



# **ORDINARY MEETING OF COUNCIL**

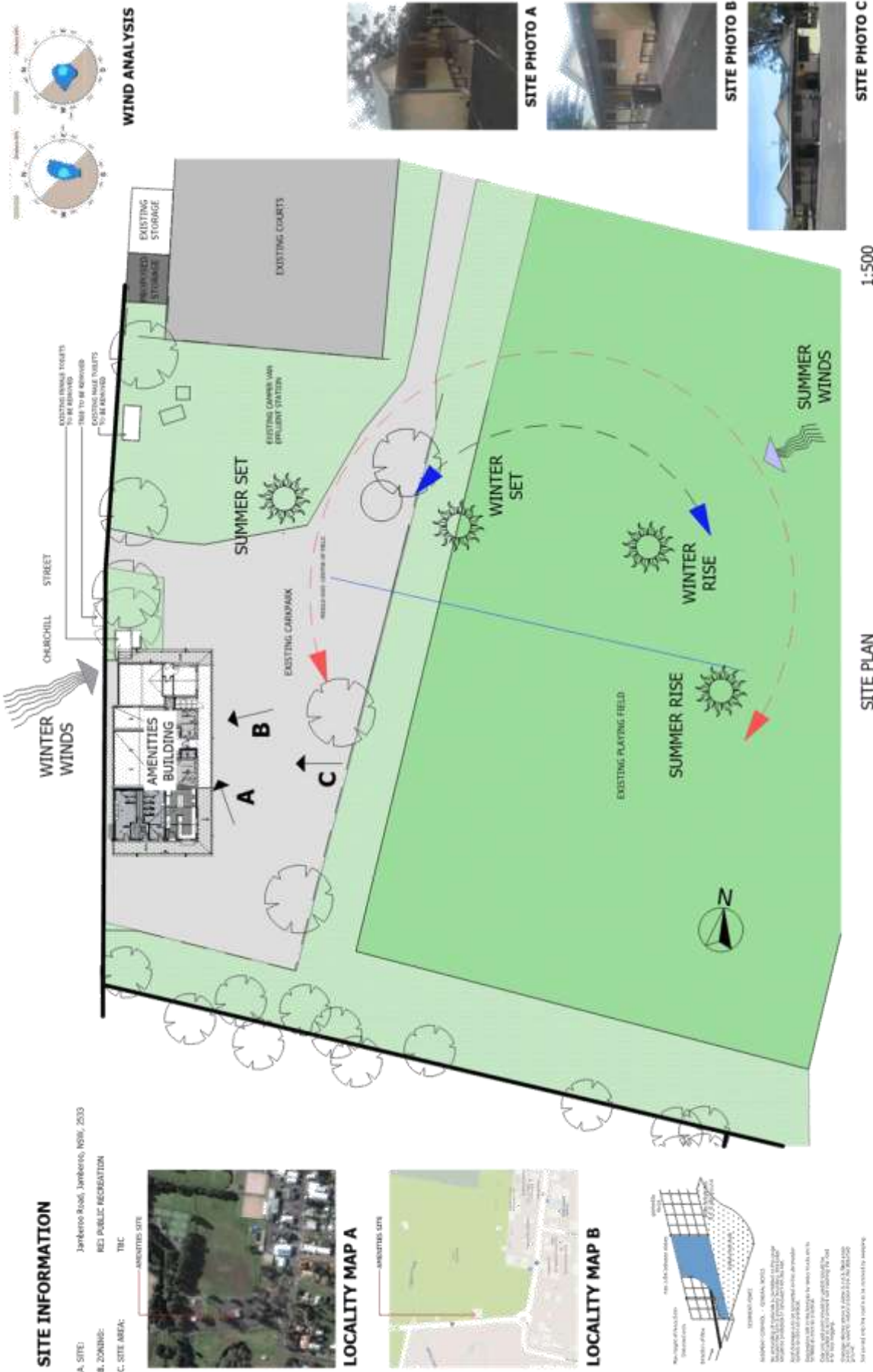
## **ENCLOSURES**

Tuesday 20 October 2015

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**SITE INFORMATION**

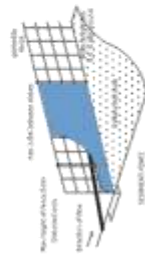
- A. SITE: Jamberoo Road, Jamberoo NSW, 2533
- B. ZONING: RES PUBLIC RECREATION
- C. SITE AREA: 1.83 HA



**LOCALITY MAP A**



**LOCALITY MAP B**



NOTES:  
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**WIND ANALYSIS**

**SITE PHOTO A**

**SITE PHOTO B**

**SITE PHOTO C**

**1:500**

**SITE PLAN**

**847 ARCHITECTS**

**ARCHITECTS**

**AMENITIES BUILDING**

**SITE:** Kevin Walsh Oval

**ADDRESS:** Jamberoo NSW 2533

**CLIENT:** Jamberoo Municipal Council

**DATE:** 2014

**SCALE:** 1:500

**PROJECT NO:** A.0501

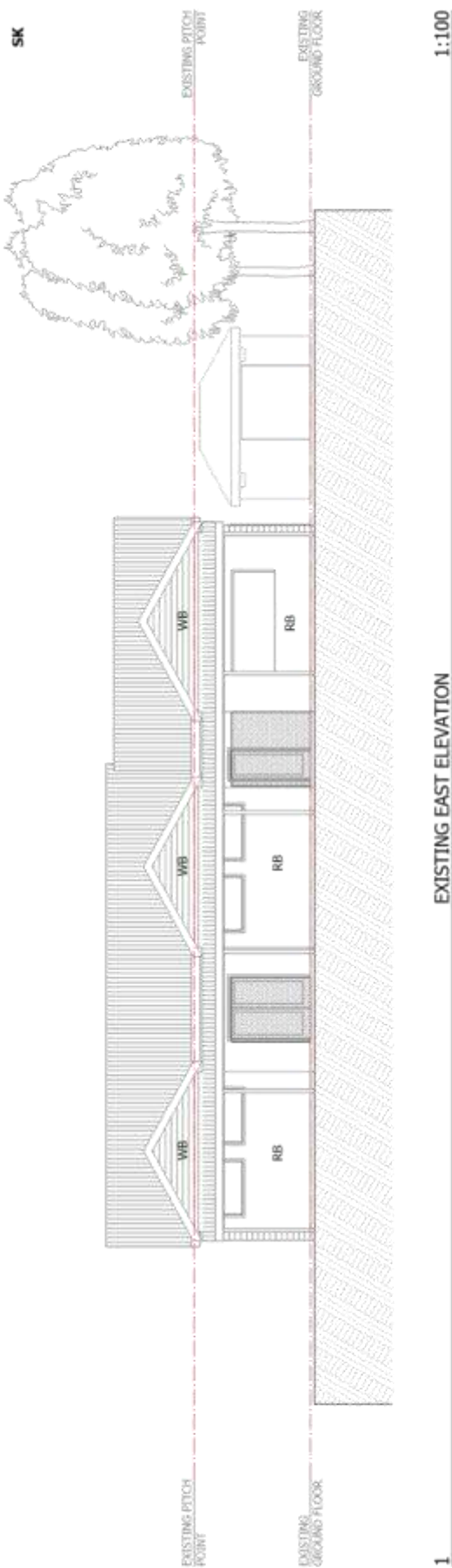
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**PROJECT NO:** A.0501

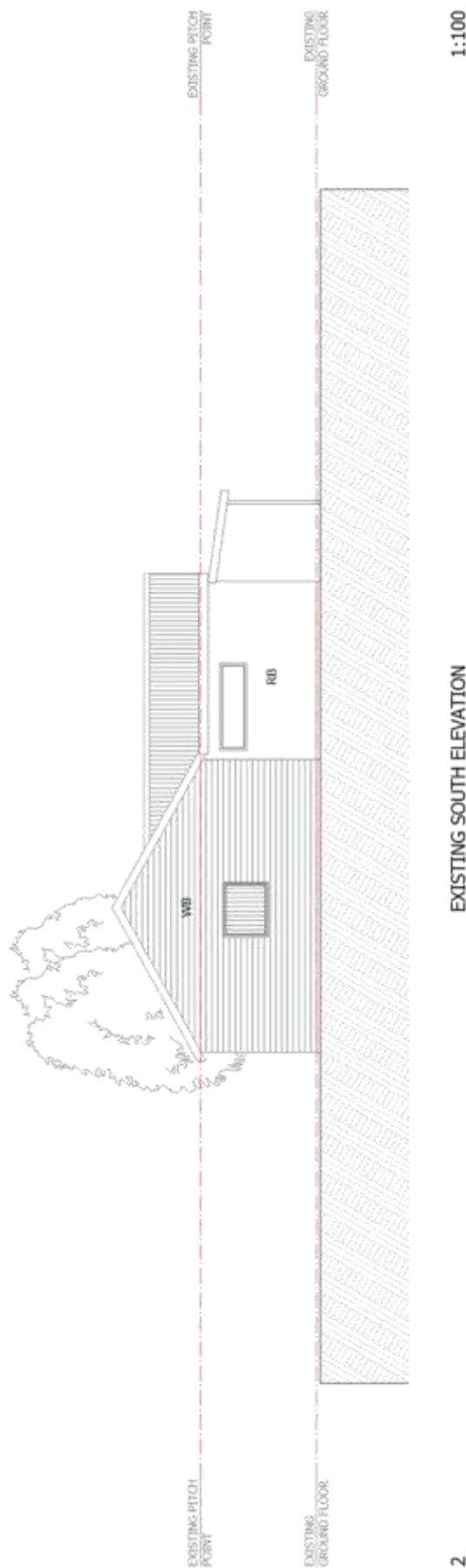
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1 EXISTING EAST ELEVATION 1:100



2 EXISTING SOUTH ELEVATION 1:100

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No. 1481 | Jamberoo  
 A CONCEPT DESIGN FOR THE AMENITIES BUILDING AT KEVIN WALSH OVAL, JAMBEROO.

No. 1481 | Jamberoo  
 Amenities Building  
 Kevin Walsh Oval  
 Jamberoo, NSW, 2533  
 Kama Municipal Council

bhi  
 b h i  
 ARCHITECTS  
 8/11 ROBERTSON  
 WOLLONGONG  
 N.S.W. 2520  
 PH: 02 4221 2171  
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PROJECT NO. 8431  
 A.D.6602  
 A









1 PROPOSED ROOF 1:100

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 S T R E E T  
 W A L L E R O O P A  
 K. W. & J. A.  
 2400 WOODMANN  
 W A L L E R O O P  
 VIC 3207 031  
 PH 03 5442 0217  
 8431 A.2101 A

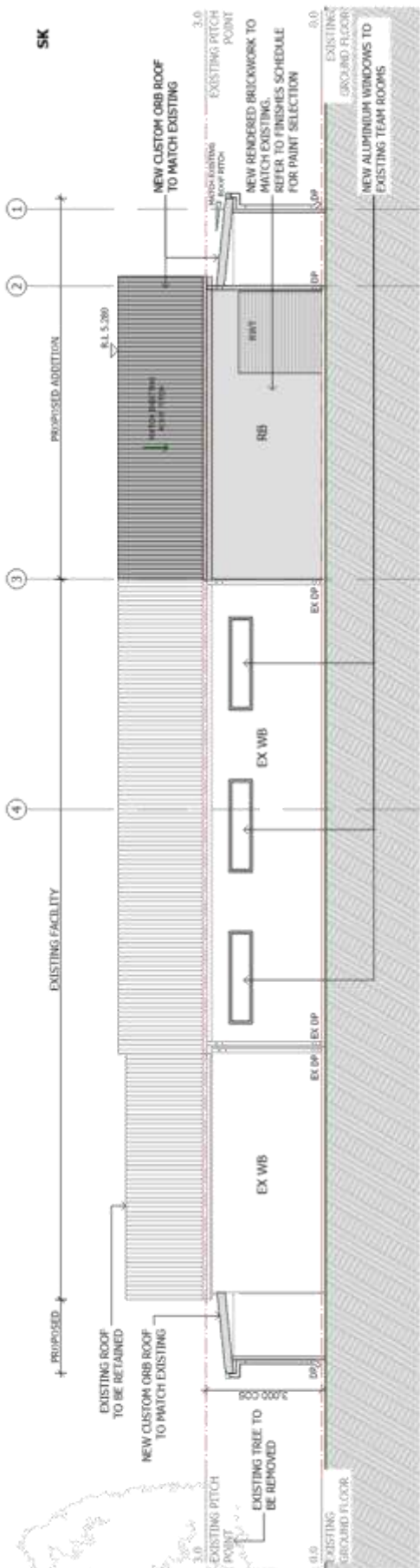
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 Jamberoo, NSW, 2533  
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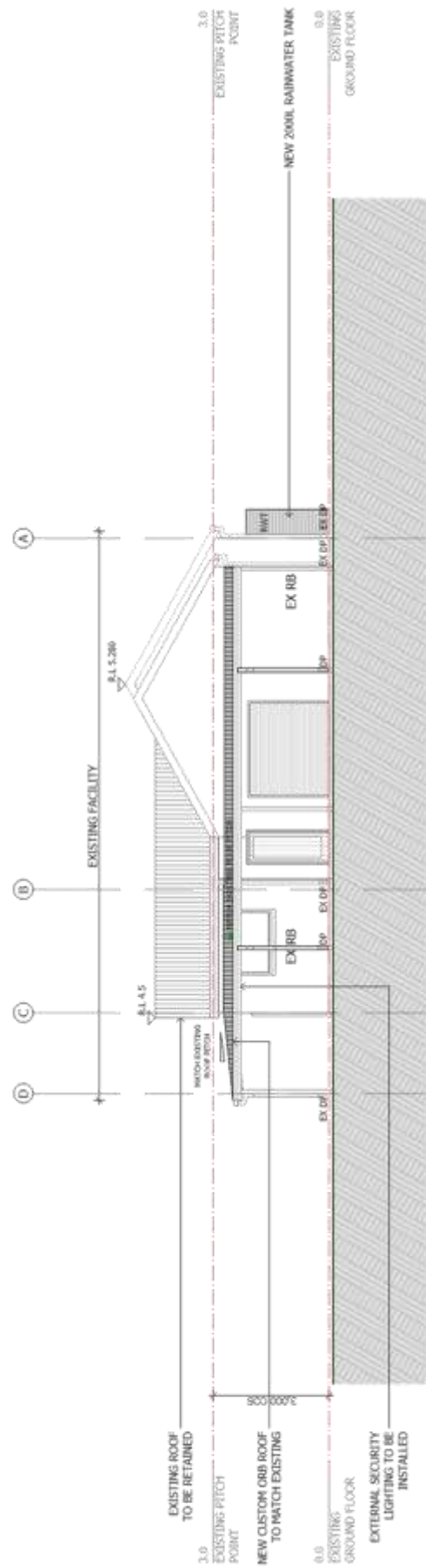
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WEST ELEVATION 1:100



NORTH ELEVATION 1:100

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PROJECT  
 Amenities Building  
 SITE  
 Kevin Walsh Oval  
 Jamberoo NSW 2533  
 CLIENT  
 Jamberoo Municipal Council

