coach travel account for 7.7 and 5.4 per cent of all trips by

persons 15–24 years and 6.5 and 6.1 per cent of all trips by persons 65 years and older. By mode of transport, respondents between 15–24 year and over 65 years of age account for approximately 40 per cent of all overnight and day trips by rail and coach. In contrast, over 80 per cent of air travellers are aged between 25 and 64 years.

FIGURE 4.5 PROPORTION OF TRAVEL BY AGE BY MODE OF TRANSPORT, 2000



Sources NVS 2000, BTRE estimates.

REGIONAL PASSENGER TRAVEL DEMAND

The remainder of this chapter focuses on the characteristics and patterns of regional passenger travel and regional public transport. Regional passenger travel patterns and characteristics are compared for each State and Territory, and for travel by residents of different geographic areas (using the geographic classification in Garnaut et al. 2001a).

Based on the NVS data, regional passenger travel by domestic residents is approximately 55 per cent of all trips[28]. Table 4.8 shows the total number of overnight and day trips by domestic residents, by transport mode and metropolitan / non-metropolitan origin and destination. Approximately 40 per cent of all regional trips are trips by metropolitan area residents to non-metropolitan areas. Trips by non-metropolitan area residents are almost evenly split: one-third to metropolitan areas, one-third to another non-metropolitan area and one-third to a destination within the tourism region.

[28] A reminder that, for the purposes of this report, 'regional passenger travel' includes all passenger travel to or from non-metropolitan areas. See chapter 1 and box 1.1 for explanations of the key terms used in the report.

TABLE 4.8 SUMMARY OF NON-URBAN AND REGIONAL PASSENGER TRAVEL, 2000
(million passenger trips)

Travel category[a]	*Mode*							
	Car	*Air*	*Rail*	*Coach*	*Ferry*	*Other*	*Not stated*	*Total*
Within metropolitan	34.68	0.04	3.35	1.39	0.19	0.42	0.00	40.1
Inter-metropolitan	45.18	8.78	3.76	1.64	0.09	0.15	0.05	59.6
Metropolitan to non-metropolitan	46.97	1.55	0.99	1.66	0.07	0.24	0.04	51.5
Non-metropolitan to metropolitan	22.20	1.69	1.30	1.19	0.06	0.10	0.02	26.6
Non-metropolitan to non-metropolitan	21.13	0.31	0.10	0.81	0.01	0.11	0.02	22.5
Within region non-metropolitan	25.54	0.06	0.09	0.60	0.02	0.16	0.00	26.5
Not specified	6.41	0.05	0.04	0.22	0.01	0.06	0.00	6.8
Total	202.1	12.5	9.6	7.5	0.4	1.2	0.1	233.5

a. Within metropolitan denotes travel to and from an origin and destination within the same metropolitan area. Inter-metropolitan denotes travel between to distinct metropolitan areas. Metropolitan to Non-metropolitan denotes trips from metropolitan areas to non-metropolitan areas. Non-metropolitan to metropolitan denotes travel from non-metropolitan areas to metropolitan areas. Non-metropolitan to non-metropolitan denotes travel from a non-metropolitan centre to another non-metropolitan area not in the same (tourism) region. Within region non-metropolitan travel denotes travel to and from an origin and destination within the same non-metropolitan (tourism) region.

Sources NVS 2000, BTRE estimates.

State based travel patterns

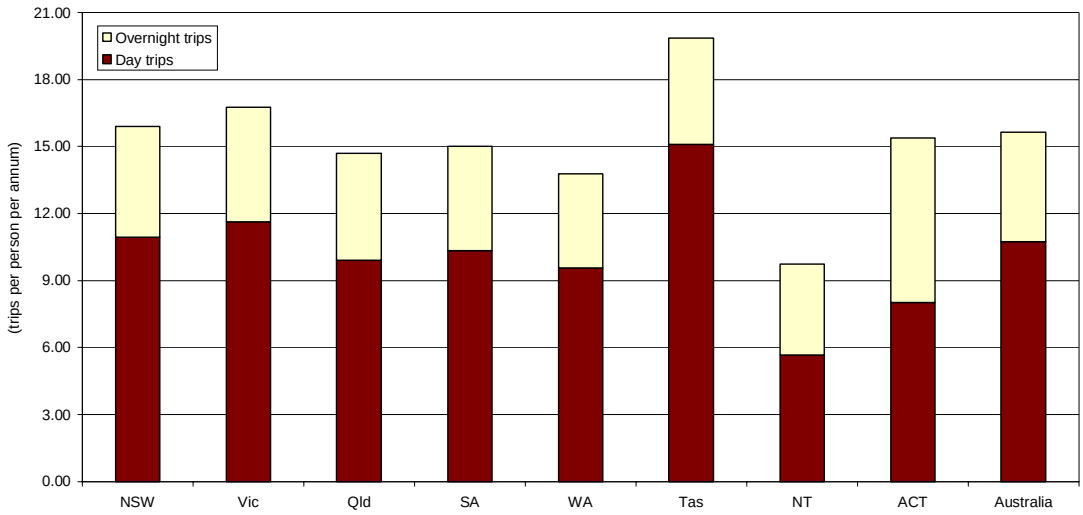
Figure 4.6 shows the propensity to travel by State and Territory of origin. Australian residents (15 years and older) undertook an average of 15.6 overnight and day trips per annum in 2000. The propensity to travel varies by State and Territory. Figure 4.6 shows that the travel propensity is highest in Tasmania and Victoria, the two smallest states by area, and lowest in the Northern Territory at just over 9 trips per person. Of the other States, NSW travel propensity is close to the national average, but for Queensland, South Australia and Western Australia, the propensity to travel is below the national average. The propensity to travel is higher in more geographically compact States, reflecting the proximity of towns and reflected by the higher day trip generation rate, and lower among the geographically larger States and Territories. Overnight trip rates are highest for ACT residents.

Mode of transport

Figure 4.7 shows the proportion of all trips by domestic residents, by State and Territory of origin and main mode of transport. Car travel is the dominant mode of transport for residents of all States and Territories. Of the notable differences in travel patterns across States and Territories, the proportion of travel by rail is significantly higher in NSW than in other States and Territories. However, over 80 per cent of this travel is attributable to rail trips between

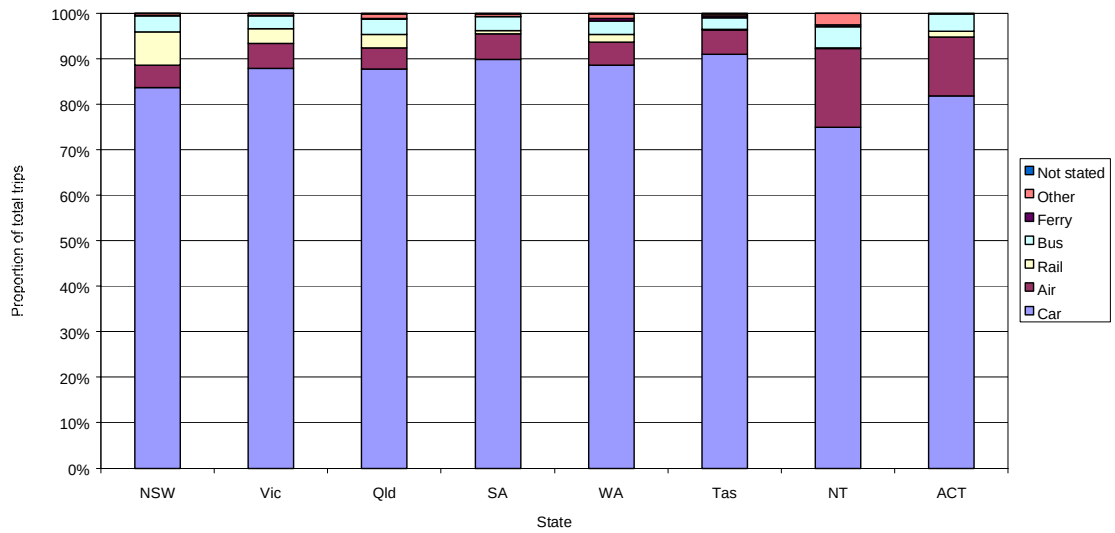
Sydney and the surrounding metropolitan areas of Newcastle, Wollongong and the Central Coast.

FIGURE 4.6 PROPENSITY TO TRAVEL BY STATE AND TERRITORY, 2000



Sources ABS (2002d) and NVS 2000.

FIGURE 4.7 PROPORTION OF TRIPS BY STATE OF ORIGIN BY MODE OF TRANSPORT, 2000



Sources NVS 2000, BTRE estimates.

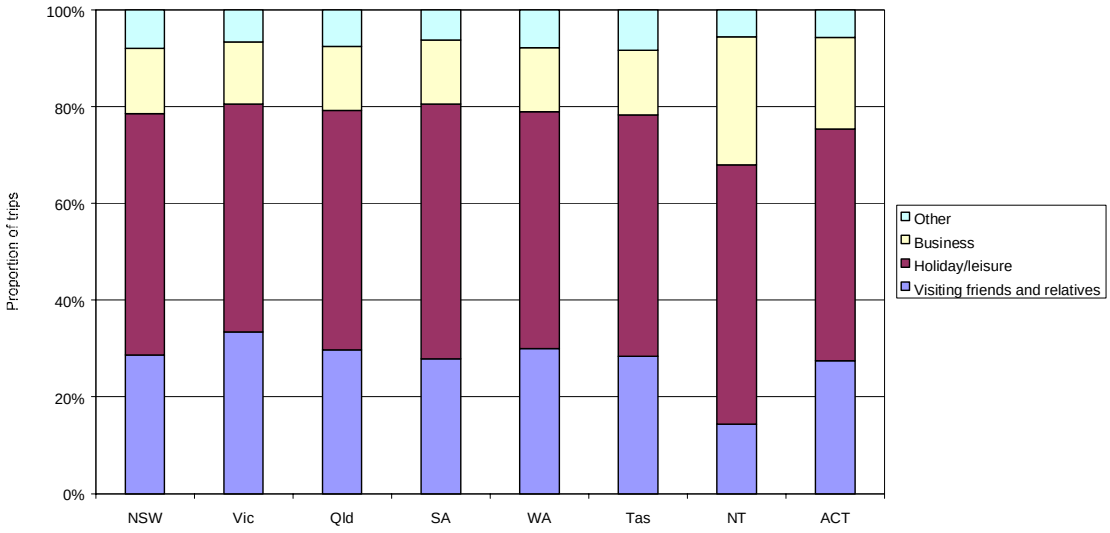
Air travel is more significant for residents of the Northern Territory and the ACT. For Northern Territory residents, air travel is 5 per cent of all day trips and 33 per cent of overnight trips, much higher than for any other State or Territory. For the ACT, the higher proportion of air travel probably reflects the

prevalence of business trips (to other capital cities) and generally higher income levels in the ACT.

Trip purpose

The proportion of trips by trip purpose is relatively similar across each of the six States. Figure 4.8 shows that VFR and holiday/leisure travel comprise around 80 per cent of all trips, business trips around 13 per cent and other purpose trips between 6 and 8 per cent of all trips. For Northern Territory and ACT residents, however, business trips are slightly higher than for the six States, around 26 per cent and 19 per cent of all trips, respectively. In the case of the Northern Territory, business trips are over 40 per cent of all overnight trips.

FIGURE 4.8 PROPORTION OF TRIPS BY STATE OF ORIGIN BY TRIP PURPOSE, 2000

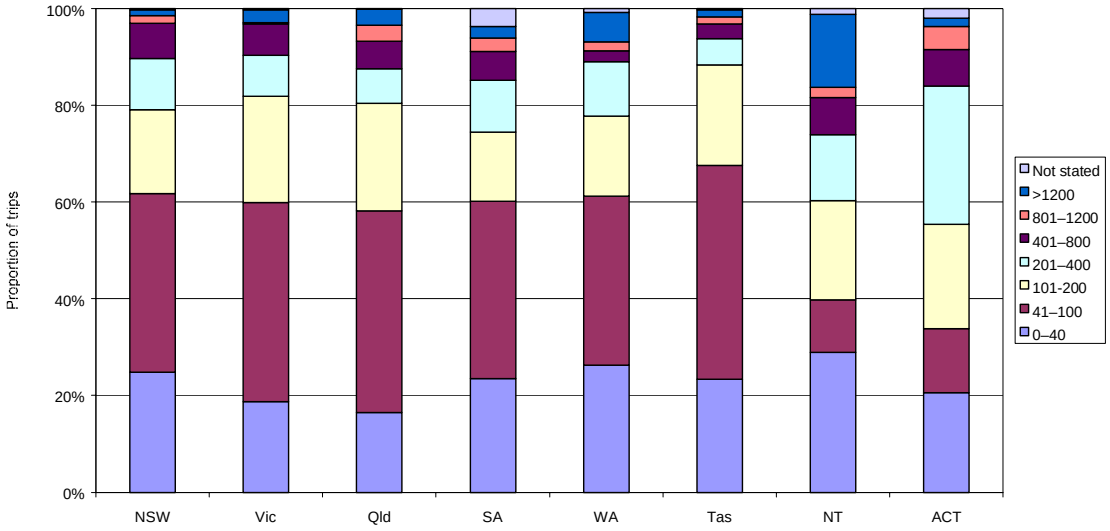


Sources NVS 2000, BTRE estimates.

Trip distance

Figure 4.9 illustrates the proportion of trips by State of origin and trip distance. The figure shows that approximately 80 per cent of trips by NSW, Victoria and Queensland residents are to a destination within 200 km of home. A slightly higher proportion of trips by South Australian and Western Australian residents are to destinations beyond 200 km, but almost 90 per cent of trips by Tasmanian residents are to a destination within 200 km of home. The proportion of longer distance trips (> 200 km) undertaken by Northern Territory and ACT residents is higher than for all other States. In the case of Northern Territory residents, approximately 15 per cent of trips are over 1200km. For ACT residents, over 25 per cent of trips are between 200 and 400km, probably reflecting the predominance of travel between Sydney and Canberra.

FIGURE 4.9 PROPORTION OF TRIPS BY STATE OF ORIGIN BY TRIP DISTANCE, 2000



Sources NVS 2000, BTRE estimates.

Regional travel patterns and characteristics

In attempting to characterise the pattern and characteristics of travel by non-metropolitan residents, there is a range of different regional classification structures from which it is possible to choose. Examples include the ARIA classification and the regional classification used by ABARE (Garnaut et al. 2001). The ABS has recently introduced a Regional Areas classification with the 2001 ASGC. (The various regional classifications are outlined in appendix V). For this study, the BTRE has used ABARE's (Garnaut et al. 2001) regional classification, which separates Australia into five (5) regional areas: capital city, other metropolitan, coastal, inland and remote. (The ABARE classification, applied to the 1996 ASGC, is illustrated in figure V.2). By splitting regions into metropolitan, coastal and inland/remote, this geographic classification corresponds with the differing levels of access to regional public transport services (described in chapter 3) across different regional areas—a relatively large number of services to regions, principally coastal areas, between capital cities and other metropolitan areas, and fewer services to inland and remote regions.

Total travel by regional area

This section begins with a discussion of current travel by residents of different regions across Australia. Travel patterns, mode of transport, reasons for travel and the demographic characteristics of persons travelling from different regions are examined.

Non-metropolitan residents comprised slightly less than 27 per cent of the total population in 2001 (ABS 2001d), and accounted for just over one-third of all valid overnight and day trips in 2000. Table 4.9 shows that in 2000, coastal residents made 33 million overnight and day trips (or 14 per cent of all trips), inland region residents 40.8 million trips (17 per cent) and remote areas residents just on 5 million overnight and day trips (2 per cent).

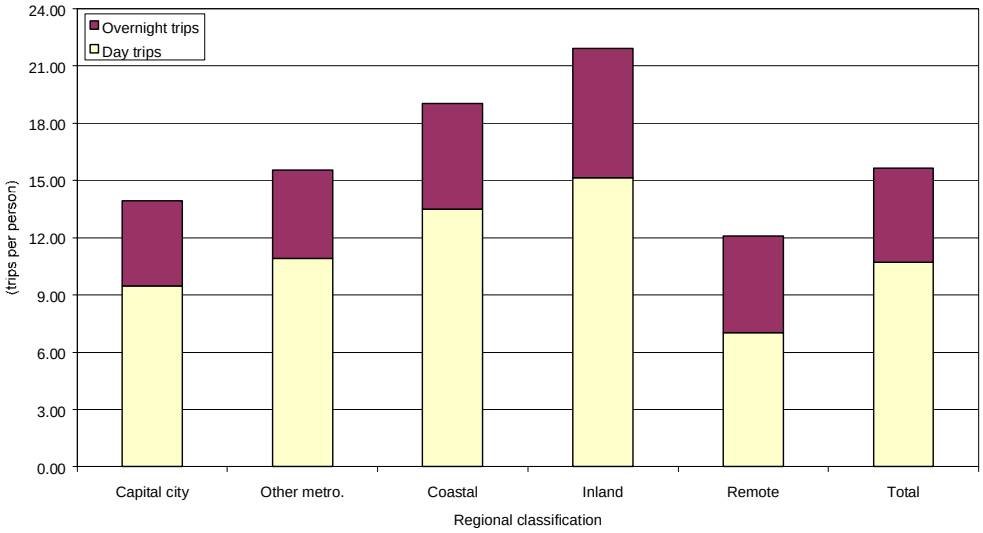
TABLE 4.9 TOTAL NUMBER OF DOMESTIC TRIPS BY REGION OF ORIGIN, 2000

	Overnight trips		*Day trips*		*All domestic trips*	
Region	*(million trips)*	*(per cent)*	*(million trips)*	*(per cent)*	*(million trips)*	*(per cent)*
Capital city	42.8	58.1	91.2	56.6	134.1	57.1
Other metro.	6.6	9.0	15.5	9.6	22.2	9.4
Coastal	9.6	13.0	23.3	14.5	33.0	14.0
Inland	12.6	17.1	28.2	17.5	40.8	17.3
Remote	2.1	2.8	2.9	1.8	5.0	2.1
Total	73.8	100	161.3	100	235.0	100

Note Totals may not add due to rounding.

Sources NVS 2000 and BTRE estimates.

FIGURE 4.10 TRAVEL PROPENSITY BY REGIONAL CLASSIFICATION, 2000



Sources NVS 2000, ABS (2002d) and BTRE estimates.

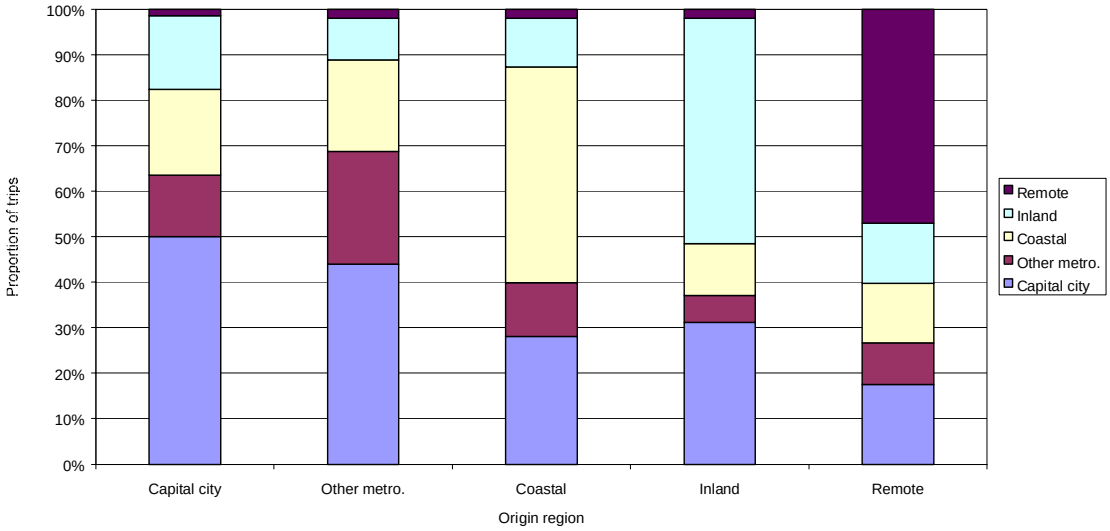
Domestic residents' propensity to travel differs by region. Figure 4.10 shows the propensity to travel by residents, 15 years and older, by regional area. The figure shows that the propensity to travel is higher for coastal and inland residents, than for residents of all other regions—residents of coastal and inland regions (aged 15 years and over) averaged 19.1 and 21.9 trips per capita in 2000, respectively. The propensity to travel is significantly lower, however, among remote area residents than for residents of all other regions—remote area

residents made, on average, only 12.1 overnight and day trips per capita in 2000. The lower travel propensities of remote area residents is entirely due to lower rates of day trips, a result that is not surprising given the generally greater travel distances faced by remote area residents.

Travel patterns

Table 4.8 shows that a significant proportion of trips are to or from non-metropolitan areas. Of the total 73.8 million overnight trips by domestic residents, 33 per cent were from a non-metropolitan area, but almost 50 per cent were to a non-metropolitan area. Non-metropolitan residents accounted for over two-thirds of all valid day trips, while just over 40 per cent of all domestic resident day trips are to a non-metropolitan area—due in part to the higher proportion of holiday travel to coastal areas. Figure 4.11 shows the proportion of trips by regional area of origin and destination. Most overnight and day trips are to regions in close proximity to the respondent's home location. For example most trips by coastal residents are to other coastal regions, and similarly most trips by inland and remote area residents are to a destination within that area. Despite this, metropolitan centres are important destinations for non-metropolitan residents, accounting for almost 40 per cent of all overnight and day trips by coastal and inland residents and over 25 per cent of trips by remote area residents.

FIGURE 4.11 PROPORTION OF DOMESTIC TRIPS BY ORIGIN AND DESTINATION REGION, 2000

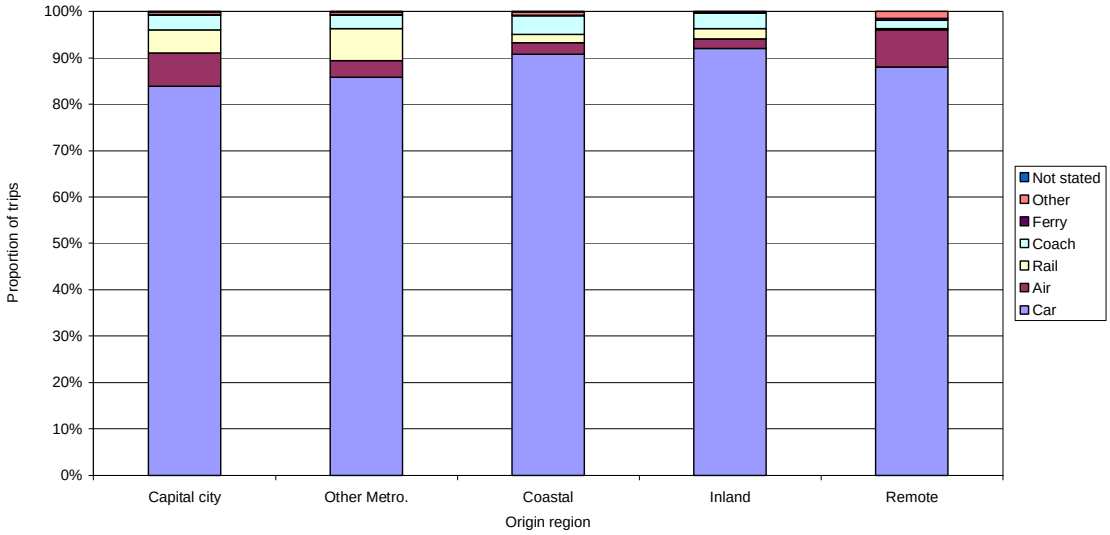


Sources NVS 2000 and BTRE estimates.

Trips by regional area by mode of transport

Figure 4.12 shows the mode share of overnight and day trips by residents of different regional areas. Again, car is the dominant mode of transport for residents in each of the different regional areas. Air travel carries a comparatively larger share of all trips by capital city and remote area residents (7 and 8 per cent, respectively) than for residents of other regions (between 2 and 3 per cent). Rail travel is around 6 per cent of metropolitan area resident trips, but only 2 per cent of trips by coastal and inland areas residents—possibly reflecting the greater provision and use of inter-urban rail services between the major capital cities (Sydney, Brisbane and Melbourne) and the surrounding metropolitan areas. Rail accounts for a negligible share of remote area resident trips. Coach travel represents around 3 per cent of trips for metropolitan region residents and inland region residents, 4 per cent of trips by coastal region residents (where there are a large number of services), but less than 2 per cent of all trips by remote area residents.

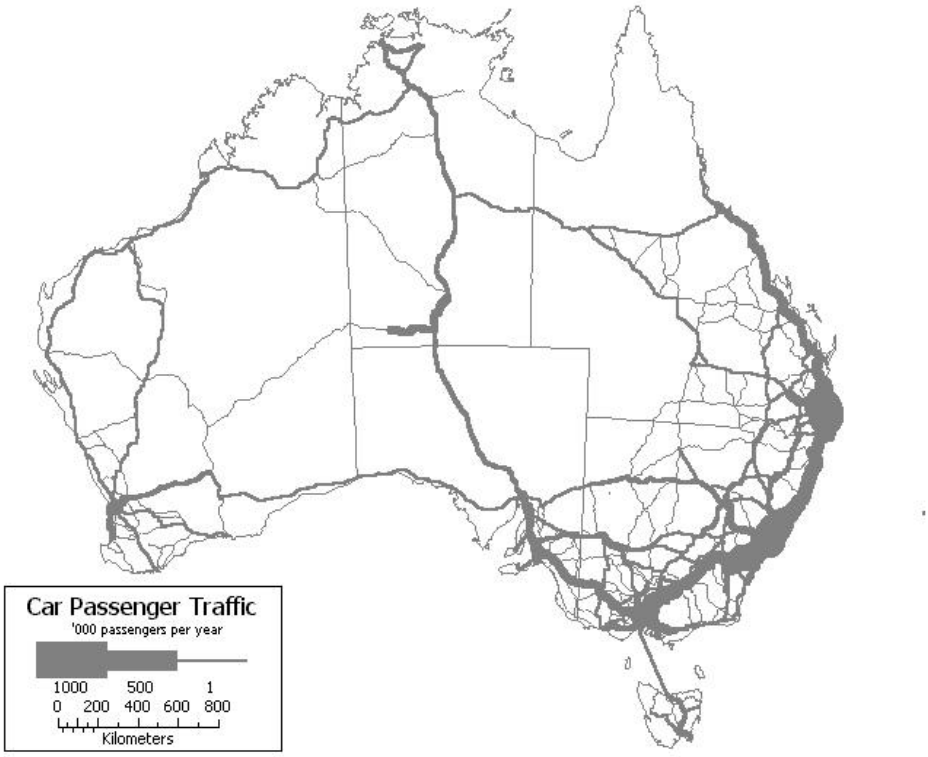
FIGURE 4.12 DOMESTIC TRIPS BY REGION OF ORIGIN BY MODE OF TRANSPORT



Sources NVS 2000 and BTRE estimates.

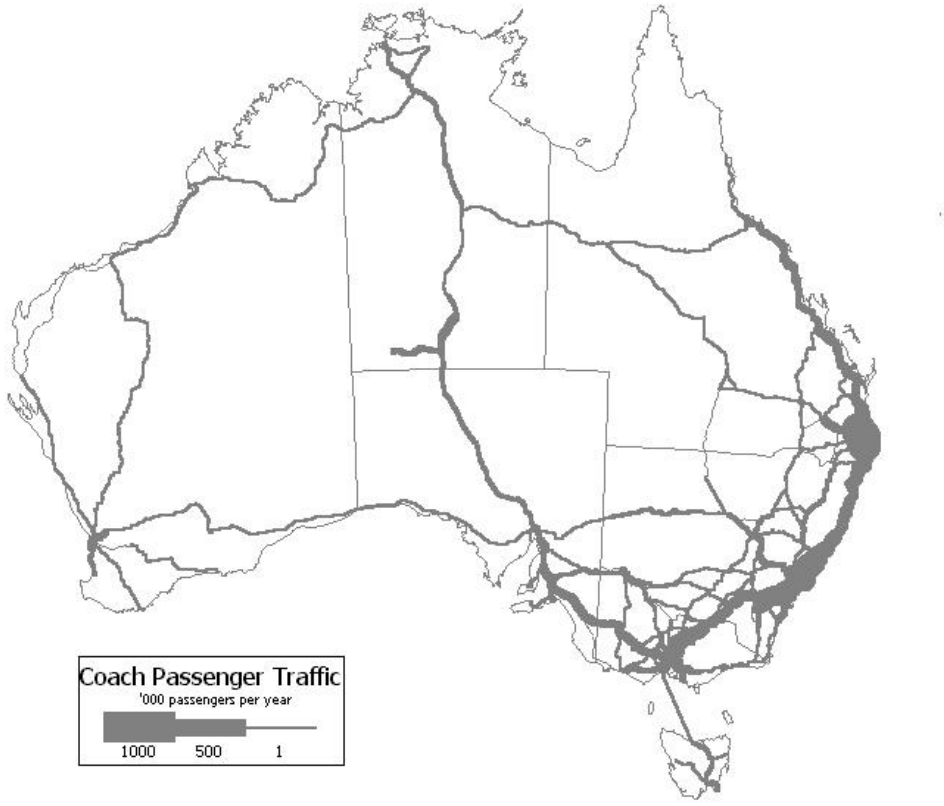
Figure 4.13 illustrates the current pattern of (non-urban) inter-regional passenger travel by private car, coach and rail (frames (A), (B) and (C), respectively) and regional air passenger travel (frame (D)). (Note the figure only illustrates travel *between* tourism regions. Travel *within* a tourism region is all assigned to the same point in the GIS assignment and so does not appear in the figures.) In the case of car, coach and rail travel, a single centroid has been used for each tourism region, and so the passenger travel patterns are indicative only. For air passenger travel, figure 4.13(D) shows the relative passenger travel patterns in 2000–01 on routes to non-metropolitan areas, where there was 3 or more return services per week.

FIGURE 4.13(A) PRIVATE CAR PASSENGER TRAVEL PATTERNS, 1998–2000



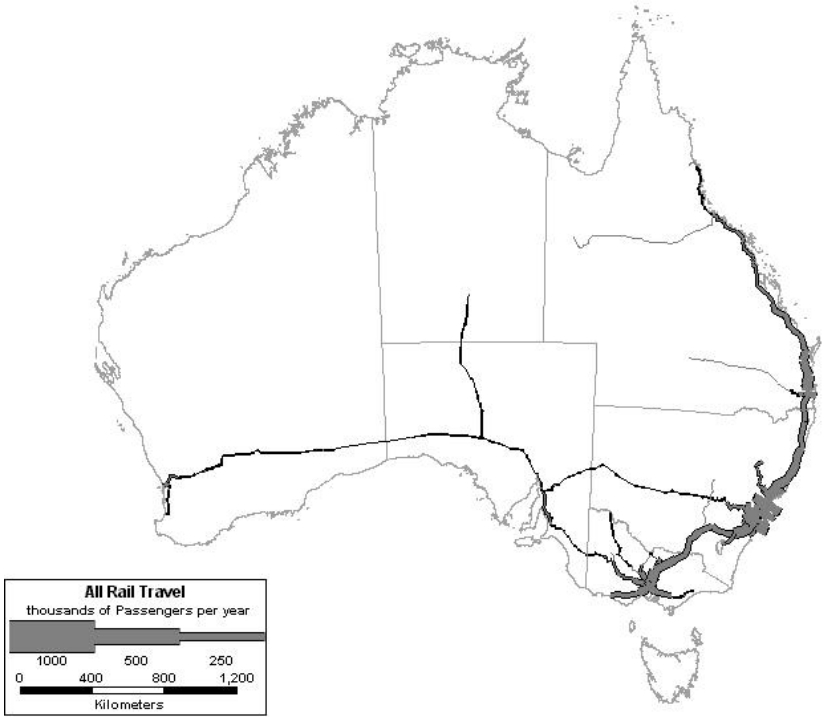
Sources NVS (1998, 1999 and 2000) and BTRE estimates.

FIGURE 4.13(B) COACH PASSENGER TRAVEL PATTERNS, 1998–2000



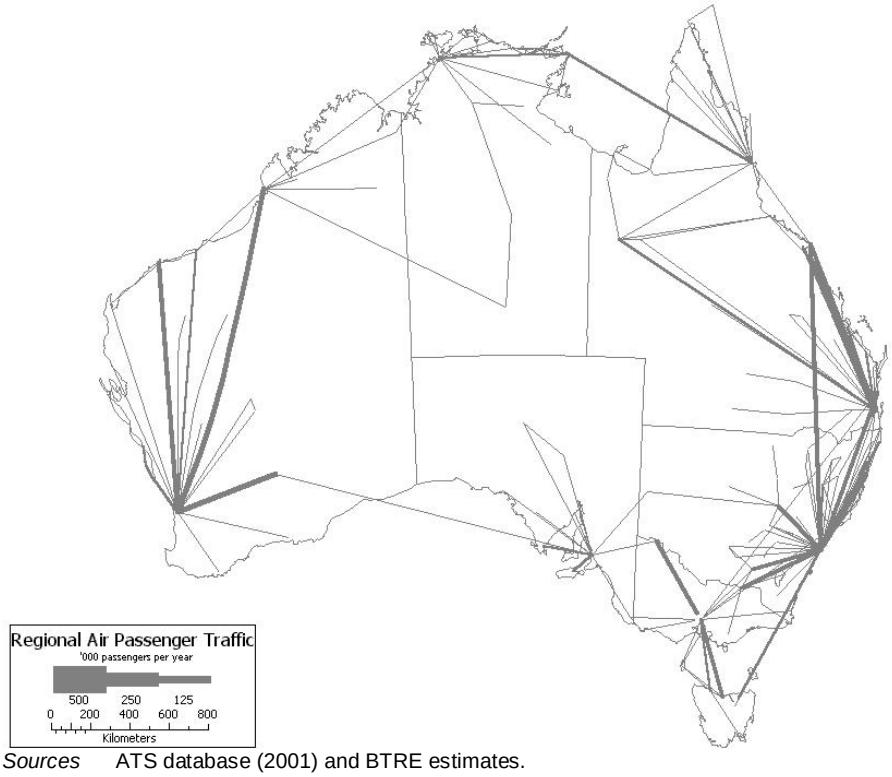
Sources NVS (1998, 1999 and 2000) and BTRE estimates.

FIGURE 4.13(C) RAIL PASSENGER TRAVEL PATTERNS, 1998-2000



Sources NVS (1998, 1999 and 2000) and BTRE estimates.

FIGURE 4.13(D) AIR PASSENGER TRAVEL PATTERNS, 2000–01



Sources ATS database (2001) and BTRE estimates.

A significant trend emerging from figure 4.13 is the big difference in demand patterns for private car and public transport modes. In particular, the pattern of coach and rail traffic shows the strong concentration of travel in the Melbourne–Sydney–Brisbane corridor, and radial travel patterns from regional areas to capital cities—reflecting broadly the existing pattern of public transport services. This differs from private car trips, (figure 4.13(A)) where traffic is greatest between capital cities and adjoining regions. (Not shown in the figures, is the prevalence of within tourism region car trips in non-metropolitan areas.)

Whilst private car is the predominant mode, it can be seen from figure 4.13(B) and 4.13(C) that coach and rail patronage is particularly strong in some areas, particularly the Northern Territory and along the Queensland coast. In contrast, there are some areas that have relatively high car traffic and relatively little public transport traffic. For regional air travel, figure 4.13(D) illustrates that there are a generally between 2 and 5 more heavily trafficked routes, and a larger number of more thinly trafficked routes, in each State or Territory.

Trips by regional area by trip distance

Figure 4.14 shows the proportion of domestic resident overnight and day trips region of origin and distance travelled. Over 80 per cent of trips are within 200 km of home for all but remote area residents. For remote area residents, approximately 30 per cent of all trips are over 400 km. Day trips tend to be shorter in distance—well over 90 per cent of trips by all but remote area residents are within 200 km of home. Overnight trips are, on average, to a destination further away—except for remote area residents approximately 50 per cent of all overnight trips are to a destination beyond 200 km from home. For remote area residents, approximately 50 per cent of overnight trips are to a destination over 400 km from home.

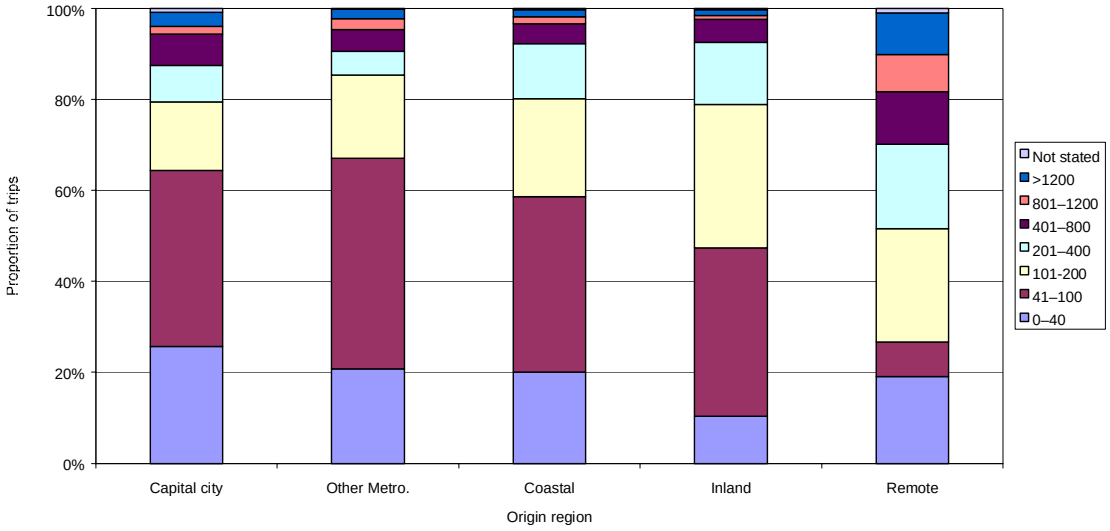
Figure 4.14 shows that the proportion of trips beyond 100 km is higher for residents of coastal, inland and remote regions, and the proportion increases with ‘remoteness’.

Trips by regional area by purpose of trip

By purpose of trip, VFR and leisure trips make up to 80 per cent of overnight and day trips by metropolitan residents, but only 72 per cent of trips by inland area residents and 66 per cent of trips by remote area residents. The business trips are between 12 and 15 per cent of overnight and day trips by all residents, except for remote area residents, for whom business trips constitute 20 per cent of all trips. Figure 4.15 also shows that the proportion of ‘other’ purpose trips (i.e. personal or other trips) reasons is higher for non-metropolitan residents, and appears to increase as the distance from metropolitan centres increases. This finding probably reflects that a higher proportion of ‘other’ purpose trips by metropolitan area residents are less than 25 km from home, so they are not

measured by the NVS. For inland and remote areas residents, 13 to 14 per cent of all 'other' purpose trips are by air (figure 4.16), which is consistent with other survey results[29].

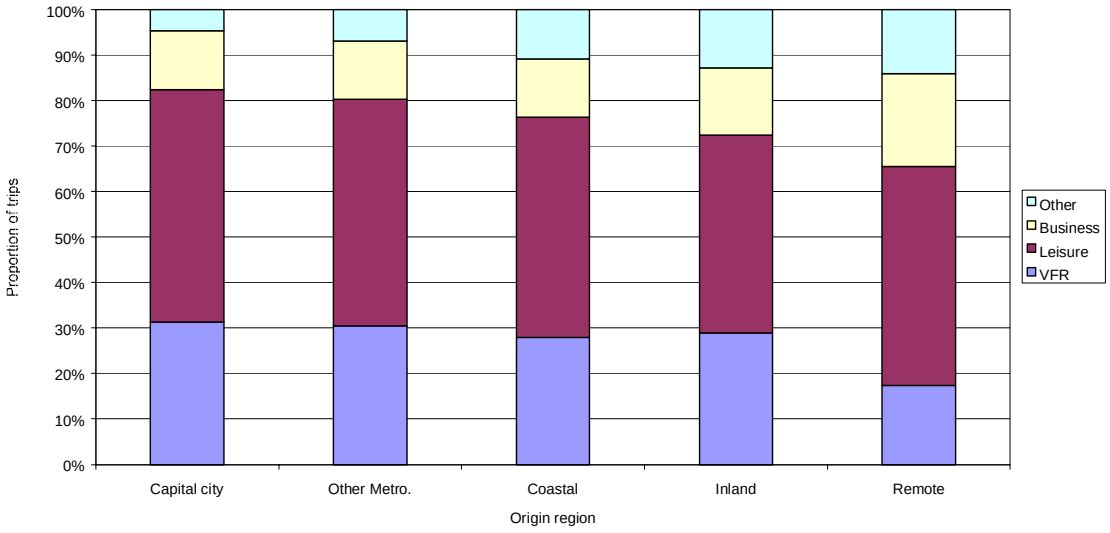
FIGURE 4.14 DOMESTIC TRIPS BY REGION OF ORIGIN BY DISTANCE



Note All distances computed from great circle distance between origin and destination SLAs.

Sources NVS 2000 and BTRE estimates.

FIGURE 4.15 DOMESTIC TRIPS BY REGION OF ORIGIN BY TRIP PURPOSE, 2000



Note VFR – Visiting Friends and Relatives.

Sources NVS 2000 and BTRE estimates.

[29] Queensland Transport (2002) estimated the proportion of 'other' purpose trips (including health-related trips) to be between 3 and 18 per cent of all trips, with a median of 11 per cent, across a range of air routes to remote communities in western and northern Queensland.

Health-related trips

Of particular interest to policy makers are trips made either to access essential services such as health services, or to provide essential health services in regional areas. The NVS records travel undertaken for health-related reasons, but unfortunately it does not provide sufficient detail to determine the proportion of passenger trips to regional areas undertaken for the purpose of providing health or other essential services. Such travel is likely to be included with all other business travel.

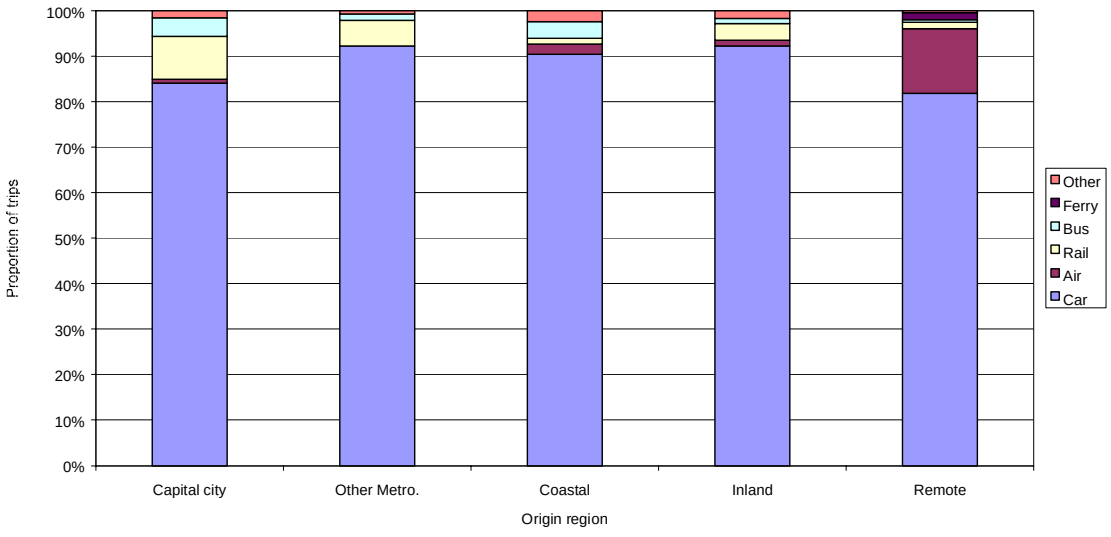
TABLE 4.10 HEALTH-RELATED TRIPS AS A PROPORTION OF ALL TRIPS BY REGION OF ORIGIN, 2000

(per cent)

Origin region	*Overnight trips*	*Day trips*	*All trips*
Capital city	0.24	1.12	0.84
Other metro.	0.65	1.61	1.32
Coastal	2.61	4.45	3.92
Inland	3.26	7.11	5.92
Remote	6.28	3.85	4.86
All	1.27	2.75	2.28

Sources NVS 2000 and BTRE estimates.

FIGURE 4.16 HEALTH RELATED TRIPS BY REGION OF ORIGIN BY TRANSPORT MODE, 2000



Sources NVS 2000 and BTRE estimates.

According to the NVS, health-related overnight and day trips are negligible for capital city residents, and only around 1 per cent of trips by other metropolitan centre residents (table 4.10). However, for residents of other regions, health-related trips are much more significant—comprising 4 per cent of trips by

coastal residents, 6 per cent for inland residents and 5 per cents of trips by remote areas residents (table 4.10). (Again, these results probably reflect the fact that most metropolitan area residents can meet their health service needs locally, so these trips are not measured by the NVS.) For remote area residents, over 50 per cent of health-related trips involve an overnight stay away from home.