DRAWING NO.  
 A.3002  
 DATE  
 11/01/2015







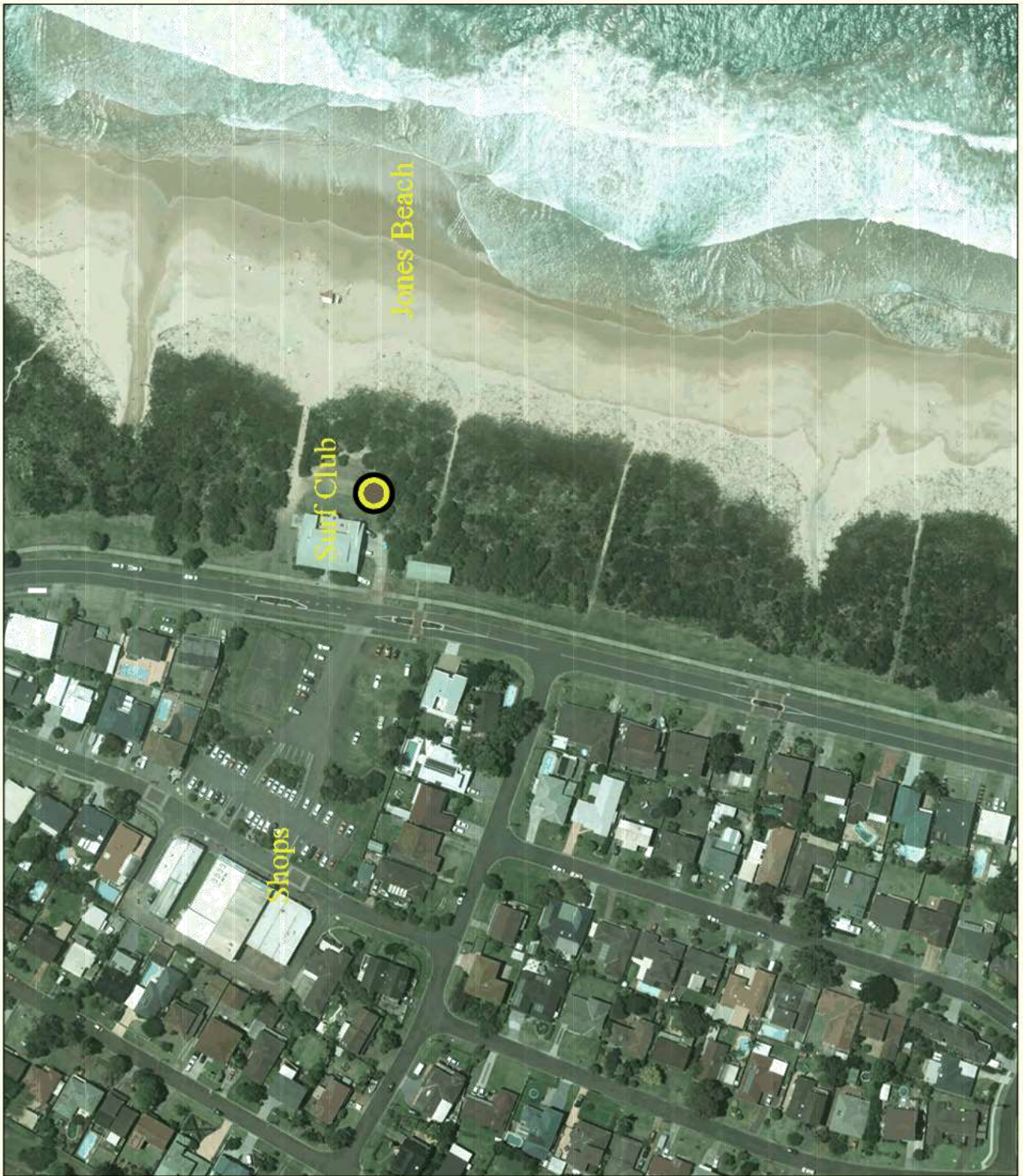




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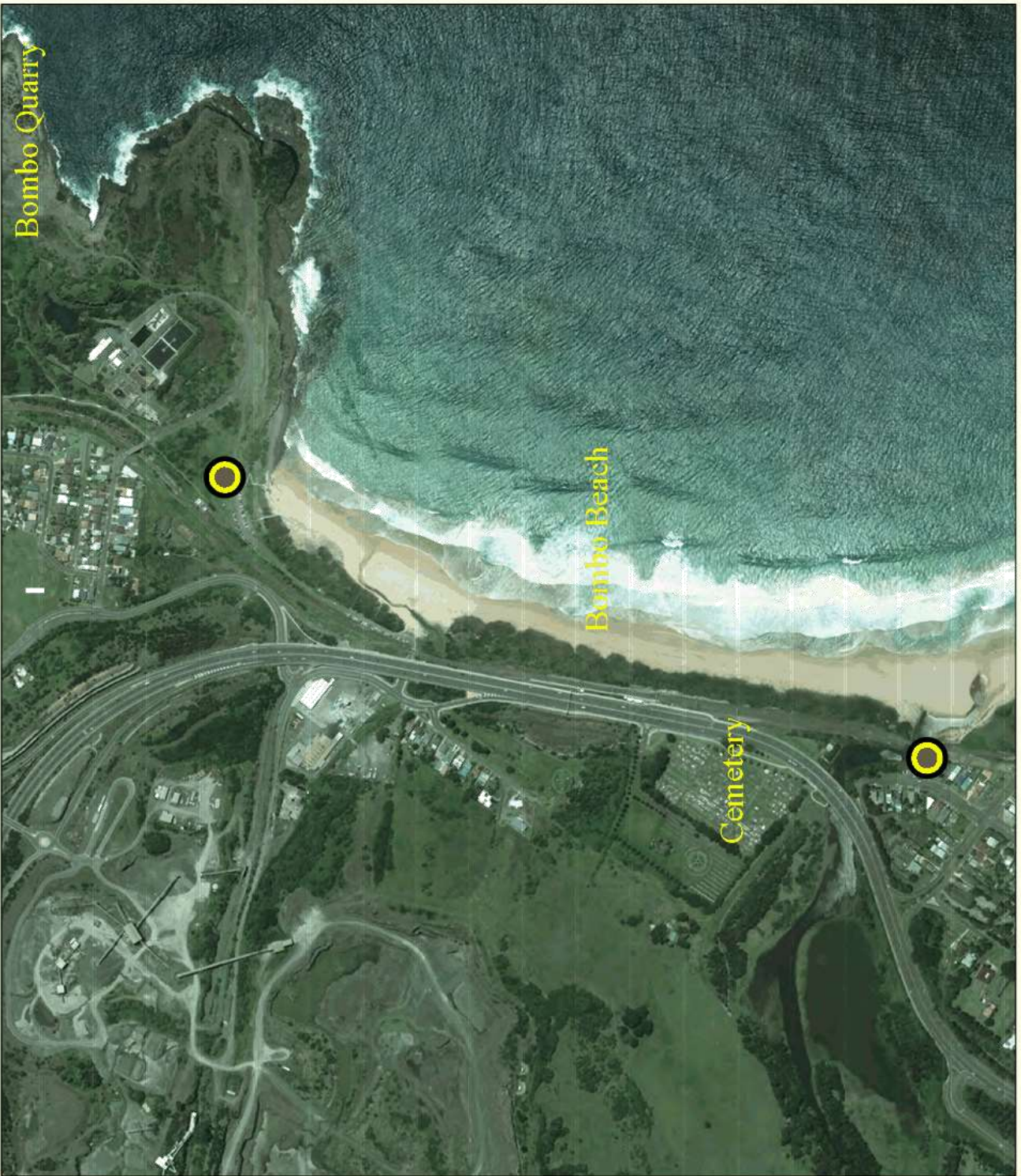
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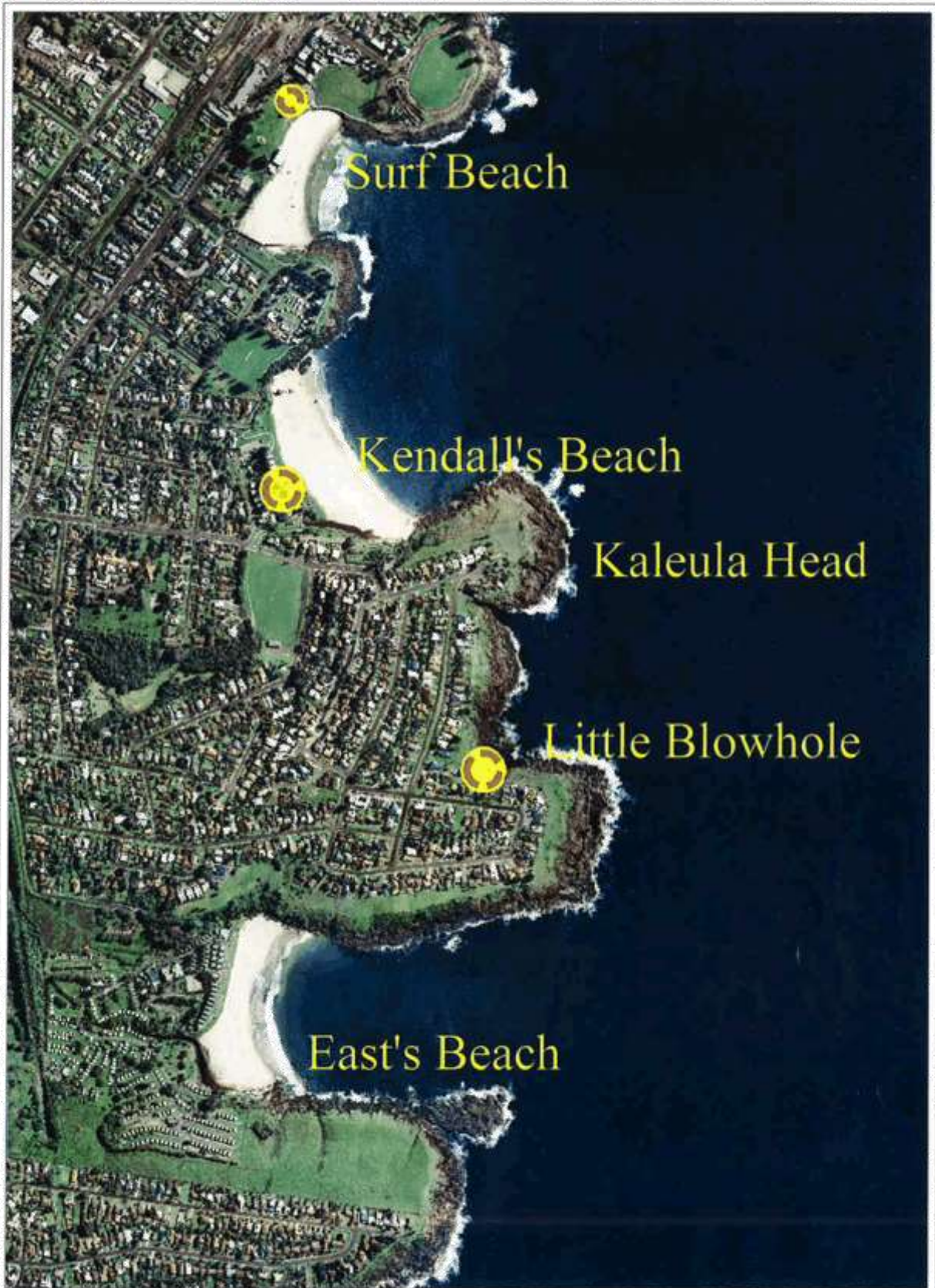




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## **MINUTES OF THE SOUTH PRECINCT Meeting**

***held on Thursday 17 September 2015 at Gerringong Town Hall***

Meeting Opened at 7.30pm

**Attendance:** 35 present with Darrell Clingan in the Chair.

Melissa Andrews and - Project Officer for the Dementia Friendly Kiama Project and Dennis Frost, Chair of the Dementia Advisory Group were welcomed to the meeting

**Apologies:** Wayne Wells, Debra Moore

**Dementia Awareness Month.** Graham Fairbairn, the Precinct representative to the Dementia Alliance introduced Melissa Andrews and Dennis Frost. They addressed the meeting with a presentation outlining the Dementia Friendly Kiama Project and answering questions. Melissa may be contacted via Kiama Council. A website set up by the University of Wollongong: dementiaillawarra.com has helpful information

***Minutes of the Annual General Meeting and ordinary meeting of 20 August 2015 were taken as read and confirmed. Moved Cecily Hewett/Irene Clingan Carried***

***Business arising - nil***

***Correspondence- In***

- DA re 98 Fern St
- Gerringong RFS – Thanks for contribution of mulch via Council
- Council - \$500 for Precinct expenses

***Correspondence Out***

- To Council re 98 Fern St asking that Owners consent not be given until conditions of lease are clarified.

***Council Papers***

- Gerringong Night Markets – request from Ms Jackson. Council staff recommended that consent not be given
- 98 Fern St – a lengthy debate occurred in Council on Tuesday night last. Motion passed that consent be given for lodgement of the DA.
- Willawa Ave land – Council has voted unanimously to suspend the proposal to sell the land.

***DAs - no new applications***

***Reports***

**Traffic Committee - no report**

**Neighbourhood Watch – Bill Popple.** Level of crime low.

It was reported that the speed limit on the road south of Gerroa is to be lowered to 80 kph up to 200m north of Beach Rd from 29 September

**General Business**

- **Flooding of Fern St.** Charlotte Poole has written to Gareth Ward re flooding on Fern St near the entrance to the Mercure Hotel during the recent heavy rain  
Motion: that we ask Brian Whittaker, Director of Engineering and Work to come and meet with the Precinct Executive to look at the drainage in the area to resolve the flooding problems. Moved Charlotte Poole/Warren Holder Carried.

- **Willowvale Rd.** Martin Stones reported that DA10.2015.210.1 proposes use of a property for weddings. A major concern is that it is a one lane road and will mean traffic and noise issues. The residents of Willowvale Rd have requested South Precinct to support their concerns in reference to noise and traffic issues and the general amenity of the area in relation to DA 210/2015  
*Motion* That we support the residents of Willowvale Rd in protecting the amenity of the area and express our concerns that DA 210/2015 will have detrimental impacts on this area Moved Martin Stones/Moira Etheridge. carried unanimously

- **98 Fern St.** Howard Jones explained to the meeting the proposed details of the DA and in particular the use of lot 52 which is owned by the Council and leased to the Noble family. Council has agreed that the Noble family can go ahead and submit the DA as long as it conforms to the lease.

It was agreed that we form a subcommittee to devise a strategy to bring this matter to the attention of the wider community seeking its support to put pressure on the Council to act in the best interests of the community. Bill Goldthorp, Jenny Gardner, Warren Holder and Kelly Leech were suggested as members of the subcommittee.

Margaret Sharpe stated that the Historical Society’s website has some helpful information in relation to this land.

Public Access. Alma Macpherson – suggested that the Public Access to Council is an important means of bringing our concerns to Council

Howard Jones brought a suggestion from Debra Moore that the Council negotiate with the Nobles to negate the lease.

**Next Meeting:** 15 October 2015 at Gerringong Town Hall 7.30pm  
**Meeting closed at** 9.25pm

**Darrell Clingan** Chairperson.....

**Graham Fairbairn** Secretary .....

**Minutes of the Kiama Cultural Board Committee meeting held on Thursday 1 October 2015 in Council Committee Room 1 at 5.30pm**

---

**Present:** Mark Wilmott, Louise Croker (Community and Cultural Development Officer), Cr Neil Reilly, Chrissie Paice, Catherine Carr, Cr Mark Way, Tamara Campbell, Clare Rogers (Director Community Services)

**Apologies:** Paula Gowans, Gregor Cullen, Judy White, Ross Eggleton,

**Previous Minutes**

Accepted

Moved : Chrissie Paice

Seconded : Cr Neil Reilly

**Business Arising**

Nil

**Kiama Arts Centre**

A report on the Arts Centre went to the September Council meeting, the resolution from the meeting was that we progress both the Joyce Wheatley Community Centre and Old Fire Station sites and pursue State Government regarding relocation of Ambulance Station.

We have \$40k in the budget this financial year to have architect plans drawn up for both sites. The Old Fire Stations to be drawn up with stages to cover the Ambulance site.

Joyce Wheatley Community Centre will now need to include a set of external public toilets, also incorporating an adult change table. Staff at the centre are due to move in October 2018.

Community and Cultural Development Officer to develop an architectural brief to take to the Art Centre subcommittee, with help from the Cultural Board.

Community and Cultural Development Officer to organise working meeting/s of the Cultural Board to discuss development EOI prior meeting with Art Centre Sub Committee.

**Community and Cultural Development Officer Report**

**1. Kiama Cultural Network - Kiama Independent Artists Coop**

Community and Cultural Development Officer has met with Stephen Nall regarding the use of Weston Printery as a pop up arts pace and the development of a Kiama Independent Artists Co-op. The KIAC would have a fee membership based on application and include professional artists only.

**2. Cross Regional Arts - Online Artist Directory**

The development of a joint online artist directory has been discussed with Shellharbour Council. Shellharbour Council has submitted for a CASP grant to partially fund the project.

3. *Cultural Grants*

Finalised Dynamic Earth budget was reviewed by the Board application. The Cultural Board recommend the revised application budget for final approval by Council

Moved: Cr Neil Reilly                      Seconded: Cr Mark Way

4. *Daisy the Cow*

Daisy's repairs are underway, hoping to have her back by Wednesday 7 October.

5. *Exhibitions - Art @ the Library*

Art @ the Library is moving ahead with the Warri Beach Land Art exhibit held in Sept, the EOI and guidelines are currently being finalised and will be promoted once complete.

The space will be free for professional artists only, from March to November each year.

The Cultural Board has advised against the proposal to take a 20% commission. While commissions may be workable with visual artists the process does not translate well across to authors, musicians and performers who may wish book the space.

6. *Public Art*

Flugelman Sculpture

The Flugelman sculpture community consultation has closed with 63 responses being received. Results have shown no conclusive preferred site. Expert advice received from Greer Taylor, recommended the Blowhole Point entrance, Storm Bay and an additional site at Surf Beach as preferred options.

The Board recommends another round of consultations based on the three options preferred by Greer Taylor.

Public Art Policy

The draft public art policy has been taken to MANNEX with particular regard to the 1% levy. The Community and Cultural Development Officer to further investigate how this levy may be applied.

7. *Lloyd Rees Student Paintings*

Kiama Library has been approached by the Lloyd Rees group to temporarily hang the six student paintings within the Library. The Community and Cultural Development Officer is liaising with the Library Manager regarding the matter.

**General Business**

**Kiama Kabaret**

The next Kiama Kabaret show will be held on Saturday 10 October at the Joyce Wheatley Centre, \$25pp

**Meeting Closed: 7.15pm**

**Next Meeting:**        Thurs 19 November, 5.30pm  
                                  Thursday 5 November, 10.00am to 1.00pm

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**MINUTES OF THE KIAMA LIQUOR ACCORD ANNUAL GENERAL MEETING HELD AT THE GERROA BOAT FISHERMAN'S CLUB ON WEDNESDAY 9 SEPTEMBER 2015 COMMENCING AT 10.00AM**

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**Attendance**

John Bambury (Jamberoo Lodge), David Rootham (Kiama Golf Club), Lauren Parker (Gerringong Bowling Club), Jeff Morris (Gerringong Bowling Club), Jeremy Blue (Kiama Inn Hotel), Ben Cuthbert (Kiama Bowling Club), David Hoade (IGA Jamberoo and Kiama Downs), Doug McCallum (Gerroa Boat Fisherman's Club), Gillian Smith (Illawarra Health Service), Mark Gilmore (Grand Hotel), Erica Warren (Jamberoo Pub)

**Also** - Cllr. Dennis Seage (Councillor Kiama Municipal Council), Janelle Burns, Road Safety Officer (Kiama Municipal Council) Nick Guggisberg (Kiama Municipal Council)

**Apologies** - Mick Cronin (Cronin's Hotel), Simon Blue (Kiama Inn Hotel)

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**1 Minutes of the Annual General Meeting – 19 November 2014**

Tabled and accepted as a true record of the meeting. The current membership levy and fees as voted in 2014 to remain with no increase.

Moved by David Rootham/seconded Councillor Dennis Seage.

**2 Treasurer's Report**

Tabled.

Financial report for the year ending 30 June 2015.

Closing cash balance \$12,173.94.

Moved David Rootham/seconded Councillor Dennis Seage.

**3 Constitution**

Current constitution to be reviewed.

Moved David Rootham/seconded Erica Warren.

**4 Annual General Meeting - Election of Officers**

As per constitution the election of Officers was held with the following results:

John Bambury (Kiama Leagues Club) President  
David Rootham (Kiama Golf Club) Secretary  
Lauren Parker (Gerringong Bowling Club) Treasurer  
David Rootham (Kiama Golf Club) Public Officer Role

The meeting closed at 10.30am. The next Annual General Meeting is to be held August 2016 with a date to be advised.





Australian Government

Department of Infrastructure and Regional Development

# State of Regional Australia 2015

Progress in Australian Regions



Item 15.30

Enclosure 1

# State of Regional Australia 2015

Progress in Australian Regions



Item 15.30

Enclosure 1



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## Foreword

# State of Regional Australia



An understanding of a nation's economic and social direction and wellbeing is important for future investment and service provision planning. Australia has diverse regions with differing challenges. Each region has its own opportunities and challenges. Regional progress cannot be measured by a single dimension alone. There are many possible combinations of demography, wealth, income, industry structure, social issues and infrastructure availability which influence a region's economic performance, access and liveability.

A region may be doing well on some indicators while lagging on others. An evidence based understanding of a region's performance should underpin community development initiatives, policy settings and investment strategies which can enable a region to prosper and harness the opportunities associated with its own unique advantages.

*Progress in Australian Regions: State of Regional Australia 2015* uses data from its companion publication *Progress in Australian Regions: Yearbook 2014* to enable the key direction of the variation in regions to be better understood and utilised in public policy formation. The report also importantly includes a number of case studies to demonstrate the different aspects of this variation and how they have changed over time. The case studies show that areas which at first glance may appear to be quite similar on certain indicators can actually have quite variable outcomes.

Not every region has been selected for a case study. However, by providing examples of the types of regional analyses which can be undertaken, this publication provides a framework through which to undertake similar analyses of regions of particular interest.

I am confident that this publication will prove a valuable national resource for regional policy makers and community leaders.

**Mike Mrdak**  
Secretary  
Department of Infrastructure and Regional Development  
July 2015

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Enclosure 1

## Introduction



With the inaugural publication of the Department of Infrastructure and Regional Development's publication *Progress in Australian Regions: Yearbook 2014*, the Department created a regional statistical resource of comprehensive spatial scope to better inform policy and investment decisions.

This report, *Progress in Australian Regions: State of Regional Australia 2015*, uses data from the Yearbook as a launching point from which to explore the economic and social wellbeing of regions and how they have changed over time.

Analysis of the spatial variation of key demographic, economic, social, and infrastructure indicators from the Yearbook and other sources assists in understanding how regions are faring in the national context and in anticipating future challenges. Case studies in each chapter illustrate the way in which particular aspects of change have affected local communities.

Chapter 1 examines aspects of demographic change with a focus on population ageing and its national and regional implications for economic growth, productivity and service delivery.

Population ageing is a key long-term issue for Australia and many other developed countries. An older population presents challenges that include the location of age-specific services such as health care and the supply of suitable housing. However, the experience of older people in regions will vary greatly depending on factors such as proximity to services and the income and wealth of the population.

Chapter 2 focuses on several indicators of economic progress including the engagement in work and study of young people, household income and income disparity. House prices are also discussed as they provide an important indication of the regional distribution of wealth and the demand to live in particular areas.

Chapter 3 discusses the regional aspects of structural change which refers to change in the industrial composition of a region. The analysis examines variations in the proportion of people employed in different industries to determine changes to the economy's structure. Structural change can have an adverse impact on individuals and businesses engaged in declining industries. However, it is also necessary and beneficial for a competitive market economy.

Chapter 4 examines some regional indicators of social progress such as health and safety, community connections and engagement. The analysis focuses in particular on mental health. Access to appropriate mental health services and treatment options are more limited in regional and remote areas. This lack of access can potentially result in poorer outcomes for people in these areas who are affected by mental illness.

The final chapter examines the connection between infrastructure investment, economic growth and social progress. All of these have implications for Australia's competitiveness and the wellbeing and living standards of all Australians. Australia faces a significant challenge in ensuring that growth in both hard and social infrastructure keeps pace with growth in order to maximise productivity.

## Geographic units used in this report

The focus of the analysis is predominantly on areas outside of *major cities*. However, *major cities* have been included to provide a point of comparison for regional (non-metropolitan) areas. There is a great deal of diversity amongst regions of Australia, especially when it is considered that rural and remote areas, coastal areas and small to medium sized cities are all commonly described as regional.

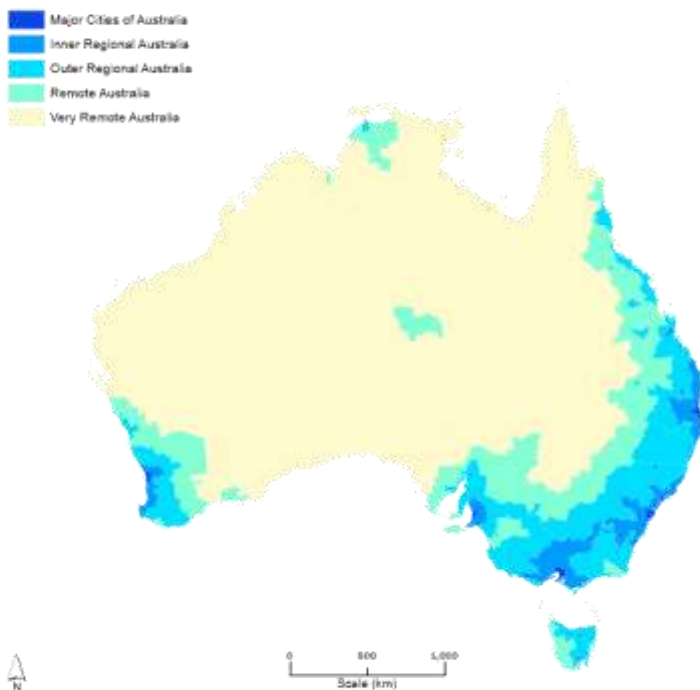
This report presents statistics based on a number of geographic units, depending on data availability and suitability for analysis. These geographical units are drawn primarily from the Australian Bureau of Statistics (ABS) 2011 Australian Statistical Geography Standard. The main geographical units used in this report are the Remoteness Structure, Statistical Areas Level 4 and Significant Urban Areas. However, in some instances, other geographical units have been used where data is available only within that unit or when it is considered appropriate. Any deviation from the standard is explained within the chapters.

### The Remoteness Structure

The Remoteness Structure divides Australia into five Remoteness Classes—*major cities*, *inner regional*, *outer regional*, *remote* and *very remote*—based on access to services (see Map A).

The Remoteness Structure is based on the *Accessibility/Remoteness Index of Australia, Plus (ARIA +)*. This index is calculated using road distance to the closest urban centre in five size classes. Therefore, the *major cities* class does not necessarily include all capital cities. For example, it does not include the smaller and more remote capital cities of Darwin (which is defined as *outer regional*) and Hobart (defined as *inner regional*) because of the road distance from those cities to the closest urban centre. Over time, as roads improve and population grows, a city's level of remoteness can decline (ABS 2013a).

Map A Remoteness Areas in Australia, 2011

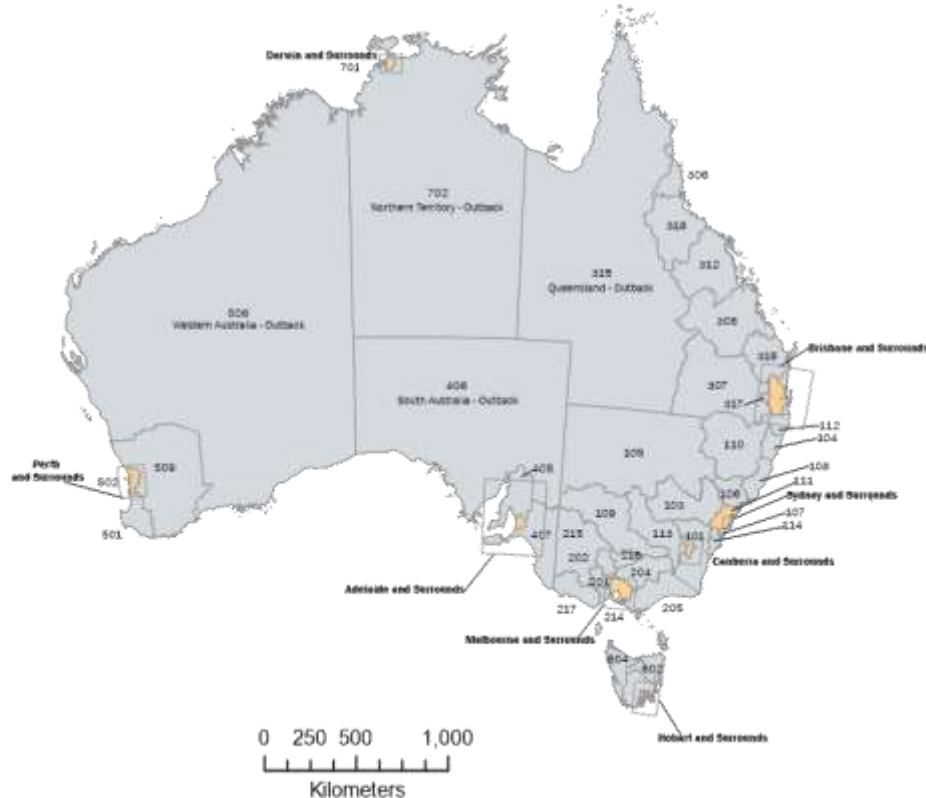


Source: ABS (2013a).

### Statistical Areas Level 4

This report also uses a geographic unit known as Statistical Area Level 4 (SA4). There are 88 SA4s in Australia, covering the whole of the continent with no overlaps. SA4s have a minimum population of 100,000—with some exceptions for sparsely populated remote areas—and a maximum population of 500,000.

Map B Statistical Areas Level 4



New South Wales		Victoria
Greater Sydney	Rest of New South Wales	Greater Melbourne
102 Central Coast	101 Capital Region	206 Melbourne - Inner
115 Sydney - Baulkham Hills and Hawkesbury	103 Central West	207 Melbourne - Inner East
116 Sydney - Blacktown	104 Coffs Harbour - Grafton	208 Melbourne - Inner South
117 Sydney - City and Inner South	105 Far West and Orana	209 Melbourne - North East
118 Sydney - Eastern Suburbs	106 Hunter Valley exc Newcastle	210 Melbourne - North West
119 Sydney - Inner South West	107 Illawarra	211 Melbourne - Outer East
120 Sydney - Inner West	108 Mid North Coast	212 Melbourne - South East
121 Sydney - North Sydney and Hornsby	109 Murray	213 Melbourne - West
122 Sydney - Northern Beaches	110 New England and North West	214 Mornington Peninsula
123 Sydney - Outer South West	111 Newcastle and Lake Macquarie	Rest of Victoria
124 Sydney - Outer West and Blue Mountains	112 Richmond - Tweed	201 Ballarat
125 Sydney - Parramatta	113 Riverina	202 Bendigo
126 Sydney - Ryde	114 Southern Highlands and Shoalhaven	203 Geelong
127 Sydney - South West		204 Hume
128 Sydney - Sutherland		205 Latrobe - Gippsland
		215 North West
		216 Shepparton
		217 Warramboul and South West



State of Regional Australia 2015 Progress in Australian Regions

**Perth and Surrounds**



**Darwin and Surrounds**



**Brisbane and Surrounds**



**Adelaide and Surrounds**



**Melbourne and Surrounds**



**Sydney and Surrounds**



**Hobart and Surrounds**



**Canberra and Surrounds**



**Queensland**

**Greater Brisbane**

- 301 Brisbane - East
- 302 Brisbane - North
- 303 Brisbane - South
- 304 Brisbane - West
- 305 Brisbane Inner City
- 310 Ipswich
- 311 Logan - Beaudesert
- 313 Moreton Bay - North
- 314 Moreton Bay - South

**Rest of Queensland**

- 306 Cairns
- 307 Darling Downs - Maranoa
- 308 Fitzroy
- 309 Gold Coast
- 312 Mackay
- 315 Queensland - Outback
- 316 Sunshine Coast
- 317 Toowoomba
- 318 Townsville
- 319 Wide Bay

**South Australia**

**Greater Adelaide**

- 401 Adelaide - Central and Hills
- 402 Adelaide - North
- 403 Adelaide - South
- 404 Adelaide - West

**Rest of South Australia**

- 405 Barossa - Yorke - Mid North
- 406 South Australia - Outback
- 407 South Australia - South East

**Western Australia**

**Greater Perth**

- 502 Mandurah
- 503 Perth - Inner
- 504 Perth - North East
- 505 Perth - North West
- 506 Perth - South East
- 507 Perth - South West

**Rest of Western Australia**

- 501 Bunbury
- 508 Western Australia - Outback
- 509 Western Australia - Wheat Belt

**Tasmania**

**Greater Hobart**

- 601 Greater Hobart
- Rest of Tasmania**
- 602 Launceston and North East
- 603 South East
- 604 West and North West

**Northern Territory**

- 701 Greater Darwin
- 702 Northern Territory - Outback

**Australian Capital Territory**

- 801 Australian Capital Territory

## Statistical Areas Level 2

Another geographic unit used in the report is the Statistical Area Level 2 (SA2). SA2s are smaller than SA4s. There are 2,196 SA2s in Australia with no gaps or overlaps between them. Their typical population range is 3,000 to 25,000, with an average of 10,000. SA2s are used in this report to illustrate variation within regions. Wherever possible, SA2s are based on officially gazetted state suburbs and localities. In urban areas SA2s largely accord with whole suburbs and combinations of whole suburbs. However, in rural areas SA2s represent functional zones of social and economic links.

## Significant Urban Areas

Significant Urban Areas (SUAs) are urban areas with populations above 10,000. There are 101 SUAs in Australia. An SUA can contain a cluster of urban centres with a core urban population over 10,000 in addition to satellite towns and areas that are likely to be part of an urban area in the near future. An SUA can contain multiple urban centres. However, for them to be considered part of the SUA, their boundaries must be less than five kilometres apart from each other by road (ABS 2012a). Under this definition, many parts of Australia are not classified as SUAs but fall into the residual category 'not in any significant urban area'.



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# 1. Demographic change



## Key points

- Demographic change has implications for economic growth, income support and the provision of health and aged care services.
- Regional areas with high population growth include mining areas (Karratha in Western Australia and Emerald in Queensland) and coastal areas (Hervey Bay and Yeppoon in Queensland, Busselton and Bunbury in Western Australia).
- Between 2006 and 2011, internal migration (that is, migration within Australia by Australian residents) tended to be to *inner regional* areas. The bulk of international migrants went to *major cities*.
- *Inner regional* Australia has the highest proportion of people aged 65 and over. Tasmania and South Australia have older age profiles compared with the other states.
- Smaller regions that have a high proportion of people aged 65 and over are typically coastal areas, either within accessible distance of a major population centre or historically associated with tourism and leisure.
- The internal migration of retirees is influenced by various factors. Different types of regions attract different types of older internal migrants.
- Case studies of the Mid North Coast (New South Wales), Queenscliff (Victoria) and Barossa – Yorke – Mid North (South Australia) illustrate that, while areas may have a similar age profile, the socioeconomic characteristics and lifestyles of their populations vary markedly. These differences will have implications for future service delivery and infrastructure provision.

## 1.1 Introduction

The spatial distribution of a nation's population, its population growth and composition, and the way these factors have changed over time all have a significant impact upon its economic, social and environmental sustainability. Understanding these factors is central to addressing the associated policy issues and the specific challenges and opportunities faced by regions (ABS 2009a).<sup>1</sup> For example, a region gaining a young and working-age population while losing its older population will face different economic and social challenges from a region that attracts a large proportion of retirees.

<sup>1</sup> While the age threshold used in this report is 65 years, the increase in the proportion of those aged over 85 years will present particular challenges as people in this age group generally have greater need for assistance (Productivity Commission 2008). For example, government expenditure on pharmaceutical benefits and public hospitals for the average person aged 85 years and older is more than four times the expenditure on the average person across all ages (Treasury 2015).

This chapter comprises two main sections. The first section discusses recent trends in two important indicators of demographic change: population growth and internal migration.

The second section provides a more detailed analysis of population ageing in Australia's regions. It explores regional variation in the characteristics of ageing populations by examining three specific areas as case studies: the Mid North Coast of New South Wales, Queenscliff in Victoria and the Barossa – Yorke – Mid North in South Australia.

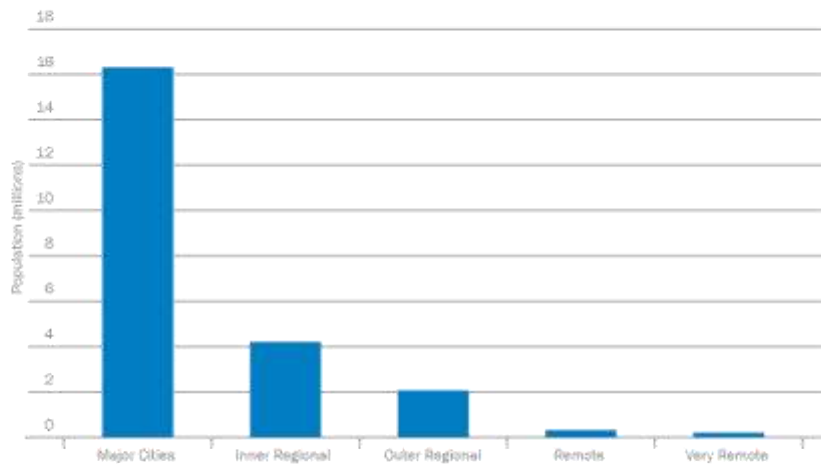
Remoteness Classes and SUAs, in combination with other geographic units based on data availability and fitness for purpose, are used to analyse the data.

## 1.2 Headline indicators

### 1.2.1 Population growth

At 30 June 2014, the estimated resident population of Australia was 23,490,700, reflecting an increase of 364,900 since 30 June 2013. Between 2013 and 2014, all states and territories recorded positive population growth. The strongest growth was in Western Australia, at 2.2 per cent, while the slowest was in Tasmania, at 0.3 per cent (ABS 2014a). Figure 1.1 below shows that the population in Australia is not distributed evenly between remoteness areas. Overall, levels of population are highest in major cities and decline as remoteness increases.