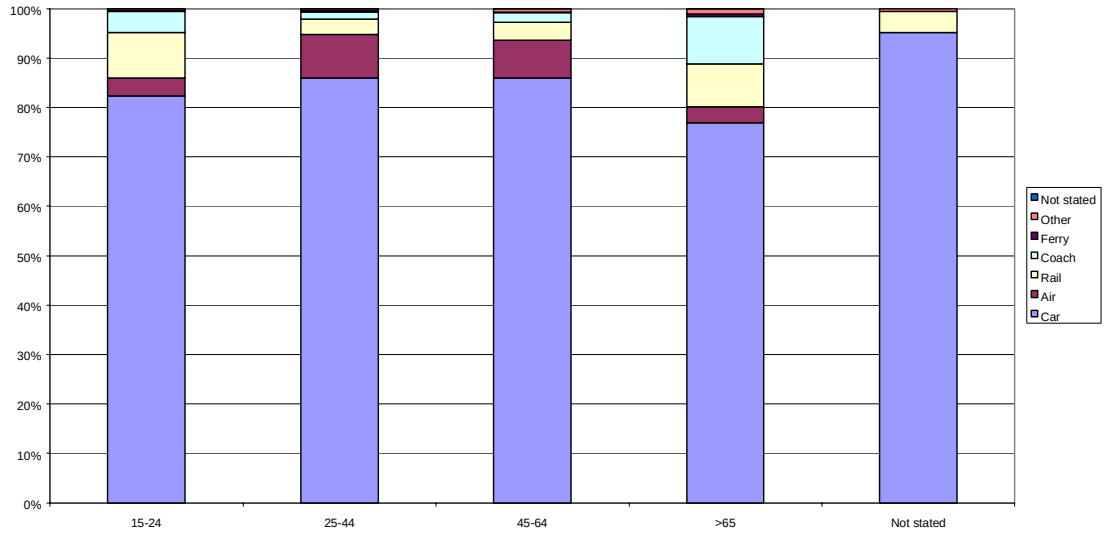
Figure 4.16 illustrates the share of health-related trips by region of origin and mode of transport. It shows that private car is the main mode of transport used for health-related travel, for residents of all regions. Rail travel has a higher share of health-related travel for metropolitan residents. Air carries over 14 per cent of all health-related trips undertaken by remote area residents.

Trips by regional area by age and household income

How do household income and respondent age affect choice of mode and the purpose of trip across different regions?

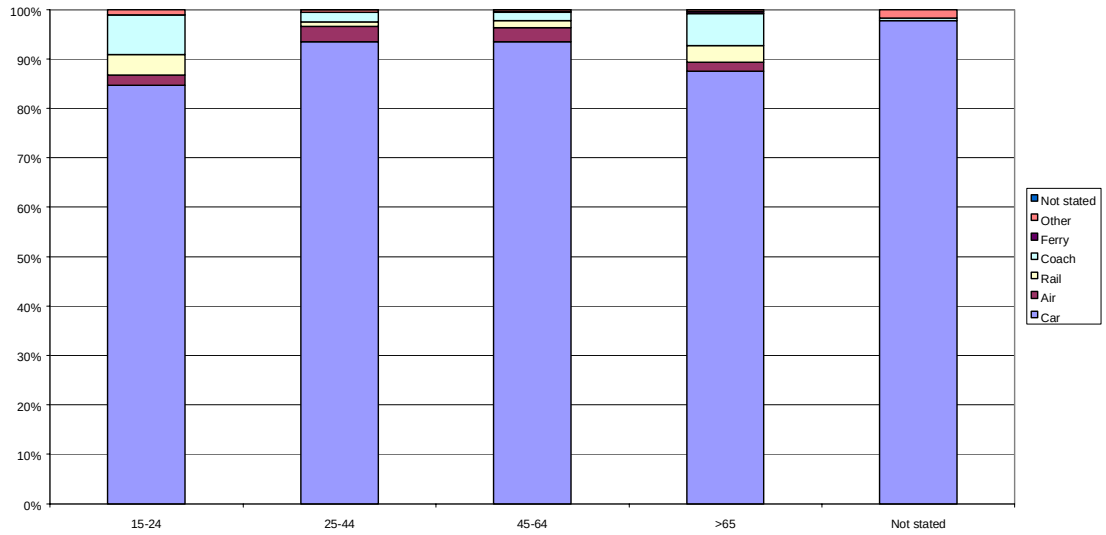
Figures 4.17 and 4.18 provide a comparison between the proportion of all trips, by age of survey respondent by mode of transport, by metropolitan and non-metropolitan residents, respectively. Some general observations are immediately apparent: car carries a greater share of all overnight and day trips by non-metropolitan residents than metropolitan residents, across all age groups. For both metropolitan and non-metropolitan residents, rail and coach travel are a greater share of all travel by persons aged 15–24 years and over 65.

FIGURE 4.17 PROPORTION OF TRIPS BY METROPOLITAN AREA RESIDENTS, BY AGE OF RESPONDENT BY MODE OF TRANSPORT, 2000



Sources NVS 2000 and BTRE estimates.

FIGURE 4.18 PROPORTION OF TRIPS BY NON-METROPOLITAN AREA RESIDENTS, BY AGE OF RESPONDENT BY MODE OF TRANSPORT, 2000



Sources NVS 2000 and BTRE estimates.

The NVS data also shows that persons aged 15–24 years and 65 years and above also comprise a higher proportion of low-income earners than other age groups. For example, over 50 per cent of respondents aged 65 years and above have an income of less than $26 000 per annum, with over 35 per cent of all persons aged 65 years earning less than $15 600 per annum. Of persons aged 15–24 years, 8 per cent earned less than $26 000, but over 35 per cent reported not knowing their annual income (significantly above that of all other age groups), which suggests that those persons may be students and lower income casual workers.

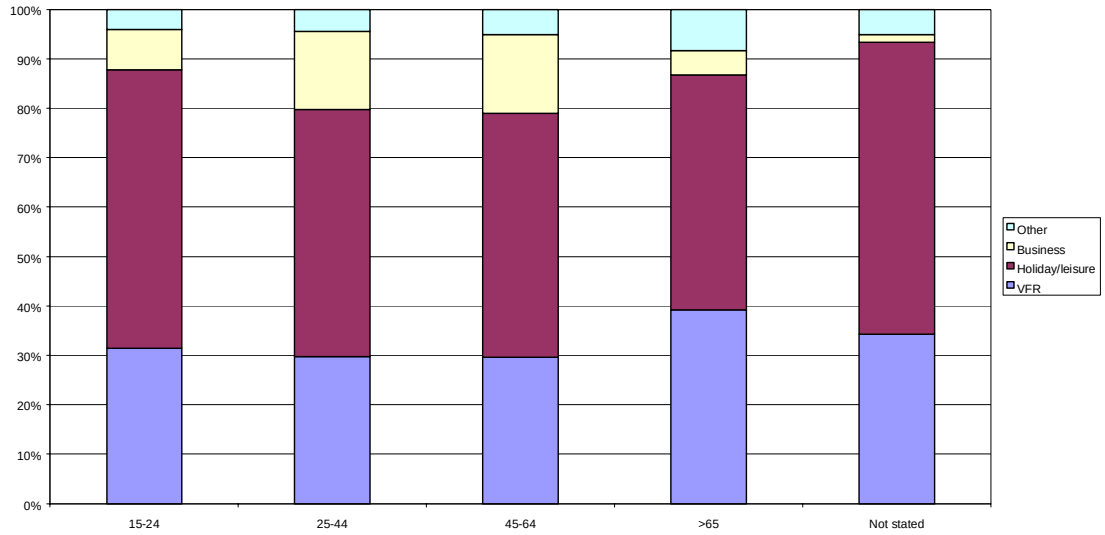
Though not shown here, a similar story applies for choice of mode by household income. For all income groups, car carries a greater share of all trips by non-metropolitan residents than for metropolitan residents. Rail and coach are a significantly higher share of all trips by households with annual incomes below $15 600 than for all other income groups. Air travel is a higher share of all trips by households with incomes above $78 000 per annum for both metropolitan and non-metropolitan residents.

Trips by regional area by age and purpose

The BTRE also investigated how the proportion of trips varies between metropolitan and non-metropolitan regions by age of respondent and purpose of trip. Figures 4.19 and 4.20 show the proportion of trips by age of respondent by purpose of trip for metropolitan and non-metropolitan residents respectively. Some of the notable features of these results are: (i) for all age groups ‘other’ purpose trips are a higher proportion of all day and overnight

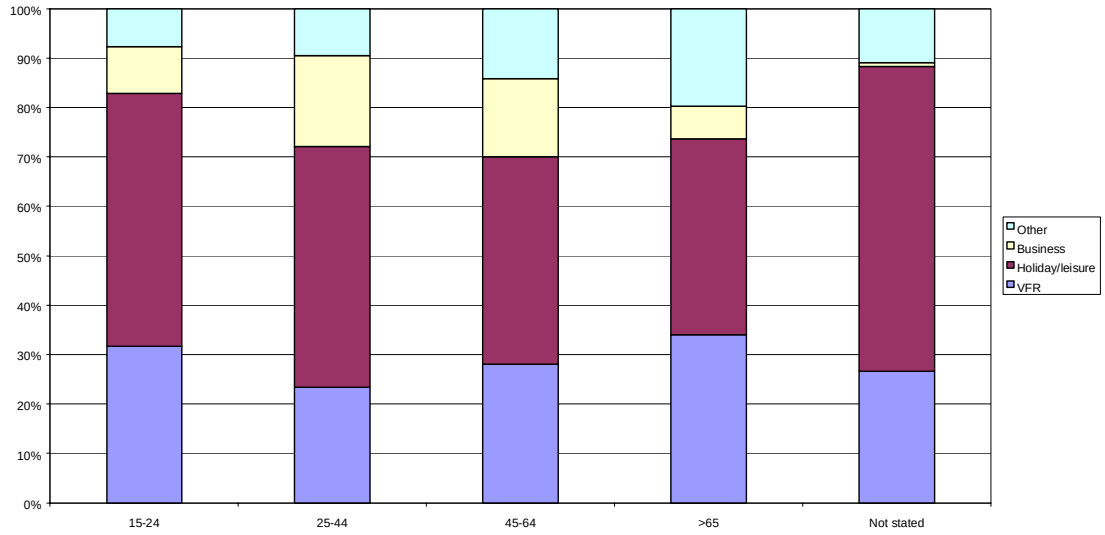
trips by non-metropolitan residents than for metropolitan residents[30]; and (ii) amongst non-metropolitan residents aged 65 years and older, other purpose trips make up almost 20 per cent of all overnight and day trips.

FIGURE 4.19 PROPORTION OF TRIPS BY METROPOLITAN AREA RESIDENTS, BY AGE OF RESPONDENT BY PURPOSE OF TRIP, 2000



Sources NVS 2000 and BTRE estimates.

FIGURE 4.20 PROPORTION OF TRIPS BY NON-METROPOLITAN AREA RESIDENTS, BY AGE OF RESPONDENT BY PURPOSE OF TRIP, 2000

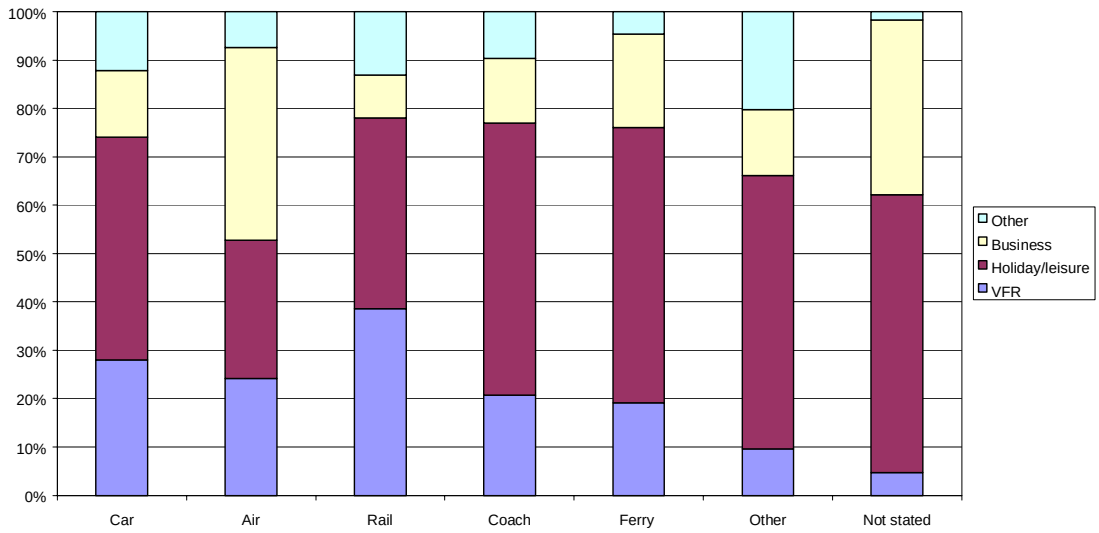


Sources NVS 2000 and BTRE estimates.

[30] Some 'other' purpose trips by metropolitan residents are probably within the metropolitan area and 40 km of home, and so do not qualify as a valid trip for the NVS, whereas those same trips for non-metropolitan residents will be greater than 40 km from home, and counted in the NVS.

Finally, figure 4.21 shows the proportion of non-metropolitan trips by mode of transport by purpose of trip. For all non-metropolitan resident trips by air, over 50 per cent are for VFR or holiday/leisure purpose, 40 per cent for business and 7 per cent are 'other' purpose trips (including health and personal services type trips).

FIGURE 4.21 PROPORTION OF TRIPS BY NON-METROPOLITAN AREA RESIDENTS, BY MODE OF TRANSPORT BY PURPOSE OF TRIP, 2000



Sources NVS 2000 and BTRE estimates.

For car, and coach and rail, VFR and holiday/leisure trips are around 75 per cent of all trips by non-metropolitan area residents, while other purpose trips are around 10 to 13 per cent of trips by those modes.

Recapping, car is the main mode of transport for both metropolitan and non-metropolitan resident trips. Car is even more significant for inter-regional trips to other non-metropolitan regions; routes generally not well served by the radial pattern of existing services. Inter-regional passenger trips by rail and coach, tend to be a higher share of trips by metropolitan residents than of trips by non-metropolitan residents.

Regional passenger travel by State and Territory

To round out this chapter, some evidence is provided on the travel patterns and mode choice for regional passenger travel for each State and Territory. The information provided here is a summary only. Appendix VI provides a further discussion of regional passenger travel, for each State and Territory.

Regional passenger trip destinations

For all States and the Northern Territory, the majority of regional passenger trips (i.e. trips to or from a non-metropolitan area) are to an intrastate destination. Table 4.11 shows the proportion of all non-metropolitan resident trips by destination region. For all States but NSW and the Northern Territory, over 90 per cent of all non-metropolitan resident trips are to an intrastate destination. The slightly lower share of intrastate trips to NSW metropolitan centres by NSW non-metropolitan residents is largely attributable to travel by residents of northern NSW to Queensland destinations, southern NSW residents to Victoria and remote NSW (e.g. Broken Hill) resident trips into South Australia.

TABLE 4.11 PROPORTION OF NON-METROPOLITAN RESIDENT TRIPS BY STATE / TERRITORY BY DESTINATION REGION

(per cent)

	Destination		
State/Territory	*Intrastate*	*Intrastate metropolitan area*	*Non-metropolitan area*
NSW	84	23	60
Victoria	91	35	56
Queensland	96	39	56
SA	91	41	50
WA	98	39	61
Tasmania	94	20	74
NT	86	24	62
ACT	..	..	..

.. not applicable.

Sources NVS 2000 and BTRE estimates.

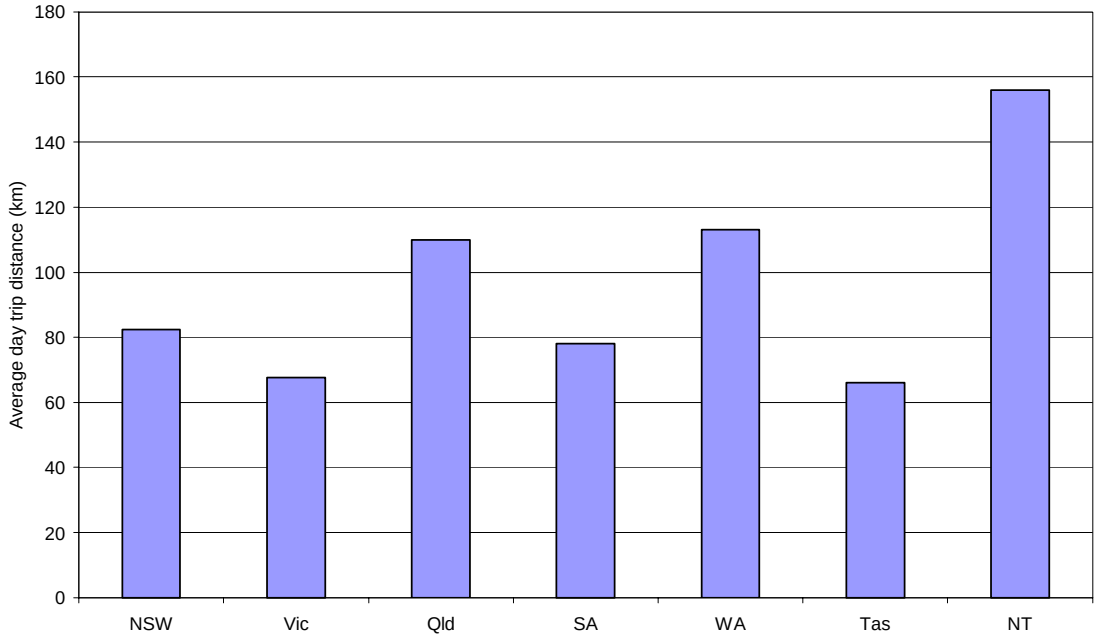
Table 4.11 also shows that other intrastate non-metropolitan regions are the main destination of all non-metropolitan resident trips. In all States and Territories, over 50 per cent of non-metropolitan resident trips are to a non-metropolitan destination.

Most non-metropolitan resident trips to other non-metropolitan centres are day trips by private car, and the average distance travelled[31], although varying by State and Territory, is generally well above 50 kilometres from the origin. Figure 4.22 shows the average trip distance for non-metropolitan resident trips to other non-metropolitan areas. The average day trip distance is over 100 kilometres for trips by non-metropolitan residents in Queensland, Western Australia and the Northern Territory, significantly higher than for trips by residents in most other States. The average day trip distance in Victoria and Tasmania is around 66 kilometres.

[31] Based on the great circle distance between the geographic centroid of each SLA.

Metropolitan centres are also a significant destination of all non-metropolitan resident trips (table 4.11). For Victoria, Queensland, South Australia and Western Australia, metropolitan centres are the main destination for between 35 and 40 per cent of all non-metropolitan resident trips. In NSW, Brisbane, Melbourne and Adelaide are often closer destinations for some NSW non-metropolitan area residents. In Tasmania, the other major population centres: Launceston, Burnie and Devonport, which are here classed as non-metropolitan areas, are significant destinations of all intrastate trips.

FIGURE 4.22 AVERAGE DAY TRIP DISTANCE, NON-METROPOLITAN TO NON-METROPOLITAN REGION TRIPS, BY STATE / TERRITORY, 2000



Sources NVS 2000 and BTRE estimates.

Regional passenger travel by mode of transport

Private car is the predominant mode of transport for regional passenger trips by both metropolitan and non-metropolitan residents for most of the mainland States. For six jurisdictions, private car travel accounts for over 90 per cent of all regional passenger trips by non-metropolitan residents and 86 per cent of regional passenger trips by metropolitan residents. Only for the Northern Territory is there a significant difference in the mode share of regional travel—there, air travel is a much higher proportion of all regional passenger travel (around 17 per cent) and private car travel accounts for approximately 74 per cent of regional trips by non-metropolitan and metropolitan residents.

In most States, regional public transport is more significant for travel between metropolitan and non-metropolitan areas, but carries a much smaller share of

all trips within and between non-metropolitan regions. In NSW, Victoria and Queensland public transport carries around 16 per cent of all trips by non-metropolitan residents to metropolitan areas. In South Australia and Western Australia, public transport carries 10 and 13 per cent of all non-metropolitan resident travel to metropolitan centres. In all mainland States, though, public transport is responsible for between 3 and 6 per cent of all trips within and between non-metropolitan areas—private car travel generally accounting for over 95 per cent of such trips. Because of the shorter distances and radial pattern of rail services, coach is responsible for most of the within and between non-metropolitan region public transport trips.

Regional passenger travel by trip purpose

There are various other trip or passenger attributes that could be analysed for regional passenger travel in each State and Territory, but one last aspect is reviewed here: regional travel by trip purpose.

In most States, VFR and holiday/leisure trips make up over 70 per cent of regional passenger trips by non-metropolitan residents. Business trips are anywhere between 11 and 19 per cent of such trips and 'other' purpose trips are around 10 to 16 per cent of these trips. 'Other' purpose trips appear to be a higher share of all trips by non-metropolitan residents to metropolitan centres than as a share of all trips to non-metropolitan centres in most States and the Northern Territory. This would appear, in part, to reflect health-related trips to metropolitan centres.

It was already observed that health-related trips are around 5 per cent of trips by non-metropolitan area residents. In most States, with the exception of NSW and Tasmania, over 50 per cent of all health-related trips by non-metropolitan residents are to a metropolitan centre within the State or Territory of the respondent. In Tasmania, non-metropolitan residents can also access health services in Launceston, Burnie and Devonport. In NSW, a large proportion of health-related trips are to metropolitan centres in adjacent States and the ACT.

As previously mentioned, appendix VI has a further discussion of State and Territory based regional passenger travel patterns.

CHAPTER 5 TRAVEL DEMAND PROJECTIONS

This chapter outlines the BTRE's projections of future trends in level of demand for regional passenger travel. The projections were derived using the BTR/BTRE non-urban passenger transport model. The model is a 'sketch-planning' tool that provides indicative trends in future long-distance passenger travel, between separate geographic regions in Australia, from existing base year passenger travel patterns.

The projections are based on 'business-as-usual' assumptions about growth in the size and distribution of the resident population, national household income, and trends in the cost of passenger travel and transport mode shares. The estimates for the base year, 1999, reflect the observed level and pattern of passenger travel averaged across the three calendar years: 1998, 1999 and 2000. As such, they predate the impact of the cessation of services of Ansett Airlines. The projections of the demand for passenger travel, presented here, are neither predictions nor forecasts, but rather indications of possible future travel trends, based on assumed changes in population and household incomes, and no change in real price of passenger travel.

The base case projections imply growth in total domestic passenger travel, including domestic travel by international visitors, of 2.0 per cent per annum between 1999 and 2020. Overall, private car's share of total long-distance passenger travel is projected to remain around 85 per cent of trips[32]. Air travel's mode share is projected to grow from under 6 per cent to 8 per cent of all trips. The share of coach travel is projected to decline slightly, from 3.7 per cent to 3.4 per cent of all trips, and rail's share is projected to decline from 4 per cent currently to 2.5 per cent of all passenger trips in 2020.

Total passenger travel to and from non-metropolitan tourism regions is projected to grow by 1.3 per cent per annum between 1999 and 2020. Private car's share of total travel to and from non-metropolitan tourism regions is

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[32] As mentioned in a footnote to chapter 4, because the average non-urban trip length is shorter for car than on other modes, car travel's share of all non-urban passenger trips is higher on a passenger-trip basis (data in chapter 4) than on a passenger kilometre basis (the data in chapter 2). By corollary, the share of non-urban passenger travel by air is higher on a passenger kilometre basis than on a passenger trip basis.

projected to remain unchanged at 89 per cent of trips. Air travel's share is projected to increase from 3.5 per cent to over 5 per cent in 2020. Coach travel's share is projected to remain approximately 3.7 per cent, but rail's share of trips to and from non-metropolitan tourism regions is projected to decline from 2 per cent in 1999 to 1 per cent in 2020.

At a regional level, a number of significant trends are evident across a range of different regions. These include:

- a general concentration of travel to and from metropolitan areas and larger regional centres (i.e. those with populations greater than 20,000).
- a decline in regional public transport passenger numbers from many inland areas of Australia;
- strong growth in passenger travel to and from Northern Queensland, the Northern Territory and the Kimberley region in Western Australia; and
- low growth in passenger travel to and from South Australian and Tasmanian regions, (1.0 per cent and 0.3 per cent per annum, respectively).

The chapter outlines the structure of the model, describes the base case assumptions and, lastly, presents the base case regional passenger travel projections, for different regional areas, by State and Territory .

THE BTR/BTRE NON-URBAN PASSENGER TRANSPORT MODEL

The BTR/BTRE non-urban passenger transport model is a 'sketch-planning' tool that is designed to provide indicative trends in long-distance non-urban passenger travel patterns for 5 different transport modes: air, coach, rail, ferry and private car.

The model is based on a gravity-based formulation of passenger travel where total passenger travel between any origin-destination (O–D) pair is a function of population growth in the origin and destination regions, growth in household income and the changes in cost of travel. The gravity-model parameters were derived from estimates of origin–destination (O–D) passenger travel between 10 intercity pairs over a 25-year period (1970 to 1995). The methods used to derive the parameter estimates are described in BTE (1998).

The gravity model formulation currently embedded in the BTR/BTRE model is a slight variant of the simple gravity-model described in BTE (1998). The model takes current travel patterns as a base. Initially, growth in total travel between any two regions is calculated as a function of population growth in each of the two regions, national average income growth, and the inverse of changes in the weighted-average generalised cost of travel. Equation (5.1) outlines the gravity model formulation for growth in total passenger travel between any two regions *i* and *j*.

$$\hat{T}_{ij} = 0.5 \times \left(\hat{P}_i + \hat{P}_j\right) - 1.25 \times \left(\hat{C} - \hat{Y}\right) \quad (5.1)$$

where $\hat{T}_{ij}$ is growth in total trips from region *i* to region *j*;

$\hat{P}_i$ and $\hat{P}_j$ is growth in total population in region *i* and region *j*;

$\hat{C}$ is the growth in the real generalised cost of travel; and

$\hat{Y}$ is the growth in real average weekly earnings.

However, these initial calculations of future passenger travel are 're-based' to ensure that the growth in total passenger trips by residents of any one region do not exceed the 'trip-generating capacity' of that region. In other words, because the gravity model gives equal weight to the population of both the origin and destination region, it is possible for total inter-regional passenger trips by residents of any region *i*, to grow at a rate incompatible with the growth in the underlying population and income. The growth in the trip-generating capacity of any region is assumed to be a function of the growth in the resident population and growth in average weekly earnings and average travel costs (shown in equation 5.2):

$$\hat{T}_{i\bullet} = \hat{P}_i + 1.25 \times \left(\hat{Y} - \hat{C}\right) \quad (5.2)$$

where $\hat{T}_{i\bullet}$ is growth in total trips by residents of region *i*.

The 're-based' level of passenger travel between any two regions is then given by equation (5.3):

$$T_{ij}^{*} = \frac{T_{ij} \times T_{i\bullet}}{\sum_j T_{ij}}, \text{ for all } i \text{ and } j, \quad (5.3)$$

where T_{ij}^{*} is re-based number of passenger trips between region *i* and region *j*;

T_{ij} is the gravity model-based estimate of the number of passenger trips between region *i* and region *j*; and

$T_{i\bullet}$ is the projected total number of trips by residents of region *i*, from equation 5.2.

Finally, changes in the mode share of passenger travel are determined by logistic substitution equations[33]. The logistic substitution equations are recursive formulae that assume the change in mode share is a function of the relative 'competitiveness' (or 'attractiveness') of each mode. The passenger model contains simple distance-based 'rules of thumb', based on previous research (BTE 1998), for the relative 'competitiveness' of different transport modes. Equation (5.4) shows the mode share recursion formula, derived from the

[33] See Marchetti & Nakicenovic (1979), Gruebler (1990), and Kwasnicki & Kwasnicka (1996) for a description of logistic substitution models.

logistic substitution model, used to determine changes in the proportion of passengers carried by mode *i*.

$$s_{k,t+1} = \frac{c_k}{\sum_m c_m s_{m,t}} s_{k,t} \qquad (5.4)$$

where c_k is the competitiveness index of mode *k*; and

$s_{k,t}$ is the passenger travel share of mode *k* at time *t*.

The simple 'rules of thumb', upon which the competitiveness indices are based, assume:

- Air is more attractive than other modes for travel over distances between 400 and 800 km, and significantly more attractive for travel of distances above 800 km;
- Car is more attractive over shorter distance routes, below 400 km in length, where it gains market share at the expense of all other modes; and
- Coach and rail are less attractive than both car and, for longer distance routes, air travel.

Table 5.1 presents the mode share competitiveness indices assumed for domestic passenger travel. Car is the reference mode, so its competitiveness index is set to one.

TABLE 5.1 MODE SHARE COMPETITIVENESS INDICES FOR DOMESTIC PASSENGER TRIPS

	Distance (km)			
Mode	*0–200*	*200–400*	*400–800*	*>800*
Air	0.9	0.967	1.019	1.05
Car	1	1	1	1
Coach	0.98	0.98	0.99	0.99
Rail	0.97	0.96	0.97	0.97
Ferry	1	1	1	1
Other	0.95	0.95	0.95	0.99

Source BTRE estimates.

The geographic pattern and modal distribution of domestic travel by international visitors are assumed to remain unchanged over the projection period.

BASE CASE ASSUMPTIONS

The projections assume a 'business-as-usual' scenario for the future characteristics of presently existing transport modes and assume no significant change to existing regulatory and assistance arrangements.

Base year travel patterns

The base year for the projections is 1999. The base year passenger travel patterns and mode share are based on the three year average level of travel obtained from the 1998, 1999 and 2000 National Visitor Survey (NVS), and the pooled 18-month average level of travel as measured by the 1999 and 2000 International Visitor Survey (IVS)[34].

Assumptions

The base case assumptions required for the BTR/BTRE passenger travel model include growth in real national average weekly earnings, growth in the real weighted average generalised cost of travel cost across all modes, growth in international visitor arrivals and changes in the estimated resident population, by geographic area.

Real average weekly earnings

In the base case projections, real average weekly earnings are assumed to grow by 1.4 per cent per annum over the projection period. This assumption is based on the long-term trend in real average weekly earning—over the period 1971 to 2001, real average weekly earnings grew by just under 1.4 per cent per annum, on average.

Real average travel costs

Under the base case, it is assumed that the real weighted average cost of travel does not change over the projection period.

This assumption is based mainly on historical information for trends in the cost of travel between city pairs. In particular, between 1971 and 1995, the average real generalised cost of travel between city pairs, across all modes of transport (including private car), increased by an average of 0.25 per cent per annum. This increase reflects both changes in the underlying cost of travel and changes in the mode shares. For example, growth in the share of transport by air, will have increased the weighting of the cost of air travel in the average cost of

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[34] At the time of writing, data from the 2000 IVS was only available for the first six months of 2000.

travel. As air travel is generally a higher cost, this would have increased the weighted average generalised cost of transport.

The evidence presented in chapter 2 suggested that trends in the cost of regional passenger travel had increased for rail, but it was not clear whether, overall, the cost of regional air travel and coach travel had increased or decreased over the past decade and a half. Although it is likely that the overall cost of car travel to and from regional areas has decreased slightly, in the absence of clearer information on the trends in the cost of regional passenger travel, an assumption that the overall cost of travel does not change in real terms over the projection period seemed the most reasonable assumption. Varying this assumption would, of course, affect the total projected level of passenger travel.

International visitors

In the base case projections, growth in international inbound tourists is assumed to decline linearly from 9 per cent per annum in 2000 to 4.9 per cent per annum by 2020. Since 1983 short-term foreign visitor arrivals have grown by more than 9 per cent per annum. It is not clear whether such a high rate of growth will continue indefinitely. These assumptions imply growth in international visitor trips of over 6 per cent per annum, over the projection period, and an increase in international visitor trips as a proportion of all travel.

Projected population growth

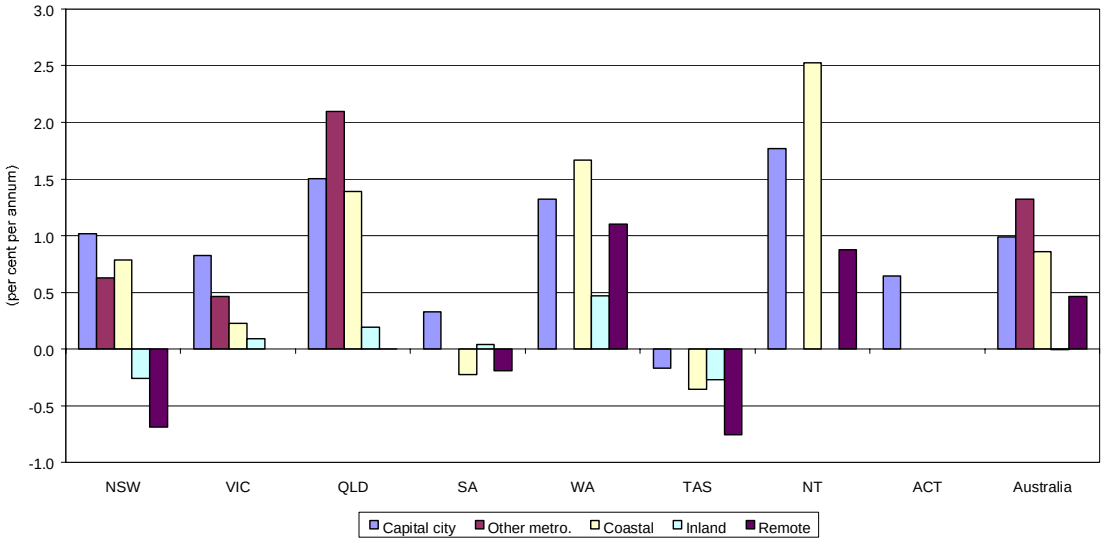
The BTR/BTRE non-urban passenger model utilises projected population growth at the Statistical Local Area (SLA) level. The population projections assumed for the base case projections are based on the ABS population projections 1999–2101 (Series II), outlined in ABS (2000a). The baseline population projections forecast national population growth of just under 0.9 per cent per annum over the period 1999 to 2020. Population growth is projected to be strongest in Queensland, Western Australia and Northern Territory, while South Australia is projected to have the lowest population growth of all mainland States. Tasmania's population is projected to decline by 0.25 per cent per annum over that period. Figure 5.1 shows the projected rates of population growth between 1999 and 2020, by State/Territory and regional area. The data underlying figure 5.1 are listed in table 5.2.

The major trends in the projected population growth include:

- Above national average projected population growth in Queensland, Western Australia and Northern Territory.
- Below national average projected population growth in Victoria and South Australia, and declining population levels in Tasmania.

- Generally, slower population growth in inland and remote areas across Australia. Growth in population across coastal regions is projected to be mixed—with strong growth in coastal Queensland, Western Australia, the Northern Territory and, to a lesser extent, NSW, but slower growth in Victoria, and declining population levels in coastal regions in South Australia and Tasmania.

FIGURE 5.1 BASE CASE POPULATION GROWTH PROJECTIONS, 1999–2020



Sources ABS (2001a) and BTRE estimates.

TABLE 5.2 AVERAGE ANNUAL GROWTH IN PROJECTED POPULATION, BY STATE / TERRITORY BY REGION, 1999-2020

(per cent per annum)

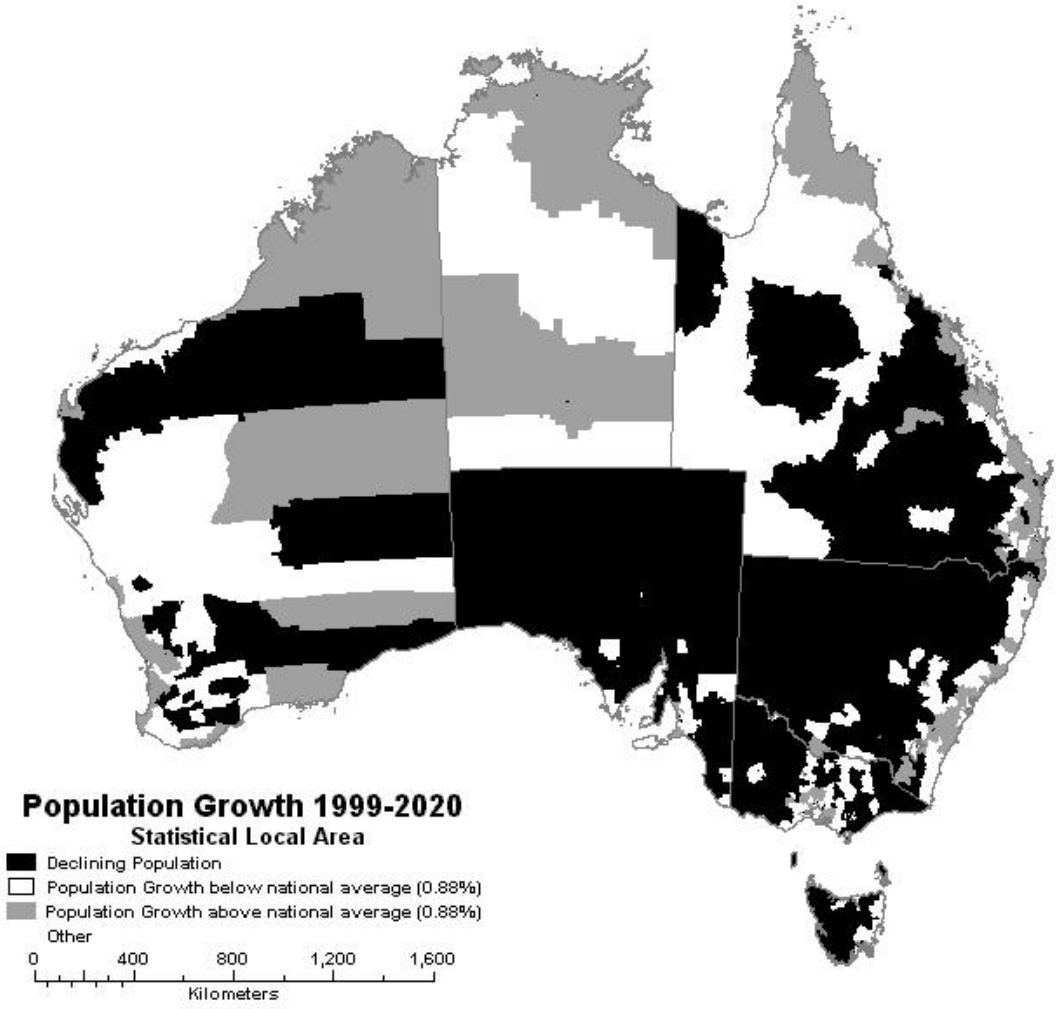
	Region					
State/Territory	*Capital city*	*Other metro.*	*Coastal*	*Inland*	*Remote*	*All regions*
NSW	1.02	0.63	0.79	–0.26	–0.69	0.79
Victoria	0.83	0.46	0.23	0.09	..	0.65
Queensland	1.50	2.10	1.39	0.20	0.00	1.45
SA	0.33	..	–0.22	0.04	–0.19	0.22
WA	1.32	..	1.66	0.47	1.10	1.30
Tasmania	–0.17	..	–0.35	–0.27	–0.75	–0.27
NT	1.77	..	2.53	..	0.88	1.46
ACT	0.64	..	..	..	..	0.64
Australia	0.99	1.32	0.86	0.00	0.47	0.88

.. not applicable.

Sources ABS (2001a) and BTRE estimates.

Not shown in table 5.2, but also significant, is that the population of larger towns and regional centres is projected to grow at a much faster rate than smaller population centres. For example, the strong growth in remote areas of Western Australia is mainly confined to the larger centres above 10 000 persons. A similar situation is also forecast for inland areas of NSW. Conversely, in the coastal areas of Queensland the projected growth for smaller regions (> 2 000 persons) is much stronger than that of the larger centres. The general picture, though, shows stronger projected population growth in larger regional centres. Figure 5.2 illustrates the variation in projected population growth by SLA across different regional areas.

FIGURE 5.2 PROJECTED POPULATION GROWTH BY STATISTICAL LOCAL AREA, 1999–2020



Sources ABS (2001a) and BTRE estimates.

Adjusting for growth in non-metropolitan resident travel

Because the BTR/BTRE model was originally estimated using historical data for passenger travel between 10 inter-city pairs, the parameter estimates are

calibrated for inter-city passenger travel. Some adjustment of the model parameters was required to more reasonably project growth in non inter-city passenger travel.

For example, over the period 1971–1995, growth in inter-city passenger trips averaged over 3.5 per cent per annum. Between 1984–85 and 1993–94, growth in inter-city passenger trips averaged 2.5 per cent per annum. Over the same period (1984–85 to 1993–94), growth in all other passenger trips averaged less than 1 per cent per annum (BTR 1995, and earlier issues).

The model is not sufficiently detailed to handle both strong growth in inter-city passenger trips and slower growth in all other trips. In order to reflect both the strong growth in inter-city passenger trips and the slower growth in other trips, the BTRE has scaled down the influence of household income growth on growth in non-metropolitan resident trips in the base case projections.

Other Issues

Recent changes in the regional aviation market

During 2000–01, a number of regional airlines ceased operating scheduled regular passenger transport (RPT) services. Airlines that ceased RPT services in 2001 included, for example, Country Connection Airlines (NSW), Yanda Airlines (NSW) and Western Airlines (WA) (Australian Aviation, 2001). The entry into administration of Ansett Airlines and its subsidiaries in September 2001, and the temporary grounding of those regional air services, further disrupted the regional aviation market. Taken together with the impact on air travel demand of the terrorist attacks of 11 September 2001 in the United States, these events would have contributed to a 25 per cent reduction in regional airline passenger numbers in 2001–02 over the level in 2000–01 (BTRE Air Traffic Statistics, forthcoming)[35].

The BTRE has, however, made no explicit adjustment to the air passenger traffic projections to account for the effect of Ansett's administration on the level of air passengers carried in 2001–02. Reflecting, in particular, the availability of NVS and IVS data, the projections are based on the average *level* of origin–destination air passenger movements for the three calendar years 1998, 1999 and 2000. Also, the BTRE has made no explicit assumptions about the likely impact of the recent changes on future air fares beyond 2001–02. The projections are *long-term* in nature, and are based on the long-term historical changes in relative air fares.

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[35] Total passengers carried by 'domestic airlines' (i.e. Qantas, Ansett, Impulse and Virgin Blue) in 2001–02 are estimated to have been 6.7 per cent lower than in 2000–01 (BTRE 2002a).

In effect, while the longer term implications of the recent changes remain unclear, three broad future scenarios may be envisaged for regional aviation: (i) regional aviation grows more strongly over the near term, recapturing the passenger traffic lost in 2001–02; (ii) regional aviation passenger numbers grow at historical long-term growth rates, from a lower level of traffic; or (iii) the cessation of Ansett has lastingly changed the regional aviation market and future growth in air passenger traffic will be lower than historical levels. To the extent that the future course of regional aviation is closer to scenario (ii) or (iii) than to scenario (i), the regional air travel mode share and possibly also the total travel projections will be overstated.

Recently announced policy changes

Current and future changes in government policy could also affect the future demand for travel across the different transport modes. For example, the NSW Transport Minister announced, on 2 August 2002, that the 129 km travel restriction limit on the $2.20 CountryLink Pensioner Excursion Ticket would be removed from 1 September 2002. The ticket is available to eligible pensioners and seniors and provides for heavily discounted travel to access regional centres outside the City Rail area. On a service between Sydney and Dubbo, for example, the concession fare will fall from $33.00 to $2.20. Such a sizeable fall in the fare may significantly affect the future level of passenger travel by road and rail in NSW.

Similarly, in August 2002, the Queensland Government announced the successful tenderers who will begin providing contracted regular scheduled passenger coach services, on ten intrastate routes to identified transport-disadvantaged communities in Queensland. The introduction of direct financial assistance to operators will affect future demand for coach travel on these routes.

Victoria also has plans that may affect future non-urban public transport patronage. No explicit allowance is made in the projections for the Victorian Government's initiatives to introduce fast rail services between Melbourne and Geelong, Ballarat, Bendigo and the Latrobe Valley (under the Regional Fast Rail Project[36]), nor for the Government's announced intention to extend current non-urban rail passenger services to Ararat, Mildura, Bairnsdale and Leongatha.

The model is not detailed enough to directly account for policy measures such as these that affect specific routes. The base case traffic projections do not explicitly take into account these recent initiatives.

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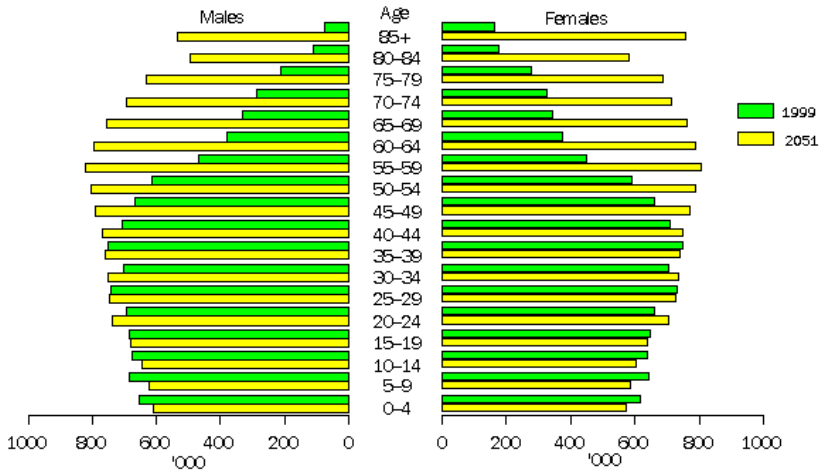
[36] See Victorian Department of Infrastructure (2002, http://www.doi.vic.gov.au/fastrail) and McPherson and Everingham (2001).

Impact of an aging population on the traffic projections

Over the next 50 years, the ABS population projections imply that the proportion of the population aged 65 years and older will increase significantly (ABS 2000a). Figure 5.2 illustrates the age profile of the population in 1999 and the projected age profile of the population 2051. An aging population, has implications for the inter-regional passenger travel projections because, as indicated by the NVS data (see chapter 4), persons aged 65 years and older are (i) more likely to use coach and rail public transport services than persons of all other age groups; (ii) make fewer overnight and day trips than persons of all other age groups.

FIGURE 5.3 ACTUAL AND PROJECTED AUSTRALIAN POPULATION AGE STRUCTURE, 1999 AND 2051



Note Population projections, Series II.

Source ABS (2002aa, http://www.abs.gov.au/).

Currently, the BTR/BTRE passenger travel model does not differentiate travel by age of person. Therefore, the base case projections implicitly assume the age profile remains constant over the projection period. How large the impact of this implicit assumption is on the projected growth in total passenger travel, however, is unclear. However, the increased number of persons aged 65 years and over would suggest an increase in the number of inter-regional rail and coach trips relative to the projections and a corresponding reduction in private car and air trips. This is due to the higher absolute public transport usage rates of the over 65 age group, compared with the feeder age group, as discussed in chapter 4.

Varying household income growth

One further simplifying assumption in the current version of the BTR/BTRE passenger model is that real average weekly earnings (a proxy for household incomes) are projected to grow at the same rate across all areas. Of course, there

may be differences in income growth across regions. The evidence presented in chapter 2 showed that, on average, incomes of capital city households were higher and grew faster than did incomes of household in non-metropolitan areas. For the base case projections, the BTRE has assumed the rate of income growth is the same across all areas.

REGIONAL PASSENGER TRAVEL PROJECTIONS

The passenger travel projections presented here are measured variously in terms of *passenger trips* or *passenger journeys*. A passenger trip (previously outlined in chapter 4) is defined as travel from one region to another *and return*. Passenger journeys, by contrast, separately enumerate both the outward and return leg(s) of each passenger trip. In other words, for every one *passenger trip* there are two or more *passenger journeys*.

The NVS reports all domestic resident passenger travel in terms of passenger trips. The IVS, by contrast, is provided in terms of passenger journeys. For consistency, all travel projections results are here presented in terms of passenger journeys. Domestic passenger trips are multiplied by 2 to derive total domestic resident passenger journeys. The terms 'day trip' and 'overnight trip' are used to delineate the type of travel undertaken. Estimates of 'day trip' travel are generally presented in terms of passenger journeys, although at some points the discussion provides estimates in terms of passenger trips.

The focus of the results is on regional passenger travel. Regional passenger travel is again used here to refer to all travel to and/or from non-metropolitan tourism regions (defined earlier in this chapter). Origin–destination trips between metropolitan[37] tourism regions and trips wholly within State and Territory metropolitan tourism regions are excluded.

The discussion of the results begins with a recap of current travel patterns and a national overview of the projection results. The national overview provides

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[37] The definition of metropolitan residents used here is slightly different to that adopted in chapter 4. In chapter 4 the SLA code information present in the raw NVS and IVS data was used to assign estimates of passenger trips by metropolitan and non-metropolitan regions. For the passenger travel projections, the BTR/BTRE Passenger model only reports trips to and from BTR tourism regions. For the purposes of differentiating between projected metropolitan and non-metropolitan passenger travel it was assumed that metropolitan areas include BTR tourism regions: Sydney (BTR code 104), Illawarra (102), Central Coast (118) and Hunter (110) in NSW, Melbourne (201), Peninsula (207), Melbourne East (213) and Geelong (214) in Victoria, Brisbane (302), Gold Coast (301) and Sunshine Coast (303) in Queensland, and each of the capital city tourism regions: Adelaide (404), Perth (507), Hobart (601), Darwin (801) and Canberra (117) in the other States and Territories. The major difference between this definition of metropolitan areas and the metropolitan area classification used in chapter 4 are the inclusion of much of the Hunter tourism region and the exclusion of the Townsville and Cairns metropolitan centres.

summary information which may be compared with historical trend data and other passenger travel projections, such as the BTRE's transport sector greenhouse gas emissions projections (BTRE 2002b). The main results for regional passenger travel are presented separately for each State and Territory.

Recap of current travel patterns

Based on the pooled NVS and IVS data, there were 235 million domestic resident passenger trips and 10 million passenger journeys by international visitors in 1999. However, approximately 4.2 million domestic resident passenger trips either had an invalid BTR tourism region code, or were coded as either a 'transit' region (see appendix table V.1) or an unspecified domestic tourism region. This means there were approximately 230.7 million domestic resident passenger trips to or from a valid domestic tourism region, in 1999, comprising 159 million day trips and 72 million overnight trips. All the projection results reported below are based on this estimate of trips to and from valid domestic tourism regions. This differs slightly from the level of total passenger trips reported in chapter 4.

Overview of Passenger Travel Projections

Total domestic resident passenger travel is projected to grow by 1.9 per cent per annum, from 461 million journeys in 1999 to approximately 684 million journeys in 2020. The rate of growth in total domestic passenger travel is projected to be similar for both overnight and day trips. Based on the projected number of international visitor arrivals (and the assumption of fixed travel patterns) domestic passenger movements by international visitors are projected to grow by 6.2 per cent per annum, between 1999 and 2020, across all transport modes. Origin–destination travel between capital city pairs by domestic residents is projected to grow by 3.1 per cent per annum. Including international visitors, inter-capital passenger travel is projected to grow by 3.5 per cent per annum. Domestic resident passenger travel between tourism regions, excluding inter-capital trips, is projected to grow at a slightly slower rate than the average for all domestic resident trips. Table 5.3 provides an overview of the national passenger travel projections.

TABLE 5.3 ACTUAL AND PROJECTED PASSENGER TRAVEL BY TRIP TYPE AND REGION OF ORIGIN, 1999 AND 2020

(million passenger journeys)

Trip type[a]	*Overnight trips*	*Day trips*	*Int'l visitor trips*	*All*
		1999		
All travel	143.6	317.7	10.0	471.4
Inter-capital travel	17.9	2.9	1.8	22.6
Within capital city travel	9.9	95.1	0.0	105.1
Intra-tourism region travel	8.7	59.4	0.0	68.1
Inter-tourism region travel	130.8	190.0	10.0	330.7
Inter-tourism region travel (excl. inter-capital)	112.8	187.0	8.2	308.1
		2020		
All travel	212.8	470.8	35.6	719.2
Inter-capital travel	34.6	5.3	6.4	46.3
Within capital city travel	20.3	179.2	0.0	199.8
Intra-tourism region travel	9.0	64.1	0.0	73.1
Inter-tourism region travel	195.5	278.9	35.6	510.0
Inter-tourism region travel (excl. inter-capital)	160.9	273.6	29.2	463.7
		Growth (per cent pa)		
All travel	1.9	1.9	6.2	2.0
Inter-capital travel	3.2	2.9	6.2	3.5
Within capital city travel	3.5	3.1	na	3.1
Intra-tourism region travel	0.1	0.4	na	0.3
Inter-tourism region travel	1.9	1.8	6.2	2.1
Inter-tourism region travel (excl. inter-capital)	1.7	1.8	6.2	2.0

a. Inter-capital travel includes all origin–destination trips between different capital city statistical divisions. Capital city statistical divisions incorporate BTR tourism regions: Sydney (BTR code 104), and Central Coast (118); Melbourne (201), Peninsula (207) and Melbourne East (213), Brisbane (302), Adelaide (404), Perth (507), Hobart (601), Darwin (801) and Canberra (117).
Within capital city travel includes all trips wholly within a capital city statistical division.
Intra-tourism region travel includes all trips where the origin and main destination are within the same tourism region.
Inter-tourism region travel includes all trips where the origin and main destination are in different tourism regions.
Inter-tourism region travel (excl. inter-capital) includes all inter-tourism region trips, excluding inter-capital trips.

Sources NVS (1998, 1999 and 2000), IVS (1999 and 2000) and BTRE estimates.

Overview of Metropolitan / Non-metropolitan Passenger Travel Projections

Travel by metropolitan residents is projected to grow more strongly than trips by non-metropolitan residents. Table 5.4 shows the actual and projected number of passenger journeys split by metropolitan and non-metropolitan area residents (and domestic travel from metropolitan and non-metropolitan regions by international visitors). Total travel by metropolitan residents is projected to grow by approximately 2.5 per cent per annum between 1999 and 2020. Travel by metropolitan area residents to other metropolitan centres is projected to grow even faster, by around 3.0 per cent per annum.

TABLE 5.4 ACTUAL AND PROJECTED DOMESTIC PASSENGER TRAVEL BY TRIP TYPE AND METROPOLITAN AND NON-METROPOLITAN REGION OF ORIGIN, 1999 AND 2020

(million passenger journeys)

Trip type[a]	*Overnight trips*	*Day trips*	*Int'l visitor trips*	*All*
		1999		
All travel	143.6	317.7	10.0	471.4
Metropolitan region travel	95.5	212.4	5.9	313.7
Intra-regional metropolitan region travel	25.2	152.2	0.0	179.0
Inter-metropolitan region travel	22.9	3.4	2.4	28.7
Non-metropolitan region travel	48.1	105.4	4.2	157.7
Within tourism region non-metropolitan travel	7.6	47.9	0.0	55.4
Inter-tourism region non-metropolitan origin travel	40.6	57.5	4.2	102.2
Metropolitan region travel to non-metropolitan areas	47.4	56.7	1.9	106.0
		2020		
All travel	212.8	470.8	35.6	719.2
Metropolitan region travel	160.5	355.4	20.8	536.8
Intra-regional metropolitan region travel	45.3	265.9	0.0	316.7
Inter-metropolitan region travel	43.1	6.1	8.4	57.6
Non-metropolitan region travel	52.3	115.3	14.8	182.4
Within tourism region non-metropolitan travel	7.6	50.0	0.0	57.6
Inter-tourism region non-metropolitan origin travel	44.7	65.3	14.8	124.8
Metropolitan region travel to non-metropolitan areas	72.2	83.5	6.8	162.4
		Growth (per cent pa)		
All travel	1.9	1.9	6.2	2.0
Metropolitan region travel	2.5	2.5	6.2	2.6
Intra-regional metropolitan region travel	2.8	2.7	0.0	2.8
Inter-metropolitan region travel	3.0	2.8	6.2	3.4
Non-metropolitan region travel	0.4	0.4	6.2	0.7
Within tourism region non-metropolitan travel	0.0	0.2	0.0	0.2
Inter-tourism region non-metropolitan origin travel	0.5	0.6	6.2	1.0
Metropolitan region travel to non-metropolitan areas	2.0	1.9	6.2	2.1

a. Metropolitan region travel includes all travel by metropolitan area residents and international visitors originating in metropolitan regions. Metropolitan areas were defined earlier.
Within region metropolitan region travel includes all trips wholly within a single- metropolitan area.
Inter-metropolitan region travel includes all trips between separate metropolitan areas.
Non-metropolitan region travel includes all travel by non-metropolitan area residents and international visitors originating in non-metropolitan areas.
Within tourism region non-metropolitan travel includes all trips wholly within a single tourism region in a non-metropolitan area.
Inter-tourism region non-metropolitan origin travel includes all trips between separate tourism regions, where the origin is a non-metropolitan tourism region.
Metropolitan region travel to non-metropolitan areas includes all trips from metropolitan tourism regions to a non-metropolitan tourism region.

Sources NVS (1998, 1999 and 2000), IVS (1999 and 2000) and BTRE estimates.

By extension, travel by metropolitan residents to non-metropolitan areas is projected to grow by less than 2.5 per cent per annum. (This result is directly attributable to the gravity model assigning a greater proportion of all travel growth to larger population centres). Including journeys by international visitors, growth in total passenger travel originating from metropolitan areas is projected to be over 2.6 per cent per annum.

By contrast with metropolitan area residents, travel by non-metropolitan residents, to both non-metropolitan and metropolitan regions, is projected to grow by only 0.7 per cent per annum between 1999 and 2020.

Projected growth in travel by mode of transport

Table 5.5 provides a summary of projected growth in passenger travel (measured in terms of passenger journeys) by trip type and mode of transport. It provides some information with which to gauge the overall projections. Some of the notable features of the base case projection results are:

- Implied growth in total overnight domestic resident passenger trips of 1.9 per cent per annum between 1999 and 2020. This is slightly above the historical rate of growth in total domestic resident overnight trips implied by the Domestic Tourism Monitor (DTM) (BTR 1995 and earlier issues). However, changes to the DTM survey methodology over time make it difficult to be certain of the long-term average rate of growth in passenger trips.
- Total growth in domestic air passenger travel is projected to be approximately 3.8 per cent per annum—below the 4.7 per cent per annum rate of growth in projected domestic air passenger trips in BTRE (2002b). Part of the difference between these two results relate to differences in the assumed rate of growth in foreign visitor arrivals. BTRE (2002b) assumed growth in international visitor arrivals of 9 per cent per annum between 2000 and 2020. Here, it has been assumed that the rate of growth in international visitor arrivals declines from 9 per cent per annum in 1999 to under 5 per cent per annum by 2020, an average annual rate of growth of 6.2 per cent per annum.
- Total growth in all domestic resident intercapital travel is projected to be around 3.0 per cent per annum, which is similar to the observed historical rates of growth in inter-city passenger travel (BTE 1998). Including international visitors, intercapital trips are projected to grow by 3.5 per cent per annum between 1999 and 2020.

TABLE 5.5 PROJECTED GROWTH IN TOTAL PASSENGER TRAVEL BY MODE BY TRIP TYPE, 1999–2020

(per cent per annum)

	Mode					
Trip type[a]	*Air*	*Coach*	*Car*	*Rail*	*Other*	*All*
Overnight trips						
All travel	3.5	–0.2	1.7	–1.2	–0.9	1.9
Inter-capital travel	3.9	0.1	1.8	–2.3	–1.2	3.2
Inter-regional travel	3.5	–0.2	1.8	–1.3	–1.4	1.9
Inter-regional travel (excl. inter-capital travel)	3.1	–0.3	1.7	–1.2	–1.4	1.7
Inter-metropolitan region travel	3.9	0.2	2.7	–0.6	–1.1	2.9
Non-metropolitan region travel	1.7	–1.2	0.4	–2.3	–2.4	0.4
Inter-regional non-metropolitan region travel	1.8	–1.2	0.5	–2.3	–2.2	0.5
Day trips						
All travel	2.1	0.2	2.0	–0.2	–0.4	1.9
Inter-capital travel	3.1	1.2	3.1	–0.8	–1.3	2.9
Inter-regional travel	2.3	0.1	2.0	–0.6	–0.6	1.8
Inter-regional travel (excl. inter-capital travel)	1.3	0.0	2.0	–0.6	–0.5	1.8
Inter-metropolitan region travel	2.7	0.7	2.8	–0.3	0.2	2.6
Non-metropolitan region travel	0.3	–1.1	0.5	–1.7	–2.2	0.4
Inter-regional non-metropolitan region travel	0.8	–0.8	0.7	–1.6	–1.5	0.6
International visitor trips						
All travel	6.2	6.2	6.2	6.2	6.2	6.2
Inter-capital travel	6.2	6.2	6.2	6.2	6.2	6.2
Inter-regional travel	6.2	6.2	6.2	6.2	6.2	6.2
Inter-regional travel (excl. inter-capital travel)	6.2	6.2	6.2	6.2	6.2	6.2
Inter-metropolitan region travel	6.2	6.2	6.2	6.2	6.2	6.2
Non-metropolitan region travel	6.2	6.2	6.2	6.2	6.2	6.2
Inter-regional non-metropolitan region travel	6.2	6.2	6.2	6.2	6.2	6.2
All passenger trips						
All travel	3.8	1.5	2.0	–0.2	0.4	2.0
Inter-capital travel	4.1	2.6	2.3	0.8	0.5	3.5
Inter-regional travel	3.9	1.9	2.0	–0.5	0.7	2.1
Inter-regional travel (excl. inter-capital travel)	3.6	1.8	2.0	–0.5	0.7	2.0
Inter-metropolitan region travel	4.1	2.6	2.8	–0.1	1.2	2.9
Non-metropolitan region travel	2.7	1.1	0.6	–1.4	–0.3	0.7
Inter-regional non-metropolitan region travel	2.8	1.6	0.9	–1.3	0.8	1.0

a. Inter-capital travel includes all trips between separate capital city statistical divisions.
Inter-regional travel includes all trips between separate tourism regions.
Inter-regional travel (excl. inter-capital travel) is self-explanatory.
Inter-metropolitan region travel includes all travel between separate metropolitan tourism regions.
Non-metropolitan region travel includes all travel by non-metropolitan area residents and international visitors originating in non-metropolitan areas.
Inter-regional non-metropolitan region travel includes all trips to separate tourism regions, where the origin is a non-metropolitan tourism region.

Source BTRE estimates.

- Lastly, table 5.5 shows that air passenger travel by non-metropolitan residents is projected to grow by less than 2 per cent per annum. Including international visitor trips, air passenger travel from non-metropolitan regions is projected to grow by 2.8 per cent per annum, which is above the long-term historical rate of growth in air passenger travel to and from non-metropolitan areas of 2.1 per cent per annum (discussed in chapter 2). Part of the difference may be attributable to the high projected rate of growth in international visitor travel to and from north Queensland regions, particularly Cairns.

Projected change in passenger travel mode share

Rounding out the discussion of the overall trends in projected long-distance passenger trips, the mode specific growth rates presented in table 5.5 imply varying rates of change in overall mode share for different trip types. For all trips, the projected growth in total travel implies only slight changes in travel mode share.

Car travel remains approximately 85 per cent of all passenger journeys. Air travel is projected to increase from 5.6 to 8 per cent of all non-urban passenger journeys in Australia between 1999 and 2020. The share of travel undertaken by coach and rail is projected to decline from 3.7 and 4 per cent, respectively, in 1999 to 3.4 and 2.5 per cent, respectively, of all passenger journeys in 2020.

REGIONAL PASSENGER TRAVEL PROJECTIONS BY STATE AND TERRITORY

The remainder of this chapter focuses on the projected growth in regional passenger travel by jurisdiction.

Australia

Table 5.5 (above) also shows the projected growth in passenger travel by non-metropolitan tourism region residents and travel by international visitors originating from non-metropolitan areas. Overall, the results imply total growth in travel by non-metropolitan area residents of 0.4 per cent per annum between 1999 and 2020. Travel by metropolitan area residents to non-metropolitan regions is projected to grow by less than 2 per cent per annum between 1999 and 2020.

New South Wales

Based on the pooled NVS and IVS data, in 1999 there were approximately 76 million regional passenger journeys by NSW residents or international visitors from NSW tourism regions. (Approximately 29 per cent of all such passenger

journeys in Australia.) Total regional passenger journeys, from NSW regions are projected to grow by 1.1 per cent per annum, to 95 million journeys in 2020.

Metropolitan / Non-metropolitan trips

Table 5.6 shows the actual and projected number of regional passenger journeys from NSW metropolitan and non-metropolitan tourism regions. The projected growth in regional passenger travel varies significantly between metropolitan and non-metropolitan regions. Under the base case assumptions, travel from metropolitan areas is projected to grow by 2 per cent per annum, but travel from non-metropolitan areas is projected to grow by 0.5 per cent per annum.

TABLE 5.6 ACTUAL AND PROJECTED REGIONAL PASSENGER TRAVEL BY METROPOLITAN / NON-METROPOLITAN[a] ORIGIN REGION BY MODE OF TRANSPORT, NSW, 1999 AND 2020

(million passenger journeys)

Mode	*Travel from metropolitan[b] regions*			*Travel from non-metropolitan[b] regions*		
	1999	*2020*	*Growth (per cent pa)*	*1999*	*2020*	*Growth (per cent pa)*
Air	1.37	2.93	3.7	1.21	1.64	1.4
Coach	0.99	1.25	1.1	1.87	2.00	0.3
Car	21.29	32.65	2.1	46.64	52.55	0.6
Ferry	0.03	0.04	2.4	0.01	0.01	1.7
Other	0.16	0.14	–0.7	0.19	0.14	–1.5
Rail	1.21	1.05	–0.7	1.33	1.01	–1.3
Total	25.04	38.06	2.0	51.24	57.35	0.5

a. Excludes all trips between metropolitan areas and all trips wholly within NSW metropolitan areas.

b. Metropolitan NSW areas are assumed here to incorporate the tourism regions: Sydney (BTR code 104), Illawarra (102), Central Coast (118) and Hunter (110). All other NSW tourism regions are classed as non-metropolitan.

Sources NVS (1998, 1999 and 2000), IVS (1999 and 2000) and BTRE estimates.

Private car travel is projected to remain the predominant mode of transport for regional passenger travel from both metropolitan and non-metropolitan regions in NSW. The number of private car journeys from metropolitan and non-metropolitan regions are projected to grow by 2.1 and 0.6 per cent per annum respectively, between 1999 and 2020.

Regional air passenger travel from metropolitan areas is projected to grow by 3.7 per cent per annum, whereas air passenger travel from non-metropolitan NSW regions is projected to grow by 1.4 per cent per annum. Overall, air travel to and from NSW non-metropolitan areas is projected to grow by 2.8 per cent per annum. Part of the difference between the growth in air travel from metropolitan and non-metropolitan region areas is attributable to the higher proportion of international visitors among regional air travellers from NSW metropolitan areas.

Regional coach travel from metropolitan and non-metropolitan regions in NSW is projected to grow more slowly than air or car trips. Under the base case assumptions, domestic resident regional coach travel is projected to decline in absolute terms, between 1999 and 2020. Strong growth in coach travel by international visitors, however, more than offsets the reduction in domestic resident regional coach travel.

Regional rail passenger travel, from both metropolitan and non-metropolitan areas in NSW, is projected to decline between 1999 and 2020, due to the projected decline in rail passenger travel by domestic residents.

Trips by tourism region

Table 5.7 provides projections of total regional passenger travel by NSW tourism region of origin. The data include travel by both domestic residents and international visitors.

TABLE 5.7 PROJECTED GROWTH IN REGIONAL PASSENGER TRAVEL BY TOURISM REGION OF ORIGIN BY TRANSPORT MODE, NSW, 1999–2020

Code	*Tourism region*	*Passenger travel (million journeys)*		*Average annual growth (per cent per annum)*				
		1999	*2020*	*Air*	*Coach*	*Car*	*Rail*	*Total*
101	South Coast	4.78	5.82	2.7	0.2	1.0	–2.1	0.9
102	Illawarra[a]	1.95	1.95	1.1	–1.0	0.1	–2.4	0.0
104	Sydney[a]	18.68	30.51	3.9	1.5	2.4	–0.5	2.4
105	Snowy Mountains	0.58	0.62	2.6	4.4	0.2	–0.7	0.3
106	Capital Country	3.35	3.51	–0.7	–0.9	0.3	–1.7	0.2
107	Murray	3.03	3.04	1.2	–0.3	0.0	–2.0	0.0
108	Riverina	4.62	4.43	1.2	–1.5	–0.2	–1.7	–0.2
109	Central West	7.37	7.41	0.5	–1.3	0.1	–2.6	0.0
110	Hunter[a]	3.01	3.10	1.4	–0.6	0.2	–2.7	0.1
111	Mid North Coast	5.08	6.11	0.8	0.5	0.9	–1.5	0.9
112	Holiday Coast	2.76	3.44	2.4	1.7	1.0	–1.6	1.0
113	Northern Rivers	8.22	10.29	2.8	2.0	1.0	–0.6	1.1
114	New England/North West	5.32	4.60	–0.5	–0.6	–0.7	–2.6	–0.7
118	Central Coast[a]	1.41	2.50	4.0	1.4	2.9	–0.1	2.8
119	Blue Mountains	4.85	7.07	3.0	1.4	2.0	–0.4	1.8
1151	Outback – Upper Darling	0.31	0.27	3.2	–0.3	–0.8	–13.3	–0.7
1152	Outback – Far West	0.69	0.51	1.3	–1.8	–1.4	–6.7	–1.4
1153	Outback – Murray Darling	0.27	0.24	4.2	–0.4	–0.7	–12.2	–0.6
	Total	76.28	95.42	2.8	0.6	1.1	–1.0	1.1

a. Excludes all trips between metropolitan areas and all trips wholly within NSW metropolitan areas.

Sources NVS (1998, 1999 and 2000), IVS (1999 and 2000) and BTRE estimates.

Travel from NSW metropolitan regions

Total passenger travel from metropolitan regions in NSW (comprising the Sydney, Illawarra, Central Coast and Hunter tourism regions) is projected to grow by 2.0 per cent per annum between 1999 and 2020. Domestic resident trips from these regions are projected to grow by 1.9 per cent per annum. Total air and private car regional passenger travel originating from metropolitan regions in NSW is projected to increase, between 1999 and 2020. Regional coach passenger travel from metropolitan regions is projected to increase, but regional rail passenger travel from metropolitan areas is projected to decline in absolute terms.

Trips from other NSW coastal regions

Total regional passenger travel from other NSW coastal regions (comprising the South Coast, Mid-North Coast, Holiday Coast and Northern Rivers tourism regions) are projected to grow by between 0.9 and 1.1 per cent per annum respectively, between 1999 and 2020. Much of this growth is due to growth in travel by domestic residents—growth in domestic resident travel from other NSW coastal regions is projected to grow by between 0.75 and 0.85 per cent per annum.

Regional passenger travel from NSW coastal regions is projected to increase for all major transport modes, except rail. Air passenger travel is projected to increase by around 2.5 per cent per annum, while private car travel is projected to increase by around 1 per cent per annum between 1999 and 2020. The base case and mode share assumptions imply growth in overall regional coach travel originating from these regions, but coach travel by domestic residents is projected to decline between 1999 and 2020.

Travel from inland and remote NSW regions

Passenger travel from all inland and remote tourism regions in NSW (i.e. all other tourism regions not classified as NSW metropolitan or coastal regions) is projected to grow more slowly than for other regions. Indeed, for some tourism regions, such as the Outback, Riverina and New England / North West, total passenger travel is projected to decline under the base case assumptions.

Air passenger travel from these regions, with the exception of air travel to the Outback (NSW) tourism region, is projected to be significantly below the projected growth in air travel from other regions across NSW. In particular, air travel from the New England / North West region of NSW is projected to decline by half a per cent per annum between 1999 and 2020. Despite the overall reduction in passenger travel, air travel from the Outback (NSW) tourism region is projected to grow by around 1.5 per cent per annum.

Total regional coach and rail passenger travel from inland and remote NSW tourism regions are projected to decline between 1999 and 2020.

Victoria

In 1999, there were approximately 73 million regional passenger journeys originating from Victorian tourism regions. By 2020, total inter-regional passenger travel originating from Victorian tourism regions is projected to grow to 91 million passenger journeys, an implied rate of growth of 1.0 per cent per annum.

Metropolitan / Non-metropolitan trips

Table 5.8 shows the actual and projected number of regional journeys for metropolitan and non-metropolitan Victorian areas, between 1999 and 2020, and the implied rate of growth. Again, as in the case of NSW, the base case assumptions imply significant variation in the projected growth in passenger travel growth from metropolitan and non-metropolitan Victorian regions. Total regional passenger travel from metropolitan areas is projected to grow by 1.8 per cent per annum, whereas total regional passenger travel from non-metropolitan areas is projected to grow by only 0.2 per cent per annum. Growth in international visitor trips provides only a small addition to growth in passenger trips from non-metropolitan areas—total regional passenger travel by domestic residents of all non-metropolitan Victorian regions is projected to grow by less than half a per cent per annum between 1999 and 2020.

TABLE 5.8 ACTUAL AND PROJECTED REGIONAL PASSENGER TRAVEL BY METROPOLITAN / NON-METROPOLITAN[a] ORIGIN REGION BY MODE OF TRANSPORT, VICTORIA, 1999 AND 2020

(million passenger journeys)

Mode	*Travel from metropolitan[b] regions*			*Travel from non-metropolitan[b] regions*		
	1999	*2020*	*Growth (per cent pa)*	*1999*	*2020*	*Growth (per cent pa)*
Air	0.87	1.83	3.6	0.61	0.91	1.9
Coach	1.06	1.15	0.4	1.38	1.17	–0.8
Car	31.97	47.30	1.9	35.39	37.13	0.2
Ferry	0.04	0.06	2.3	0.03	0.04	1.3
Other	0.14	0.09	–2.0	0.12	0.09	–1.7
Rail	0.61	0.50	–1.0	1.27	0.83	–2.0
Total	34.68	50.93	1.8	38.80	40.17	0.2

a. Excludes all trips between metropolitan areas and all trips wholly within Victorian metropolitan areas.

b. Metropolitan Victorian regions incorporate the tourism regions: Melbourne (BTR code 201), Peninsula (207), Melbourne East (213) and Geelong (214). All other regions are classed as non-metropolitan.

Sources NVS (1998, 1999 and 2000), IVS (1999 and 2000) and BTRE estimates.

Private car passenger travel is projected to remain the predominant mode of transport for regional passenger travel in Victoria. (Private car travel already accounts for over 90 per cent of all passenger trips originating in Victorian regions.

Regional air travel from Victorian regions is projected to grow by over 3.6 per cent per annum for travel from metropolitan regions and by 1.9 per cent per annum for travel from non-metropolitan regions. While most of the projected growth in air travel is attributable to growth in domestic resident air travel, most of these trips will tend to be interstate trips, as air travel is not an option for most intrastate trips.

Regional coach and rail passenger travel from Victorian regions are both projected to decline between 1999 and 2020, under the base case assumptions. Despite being around 10 per cent of all passengers on regional coach and rail services, growth in international visitor trips is not sufficient to offset the projected reduction in regional coach and rail trips by domestic residents.

Trips by tourism region

Table 5.9 provides projection results for total regional passenger travel by Victorian tourism region of origin. The figures include travel by both domestic residents and international visitors.

Travel from Victorian metropolitan regions

Total passenger travel from Victorian metropolitan areas (comprising the Melbourne, Peninsula, Melbourne East and Geelong tourism regions) is projected to grow by around 1.8 per cent per annum between 1999 and 2020. Like most other regions, total air and car trips are projected to grow, regional coach trips are also projected to grow, albeit by less than 0.5 per cent per annum. But rail trips originating from Victorian metropolitan regions are projected to decline between 1999 and 2020.

Travel from all other Victorian regions

Total regional travel from all other Victorian tourism regions is projected to grow by 0.2 per cent per annum between 1999 and 2020. Total regional passenger travel is projected to grow for most regions, with the notable exceptions of the Wimmera, Western Grampians and Central Highlands tourism regions in Western Victoria—regions in which the population is projected to decline (ABS 2001a). Total regional passenger travel by domestic residents from the Gippsland, Lakes and High Country tourism regions is also projected to decline—also regions in which the population is projected to decline between 1999 and 2020.

With the exception of air travel from the Wimmera tourism region, regional air passenger travel is projected to grow between 1999 and 2020. Indeed, air travel is projected to grow more strongly than is travel by other transport modes—a result that probably reflects the predominance of longer distance (i.e. greater than 400 km) air trips by residents of these regions. However, these projected growth rates for air travel do not necessarily imply similar growth in regional air passenger travel in Victoria. Because the projections are based on origin-destination trips by 'main transport mode', many of these air trips from non-metropolitan Victorian regions may actually involve a combination of private car trip to Melbourne and air travel from Melbourne to another metropolitan airport.

TABLE 5.9 PROJECTED GROWTH IN REGIONAL PASSENGER TRAVEL BY TOURISM REGION OF ORIGIN BY TRANSPORT MODE, VICTORIA, 1999–2020

Code	*Tourism region*	*Passenger travel (million journeys)*		*Average annual growth (per cent per annum)*				
		1999	*2020*	*Air*	*Coach*	*Car*	*Rail*	*Total*
201	Melbourne[a]	27.37	41.25	3.7	0.5	2.0	–0.9	2.0
202	Wimmera	1.30	1.02	–2.2	–2.4	–1.0	–2.8	–1.1
203	Mallee	1.98	2.09	2.8	–0.6	0.2	–1.5	0.2
204	Western	5.01	5.34	1.9	–0.1	0.4	–2.5	0.3
205	Western Grampians	1.40	1.26	0.4	–0.8	–0.5	–1.2	–0.5
206	Bendigo Loddon	3.97	4.15	1.6	–1.4	0.3	–1.7	0.2
207	Peninsula[a]	2.16	3.33	3.9	0.4	2.1	–1.2	2.1
208	Central Murray	2.13	2.21	1.7	–1.3	0.2	–1.1	0.2
209	Goulburn	3.17	3.47	2.5	–1.2	0.5	–1.6	0.4
210	High Country	2.30	2.28	1.8	–1.4	0.0	–2.4	0.0
211	Lakes	1.37	1.42	3.0	0.0	0.2	–2.5	0.2
212	Gippsland	6.05	5.66	1.6	–1.8	–0.2	–2.6	–0.3
213	Melbourne East[a]	2.88	4.14	3.3	0.3	1.8	–1.2	1.8
214	Geelong[a]	2.28	2.22	1.4	–1.3	–0.1	–3.4	–0.1
215	Macedon	2.34	2.84	2.1	–0.5	1.0	–1.6	0.9
216	Spa Country	0.51	0.54	3.4	–0.6	0.4	–2.3	0.3
217	Ballarat	3.34	3.56	1.6	–1.2	0.4	–1.8	0.3
218	Central Highlands	1.11	1.02	0.1	1.7	–0.4	–2.5	–0.4
219	Upper Yarra	0.59	0.62	1.4	–0.7	0.2	6.2	0.2
220	Murray East	1.23	1.40	2.0	0.9	0.7	–1.6	0.6
221	Phillip Island	0.99	1.28	2.1	0.4	1.2	–0.8	1.2
	Total	73.48	91.10	3.0	–0.2	1.1	–1.6	1.0

a. Excludes all trips between metropolitan areas and all trips wholly within Victorian metropolitan areas.

Sources NVS (1998, 1999 and 2000), IVS (1999 and 2000) and BTRE estimates.

Regional coach and rail travel from all other Victorian tourism regions, by domestic residents, are both projected to decline between 1999 and 2020. Where the projections show positive growth in the coach and rail travel from other

Victorian regions, that growth is attributable to growth in international visitor trips.

Queensland

In 1999, there were approximately 42 million regional passenger journeys from Queensland tourism regions. Under the base case assumptions, total regional passenger travel to or from Queensland tourism regions is projected to grow by 1.6 per cent per annum, to over 58 million passenger trips in 2020. The higher rate of growth in regional passenger travel from Queensland regions, in comparison with NSW and Victoria, is attributable to both the higher projected rate of population growth in Queensland and the higher proportion of international visitors to Queensland.

Metropolitan / Non-metropolitan trips

Table 5.10 shows the actual and projected number of regional passenger journeys (i.e. excluding travel between metropolitan centres and trips within a metropolitan area) from metropolitan and non-metropolitan regions in Queensland. Total regional passenger travel from Queensland metropolitan regions are projected to grow by 2.3 per cent per annum, while trips from non-metropolitan regions are projected to grow by 1.3 per cent per annum between 1999 and 2020.

As elsewhere, private car travel is the predominant mode of transport for regional passenger trips from Queensland tourism regions. Total regional private car trips from metropolitan regions are projected to grow by 2.2 per cent per annum between 1999 and 2020, while car trips from non-metropolitan regions are projected to grow by only 1.1 per cent per annum.

Regional air passenger travel from metropolitan and non-metropolitan regions in Queensland is projected to grow by 4.6 and 3.6 per cent per annum, respectively. These figures include air travel to and from Cairns and Townsville, which are part of the BTR tourism regions: Far North Queensland and Northern, respectively. Much of the projected growth in air travel from non-metropolitan Queensland tourism regions is attributable to international visitor trips—for example, according to the NVS and IVS, international visitors are approximately three-fifths of all air passenger trips from Far North Queensland (Cairns), and they are projected to grow quite strongly.

Regional coach travel from Queensland tourism regions is projected to increase by 2.1 per cent per annum between 1999 and 2020. Again, much of this growth is due to growth in international visitor trips. Regional coach passenger trips by domestic residents are projected to decline slightly over the projection period.

Regional rail passenger travel is projected to decline over the period 1999 to 2020—a result driven by the mode share trend assumptions and consistent with the long-term decline in non-urban rail passenger travel in Queensland, outlined in chapter 2.

TABLE 5.10 ACTUAL AND PROJECTED REGIONAL PASSENGER TRAVEL BY METROPOLITAN / NON-METROPOLITAN[a] ORIGIN REGION BY MODE OF TRANSPORT, QUEENSLAND, 1999 AND 2020

(million passenger journeys)

Mode	*Travel from metropolitan[b] regions*			*Travel from non-metropolitan[b] regions*		
	1999	*2020*	*Growth (per cent pa)*	*1999*	*2020*	*Growth (per cent pa)*
Air	0.77	1.98	4.6	1.72	3.60	3.6
Coach	0.66	1.02	2.1	1.35	2.08	2.1
Car	9.97	15.74	2.2	26.33	32.85	1.1
Ferry	0.02	0.04	3.7	0.13	0.28	4.0
Other	0.10	0.09	0.0	0.44	0.28	–2.1
Rail	0.22	0.19	–0.7	0.37	0.32	–0.6
Total	11.73	19.07	2.3	30.33	39.42	1.3

a. Excludes all trips between metropolitan areas and all trips wholly within Queensland metropolitan areas.

b. Metropolitan Queensland regions incorporates the tourism regions: Brisbane (BTR code 302), Gold Coast (301) and Sunshine Coast (303). All other regions are classed as non-metropolitan.

Sources NVS (1998, 1999 and 2000), IVS (1999 and 2000) and BTRE estimates.

Trips by tourism region

As a result of the stronger projected growth in population in Queensland, in comparison with the national average, regional passenger travel from Queensland tourism regions is projected to grow more strongly than in most other States. Table 5.11 shows projected regional passenger travel in Queensland by tourism region of origin. The figures include both domestic resident and international visitor trips. The projections imply growth in regional passenger travel from all Queensland tourism regions except the Outback (Qld) tourism region.

Trips from Queensland metropolitan areas

Total growth in regional passenger travel from Queensland metropolitan areas (here defined as Brisbane, Gold Coast and Sunshine Coast tourism regions) is projected to be 2.3 per cent per annum, above the average rate of growth in regional passenger trips across all Queensland tourism regions. Regional air passenger trips are projected to increase by over 5 per cent per annum. Regional coach travel from the Gold Coast and Sunshine Coast regions is also projected to be quite strong, attributable in part to growth in international visitor trips.

TABLE 5.11 PROJECTED GROWTH IN REGIONAL PASSENGER TRAVEL BY TOURISM REGION OF ORIGIN BY TRANSPORT MODE, QUEENSLAND, 1999–2020

Code	Tourism region	Passenger travel (million journeys)		Average annual growth (per cent per annum)				
		1999	2020	Air	Coach	Car	Rail	Total
301	Gold Coast[a]	2.65	4.04	5.0	2.4	1.8	0.6	2.0
302	Brisbane[a]	7.67	12.73	4.7	1.8	2.3	–0.9	2.4
303	Sunshine Coast[a]	1.41	2.29	3.0	3.0	2.3	–0.2	2.3
304	Hervey Bay/Maryborough	3.76	5.24	2.2	3.5	1.6	–1.0	1.6
306	Darling Downs	6.21	6.66	2.1	–0.8	0.4	–3.1	0.3
307	Bundaberg	2.44	3.18	1.9	1.2	1.4	–1.7	1.3
308	Fitzroy	4.75	5.69	2.8	1.6	0.8	–0.8	0.9
309	Mackay	2.17	2.87	3.9	0.1	1.3	–2.4	1.4
310	Whitsundays	0.42	1.07	5.5	5.8	3.8	6.2	4.6
311	Northern	3.80	4.88	2.5	2.0	1.0	0.1	1.2
3121	TNQ – Cairns[b]	3.97	6.67	4.8	2.8	2.1	2.4	2.5
3122	TNQ – Remainder[b]	0.98	1.42	4.7	2.2	1.2	3.3	1.8
3141	Outback – North[b]	0.89	0.86	2.4	0.4	–0.5	–1.9	–0.2
3142	Outback – Central[b]	0.31	0.29	1.9	0.3	–0.6	6.2	–0.3
3143	Outback – South[b]	0.65	0.58	1.5	0.4	–0.7	–1.6	–0.5
	Total	42.06	58.49	3.9	2.1	1.4	–0.6	1.6

Excludes all travel between metropolitan areas and all trips wholly within Queensland metropolitan areas.

b. BTR tourism region Tropical North Queensland was split into two sub-regions and the Outback tourism regions split into three sub-regions for the projections.

TNQ – Tropical North Queensland.

Sources NVS (1998, 1999 and 2000), IVS (1999 and 2000) and BTRE estimates.

Trips from other coastal/inland Queensland tourism regions

The tourism regions that cover the coastal areas of Queensland (from Hervey Bay/Maryborough to Tropical North Queensland) also extend a considerable distance inland, also covering a large number of 'inland' population centres in Queensland. Consequently, the passenger travel projections for these tourism regions include travel to and from coastal population centres such as Gladstone and Mackay and growth in travel to and from inland centres such as Charters Towers and Emerald.

Total regional passenger travel from other coastal/inland Queensland tourism regions is projected to grow by 1.6 per cent per annum, on average, between 1999 and 2020. Domestic resident trips from these regions are projected to grow less quickly, by 1.1 per cent per annum. With the exception of rail passenger travel, regional passenger trips are projected to grow across all the major transport modes between 1999 and 2020. Air passenger travel from these regions is projected to grow most strongly. The strong projected growth of coach travel from many of these tourism regions is driven by growth in

international visitor trips—domestic resident regional coach and rail[38] passenger trips from most of these tourism regions are projected to decline over the period 1999 to 2020.

Travel from inland and remote Queensland tourism regions

Inland and remote Queensland tourism regions include the Darling Downs and Outback (Qld) tourism regions. Total regional passenger travel from these regions is projected to grow by 0.2 per cent per annum, on average, between 1999 and 2020—significantly below the projected growth in total travel from other Queensland tourism regions. International visitors are a small proportion of all trips from these tourism regions—domestic resident passenger trips from these regions are projected to grow by 0.1 per cent per annum.

Regional air passenger travel from both the Darling Downs and Outback (Qld) tourism regions is projected to grow by around 2.0 per cent per annum. In comparison with growth in total travel, growth in air travel from these regions is quite high, which probably reflects the longer travel distances of the existing air trips, meaning air travel grows in mode share relative to all other modes.

Total domestic resident private car travel from the Outback (Qld) tourism region is projected to decline. Regional coach and rail travel by domestic residents of the Darling Downs and Outback tourism regions are also projected to decline over the next twenty years[39]. The projected growth in regional coach travel from the Outback (Qld) tourism region is all attributable to growth in international visitor trips.

South Australia

Based on the NVS and IVS, there were approximately 25 million regional passenger journeys originating from South Australian tourism regions in 1999. Total regional passenger travel from South Australian tourism regions is projected to grow by 1.0 per cent per annum, to just over 31 million passenger journeys in 2020. Approximately 55 per cent of all regional passenger journeys

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[38] These projections do not explicitly account for the effect of new and improved country passenger rail services that have been introduced recently. For example, Queensland Rail has in the last 3–4 years introduced faster tilt-train services between Brisbane–Bundaberg–Rockhampton. These new services appear to have led to a jump in total non-urban rail patronage in Queensland in the last few years.

[39] Again, the projections do not take into account the recently initiated contracts between Queensland Transport and five operators to provide regular scheduled long-distance passenger coach services on selected remote routes in Queensland (*The Courier Mail*, August 2002).

from South Australian tourism regions originate from Adelaide, and over 92 per cent of such trips are by private car.

Metropolitan / Non-metropolitan trips

Table 5.12 shows the actual and projected regional passenger travel from metropolitan and non-metropolitan areas in South Australia. Under the base case assumptions, total regional passenger travel from Adelaide is projected to grow by 1.7 per cent per annum between 1999 and 2020, while total passenger travel from non-metropolitan areas in South Australia is projected to grow by 0.1 per cent per annum.

Private car travel is projected to remain the largest mode of transport for all regional passenger travel in South Australia, accounting for over 92 per cent of all such travel.