Figure 1.1 Population by Remoteness Class, 2013



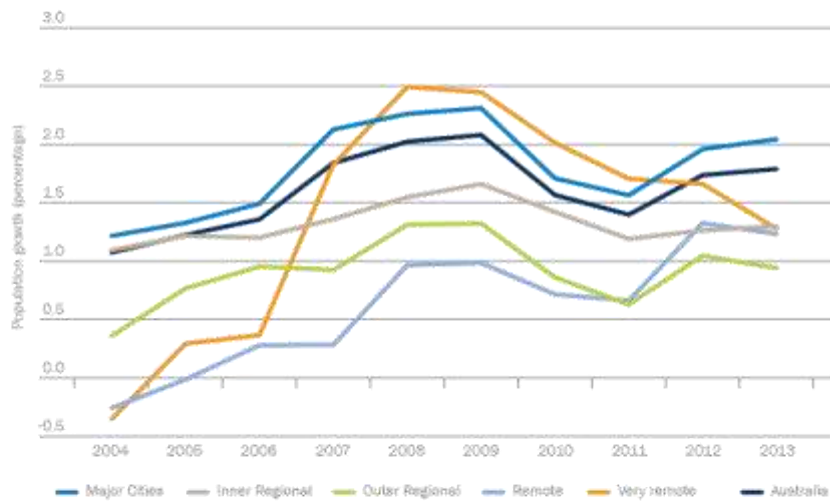
Source: ABS (2014b).

Figure 1.2 below shows that growth rates have been similarly distributed with the exception of very remote regions. Growth in major cities has tended to outpace growth in regional areas, while regional growth has generally outpaced that in remote areas.

However over the period 2008 to 2011, population growth in very remote areas increased to outpace all other Remoteness Classes (although it should be noted that population growth in very remote areas comes from a much smaller base). This increase largely reflects population growth in mining areas and higher fertility rates in remote areas.

Despite having higher fertility rates, population growth in regional Australia is slower than in major cities.<sup>2</sup> In 2013, the Total Fertility Rate (TFR)<sup>3</sup> in remote and very remote Australia was 2.3 babies per woman. In inner and outer regional areas the TFR was 2.2 babies per woman. In contrast, major cities had a TFR of 1.8 babies per woman. The TFR of remote and very remote areas is closely associated with high rates of fertility among younger women. For example, in remote and very remote areas, women aged less than 20 years had a fertility rate five times higher than those of the same age in the major cities (ABS 2014c).

Figure 1.2 Population growth rate by Remoteness Class, 2004 to 2013



Source: ABS (2014b).

In the case of major cities, the population growth can be attributed largely to external migration. In 2011, 85 per cent of those born overseas, compared with 64 per cent of the Australian-born population, lived in a major urban area (ABS 2014d).<sup>4</sup> Between 2006 and 2011, major cities experienced a net internal out-migration of 61,689 persons, while inner regional Australia experienced a net internal migration of 85,106 persons (ABS 2006a, 2011a).

Table 1.1 shows population projections for Remoteness Classes to 2027.<sup>5</sup> The very remote class has the highest projected average annual growth rate between 2012 and 2027, at 1.9 per cent, followed closely by major cities and remote Australia, both at 1.8 per cent.

<sup>2</sup> Components of population change include births, deaths, net internal migration and net overseas migration.  
<sup>3</sup> The TFR for any given year represents the average number of babies each woman would give birth to during her lifetime if she experienced the current age-specific fertility rates at each age of her reproductive life (ABS 2014c).  
<sup>4</sup> A major urban area is a population cluster of 100,000 or more, based on the ABS's Section of State classification.  
<sup>5</sup> Population projections are not forecasts or predictions, they illustrate the changes that would occur if assumptions on future demographic trends occurred over this timeframe (ABS 2013b).

Table 1.1 Population projections by Remoteness Class, 2012–2027

Remoteness Class	2012	2017	2022	2027	2012–2027	2012–2027
	Population	Projected population			Projected population growth	Average annual growth per cent
Major cities	15,976,612	17,653,123	19,349,566	21,021,981	5,045,369	1.8
Inner regional	4,161,029	4,401,124	4,625,009	4,825,339	664,310	1.0
Outer regional	2,047,585	2,186,054	2,318,326	2,439,370	391,784	1.2
Remote	319,029	351,443	385,464	419,346	100,317	1.8
Very remote	206,108	229,103	251,884	274,208	68,100	1.9
AUSTRALIA	22,710,363	24,820,847	26,930,249	28,980,243	6,269,880	1.6

Source: ABS (2015).

Note: Customised projections prepared for the Australian Government Department of Social Services by the ABS.

Analysis of current population growth at the SUA level reveals that many high-growth urban areas are in regional locations. Table 1.2 shows that of the 10 SUAs that experienced the highest population growth rate between 2001 and 2013, eight were outside the *major cities*. This may be attributable to the fact that populations in regional SUAs have grown from a smaller base, and therefore, small movements in the absolute population translate to relatively high growth rates.

The only two SUAs within *major cities* were Ellenbrook in Greater Perth, Western Australia, and Melton in Melbourne, Victoria. Ellenbrook was established in 1992 as a new development on the outskirts of Perth. It comprises planned villages that have developed rapidly over subsequent decades (City of Swan 2014). Melton in Victoria has grown from being a small town outside Melbourne on the road to Ballarat to being part of the greater capital city area within commuting distance of the city, reflecting its status as an urban growth corridor of greater Melbourne. The extent of this growth is illustrated by the fact that the Melton City Council is currently proposing to establish 11 new suburbs (City of Melton 2014).

Table 1.2 Population growth, top 10 Significant Urban Areas, 2001–2013

Significant Urban Area	2001	2013	Change 2001–2013	Percentage change 2001–2013
Ellenbrook WA	10,498	36,207	25,709	244.9
Karratha WA	10,559	18,945	8,386	79.4
Highfields QLD	10,403	18,117	7,714	74.2
Torquay VIC	10,225	17,105	6,880	67.3
Melton VIC	34,398	54,483	20,085	58.4
Hervy Bay QLD	34,110	51,168	17,058	50.0
Emerald QLD	10,035	14,924	4,889	48.7
Busselton WA	23,134	34,241	11,107	48.0
Yeppoon QLD	12,256	17,925	5,669	46.3
Bunbury WA	50,366	72,464	22,098	43.9

Source: ABS (2014b).

Regional SUAs with high population growth include mining areas such as Karratha in Western Australia and Emerald in Queensland.

Other SUAs with high growth include coastal areas such as Hervy Bay and Yeppoon in Queensland, Busselton and Bunbury in Western Australia, Torquay in Victoria, and Highfields, just outside the regional city of Toowoomba, also in Queensland. The growth in Highfields is similar to Melton's in that it is the result of spillover population on the edge of a large and growing centre.

## 1.2.2 Net internal migration

Internal migration refers to the movement of people from one defined area to another within a country and excludes new arrivals of international migrants.

As shown in Table 1.3 below, between 2006 and 2011 net internal migration was negative for all Remoteness Classes except *inner regional* Australia.

Table 1.3 Net internal migration by Remoteness Class, 2006–2011

Remoteness Class	Residents who remained	Residents who moved in	Residents who moved out	Net internal migration, 2006 to 2011
Major cities	11,536,292	490,535	552,224	-61,689
Inner regional	2,791,437	601,488	516,382	85,106
Outer regional	1,291,364	333,100	345,702	-12,602
Remote	139,609	92,569	101,832	-9,263
Very remote	101,249	42,710	44,262	-1,553

Source: Department of Infrastructure and Regional Development (2014a), derived from ABS (2006a, 2011a).

Note: Excludes all people who lived in undefined areas, migratory, offshore, and shipping areas, or had no usual address at the time of either Census. Based on the place of usual residence in 2006.

On balance, Australian residents have been moving out of *major cities* and *remote* areas and into *inner regional* areas. These movements are reflective of the sea change/tree change phenomenon—that is, it is the result of people moving for lifestyle reasons. Gurrán et al. (2005) suggest that the increase in metropolitan out-migration of working-age people may be a result of growth in tourism and leisure services in regional areas. There also may be a lifecycle factor at work: young people may move away from a regional area for work or study and then return to raise a family. Younger adults are more likely to move from non-metropolitan to capital cities, while the opposite is true for people aged 25 years and over (BITRE 2011a).

The City Futures Research Centre (2012, p.19) discusses ‘scene changers’ who move to areas of greater amenity and whose lower attachment to the workforce enables them to be more mobile. It found that regional centres were appealing for retirees, particularly those on fixed incomes, because ‘regional centres have smaller economies and fewer jobs, decreasing the inflationary pressure on land and housing values’ (2012, p.19). Accordingly, regions with low living costs tend to attract those on lower incomes, including retirees.

Other research on ‘welfare-led’ migration to rural areas concluded that affordability is a secondary factor in most cases of metropolitan out-migration among retirees. Rather, it found lifestyle aspirations to be the primary drivers (Marshall et al 2005). Individual decisions on location are based on overall amenity, personal preferences, circumstance and financial capacity (BITRE 2014a). Burnley and Murphy (2004, p.154) argue that the trend is linked to a combination of ‘the desire for peace and quiet, security needs, and less crime, as well as the aesthetics of the natural environment itself’.

These trends are likely to result in different types of migration to different regional areas. On one hand, internal migrants with lower wealth and incomes are likely to seek out regions with a low cost of living. This raises issues of potential diminished wellbeing and concentrated disadvantage. Conversely, the influx of wealthy migrants to areas with high amenity value can also boost regional economies. This phenomenon is explored in the case study on Queenscliff in Victoria later in this chapter.



## 1.3 Current issue: ageing in Australia's regions

### 1.3.1 The age profile

Population ageing generally refers to a greater concentration of older residents and a rise in average or median age.

Population ageing in Australia has been caused by a combination of two factors (Productivity Commission 2008). First, lower fertility rates since the 1960s have led to slower growth in younger-age cohorts overall. In 2013, the TFR in Australia was 1.9 babies per woman, compared with three or above between 1946 and 1965. Since 1976, TFR has been below the replacement level, which is estimated to be around 2.1 babies per woman (ABS 2014c).

Secondly, increased longevity has led to growth in the number and proportion of people in older age groups. In the decade to 2013, life expectancy at birth rose by 2.3 years for males (to 80.1 years) and 1.5 years for females (to 84.3 years) (ABS 2014e).

As a result of this increased longevity, the number of people aged 65 and over is expected to increase from 13.4 per cent of the population in June 2007 to 25.3 per cent by 2047. Over the same period, the cohort aged 85 years and above is expected to increase from 1.7 to 5.6 per cent (Productivity Commission 2008).

Hugo (2014) discusses the types of non-metropolitan regions with concentrations of older people. They include coastal resort towns, inland areas with high natural amenity, inland areas near larger cities in which retirees can live without job and commuting considerations, country towns where former farmers move to town and essentially age in place, and agricultural areas beyond the commuting distance of cities. The final category tends to have older age structure due to the out-migration of young people (Hugo 2014).

Table 1.4 shows age profile by Remoteness Class. It reveals that *inner regional* Australia has the highest proportion of residents in older age brackets. The proportion of children in the population (those aged 0 to 14) increases with increasing remoteness, reflecting greater fertility in *very remote* Australia. In contrast, the proportion of young adults was considerably lower outside the *major cities* class, except for *very remote* areas.

Table 1.4 Age profile by Remoteness Class, 2013

Remoteness Class	0-14 years (%)	15-24 years (%)	25-64 years (%)	65-84 years (%)	65 years and over (%)	85 years and over (%)
Major cities	18.5	13.9	54.0	11.7	13.5	1.9
Inner regional	19.4	12.5	50.4	15.5	17.7	2.2
Outer regional	20.0	12.2	51.8	14.2	16.0	1.8
Remote	21.0	12.0	55.9	10.0	11.1	1.1
Very remote	22.8	13.5	56.6	6.6	7.2	0.6
AUSTRALIA	18.9	13.4	53.2	12.5	14.4	1.9

Source: ABS (2014f).

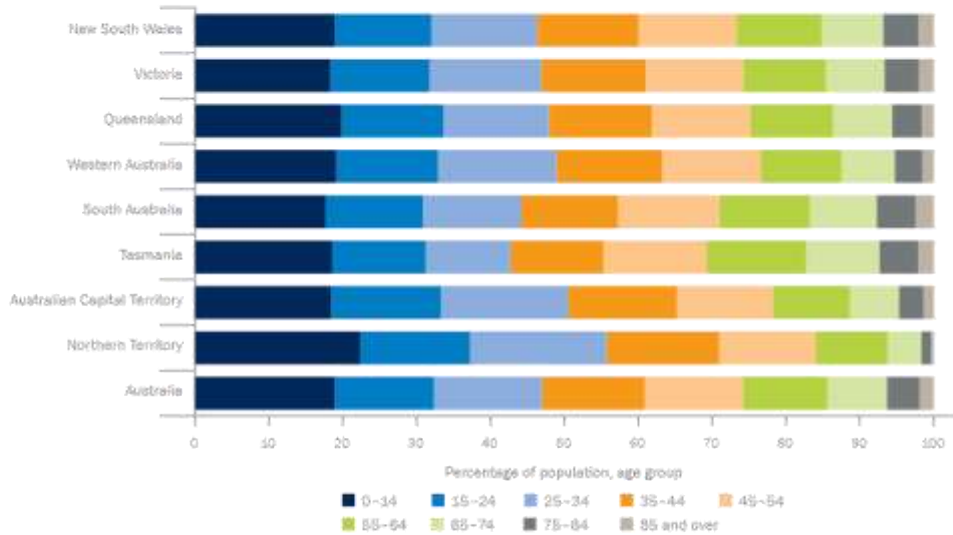
Note: Population estimates are preliminary for 2013. Remoteness Classes have been approximated based on SA2s.

As demand increases and house prices rise, some traditionally popular destinations, such as coastal towns, can become unaffordable to a greater number of people. This phenomenon can encourage movement into new areas, including small rural communities, peri-urban areas and high-amenity inland towns.

In addition to the variations at Remoteness Class level, there are also variations at the state level. Figure 1.3 shows that Tasmania and South Australia have the oldest age profiles, with the proportion of the population aged 65 and over at 17.3 and 16.7 per cent respectively. The lowest proportion of those aged 65 and over is in the Northern Territory, with 6.2 per cent. Nationally, the figure is 14.4 per cent.



Figure 1.3 Population by age, states and territories, 2013



Source: ABS (2014f).

There is also significant variation within the states. Table 1.5 lists SA2s with the highest proportion of population aged 65 and over. All of these are within coastal areas, either within accessible distance of a major population centre or historically associated with tourism and leisure. These include:

- Forster and Tuncurry in New South Wales, adjacent coastal towns on the Mid North Coast, which will be discussed in a case study towards the end of this chapter.
- Victor Harbor and nearby Goolwa – Port Elliot in South Australia, which were historically tourist towns and approximately 85 kilometres from the centre of Adelaide.
- New South Wales SA2s within driving distance to regional cities: Tea Gardens – Hawks Nest (78 kilometres from Newcastle) and Sussex Inlet – Berrara (125 kilometres from Wollongong and 45 kilometres to Nowra).
- Bribie Island in Queensland and Rosebud – McCrae on the Mornington Peninsula in Victoria. Both are part of Victoria’s Greater Capital City Statistical Area.
- Two regional Victorian areas: Paynesville, a holiday town in the Gippsland Lakes area, and Queenscliff, close to Geelong and Melbourne. Queenscliff will be discussed as a case study in this chapter.

Table 1.5 Proportion of population aged 65 and over, top 10 SA2s, 2013

SA2	Percentage of population aged 65 and over	Percentage points above the Australian figure
Tuncurry NSW	40.5	26.0
Tea Gardens - Hawks Nest NSW	39.9	25.4
Sussex Inlet - Berrara NSW	37.9	23.5
Bribie Island QLD	37.1	22.7
Victor Harbor SA	36.8	22.4
Paynesville VIC	36.5	22.0
Goolwa - Port Elliot SA	34.8	20.4
Queenscliff VIC	33.8	19.3
Forster NSW	33.5	19.1
Rosebud - McCrae VIC	32.3	17.8
AUSTRALIA	14.4	

Source: ABS (2014f).

Note: Excludes SA2s with population under 100. SA2s in the table have populations ranging from 4,000 to 21,000.

### 1.3.2 Retirement income

The age pension is the largest Commonwealth spending programme with estimated expenditure currently at \$44 billion in 2015-16 (Australian Government 2015). Government expenditure on the age pension is forecast to grow at 6.2 per cent per year between 2013-14 and 2023-24. Forecast growth is largely the result of an ageing population, increased life expectancy and benchmarking to Male Total Average Weekly Earnings when wage growth exceeds price growth (Australian Government 2014).

Table 1.6 shows that *inner regional* Australia has the highest proportion of residents receiving selected pensions, with the lowest proportion in *remote* and *very remote* Australia.

Table 1.6 Population on selected pensions/allowances by Remoteness Class, 2011

Remoteness Class	2011 Ratio (per 1,000 persons)
Major cities	190.2
Inner regional	258.9
Outer regional	238.0
Remote	176.2
Very remote	179.8
AUSTRALIA	206.9

Source: Department of Infrastructure and Regional Development (2014a), derived from ABS (2013c).

Note: Selected pensions include the Age Pension, service pensions, Disability Support Pension, Newstart, Parenting Payment and Youth Allowance. Service pension data is only published at the Local Government Area level. These were concorded to Remoteness Classes using ABS correspondence tables.

Table 1.7 below shows the regions with the highest proportion of older people on the age pension. At the Local Government Area (LGA) level, the Central Goldfields in Victoria has the highest proportion of age pension recipients at 89.5 per cent. Of the 10 LGAs with the highest proportion of age pension recipients, five are in South Australia. Tasmania and South Australia both have large proportions of older people. In Tasmania, 76.3 per cent of the population over 65 is in receipt of the age pension. South Australia ranks second at 74.8 per cent (Public Health Information Development Unit 2014).

Table 1.7 Percentage of population on the age pension by Local Government Area, June 2013

Local Government Area	Age pensioners	Persons aged 65+	Percentage of 65+ receiving the age pension
Central Goldfields VIC	2,926	3,270	89.5
Cook QLD	411	463	88.7
Derwent Valley TAS	1,337	1,531	87.4
Port Pirie City and districts SA	2,966	3,428	86.5
Playford SA	8,480	9,854	86.1
Whyalla SA	2,989	3,511	85.1
Shellharbour NSW	8,626	10,166	84.9
Karoonda East Murray SA	178	210	84.6
Renmark Paringa SA	1,415	1,681	84.2
Collie WA	1,092	1,301	83.9

Source: Public Health Information Development Unit (2014).

Note: Local Government Areas with fewer than 200 persons aged 65 and older have been excluded. These include several small Indigenous communities in Queensland.

### 1.3.3 Housing affordability/demand

A major issue for ageing populations is the availability of suitable housing. Factors which need to be considered by planners include the location, choice, affordability and design of housing. Typically, older people require housing that is smaller, has safety modifications and is closer to services, transport and family. The availability of this type of housing can be instrumental in the location decisions of older people.

Eligibility requirements for the age pension can also influence migration decisions. As the family home is excluded from the asset test, selling a higher-priced home and moving to a lower-priced one in a regional area releases wealth in the form of cash, which may affect eligibility (City Futures Research Centre 2012). The fact that this deters downsizing by pensioners has been noted as a policy issue by both Treasury (2009) and the Productivity Commission (2011).

Table 1.8 shows how house prices differ across Remoteness Classes. The highest average house prices are in *major cities*. The largest absolute change in price growth in houses was also in *major cities*, while *very remote* areas had the strongest growth in the price of units. Proportionally, *very remote* Australia had the highest growth in prices for both houses and units over the last few years, reflecting the impact of the mining boom. House prices are considerably lower in *inner regional* and *outer regional* areas than in *major cities*, indicating that movement to well-serviced *inner* or *outer regional* centres could be appealing for *major city* retirees. The high price of units in *very remote* areas is possibly reflective of the small number of units built in mining areas, which experience high demand for this type of housing.

Table 1.8 Average residential property prices by Remoteness Class, 2009–2013

Remoteness Class	2009 Average price (\$)	2011 Average price (\$)	2013 Average price (\$)	2009–2013 Change (\$)	2009–2013 Change (%)
<b>Houses</b>					
Major cities	544,528	599,346	649,137	104,609	19.2
Inner regional	341,665	368,918	380,384	38,719	11.3
Outer regional	301,166	318,100	321,951	20,785	6.9
Remote	347,236	394,682	363,670	16,434	4.7
Very remote	198,576	256,794	267,100	68,524	34.5
AUSTRALIA	472,410	517,749	557,918	85,508	18.1
<b>Units</b>					
Major cities	438,839	482,982	504,469	65,630	15.0
Inner regional	288,115	305,244	314,873	26,758	9.3
Outer regional	343,154	298,889	302,419	-40,735	-11.9
Remote	325,332	372,844	362,395	37,062	11.4
Very remote	202,145	315,018	429,091	226,946	112.3
AUSTRALIA	420,771	459,142	479,075	58,304	13.9

Source: Department of Infrastructure and Regional Development (2014a), derived from RP Data–Rismark (2014), nominal prices.

Note: Data unavailable for SA2s in which there were fewer than 10 sales.

### 1.3.4 Meeting demand for services and infrastructure

The ageing population is expected to create increased demand for health and aged care services nationally. At the same time, the labour force participation rate is expected to decline (ABS 2010a). Movements from cities to smaller regional centres or towns, particularly by older people, create challenges for both local and state governments as well as private welfare agencies (Marshall et al 2005).

Coastal and inland areas are likely to experience a range of both positive and negative social, environmental and economic effects as the result of migration flows. This can be exacerbated by the fact that many people already living in regional areas may choose to age in place. The Department of Transport and Regional Services (2004) reported that 'many inland country councils and coastal fringe rural and regional councils do not have the quality of infrastructure needed to cater for a rapid influx of retirees, or to deal with the environmental impact of rapid population growth'. This pressure will create a need to upgrade older infrastructure, including aged care accommodation. Also, older people who no longer drive will need to access services. This will create demand for public transport (Department of Transport and Regional Services 2004).

The services available in a region will influence the decision of retirees to migrate to those areas. However the consequent increase in the number of people in that region will increase the demand for services. Issues concerning service delivery include whether the service is public or private, necessary or discretionary, and the affordability, quality and accessibility of the service.

Access to services is influenced by the proximity of those services to transport infrastructure and service centres. For example, Queenscliff in Victoria has a high proportion of aged residents and aged pension recipients, but many services they require are available in nearby Geelong, which is approximately one hour by car or train from Melbourne. Queenscliff is discussed in a case study later in this chapter.

### 1.3.5 Age dependency ratio

The age dependency ratio is the number of people aged 65 and over as a percentage of working-age people (those aged between 15 and 64). A higher age dependency ratio means that there are fewer people of working age relative to the older, non-working population. The age dependency ratio provides an indication of the age structure of a region.

Population ageing will result in a higher ratio of the elderly compared with those of traditional working age. This trend is evident in the fact that the number of people aged between 15 and 64 for every person aged 65 and over has fallen from 7.3 in 1974–75 to an estimated 4.5 today. This figure is projected to nearly halve again to 2.7 by 2054–55 (Treasury 2015).

A higher dependency ratio could potentially result in labour shortages, as there may be insufficient numbers of workers. There is also the possibility of reduced productivity growth as the result of a diminished productive population. Although this is not a specifically regional issue given that income taxes are collected federally, a higher age dependency ratio can result in increased pressures on government finances and productivity.

However, this age group may also provide opportunities for local economies in terms of bringing wealth (retirement savings and superannuation) to spend in a region.

There may be a challenge in finding qualified workers to boost the working-age population and reduce the age dependency ratio in some regional areas. However, the services that will be required in any one region will depend upon the profile of the older people within that region (for example, their level of wealth and health needs).

Table 1.9 below shows the SUAs with the highest age dependency ratio. The two highest are Victor Harbor in South Australia and the twin towns of Forster–Tuncurry in New South Wales, both with a ratio of approximately 70 per cent. This means that, for every 100 working-age people, there are 70 people aged 65 and over.

Table 1.9 Age dependency ratio by Significant Urban Area, 2013

Significant Urban Area	Age dependency ratio (%)
Victor Harbor – Goolwa SA	70.1
Forster – Tuncurry NSW	69.9
Camden Haven NSW	56.1
Batemans Bay NSW	51.6
Ulladulla NSW	51.3
Nelson Bay – Corlette NSW	48.4
St Georges Basin – Sanctuary Point NSW	46.1
Port Macquarie NSW	45.4
Hervey Bay QLD	43.7
Taree NSW	40.3

Source: ABS (2014f).

### 1.3.6 Labour force participation rate

The labour force includes people who are working and those who are looking for work and available to start work. The labour force participation rate for people aged 15 years and over is expected to decline over the next 40 years as older people, with their weaker labour market attachment, become a larger share of the population (Treasury 2010).

The Productivity Commission (2013a) has forecast that participation rates and labour supply per capita will fall by five per cent between 2012 and 2060. While the population share of older people has been increasing, until



recently the rising level of workforce participation by older people was able to offset this. However, participation rates for older people in the last few years have levelled off (Kent 2014).

Table 1.10 shows mixed outcomes for participation rates by remoteness category. The highest participation rates are to be found in *remote* areas, at 63.9 per cent, while the lowest are in *inner regional* Australia, at 58.0 per cent. However, *remote* Australia experienced the largest decrease in participation between 2001 and 2011 (-1.7 per cent) compared with the national rate, which increased by 1.1 per cent.

Table 1.10 Labour force participation rate by Remoteness Class, 2001–2011

Remoteness Class	2001 Participation rate (%)	2006 Participation rate (%)	2011 Participation rate (%)	2001–2011 Change (percentage point)
Major cities	61.4	61.2	62.6	1.2
Inner regional	57.3	57.6	58.0	0.7
Outer regional	59.9	59.7	59.5	-0.4
Remote	65.6	63.5	63.9	-1.7
Very remote	59.1	60.5	59.3	0.2
AUSTRALIA	60.3	60.4	61.4	1.1

Source: ABS (2001, 2006a and 2011a).

Note: Persons aged 15 years and over.

### 1.3.7 Implications of a reduced economic base

Population ageing over the next 30 to 40 years is expected to reduce workforce growth and place constraints on economic growth (Abhayaratna and Lattimore 2006). The Council of Australian Governments (2006) agreed that '[t]o avoid putting too great a burden on those already in work, it is desirable that more Australians are provided with support and incentives to remain in or rejoin the workforce'. Increased workforce engagement among older Australians is already expected to occur, with participation rates among those aged 65 and over projected to increase from 12.9 per cent in 2014–15 to 17.3 per cent in 2054–55 (Treasury 2015).

The reduced workforce participation and population growth associated with population ageing are expected to result in gradual decline in economic growth (Treasury 2015). At the national level, a shrinking income tax base and the increased financial burden of health and aged care raise a number of policy considerations including superannuation, pensions, the aged care system and housing and urban policy.

Local governments, which have a limited capacity to raise revenue, will also be strained by the demands of an ageing population. Where pensioners are entitled to property rate concessions, the proportion of ratepayers who are entitled to these concessions will increase with an ageing population (Australian Local Government Association 2004). Reduced revenue from property rates will have an impact on the delivery of services. A similar challenge for local governments will be to develop policies to address the issue of retirees who are asset rich but have low incomes (Department of Transport and Regional Services 2004).

### 1.3.8 Opportunities for regions

While ageing presents challenges, there are also opportunities for regions resulting from an older age profile. Hugo, Feist and Tan (2013, p.6) present a case for the advantages of having baby boomers in regional areas. They see them as 'the most educated, diverse, wealthy [generation] so far', potentially bringing 'wealth, expertise, demand for services and new ideas' while also creating jobs. Baby boomers are also a 'considerable human resource' in regions, including as volunteers. Additionally, while providing aged services and health care is a challenge, they can also be an economic boon for regional areas (Hugo, Feist and Tan 2013).

## 1.4 Case studies

The following case studies explore the characteristics of three regions with ageing populations. The regions are notably different in terms of amenity, size, wealth and income. They are the Mid North Coast SA4 in New South Wales, Queenscliff in Victoria and the Barossa – Yorke – Mid North SA4 in South Australia. The studies illustrate the range of factors that are taken into consideration—for example, income, housing affordability and service availability—when people choose a place to which to retire.

The variations seen in the three regions indicate that different types of regions appeal to people with different socioeconomic characteristics. These differences have implications for local economies and create both benefits and challenges for the communities concerned. Strategies that are flexible and tailored for each region will be required to address the anticipated effects of demographic trends.

Two of the regions selected for case studies on this issue—the Mid North Coast in New South Wales and Barossa – Yorke – Mid North in South Australia—exhibit considerable internal variation. They also differ from one another in that the Mid North Coast region contains a number of larger centres, while the Barossa – Yorke – Mid North region has only one large centre.

### 1.4.1 Case Study 1

#### The Mid North Coast

##### Characteristics

The Mid North Coast SA4 is located in New South Wales, approximately halfway between south–east Queensland and the Sydney–Newcastle region.

In 2011 the Mid North Coast had the lowest real median weekly household income of all SA4s (\$774) when compared with the national figure of \$1,234 (Department of Infrastructure and Regional Development 2014a).

The broader SA4 region contains a number of SUAs. The three SUAs within the SA4 that will be the focus of this case study are Port Macquarie, Forster–Tuncurry and Taree. Some data will be presented at the SA2 level to illustrate further variation within the region.

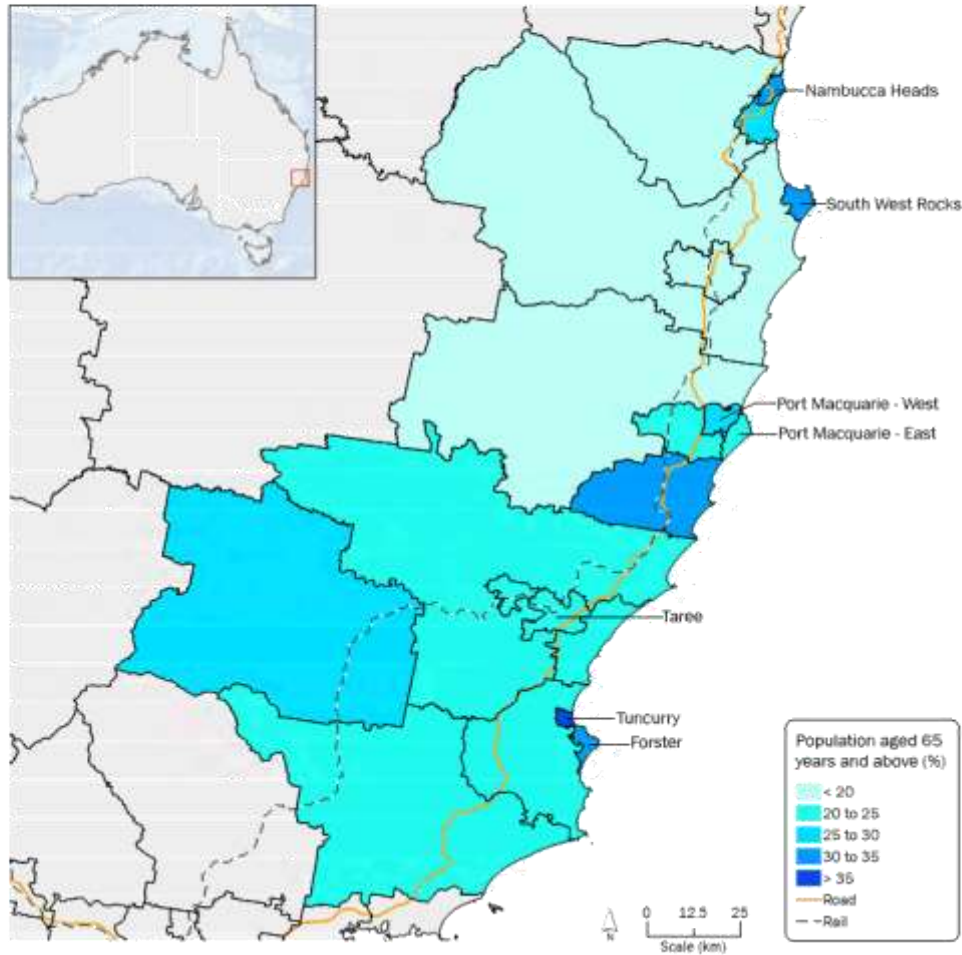
Port Macquarie is a coastal town with a relatively high population (44,108). It enjoys good access to higher order services such as Port Macquarie Base Hospital as well as the campuses of Charles Sturt University, and the Port Macquarie campus of University of Newcastle. Taree (population 26,531) is on the Manning River, close to but not on the coast. Forster and Tuncurry (population 20,543) are adjacent coastal towns, 305 kilometres or under three and a half hours drive from Sydney.

The SA4 region is also a popular tourist destination. In 2012–13, after Sydney and Melbourne, the coastal region north of Newcastle to Coffs Harbour was the third most visited location for domestic visitors in the year to September 2014. Within this region, Port Macquarie – East was the SA2 most visited in terms of both the number of domestic visitors and the number of nights stayed (Tourism Research Australia 2013, 2014).

##### Proportion of the population aged 65 years or older

Map 1.1 shows the proportion of the population aged 65 years or older within the each of the three SA2 sub-regions of the Mid North Coast SA4. Map 1.1 reveals that much of the Mid North Coast has an older age profile. The Australian proportion is only 14.4 per cent, less than half of some regions in this area. The older age profile is particularly pronounced in the focus area of Forster–Tuncurry where more than 30 per cent of its population is aged 65 and over.

Map 1.11 Percentage of population aged 65 years and over in the Mid North Coast (SA4), 2013



Source: ABS (2014f).

Note: Smaller regions within the SA4 are SA2s.

Table 1.11 below shows that of the three SUAs forming functional urban areas in this SA4 region, Forster-Tuncurry has the highest proportion of people aged 65 and over (35.6 per cent). This figure contrasts with the Port Macquarie SUA (25.8 per cent) and the Taree SUA (23.2 per cent).

Table 1.11 Proportion and change in population aged 65 and over, 2001-2013

Significant Urban Area	2001	2013	Change 2001-2013 (%)
Forster-Tuncurry	29.7	35.6	5.8
Port Macquarie	22.7	25.8	3.2
Taree	18.6	23.2	4.6

Source: ABS (2014f).



However, between 2001 and 2013, the proportion of Forster's population aged 65 years and over increased by 6.6 per cent in contrast with Tuncurry's, which increased by 4.4 per cent in the same period.

### Labour force participation rate

An indicator of economic activity is the labour force participation rate. Table 1.12 shows that while the participation rate increased in Port Macquarie between 2001 and 2011, it decreased in both Forster-Tuncurry (-1.2 per cent) and Taree (-2.3 per cent). However, while Taree had the greater decrease, Forster-Tuncurry's participation rate was 8.2 percentage points lower than that of Taree.

Table 1.12 Labour force participation rate, Mid North Coast SUAs, 2001, 2006 and 2011

Significant Urban Area	2001	2006	2011	Change 2001-2011
Port Macquarie	48.4	49.5	50.2	1.8
Forster-Tuncurry	39.8	40.3	38.6	-1.2
Taree	49.1	48.8	46.8	-2.3
AUSTRALIA	60.3	60.4	61.4	1.1

Source: ABS (2001, 2006a and 2011a).

Note: Persons aged 15 years and over.