TABLE 5.12 ACTUAL AND PROJECTED REGIONAL PASSENGER TRAVEL BY METROPOLITAN / NON-METROPOLITAN[a] ORIGIN REGION BY MODE OF TRANSPORT, SOUTH AUSTRALIA, 1999 AND 2020

(million passenger journeys)

Mode	*Travel from metropolitan[b] regions*			*Travel from non-metropolitan[b] regions*		
	1999	*2020*	*Growth (per cent pa)*	*1999*	*2020*	*Growth (per cent pa)*
Air	0.33	0.53	2.3	0.35	0.40	0.6
Coach	0.43	0.50	0.8	0.44	0.49	0.5
Car	12.83	18.30	1.7	10.34	10.48	0.1
Ferry	0.03	0.08	5.0	0.02	0.05	4.1
Other	0.08	0.05	–1.9	0.06	0.04	–2.2
Rail	0.08	0.08	0.1	0.02	0.02	–0.6
Total	13.77	19.54	1.7	11.24	11.47	0.1

a. Excludes all trips between metropolitan areas and all trips wholly within Adelaide.

b. The Adelaide tourism region is the only metropolitan region in South Australia. All other South Australian tourism regions are classed as non-metropolitan.

Sources NVS (1998, 1999 and 2000), IVS (1999 and 2000) and BTRE estimates.

Regional air passenger travel from metropolitan areas is projected to grow by 2.3 per cent per annum, while regional air passenger travel from non-metropolitan areas is projected to grow by 0.6 per cent per annum. Much of this growth is attributable to growth in travel by domestic residents—regional air passenger travel by international visitors are only 7 per cent of all such travel from South Australian tourism regions.

The base case population growth assumptions and mode share trends produce an absolute reduction in total projected regional coach travel by domestic residents in South Australia between 1999 and 2020. The growth in total regional passenger coach travel presented in table 5.12 is due to growth in the

amount of such travel by international visitors. (As previously mentioned, the NVS and IVS will include trips undertaken on charter and tour coach services, as well as trips on regular scheduled public transport services. Charter and tour services may account for the high proportion of international visitor coach trips in South Australia.)

Regional rail passenger travel, which is a very small share of all such travel in South Australia, is projected to decline between 1999 and 2020.

Trips by tourism region

Table 5.13 shows projections of total regional passenger travel from each South Australian tourism region. The data include trips by both domestic residents and international visitors. For regional travel from some tourism regions by some transport modes, particularly rail, total passenger travel is too small to give 'reliable' travel growth projections. Where this is the case, it is indicated in table 5.13.

Trips from Adelaide

Total regional passenger travel originating from Adelaide is projected to grow by 1.7 per cent per annum between 1999 and 2020. Regional passenger travel by air and private car are each projected to grow by around 0.9 per cent per annum between 1999 and 2020. For coach travel, however, domestic resident regional passenger trips from Adelaide are projected to grow only slightly between 1999 and 2020, and it is growth in international visitor trips that is responsible for the projected growth in total coach travel.

Travel from non-metropolitan South Australian regions

As already mentioned, total regional passenger travel from all other South Australian tourism regions is projected to grow by 0.1 per cent per annum between 1999 and 2020. Regional passenger travel by domestic residents of non-metropolitan South Australian regions, however, is projected to decline over this period.

Regional air passenger travel from non-metropolitan tourism regions is projected to grow by 0.6 per cent per annum. For many South Australian tourism regions, however, regional air travel is too small a proportion of total trips to produce 'reliable' projections. Regional air passenger travel from non-metropolitan areas is projected to grow for travel from the Barossa Valley[40], Far North and Kangaroo Island tourism regions. For almost all non-metropolitan

[40] Air travel *from* the Barossa Valley is most likely to involve a car trip to Adelaide and air travel therefrom. Growth in origin–destination air travel from this region, therefore, will not necessarily be reflected in growth in regional aviation passenger travel.

tourism regions, air travel by domestic residents is projected to decline. Only for the Far North tourism region is domestic resident air travel projected to increase between 1999 and 2020. Total air passenger travel from Kangaroo Island is projected to increase, but domestic resident travel is projected to fall[41]. The base assumptions imply that total air passenger travel from the Eyre Peninsula tourism region will decline over the next twenty years.

TABLE 5.13 PROJECTED GROWTH IN REGIONAL PASSENGER TRAVEL BY TOURISM REGION OF ORIGIN BY TRANSPORT MODE, SOUTH AUSTRALIA, 1999–2020

Code	*Tourism region*	*Passenger travel (million journeys)*		*Average annual growth (per cent per annum)*					
		1999	*2020*	*Air*	*Coach*	*Car*	*Ferry*	*Rail*	*Total*
401	South East	1.87	1.84	–0.2	0.2	–0.1	ns	ns	–0.1
402	Murraylands	1.15	1.11	ns	–1.2	–0.1	ns	ns	–0.2
403	Fleurieu Peninsula	1.24	1.49	ns	–0.8	1.0	ns	ns	0.9
404	Adelaide[a]	13.77	19.54	2.3	0.8	1.7	5.0	0.1	1.7
405	Barossa Valley	1.02	1.13	2.1	ns	0.5	ns	ns	0.5
406	Riverland	0.97	0.95	ns	–1.0	–0.1	ns	ns	–0.1
407	Mid North	1.22	1.22	ns	–1.0	0.0	ns	ns	0.0
409	Flinders Ranges	1.18	1.11	–1.2	1.6	–0.4	ns	ns	–0.3
410	Far North	0.17	0.29	2.1	5.7	1.5	ns	ns	2.5
411	Eyre Peninsula	1.28	1.17	–0.9	ns	–0.3	ns	ns	–0.4
412	Yorke Peninsula	1.00	0.94	ns	–0.9	–0.3	ns	ns	–0.3
413	Kangaroo Island	0.15	0.23	0.3	5.8	1.8	4.8	ns	2.0
	Total	25.01	31.02	1.5	0.6	1.0	4.6	–0.1	1.0

ns not significant. (There were too few trips for the model to produce reliable projections.)

a. Excludes all between metropolitan areas and all trips wholly within Adelaide.

Sources NVS (1998, 1999 and 2000), IVS (1999 and 2000) and BTRE estimates.

Regional private car passenger travel is projected to decline from most non-metropolitan regions. Domestic resident trips are responsible for most of the growth in regional passenger car trips. For the Flinders Ranges and Far North tourism regions, growth in international visitor trips adds to the total growth in private car trips from those regions.

Regional coach passenger travel by domestic residents of all non-metropolitan South Australian regions is projected to decline between 1999 and 2020. The projected growth in coach passenger trips from some regions (such as the Far

[41] Much of the inter-regional origin-destination passenger travel to and from Kangaroo Island is from or to Adelaide. Because of the short distance (≈ 100 km by combination road and ferry) between Adelaide and Kangaroo Island, the assumed mode share trends imply a decreasing proportion of air travel. The fact that the travel between the regions must cross water, however, may not imply such a switch in mode share—a fact not captured in the model. This would also explain the higher projected growth in car travel from Kangaroo Island.

North, Kangaroo Island and the Flinders Ranges), exhibited in table 5.13, is due to growth in coach travel by international visitors.

Regional rail passenger trips are only a small proportion of all trips in South Australia, too small for the model to produce reliable travel projections for most tourism regions.

Western Australia

In 1999, there were approximately 28 million regional passenger journeys from Western Australian tourism regions. Total regional passenger travel from Western Australian regions is projected to grow by 2.3 per cent per annum, to 44.5 million journeys in 2020. Currently, 47 per cent of all regional passenger journeys from Western Australian tourism regions are by residents of Perth or foreign visitors travelling from the Perth tourism region.

Metropolitan / Non-metropolitan trips

Table 5.14 shows the actual and projected number of passenger trips from metropolitan and non-metropolitan regions in Western Australia, in 1999 and 2020. Total regional passenger trips from Perth are projected to grow by 2.8 per cent per annum between 1999 and 2020, and regional passenger trips from non-metropolitan Western Australian regions are projected to grow by 1.7 per cent per annum over the same period.

Most of the populace in Western Australia lives in the southwest of the State (within 4–6 hour drive of Perth), and private car travel is the predominant mode of transport for most regional passenger trips in Western Australia. Regional private car passenger travel from Perth is projected to grow by 2.8 per cent per annum and private car passenger travel for non-metropolitan Western Australian tourism regions is projected to grow by 1.7 per cent per annum between 1999 and 2020.

Regional air passenger travel is projected to grow by 4.6 per cent per annum for trips from metropolitan regions and by 2.7 per cent per annum for trips from non-metropolitan Western Australian regions.

Regional coach passenger travel from Perth is projected to grow by 1.7 per cent per annum and regional coach passenger travel from non-metropolitan regions is projected to grow by 1.7 per cent per annum. Again, most of the growth in coach travel from non-metropolitan Western Australian tourism regions is attributable to international visitors. The projection results show little growth in total regional coach passenger travel by domestic residents of non-metropolitan Western Australian regions.

Total regional rail passenger travel from both metropolitan and non-metropolitan areas is projected to decline over the next twenty years.

TABLE 5.14 ACTUAL AND PROJECTED REGIONAL PASSENGER TRAVEL BY METROPOLITAN / NON-METROPOLITAN[a] ORIGIN REGION BY MODE OF TRANSPORT, WESTERN AUSTRALIA, 1999 AND 2020

(million passenger journeys)

Mode	*Travel from metropolitan[b] regions*			*Travel from non-metropolitan[b] regions*		
	1999	*2020*	*Growth (per cent pa)*	*1999*	*2020*	*Growth (per cent pa)*
Air	0.57	1.48	4.6	0.47	0.84	2.7
Coach	0.44	0.62	1.7	0.55	0.78	1.7
Car	11.97	21.41	2.8	13.37	18.90	1.7
Ferry	0.00	0.00	–1.9	0.02	0.02	1.4
Other	0.08	0.08	–0.3	0.11	0.09	–1.1
Rail	0.14	0.13	–0.2	0.12	0.10	–1.0
Total	13.20	23.73	2.8	14.65	20.73	1.7

a. Excludes all trips between metropolitan areas and all trips wholly within Perth.

b. The Perth tourism region is the only metropolitan region in Western Australia. All other regions are classed as non-metropolitan.

Sources NVS (1998, 1999 and 2000), IVS (1999 and 2000) and BTRE estimates.

Trips by tourism region

Table 5.15 provides projections of total passenger travel from Western Australian tourism region, by region of origin. Again, the data provided in the table includes both domestic resident and international visitor trips.

Travel from Perth

As already stated, total passenger travel from Perth is projected to grow by 2.8 per cent per annum between 1999 and 2020. The projections imply growth in travel across all public transport modes, except rail. Regional air travel by domestic residents is projected to grow by around 2.3 per cent per annum. Regional coach passenger travel is projected to grow by 1.7 per cent per annum, but this is largely attributable to growth in international visitors—domestic resident coach travel is projected to remain more or less unchanged. Total Regional rail trips by domestic residents of Perth (not shown in table 5.15) are projected to decline between 1999 and 2020.

TABLE 5.15 PROJECTED GROWTH IN REGIONAL PASSENGER TRAVEL BY TOURISM REGION OF ORIGIN BY TRANSPORT MODE, WESTERN AUSTRALIA, 1999–2020

Code	*Tourism region*	*Passenger trips (million trips)*		*Average annual growth (per cent per annum)*				
		1999	*2020*	*Air*	*Coach*	*Car*	*Rail*	*Total*
501	South East	0.39	0.54	2.9	1.1	1.6	ns	1.6
504	Gascoyne	0.22	0.36	3.2	4.8	2.2	ns	2.5
505	Pilbara	0.74	0.80	2.3	0.7	0.1	ns	0.4
506	Kimberley	0.41	0.83	4.1	5.4	3.2	ns	3.4
507	Perth[a]	13.20	23.73	4.6	1.7	2.8	–0.2	2.8
508	Peel	2.61	4.79	4.3	1.2	3.0	ns	2.9
509	South West	3.96	5.75	2.6	0.5	1.8	ns	1.8
510	Great Southern	1.69	2.04	0.8	0.9	0.9	ns	0.9
511	Wheatbelt	2.87	3.30	2.0	1.7	0.7	–2.1	0.7
5021	Goldfields North	0.08	0.10	3.8	ns	0.8	ns	1.2
5022	Goldfields South	0.54	0.74	2.8	1.4	1.3	ns	1.5
5031	Midwest – Coast	0.57	0.84	3.4	3.7	1.7	ns	1.9
5032	Midwest – Inland	0.58	0.63	1.0	3.2	0.2	ns	0.4
	Total	27.85	44.46	3.9	1.7	2.2	–0.5	2.3

ns not significant. (There are too few trips for the model to produce reliable results.)

a. Excludes all inter-capital trips and all trips wholly within Perth.

Sources NVS (1998, 1999 and 2000), IVS (1999 and 2000) and BTRE estimates.

Travel from non-metropolitan tourism regions in southern Western Australia

Non-metropolitan tourism regions in southern Western Australia include Peel, the South West, Great Southern, South East, the Wheatbelt and Goldfields. Total regional passenger travel from these regions is projected to grow at 1.7 per cent per annum between 1999 and 2020. Across all southern Western Australian tourism regions, air passenger travel is projected to grow by 2.7 per cent per annum—most of this growth is attributable to growth in domestic resident air trips. Private car passenger travel from southern Western Australian regions is projected to grow by 1.7 per cent per annum. Coach passenger travel from southern Western Australian regions is also projected to grow, by 1.0 per cent per annum, but regional rail passenger trips are projected to decline.

Travel from non-metropolitan tourism regions in northern Western Australia

Northern Western Australian tourism regions include: Midwest, Gascoyne, Pilbara and Kimberley. Total regional passenger trips from these regions are projected to grow by 1.5 per cent per annum. Air passenger travel from northern Western Australian tourism regions is projected to grow by over 2.8 per cent per annum, attributable largely to growth in travel by domestic residents. Regional coach travel from northern Western Australian regions is projected to grow by over 3.5 per cent per annum, which is largely attributable

to growth in international visitor trips. There are no passenger rail services to northern Western Australian tourism regions.

Tasmania

Based on the pooled NVS and IVS data, there were 12.7 million regional passenger journeys undertaken by Tasmanian residents and international visitors from Tasmanian tourism regions in 1999. (This is approximately 5 per cent of all regional passenger journeys in Australia.) Under the base case assumptions, total regional passenger travel from Tasmanian regions is projected to grow by 0.3 per cent per annum, to 13.5 million trips in 2020. The projected rate of growth in regional passenger travel is much lower than for other States and Territories, a consequence of the projected decline in Tasmania's population between 1999 and 2020.

Metropolitan / Non-metropolitan trips

Table 5.16 shows the actual and projected number of regional passenger journeys from Tasmanian regions in 1999 and 2020, split by metropolitan and non-metropolitan regions. Total regional travel from Hobart is projected to grow by 1.3 per cent per annum. Total inter-regional passenger travel from non-metropolitan regions in Tasmania is projected to remain more or less the same.

As is the case for most other States, private car travel is projected to remain the major mode of transport for regional passenger trips in Tasmania, accounting for 93 per cent of all such travel in 2020. Regional air passenger travel is projected to grow by 2.7 per cent per annum for travel from Hobart and by 1.6 per cent per annum from travel from non-metropolitan regions in Tasmania. Despite declining populations, the base case projections imply growth in air travel by domestic residents of Tasmania of 2.0 per cent per annum between 1999 and 2020. Apart from travel to King and Flinders Island, there is little intrastate air passenger travel in Tasmania, and the growth in air's mode share would be because most of these regional air passenger trips are to or from an interstate destination (i.e. > 400 km).

Total regional coach passenger travel from Hobart by coach is projected to grow by 0.6 per cent per annum between 1999 and 2020, but this is attributable to growth in coach trips by international visitors. (Under the base case assumptions, total regional coach passenger trips by domestic residents are projected to decline between 1999 and 2020.) Ferry passenger trips by all domestic residents are projected to increase by 0.3 per cent per annum between 1999 and 2020. Projected growth in regional passenger travel by international visitors contributes to the projected strong growth in total ferry passenger trips shown in table 5.16.

There is no intrastate inter-regional rail passenger travel in Tasmania. Regional passenger trips from Tasmanian regions, where rail is the main transport mode involve a mainland rail journey.

TABLE 5.16 ACTUAL AND PROJECTED REGIONAL PASSENGER TRAVEL BY METROPOLITAN / NON-METROPOLITAN[a] ORIGIN REGION BY MODE OF TRANSPORT, TASMANIA, 1999 AND 2020

(million passenger journeys)

Mode	*Travel from metropolitan[b] regions*			*Travel from non-metropolitan[b] regions*		
	1999	*2020*	*Growth (per cent pa)*	*1999*	*2020*	*Growth (per cent pa)*
Air	0.02	0.04	2.7	0.40	0.55	1.6
Coach	0.12	0.14	0.6	0.27	0.26	–0.1
Car	3.18	4.19	1.3	8.65	8.23	–0.2
Ferry	0.02	0.02	1.7	0.02	0.04	2.7
Other	0.03	0.02	–2.0	0.02	0.02	–0.8
Total	3.37	4.41	1.3	9.37	9.11	–0.1

a. Excludes all trips between metropolitan areas and all trips wholly within the Greater Hobart tourism region.

b. The Greater Hobart tourism region is the only metropolitan region in Tasmania. All other regions are classed as non-metropolitan.

Sources NVS (1998, 1999 and 2000), IVS (1999 and 2000) and BTRE estimates.

Trips by tourism region

Table 5.17 shows projected growth in regional passenger travel from all Tasmanian tourism regions. Regional air passenger travel is projected to grow across all Tasmanian regions. Despite a declining population, domestic resident air passenger trips are also projected to grow from most Tasmanian regions. Total regional coach trips are projected to grow slowly between 1999 and 2020. For these regions, international visitor trips are a high proportion of all coach trips, and responsible for the projected strong growth in coach trips from these regions.[42]

Regional passenger ferry trips are projected to grow, fuelled by growth in international visitor trips. Ferry trips by Tasmanian residents are projected to grow by only 0.5 per cent per annum between 1999 and 2020.

[42] The high rate of growth projected for coach travel from the West Coast tourism region, for example, is due to international visitor numbers.

TABLE 5.17 PROJECTED GROWTH IN REGIONAL PASSENGER TRAVEL BY TOURISM REGION OF ORIGIN BY TRANSPORT MODE, TASMANIA, 1999–2020

Code	*Tourism region*	*Passenger travel (million journeys)*		*Average annual growth (per cent per annum)*				
		1999	*2020*	*Air*	*Coach*	*Car*	*Ferry*	*Total*
601	Greater Hobart[a]	3.37	4.41	2.7	0.6	1.3	1.7	1.3
602	Southern	1.32	1.42	2.7	0.5	0.3	ns	0.4
603	East Coast	0.61	0.62	0.6	–0.5	0.1	ns	0.1
604	Northern	0.64	0.59	0.9	ns	–0.4	ns	–0.3
605	Greater Launceston	3.22	3.15	1.8	–0.6	–0.2	ns	–0.1
606	North West	3.35	3.04	1.1	–0.8	–0.6	1.5	–0.5
607	West Coast	0.23	0.29	ns	4.5	0.6	ns	1.0
	Total	12.73	13.53	1.6	0.1	0.2	2.3	0.3

ns not significant. (There are too few trips for the model to produce reliable results.)

a. Excludes all inter-capital trips and all trips wholly within Greater Hobart.

Sources NVS (1998, 1999 and 2000), IVS (1999 and 2000) and BTRE estimates.

Northern Territory

There were approximately 2.9 million regional passenger journeys from Northern Territory tourism regions in 1999. Under the base case assumptions, total regional passenger travel from Northern Territory tourism regions is projected to grow by 3.5 per cent per annum, to 5.8 million passenger journeys in 2020. Much of this growth is due to the high proportion of international visitor trips to and from tourist centres in the Northern Territory. Over the same period, domestic passenger trips are projected to grow by 1.4 per cent per annum, from fewer than 2.0 million inter-regional passenger journeys in 1999 to 2.6 million passenger trips in 2020.

The projections do not take into account the extension of the rail link from Alice Springs to Darwin, and the impact on passenger travel due to the provision of passenger rail services from early 2004, when the line is expected to open.

Metropolitan / Non-metropolitan trips

The mode share pattern in the Northern Territory differs from that of most other States and Territories. For example, air travel is a much higher share of all trips from non-metropolitan areas in the Northern Territory when compared with other States and Territories. Passenger coach travel's share of regional passenger travel is also higher in the Northern Territory than in other States, around 12 per cent of all regional passenger journeys in the Northern Territory.

Table 5.18 shows the actual and projected number of regional passenger journeys from Northern Territory metropolitan and non-metropolitan tourism regions. Car travel accounts for around 54 per cent of regional passenger journeys, mainly between Darwin and nearby tourism regions.

Regional air passenger travel from both Darwin and non-metropolitan Northern Territory regions is projected to grow by around 4.5 per cent per annum between 1999 and 2020. Part of this growth is due to the projected population growth and part to the strong growth in international visitor trips.

TABLE 5.18 ACTUAL AND PROJECTED REGIONAL PASSENGER TRAVEL BY METROPOLITAN / NON-METROPOLITAN[a] ORIGIN REGION BY MODE OF TRANSPORT, NORTHERN TERRITORY, 1999 AND 2020

(million passenger journeys)

Mode	*Travel from metropolitan[b] regions*			*Travel from non-metropolitan[b] regions*		
	1999	*2020*	*Growth (per cent pa)*	*1999*	*2020*	*Growth (per cent pa)*
Air	0.16	0.41	4.5	0.44	1.10	4.4
Coach	0.07	0.21	5.3	0.28	0.88	5.6
Car	0.56	1.06	3.1	1.25	2.07	2.4
Other	0.02	0.02	–0.2	0.04	0.04	–0.3
Total	0.81	1.70	3.6	2.04	4.14	3.4

a. Excludes all trips between metropolitan areas and all trips wholly within Darwin.

b. The Darwin tourism region is the only metropolitan region in the Northern Territory. All other regions are classed as non-metropolitan.

Sources NVS (1998, 1999 and 2000), IVS (1999 and 2000) and BTRE estimates.

Regional coach passenger travel in the Northern Territory is also projected to grow quite strongly—because approximately 90 per cent of regional coach trips from a Northern Territory region were by international visitors. (Many of these international visitor, and indeed domestic tourist trips, in the Northern Territory are probably on charter or tour services, rather than scheduled long-distance coach services). Regional coach trips by Northern Territory residents, on the other hand, are projected to decline between 1999 and 2020.

Trips by tourism region

Table 5.19 shows the projected growth in total regional passenger trips from Northern Territory tourism regions by transport mode. The projections show strong growth in passenger trips from almost all Northern Territory regions and across all major transport modes. As already mentioned, much of this growth is attributable to growth in international visitor trips within the Northern Territory. (As well as being approximately 90 per cent of all regional coach passenger trips, international visitor trips are over 60 per cent of all air trips and almost 30 per cent of regional car trips in the Northern Territory. By comparison, domestic resident regional passenger trips (not shown here) are projected to grow by 1.4 per cent per annum between 1999 and 2020, with much of this growth in trips by private car and air[43].

[43] The projected decline in air travel from the Tablelands region, shown in table 5.19, is probably because a higher proportion of the base estimates of total air trips from that region

TABLE 5.19 PROJECTED GROWTH IN REGIONAL PASSENGER TRAVEL BY TOURISM REGION OF ORIGIN BY TRANSPORT MODE, NORTHERN TERRITORY, 1999–2020

Code	*Tourism region*	*Passenger travel (million journeys)*		*Average annual growth (per cent per annum)*				
		1999	*2020*	*Air*	*Coach*	*Car*	*Rail*	*Total*
801	Darwin[a]	0.81	1.70	4.5	5.3	3.1	ns	3.6
802	Kakadu	0.13	0.35	4.4	6.2	4.3	ns	4.8
803	Arnhem	0.14	0.17	1.4	ns	1.6	ns	1.1
804	Katherine	0.42	0.70	1.9	5.2	2.1	ns	2.5
805	Tablelands	0.14	0.27	–2.4	5.4	3.6	ns	3.1
806	Petermann	0.29	0.95	6.1	6.0	5.1	6.2	5.8
807	Alice Springs	0.82	1.50	4.5	5.3	1.3	4.5	2.9
808	Macdonnell	0.04	0.09	7.2	5.3	3.5	ns	4.1
809	Daly	0.05	0.10	3.5	5.0	2.7	ns	2.9
	Total	2.85	5.84	4.5	5.5	2.6	4.9	3.5

ns not significant. (There are too few trips for the model to produce reliable results.)

a. Excludes all travel between metropolitan areas and all travel wholly within Darwin.

Sources NVS (1998, 1999 and 2000), IVS (1999 and 2000) and BTRE estimates.

Australian Capital Territory

Excluding travel to other metropolitan centres and travel wholly within Canberra, there were approximately 3.4 million regional passenger journeys from the ACT in 1999. Total regional passenger travel from the ACT is projected to grow by 1.9 per cent per annum, to 5 million trips in 2020.

Table 5.20 shows the actual and projected inter-regional passenger travel from the ACT in 1999 and 2020. Private car travel is projected to grow by 1.9 per cent per annum. Regional air passenger travel is projected to grow by 2.1 per cent per annum. Regional coach and rail passenger travel from the ACT is projected to grow by 1.3 per cent per annum, with much of the growth due to increasing international visitor trips—regional coach trips by domestic residents of the ACT, excluding inter-capital trips, are projected to decline between 1999 and 2020. Regional rail passenger travel is a negligible proportion of all such trips from the ACT.

were to a location under 400 km, a distance over which air's mode share is projected to decline.

TABLE 5.20 ACTUAL AND PROJECTED NUMBER TRIPS[a] BY TRANSPORT MODE, AUSTRALIAN CAPITAL TERRITORY, 1999 AND 2020

(million passenger trips)

	Year		*Growth*
Mode	*1999*	*2020*	*(per cent pa)*
Air	0.09	0.15	2.1
Coach	0.09	0.11	1.3
Car	3.20	4.71	1.9
Other	0.00	0.00	1.3
Rail	0.01	0.01	1.1
Total	3.39	4.99	1.9

a. Excludes all inter-capital trips and all trips wholly within Canberra.

Sources NVS (1998, 1999 and 2000), IVS (1999 and 2000) and BTRE estimates.

APPENDIX I ORGANISATIONS CONTACTED DURING THE COURSE OF THIS STUDY

The following organisations and individuals were contacted and/or provided information during the course of this study.

Commonwealth agencies

Department of Transport and Regional Services
Bureau of Tourism Research

State and Territory transport agencies

Transport NSW
Transport Data Centre (Transport NSW)
Victorian Department of Infrastructure
Office of the Director of Public Transport (Victoria)
Victorian Department of Planning Heritage & Building
Victorian Department of Innovation, Industry and Regional Development
Queensland Transport
Passenger Transport Board (South Australia)
Transport SA
Western Australian Department for Planning and Infrastructure
Tasmanian Department of Infrastructure, Energy and Resources
Northern Territory Department of Infrastructure, Planning and Environment
ACT Department of Urban Services

Industry Associations

Regional Aviation Association of Australia
Bus Industry Confederation
Bus and Coach Association NSW
Bus Association Victoria
Queensland Bus Industry Council
International Association of Public Transport (UITP)

Transport operators

Aviation operators

Qantas
Airlines of South Australia
Skywest
Airlines of South Australia
Emu Airways
Missionary Aviation Fellowship
Airlink
Sunshine Express Airlines
National Jet Systems
Skippers Aviation
O'Connor Airlines
Tasair
Maroomba Airlines
Norfolk Jet Express
Macair Airlines
Eastland Air
King Island Airlines
Rob McDonald
Air Facilities Airlines
Aeropelican

Rail operators

StateRail (State Rail Authority of NSW
National Express Group (V/Line)
West Coast Railways
Queensland Rail
Great Southern Railways
WAGR
Hoys Roadlines
West Coast Railway

Bus/Coach Operators

McCafferty's
Firefly Express
Premier Stateliner
Premier Motor Service
TassieLink Regional Coach Service (TigerLine Travel)
Redline Coaches
Integrity Coachlines
Dyson's Bus Services

APPENDIX II REGIONAL PASSENGER TRANSPORT SERVICE PROVIDERS

This appendix provides a list of all long-distance and inter-regional passenger transport service providers. For this project, the BTRE compiled a database of all scheduled rail and express coach services in 2001 (or 2002 in many cases). The database is described at the end of this appendix.

REGIONAL PASSENGER TRANSPORT OPERATORS

Passenger transport operators covered by this study included all regional airlines, all long-distance scheduled passenger rail operators and all express coach service operators providing services to and/or from non-capital city centres. This section lists all passenger transport operators covered during the course of the study.

Aviation service operators

Table II.1 lists all regional airlines that provided services during 2000–01, based on the Department of Transport and Regional Services Air Transport Statistics (ATS) database. Since September 2001 at least two smaller regional operators have ceased regular (scheduled) public transport services (Eastland Air (Queensland) and Air Facilities (NSW)), and a number of the former Ansett owned airlines were still under administration. (the Australiawide consortium purchased the Kendell and Hazelton Airlines on 1 August 2002, 11 months after the airlines entered into administration.)

Major regional airlines

Qantas operates and prior to September 2001 Ansett operated regional services directly through wholly owned subsidiaries.

TABLE II.1 LIST OF REGIONAL AIRLINES OPERATING REVENUE PASSENGER SERVICES IN 2000–01

Operator	*Operator code*	*Head office location*	*Operating area*
Major regional airlines			
Aeropelican Air Services	PO	NSW	NSW
Eastern Australia Airlines	ET	NSW	NSW/QLD
Hazelton Airlines	HA	NSW	NSW/QLD/VIC
Impulse QantasLink	VQ	NSW	NSW/QLD/VIC
Kendell Airlines	KD	NSW	NSW/VIC/TAS/SA
Skywest Airlines	SJ	WA	WA
Southern Australia Airlines	SZ	VIC	VIC/SA/TAS/NSW
Sunstate Airlines	SL	QLD	QLD
'Third tier' airlines			
Air Facilities	FA	NSW	NSW/VIC
Air Link	ZL	NSW	NSW
Airlines of South Australia	AL	SA	SA
Airnorth Regional	NR	NT	NT
Country Connection Airlines	XL	NSW	NSW
Eastland Air	ES	QLD	QLD
Emu Airways	EU	SA	SA
Flight West Airlines	YC	QLD	QLD
International Aviation	YK	–	NSW/VIC
Island Airlines Tasmania	IT	VIC	VIC/TAS
King Island Airlines	KI	VIC	VIC/TAS
Macair Airlines	MC	QLD	QLD
Maroomba Airlines	MM	WA	WA
Missionary Aviation Fellowship	MF	NT	NT
National Jet Systems	NC	SA	NT/WA/QLD
Norfolk Jet Express	NJ	QLD	QLD
Northwest Regional Airlines	NW	WA	WA
O'Connor Airlines	OC	SA	SA/VIC
Skippers Aviation	SU	WA	WA
Skytrans	NP	QLD	QLD
Sunshine Express Airlines	CQ	QLD	QLD
Tasair	TZ	TAS	TAS
Western Airlines	MB	WA	WA
Yanda Airlines	SG	NSW	NSW

Source ATS database (2001).

Ansett and affiliated regional airlines

Prior to September 2001, Ansett provided regional air passenger services in 2000–01 directly through the wholly owned subsidiaries—Aeropelican Air Services, Hazelton Airlines, Kendell Airlines and Skywest Airlines. Many of the smaller regional aviation operators were also affiliated with Ansett, prior to

September 2001. By August 2002, all the previously Ansett-owned subsidiaries had been purchased by new owners—Skywest Airlines was sold in February 2002, Aeropelican Air Services in April 2002, and Kendell and Hazelton Airlines sold jointly to Australiawide Aviation in August 2002. Table II.2 lists all destinations served by Ansett and its subsidiaries in 2000–01.

TABLE II.2 ANSETT AND SUBSIDIARY DESTINATIONS, 2000–01

State	*Destinations*
NSW/ACT	Albury, Sydney, Wagga Wagga, Broken Hill, Armidale, Tamworth, Bathurst, Newcastle, Canberra, Coffs Harbour, Casino, Lismore, Dubbo, Orange, Parkes, Griffith, Narrandera, Merimbula, Moruya, Ballina.
Victoria	Melbourne, Latrobe Valley, Mildura, Portland.
Queensland	Mackay, Coolangatta, Rockhampton, Maroochydore, Cairns, Mount Isa, Hamilton Island, Proserpine, Townsville, Brisbane, Weipa.
South Australia	Adelaide, Ceduna, Coober Pedy, Olympic Dam, Whyalla, Mount Gambier, Kingscote, Port Lincoln.
Western Australia	Broome, Kalgoorlie, Karratha, Paraburdoo, Albany, Carnarvon, Shark Bay (Monkey Mia), Esperance, Geraldton, Learmonth, Leinster, Mount Keith, Wiluna, Leonora, Laverton, Meekatharra, Perth, Kununurra, Port Hedland, Newman.
Tasmania	Burnie, Devonport, Hobart, Launceston, King Island.
Northern Territory	Alice Springs, Ayers Rock, Darwin, Gove, Groote Eylandt.

Source ATS database (2001).

Qantas and affiliated regional airlines

In 2000–01, Qantas operated aviation services to a range of regional destinations, both directly and through its wholly owned subsidiary airlines—Eastern Australia Airlines, Southern Australia Airlines, Sunstate Airlines and Airconnex. National Jet Systems provided passenger services to Qantas under the Airlink brand. The services operate under the *QantasLink* banner (Qantas 2002). Post-September 2001, QantasLink services operate between 55 cities and towns throughout Australia (see table II.3).

TABLE II.3 QANTAS / QANTASLINK DESTINATIONS, 2000–01

State	*QantasLink destinations*
NSW/ACT	Albury, Armidale, Ballina, Canberra, Coffs Harbour, Cooma, Dubbo, Glen Innes, Grafton, Inverell, Kempsey, Lord Howe Island, Moree, Narrabri, Newcastle, Port Macquarie, Sydney, Tamworth, Taree, Wagga Wagga.
Victoria	Melbourne, Mildura, Mount Hotham.
Queensland	Barcaldine, Blackall, Blackwater, Brisbane, Bundaberg, Cairns, Charleville, Emerald, Gladstone, Gold Coast, Hamilton Island, Hervey Bay, Horn Island, Longreach, Mackay, Maroochydore, Maryborough, Prosperpine, Rockhampton, Roma, Thursday Island, Townsville and Weipa.
South Australia	Adelaide
Western Australia	Broome, Kalgoorlie, Karratha, Paraburdoo, Perth.
Tasmania	Burnie, Devonport, Hobart, Launceston.
Northern Territory	Alice Springs, Ayers Rock, Darwin, Gove.

Source ATS database (2001).

Rail service operators

In most mainland States, country passenger rail services are generally owned and operated by a State government business enterprise. With the exception of Victoria, there is generally a single operator providing country rail passenger services in each State. In NSW, Queensland and Western Australia the country passenger rail operators are part of the State government-owned rail operator. In Victoria, there are three country passenger rail service providers. All three are private companies operating under long-term lease or service agreement with the Department of Infrastructure in Victoria (Victorian Department of Transport 1994a, 1994b and 1999). There are few country rail passenger services in South Australia, the existing services: the Overland (Melbourne–Adelaide), The Ghan (Sydney / Melbourne–Adelaide–Alice Springs) and the Indian–Pacific (Sydney–Adelaide–Perth), are essentially inter-capital services. The Ghan is the only rail service in the Northern Territory (Alice Springs). There are currently no long-distance passenger rail operations in Tasmania. Countrylink (NSW) provides long-distance passenger rail services to the ACT. Table II.4 lists all current country passenger rail operators.

Most rail operators also operate complementary road coach services within their State. The coach operators and the nature of their operations, i.e. whether they are operated wholly privately or under some type of contract arrangement are outlined in the next section on coach operators.

TABLE II.4 LONG DISTANCE RAIL PASSENGER SERVICE OPERATORS
(Operators as at 1 Feb 2002)

Head office	*Operator*
NSW	State Rail Authority of NSW (Countrylink)
Vic	National Express Group (V/Line)
	West Coast Railways
	Hoys Roadlines
Qld	Queensland Railways
SA	Great Southern Railway
WA	West Australian Government Railways Commission

Coach service operators

Most long-distance coach services are provided by private operators under some type of contract or service agreements, or under some type of regulated market (as in South Australia). There appear to be only a small number of private inter-regional coach services that are provided without some form of State-based remunerative scheme. Most of those are the interstate express coach operations, such as McCafferty's, Premier Motor Service and Firefly Coaches.

Tables II.5 to II.13 provide a list of all long-distance coach operators in Australia in 2000–01.

TABLE II.5 LONG-DISTANCE SCHEDULED COACH SERVICE OPERATORS – INTERSTATE OPERATOR
(Operators as at 1 Feb 2002)

Operator	*State(s) of operation*	*Approximate operating region*
McCafferty's (Greyhound)	All except Tasmania	Services connecting all mainland State and Territory capital cities
Firefly	NSW, Vic, SA	Adelaide–Melbourne–Sydney
Premier Motor Service	NSW, Qld	Eden–Sydney–Brisbane–Cairns
Hoys Roadlines	Vic, SA	Albury–Adelaide
Murrays Coaches	ACT, NSW	Canberra–Sydney, Canberra–Wollongong, Canberra–Narooma

TABLE II.6 LONG-DISTANCE SCHEDULED COACH SERVICE OPERATORS – NSW RAIL REPLACEMENT SERVICE OPERATORS

Operator	*Approximate operating region*
Fearnes	Griffith–Wagga Wagga
Purtills	Mildura–Cootamundra
Frasers	Dubbo–Broken Hill
Kiama	Moss Vale–Wollongong
Edwards	Canberra–Cooma–Eden
3F	Dubbo–Brewarrina–Bourke
Loaders	Bathurst–Orange
Selwood	Orange–Parkes
Western Roadliners	Condobolin–Parkes
Corby's	Mt Victoria–Oberon
Sunstate	Casino–Murwillumbah–Brisbane
Kirklands	Lismore–Ballina
Symes	Moree–Grafton
Kings	Grafton–Byron Bay
Great Lakes	Newcastle–Taree
Walcha	Walcha
Narrabri Bus	Narrabri–Burren Junction
Transborder	Cootamundra–Yass–Canberra

Source Countrylink (2001).

TABLE II.7 LONG-DISTANCE SCHEDULED COACH SERVICE OPERATORS – NSW INTRASTATE 'COMMERCIAL CONTRACT' AND OTHER NON-RAIL REPLACEMENT OPERATORS

Town-to-town service operators	*Village-to-town operators*	*Regional town operators*
Bega Valley Coaches	Allen's Bus Service	Austin's Bus Service
Berrima Coaches	Beaumont's Bus Service	Bathurst Coaches
Black & White Bus Service	Bega Tathra Bus Service	Blunts Bus and Coach
Fearnes Coaches	Brunswick Valley Coaches	Cobar Bus Service
Great Lakes Coaches	Cavanaghs Bus Service	Coffs Harbour Coaches
Junee Buses	Coomealla Bus Lines	Cooma Coaches
Kean's Travel Express	Crookwell Bus Service	Cowra Bus Service
Kirklands	Culburra Coaches	Dubbo Coaches
Narrabri Bus Service	Deanes Buslines	Dunoon Bus Service
Port Macquarie Bus Service	Eggins Comfort Coaches	Edwards Coaches
Rendell Coaches	Forster Bus Service	Greenaway's Coaches
Selwood's Coaches	Harrisons Motor Service	Hussey's Bus Service
Sid Fogg's Coachlines	Jones Bros Bus Co.	Martin's Albury
Transborder	Kennedy's Bus Service	Mitchell's Bus and Coach Services
	King Bros Bus Service	Morisset Bus Service
	Landsdowne Bus Service	Murtons Citybus

TABLE II.7 LONG-DISTANCE SCHEDULED COACH SERVICE OPERATORS – NSW INTRASTATE 'COMMERCIAL CONTRACT' AND OTHER NON-RAIL REPLACEMENT OPERATORS (CONTINUED)

Town-to-town service operators	*Village-to-town operators*	*Regional town operators*
	Marsh's Bus Service	Mylon Motorways
	Newman's Bus Service	Ogden's Coaches
	Orange Coaches	Purtills
	Osborn's Travel Service	Taylors Coaches
	Perrett's Coach Service	Thomas' Bus Service
	Picton Coaches	Twyford's Bega Buses
	Port Stephen's Coaches	Wiseley's Bus and Coach Service
	Priors Bus Service	
	RH Ison Bus Service	
	Rover Coaches	
	Sontiers Travelways	
	Surfside Buslines	
	Symons Coaches	
	Tamworth Coaches	
	Tingha to Inverell Bus Service	
	Tinonee Bus Services	
	Ulladulla Buslines	
	Watsons Woolgoolga Coaches	

Source Transport NSW (http://www.transport.nsw.gov.au/using_trans/bus-contacts.html, March 2002)

TABLE II.8 LONG-DISTANCE SCHEDULED COACH SERVICE OPERATORS – VICTORIAN 'RAIL REPLACEMENT' OPERATORS

Operator	*Route*
Andersons Bus Lines Pty Ltd	Melbourne–Tocumwal
Arica Pty Ltd	Benalla–Mulwala
Broadmeadows Bus Charter Pty Ltd	Melbourne–Mildura
Castlemaine Bus Lines Pty Ltd	Castlemaine–Maryborough
Clockworld Pty Ltd	Bendigo–Ultima/Swan Hill
	Swan Hill–Mildura
Davis HA Motor Services Pty Ltd	Ballarat–Geelong
Donric Pty Ltd	Melbourne–Shepparton
Dyson's Bus Services Pty Ltd	Murchison East–Echuca/Moama
	Bendigo–Echuca/Moama
	Sale–Bairnsdale
Eldred Westernport Pty Ltd	Melbourne–Yarram
Grenda Nominees Pty Ltd	Melbourne–Inverloch
	Dandenong–Inverloch
Latrobe Valley Bus Lines Pty Ltd	Traralgon–Maffra to Sale
Little KR Pty Ltd	Woodend–Daylesford
McMillan JR Pty Ltd	Hopetoun–Stawell–Ballarat
Mees Bus Lines Pty Ltd	Melbourne–Flowerdale to Mansfield
South Western Roadways Pty Ltd	Warrnambool–Heywood
	Apollo Bay–Warrnambool
Swan Hill Bus Lines Pty Ltd	Bendigo–Swan Hill
Wannon Holdings Pty Ltd	Ballarat–Dimboola
Woods Bus & Coach Service Pty Ltd	Donald–Ballarat/Bendigo
WRL Management Pty Ltd	Dandenong–Lang Lang

Source Victorian Department of Transport (1999, Schedule 24, p. 308)

TABLE II.9 LONG-DISTANCE SCHEDULED COACH SERVICE OPERATORS – VICTORIAN 'PRIVATELY MARKETED COACH SERVICE' OPERATORS

Operator	*Route*	*State*
Brejon Pty Ltd	Apollo Bay–Geelong	VIC
G&G Christian Pty Ltd	Geelong–Ballarat–Bendigo	VIC
	Bendigo–Sea Lake	VIC
Day Link Express Pty Ltd	Bendigo–Adelaide (Daylink)	VIC, SA
Dyson's Bus Services Pty Ltd	Bairnsdale–Bega / Canberra (Capital Link)	VIC, NSW
	Bairnsdale–Narooma	VIC, NSW
	Bairnsdale–Orbost	VIC
	Bairnsdale–Sale	VIC
	Bairnsdale–Moama	VIC, NSW
	Shepparton–Moama	VIC, NSW
	Melbourne–Deniliquin	VIC, NSW
	Albury–Mildura	VIC, NSW
	Melbourne–Barham (via Rochester, Cohuna)	VIC
	Melbourne–Barham (via Kyabram, Nathalia)	VIC
	Melbourne–Wangaratta–Mount Beauty	VIC
Fords Shepparton Bus Service Pty Ltd	Melbourne–Shepparton	VIC
Grenda Nominees Pty Ltd	Dandenong–Cowes	VIC
Hoyson Nominees Pty Ltd	Adelaide–Albury (Speedlink)	VIC, SA
Mees Bus Lines Pty Ltd	Melbourne–Yarra Glen–Mansfield	VIC
Mylons Motorways Pty Ltd	Wodonga–Canberra	VIC, ACT
Wangaratta Coachlines Pty Ltd	Wangaratta–Beechworth	VIC
	Wangaratta–Bright	VIC
	Wangaratta–Glenrowan	VIC
	Wangaratta–Springhurst	VIC
	Wangaratta–Corowa	VIC, NSW
	Wangaratta–Bendigo	VIC
Wannon Holdings Pty Ltd	Ballarat–Mt Gambier	VIC, SA
	Terang–Casterton– Warrnambool	VIC
	Hamilton–Ballarat	VIC
	Casterton–Warrnambool	VIC

Source Victorian Department of Transport (1999, Schedule 25, p. 309)

TABLE II.10 LONG-DISTANCE SCHEDULED COACH SERVICE OPERATORS – QUEENSLAND INTRASTATE OPERATORS

Operator	*Approximate operating region*
McCafferty's	Coolangatta–Brisbane–Cairns, Brisbane–Toowoomba, Brisbane–Charleville, Brisbane–Blackall–Mt Isa, Brisbane–Miles–Rockhampton, Townsville–Mt Isa–Camooweal
Kynock Coaches	Toowoomba–Roma–Charters Towers, Toowoomba–Crows Nest
Coral Coaches	Cairns–Karumba, Karumba–Mt Isa
Emerald Coaches	Mackay–Emerald
Brisbane Bus Lines	Brisbane–Kingaroy–Goomeri
Biloela Coaches	Goomeri–Biloela
Crisps Coaches	Brisbane–Stanthorpe
Polleys Coaches	Gympie–Kingaroy–Toowoomba
Premier Motor Service	Coolangatta–Cairns

Note There are also private operators providing coach services to and from the Gold and Sunshine Coast and Brisbane airport, (Coachtrans and Sun–Air Bus Service).