### Source of income

Related to the participation rate is source of income. Data on age pension recipients is available only at LGA level. Table 1.13 shows that all three LGAs in the area have very high proportions of residents in receipt of the age pension. The Great Lakes LGA, which includes Forster-Tuncurry, has the lowest percentage of age pensioners (75.6 per cent).

Table 1.13 Age pension recipients, Mid North Coast Local Government Areas, 2013

Local Government Area	Age pensioners	Persons aged 65 years and over	Percent of 65+ age pensioners
Greater Taree	9,132	11,497	79.4
Port Macquarie-Hastings	15,350	19,516	78.7
Great Lakes	8,823	11,665	75.6

Source: Public Health Information Development Unit (2014).

The three SUAs also have quite different age dependency ratios. Forster-Tuncurry's is particularly high at 69.9 per cent compared with Port Macquarie (45.4 per cent) and Taree (40.3 per cent) (ABS 2014f). These differences suggest that future service delivery requirements in each of these SUAs will differ.

### House prices

House prices are indicative of the wealth of individuals in a region and their level of resources. The average house price for the Mid North Coast in 2013 was \$367,949. However, Table 1.14 shows that at the SUA level, between 2009 and 2013 the Port Macquarie SUA experienced the highest growth in house prices (11 per cent) compared with Forster-Tuncurry and Taree (four per cent and five per cent respectively).

When analysed at the SA2 level, within Port Macquarie the growth was particularly concentrated in the SA2 of Port Macquarie West (at 16 per cent), the rate of which is more than double that of the Mid North Coast SA4 as a whole.

Table 1.14 House prices, Mid North Coast SA4, 2009–2013

Region	2009	2013	Change 2009–2013	Percentage change 2009–2013
MID NORTH COAST (SA4)	345,241	367,949	22,707	7
Port Macquarie (SUA)	401,433	446,417	44,984	11
Port Macquarie East (SA2)	408,150	443,012	34,862	9
Port Macquarie West (SA2)	389,321	452,864	63,543	16
Forster–Tuncurry (SUA)	369,769	385,892	16,123	4
Forster (SA2)	377,574	390,373	12,798	3
Tuncurry (SA2)	347,262	371,844	24,582	7
Taree (SUA)	257,993	271,762	13,769	5
Taree (SA2)	257,658	271,234	13,576	5
Wingham (SA2)	259,457	273,575	14,117	5

Source: RP Data–Rismark (2014). Nominal prices.

### Source of internal migration

Census data shows that between 2006 and 2011 the largest source of internal migrants for Forster–Tuncurry was from areas in New South Wales outside SUAs (1,150). The second-largest source of internal migrants was the Sydney SUA (1,141). These two SUAs (areas in New South Wales outside SUAs and Sydney) were also the largest source of internal migrants for the Port Macquarie and Taree SUAs.

People who are moving from the Sydney SUA may be migrating to the Mid North Coast SA4 to free capital tied up in their housing. For retirees, the choice to move to the Mid North Coast is also likely to reflect their ability to live in a high-amenity area now that they are no longer constrained by employment considerations. Internal migration to the Mid North Coast suggests migration to a lower-cost area with high natural amenity.

### Conclusions

Overall, the Mid North Coast region has an ageing population, with both a high proportion of its population aged 65 and over and a low workforce participation rate. In addition, there is a relatively high dependency on the age pension. Furthermore, the SA2 with the highest house prices, Port Macquarie West, also has one of the highest proportions of population aged 65 and over. This indicates that there is a deliberate shift to a high-amenity area for those who are able to afford to do so. Because the area is well serviced and has relatively high house prices, its ageing population is less likely to face the same infrastructure and service challenges as areas that have lower wealth profiles, suggested by the lower house prices and access to fewer services.

## 1.4.2 Case Study 2

### Queenscliff

#### Characteristics

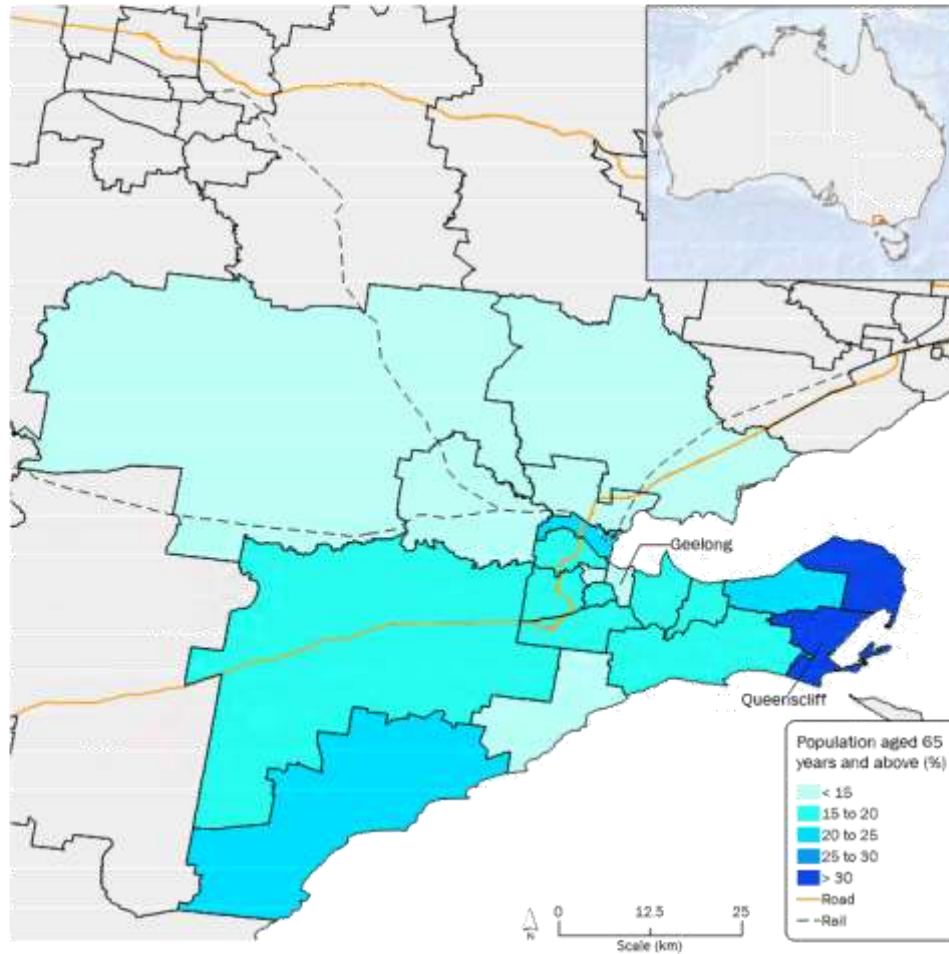
The SA2 of Queenscliff is on the Bellarine Peninsula in southern Victoria and has a population of 4,155 (ABS 2014f). It is a former 1880s seaside resort that declined in the 1960s. However, it began to experience an increase in population from the 1990s.

Queenscliff lies within the SA4 of Geelong and the SUA of Ocean Grove – Point Lonsdale. The area enjoys two main advantages. Firstly, its proximity to Geelong (31 kilometres away) provides easy access to a major service centre. Secondly, Geelong is only 75 kilometres from Melbourne.

**Proportion of the population aged 65 years and over**

Map 1.2 reveals that 33.8 per cent of Queenscliff's population is aged 65 and over - the highest in the region. This figure compares with 17 per cent for the Geelong SA4 region overall and 14.4 per cent for Australia.

Map 1.2 Proportion of population aged 65 years and over in Geelong (SA4), 2013



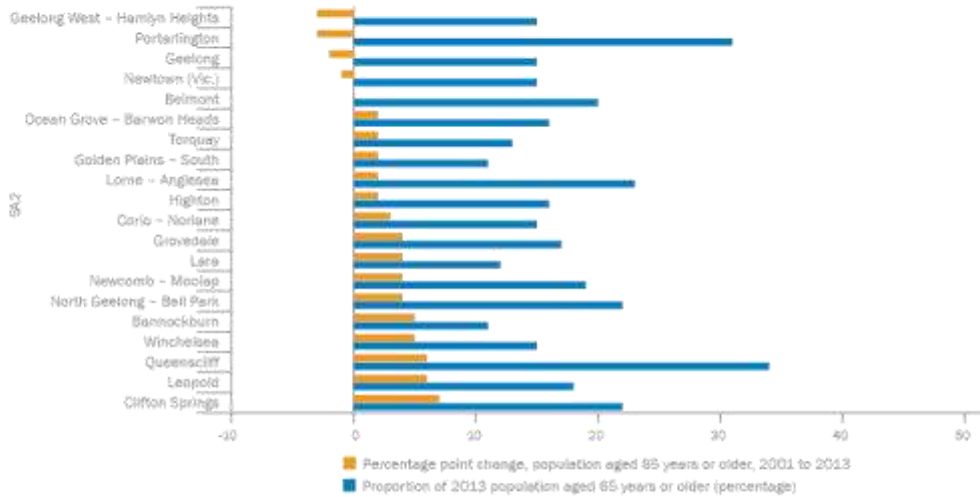
Source: ABS (2014f).  
 Note: Smaller regions within the SA4 are SA2s.

Figure 1.4 reveals how the proportions have changed over time. Between 2001 and 2013, the proportion of Queenscliff's population aged 65 and over increased by 5.6 per cent from 28.1 per cent to 33.8 per cent. Furthermore, between 2001 and 2013, the SA2 of Queenscliff experienced a net loss of 141 working-age people (aged 15 to 64) and a net gain of 245 people aged 65 and over.



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Figure 1.4 Proportion and change of population aged over 65, Geelong SA2s, 2001-2013

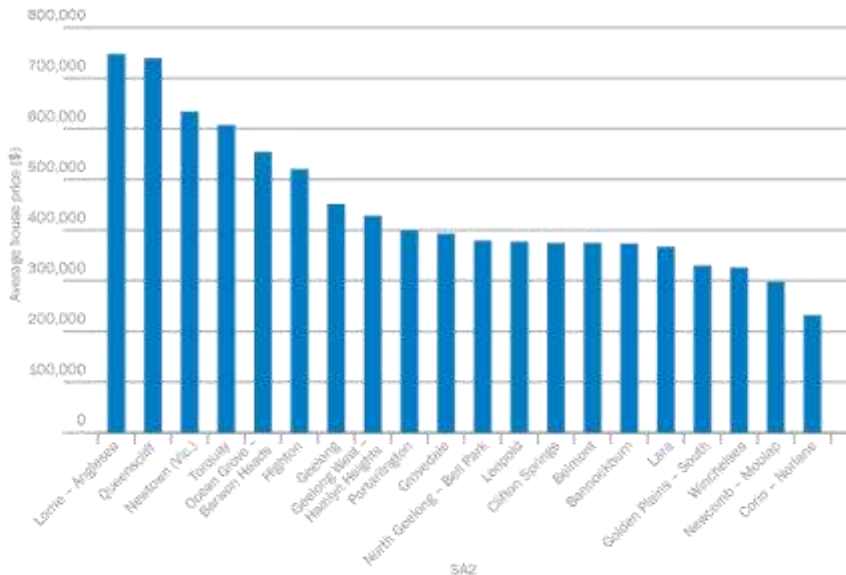


Source: ABS (2014f).

House prices

Figure 1.5 shows that Queenscliff had the second-highest house prices within the SA4 of Geelong. In 2013, the average house price for the SA2 of Queenscliff was \$739,517, which is considerably higher than both its SUA of Ocean Grove - Point Lonsdale (\$594,595) and the average for the SA4 region of Geelong (\$447,687). These prices suggest that migration into the region is not attributable to the search for lower-cost housing.

Figure 1.5 House prices, Geelong SA4, 2013



Source: RP Data - Rismark (2014). Nominal prices.

### Labour force participation rate

Within the Geelong SA4, the SA2s of Portarlington (41.9 per cent) and Queenscliff (47.7 per cent) had the lowest labour force participation rates. The participation rate for Geelong was 59.4 per cent (ABS 2001, 2006a and 2011a).

In combination with Queenscliff's high house prices, its low participation rate suggests that people of high wealth and low attachment to the workforce move to the area that has high natural amenity in addition to the advantage of proximity to Melbourne and Geelong and the services they provide.

### Age dependency ratio

In 2013 the age dependency ratio for Queenscliff was 65.1 per cent (ABS 2014f). The age dependency ratio for the Geelong SA4 region is less than half that of Queenscliff, at 26.5 per cent. However, given that Queenscliff is part of the larger functional area of Geelong, with its attendant workforce and services, its high age dependency ratio may not necessarily pose the problem that the figures suggest.

### Source of income

The percentage of those who are aged 65 and over and in receipt of the age pension in the Borough of Queenscliffe<sup>6</sup> is 58.8 per cent. The figure is considerably lower than the figure of 70.9 per cent for Victoria (Public Health Information Development Unit 2014). This suggests that Queenscliff has a comparatively larger number of self-funded retirees compared with the rest of the state.

### Source of internal migration

Between 2006 and 2011 the major source of internal migrants to the Ocean Grove – Point Lonsdale SUA, in which Queenscliff lies, was Melbourne (2,008 persons), followed by nearby Geelong (882 persons). As Melbourne and Geelong are larger urban areas with a high level of services, migration is unlikely to be attributable to a desire to be closer to services. It is more likely to be because internal migrants are seeking other amenity values—for example, landscape—while retaining reasonable proximity to services.

### Conclusions

Given that house prices are much higher in Ocean Grove – Point Lonsdale compared with Geelong, it is likely that retirees have migrated for lifestyle rather than economic reasons.

Because Queenscliff is well serviced by transport infrastructure links to both Geelong and Melbourne, has a high wealth profile suggested by its house prices and relatively low reliance on the age pension, its ageing population is less likely to pose an economic challenge for the region.

<sup>6</sup> The Borough of Queenscliffe is a very small local government area of 11 square kilometres, encompassing Queenscliff, Point Lonsdale and Swan Bay (Borough of Queenscliffe 2013).

### 1.4.3 Case Study 3

#### Barossa – Yorke – Mid North

##### Characteristics

The Barossa – Yorke – Mid North SA4 covers the Yorke Peninsula and the area of South Australia from immediately north of Adelaide to Peterborough and its surrounds.

The region has a population of 109,188, mostly comprising smaller towns. Port Pirie is by far the largest centre (14,319 people in 2013)<sup>7</sup> and is considerably smaller than Port Macquarie in the Mid North Coast (44,180). Some of the region's comparatively larger towns include Nuriootpa, Kadina and Wallaroo.

##### Proportion of the population aged over 65 years

Map 1.3 shows the variation in ageing populations in SA2s within the Barossa – Yorke – Mid North region. SA2s with particularly high proportions of those aged 65 years and over include North and South Yorke Peninsula, Moonta, Wallaroo and Peterborough – Mount Remarkable. These SA2s have between 25 and 31 per cent of their population aged 65 and over compared with the Australian proportion of 14.4 per cent.

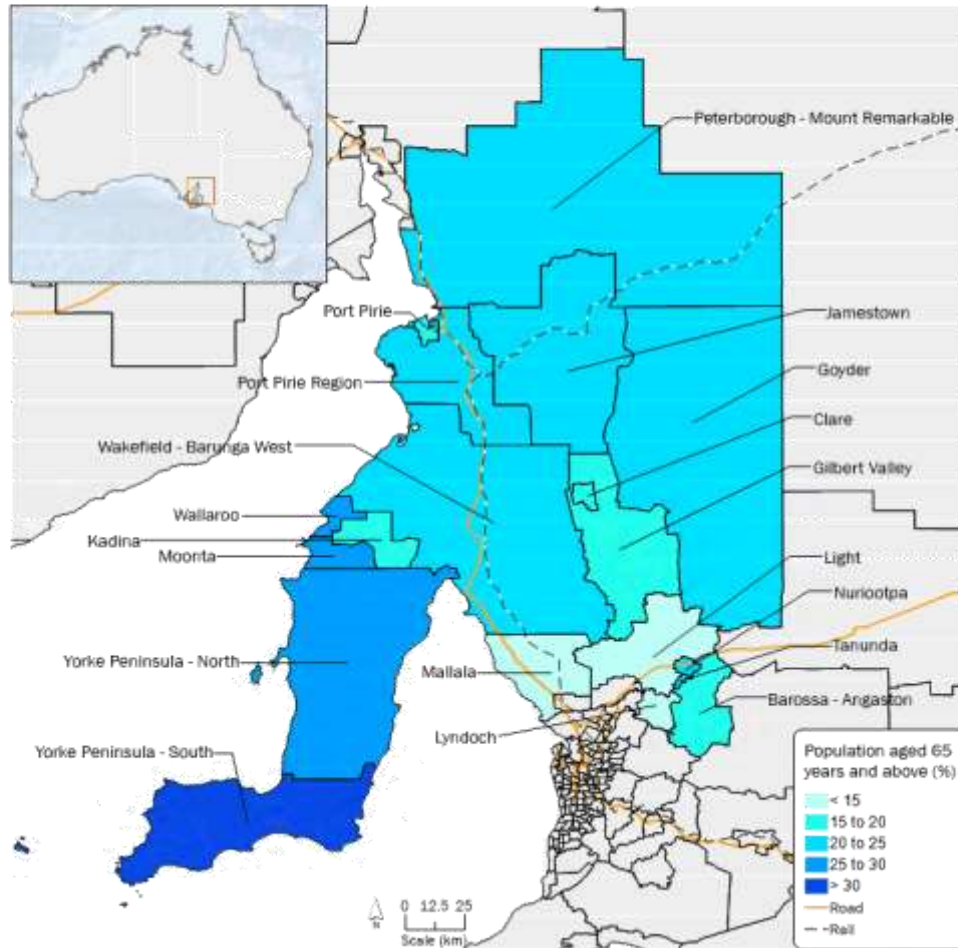
The SA2s with the lowest proportion of older people are Light, Mallala and Lyndoch, which are also those closest to Adelaide. The larger proportion of working age people is likely to relate to the commutable distance between these SA2s and Adelaide.



<sup>7</sup> Refers to both the SA2 and SUA.



Map 1.3 Percentage of population aged 65 years and over in the Barossa - Yorke - Mid North (SA4), 2013



Source: ABS (2014f).  
 Note: Smaller regions within the SA4 are SA2s.

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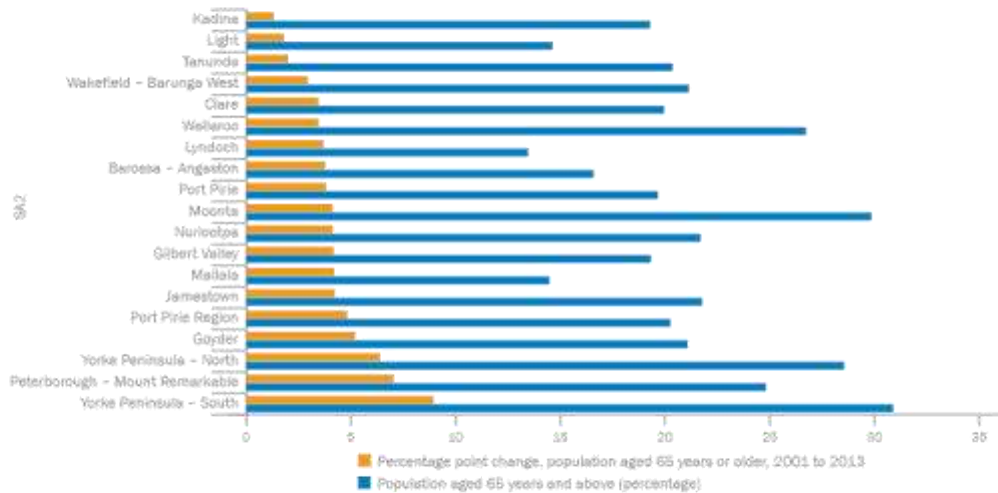
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Figure 1.6 below shows how the proportion of the population aged 65 years and older has increased for every region in the area since 2001. Those with the highest growth were in the Yorke Peninsula and the northern parts of the SA4.

Figure 1.6 Proportion and change of population aged over 65, Barossa – Yorke – Mid North SA4, 2001–2013



Source: ABS (2014f).

Regional Development Australia Yorke and Mid North (RDAYMN)<sup>4</sup> covers an area that is similar in size to the SA4, but the region excludes the SA4’s more southern areas. RDAYMN’s 2012 infrastructure audit reports that there are 27 aged care facilities in the area. The report says that since ‘the region is attracting additional early retirees who make the conscious lifestyle decision to move to the region, there will be an increased demand for aged care facilities and people expressing a desire to stay within the community’ (RDAYMN 2012, p.41). The report also raises the need to attract and retain qualified workers in health and community services.

**Labour force participation rate**

Table 1.15 shows the age dependency ratio for SA2 regions within the Barossa – Yorke – Mid North SA4. Mallala, Light and Lyndoch, those with the lowest proportion of those aged 65 years and over, also have the lowest age dependency ratio. The four regions with the highest dependency ratio were on the Yorke Peninsula. However, while Wallaroo and Kadina are adjacent towns—Walleroo on the coast and Kadina 10 kilometres inland—their ratios vary considerably; Wallaroo has a much larger aged population relative to the working-age population.

<sup>4</sup> Regional Development Australia is an Australian Government initiative that brings together all levels of government to enhance the development of Australia’s regions. A national network of Regional Development Australia committees has been established to achieve this objective.

Table 1.15 Age dependency ratio, SA2s within Barossa – Yorke – Mid North SA4, 2013

SA2	Age dependency ratio 2013
Yorke Peninsula – South	55.6
Moonta	54.5
Yorke Peninsula – North	51.6
Walleroo	45.6
Peterborough – Mount Remarkable	42.1
Jamestown	36.1
Nuriootpa	37.0
Wakefield – Barunga West	35.4
Goyder	35.0
Tanunda	32.5
Port Pirie Region	33.3
Clare	34.1
Port Pirie	32.2
Gilbert Valley	31.4
Kadina	31.7
Barossa – Angaston	26.0
Light	22.3
Mallala	22.1
Lyndoch	20.7

Source: ABS (2014f).

As Table 1.16 below shows, the 2011 labour force participation rates across SA2s in the Barossa – Yorke – Mid North region ranged from 44 per cent in Wallaroo to 68 per cent in Lyndoch, closer to Adelaide. In most regions, these rates were lower than the Australian rate of 61.4 per cent. The exceptions were those areas closest to Adelaide and the Clare and Barossa valleys.

Table 1.16 Labour force participation rates, SA2s in the Barossa – Yorke – Mid North region, 2001, 2006 and 2011

SA2	2001	2006	2011	Percentage point change 2001-2011
Walleroo	39.5	40.3	44.0	4.5
Moonta	39.7	43.1	45.0	5.3
Yorke Peninsula–South	45.6	47.2	46.7	1.1
Yorke Peninsula–North	48.7	46.9	47.4	-1.3
Port Pirie	51.0	50.1	50.7	-0.3
Peterborough – Mount Remarkable	51.7	51.0	51.3	-0.4
Wakefield – Barunga West	53.5	53.1	53.6	0.1
Kadina	51.4	54.2	54.4	3.0
Port Pirie Region	53.0	53.9	54.9	1.9
Goyder	56.1	56.8	54.9	-1.2
Jamestown	55.9	56.9	59.1	3.2
Mallala	58.8	57.6	59.7	0.9
Nuriootpa	62.4	62.7	60.5	-1.9
Gilbert Valley	61.5	61.4	60.6	-0.9
Tanunda	62.5	63.6	62.9	0.4
Clare	63.3	64.0	63.3	-
Light	59.8	62.7	63.8	4.0
Barossa–Angaston	63.1	66.9	65.0	1.9
Lyndoch	65.6	66.1	68.3	2.7
Barossa – Yorke – Mid North	54.8	55.4	55.8	1.0

Source: ABS (2001, 2006a and 2011a).

### Source of income

Table 1.17 shows the proportion of those aged 65 and over in 2013 who received the age pension. The highest proportion is Port Pirie (86.5 per cent), which is also the largest population centre in the Barossa – Yorke – Mid North SA4 (14,319 persons). The proportion for South Australia overall was 74.8 per cent.

Table 1.17 Age pension recipients, Barossa – Yorke – Mid North, 2013

Local Government Area	Age pensioners	Persons aged 65 years and over	Percentage of 65+, age pensioners
Port Pirie City and Districts	2,966	3,428	86.5
Peterborough	382	455	83.9
Copper Coast	2,755	3,432	80.3
Barunga West	533	682	78.1
Yorke Peninsula	2,529	3,269	77.4
Mallala	798	1,037	77.0
Barossa	3,129	4,112	76.1
Mount Remarkable	504	663	76.1
Wakefield	919	1,297	70.8
Goyder	663	943	70.3
Clare and Gilbert Valleys	1,206	1,726	69.9
Orroroo/Carrieton	147	213	69.2
Northern Areas	683	997	68.5
Light	1,159	1,694	68.4

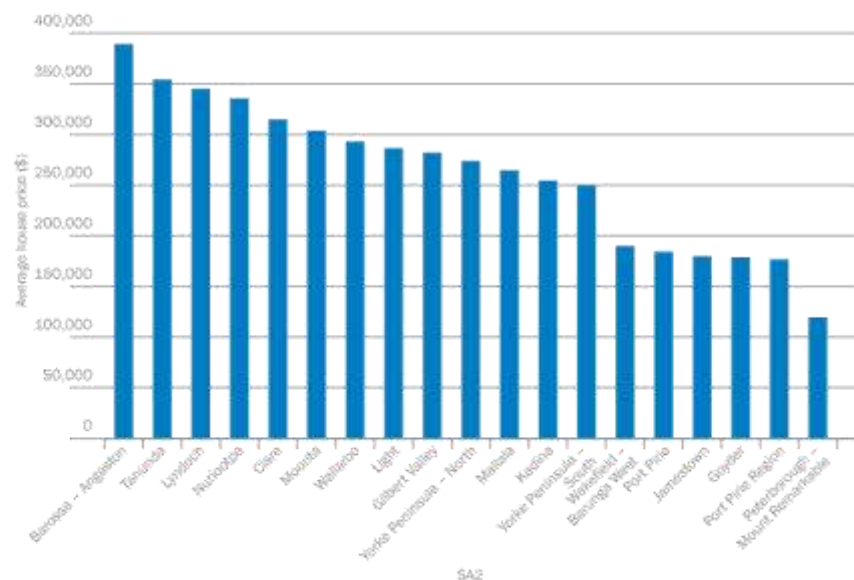
Source: Public Health Information Development Unit (2014).

Note: These LGAs aggregate almost exactly to the Barossa – Yorke – Mid North SA4, except that small parts of the Barossa, Light and Mallala council areas are in the Adelaide North SA4.

House prices

Figure 1.7 illustrates average house prices for regions within the Barossa – Yorke – Mid North SA4. As may be expected across such a large area, the average house price varies considerably. Those closer to Adelaide tend to have the higher house prices, followed by the more remote but coastal Yorke Peninsula. Lower prices are typically found in the inland areas more distant from Adelaide.

Figure 1.7 House prices, Barossa – Yorke – Mid North SA4, 2013



Source: RP Data – Rismark (2014). Nominal prices.



## Conclusions

In 2013, the SA2 of Port Pirie in the Barossa – Yorke – Mid North SA4 had an average house price of \$184,135. The LGA of Port Pirie also had the highest proportion of residents aged 65 and over who are in receipt of the age pension. The challenges faced by residents in a region within the SA4 with lower wealth and income combined with less access to services will be different to those faced by residents in a region who are closer to Adelaide and hold greater wealth in the form of housing. This is partly because those with higher wealth are more likely to be able to afford to travel to access services, and the quality of services tends to be higher with greater population.

### 1.4.4 Comparison between the Mid North Coast, Queenscliff and Barossa – Yorke – Mid North

The case studies in this chapter illustrate that, although areas may have a similar age profile, they can be quite different on other indicators. Accordingly, they face different challenges.

In particular, on three indicators—house prices, percentage of age pension recipients and proximity to a major population centre—the experience of these ageing populations vary widely. The average house price in the Mid North Coast SA4 in 2013 was \$367,949, which is slightly less than half of the 2013 average house price for Queenscliff (\$739,517). Even the SA2s with the highest average house prices in the Mid North Coast SA4 were under \$500,000. All of the regions within Barossa – Yorke – Mid North SA4 had average house prices below \$400,000. This suggests that greater average wealth is held by Queenscliff residents.

Furthermore, the size of a population can also act as an indicator of service availability. Residents of Port Pirie, the largest centre in the Barossa – Yorke – Mid North SA4 with a population of 14,319, will be likely to have access to fewer services than those in the much larger Port Macquarie (44,180).

Port Pirie contrasts with Queenscliff, which also has a small population and a high proportion of people aged 65 and over. Queenscliff benefits from a likely higher than average wealth and its proximity to Geelong and Melbourne, which means that its older residents are likely to have greater access to services, retain existing links to family and friends and experience greater social inclusion.

Different again is the SA2 of the Yorke Peninsula, which is remote at 240 kilometres from the nearest centre in Port Pirie, which itself has a population of only 14,319. The size of the population combined with its relative isolation suggest that the challenges its ageing population will face will be different from those in areas closer to larger centres, and that alternative modes of service delivery may have to be considered.

Age pension rates also vary between populations. Among residents aged 65 and over, 58.8 per cent received the age pension in Queenscliff's local government area, while the councils containing Port Macquarie, Forster–Tuncurry and Taree had rates between 75 and 80 per cent. In the Barossa – Yorke – Mid North region, the age pension rate ranged from 68 to 87 per cent. This difference indicates both higher income and higher wealth in Queenscliff compared with the other case study regions: there are fewer people aged 65 and over in Queenscliff who qualify for the age pension, which is determined by a combination of assets and income.

The three case studies illustrate that ageing populations in regional Australia do not form a homogenous group. Regions will face different challenges as their populations age and areas with similar age profiles can vary widely in other characteristics. Regions such as Queenscliff, with its high wealth and proximity to Geelong, may find that it faces different challenges than a small, isolated region in the Yorke Peninsula. To address the needs of these different populations, consideration will need to be given to their particular circumstances, taking into account factors such as income, wealth, housing affordability and ease of access to services.

## 1.5 Conclusion

Population ageing continues to be a major policy issue because of its implications for productivity and economic growth, the provision of services and the pressures on government revenue.

Populations aged 65 years and over are highest in *inner regional* (17.7 per cent) and *outer regional* (16.0 per cent) Australia, compared with 13.5 per cent in *major cities*. *Very remote* regions have a much younger age profile (7.2 per cent), potentially due to higher fertility rates.

In addition, the 10 regions with the highest proportion of population aged 65 years and over were in regional areas, although two fell into their states' broader greater capital city statistical areas. In these 10 regions, older people accounted for approximately one third or more of the population. They were also all coastal areas within accessible distance of a major population centre or in areas that historically have been associated with tourism and leisure—for example, Foster and Tuncurry in New South Wales, Paynesville and Queenscliff in Victoria and Victor Harbor and Goolwa – Port Elliot in South Australia. This settlement pattern suggests a trend of older Australians who have the means to do so choosing to spend their retirements in coastal regional Australia.

An older population presents challenges that include the location of age-specific services such as health care and the supply of suitable housing. In addition, lower mobility associated with ageing will require considerations around public transport infrastructure. This will be a particularly difficult issue for *remote* and *outer regional* communities where small populations and long distances to services will make affordable transport options difficult to fund and provide. However, there are also opportunities for regions to capitalise on retirees who have both wealth and income.

The case studies for the Mid North Coast in New South Wales, Queenscliff in Victoria and Barossa – Yorke – Mid North in South Australia have highlighted that not only does the proportion of older people in regions vary, but the experiences, challenges and opportunities that face regions with an older age profile also vary greatly depending on factors such as proximity to services and older people's resources.

For example, a remote region where the age profile reflects ageing in place and the exit of younger people may face problems with welfare dependency, lack of affordable housing and access to services. A region with high-income or high-wealth retirees who have moved into the area for lifestyle reasons may face different pressures in the form of competition for housing, housing price inflation, demand for infrastructure and accessibility, and ensuring local services meet growing demand. Spatial planning will assist in counteracting the future risks and also exploit the potential opportunities associated with an ageing population.





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## 2. Economic wellbeing



### Key points

- This chapter focuses on several economic wellbeing indicators, their regional distribution and dynamics over time. These dynamics reveal changes in economic growth, opportunity and living standards.
- Young people's engagement in full-time work or study declines as remoteness increases. In 2011, very remote regions overall had a low rate of engagement, but this rate improved from a low base in the decade to 2011. Among sub-state regions (SA4s), engagement in full-time work or study tended to be higher in *major cities*. The largest increases in engagement over the decade to 2011 tended to be in the areas with initial low absolute engagement.
- Median income in a region is an indicator of the ability for people to consume and invest, and more generally reflects the health of a regional economy. In 2011, real median weekly household income was highest in *major cities* and *remote* areas, followed by *very remote* areas, which is reflective of economic activity in mining areas. *Inner regional* and *outer regional* areas both had lower median weekly incomes. Almost all regions experienced growth in median income in the decade to 2011.
- An indicator of income disparity within a region is the ratio of income earned by low-income households to the income earned by middle-income households. Regional areas tend to have both low median incomes and low disparity. The notable exception is mining centres in regional areas with high median incomes.
- In 2013, some of the highest average house prices were found in remote mining towns (Port Hedland and Karratha in Western Australia) and areas in *major cities*. Regions with the lowest house prices were typically those with populations under 20,000. The regions with low average house prices also had population growth below the Australian average and experienced decline due to structural changes in their industries.

### 2.1 Introduction

While national measures such as Gross Domestic Product indicate how Australia is progressing economically, a more comprehensive picture of the economic health and wellbeing of people in different parts of Australia can be found by examining how economic growth and prosperity is shared across regions.

This chapter examines data from *Progress in Australian Regions—Yearbook 2014*.<sup>8</sup> It explores in greater depth data from the Yearbook that captures different aspects of economic wellbeing across regions.

<sup>8</sup> A more comprehensive set of economic indicators can be found in the Yearbook, available at [www.infrastructure.gov.au](http://www.infrastructure.gov.au).



The first half of the chapter explores some measures of regional economic health. These measures show variations and developments in economic growth, opportunity and living standards. Three progress indicators have been chosen to represent economic opportunity, living standards and fair outcomes:

- the proportion of young people engaged in work or study (an indicator of opportunity)
- real median weekly household income (an indicator of living standards and economic growth)
- the low income ratio (an indicator of fair outcomes).

The second half of the chapter explores regional house prices in detail. House prices are an important component of wealth and an indicator of investment activity and the appeal of a region.

## 2.2 Progress indicators

### 2.2.1 Young people engaged in work or study

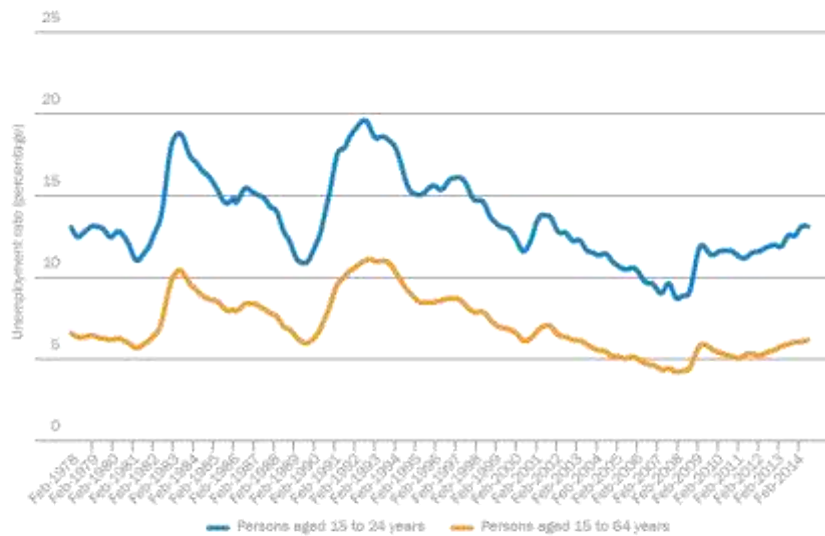
The ABS (2010b), citing Pech, McNevin and Nelms (2009), reports that young people who lack engagement with the workforce or study 'are at greater risk of unemployment, cycles of low pay and employment insecurity in the longer term'. Accordingly, an indicator of progress is the proportion of young people (aged between 15 and 24 years) engaged in either paid employment or study.