Source McCafferty's (2001), Queensland Department of Transport (pers. comm. 2002).

TABLE II.11 LONG-DISTANCE SCHEDULED COACH SERVICE OPERATORS – SOUTH AUSTRALIAN INTRASTATE OPERATORS

Operator	*Approximate operating region*
Premier Stateliner	Adelaide–Mt Gambier, Adelaide–Port Pirie–Port Augusta–Whyalla–Port Lincoln, Adelaide–Ceduna, Adelaide–Victor Harbour, Adelaide–Wilpena, Adelaide–Woomera–Olympic Dam, Adelaide–Berri–Loxton
Mid North Passenger Service	Adelaide–Orrorroo
Yorke Peninsula Coaches	Adelaide–Yorketown
Barossa Valley Coaches	Adelaide–Angaston
Murray Bridge Passenger Service	Adelaide–Murray Bridge–Tailem Bend

TABLE II.12 LONG-DISTANCE SCHEDULED COACH SERVICE OPERATORS – WESTERN AUSTRALIAN INTRASTATE OPERATORS

Operator	*Approximate operating region*
WAGR	Perth–Geraldon–Meekatharra, Perth to towns in southwest Western Australia, including Perth–Esperance, and Kalgoorlie–Esperance.
Integrity	Perth–Carnarvon–Exmouth.
Perth Goldfields Express	Perth–Kalgoorlie–Leonora–Laverton–Menzies
Southwest Coachlines	Perth–Bunbury, Bunbury–Margaret River–Bridgetown.

TABLE II.13 LONG-DISTANCE SCHEDULED COACH SERVICE OPERATORS – TASMANIAN INTRASTATE OPERATORS

Operator	*Approximate operating region*
Redline Coaches	Hobart–Launceston–Burnie
TassieLink Regional Coach Service (TigerLine Travel)	Regional coach services–connecting regional centres with Hobart, Launceston, Devonport & Burnie

Ferry service operators

There are only two ferry services covered by this report: TT-Line Bass Strait passenger ferry and catamaran services between Tasmania and the mainland and the SeaLink ferry service between Kangaroo Island (SA) and the mainland. The study did not include cruise ship services or ferry services wholly within a single tourism region, such as ferry services to Rottnest Island (WA).

DATABASE OF SCHEDULED LONG-DISTANCE RAIL AND EXPRESS COACH PASSENGER TRANSPORT SERVICES

As mentioned the BTRE compiled a list of all scheduled long-distance rail and express coach passenger transport services from publicly available electronic and printed timetables. The data relate primarily to those services in operation during 2001 and / or 2002. The database is reasonably comprehensive—as far as the BTRE is aware the database includes all services except for local bus services within some regional towns and some 'village-to-town' type coach services that provide transport for people into and out of their local regional centre.

TABLE II.14 INFORMATION CONTAINED IN BTRE DATABASE OF SCHEDULED INTER-REGIONAL COACH AND RAIL PASSENGER SERVICES

Field	*Description/Notes*
Operator	Name of service provider.
Mode	Coach or Rail.
Service origin	Town name.
Service destination	Town name.
Route number	Unique operator service code.
Frequency	Services per week.
Location	Location of stop— name of town, suburb or location.
Time	Arrival time (Destination time for service origin).
State	State or Territory.
Date	Date at which timetable came into effect.

Table II.14 outlines the structure of the BTRE database. The database includes information separately for each service, including the service origin and

destination, the stop location and travel time. The database also identifies the date at which the service came into effect.

The BTRE used the data contained in the database in the analysis of service coverage appearing in chapter 3.

APPENDIX III OVERVIEW OF THE NVS AND IVS DATA

This appendix provides some statistics outlining the geographic coverage and demographic profile of the National Visitor Survey and International Visitor Survey data.

THE NATIONAL VISITOR SURVEY (NVS)

The National Visitor Survey (NVS, BTR 2001) interviews around 80 000 Australian residents aged 15 years and over, each year. It records details of all travel undertaken by Australian residents, including trips involving nights away from home and day trips, as well as trips by Australians overseas.

The NVS data contains data on trips by type of travel—holiday and leisure travel, business travel, visits to friends and relatives, and other types of tourism are included.

The NVS commenced in January 1998, replacing the Domestic Tourism Monitor (DTM), which had been undertaken for over 20 years. The NVS includes data not previously collected in the DTM, such as domestic tourism expenditure and activities undertaken on each trip, as well as improved regional data, are now available from the NVS. Full unit record data, which may be purchased from the BTR, includes trip-specific and socioeconomic information, such as origin, destination, mode of transport, main purpose of trip, travel expenditure, life cycle of household, employment status and household income.

THE INTERNATIONAL VISITOR SURVEY (IVS)

The International Visitor Survey (IVS) interviews approximately 20 000 overseas visitors, aged 15 years or more, departing from major Australian airports (Sydney, Melbourne, Brisbane, Cairns, Perth, Adelaide and Darwin) each year. The IVS records information on all travel undertaken between major destinations in Australia, including origin, destination and mode of transport.

GEOGRAPHIC COVERAGE OF THE NVS

The 1998, 1999 and 2000 NVS surveys around 80 000 households annually (table III.1). Of those respondents surveyed, around 28 000 households reported one or more overnight trips and 16 000 reported one or more day trips (tables III.2 and III.3).

The NVS sample is stratified geographically on an origin basis by State and Territory, with New South Wales, Victoria, Queensland, South Australia and Western Australia further stratified by capital city and balance-of-State. A purely random origin-based proportional to population would not provide regional estimates, which are equally reliable across all regions (BTR 2002a). Consequently, the stratification involves sampling proportionately more residents in balance-of-state areas.

TABLE III.1 TOTAL NATIONAL VISITOR SURVEY RESPONSES BY RESPONDENT'S REGION OF ORIGIN BY METROPOLITAN AND NON-METROPOLITAN AREAS, 1998–2000

State	*Description*	*1998 NVS*		*1999 NVS*		*2000 NVS*	
		Number	*per cent*	*Number*	*per cent*	*Number*	*per cent*
NSW	Sydney	13 246	16.9	14 158	17.3	13 730	16.8
NSW	Other NSW	8 080	10.3	8 444	10.3	8 467	10.3
Vic	Melbourne	11 739	15.0	12 357	15.1	12 203	14.9
Vic	Other VIC	5 559	7.1	5 816	7.1	5 873	7.2
Qld	Brisbane	4 634	5.9	4 614	5.6	5 008	6.1
Qld	Other QLD	5 848	7.5	6 130	7.5	6 164	7.5
SA	Adelaide	5 963	7.6	6 171	7.6	6 301	7.7
SA	Other SA	3 607	4.6	3 933	4.8	3 766	4.6
WA	Perth	5 828	7.4	6 023	7.4	6 077	7.4
WA	Other WA	4 636	5.9	4 549	5.6	4 721	5.8
Tas	Tas	5 621	7.2	5 989	7.3	6 042	7.4
NT	NT	1 941	2.5	1 809	2.2	1 937	2.4
ACT	ACT	1 610	2.1	1 710	2.1	1 616	2.0
	Capital city[a]	43 020	54.9	45 033	55.1	44 935	54.9
	Rest of State	35 292	45.1	36 670	44.9	36 970	45.1
	Total	78 312	100	81 703	100	81 905	100

a. Capital city here includes only Sydney, Melbourne, Brisbane, Adelaide, Perth and the ACT. Responses by residents of Tasmania and the Northern Territory are included in 'Rest of State'.

Sources NVS (1998, 1999 and 2000) and BTRE estimates.

The NVS appears to provide a reasonable coverage of travel by residents of non-metropolitan regional areas and trips to non-metropolitan regional areas. Table III.1 shows that on a capital city / rest-of-state basis, non-capital city residents represent 45 per cent of the total NVS sample. By comparison, non-capital city residents comprised around 36 per cent of the estimated resident population in 2001. The proportion of survey respondents actually reporting an

overnight or day trips is even higher among non-capital city residents, accounting for over 55 per cent of the sample (table III.2).

Table III.3 shows the proportion of total respondents who reported some type of overnight or day trip by metropolitan and non-metropolitan areas[44]. Around 40 per cent of all NVS respondents reporting overnight and or day travel are residents of non-metropolitan areas. By way of comparison, 27 per cent of the population are residents of non-metropolitan areas.

TABLE III.2 TOTAL SURVEY RESPONDENTS REPORTING ONE OR MORE OVERNIGHT AND OR DAY TRIP BY RESPONDENT'S REGION OF ORIGIN BY CAPITAL CITY AND BALANCE-OF-STATE, 1998–2000

State	*Description*	*1998 NVS*		*1999 NVS*		*2000 NVS*	
		Number	*per cent*	*Number*	*per cent*	*Number*	*per cent*
NSW	Sydney	4 706	13.4	5 137	13.4	4 727	12.5
NSW	Other NSW	5 199	14.8	5 718	14.9	5 419	14.4
Vic	Melbourne	4 281	12.2	4 300	11.2	4 435	11.8
Vic	Other VIC	3 988	11.4	4 216	11.0	4 387	11.6
Qld	Brisbane	1 719	4.9	2 181	5.7	2 190	5.8
Qld	Other QLD	2 597	7.4	2 886	7.5	2 907	7.7
SA	Adelaide	2 343	6.7	2 428	6.3	2 509	6.7
SA	Other SA	1 759	5.0	2 108	5.5	1 958	5.2
WA	Perth	1 841	5.3	2 126	5.5	2 063	5.5
WA	Other WA	2 475	7.1	2 685	7.0	2 518	6.7
Tas	Tas	2 678	7.6	2 949	7.7	3 013	8.0
NT	NT	620	1.8	666	1.7	715	1.9
ACT	ACT	809	2.3	947	2.5	868	2.3
	Capital city[a]	15 699	44.8	17 119	44.6	16 792	44.5
	Balance-of-state	19 316	55.2	21 228	55.4	20 917	55.5
	Total	35 015	100	38 347	100	37 709	100

a. Capital city here includes only Sydney, Melbourne, Brisbane, Adelaide, Perth and the ACT. Responses by residents of Tasmania and the Northern Territory are included in 'Rest of State'.

Sources NVS (1998, 1999 and 2000) and BTRE estimates.

[44] Metropolitan areas include capital cities and those areas incorporating an urban centre of more than 100 000 persons—in practice, Newcastle, Wollongong, Geelong, Gold Coast, Sunshine Coast, Townsville and Cairns.

TABLE III.3 TOTAL SURVEY RESPONDENTS REPORTING ONE OR MORE OVERNIGHT AND OR DAY TRIP BY RESPONDENT'S REGION OF ORIGIN, 1998–2000

State	*Description*	*1998 NVS*		*1999 NVS*		*2000 NVS*	
		Number	*per cent*	*Number*	*per cent*	*Number*	*per cent*
NSW	Metropolitan	7 028	20.1	7 733	20.2	7 155	19.0
NSW	Non-metropolitan	2 877	8.2	3 122	8.1	2 991	7.9
Vic	Metropolitan	5 794	16.5	5 975	15.6	6 036	16.0
Vic	Non-metropolitan	2 475	7.1	2 541	6.6	2 786	7.4
Qld	Metropolitan	2 592	7.4	3 103	8.1	3 172	8.4
Qld	Non-metropolitan	1 724	4.9	1 964	5.1	1 925	5.1
SA	Metropolitan	2 609	7.5	2 768	7.2	2 816	7.5
SA	Non-metropolitan	1 493	4.3	1 768	4.6	1 651	4.4
WA	Metropolitan	2 308	6.6	2 420	6.3	2 345	6.2
WA	Non-metropolitan	2 008	5.7	2 391	6.2	2 236	5.9
Tas	Metropolitan	1 661	4.7	1 828	4.8	1 737	4.6
Tas	Non-metropolitan	1 017	2.9	1 121	2.9	1 276	3.4
NT	Metropolitan	295	0.8	333	0.9	334	0.9
NT	Non-metropolitan	325	0.9	333	0.9	381	1.0
ACT	Metropolitan	809	2.3	947	2.5	868	2.3
	Metropolitan	21 140	60.4	22 946	59.8	22 392	59.4
	Non-metropolitan	13 875	39.6	15 401	40.2	15 317	40.6
	Total	35 015	100	38 347	100	37 709	100

Sources NVS (1998, 1999 and 2000) and BTRE estimates.

Survey coverage of the NVS and IVS by region

Table III.4 shows the number of NVS respondents reporting a trip by tourism region of origin and destination. The data shows that survey responses are obtained for residents across every tourism region and the survey responses cover travel to every tourism region.

TABLE III.4 NUMBER OF RESPONDENT TRIPS BY ORIGIN AND DESTINATION, 2000

(number of trips)

Region	*BTR region code*	*Total trips by origin*	*Total trips by main destination*
New South Wales			
South Coast	101	388	973
Illawarra	102	622	730
Sydney	104	5 546	4 320
Snowy Mountains	105	43	223
Capital Country	106	257	279
Murray	107	214	370
Riverina	108	329	354
Central Western	109	589	655
Hunter	110	1 230	1 213
Mid North Coast	111	331	589
Holiday Coast	112	201	316
Northern Rivers	113	640	727
New England/North West	114	463	462
Outback	115	123	133
Canberra	117	1 074	749
Central Coast	118	709	722
Blue Mountains	119	329	473
Lord Howe Island	120		3
Other NSW	198	2	35
Victoria			
Melbourne	201	5 201	3 513
Wimmera	202	132	56
Mallee	203	240	339
Western	204	490	874
Western Grampians	205	188	147
Bendigo Loddon	206	407	494
Peninsula	207	557	669
Central Murray	208	201	311
Goulburn	209	286	247
High Country	210	252	456
Lakes	211	162	257
Gippsland	212	508	569
Melbourne East	213	562	288
Geelong	214	471	571
Macedon	215	161	144
Spa Country	216	50	128

TABLE III.4 NUMBER OF RESPONDENT TRIPS BY ORIGIN AND DESTINATION, 2000 (CONTINUED)

(number of trips)

Region	*BTR region code*	*Total trips by origin*	*Total trips by main destination*
Victoria (continued)			
Ballarat	217	301	374
Central Highlands	218	101	145
Upper Yarra	219	40	152
Murray East	220	119	134
Phillip Island	221	85	338
Transit Victoria	290		1
Other Victoria	298		23
Queensland			
Gold Coast	301	702	1 332
Brisbane	302	2 576	1 915
Sunshine Coast	303	445	1 004
Harvey Bay/Maryborough	304	258	338
Darling Downs	306	464	442
Bundaberg	307	205	186
Fitzroy	308	369	348
Mackay	309	172	152
Whitsundays	310	22	89
Northern	311	322	319
Tropical North Queensland	312	315	530
Outback	314	145	213
Other Queensland	398	1	13
South Australia			
South East	401	416	360
Murraylands	402	245	315
Fleurieu Peninsula	403	217	557
Adelaide	404	2 897	2 064
Barossa Valley	405	154	216
Riverland	406	228	159
Mid North	407	225	183
Flinders Ranges	409	272	233
Far North	410	41	72
Eyre Peninsula	411	316	273
Yorke Peninsula	412	207	305
Kangaroo Island	413	37	60
Other SA	498		11

TABLE III.4 NUMBER OF RESPONDENT TRIPS BY ORIGIN AND DESTINATION, 2000 (CONTINUED)

(number of trips)

Region	*BTR region code*	*Total trips by origin*	*Total trips by main destination*
Western Australia			
South East	501	91	82
Goldfields	502	148	136
Midwest	503	255	259
Gascoyne	504	34	74
Pilbara	505	180	145
Kimberley	506	63	132
Perth	507	2 404	2 200
Peel	508	343	437
South West	509	914	1 044
Great Southern	510	384	348
Wheatbelt	511	601	496
Other WA	598		16
Tasmania			
Greater Hobart	601	1 244	834
Southern	602	284	625
East Coast	603	152	248
Northern	604	158	161
Greater Launceston	605	801	670
North West	606	892	643
West Coast	607	51	106
Other Tasmania	698		11
Northern Territory			
Darwin	801	391	362
Kakadu	802	9	35
Arnhem	803	71	56
Katherine	804	119	91
Tablelands	805	35	23
Petermann	806	10	30
Alice Springs	807	194	90
MacDonnell	808	7	51
Daly	809	9	42
Other NT	898	1	6
External Regions			
Other Australia	998	1	1
Total		44 701	44 699

Sources NVS 2000 and BTRE estimates.

DEMOGRAPHIC PROFILE OF THE NVS

The BTR provided the BTRE with some summary statistics for the proportion of respondents by respondent age and sex of respondent for the 2000 NVS (tables III.5 and III.6). The data in table III.5 shows that the age profile of survey respondents closely approximates the age profile of the Australian population, albeit with a slightly higher representation of persons over 65 years and between 15–24 years in the sample than in the general population. The data in table III.6 shows the proportion of male and female respondents is very close to the ratio of males and females in the general population.

TABLE III.5 NUMBER OF SURVEY RESPONDENTS (NVS 2000) AND POPULATION BY AGE (CENSUS 2001)

	Respondent age (years)						
	15–24	*25–34*	*35–44*	*45–54*	*55–64*	*over 65*	*Total*
NVS 2000							
No. respondents	3 960	5 659	6 237	5 489	3 633	3 150	28 153
Proportion (*per cent*)	14.07	20.10	22.15	19.50	12.90	11.19	100
Census 2001							
Population (*'000 persons*)	2 566.3	2 723.2	2 868.3	2 568.3	1 759.7	2 370.9	14 856.8
Proportion (*per cent*)	17.3	18.3	19.3	17.3	11.8	16.0	100

Sources ABS (2002d) and NVS 2000.

TABLE III.6 NUMBER OF SURVEY RESPONDENTS (NVS 2000) AND POPULATION BY GENDER (CENSUS 2001)

	Gender		
	Male	*Female*	*Total*
NVS 2000			
No. respondents	13 305	14 848	28 153
Proportion (*per cent*)	47.26	52.74	100
Census 2001			
Population (*'000 persons*)	7 343.5	7 694.9	14 856.8
Proportion (*per cent*)	48.8	51.2	100

Sources ABS (2002d) and NVS 2000.

APPENDIX IV COMPARISON OF THE NVS AND IVS DATA AND TRANSPORT SOURCE DATA

The BTRE undertook to 'validate' the magnitude and pattern of transport flows provided by the NVS and IVS data (also referred to here as 'tourism' source data) with available transport data, such as the Air Transport Statistics (ATS) database and data provided by transport operators. A complete validation of the tourism-based data is not possible because:

1. The tourism based data is measured on a trip origin–destination basis, whereas transport data if often measured as passenger movements along a corridor or between two points; and
2. Comprehensive passenger transport data is only available for air travel and to a lesser extent country rail travel, but not for coach and car travel. (Ferry trips can be covered because there are only a small number of ferry services.)

This appendix presents the results of comparisons between the NVS and IVS based estimates of passenger travel and available passenger transport data for a selected set of air and rail markets. The broad approach adopted was to compare patronage, where possible, on a network basis (e.g. all air travel, rail passengers carried by operator) and for selected trunk routes.

The NVS and IVS are sample-based surveys of household and international visitor travel patterns. Like any survey, the estimates are subject to sampling variation. The NVS and IVS estimates therefore, may vary significantly from year-to-year. To reduce the annual sampling variation, the BTRE has pooled three years of NVS data and 18 months of IVS data. In comparing the different sources of data, what is important is that the BTR data is of a similar order of magnitude to the transport source data.

The BTE undertook a similar 'validation' exercise for Working Paper 38 (BTE 1998), comparing the Domestic Tourism Monitor (DTM) data (BTR 1997 and earlier issues) against, predominantly, air passenger transport statistics on 10 inter-city routes. The results of that validation exercise were never published, but in broad terms once one subtracted the number of passengers inter-lining, trips by children and international visitors and day trips from the air passenger transport data the estimates were similar to the DTM origin-destination basis air travel estimates.

The procedures adopted here differ slightly from those applied in BTE (1998). For the current project, the BTRE obtained three years of unit record data for the NVS and IVS. With the unit record data it was possible to use information on travel between each 'stop', for overnight and international visitor trips, and construct estimates of total 'stop–stop' journeys[45]. 'Stop–stop' journeys more closely approximate actual travel patterns than O–D trips. For day trips it is assumed there is only one destination, and that the return trip is by the same mode of transport as the outward trip.

The results of the data comparisons are reasonably good. For most of the selected comparisons it is possible to reconcile the BTR data with transport patronage data, in particular there appears to be a reasonable match between the tourism-based estimates and the ATS database estimates of total domestic air travel and for particular rail markets. It was also possible to reconcile the tourism and transport data for specific air and rail routes, on a three-year average basis, however, there is in some cases significant variation from year-to-year. Pooling three years worth of NVS and IVS data appears to smooth out the year-to-year fluctuations.

Before turning to the data comparisons, the next section provides a brief overview of the NVS and IVS data and estimates of total 'stop–stop' journeys.

TOTAL PASSENGER TRIPS AND 'STOP–STOP' JOURNEYS

Total foreign arrivals

In 1999, there were just over 4.1 million international visitors, aged 15 years and over, to Australia, up from 3.9 million the previous year (see table IV.1). The total number of international visitors for the first half of 2000 numbered 2.1 million. Total domestic 'stop–stop' journeys by international visitors were estimated to be around 17 million passenger movements in each of the three years between 1998 and 2000. Of those movements, total journeys within capital cities and Cairns numbered between 6 and 7 million trips per annum between 1998 and 2000, and most of these journeys appear to be to and from the airport of arrival or departure. Total domestic 'stop–stop' journeys by international

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[45] The unit record data for the NVS and IVS contains information on the region, duration (number of nights), purpose, and mode of transport for each stop on a trip. It is possible to separate the NVS (overnight trips only) and IVS trip data into separate 'stop–stop' journeys (i.e. for each trip-leg). For international visitor trips, information is recorded for each journey, including from the airport of arrival to first stopover and from the last stopover to the airport of departure. For overnight trips, no information is recorded on the mode of transport used for 'return' journey, i.e. from the last stopover to the home region. The BTRE assumed that the mode of transport used for the return leg was the same as for the first outward leg.

visitors between tourism regions, therefore, numbered between 9.5 and 10.1 million per annum over the period 1998–2000.

TABLE IV.1 TOTAL FOREIGN ARRIVALS, 1998–2000

(million passenger trips)

Travel by International Visitors	*Year*		
	1998	*1999*	*2000*[a]
Total foreign arrivals (*million persons*)	3.86	4.14	2.13
All domestic trips	16.53	17.66	17.68[b]
Total intra-capital city trips (incl. Cairns)	6.23	6.71	6.89[b]
Total trips to and from airport upon arrival and departure	7.68	8.24	8.46[b]
Inter-regional domestic trips	9.55	10.10	9.94[b]

a. IVS data only available for first half of calendar 2000.

b. Estimate of full year based on January–June foreign arrivals multiplied by 2.

Sources NVS (1998, 1999 and 2000) and BTRE estimates.

Total domestic trips by domestic residents

Table IV.2 shows estimates of the total number of domestic trips by Australian residents and table IV.3 the total number of domestic journeys by Australian residents. According to the NVS, there were 161.5 million day trips and 73.8 million overnight trips by domestic residents in 2000. The total number of separate 'stop–stop' journeys for domestic overnight and day trips totalled 490 million journeys in 2000. The total number of interregional 'stop–stop' journeys was 337 million journeys in 2000.

TABLE IV.2 TOTAL NUMBER OF DOMESTIC TRIPS, 1998–2000

(million passenger trips)

Trip type	*1998*	*1999*	*2000*
Day trips	153.1	170.9	161.5
Overnight trips	73.8	73.0	73.8
Total domestic trips	226.9	243.9	235.2

Sources NVS (1998, 1999 and 2000) and BTRE estimates.

TABLE IV.3 NUMBER OF DOMESTIC 'STOP–STOP' JOURNEYS, 1998-2000
(million passenger journeys)

Year	*1998*	*1999*	*2000*
All trips (including intra-tourism region trips)			
Day trips[a]	306.2	341.8	323.0
Overnight trips	169.2	166.9	167.5
Total	475.4	508.7	490.5
Inter- tourism region trips[a]			
Day trips[a]	177.0	202.6	188.0
Overnight trips	150.9	148.8	149.3
Total	327.9	351.4	337.3

a. Assuming each day trip consists of two journeys.

Sources NVS (1998, 1999 and 2000) and BTRE estimates.

DATA COMPARISON

This section outlines the data comparisons undertaken for the NVS and IVS. The section begins with the results of a comparison of air passenger travel across the network and for a selection of major trunk routes and airports. Then the results of comparing rail passenger travel data to the NVS and IVS data, for a selected set of rail networks and routes are reported. Of necessity, the validation requires some adjustments be made to match the tourism data to the transport data. The BTRE has made efforts to ensure that all such adjustments and assumptions are fully documented.

Comparison with air passenger travel data

The Air Transport Statistics (ATS) database provides annual estimates of the number of air passengers carried by domestic and regional airlines. Alone amongst all modes of transport, the ATS database provides a single comprehensive source of passenger travel data which may be used to compare with the BTR tourism data. This subsection presents results of a comparison between total air passenger travel and the BTR tourism based estimates of total domestic air travel. Two comparisons were undertaken: (i) with total domestic air passenger travel; and (ii) with total air passengers carried on a selection of major inter-city routes.

Comparison with total aviation patronage data

Table IV.4 shows the tourism-based estimates of total air passenger stop-stop journeys and the ATS estimates of total passenger travel on domestic and regional airlines (on a 'traffic-on-board' basis). Allowing for passengers carried on charter flights (Apelbaum Consulting Group (2001, p. 84)) the two estimates are remarkably similar, within 3 per cent on average over the three years 1998 to 2000.

TABLE IV.4 COMPARISON OF DOMESTIC AIR PASSENGER TRAFFIC WITH BTR NVS AND IVS DATA, 1998–2000

('000 passenger journeys)

	Year			*3 yr average*
Trip type	*1998*	*1999*	*2000*	
		BTR data		
International visitor[b,c,d]	2 930.0	2 922.8	2 936.1	2 929.5
Overnight[b]	22 150.5	24 190.1	25 313.1	23 884.6
Day[a]	2 074.8	2 485.6	2 121.1	2 227.2
Total	27 155.3	29 598.5	30 370.3	29 041.2
Children[f]	840	915	939	898
Total (incl. children)	27 995.2	30 513.9	31 309.6	29 939.6
		ATS data		
Domestic	23 574.8	24 392.4	25 660.4	24 542.5
Regional	4 851.5	5 038.7	5 929.4	5 273.2
Total	28 426.2	29 431.0	31 589.8	29 815.7
Charter[e]	900	900	900	900.0
Total (incl. Charter)	29 326.2	30 331.0	32 489.8	30 715.7
		Difference between BTR and ATS data (per cent)		
BTR vs. ATS (Domestic + Regional)	–1.5	3.7	0.9	0.4
BTR vs. ATS (incl. Charter)	–4.5	0.6	–3.6	–2.5

a. Day trip stop-stop journeys assumed equal 2 times the number of day trips.

b. Overnight and international visitor Trips equal to the number of stop-stop journeys.

c. International visitor stop-stop journeys in 1998 not available; assumed equal to average of 1999 and 2000 international visitor journeys.

d. Year 2000 international visitor movements only available for first half of calendar year. The year 2000 estimate of international visitor stop-stop journeys equal to 2 times this number.

e. Based on Apelbaum Consulting Group (2001) estimate of total passengers carried by charter aviation.

f. Children assumed to be 3 per cent of total domestic air passengers.

g. All domestic and regional aviation data measured on a traffic-on-board by stage basis.

Sources NVS (1998, 1999 and 2000), Apelbaum Consulting Group (2001), ATS database (2001) and BTRE estimates.

Although the similarity of the BTR based estimates and the ATS data suggests that the NVS and IVS data provide a good measure of actual aviation patronage data, it is not clear that the two sets of figures are necessarily directly comparable. To elaborate, the aviation statistics data are based on a 'traffic-on-board' basis, which records passengers carried on each airport-to-airport aircraft movement. The BTR data is based on stop-stop journeys, where a stop is defined as a place where either the respondent stayed one or more nights in the case of overnight trips or their ultimate destination in the case of day trips. It is not clear that every flight stage would be recorded on a stop-stop journey basis, in which case the BTR data should understate the total amount of domestic air travel.

Comparison with airport passenger between selected city pairs

Table IV.5 provides a comparison between the tourism-based estimates and the ATS estimates of total air passenger travel between selected city pairs: Sydney–Melbourne, Sydney–Brisbane / Coolangatta / Maroochydore, Melbourne–Brisbane / Coolangatta / Maroochydore, Melbourne–Adelaide, Eastern States–Perth, Sydney–Adelaide, Sydney–Canberra and Melbourne–Tasmania. These routes were selected because they provide a reasonable coverage of larger air routes, and because they were included in the previous 'validation' exercise undertaken in BTE (1998).

The tourism-based estimates equal all stop-stop air journeys directly between the two city-pair 'catchment areas'. The 'catchment areas' include the immediate and surrounding tourism regions, from which it could be reasonably expected that passengers would use to access air travel. For example, it was assumed that the 'catchment area' for Sydney includes the tourism regions: Sydney (BTR code 104), Illawarra (102), Central Coast (118), Blue Mountains (119) and Hunter (110)[46]. It is also necessary to add in an estimate of the number of on-carriage air passengers travelling between each city pair to match the O–D data with the ATS statistics. Table IV.6 lists the air O–D fraction used to adjust for the proportion of on-carriage air passengers for the selected intercity routes. The data is based on unpublished O–D air passenger estimates (sourced from the previously mentioned unpublished validation undertaken for BTE (1998)).

It may be observed from table IV.5 that—after summing all stop–stop overnight and day trips, all journeys by international visitors, and allowing for children under 15 years of age (3 per cent of all air passenger trips) and 'on-carriage' passengers—the tourism and ATS data are within 2 to 3 per cent of each other (over a three-year period) for each of the selected routes. Of course, the survey nature of the NVS and IVS means there is some variation between the two data sources from year to year, but this tends to cancel over a three-year period.

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[46] The tourism regions included in the 'catchment area' for Melbourne were: Melbourne (BTR code 201), Peninsula (207), Melbourne East (213), Upper Yarra (219), Goulburn (209), Macedon (215) and Geelong (204). The tourism regions included in the 'catchment area' for Brisbane were: Brisbane (BTR code 302), Gold Coast (301), Sunshine Coast (303), Hervey Bay / Maryborough (305) and Darling Downs (306). The tourism regions included in the 'catchment area' for Adelaide were: Adelaide (BTR code 404), Fleurieu Peninsula (403) and Barossa Valley (405). The tourism regions included in the 'catchment area' for Perth were: Perth (BTR code 507) and Peel (508).

TABLE IV.5 TOTAL DOMESTIC AIR TRIPS BETWEEN SELECTED CITY PAIRS

('000 passenger trips)

	Trips								
Calendar year	*O'night*	*Day*	*Int'l visitor*[a]	*Children*	*On-carriage*	*Total*	*Financial year*	*ATS data*[b]	*Difference (per cent)*
Sydney–Melbourne									
1998	3 835.9	458.0	240	132.8	245.6	4 912.3	1998–99	4 768.0	–3
1999	3 923.5	573.6	239.7	139.1	256.6	5 132.5	1999–00	5 123.8	0
2000	4 742.3	522.4	247.8	162.8	298.7	5 974.0	2000–01	5 840.1	–2
3 yr. avg.	4 167.2	518.0	242.5	144.9	267.0	5 339.6	3 yr. avg.	5 244.0	–1.8
Sydney–Brisbane/Coolangatta/Maroochydore									
1998	2 540.2	256.5	272	86.5	1352.2	4 507.4	1998–99	4 252.9	–6
1999	2 872.7	136.7	272.6	93.1	1446.5	4 821.5	1999–00	4 505.9	–7
2000	2 967.1	69.7	272.5	93.9	1458.5	4 861.7	2000–01	5 335.7	9
3 yr. avg.	2 793.3	154.3	272.4	91.2	1419.1	4 730.2	3 yr. avg.	4 698.2	–1.4
Melbourne–Brisbane/Coolangatta/Maroochydore									
1998	1 531.0	36.9	65	48.5	621.9	2 303.3	1998–99	2 167.9	–6
1999	1 541.9	35.3	73.1	48.8	628.4	2 327.5	1999–00	2 296.4	–1
2000	1 741.1	148.5	57.5	58.4	741.8	2 747.3	2000–01	2 719.3	–1
3 yr. avg.	1 604.7	73.6	65.2	51.9	664.0	2 459.4	3 yr. avg.	2 394.5	–2.9
Melbourne–Adelaide									
1998	777.1	95.2	65	27.0	321.4	1 285.7	1998–99	1 299.2	1
1999	881.5	69.6	60.8	29.4	347.1	1 388.4	1999–00	1 344.5	–3
2000	873.7	79.9	68.2	29.5	350.4	1 401.7	2000–01	1 419.2	1
3 yr. avg.	844.1	81.6	64.7	28.6	339.7	1 358.6	3 yr. avg.	1 354.3	–0.3
Eastern States–Perth									
1998	1 590.9	52.5	125	50.8	179.9	1 999.2	1998–99	2 127.8	6
1999	1 921.5	118.7	123.5	63.1	220.2	2 447.0	1999–00	2 344.2	–4
2000	2 151.8	64.0	129.6	68.5	238.7	2 652.7	2000–01	2 476.3	–7
3 yr. avg.	1 888.1	78.4	126.0	60.8	213.0	2 366.3	3 yr. avg.	2 316.1	–1.8
Sydney–Adelaide									
1998	668.0	84.4	85	23.3	188.9	1 049.6	1998–99	1 106.9	5
1999	819.1	118.5	79.1	29.0	229.5	1 275.2	1999–00	1 160.8	–10
2000	813.4	82.4	93.6	27.7	223.3	1 240.4	2000–01	1 237.5	0
3 yr. avg.	766.8	95.1	85.9	26.7	213.9	1 188.4	3 yr. avg.	1 168.4	–1.6
Sydney–Canberra									
1998	359.6	132.2	85	15.2	208.0	800.0	1998–99	836.1	4
1999	445.8	141.2	88.6	18.2	243.8	937.5	1999–00	881.8	–6
2000	351.8	197.8	80.4	17.0	227.3	874.3	2000–01	929.1	6
3 yr. avg.	385.7	157.1	84.7	16.8	226.4	870.6	3 yr. avg.	882.3	1.3

TABLE IV.5 TOTAL DOMESTIC AIR TRIPS BETWEEN SELECTED CITY PAIRS (CONTINUED)

('000 passenger trips)

	Trips								
Calendar year	*O'night*	*Day*	*Int'l visitor*[a]	*Children*	*On-carriage*	*Total*	*Financial year*	*ATS data*[b]	*Difference (per cent)*
Melbourne–Hobart/Launceston/Devonport/Burnie									
1998	855	31	60	27.4	199.4	1 172.8	1998–99	1 076.9	–9
1999	743	130.9	60.5	27.0	196.9	1 158.5	1999–00	1 231.9	6
2000	812.7	98.2	80.1	28.2	208.7	1 227.9	2000–01	1 257.1	2
3 yr. avg.	803.6	86.7	66.9	27.5	201.7	1 186.4	3 yr. avg.	1 188.6	–0.2

a. Estimates of domestic air travel by international visitors for 1998 based on average of 1999 and 2000 movements.

b. AVSTATS data includes both domestic and regional airline revenue passenger movements.

c. Day trips 1998 and 2000 not available; assumed equal to 20 000 passengers

d. Day trips 1998 and 2000 not available; assumed equal to 16 000 passengers

Sources NVS (1998, 1999 and 2000), ATS database (2001) and BTRE estimates.

TABLE IV.6 AIR PASSENGER O–D FRACTION FOR SELECTED CITY PAIRS

(per cent)

Route	*O–D fraction*
Sydney-Melbourne	95
Sydney-Brisbane	70
Melbourne-Brisbane	73
Melbourne-Adelaide	75
Eastern States-Perth	91
Sydney-Adelaide	82
Sydney-Canberra	74
Melbourne-Tasmania	83

Sources Unpublished aviation data and BTRE estimates.

Comparison with rail passenger travel data

This subsection presents the results of comparison of the tourism data for selected rail markets with transport source data.

Queensland Rail Traveltrain

Queensland Rail (QR) country passenger rail services, outlined in chapter 3, encompass both passenger services and tourist train services (see table IV.7).

Table IV.8 provides a comparison of the QR country rail passenger data and the BTR NVS and IVS data for rail passenger trips, for the three years 1998, 1999 and 2000. The tourism-based 'stop–stop' journeys include all rail journey's recorded between Queensland tourism region O–D pairs, except for trips between Brisbane, Gold Coast and the Sunshine Coast (which were all assumed

to be undertaken on QR City train services) and trips within Tropical North Queensland (which would mostly be on the Kuranda or Savannahlander tourist trains). There were also a significant number of day trips between Brisbane and Hervey Bay / Maryborough tourism regions recorded in the 1999 and 2000 NVS data, which were assumed to be travel from Brisbane to Gympie also on QR's City train services.

TABLE IV.7 QUEENSLAND RAIL SERVICES

Traveltrain services	*Tourist train services*
Queenslander (Brisbane–Cairns)	Kuranda Scenic Railway (Cairns–Kuranda)
Inlander (Townsville–Mt Isa)	Gulflander (Normanton–Croydon); and
Tilt Train / Spirit of Capricorn (Brisbane–Rockhampton)	Savannahlander (Cairns–Forsayth).
Spirit of the Outback (Brisbane–Longreach)	
Spirit of the Tropics (Brisbane–Townsville)	
Sunlander (Brisbane–Cairns)	
Westlander (Brisbane–Charleville)	
Tilt train (Brisbane–Bundaberg)	

Source QR (2002, http://www.qr.com.au/).

TABLE IV.8 COMPARISON OF QUEENSLAND RAIL COUNTRY PASSENGER NUMBERS AND BTR TOURISM DATA, 1998–2000

('000 passenger journeys)

	Year			*3 yr average*
Trip type	*1998*	*1999*	*2000*	
		BTR data[a]		
International visitor[d]	25.0	29.8	21.4	25.6
Overnight[c]	340.5	440.3	333.9	371.6
Day[b]	25.0	103.8	66.3	65.0
Total	390.5	573.9	421.6	462.2
Children[e]	59.5	88.6	65.1	71.1
Total (incl. children)	450.0	662.5	486.8	533.1
		QR data		
Total passenger trips	416.0	541.1	583.3	513.5

a. The NVS and IVS journey's include all rail journey's recorded between Queensland tourism region O–D pairs, except for trips between Brisbane–Gold Coast–Sunshine Coast, trips within Tropical North Queensland (which would mostly be on the Kuranda or Savannahlander tourist trains), and rail trips between Brisbane and Hervey Bay/Maryborough (for which it was assumed travel could be undertaken on the City train services to/from Gympie).

b. Day trip journeys equal 2 times the number of day trips.

c. Overnight and International visitor journeys equal to the number of 'stop-stop' journeys.

d. Year 2000 international visitor passengers estimated from number of passengers carried in second half financial year. International visitor numbers not available for 1998—assumed 25 000.

e. Based on data supplied to the BTRE by QR, children were assumed to be 14 per cent of total rail passenger trips.

Note Tilt-train services between Brisbane and Bundaberg and Rockhampton introduced in 1998-99.

Sources NVS (1998, 1999 and 2000) and QR (pers. comm. 2002).

From table IV.8 one can observe that the tourism data is approximately equal to the Queensland Rail passenger data, although there is a degree of variation from year-to-year. Over the three-year period 1998–2000, the tourism data implies average annual rail passenger journeys of 530 thousand, a result reasonably similar to the three-year average of 513 thousand passenger trips recorded by QR.

Western Australian Government Railways (WAGR) country passenger trains

Table IV.9 provides a comparison of the WAGR country rail passenger numbers and the estimates of the tourism based 'stop–stop' rail journeys for the three years 1998, 1999 and 2000. Again, as in the case of Queensland Rail, there is variation from year to year in the tourism based estimates, but over a three year period, the average number of rail passenger journey's based on the tourism data are only 5 per cent above the actual number of passengers travelling on WAGR country rail passenger services.

TABLE IV.9 COMPARISON OF WESTERN AUSTRALIAN GOVERNMENT RAILWAYS COUNTRY RAIL PASSENGER NUMBERS AND BTR TOURISM DATA, 1998–2000

('000 passenger journeys)

	Year			*3 yr average*
Trip type	*1998*	*1999*	*2000*	
	BTR data			
International visitor[b,c]	6.5	5.1	7.8	6.5
Overnight[b]	140.5	150.2	94.4	128.4
Day[a]	62.2	95.5	132.7	96.8
Total	209.1	250.9	234.9	231.6
Children[d]	35.8	43.4	40.1	39.7
Total (incl. children)	244.9	294.3	275.0	271.4
	WAGR rail data			
	Year			
	1998–99	*1999–00*	*2000–01*	*3 yr average*
Total passenger trips[d]	261	258	258	259

a. Day trip journeys equal 2 times the number of day trips.

b. Overnight and International visitor journeys equal to the number of 'stop-stop' journeys.

c. Year 2000 international visitor passengers estimated from number of passengers carried in second half financial year. International visitor numbers not available for 1998—assumed 6 500.

d. Based on data supplied to the BTRE by WAGR, children were assumed to be 15 per cent of rail passenger trips.

Sources NVS (1998, 1999 and 2000) and WAGR (2000, 2001 and pers. comm. 2002).

Because the WAGR only operates trains in two directions: the Australind (North–South) and the Prospector and Avon Link (East–West) it is possible to undertake a comparison between the tourism data and the WAGR patronage data at a more detailed level. Table IV.10 provides estimates of the number of passengers on the Australind (Perth–Bunbury) rail service with the estimates

based on the tourism data. Estimates from the tourism data are based on total journeys between the three tourism regions: Perth, Peel and the Southwest. The figures show that the tourism-based estimates are approximately 40 per cent higher than the estimated number of passengers carried on the Australind over the three years 1998–2000. A variation in the results of this magnitude is not surprising at this level of disaggregation.

TABLE IV.10 COMPARISON OF AUSTRALIND PASSENGER NUMBERS AND BTR TOURISM DATA, 1998–2000

('000 passenger journeys)

	Year			*3 yr average*
Trip type	*1998*	*1999*	*2000*	
	BTR data			
International visitor[b,c]	3.3[c]	2.3	4.3[d]	3.3
Overnight[b]	104.2	117.1	86.3	102.6
Day[a]	54.7	66.3	124.8	81.9
Total	162.2	185.7	215.4	187.8
Children[d]	28.0	32.4	37.3	32.6
Total (incl. children)	190.3	218.1	252.6	220.3
	WAGR rail data			
	Year			
	1998–99	*1999–00*	*2000–01*	*3 yr average*
Total passenger trips[f]	159	157	157	157

a. Day trip journeys equal 2 times the number of day trips.

b. Overnight and International visitor journeys equal to the number of 'stop-stop' journeys.

c. Year 2000 international visitor passengers estimated from number of passengers carried in second half financial year. International visitor numbers not available for 1998—assumed 6 500.

d. Based on data supplied to the BTRE by WAGR, children were assumed to be 15 per cent of rail passenger trips.

Sources NVS (1998, 1999 and 2000) and WAGR (2000, 2001 and pers. comm. 2002).

V/Line rail passengers (Victoria)

In Victoria, there are three rail operators: V/Line, West Coast Railways and Hoys Roadlines. V/Line collects patronage data for all three operators for the Victorian Department of Infrastructure (National Express Group, pers. comm. July 2002). V/Line rail services operate from Melbourne to population centres as far as Albury (Wodonga), Ballarat, Echuca, Geelong, Sale and Swan Hill. West Coast Railways provide services between Warrnambool and Melbourne and Hoys Roadlines services between Melbourne and Shepparton.

Validating the BTR data using the V/Line rail passenger statistics provides a less than satisfactory test. Almost 75 per cent of total rail passenger traffic carried by V/Line are on services between Melbourne and Bendigo/Kyneton/Sunbury, Ballarat/Bacchus Marsh, and Geelong. Much of this traffic would probably be commuter passenger trips, which are not recorded in the NVS. Table IV.11 provides a comparison between the BTR

tourism and the V/Line rail patronage data. Based on the tourism data, the number of rail passenger journeys within Victoria was around 2.2 million journeys, averaged over the three years 1998–2000. The V/Line patronage data indicates a total of 7.4 million passenger trips in 2000. If all rail passenger trips between Melbourne and Bendigo/Kyneton/Sunbury, Ballarat/Bacchus Marsh, and Geelong are excluded, although some of those trips may be valid tourist trips, the number of passenger rail passenger trips is around 2.0 million—not too dissimilar to the tourism-based estimates.

TABLE IV.11 COMPARISON OF V/LINE RAIL PASSENGER NUMBERS AND BTR TOURISM DATA, 1998–2000

('000 passenger journeys)

	Year			*3 yr average*
Trip type	*1998*	*1999*	*2000*	
	BTR data			
International visitor[b,c]	15.6	15.1	16.0	15.6
Overnight[b]	772.9	556.3	649.9	659.7
Day[a]	1346.9	1467.6	1379.2	1397.9
Total	2135.5	2039.1	2045.2	2073.3
Children[d]	184.3	176.0	176.4	178.9
Total (incl. children)	2319.8	2215.1	2221.6	2252.2
	V/Line rail data			
	Year			
	1998	*1999*	*2000*	*3 yr average*
Total passenger rail trips	na	na	7394.4	na
Estimated commuter rail passengers[e]			5431.0	
Net V/Line passengers			1963.4	

a. Day trip journeys equal 2 times the number of day trips.

b. Overnight and International visitor journeys equal to the number of 'stop-stop' journeys.

c. Year 2000 international visitor passenger traffic estimated from passengers carried in second half financial year. International visitor passenger numbers not available for 1998—assumed equal to 15 600.

d. Based on data supplied to the BTRE by V/Line, children were assumed to be 8 per cent of total rail passenger trips.

e. Based on assuming all passengers carried on services between Melbourne and Bendigo/Kyneton/Sunbury, Ballarat/Bacchus Marsh, and Geelong are commuter passengers.

Sources NVS 1998, 1999, 2000 and V/Line (pers. comm. 2002).

CountryLink rail passengers (New South Wales)

The BTRE also attempted to compare passenger rail data and the NVS and IVS tourism data for country passenger rail travel in NSW but was unable to satisfactorily reconcile the two data sets. The problem was that passenger rail services in NSW are divided into urban (provided by CityRail) and non-urban (provided by CountryLink). The CityRail rail network, however, extends beyond the Sydney tourism region into the Hunter, Central Coast, Blue Mountains, Illawarra and South Coast tourism regions. Some overnight and

day trips by rail to these tourism regions, therefore, may be undertaken on CityRail services and some on CountryLink services. Apparently, CityRail passenger statistics do not differentiate between regular commuter and non-commuter trips, so it would be difficult to fully reconcile the tourism data with the NSW rail data.

Route specific data comparisons

The BTRE also attempted to compare the NVS and IVS data with rail patronage data across a number of intercapital rail routes. For the major intercapital routes: Sydney–Melbourne, Sydney–Brisbane, the BTRE was not able to produce a satisfactory reconciliation between the operator data and the tourism data. Comparison of patronage and tourism data on these two routes is complicated by the number of tourism regions, the number of services on these routes, and the fact that the NVS and IVS stop-stop journey data only approximates the total patronage data. The BTRE only obtained total rail patronage on the Sydney-Melbourne and Sydney–Brisbane services. The data did not identify where passengers boarded and alighted the services.

Other rail routes for which it was possible to reconcile rail patronage data include the Overlander (Mel-Adl), the Indian-Pacific and the Sydney-Canberra XPT service.

Sydney-Canberra rail service

On the Sydney-Canberra rail service, total rail patronage was relatively easy to compare, because there are only three tourism regions through which the service runs: Sydney, Capital Country and Canberra. The service is also short enough that it is not complicated by connecting traffic and overnight trips. According to the StateRail (pers. comm. 2002), the Sydney-Canberra XPT service carried a total of 249 thousand passengers in 2000–01. The NVS and IVS data imply a similar level of passenger travel—the total number of ‘stop–stop’ journeys by rail between the three tourism regions, although varying from year to year, implies an average just under 240 thousand passenger trips over the three years 1998–99 to 2000–01.

TABLE IV.12 COMPARISON OF SYDNEY-CANBERRA RAIL PASSENGER NUMBERS AND BTR TOURISM DATA, 1998–2000

('000 passenger journeys)

	Year			
Trip type	*1998*	*1999*	*2000*	*3 yr average*
	BTR data			
International visitor[b,c]	8	7.5	8	8
Overnight[b]	186.9	139.8	225.0	184
Day[a]	34	35	31	33
Total	229.0	181.8	264.3	225
Children[d]	12	9	13	11
Total (incl. children)	240.6	191.0	277.8	236
	StateRail passenger data – Sydney-Canberra XPT			
	1998–99	*1999–00*	*2000–01*	*3 yr average*
Total passenger rail trips[d]	na	na	248.9	249

a. Day trip passenger journeys equal 2 times the number of day trips.

b. Overnight and international visitor journeys equal to the number of 'stop-stop' journeys.

c. International visitor passenger numbers not available for 1998, assumed equal to 8 000.

d. Children were assumed to comprise 5 per cent of total rail passenger trips.

Sources NVS (1998, 1999 and 2000) and State Rail Authority (pers. comm. 2002).

The Overland (Melbourne–Adelaide) rail service

The Overland (Melbourne–Adelaide) rail service, operated by Great Southern Railways, carried approximately 80 thousand passengers in 2001 (Great Southern Railway, pers. comm. 2002). Like the Sydney–Canberra XPT rail service, the Overland passes through only a small number of BTR tourism regions. However, for part of the route over which the Overland travels, Ararat–Geelong–Melbourne, there are also V/Line passenger rail (and connecting bus) services, as well, The Ghan operates between Adelaide and Melbourne once a week.

From the NVS and IVS data, if only those rail trips from a Victorian tourism region to a South Australian region and vice versa are included, the stop-stop journey estimates imply average patronage of 76 thousand passengers over the three calendar years 1998 to 2000, a result that is similar to the actual number of passengers carried on the Overland. However, because there are other services on this route, the similarity of these estimates does not provide conclusive evidence.

The Indian–Pacific (Sydney–Perth) rail service

The Indian–Pacific (Sydney–Perth) rail service, operated by Great Southern Railways, carried approximately 110 thousand passengers in 2001 (Great Southern Railway, pers. comm. 2002). It is easier to compare the NVS and IVS data with the Indian–Pacific patronage data, because this service only stops in a

few locations and there are no other rail services on the route. One may also observe substantial variation from year-to-year, and the NVS and IVS data imply an average of only 84 thousand rail stop-stop journeys between regions served by the Indian–Pacific, significantly less than the reported actual number of passengers carried.

TABLE IV.13 COMPARISON OF OVERLAND RAIL PASSENGER TRAFFIC AND BTR TOURISM DATA, 1998–2000

('000 passenger journeys)

	Year			
Trip type	*1998*	*1999*	*2000*	*3 yr average*
	BTR data			
International visitor[b]	12	14.3	10.2	12
Overnight	41.7	67.8	73.6	61
Day[a]	0	0	0	0
Total	53.7	82.1	83.8	73
Children[c]	2	4	4	3
Total (incl. children)	55.9	85.7	87.7	76
	Rail passenger data – Sydney-Canberra XPT			
	1998–99	*1999–00*	*2000–01*	*3 yr average*
Total passenger rail trips[c]	na	na	80	80

a. Day trip passenger journeys equal 2 times the number of day trips.

b. International visitor passenger numbers not available for 1998, assumed equal to 8 000.

c. Children were assumed to comprise 5 per cent of total rail passenger trips.

Sources NVS (1998, 1999 and 2000) and Great Southern Railway (pers. comm. May 2002).

TABLE IV.14 COMPARISON OF INDIAN PACIFIC (SYDNEY–PERTH) RAIL PASSENGER TRAFFIC AND BTR TOURISM DATA, 1998–2000

('000 passenger journeys)

	Year			
Trip type	*1998*	*1999*	*2000*	*3 yr average*
BTR data				
International visitor[b]	8	7.4	8.1	8
Overnight	55.5	117.4	45.2	73
Day[a]	0	0	0	0
Total	63.5	124.8	53.3	80
Children[c]	3	6	2	4
Total (incl. children)	66.4	131.0	55.7	84
Rail passenger data				
	1998–99	*1999–00*	*2000–01*	*3 yr average*
Total passenger rail trips[c]	na	na	110	110

a. Overnight and international visitor journeys equal to the number of 'stop-stop' journeys.

b. International visitor passenger numbers not available for 1998; assumed equal to 8 000.

c. Children were assumed to comprise 5 per cent of total rail passenger trips.

Sources NVS (1998, 1999 and 2000) and Great Southern Railway (pers. comm. May 2002).

OTHER COMPARISONS

In addition to the air and rail comparisons, the BTRE also compared transport and tourism data for one other route: the Bass Strait passenger ferry and catamaran services.

Bass Strait ferry and catamaran services

Table IV.15 shows the total number of the passengers on the TT-Line ferry and catamaran services for the three financial years 1998–99 to 2000–01, and the estimated number of stop-stop passenger journeys based on the NVS and IVS data. In the three years from 1998–99 to 2000–01, there were an average of 327 thousand passenger trips on the Bass Strait passenger services (table IV.15).

TABLE IV.15 COMPARISON OF BASS STRAIT PASSENGER FERRY PATRONAGE AND BTR TOURISM DATA, 1998–2000

('000 passenger trips)

	Year			
Trip type	*1998*	*1999*	*2000*	*3 yr average*
	BTR data			
International visitor[b]	68	66.7	72	69
Overnight	295.7	241.3	297.2	278
Day	0	0	0	0
Total	363.7	308.0	369.2	347
Children[c]	9	7	9	9
Total (incl. children)	372.8	315.5	378.4	376
	Bass Strait passenger ferry patronage			
	Year			
	1998–99	*1999–00*	*2000–01*	*3 yr average*
Total passenger trips	343.3	323.2	330.9	327

a. Overnight and IV journeys equal to the number of stop-stop journeys.

b. Average 1998 IV trips based on average of 1999 and 2000 only. 2000 IV passenger traffic estimated from passengers carried in first half of calendar year.

c. Assumed children comprise 3 per cent of total ferry passenger trips (Tourism Tasmania, pers. comm. 2002).

Sources NVS (1998, 1999 and 2000) and TT-Line (pers. comm. 2002).

Deriving estimates from the NVS and IVS data on a basis comparable to the transport data is not straightforward—in many cases, it appears that not all ferry trips were enumerated as a 'ferry' trip. If one assumes, however, that all domestic and international visitor stop-stop journeys between the mainland and Tasmania, where the mode of transport was enumerated as a private car trip, must have included a ferry passage, and allows for an additional 3 per cent of trips by children (Tourism Tasmania pers. comm. 2002), then the NVS and IVS data implies an estimated average of over 370 thousand passengers per annum.

At first glance, this appears significantly above the actual number of ferry trips, but it may be that some of the stop-stop journeys recorded as car trips may have included an air journey, rather than a ferry leg, which has not been enumerated as a separate stop-stop journey. If, for example, one assumes that for stop-stop journeys between Tasmania and the mainland by international visitors, where mode was recorded as car, were in fact by air, then the combined NVS and IVS data would imply around 320 thousand passenger trips each year, close to the actual annual number of passenger trips.

Again, although corroboration of the NVS and IVS data with the transport data does not provide an exact match, it can be shown that the data is within the same order of magnitude.

SUMMARY

In summary, because the NVS and IVS data are measured on an O–D basis whereas most of the transport source data measure total passengers on-board it would be difficult, if not impossible, to fully reconcile the different data sources. This appendix has provided some comparisons of the tourism data with transport source data for selected air and rail markets and routes. (Air and rail transport source data are the best available sources of passenger transport data.)

Based on the comparisons presented in this appendix, it was concluded that the tourism data, appropriately adjusted, appears to provide a good match to transport source passenger travel data.

None of the comparisons have considered private car travel, which accounts for over 70 per cent of all passenger trips. It is important to remember that these results do not invalidate the rest of the analysis, which is based on O–D travel. The observed pattern of O–D trips is used as a base from which to project likely future trends in trip patterns.

APPENDIX V GEOGRAPHIC CLASSIFICATIONS USED IN THIS STUDY

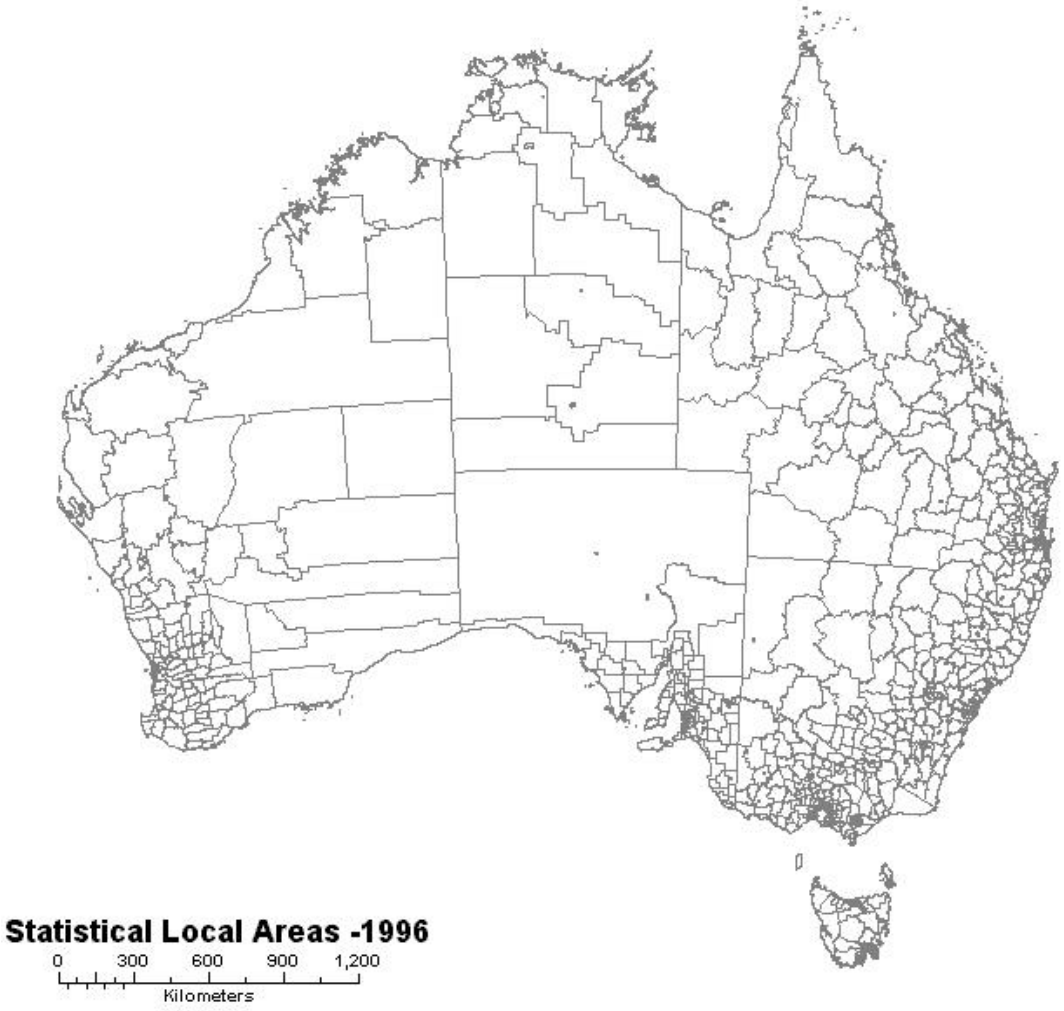
This appendix describes the geographic and regional classifications used in this publication—the Australian Standard Geographic Classification (ASGC) (ABS 1996), BTR Tourism regions and ABARE's regional classification (Garnaut et al. 2001)—and a brief overview of other regional classification schema such as the Accessibility/Remoteness Index of Australia (ARIA) (Department of Health and Aged Care 1999), its forerunner the Rural, Remote and Metropolitan Areas (RRMA) Classification, and the ABS Regional Areas classification (ABS 2001e, 2001f and 2002c).

AUSTRALIAN STANDARD GEOGRAPHIC CLASSIFICATION

The ASGC is a hierarchical geographic statistical classification system that covers the whole of Australia with no overlap or gaps. The ASGC is principally designed to meet user needs with regard to demographic, social and economic statistics. The ASGC comprises six inter-related classification structures, the principal structures being State and Territory (S/T), Statistical Division (SD), Statistical Subdivision (SSD) and Statistical Local Areas (SLA) (ABS 1996).

All the analysis undertaken in this study is based on the 1996 ASGC (ABS 1996), used in the 1996 Census of Population and Housing. Figure V.1 illustrates the SLA classification structure for the 1996 ASGC.

FIGURE V.1 STATISTICAL LOCAL AREAS, 1996



Source ABS (1996).

ABARE REGIONAL CLASSIFICATION

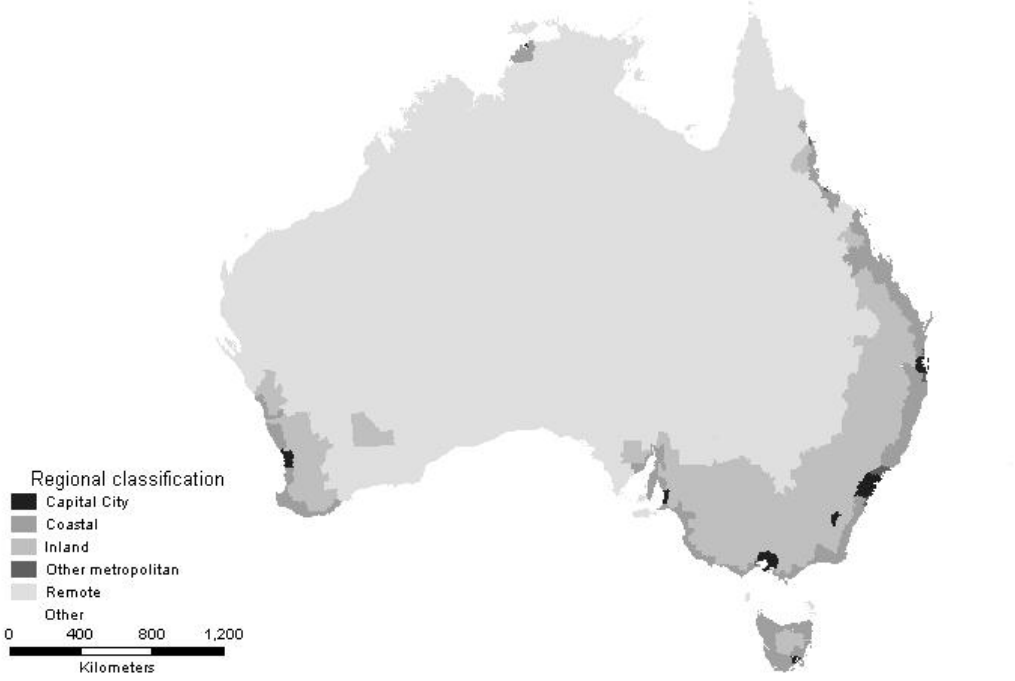
Garnaut et al. (2001) undertook an investigation into recent trends in population and employment location across Australia. Most of the data they analysed was available at the SLA regional classification. For their analysis, Garnaut et al. aggregated regions into two categories indicating remoteness ('region') and population size ('classification'). SLAs were divided into five regions: Capital city, other metropolitan, coastal, inland and remote. The definition of each region is listed below. The regions are illustrated in figure V.2.

- **Capital cities** include all SLAs within Capital city statistical divisions and the SLAs Queanbeyan and Remainder of ACT.
- **Other metropolitan** regions includes all SLAs, other than those included in capital city statistical divisions, that contain the whole or part of an urban centre with a population greater than 100 000 persons. SLAs in this region were the statistical sub-divisions associated with Cairns, Townsville-

Thuringowa, Sunshine Coast, Gold Coast-Tweed, Newcastle, Wollongong and Geelong. All other metropolitan regions are situated on the coast.

- **Remote** regions include SLAs classified as 'remote' or 'very remote' in the Accessibility / Remoteness Index of Australia (Department of Health and Aged Care 1999). Further details are described below in the description of the ARIA.
- **Coastal** regions include those SLAs in coastal areas that are not classified as remote under the ARIA and within 80 kilometres of the coastline. A few statistical local areas with little settlement on the coast, but a large area inland are classified as inland.
- **Inland** regions include all other SLAs not already classified.

FIGURE V.2 REGIONAL CLASSIFICATION OF GARNAUT ET AL. (2001)



Sources ABS (1996) and Garnaut et al. (2001).

TOURISM REGIONS

The BTR National Visitor Survey (NVS) and International Visitor Survey (IVS) report O–D passenger travel between 91 separate tourism regions. The tourism regions are built from SLAs—the 1998–2000 tourism regions are based on the 1996 ASGC SLAs. A complete listing of the BTR tourism regions for the 1998–2000 NVS and IVS are provided in table V.1 and the regions themselves are illustrated in figures V.3 to V.9.

TABLE V.1 1998–2000 TOURISM REGIONS

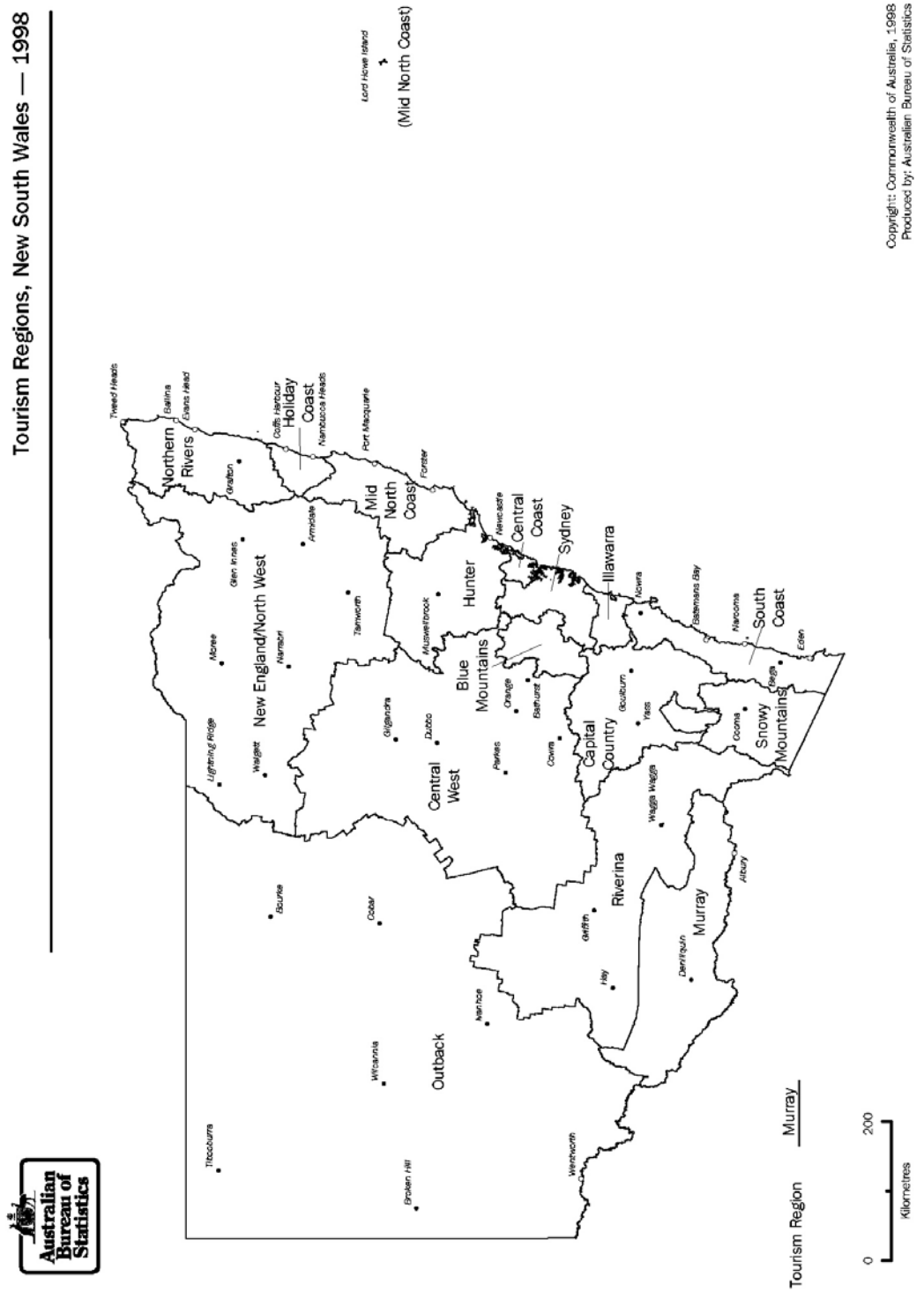
BTR code	*Region name*	*BTR code*	*Region name*
New South Wales		Victoria	
101	South Coast	201	Melbourne
102	Illawarra	202	Wimmera
104	Sydney	203	Mallee
105	Snowy Mountains	204	Western
106	Capital Country	205	Western Grampians
107	Murray	206	Bendigo Loddon
108	Riverina	207	Peninsula
109	Central West	208	Central Murray
110	Hunter	209	Goulburn
111	Mid North Coast	210	High Country
112	Holiday Coast	211	Lakes
113	Northern Rivers	212	Gippsland
114	New England/North West	213	Melbourne East
115	Outback	214	Geelong
118	Central Coast	215	Macedon
119	Blue Mountains	216	Spa Country
120	Lord Howe Island	217	Ballarat
190	Transit NSW	218	Central Highlands
198	Other NSW	219	Upper Yarra
		220	Murray East
		221	Phillip Island
		290	Transit Victoria
		298	Other Victoria

TABLE V.1 1998–2000 TOURISM REGIONS (CONTINUED)

BTR code	*Region name*	*BTR code*	*Region name*
Queensland		South Australia	
301	Gold Coast	401	South East
302	Brisbane	402	Murraylands
303	Sunshine Coast	403	Fleurieu Peninsula
304	Hervey Bay / Maryborough	404	Adelaide
306	Darling Downs	405	Barossa Valley
307	Bundaberg	406	Riverland
308	Fitzroy	407	Mid North
309	Mackay	409	Flinders Ranges
310	Whitsundays	410	Far North
311	Northern	411	Eyre Peninsula
312	Tropical North Queensland	412	Yorke Peninsula
313	Great Barrier Reef	413	Kangaroo Island
314	Outback	490	Transit SA
390	Transit Queensland	498	Other SA
398	Other Queensland		
Western Australia		Northern Territory	
501	South East	801	Darwin
502	Goldfields	802	Kakadu
503	Midwest	803	Arnhem
504	Gascoyne	804	Katherine
505	Pilbara	805	Tablelands
506	Kimberley	806	Petermann
507	Perth	807	Alice Springs
508	Peel	808	Macdonnell
509	South West	809	Daly
510	Great Southern	890	Transit NT
511	Wheatbelt	898	Other NT
590	Transit WA		
598	Other WA		
Tasmania		Australian Capital Territory	
601	Greater Hobart	117	Canberra
602	Southern		
603	East Coast		
604	Northern	Other Territories	
605	Greater Launceston	900	External Regions
606	North West	998	Other Australia
607	West Coast	999	Don’t know where in Australia
690	Transit Tasmania		
698	Other Tasmania		

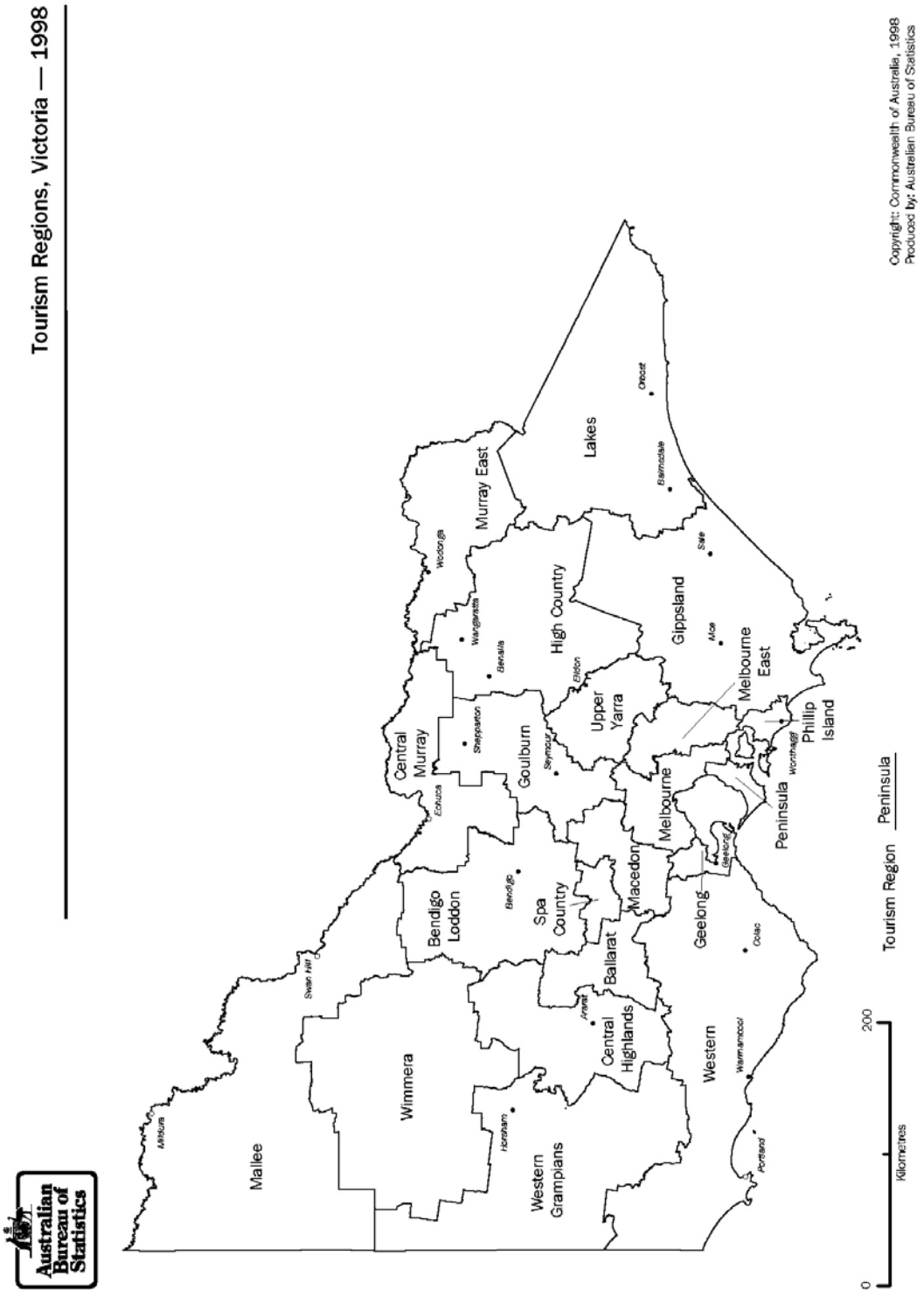
Source BTR (2002).

FIGURE V.3 TOURISM REGIONS, NEW SOUTH WALES, 1998–2000



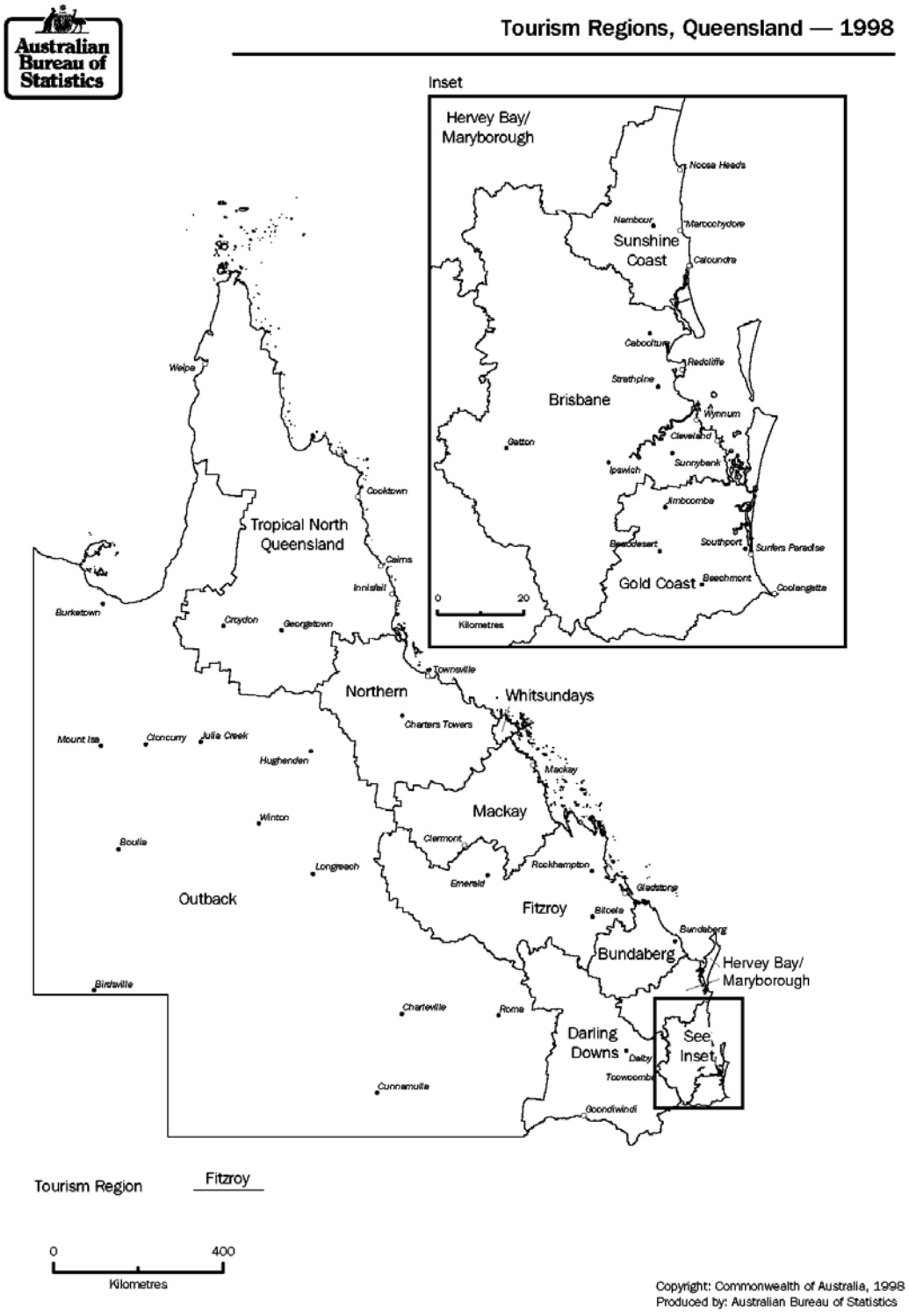
Sources ABS (2002a) and BTR (2002).

FIGURE V.4 TOURISM REGIONS, VICTORIA, 1998–2000



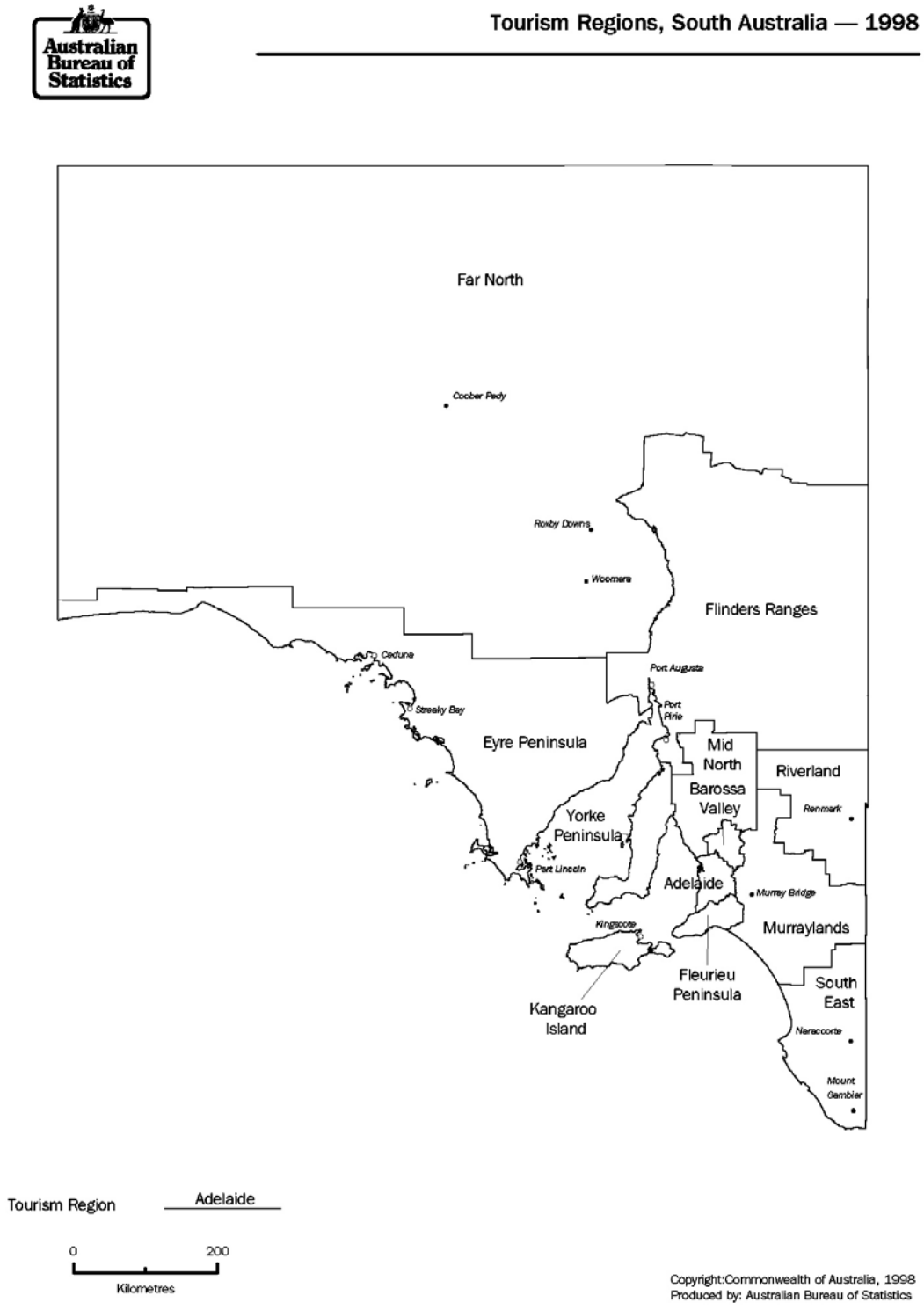
Sources ABS (2002a) and BTR (2002).

FIGURE V.5 TOURISM REGIONS, QUEENSLAND, 1998–2000



Sources ABS (2002a) and BTR (2002).

FIGURE V.6 TOURISM REGIONS, SOUTH AUSTRALIA, 1998–2000



Sources ABS (2002a) and BTR (2002).

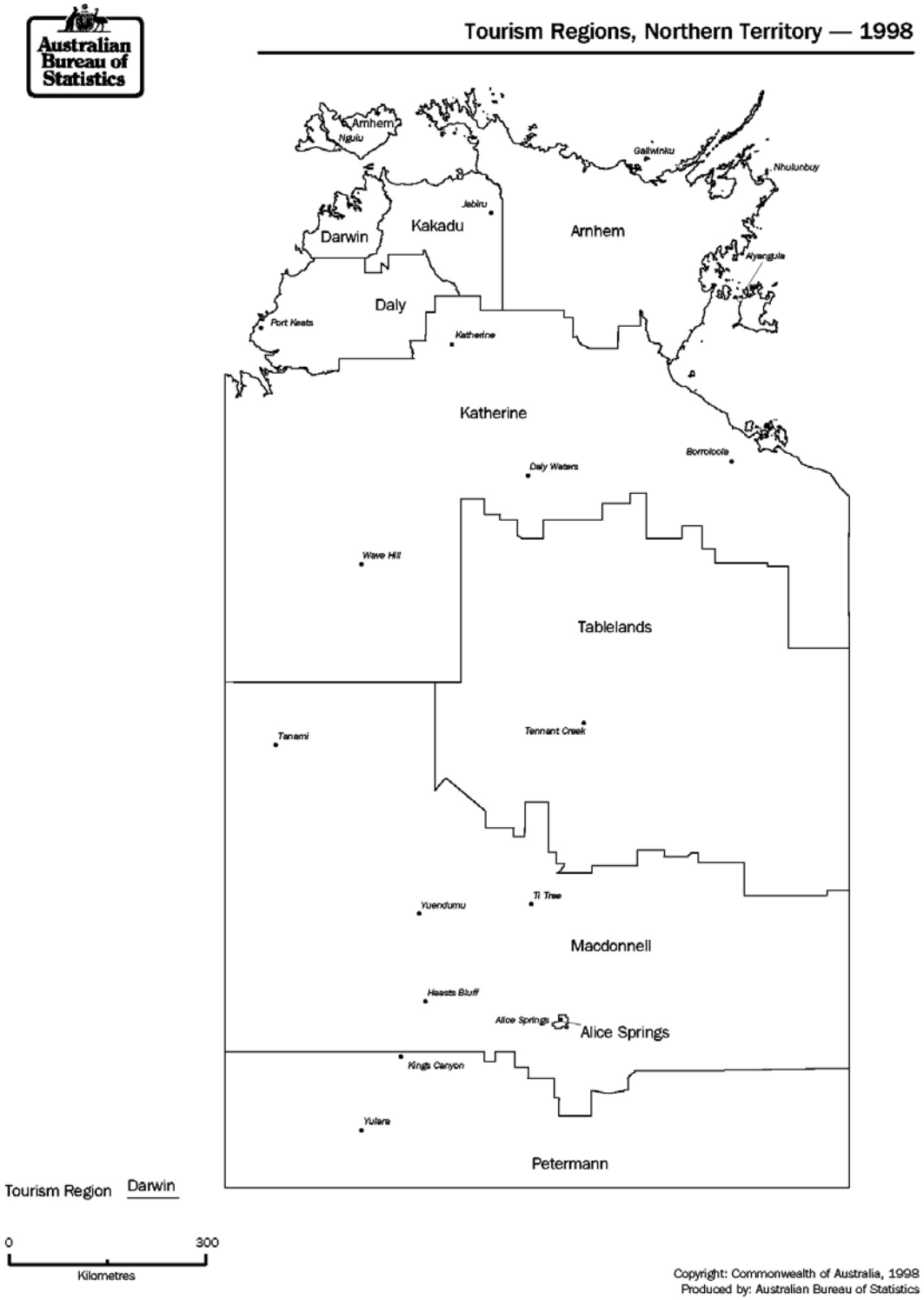
FIGURE V.7 TOURISM REGIONS, WESTERN AUSTRALIA, 1998–2000

Sources ABS (2002a) and BTR (2002).

FIGURE V.8 TOURISM REGIONS, TASMANIA, 1998–2000

Sources ABS (2002a) and BTR (2002).

FIGURE V.9 TOURISM REGIONS, NORTHERN TERRITORY, 1998–2000



Sources ABS (2002a) and BTR (2002).

OTHER GEOGRAPHICAL CLASSIFICATIONS

Rural, Remote and Metropolitan Areas (RRMA) Classification and Accessibility/Remoteness Index of Australia (ARIA)

The Rural, Remote and Metropolitan Areas (RRMA) classification is one method of ranking the relative remoteness of geographical areas in Australia. (The following description of the RRMA classification was based on information provided on the Rural Doctors Workforce Agency Inc. website: http://www.sarrmsa.com.au/rrma.htm.)

The Rural, Remote and Metropolitan Areas (RRMA) classification, developed in 1994 by the Department of Primary Industries and Energy (DPIE) and the then Department of Human Services and Health (DHSH), was used as the framework by which the various data sources could be analysed for metropolitan, rural and remote zones. Seven categories are included in the RRMA classification—2 metropolitan, 3 rural and 2 remote zones—and they are listed in table V.2.

TABLE V.2 RURAL, REMOTE AND METROPOLITAN AREA (RRMA) ZONES

Zone	*Classification*	*Category*
Metropolitan	1	Capital cities
	2	Other metropolitan areas (urban centre with a population of > 100,000)
Rural	3	Large rural centres with population 25,000- 99,000
	4	Small rural centre with population 10,000-24,999
	5	Other rural areas with population <10,000
Remote	6	Remote Centres > 5,000
	7	Other remote areas with population < 5,000

Source Rural Doctors Workforce Agency Inc. (2002) [http://www.sarrmsa.com.au/rrma.htm].

The RRMA classification is Statistical Local Areas (SLA) based—each SLA in Australia is assigned to a category based primarily on population numbers and an index of remoteness (DPIE & DHSH). The index of remoteness was used to allocate non-metropolitan SLAs together with the rural or remote zone. This index of remoteness was constructed for each non-metropolitan SLA using 'distance factors' related to urban centres containing a population of 10,000 persons or more, plus a factor called 'personal distance' (Arundell 1991). Personal distance relates to population density and indicates the "remoteness" or average distance of residents from one another (DPIE & DHSH 1994). Because the size of SLAs and the distribution of the population within SLAs may vary enormously, this method of allocating SLA to a rural or remote zone is not perfect. It can mean, for example, that within a remote SLA there can be areas that are rural rather than remote and vice versa.

For years other than 1991, SLA/RRMA concordances were derived after taking account of previous and subsequent boundary changes to SLA. These boundary changes include amalgamations of SLAs or various splits and combinations of parts of SLAs to form new or redefined SLAs. In most of the States and Territories, there were few SLA boundary changes between 1986 and 1996.

Accessibility/Remoteness Index of Australia

The Accessibility/Remoteness Index of Australia (ARIA) (Department of Health and Aged Care 1999 and 2001) is an attempt to obtain a standard classification and index of remoteness. The ARIA supersedes the RRMA classification. Index and Classification is intended to improve on RRMA which is static and therefore of limited use.

The ARIA was designed to be a comprehensive and unambiguously geographical measure of defining remoteness (Department of Health and Aged Care 1999). It interprets remoteness as accessibility to 201 service centres. Remoteness values for 11 340 populated localities are derived from the road distance to service centres. Localities with a population greater than 5 000 persons are grouped into four 4 categories: (1) more than 250,000 persons; (2) 48,000 to 249,999 persons; (3) 18,000 to 47,999 persons; and (4) 5,000 to 17,999 persons. A weighting is applied for islands. For each locality, distances are converted to ratios to the mean, a threshold of 3.0 is applied and they are then summed. This produces a continuous variable from 0 (highly accessible) to 12 (very remote). Values for populated localities are then interpolated to a 1km grid and averages calculated for larger areas. These values are grouped into five categories, shown in table V.3.

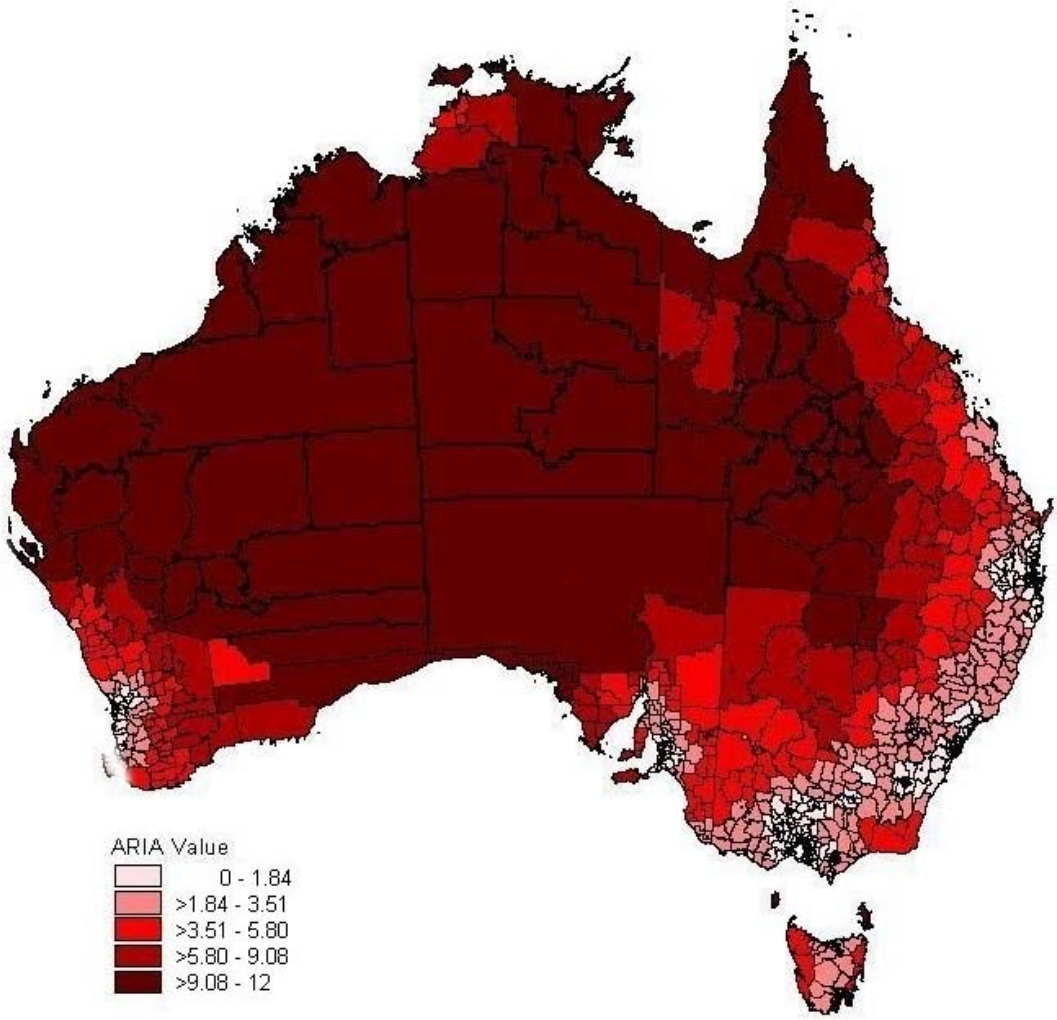
TABLE V.3 ARIA CATEGORIES AND SCORE RANGES

ARIA Category	*Score Range*
Highly accessible	0 ≤ ARIA score ≤ 1.84
Accessible	1.84 < ARIA score ≤ 3.51
Moderately accessible	3.51 < ARIA score ≤ 5.80
Remote	5.80 < ARIA score ≤ 9.08
Very remote	9.08 < ARIA score ≤ 12.00

Source Department of Health and Aged Care (2001).

Figure V.10 shows the ARIA values mapped to the 1996 Statistical Local Areas.

FIGURE V.10 ARIA VALUES FOR STATISTICAL LOCAL AREAS



Source Department of Health and Aged Care (1999), [http://www.health.gov.au/pubs/hfsocc/ocpanew14a.htm].

ABS Remoteness Areas

Included for the first time in the 2001 ASGC is a Remoteness Structure. The ABS remoteness areas are built from Collection Districts (CD), so they cover the whole of Australia with no gaps or overlaps. The remoteness areas are based on the Accessibility / Remoteness Index of Australia (ARIA). There are six levels of remoteness in the ASGC.

A list of the remoteness areas and the schema used to classify SLAs according to remoteness is provided in table V.4. The ABS has also produced a correspondence between 1996 SLAs and Remoteness Area (RA) (with population component) (ABS 2002c). The correspondence between 1996 SLAs and RA is not exact—some SLAs are split across more than one RA. The BTRE used the proportion of the SLA population falling within each RA to assign each SLA to a single RA, listed in table V.2. The ABS Remoteness Areas are

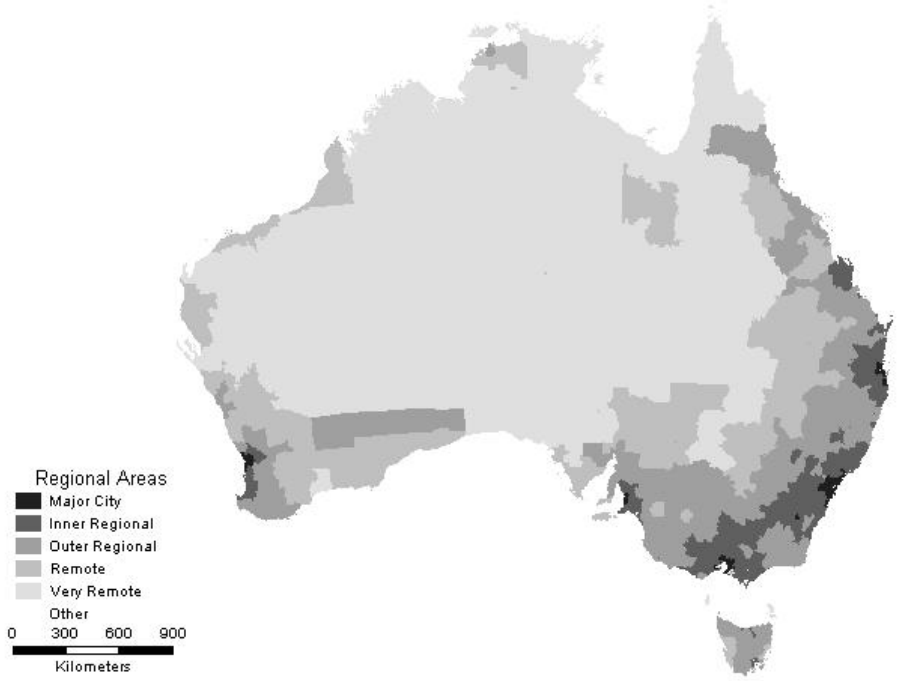
illustrated in figure V.4. A brief comparison of the ABS Regional Area classification with the ABARE regions classification (figure V.2), shows that the two regional classifications differ mainly around the coastal areas on and around the fringes of remote and regional areas.

TABLE V.4 ABS REMOTENESS AREA CLASSIFICATION

Code	*Remoteness area*	*Classification schema*
1	Major cities of Australia	CDs with an average Accessibility/Remoteness Index of Australia (ARIA) index value of 0 to 0.2
2	Inner regional Australia	CDs with an average ARIA index value greater than 0.2 and less than or equal to 2.4
3	Outer regional Australia	CDs with an average ARIA index value greater than 2.4 and less than or equal to 5.92
4	Remote Australia	CDs with an average ARIA index value greater than 5.92 and less than or equal to 10.53
5	Very remote Australia	CDs with an average ARIA index value greater than 10.53
6	Migratory	Composed of off-shore, shipping and migratory CDs

Source ABS (2001e).

FIGURE V.11 ABS REMOTENESS AREA CLASSIFICATION



Sources ABS (2001e and 2002c) and BTRE estimates.

Regional classification used by Bray (2000)

Various other classification schemes have been used in order to analyse data on a regional basis. The Department of Family and Community Services research paper into social indicators (Bray 2000) classified regional areas into the

following 10 areas, according to a size of town and distance from capital city (table V.5).

TABLE V.5 REGIONAL CLASSIFICATION USED BY BRAY (2000)

No.	*Region*
1	Capital city – Inner
2	Capital city – Middle
3	Capital city – Outer
4	Urban centres or localities, within 75 km of a capital city
5	Major non-capital cities and towns
6	Towns with more than 40 000 persons
7	Towns with 10 000 – 40 000 persons
8	Towns with 2 000 – 10 000 persons
9	Town, villages and localities with less than 2 000 persons
10	Non-urban locations

Source Bray (2000).

APPENDIX VI STATE AND TERRITORY REGIONAL PASSENGER TRAVEL PATTERNS

Chapter 4 provided a summary of the characteristics of trips and travellers from different non-metropolitan areas in Australia, based on the 2000 National Visitor Survey (NVS). This appendix provides some further information, broken down by State and Territory, on the pattern of travel, mode share and trip purpose for 'regional passenger travel' (i.e. travel to or from non-metropolitan areas). The travel data is split according to trips by metropolitan (capital city and other metropolitan) and non-metropolitan (coastal, inland and remote) area residents.

Briefly, the main features to emerge from the data include:

- Travel patterns by non-metropolitan residents are reasonably similar across the States;
- most trips by both metropolitan and non-metropolitan residents are to an intrastate destination;
- car is the predominant transport mode for most regional passenger travel by all residents; and
- public transport modes carry up to 10 per cent of trips between metropolitan and non-metropolitan areas, but are a negligible share of all trips within and between non-metropolitan regions.

SAMPLING VARIABILITY

The reader should be aware that the estimates provided by the NVS are subject to sampling variability. The Bureau of Tourism Research (BTR) cautions that estimates with a sampling error of above 50 per cent are subject to sampling variability that is too high for practical purposes. Although most of the estimates provided in this appendix appear to be reasonably sound, the BTRE has not provided any information on the sampling error contained in these estimates. Consequently, it is possible that some of the finer level estimate may have high sampling error.

OVERVIEW

As mentioned in chapter 4, trips by non-metropolitan residents were approximately one-third of all overnight and day trips undertaken by domestic residents in 2000. Table VI.1 shows the total number of domestic resident overnight and day trips by region and State / Territory of origin.

TABLE VI.1 NUMBER OF DOMESTIC RESIDENT TRIPS BY REGION AND STATE/TERRITORY OF ORIGIN, 2000

(million passenger trips)

	State/Territory								
Origin region	*NSW*	*Vic*	*Qld*	*SA*	*WA*	*Tas*	*NT*	*ACT*	*Total*
Metropolitan	56.0	41.5	27.6	11.1	13.1	2.5	0.6	3.8	156.3
	(23.8)	(17.7)	(11.7)	(4.7)	(5.6)	(1.1)	(0.3)	(1.6)	(66.5)
Non-metropolitan	24.4	20.4	14.8	6.6	6.9	4.6	0.9	0	78.8
	(10.4)	(8.7)	(6.3)	(2.8)	(2.9)	(2)	(0.4)	(0)	(33.4)
All regions	80.4	61.9	42.4	17.7	20.1	7.1	1.6	3.8	235.0

Note Share (per cent) of all trips given in parentheses.

Sources NVS (2000) and BTRE estimates.

NEW SOUTH WALES AND THE AUSTRALIAN CAPITAL TERRITORY

According to the 2000 National Visitors Survey (NVS), NSW non-metropolitan area residents undertook 7.6 million overnight and 16.7 million day trips in 2000, around 10 per cent of all domestic passenger trips in that year.

About 84 per cent of trips by non-metropolitan residents were to a location within NSW, and 60 per cent of trips were to Sydney, Newcastle or Wollongong. Approximately 23 per cent of trips by non-metropolitan residents of NSW are to another non-metropolitan region within the State—most of these trips are day trips of an average distance of around 82 kilometres.

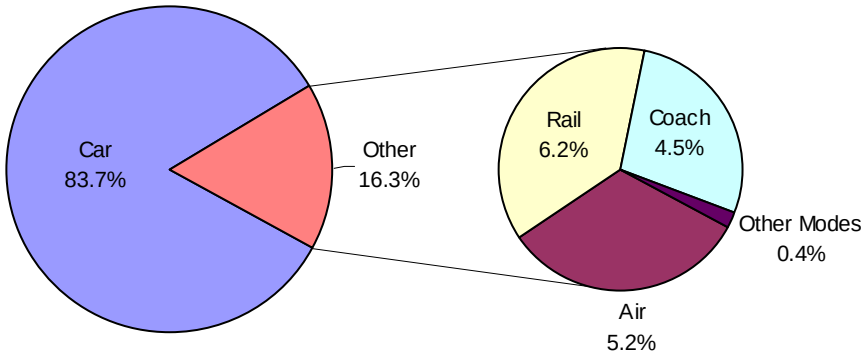
In addition, there were 8.2 million overnight and 6.3 million day trips by metropolitan residents, from across all States and Territories, whose main destination was to a non-metropolitan region in NSW. Approximately 71 per cent of these trips are by residents of Sydney, Newcastle or Wollongong—trips by Victorian, Queensland and ACT residents comprised a further 27 per cent of all trips by metropolitan residents to non-metropolitan areas in NSW.

Mode of transport

Figures VI.1 and VI.2 show the mode share of travel by non-metropolitan area residents to metropolitan and other non-metropolitan regions respectively. Some general observations are:

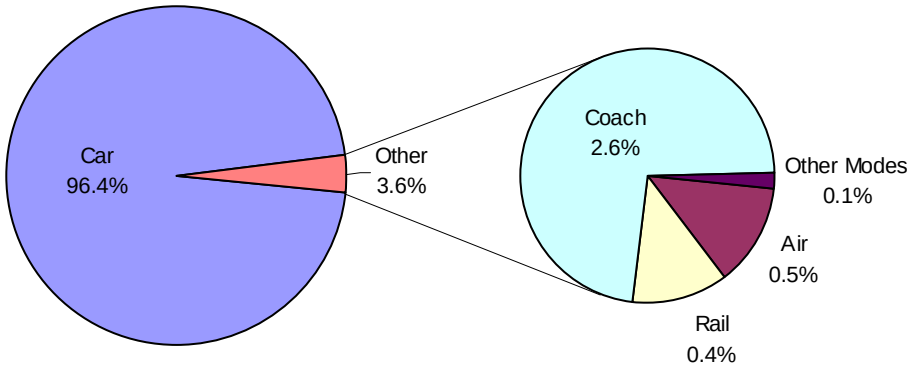
- Over 83 per cent of all overnight and day trips by non-metropolitan NSW residents to metropolitan destinations are by private car. For trips to other non-metropolitan regions, private car's share of total travel is even higher, carrying approximately 96 per cent of all intrastate passenger trips.
- Comparing figure VI.1 with figure VI.2, it is apparent that air and rail, and also coach, are more significant for trips by non-metropolitan residents to metropolitan destinations. Both air and rail's mode share are substantially smaller for regional trips by non-metropolitan residents to other non-metropolitan areas.
- Coach travel is the only other significant mode for trips between non-metropolitan regions. Although coach travel only account for 3 per cent of all such trips, its mode share is significantly greater than air and rail.

FIGURE VI.1 TRAVEL BY NSW NON-METROPOLITAN RESIDENTS TO METROPOLITAN AREAS, BY MODE, 2000



Sources NVS (2000) and BTRE estimates.

FIGURE VI.2 TRAVEL BY NSW NON-METROPOLITAN RESIDENTS TO NON-METROPOLITAN AREAS, BY MODE, 2000



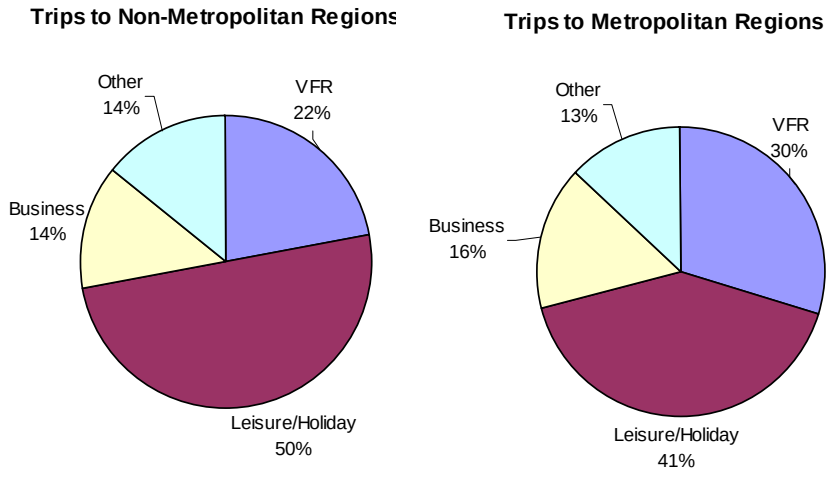
Sources NVS (2000) and BTRE estimates.

Trip purpose

Figure VI.3 provides a comparison of travel by purpose for NSW non-metropolitan residents. The data implies:

- Visiting friends and relatives (VFR) and holiday / leisure trips account for over 70 per cent of all trips by non-metropolitan residents in NSW.
- Business trips are a slightly higher proportion of all trips to metropolitan centres than business trips to other non-metropolitan regions.
- Over 70 per cent of health related trips are to other non-metropolitan centres within NSW. Of all health related trips to metropolitan centres, Sydney / Newcastle / Wollongong account for 65 per cent of trips. Health related trips to Victoria, Queensland, South Australia and ACT account for almost 35 per cent of all other purpose trips by NSW non-metropolitan region residents to metropolitan centres (probably persons living in NSW areas in close proximity to those States).

FIGURE VI.3 TRAVEL BY NSW NON-METROPOLITAN RESIDENTS TO METROPOLITAN AND NON-METROPOLITAN REGIONS, BY TRIP PURPOSE



Sources NVS (2000) and BTRE estimates.

VICTORIA

Residents of non-metropolitan Victorian regions, i.e. all Victorian tourism regions outside of Melbourne and Geelong, undertook approximately 5.4 million overnight and 15.0 million day trips in 2000, around 8.7 per cent of all trips by domestic residents.

About 91 per cent of trips by non-metropolitan residents were to a location within Victoria, and 35 per cent of trips to Melbourne or Geelong. This is a higher proportion of trips by non-metropolitan residents to a metropolitan region than in NSW, possibly attributable to the significantly shorter distances between most of non-metropolitan Victoria and Melbourne. Approximately 56

per cent of trips by non-metropolitan residents of Victoria are to another non-metropolitan centre within the State—most of these trips are day trips with an average distance of around 68 kilometres from home.

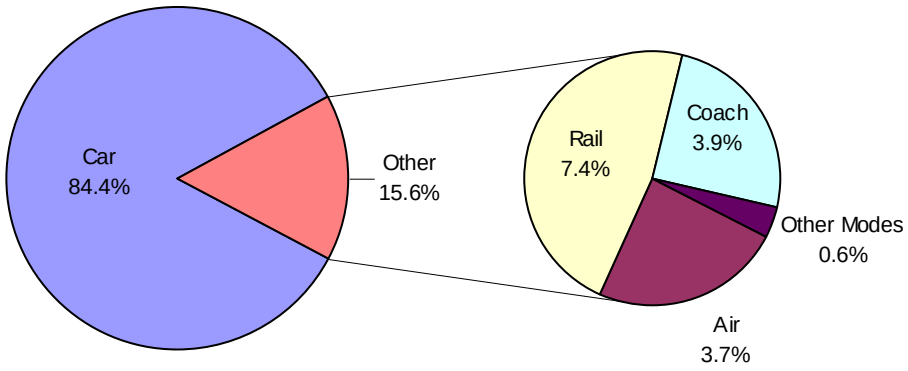
In addition, there were 7.2 million overnight and 10.9 million day trips by metropolitan residents, from across all States and Territories, to a non-metropolitan region in Victoria. Almost all (97 per cent) of these trips are by residents of Melbourne or Geelong.

Mode of transport

Figures VI.4 and VI.5 show the mode share of travel by non-metropolitan residents to metropolitan and other non-metropolitan regions respectively. Some general observations are:

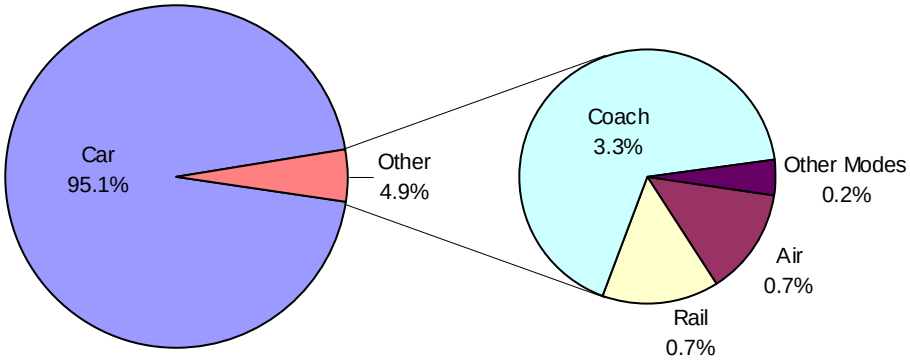
- Over 84 per cent of all overnight and day trips by non-metropolitan Victorian residents to metropolitan destinations are by private car. For trips to other non-metropolitan regions, private car's share of total travel is even higher, carrying approximately 95 per cent of all intrastate passenger trips.
- Comparing figure VI.4 with figure VI.5, it is apparent that air and rail are more significant for trips by non-metropolitan residents to metropolitan destinations, especially to Melbourne, but also to Sydney, Adelaide and Perth. Both air and rail's mode share is substantially smaller for trips by non-metropolitan residents to other non-metropolitan areas. Again, this is probably a reflection of the capital city centric radial nature of rail services and the short trip distances for inter-regional travel in Victoria.
- In comparison to other states, rail's mode share of 7.4 per cent for trips by non-metropolitan residents to the State capital, is the highest in Australia. Only NSW (6.2 per cent) approaches this figure.

FIGURE VI.4 TRAVEL BY VICTORIAN NON-METROPOLITAN RESIDENTS TO METROPOLITAN AREAS, BY MODE.



Sources NVS (2000) and BTRE estimates.

FIGURE VI.5 TRAVEL BY VICTORIAN NON-METROPOLITAN RESIDENTS TO OTHER NON-METROPOLITAN AREAS, BY MODE.



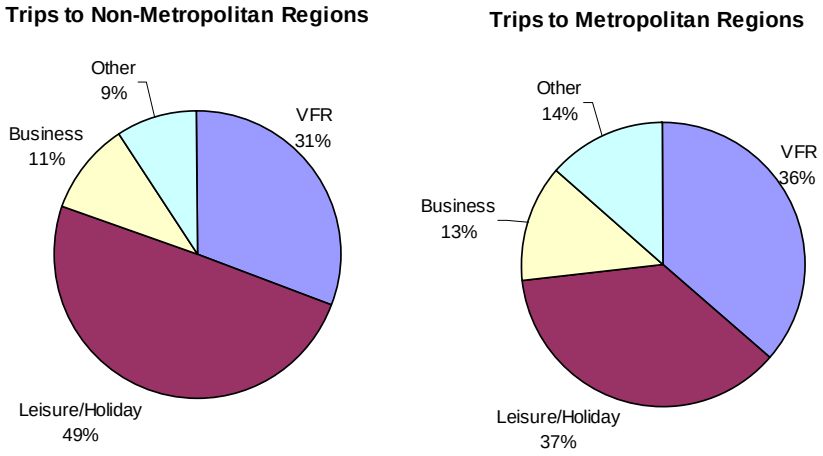
Sources NVS (2000) and BTRE estimates.

Trip purpose

Figure VI.6 provides a comparison of travel by purpose for Victorian non-metropolitan residents. The data shows:

- VFR and holiday/leisure trips account for 77 per cent of all trips by non-metropolitan regional residents.
- Business trips are a slightly higher proportion of all trips to metropolitan centres (13.4 per cent) than business trips to other non-metropolitan regions (10.7 per cent).
- Health related trips are 4.1 per cent of all trips undertaken by non-metropolitan residents. In Victoria, nearly half of all health related trips by non-metropolitan residents are to Melbourne or Geelong and 45 per cent are to a non-metropolitan centre within Victoria.

FIGURE VI.6 TRAVEL BY VICTORIAN NON-METROPOLITAN RESIDENTS TO METROPOLITAN AND NON-METROPOLITAN REGIONS, BY TRIP PURPOSE.



Sources NVS (2000) and BTRE estimates.

For metropolitan residents over 83 per cent of trips to non-metropolitan regions are VFR or holiday/leisure type trips, while business trips and other purpose trips account for only 13 per cent and 4 per cent of such trips, respectively.

QUEENSLAND

Residents of non-metropolitan areas in Queensland[47] undertook approximately 6.1 million overnight and 8.7 million day trips in 2000, or 6.3 per cent of all trips by domestic residents.

Approximately 96 per cent of all trips by non-metropolitan Queensland residents were to a location within the State, and 39 per cent of trips to a metropolitan centre within Queensland. Approximately 56 per cent of trips by non-metropolitan residents of Queensland are to another non-metropolitan centre within the State—most of these trips are day trips with an average distance of around 110 kilometres.

In addition, there were 3.0 million overnight and 4.3 million day trips by metropolitan residents, from across all States and Territories, whose main destination was to a non-metropolitan region in Queensland. Approximately 92 per cent of these trips are by residents of a metropolitan centre in Queensland.

Mode of transport

Figures VI.7 and VI.8 show the mode share of travel by non-metropolitan residents to metropolitan and other non-metropolitan regions, respectively. Some general observations are:

- Over 84 per cent of all overnight and day trips by non-metropolitan residents in Queensland to metropolitan destinations are by private car. For trips to other non-metropolitan regions within Queensland, private car's share is approximately 94 per cent.
- Rail and coach, together, account for 8.8 per cent of trips by non-metropolitan residents to metropolitan centres, but only 3.5 per cent of trips to other non-metropolitan centres in Queensland, of which most are by coach.
- Air travel accounts for 5.6 per cent of all trips by non-metropolitan Queensland residents to metropolitan centres, but less than 1 per cent of trips to other non-metropolitan centres in Queensland.

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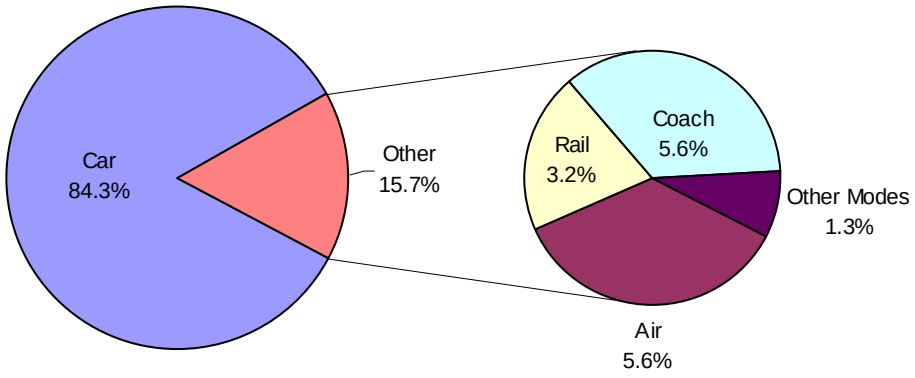
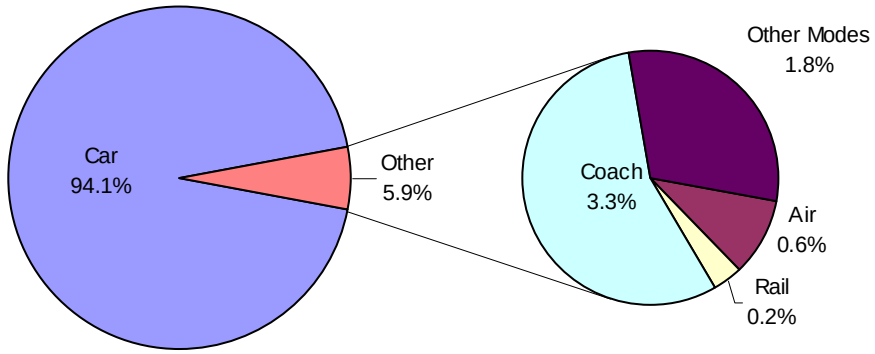
[47] Queensland metropolitan areas include Brisbane, Gold Coast, Sunshine Coast, Townsville and Cairns. By definition, all other areas within Queensland are classed as non-metropolitan.

FIGURE VI.7 TRAVEL BY QUEENSLAND NON-METROPOLITAN RESIDENTS TO METROPOLITAN AREAS, BY MODE



Sources *NVS 2000 and BTRE estimates.*

FIGURE VI.8 TRAVEL BY QUEENSLAND NON-METROPOLITAN RESIDENTS TO OTHER NON-METROPOLITAN AREAS, BY MODE.



Sources NVS 2000 and BTRE estimates.

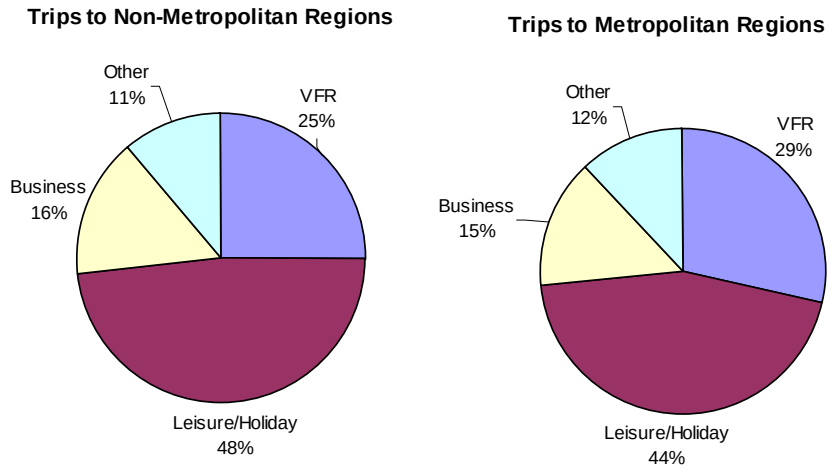
Trip purpose

Figure VI.9 provides a comparison of travel by purpose for Queensland non-metropolitan residents travelling to non-metropolitan and metropolitan regions respectively. The data shows that:

- VFR and holiday/leisure trips account for 73 per cent of all trips by non-metropolitan Queensland residents.
- Business trips account for approximately 15 per cent of all trips by non-metropolitan Queensland residents.
- Other purpose trips are 11 per cent of all trips by non-metropolitan Queensland residents, and health related trips are 4.2 per cent of all trips. In Queensland, 61 per cent of all health related trips were to a metropolitan centre. (These findings are in line with survey findings of air travel by remote residents reported in Queensland Transport (2002)).

Almost 83 per cent of metropolitan area resident trips to non-metropolitan regions in Queensland are VFR or holiday/leisure type trips, while business trips and other purpose trips account for approximately 14 per cent and 4 per cent of such trips, respectively.

FIGURE VI.9 TRAVEL BY QUEENSLAND NON-METROPOLITAN RESIDENTS TO METROPOLITAN AND NON-METROPOLITAN REGIONS, BY TRIP PURPOSE



Sources NVS 2000 and BTRE estimates.

SOUTH AUSTRALIA

According to the 2000 NVS, residents of non-metropolitan South Australia undertook approximately 2.9 million overnight and 3.6 million day trips in 2000. This is approximately 2.8 per cent of all trips by domestic residents. In South Australia, all areas outside Adelaide are classed as non-metropolitan.

Approximately 91 per cent of trips by non-metropolitan South Australian residents were to a location within South Australia, and 41 per cent of trips were to Adelaide. Around half of all trips by non-metropolitan residents of South Australia were to another non-metropolitan region within the State—most of these trips were day trips with an average distance of around 78 kilometres from home.

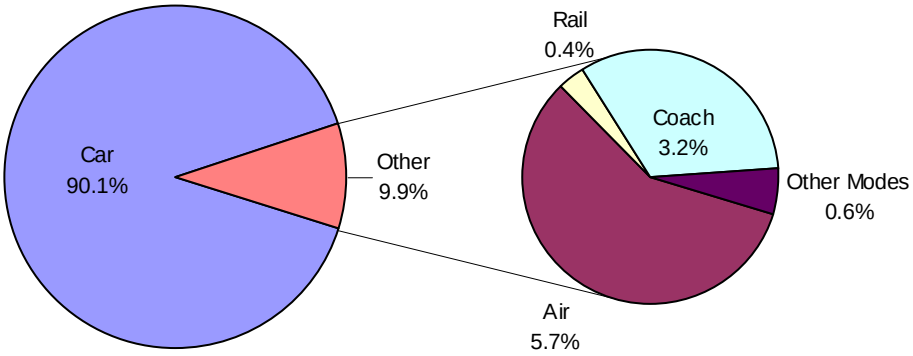
In addition, there were 2.2 million overnight and 4.4 million day trips by metropolitan residents, from across all States and Territories, whose main destination was to a non-metropolitan region in South Australia. Approximately 96 per cent of these trips were by Adelaide residents.

Mode of transport

Figures VI.10 and VI.11 show the mode share of travel by non-metropolitan residents to capital city and other non-metropolitan regions respectively. Some general observations are:

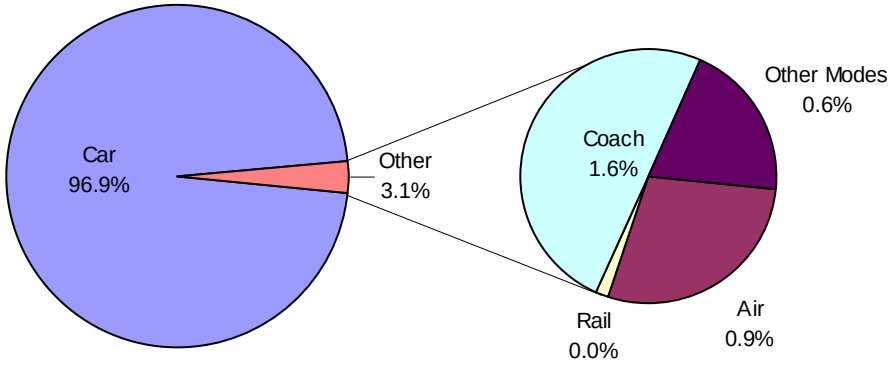
- In South Australia, just over 90 per cent of all overnight and day trips by non-metropolitan South Australian residents, to metropolitan destinations, are by private car. For trips to other non-metropolitan areas, private car's share of total travel is even higher, carrying approximately 97 per cent of all intrastate passenger trips.

FIGURE VI.10 TRAVEL BY SOUTH AUSTRALIAN NON-METROPOLITAN RESIDENTS TO METROPOLITAN AREAS, BY MODE.



Sources NVS (2000) and BTRE estimates.

FIGURE VI.11 TRAVEL BY SOUTH AUSTRALIAN NON-METROPOLITAN RESIDENTS TO OTHER NON-METROPOLITAN AREAS, BY MODE.



Sources NVS (2000) and BTRE estimates.

- Coach travel accounted for 3.2 per cent of trips by non-metropolitan residents to metropolitan regions and 1.6 per cent of trips to other non-metropolitan centres in South Australia. Rail carried a negligible proportion

of all trips in South Australia, which is not surprising, as there are no purely intrastate regular non-urban rail services in South Australia.

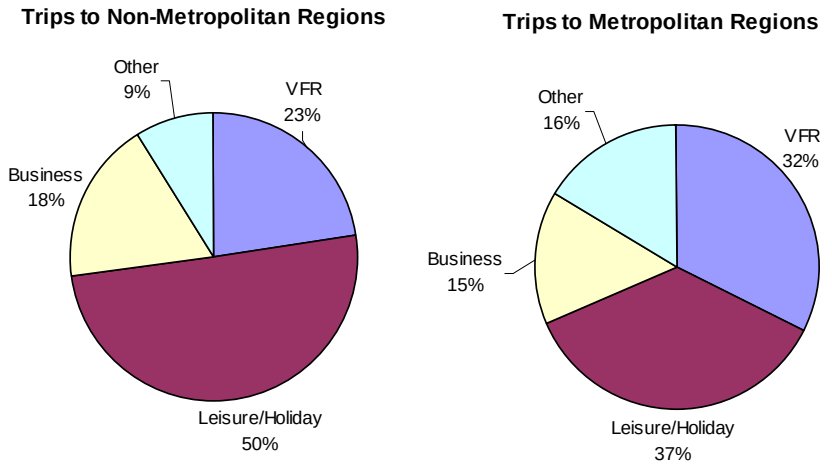
- Air travel accounts for around 5.7 per cent of all trips by non-metropolitan South Australian residents to metropolitan centres. In contrast with air travel by non-metropolitan residents in other States, only 38 per cent of these trips were to Adelaide; over 50 per cent of such trips the main destination was a metropolitan region in NSW, Victoria or Queensland. Less than 1 per cent of trips between non-metropolitan centres in South Australia were by air.

Trip purpose

Figures VI.12 provide a comparison of travel by purpose for South Australian non-metropolitan residents. Again, the story is similar to that for other major States:

- VFR and holiday/leisure trips were 71 per cent of all trips by non-metropolitan South Australia residents.
- Business trips accounted for approximately 17 per cent of all trips by non-metropolitan South Australia residents.

FIGURE VI.12 TRAVEL BY SOUTH AUSTRALIAN NON-METROPOLITAN RESIDENTS TO METROPOLITAN AND NON-METROPOLITAN REGIONS, BY TRIP PURPOSE



Sources NVS (2000) and BTRE estimates.

- Other purpose trips were 12 per cent of all trips by non-metropolitan South Australia residents, and health related trips are 4.7 per cent of all such trips. In South Australia, 76 per cent of all health related overnight or day trips were to Adelaide, and the remainder to another non-metropolitan area in South Australia.

Almost 89 per cent of trips by metropolitan residents to non-metropolitan regions in South Australia are VFR or holiday/leisure type trips. Business trips

and other purpose trips account for 9 per cent and 2 per cent of such trips, respectively.

WESTERN AUSTRALIA

According to the 2000 NVS, residents of non-metropolitan Western Australia undertook approximately 2.4 million overnight and 4.5 million day trips in 2000. This is approximately 2.9 per cent of all trips by domestic residents in Australia. In Western Australia, all areas outside Perth are classed as non-metropolitan.

Approximately 98 per cent of trips by non-metropolitan Western Australia residents were to a location within Western Australia, and 39 per cent of such trips were to Perth. The balance (61 per cent) of all trips by non-metropolitan residents of Western Australia were to another non-metropolitan region within the State—three-quarters of these trips were day trips with an average distance of around 113 kilometres from home.

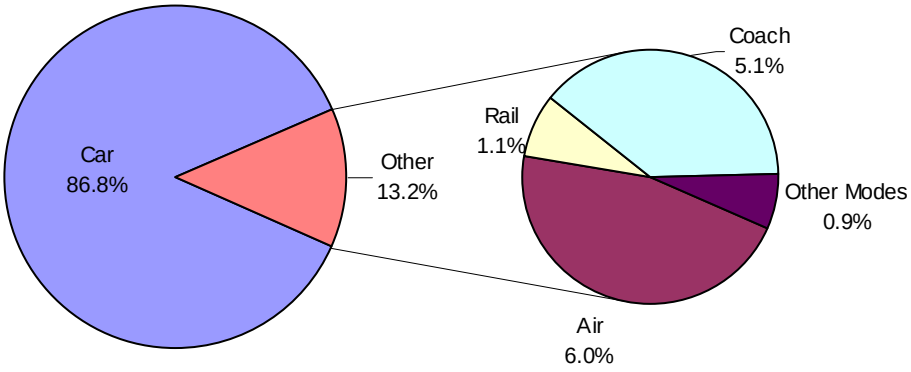
In addition, there were 2.8 million overnight and 3.7 million day trips by metropolitan residents, from across all States and Territories, whose main destination was to a non-metropolitan region in Western Australia. Over 98 per cent of these trips were by residents of Perth.

Mode of transport

Figures VI.13 and VI.14 show the mode share of travel by non-metropolitan residents to metropolitan and other non-metropolitan regions respectively. Some general observations are:

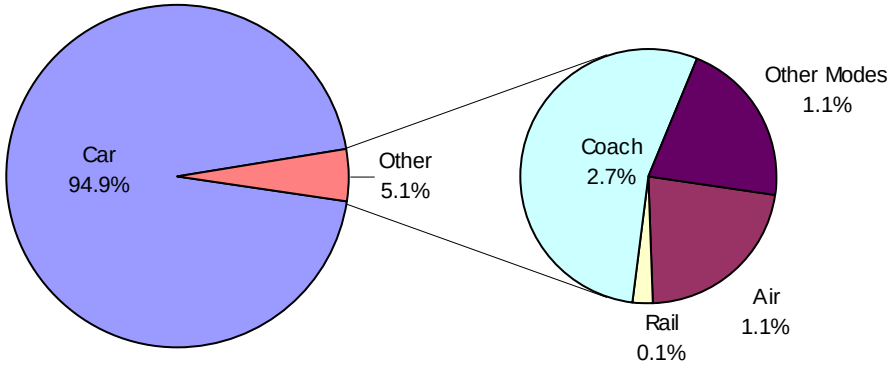
- In Western Australia, over 86 per cent of all overnight and day trips by non-metropolitan Western Australian residents to Perth, were by private car. For trips to other non-metropolitan areas, private car's share of total travel was even higher, carrying approximately 95 per cent of all intrastate passenger trips.
- Coach travel accounted for 5.1 per cent of trips by non-metropolitan residents to Perth and 2.7 per cent of trips to other non-metropolitan centres in Western Australia. Rail carried 1.1 per cent of non-metropolitan resident trips to Perth, but was responsible for a negligible proportion of all other trips in Western Australia.
- Air travel accounted for around 6.0 per cent of all trips by non-metropolitan Western Australian residents to Perth. Approximately 54 per cent of all air trips by non-metropolitan residents in Western Australia are to another Western Australian destination, most of them to Perth.

FIGURE VI.13 TRAVEL BY WESTERN AUSTRALIAN NON-METROPOLITAN RESIDENTS TO METROPOLITAN AREAS, BY MODE.



Sources NVS (2000) and BTRE estimates.

FIGURE VI.14 TRAVEL BY WESTERN AUSTRALIAN NON-METROPOLITAN RESIDENTS TO OTHER NON-METROPOLITAN AREAS.



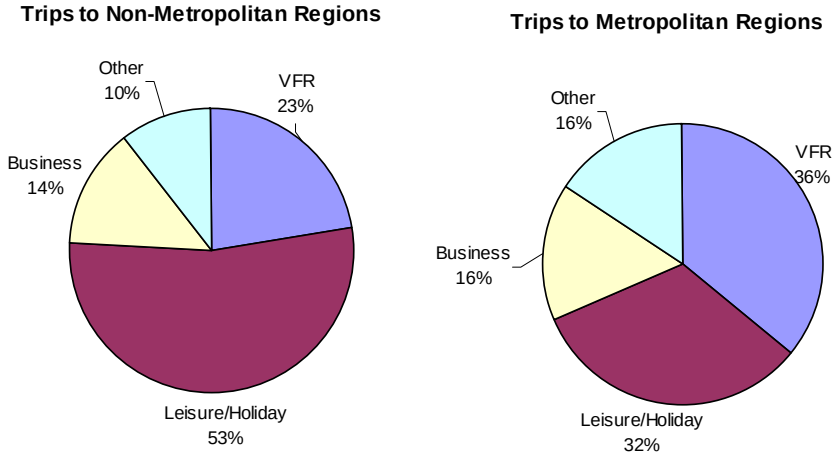
Sources NVS (2000) and BTRE estimates.

Trip purpose

Figure VI.15 provides a comparison of travel by purpose for non-metropolitan residents in Western Australia travelling to non-metropolitan and metropolitan areas respectively. Again, the story is similar to that of the other major States:

- VFR and holiday/leisure trips accounted for 73 per cent of all trips by non-metropolitan Western Australia residents.
- Business trips were approximately 15 per cent of all trips by non-metropolitan Western Australia residents.
- Other purpose trips were 13 per cent of all trips by non-metropolitan Western Australia residents, and health related trips were 5.2 per cent of all trips. In Western Australia, 59 per cent of all health related overnight or day trips were to Perth, and the remainder to another non-metropolitan region in Western Australia.

FIGURE VI.15 TRAVEL BY WESTERN AUSTRALIAN NON-METROPOLITAN RESIDENTS TO METROPOLITAN AND NON-METROPOLITAN REGIONS, BY TRIP PURPOSE



Sources NVS (2000) and BTRE estimates.

TASMANIA

In Tasmania, over 80 per cent of the population resides in major urban areas, and is almost equally split between Hobart and the major population centres in the north of the State: Launceston, Devonport and Burnie. This differs from most of the other States where the capital city is significantly larger than the next largest urban centre in the State. Despite this, in the analysis presented here Hobart is considered as the only metropolitan centre in Tasmania. All other areas are considered non-metropolitan.

According to the 2000 NVS, Tasmanian residents undertook approximately 1.1 million overnight and 3.6 million day trips in 2000—approximately 2 per cent of all trips by domestic residents.

Approximately 94 per cent of trips in Tasmania were to a location within Tasmania, but only 20 per cent of trips were to Hobart and 80 per cent to another region within the State—63 per cent of these trips were day trips with an average distance of around 65.6 kilometres from home.

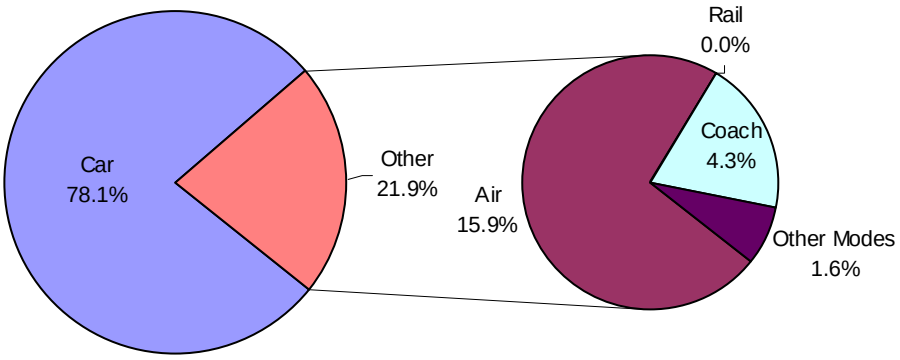
In addition, there were 0.6 million overnight and 1.3 million day trips by metropolitan residents, from across all States and Territories including Hobart, whose main destination was to a non-metropolitan region in Tasmania. Over 95 per cent of these trips were by residents of Hobart.

Mode of transport

Figures VI.16 and VI.17 show the mode share of travel by non-metropolitan residents to capital city and other non-metropolitan regions respectively. Some general observations are:

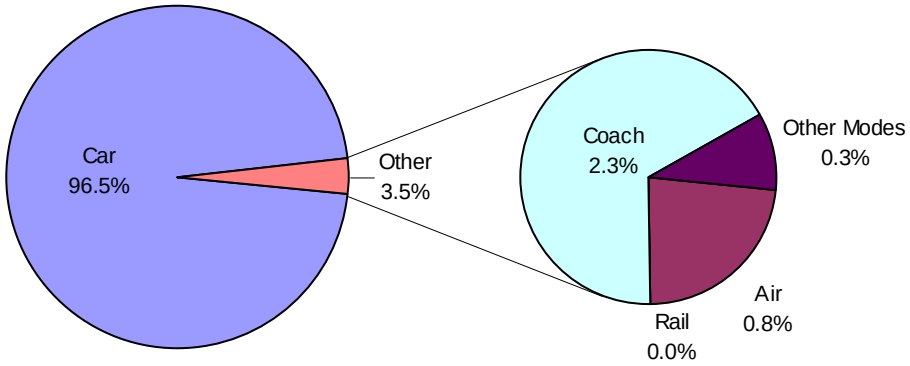
- Over 78 per cent of all overnight and day trips by non-metropolitan Tasmanian residents to metropolitan destinations are by private car. (A significant proportion of trips by non-metropolitan residents to metropolitan areas are undertaken by air (16 per cent). This figure is driven by trips from non-metropolitan regions of Tasmania to metropolitan areas in other states, principally Victoria.) For trips to other non-metropolitan regions, private car's share of total travel is even higher, carrying 96.5 per cent of all intrastate passenger trips.

FIGURE VI.16 TRAVEL BY TASMANIAN NON-METROPOLITAN RESIDENTS TO METROPOLITAN AREAS, BY MODE.



Sources NVS (2000) and BTRE estimates.

FIGURE VI.17 TRAVEL BY TASMANIAN NON-METROPOLITAN RESIDENTS TO OTHER NON-METROPOLITAN AREAS, BY MODE.



Sources NVS (2000) and BTRE estimates.

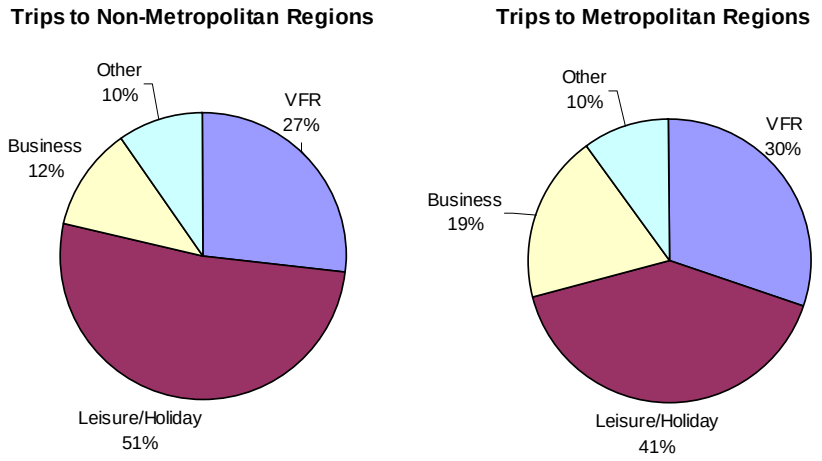
- Coach is the only other significant mode for trips by non-metropolitan Tasmanian residents to Hobart.
- For trips by non-metropolitan residents to other non-metropolitan areas, coach is the only other significant mode. Whilst there is a small amount of air travel, coach and private car travel account for 98.8 per cent of travel in this category.
- There are no rail services in Tasmania.

Trip purpose

Figure VI.18 provides a comparison of travel by purpose for non-metropolitan residents in Tasmania. Again, the story is similar to that of the other major States:

- VFR and holiday/leisure trips accounted for 77 per cent of all trips by non-metropolitan Tasmania residents in 2000.
- Business trips were approximately 14 per cent of all trips by non-metropolitan Tasmania residents.

FIGURE VI.18 TRAVEL BY TASMANIAN NON-METROPOLITAN RESIDENTS TO METROPOLITAN AND NON-METROPOLITAN REGIONS, BY TRIP PURPOSE



Sources NVS (2000) and BTRE estimates.

- Other purpose trips were 10 per cent of all trips by non-metropolitan residents, and health related trips were 3.7 per cent of all trips. For residents of non-metropolitan Tasmania, 29 per cent of all health related overnight or day trips were to Hobart, 4 per cent to Melbourne and 67 per cent to another non-metropolitan region in Tasmania.

NORTHERN TERRITORY

Residents in non-metropolitan regions of the Northern Territory undertook 0.4 million overnight and 0.5 million day trips in 2000, (0.4 per cent of all trips by

domestic residents). In the Northern Territory, all areas but Darwin are classed as non-metropolitan.

Approximately 86 per cent of trips by non-metropolitan residents were to a location within the Northern Territory, and 39 per cent of trips were to Darwin. Around 62 per cent of all trips by non-metropolitan residents of the Northern Territory were to another non-metropolitan region within the State—over two thirds of these trips were day trips with an average distance of around 156 kilometres from home.

In addition, there were 0.25 million overnight and 0.36 million day trips by metropolitan residents, from across all States and Territories, whose main destination was to a non-metropolitan region in the Northern Territory. Approximately 78 per cent of these trips were by Darwin residents. (This is a much lower proportion of intra-state resident trips than in other States, reflecting the significance of interstate tourist travel to non-metropolitan areas in the Northern Territory.)

Mode of transport

Figures VI.19 and VI.20 show the mode share of travel by non-metropolitan residents to metropolitan and other non-metropolitan areas respectively. Some general observations are:

- The private car mode share is significantly less in the Northern Territory, than the rest of the country, for all trips by non-metropolitan area residents.
- About 62 per cent of trips by non-metropolitan residents to metropolitan areas are by private car.
- Air has a significantly higher mode share than in other States, particularly for trips from non-metropolitan regions to Darwin (33 per cent).
- Rail's mode share is negligible (Adelaide to Alice Springs railway being the only services in the Territory).

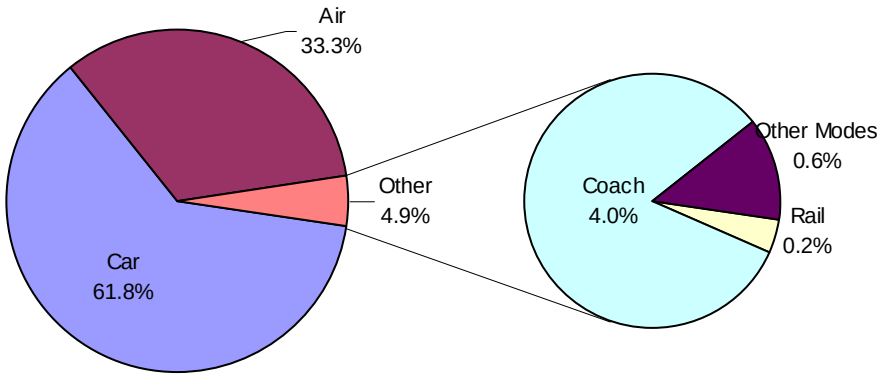
Trip purpose

Figure VI.21 provides a comparison of travel by purpose for Northern Territory non-metropolitan residents. The data suggests:

- VFR and holiday/leisure trips accounted for over 62 per cent of all trips by non-metropolitan Northern Territory residents.
- For non-metropolitan residents, VFR trips account for over a quarter of trips to metropolitan areas, but are significantly lower (5 per cent) share of trips to other non-metropolitan regions.
- Approximately 33 per cent of all trips to Darwin are business trips—significantly above the national average of 15.3 per cent.

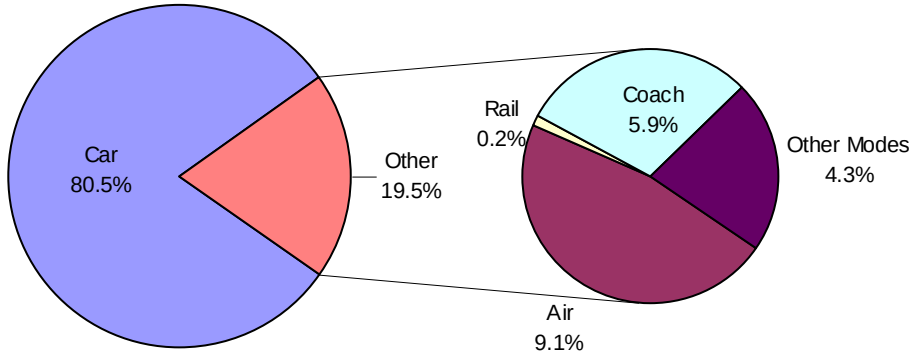
- There is a significant difference in the proportion of leisure purpose trips to metropolitan and non-metropolitan regions in the Northern Territory. Only 28 per cent of trips from non-metropolitan areas to Darwin are for holiday/leisure purposes. For trips to other non-metropolitan regions however, over 60 per cent of trips are for holiday/leisure purposes.
- Health-related trips are 2.3 per cent of all trips undertaken by non-metropolitan residents. In the Northern Territory, 57 per cent of health related trips by non-metropolitan residents are to Darwin and 21 per cent were to Adelaide. Approximately 17 per cent of health related-trips are to a non-metropolitan area in the Northern Territory.

FIGURE VI.19 TRAVEL BY NON-METROPOLITAN RESIDENTS IN THE NORTHERN TERRITORY TO METROPOLITAN AREAS, BY MODE.



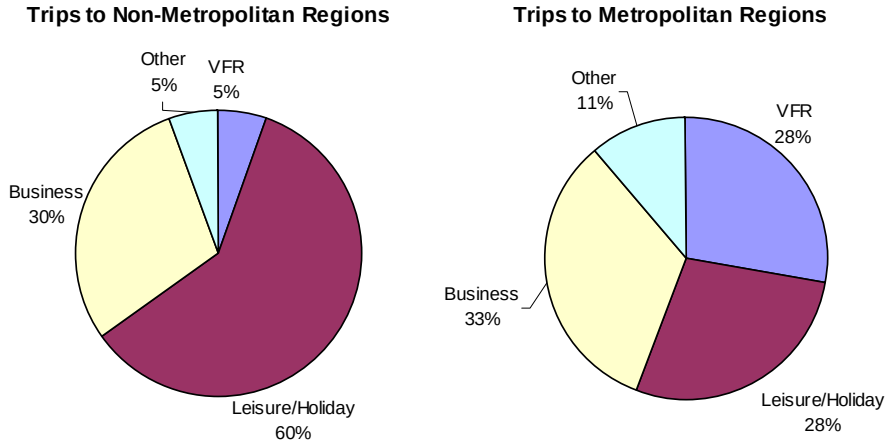
Sources NVS (2000) and BTRE estimates.

FIGURE VI.20 TRAVEL BY NON-METROPOLITAN RESIDENTS IN THE NORTHERN TERRITORY TO NON-METROPOLITAN AREAS, BY MODE.



Sources NVS (2000) and BTRE estimates.

FIGURE VI.21 TRAVEL BY NOTHERN TERRITORY NON-METROPOLITAN RESIDENTS TO METROPOLITAN AND NON-METROPOLITAN REGIONS, BY TRIP PURPOSE



Sources NVS (2000) and BTRE estimates.

AUSTRALIAN CAPITAL TERRITORY

All regional passenger trips to and from the ACT are included with NSW.

APPENDIX VII REGIONAL PASSENGER TRAVEL—FARES, TRAVEL COSTS AND TRAVEL TIMES

This appendix provides data comparing the monetary cost and travel times for a range of intrastate journeys within each State and Territory. Data is provided only for trips between the State or Territory capital city and one, or more, population centre(s) within each of the BTR tourism regions. Some interstate routes, such as Adelaide to Mildura and Adelaide to Broken Hill, for which the capital city in another State or Territory may be closer than the nominal State or Territory capital. Travel to and from the ACT is included with NSW.

As far as possible all fares are as at July 2001. In cases where fare data at July 2001 could not be obtained, a fare from a later date has been substituted. These cases are noted in the tables. The reported fares and travel times have largely been sourced from publicly available information. Rail and coach fares are based on published timetables and fare schedules of rail and coach operators. The air fares data is from the BTRE air fares database, which is based on a monthly survey of air fares listed on the SABRE Computer Reservation system (http://www.sabre.com/). As the air fares are as at June 2001, they do not include the Ansett ticket levy (imposed in September 2001), but do include the GST.

The private vehicle operating costs are based on the National Roads and Motorists' Association estimates of the costs of owning and operating a vehicle (NRMA 1999). The BTRE used the NRMA estimates of the vehicle operating costs for a privately owned Holden Commodore 3.8 litre vehicle, held for ten years and averaging 15 000km per annum. Two estimates of private vehicle costs were computed—a fuel only cost and an 'avoidable cost' estimate. Table VII.1 lists the NRMA estimated motoring costs in 1999. All fuel costs have been updated to the average fuel price prevailing in each State and Territory capital city in July 2001[48], which are listed in table VII.2. The 'avoidable cost' was assumed equal to the cost of fuel and tyres and 20 per cent of depreciation and service and repair cost. Overall, this is just under double the average fuel cost. The estimated fuel and 'avoidable' private vehicle travel costs (listed in tables VII.3 to VII.10) were then converted to a passenger basis by assuming an average vehicle occupancy rate of 1.8 persons per vehicle for long-distance private car trips.

[48] Australian Automobile Association (AAA), (http://www.aaa.asn.au/, 31 July 2002)

TABLE VII.1 ESTIMATED AVERAGE MOTORING COSTS FOR A HOLDEN COMMODORE 3.8 LITRE

(cents per kilometre)

Item	*Cost*
Standing costs	
Depreciation	19.36
Interest	3.85
Registration, Insurance, and Road Membership	9.41
Running costs	
Fuel cost	8.76
Tyres	1.73
Services & Repairs	3.27
Total average cost	46.38

Note Based on an average fuel price of 65.9 cents/litre, private ownership of the vehicle for 10 years and average VKT of 15 000 km per annum.

Source NRMA (1999).

TABLE VII.2 AVERAGE RETAIL PRICE UNLEADED PETROL, JULY 2001

(cents per litre)

City	*Price*
Sydney	86.1
Melbourne	81.6
Brisbane	76.9
Adelaide	87.7
Perth	85.1
Hobart	93.0
Darwin	96.0

Source Australian Automobile Association (http://www.aaa.asn.au/, 31 July 2002).

A comparison of one-way full economy fares for air, rail and coach passenger travel and private car travel are listed for, each State and Territory, in tables VII.3 to VII.9.

The data shows that full economy air fares to regional centres are significantly higher than coach and rail fares. Even discounted air fares, assuming they may be as low as 50 per cent of the listed full economy fares, are generally higher than the coach or rail fares. Coach and rail fares are generally about the same level, and travel times for the two modes are broadly similar. The estimated 'avoidable' per person cost of private vehicle travel is generally equal to or less than the full economy rail or coach fare, and the estimated per passenger *fuel* cost of private car travel is generally significantly less than the cost of a full economy rail or coach fare.

TABLE VII.3 COMPARISON OF FULL ECONOMY ONE-WAY FARES AND TRAVEL TIMES FOR TRAVEL FROM SYDNEY TO SELECTED REGIONAL DESTINATIONS, JULY 2001

	Air		*Rail*		*Coach*[c]		*Private car*			
Destination	*Fare ($)*	*Travel time (hrs:min)*	*Fare ($)*	*Travel time (hrs:min)*	*Fare ($)*	*Travel time (hrs:min)*	*Road distance (km)*	*Fuel cost ($/person)*	*'Avoidable' cost ($/person)*	*Travel time (hrs:min)*
Bateman's Bay[f]	219.10	0:50	na	na	35.00	5:30	284	18.06	27.93	3:44
Wollongong	..	..	8.80	1:40	13.00	2:00	80	5.09	7.87	1:02
Cooma[b]	..	..	66.00	8:25	73.00	6:00	404	25.69	39.73	5:11
Goulburn	..	..	33.00	2:35	32.00	3:15	196	12.46	19.27	2:29
Albury	273.00	1:20	85.80	10:30	44.00	10:10	573	36.43	56.35	7:10
Wagga Wagga	222.40	1:05	74.80	6:30	44.00	8:25	471	29.95	46.32	5:53
Griffith[g]	303.00	1:40	85.80	8:50	58.00	11:35	605	38.47	59.50	7:34
Orange	182.80	1:00	45.10	4:45	38.00	5:20	251	15.96	24.68	3:08
Dubbo[g]	234.00	1:30	66.00	6:30	57.00	7:05	409	26.01	40.22	5:07
Newcastle	138.80	0:40	17.00	2:30	27.00	2:35	157	9.98	15.44	1:58
Port Macquarie	232.30	1:00	71.50	6:45	62.00	6:30	418	26.58	41.11	5:14
Coffs Harbour	280.70	1:15	79.20	8:40	71.00	8:50	572	36.37	56.25	7:09
Lismore[d]	311.50	1:35	97.90	11:55	na	na	833	52.97	81.92	10:25
Ballina[a]	311.50	1:35	97.90	12:50	84.00	11:15	798	50.74	78.48	9:59
Tamworth	232.30	1:05	71.50	6:15	57.00	8:35	404	25.69	39.73	5:03
Armidale	247.70	1:10	79.20	8:15	65.00	10:45	511	32.49	50.25	6:23
Moree	..	..	85.80	9:00	na	na	625	39.74	61.46	7:49
Broken Hill[a, g]	450.00	2:30	116.00	15:35	115.00	16:40	1 158	73.63	113.88	14:29
Bourke[a]	..	..	97.90	11:15	na	na	777	49.40	76.41	9:43
Mildura[a]	..	2:35	110.00	16:15	91.00	17:50	1 021	64.92	100.40	12:46

TABLE VII.3 COMPARISON OF FULL ECONOMY ONE-WAY FARES AND TRAVEL TIMES FOR TRAVEL FROM SYDNEY TO SELECTED REGIONAL DESTINATIONS, JULY 2001 (CONTINUED)

	Air		*Rail*		*Coach*[c]		*Private car*			
Destination	*Fare ($)*	*Travel time (hrs:min)*	*Fare ($)*	*Travel time (hrs:min)*	*Fare ($)*	*Travel time (hrs:min)*	*Road distance (km)*	*Fuel cost ($/person)*	*'Avoidable' cost ($/person)*	*Travel time (hrs:min)*
Canberra	197.10	0:50	47.30	4:10	35.00	4:15	290	18.44	28.52	3:38
Gosford	..	..	12.10	1:15	27.00	1:40	71	4.51	6.98	1:11
Katoomba[e]	165.20	0:40	15.40	2:05	29.00	2:20	94	5.98	9.24	1:34

.. not applicable

na not available.

a. Includes coach from rail head.

b. Winter special coach services only, 3 June 2002 to 7 October 2002

c. Included only fares for coach operators not operating Countrylink or Transport NSW supported services

d. Casino for air

e. Bathurst for air.

f. Moruya for air.

g. Air fares at July 2002.

Note All travel times rounded to nearest 5 minutes.

Sources McCafferty's (pers. comm. 2002), State Rail Authority of NSW (pers. comm. 2002), BTRE air fares database, Regional Express (16-Oct-2002, http://www.regionalexpress.com.au/), Qantas (http://www.qantas.com.au/, 17-Oct-02).

TABLE VII.4 COMPARISON OF FULL ECONOMY ONE-WAY FARES AND TRAVEL TIMES FOR TRAVEL FROM MELBOURNE TO SELECTED REGIONAL DESTINATIONS, JULY 2001

	Air		*Rail*[b]		*Coach*[c]		*Private car*			
Destination	*Fare ($)*	*Travel time (hrs:min)*	*Fare ($)*	*Travel time (hrs:min)*	*Fare ($)*	*Travel time (hrs:min)*	*Road distance (km)*	*Fuel cost ($/person)*	*'Avoidable' cost ($/person)*	*Travel time (hrs:min)*
Warracknabeal[a]	..	..	49.10	5:10	na		284	17.11	26.98	3:44
Mildura[a]	234.50	1:15	60.60	8:45	na		553	33.32	52.54	6:55
Warrnambool	..	..	38.70	3:10	na		261	15.73	24.80	3:16
Horsham[a]	..	..	46.70	4:10	41.00	4:20	299	18.02	28.41	3:44
Bendigo	..	..	23.50	2:00	na		156	9.40	14.82	1:57
Echuca[a]	..	..	30.40	2:55	na		203	12.23	19.29	2:32
Seymour	..	..	12.60	1:10	26.00	1:10	145	8.74	13.78	1:49
Wangaratta	..	..	33.10	2:30	35.00	3:05	261	15.73	24.80	3:16
Bairnsdale[a]	..	..	38.70	3:50	na		277	16.69	26.32	3:28
Moe	..	..	17.20	1:42	na		136	8.20	12.92	1:42
Geelong	..	..	9.70	1:05	13.00	na	72	4.34	6.84	1:12
Kyneton	..	..	12.60	1:10	na		81	4.88	7.70	1:21
Daylesford[a]	..	..	13.80	1:45	na		111	6.69	10.55	1:51
Ballarat	..	..	15.60	1:35	13.00	2:15	112	6.75	10.64	1:24
Ararat[a]	..	..	30.40	2:55	29.00	3:25	202	12.17	19.19	2:32
Albury/Wodonga	175.10	0:50	44.00	3:30	37.00	3:30	321	19.34	30.50	4:01
Wonthaggi	..	..	17.20	2:55	na		132	7.95	12.54	1:39

.. not applicable

na not available.

a. Includes coach travel from railhead.

b. Fares current from Jan 2002.

c. Coach fares and travel times do not include coach services operated under the V/Line banner or directly contracted to Victorian Department of Infrastructure.

Sources V/Line (pers. comm. 2002), McCafferty's (pers. comm. 2002), BTRE air fares database, Regional Express (http://www.regionalexpress.com.au/, 16-Oct-2002), Qantas (16-Oct-2002)

TABLE VII.5 COMPARISON OF FULL ECONOMY ONE-WAY FARES AND TRAVEL TIMES FOR TRAVEL FROM BRISBANE TO SELECTED REGIONAL DESTINATIONS, JULY 2001

	Air		*Rail*		*Coach*		*Private car*			
Destination	*Fare ($)*	*Travel time (hrs:min)*	*Fare ($)*	*Travel time (hrs:min)*	*Fare ($)*	*Travel time (hrs:min)*	*Road distance (km)*	*Fuel cost ($/person)*	*'Avoidable' cost ($/person)*	*Travel time (hrs:min)*
Surfers Paradise [a, b]	..	..	12.00	2:00	17.00		100	5.68	7.00	1:40
Noosa[a, c]	134.40	0:20	18.00	2:55	19.00	3:30	145	14.82	18.28	2:25
Maryborough	178.40	1:15	41.00	4:30	36.00	5:15	255	26.07	32.15	3:11
Toowoomba	na	na	22.00	3:50	19.00	2:05	128	13.08	16.14	1:36
Dalby	na	na	32.00	5:30	32.00	3:10	211	21.57	26.60	2:38
Bundaberg	226.80	0:50	47.00	5:30	53.00	7:05	375	38.33	47.27	4:41
Rockhampton	362.10	1:15	74.00	9:50	69.00	9:55	649	66.34	81.81	8:07
Mackay	406.10	1:40	109.00	17:25	115.00	16:20	993	101.51	125.18	12:25
Proserpine	417.10	1:50	114.00	19:30	130.00	18:25	1 117	114.18	140.81	13:58
Townsville	450.10	1:55	129.00	23:50	150.00	21:45	1 384	141.48	174.47	17:18
Cairns	500.70	2:20	148.00	28:25	173.00	28:30	1 733	177.15	218.47	21:40
Longreach	..	3:00	129.00	23:30	102	16:00	1 189	121.54	149.89	14:52
Emerald	408.30	1:45	107.00	14:50	111	12:30	919	93.94	115.85	11:29
Charleville	..	2:05	71.00	16:30	64	11:20	760	77.69	95.81	9:30
Mt Isa	493.00	2:40	216.00	28:40	253	4:15	1 811	185.12	228.30	22:38

.. not applicable.

na not available.

a. Includes bus from railhead.

b. Surfers Paradise

c. Noosaville for rail, Maroochydore for air

Sources Queensland Railways (pers. comm. 2002), McCafferty's (pers. comm. 2002), BTRE air fares database, Sunshine Express Airlines (http://www.sunshineexpress.com.au/, 17-Oct-02), Qantas (http://www.qantas.com.au/, 17-Oct-02).

TABLE VII.6 COMPARISON OF FULL ECONOMY ONE-WAY FARES AND TRAVEL TIMES FOR TRAVEL FROM ADELAIDE TO SELECTED REGIONAL DESTINATIONS, JULY 2001

Destination	*Air*		*Rail*		*Coach*		*Private car*			
	Fare ($)	*Travel time (hrs:min)*	*Fare ($)*	*Travel time (hrs:min)*	*Fare ($)*	*Travel time (hrs:min)*	*Road distance (km)*	*Fuel cost ($/person)*	*'Avoidable' cost ($/person)*	*Travel time (hrs:min)*
Mt Gambier	196.00	1:00	..	..	48.30	6:15	459	29.73	45.68	5:44
Bordertown	..	..	na	3:31	36.10	3:25	274	17.75	27.27	3:26
Murray Bridge	..	..	na	1:36	14.00	1:00	81	5.25	8.06	1:01
Victor Harbour	..	..	..	..	14.40	1:40	83	5.38	8.26	1:02
Tanunda	..	..	..	..	11.90	1:30	70	4.53	6.97	0:53
Renmark	..	..	..	..	34.70	4:00	253	16.39	25.18	3:10
Burra	..	..	..	..	19.30	2:50	157	10.17	15.62	1:58
Port Pirie	..	..	..	..	28.50	3:00	231	14.96	22.99	2:53
Port Augusta	146.00	1:00	..	4:20	35.80	4:10	311	20.14	30.95	3:53
Woomera / Olympic Dam[b]	274.10	1:30	..	..	62.00	7:20	490	31.74	48.77	6:08
Whyalla	156.40	0:45	..	..	40.80	6:00	388	25.13	38.61	4:51
Ceduna	286.10	1:35	..	..	83.70	11:25	783	50.71	77.93	9:47
Port Lincoln	141.00	1:30	..	..	71.60	9:45	664	43.00	66.08	8:18
Yorketown	..	..	..	..	29.80	4:15	228	14.77	22.69	2:51
Kingscote [a, c]	82.70	0:30	..	..	59.00	4:15	196	68.81	75.62	2:27
Mildura	189.30	1:20	..	..	44.00	7:15	394	25.52	39.21	4:56
Broken Hill	244.30	1:10	59:00	6:15	53.00	7:10	515	33.35	51.25	6:26

.. not applicable.

na not available.

a. Includes travel from Adelaide to Cape Jervis by coach and travel from Penneshaw to Kingscote by coach.

b. Woomera for coach and Olympic Dam for air services.

c. Private vehicle cost to Kingscote includes ferry cost of $69 per vehicle plus adult ferry fare $32

Sources PTB SA (2001 and pers. comm. 2002), McCafferty's (pers. comm. 2002), BTRE air fares database.

TABLE VII.7 COMPARISON OF FULL ECONOMY ONE-WAY FARES AND TRAVEL TIMES FOR TRAVEL FROM PERTH TO SELECTED REGIONAL DESTINATIONS, JULY 2001

	Air		*Rail*[a, c]		*Coach*		*Private car*			
Destination	*Fare ($)*	*Travel time (hrs:min)*	*Fare ($)*	*Travel time (hrs:min)*	*Fare ($)*	*Travel time (hrs:min)*	*Road distance (km)*	*Fuel cost ($/person)*	*'Avoidable' cost ($/person)*	*Travel time (hrs:min)*
Esperance	222.40	1:30	59.05	10:00	..	..	721	45.31	70.37	9:01
Kalgoorlie	251.00	1:30	55.35	7:45	78.00	6:50	596	37.46	58.17	7:27
Geraldton	170.70	1:05	41.25	6:00	37.00	5:30	424	26.65	41.38	5:18
Meekatharra[b, d]	386.30	1:50	75.55	23:20	134.00	10:40	763	47.95	74.47	9:32
Carnarvon	313.70	2:05	..	..	105.00	11:30	904	56.81	88.23	11:18
Kununurra	732.82	4:30	..	..	na	48:35	3 727	234.23	363.76	46.35
Port Hedland	468.80	2:15	..	..	190.00	26:10	1 638	102.94	159.87	20:29
Broome	607.40	2:40	..	..	260.00	34:15	2 229	140.08	217.55	27:52
Mandurah	..	..	8.75	1:20	13.80	1:10	74	4.65	7.22	1:14
Bunbury	..	..	20.20	2:15	20.20	2:35	176	11.06	17.18	2:12
Albany	163.00	1:05	39.40	6:05	na	na	409	25.70	39.92	5:07
Northam	..	..	10.60	1:40	26.00	1:20	80	5.03	7.81	1:20
Merredin	..	..	16.10	3:20	42.00	3:00	260	16.34	25.38	3:15

.. not applicable.

na not available.

a. Includes coach travel from railhead.

b. WAGR service to Meekatharra via Geraldton.

c. Rail services include road coach services operated by Western Australian Government Railways Commission.

d. Newman for air.

Sources Western Australian Government Railways Commission (pers. comm. 2002), Western Australian Department of Transport (pers. comm. 2002), McCafferty's (pers. comm. 2002), BTRE air fares database, Skywest Airlines (http://www.skywest.com.au, 17-Oct-02), Qantas (http://www.qantas.com.au/, 17-Oct-02).

TABLE VII.8 COMPARISON OF FULL ECONOMY ONE WAY FARES AND TRAVEL TIMES FOR TRAVEL FROM HOBART TO SELECTED REGIONAL DESTINATIONS, JULY 2001[a]

	Air		*Coach*		*Private car*			
Destination	*Fare ($)*	*Travel time (hrs:min)*	*Fare ($)*	*Travel time (hrs:min)*	*Road distance (km)*	*Fuel cost ($/person)*	*'Avoidable' cost ($/person)*	*Travel time (hrs:min)*
Swansea	..	..	19.70	2:50	139	9.55	14.38	1:46
St Helens	..	..	35.20	4:10	265	18.20	27.41	3:19
Flinders Island (from Launceston)	134.90	0:35	..	..	..	..	..	..
Launceston	..	..	23.40	2:25	209	14.35	21.62	2:37
Devonport	..	..	39.80	4:45	334	22.94	34.55	4:11
Burnie (Wynyard)	165.00	1:00	45.40	5:45	384	26.37	39.72	4:48
Smithton	..	..	52.60	7:15	472	32.42	48.82	5:54
King Island	330.00	2:20	..	..	..	..	..	..
Strahan	..	..	51.70	5:10	290	19.92	30.00	3:38

.. not applicable.

a. All air and coach fares as at July 2002.

Sources BTRE air fares database, Tasair (http://www.tasair.com.au/, 2 August 2002), Tigerline Travel (pers. comm. 2002), Redline Coaches (pers. comm. 2002).

TABLE VII.9 COMPARISON OF FULL ECONOMY ONE WAY FARES AND TRAVEL TIMES FOR TRAVEL FROM DARWIN TO SELECTED REGIONAL DESTINATIONS, JULY 2001

Destination	*Air*		*Coach*		*Private car*			
	Fare ($)	*Travel time (hrs:min)*	*Fare ($)*	*Travel time (hrs:min)*	*Road distance (km)*	*Fuel cost ($/person)*	*'Avoidable' cost ($/person)*	*Travel time (hrs:min)*
Jabiru	..	..	34	3:35	262	18.57	29.92	3:17
Gove	290.60	1:30	..	..	..	..	..	..
Katherine[a]	175.00	0:50	48	4:35	329	23.32	37.57	4:07
Tennant Creek[a]	399.00	2:30	124	13:55	1 007	71.39	115.01	12:35
Uluru	..	..	169	29:00	1 962	139.10	224.07	24:32
Alice Springs	439.00	4:00	175	20:50	1 514	107.34	172.91	18:56
Ti Tree	..	..	175	18:35	1 321	93.65	150.87	16:31
Timber Creek	..	..	94	7:50	283	20.06	32.32	3:32
Broome	445.70	4:45	230	24:00	1 844	130.73	210.60	23:03

.. not applicable.

a. Air fares as at July 2002.

Sources McCafferty's (pers. comm. 2002), Airnorth, (http://www.airnorth.com.au/, 2 August 2002), BTRE airfares database.

GLOSSARY

Aircraft movement	Aircraft take-off or landing.
Australian Standard Geographic Classification (ASGC)	A hierarchical geographic statistical classification system. The ASGC comprises six inter-related classification structures (ABS 1996). The principal ASGC structures used within this publication are **State and Territory** (S/T) and **Statistical Local Areas** (SLA).
Day trip	Travel for a round-trip distance of at least 50 kilometres where the respondent is away from home for at least four (4) hours. Day trips do not involve a night away from home. Day trips as part of overnight travel are excluded, as are routine trips such as commuting between work/school and home. The National Visitor Survey (NVS) asks respondents about all day trips returned from in the last seven (7) days (BTR 2001).
Domestic airlines	Those airlines performing **regular public transport services** and whose fleets contain high capacity aircraft, currently defined as aircraft with more than 38 seats or a payload of more than 4 200 kilograms (DOTARS 2001).
Express coach services	Includes all non-urban long-distance passengers coach services operated to a scheduled timetable.
Forecast	To calculate or predict (some future event or condition) usually as a result of study and analysis of available pertinent data. To indicate as likely to occur. (Merriam Webster Inc., 2000).
Great circle distance (GCD)	The shortest distance between any two points on the globe, measured over the Earth's surface.
Inter-regional passenger	In this study, inter-regional passenger travel is

travel	generally used to refer to trips between separate **tourism regions**.
Intra-regional passenger travel	In this study, intra-regional passenger travel is travel to and from an origin and destination within a single **tourism region**.
Journey	In this report, the term journey refers to travel from one place to another. A journey is a single leg of a **trip**. Assuming all resident domestic trips terminate at the initial point of departure, one **trip** will include two or more journeys. (The *WordNet* database (2001) defines journey as 'the act of travelling from one place to another'.)
Locality	A population cluster of between 200 and 999 people (ABS 1998).
Main destination	The main destination region is defined as the region in which the traveller spent the most nights away.
Metropolitan area	The convention adopted in this report is that all capital city **Statistical Divisions** and other **Statistical Local Areas** that contain whole or part or an **urban centre** with 100 000 persons or more are classed as metropolitan areas. Except where noted, metropolitan areas includes all State and Territory capital cities and Newcastle, Central Coast (NSW), Wollongong, Geelong, Gold Coast–Tweed Heads and Townsville. All other areas are, by corollary, **non-metropolitan** (Garnaut et al. 2001).
Non-metropolitan area	All areas not part of an **urban centre** with 100 000 persons or more (Garnaut et al. 2001). (See **metropolitan area**).
Non-urban passenger travel	All travel outside **metropolitan areas**, including trips between metropolitan centres and inter-capital trips.
Overnight trip	Travel involving a stay away from home for at least one night, at a place at least 40 kilometres from home, which is less than 12 months in duration. The National Visitor Survey (NVS) asks respondents about **trips** returned from in the last

	four (4) weeks (BTR 2001).
Projection	An estimate of future possibilities based on a current trend (Merriam Webster Inc., 2000).
Regional airlines	Those airlines performing **regular public transport services** and whose fleets contain exclusively low capacity aircraft, currently defined as aircraft with 38 seats or less or with a payload of 4,200 kilograms or less (DOTARS 2001).
Regional area	In this study, a 'regional area' is generally used to refer to any non-metropolitan geographic area in Australia.
Regional passenger travel	Refers to any passenger travel to and / or from a non-metropolitan area, including travel between non-metropolitan areas to **metropolitan areas** as well as services linking non-metropolitan areas with other non-metropolitan areas.
Regional public transport	This report has defined regional public transport services as all public transport services to and / or from a non-metropolitan region. This definition includes services linking non-metropolitan areas to **metropolitan areas** as well as services linking non-metropolitan areas with other non-metropolitan areas.
Regular public transport services (RPT)	All transport services operated for the transport of members of the public, for hire or reward and which are conducted in accordance with fixed schedules to and from fixed terminals, over specific routes, with or without intermediate stopping places between terminals. Charter or other non-scheduled passenger transport operations are excluded. (Based on definition of RPT air services in DOTARS (2001).)
State and Territory (S/T)	State and Territories are the largest spatial unit in the **Australian Standard Geographic Classification** (ASGC) main structure. Six states and five territories are recognised in the ASGC structure: New South Wales, Victoria, Queensland, South Australia, Western Australia, Tasmania, Northern Territory, Australian Capital Territory, Jervis Bay Territory, and the external territories of

	Christmas Island and Cocos (Keeling) Islands (ABS 1996).
Statistical Division (SD)	A general purpose spatial unit, in **the Australian Standard Geographic Classification** (ASGC), and largest and most stable spatial unit within each **State and Territory** (S/T). SDs consist of one or more **Statistical Subdivisions** (SSD) and aggregate to form S/Ts (ABS 1996).
Statistical Local Area (SLA)	A general-purpose spatial unit in the **Australian Standard Geographic Classification** (ASGC). It is the base spatial unit used to collect and disseminate statistics other than those collected from the Population Censuses. SLAs aggregate to form the larger spatial units **Statistical Subdivisions** (SSD) in the ASGC main structure (ABS 1996).
Statistical Subdivision (SSD)	A general purpose spatial unit in the **Australian Standard Geographic Classification** (ASGC) of intermediate size between the **Statistical Local Areas** (SLA) and **Statistical Divisions** (SD). SSDs consist of one or more SLAs and aggregate to form SDs (ABS 1996).
Stop	See **visit**.
Stopover	See **visit**.
Stop–stop	**Stop–stop** travel data supplied by the Bureau of Tourism Research records the total number of travellers between origin–destination pairs for each **visit**.
Tourism region	Tourism regions are a spatial unit used for the reporting of the visitor data collected by the National Visitor Survey (NVS) and International Visitor Survey (IVS). The tourism regions are formed from the aggregation of **Statistical Local Areas** (SLA), and cover the whole of Australia, excluding the external territories. Tourism regions are defined by the various State and Territory tourism authorities according to their research and marketing needs. The tourism region boundaries have changed over time. The tourism regions used in this study, outlined in more detail in appendix

V, relate to the 1998, 1999 and 2000 NVS and IVS collections (BTR 2002).

Traffic-on-board by stage All traffic carried on each flight stage arriving at or departing from an airport.

Trip In this report, a trip is defined as travel from one region to another region *and return*. The trip is the basic collection unit used in the National Visitor Survey (NVS) to obtain information about travel undertaken by Australians (BTR 2001). (The *WordNet* database (2001) defines a trip as 'a journey for some purpose (usually including the return)'.) A single trip will involve two or more separate **journeys**. See also **visit**.

Trunk airports Airports located in all State capitals, Coolangatta, Cairns, Townsville and Alice Springs.

Trunk routes An air route between two or more **trunk airports.**

Uplift-discharge traffic Air (passenger) traffic originating and terminating at an airport, and transit passenger movements where a change of flight number has occurred.

Urban centre A population cluster of 1 000 or more people (ABS 1998).

Visit In the National Visitor Survey (NVS) and International Visitor Survey (IVS), a traveller is said to have made a visit to a location if they stay one or more nights in the location (BTR 2001). For every **trip** the NVS and IVS record details of each visit. Visits are also referred to as a **stopover**, and a journey between separate visit locations may also be referred to as **stop–stop travel**.

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ABS	Australian Bureau of Statistics
AN	Australian National Railways Commission
ATO	Australian Taxation Office
ATS	Air Transport Statistics
AUSLIG	Australian Land and Information Group
BRS	Bureau of Rural Sciences
BTE	Bureau of Transport and Economics (forerunner to BTRE)
BTR	Bureau of Tourism Research
BTRE	Bureau of Transport and Regional Economics
BTS	Bureau of Transportation Statistics (U.S.)
DOTARS	Department of Transport and Regional Services
IVS	International Visitor Survey
NRMA	National Roads and Motorists' Association
NVS	National Visitor Survey
PC	Productivity Commission
PTB	Passenger Transport Board (SA)
QR	Queensland Railways
STA	State Transport Authority
TDC	Transport Data Centre (Transport NSW)
WAGR	Western Australian Government Railways Commission

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ABBREVIATIONS

..	not applicable
AAA	Australian Automobile Association
ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AN	Australian National Railways Commission
APEX	Advance Purchase Excursion
ARIA	Accessibility / Remoteness Index of Australia
ASA	Air Services Australia
ASGC	Australian Standard Geographic Classification
ATC (NSW)	Air Transport Council (NSW)
ATC	Australian Transport Council
ATS	Air Transport Statistics
BSPVES	Bass Strait Passenger Vehicle Equalisation Scheme
BTE	Bureau of Transport Economics (forerunner to BTRE)
BTR	Bureau of Tourism Research
BTRE	Bureau of Transport and Regional Economics (formerly BTE)
BTS	Bureau of Transportation Statistics (U.S.)
CPI	Consumer Price Index
CSO	Community Service Obligation
DHSH	Department of Human Services and Health
DOI	Victorian Department of Infrastructure
DOTARS	Department of Transport and Regional Services
DPIE	Department of Primary Industries and Energy
DTM	Domestic Tourism Monitor
GCD	Great circle distance
GIS	Geographic Information System
GSR	Great Southern Railway
IVS	International Visitor Survey
km	kilometres
MAF	Missionary Aviation Fellowship
na	not available
NRMA	National Roads and Motorists' Association
NSW	New South Wales
NT	Northern Territory
NVS	National Visitor Survey
O–D	Origin–destination

pkm	passenger-kilometre
PTB	Passenger Transport Board (SA)
Qld	Queensland
QR	Queensland Railways
RAAA	Regional Aviation Association of Australia
RASS	Remote Air Service Subsidy scheme
RPT	Regular Passenger Transport
RRMA	Rural, Remote and Metropolitan Areas
SA	South Australia
SD	Statistical Division
SLA	Statistical Local Area
SMVU	Survey of Motor Vehicle Use
SSD	Statistical Subdivision
S/T	State/Territory
StateRail	State Rail Authority of NSW
UC/L	Urban centre or locality
U.S.	United States
TDC	Transport Date Centre (Transport NSW)
VFR	Visiting friends and relatives
Vic	Victoria
WA	Western Australia
WAGR	Western Australian Government Railways Commissions
WCR	West Coast Railways