Engagement with employment and education is an indicator of both the availability of opportunities and the propensity of individuals to access these, both of which can vary over time. Interpreting regional data can be problematic, as young people sometimes relocate from their home town to access employment or educational opportunities. Accordingly, the engagement rate of a regional area will not reflect the actual engagement of its young people who have moved to access opportunities.

Engagement of young people is also an important factor in the health and changing nature of regions. For example, internal migration can be associated with stages of life, such as when young people move to access higher education and employment opportunities.

In 2013, 20 per cent of the 15 to 64 age group was aged 15 to 24 years (ABS 2014f). Figure 2.1 below shows the national monthly trend unemployment rate for 15 to 24 year olds and for working age people overall between 1978 and 2014. In this period, the national unemployment rate for 15 to 24 year olds was consistently around twice the rate of the overall working aged unemployment rate and emphasises that young people are disproportionately disadvantaged by labour market downturns.

Figure 2.1 Unemployment rate for 15 to 24 year olds (young people) and 15 to 64 year olds (all working age), Australia, 1978-2014



Source: ABS (2014g).  
 Note: Trend data.

Vandenbroek (2014) notes that labour market analysis of young people is difficult because of their complex combinations of work and study arrangements. She further argues that taking the youth unemployment rate in isolation can be misleading, as it fails to account for those who are studying or training.

The following section examines both employment and study rates to better understand the spatial aspects of young people’s engagement. In this analysis, individuals are considered to be engaged in work or study if they study full-time, work full-time, or study part-time and work either full-time or part-time.<sup>30</sup>

Table 2.1 shows the proportion of 15 to 24 year olds engaged in employment or study (the engagement rate) by Remoteness Class.

Table 2.1 Proportion of young people earning or learning by Remoteness Class, 2001, 2006 and 2011

Remoteness Class	2001 (%)	2006 (%)	2011 (%)	Percentage point change, 2006-2011	Percentage point change, 2001-2011
Major cities	75.3	74.3	75.2	0.9	-0.1
Inner regional	70.2	70.7	69.9	-0.8	-0.3
Outer regional	67.3	67.7	66.9	-0.9	-0.4
Remote	61.1	60.3	61.0	0.6	-0.1
Very remote	37.7	40.8	43.6	2.8	5.9
AUSTRALIA	72.8	72.6	73.1	0.5	0.3

Source: ABS (2001, 2006a and 2011a).

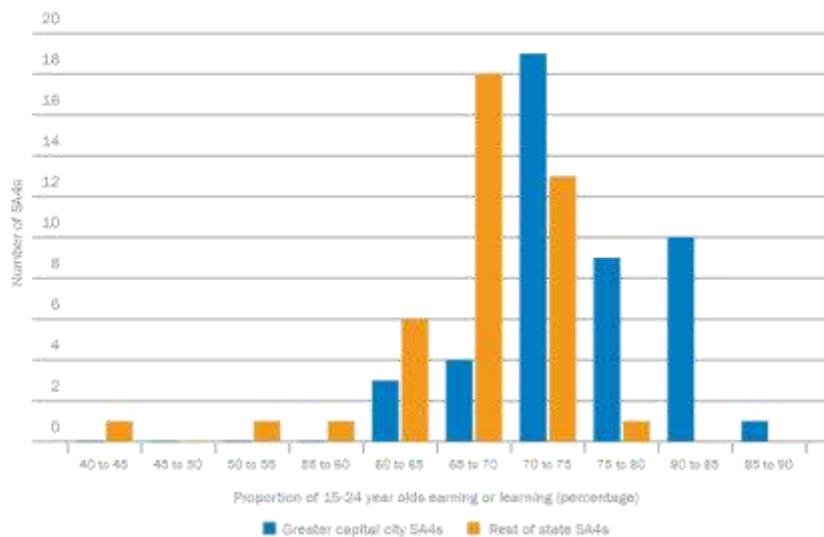
<sup>30</sup> For those who did not state their student full-time/part-time status or type of institution attended, only those employed full-time were included as earning or learning.

The engagement rate declines with remoteness. While very remote Australia has shown the greatest improvement in youth engagement since 2001, its absolute engagement is still very low. In 2001, just over a third of young people in very remote Australia were engaged in work or study, which was only half the rate of those in major cities (37.7 per cent compared with 75.3 per cent in major cities). This gap has narrowed due to rising engagement in very remote areas. However, in 2011 the very remote rate of 43.6 per cent was still only 58 per cent of the major cities engagement rate of 72.5 per cent.

The engagement rate in the other Remoteness Classes has changed only marginally over the 10 years. Major cities and remote areas both had a 0.1 percentage point decline over the decade, while inner regional and outer regional Australia experienced a 0.3 and 0.4 percentage point decline respectively.

Figure 2.2 shows the distribution of SA4s by the rate of young people’s engagement in work or study. This reveals that the distribution of the 46 ‘greater capital city’ SA4s is higher than the distribution of the 42 ‘rest of state’ SA4s.<sup>45</sup> The 11 SA4s with engagement rates above 80 per cent are all in the Greater Capital City Statistical Areas, while 10 of the 13 SA4s with engagement rates under 65 per cent are in the ‘rest of state’ areas. A large proportion (41 per cent) of SA4s in capital cities have engagement rates between 70 and 75 per cent, and a similar proportion of ‘rest of state’ SA4s (44 per cent) were in the 65 to 70 per cent range.

Figure 2.2 Frequency of engagement, capital city and regional SA4s, 2011



Source: ABS (2011a).

Table 2.2 lists the 15 SA4s with the lowest rates of engagement. The four ‘outback’ SA4s, which cover very large remote areas of Northern Territory, Queensland, Western Australia and South Australia, have some of the lowest absolute engagement rates. However, three of these regions (excluding Outback Queensland) have experienced strong positive growth in engagement between 2001 and 2011. Outback Queensland’s youth engagement rate fell over the same period.

Similarly, Wide Bay, Cairns and Moreton Bay – North also have both low and declining rates of engagement. Table 2.2 shows that while the most marked change was seen between 2001 and 2011, there are some areas such as Wide Bay and Cairns in Queensland that experienced greatest decline in engagement between 2006 and 2011. This decline is masked by looking at only the percentage point change between 2001 and 2011.

<sup>45</sup> Greater capital city SA4s are those within the Greater Capital City Statistical Areas as defined by the Australian Bureau of Statistics, with the remainder classed as ‘rest of state’.

Table 2.2 Proportion of young people earning or learning, SA4s, bottom 15, 2011

SA4	2001 (%)	2006 (%)	2011 (%)	Percentage point change, 2006-2011	Percentage point change, 2001-2011
Northern Territory - Outback	37.9	38.7	42.8	4.1	4.9
Queensland - Outback	53.4	54.4	53.1	-1.3	-0.3
Western Australia - Outback	53.6	56.4	57.5	1.2	3.9
Wide Bay QLD	62.4	63.6	60.1	-3.5	-2.2
South Australia - Outback	58.0	60.1	61.1	1.1	3.1
Cairns QLD	63.4	65.4	61.7	-3.7	-1.7
Moreton Bay - North QLD	63.3	65.0	62.2	-2.8	-1.1
Far West and Orana NSW	62.5	60.9	63.0	2.1	0.5
Mandurah WA	59.9	65.9	63.2	-2.6	3.3
Mid North Coast NSW	64.8	63.5	63.7	0.2	-1.0
Western Australia - Wheat Belt	65.0	66.6	64.3	-2.4	-0.8
Logan - Beaudesert QLD	66.5	67.5	64.7	-2.9	-1.8
Ipswich QLD	65.3	67.4	65.1	-2.3	-0.1
Coffs Harbour - Grafton NSW	65.7	65.1	65.4	0.3	-0.4
South East TAS	60.6	65.5	65.6	0.1	5.0
AUSTRALIA	72.8	72.6	73.1	0.5	0.3

Source: ABS (2001, 2006a and 2011a).

Table 2.3 lists the five SA4s with the largest growth in the level of engagement between 2001 and 2011. The regions that exhibited the greatest improvement are all in non-metropolitan Australia. The four SA4s with the biggest improvements have low absolute rates of engagement.

Table 2.3 Change in the proportion of young people earning or learning, SA4s, top five, 2001-2011

SA4	2001 (%)	2006 (%)	2011 (%)	Percentage point change, 2006-2011	Percentage point change, 2001-2011
South East TAS	60.6	65.5	65.6	0.1	5.0
Northern Territory - Outback	37.9	38.7	42.8	4.1	4.9
West and North West TAS	62.0	66.3	66.7	0.4	4.7
Western Australia - Outback	53.6	56.4	57.5	1.2	3.9
Newcastle and Lake Macquarie NSW	70.2	70.7	73.9	3.2	3.7
AUSTRALIA	72.8	72.6	73.1	0.5	0.3

Source: ABS (2001, 2006a and 2011a).

Table 2.4 below lists the regions in which the engagement rate had the largest percentage point decrease between 2001 and 2011. In 2011, all of these regions also had absolute engagement rates below the Australian figure. Youth engagement within smaller regions of North West Victoria is discussed in more detail below in Box 2.1.



Table 2.4 Change in percentage of young people earning or learning, SA4s, bottom five, 2001-2011

SA4	2001 per cent	2006 per cent	2011 per cent	Percentage point change, 2006 to 2011	Percentage point change, 2001 to 2011
North West VIC	73.0	71.4	69.0	-2.4	-4.0
Toowoomba QLD	75.0	74.7	71.9	-2.8	-3.1
South Australia - South East	68.8	66.6	66.2	-0.4	-2.6
Wide Bay QLD	62.4	63.6	60.1	-3.5	-2.2
Logan - Beaudesert QLD	66.5	67.5	64.7	-2.9	-1.8
AUSTRALIA	72.8	72.6	73.1	0.5	0.3

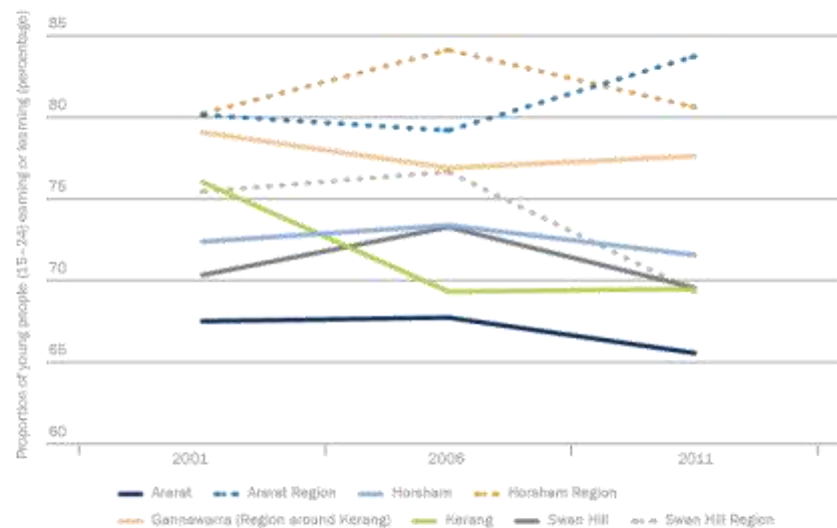
Source: ABS (2001, 2006a and 2011a).

**Box 2.1 Case study: youth engagement in North West Victoria**

North West Victoria is a large area that includes Ararat, Horsham, Swan Hill and Mildura. This region exhibited the greatest decline in youth engagement over the period 2001 to 2011. Figure 2.3 shows some SA2s within North West Victoria, including both towns and their surrounding regions.

The data reveals a consistent pattern in which the towns themselves have a lower engagement rate than their surrounding regions. More generally, it also highlights the spatial variation in engagement within individual SA4s.

Figure 2.3 Young people earning or learning, selected North West Victoria SA2s, 2001-2011



Source: ABS (2001, 2006a and 2011a).

Note: Mildura and its surrounds have been excluded because this area includes five SA2s. However, this follows the pattern in the figure, with the Mildura Region SA2 having a higher engagement rate than the SA2s of Mildura, Merbein, Irymple and Red Cliffs. The SA2s named Ararat Region, Horsham Region and Swan Hill Region refer to the surrounds of these towns and do not include the towns themselves.

This section has demonstrated the large variation in youth engagement in work or study across regional Australia. Engagement tends to be higher in major city regions and much lower in the remote outback areas. The differing rates likely relate to the availability of educational services and diverse employment opportunities. However, this analysis did not capture data on young people who relocated from more remote areas to access these opportunities elsewhere. The data may have enhanced the difference between rates given that the lower rates represent those young people who did not move to access these opportunities.

Low rates of engagement also occur in larger centres and those close to capital cities, such as Mandurah and Ipswich. This indicates that the issue of low engagement is not limited to the remoteness of an area. The lower rates represent reduced prospects for individuals in addition to diminished potential for the economy. The considerable variation across regions emphasises the ongoing importance of examining this issue spatially.

## 2.2.2 Median income

Median income is a useful measure of people's ability to consume and invest. While national growth of the economy is important, the regional dimension aids understanding of how this prosperity is distributed across Australia.<sup>12</sup>

Table 2.5 below shows the estimated real median weekly household income for remoteness areas in 2001, 2006 and 2011.<sup>13</sup> The median weekly income in *inner regional* and *outer regional* areas is considerably lower than the national (at about 80 per cent of the Australian median). In 2011, median weekly income in *major cities* was above the Australian median, *remote* weekly income was the same as the Australian median, and *very remote* areas were slightly below.<sup>14</sup>

The data also reveals that *inner regional* and *outer regional* areas consistently had the lowest median weekly income across the three time periods. Median income in these two areas also grew at the slowest rate over the decade (1.4 per cent per year), while the *remote* category grew the fastest at 2.2 per cent.

Table 2.5 Real median weekly household income by Remoteness Class, 2001, 2006 and 2011

Remoteness Class	2001 (\$)	2006 (\$)	2011 (\$)	Ratio to Australian median, 2011	Average annual growth, 2006–2011 (%)	Average annual growth, 2001–2011 (%)
Major cities	1,143	1,248	1,351	1.09	1.6	1.7
Inner regional	865	983	992	0.80	0.2	1.4
Outer regional	852	968	976	0.79	0.2	1.4
Remote	988	1,155	1,233	1.00	1.3	2.2
Very remote	1,011	1,124	1,181	0.96	1.0	1.6
AUSTRALIA	1,037	1,182	1,234	1.00	0.9	1.8

Source: ABS (2001, 2006a and 2011a), custom data request, ABS (2013d).

Notes: Data converted to real terms using Consumer Price Index weighted average of eight capital cities. Reference year is 2010–11. Excludes visitor only and other non-classifiable households. Excludes migratory, shipping and offshore, and no usual address. This table is based on place of usual residence. Data represents income before automatic deductions such as tax and superannuation contributions.

<sup>12</sup> However, income does not provide a complete picture of household prosperity; wealth is another important element (Bureau of Infrastructure, Transport and Regional Economics 2009).

<sup>13</sup> In the Census, income data is collected not as precise amounts but within ranges, and for individuals rather than households. The ABS estimates household income data from personal income and medians from the ranges. Regional estimation is imperfect, particularly due to imputation biases relating to different socioeconomic characteristics across regions (ABS 2012b).

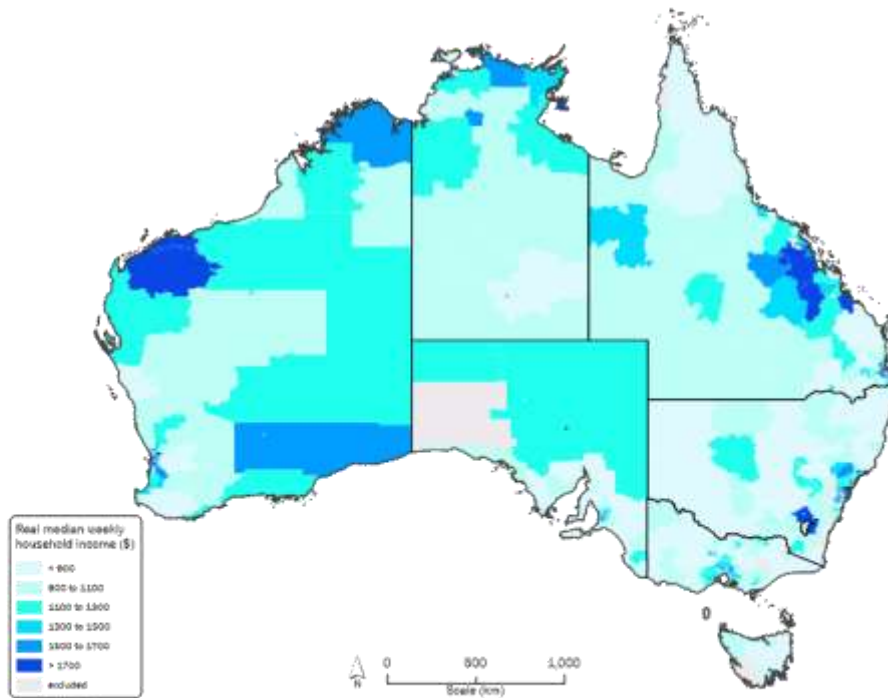
<sup>14</sup> The data in this chapter is median household income estimated by the ABS from the income reported by individuals in the Census. Accordingly, it differs from the approach used to calculate annual taxation statistics published by the Australian Tax Office, which uses income tax returns to produce average individual taxable income statistics by postcode.

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The following analysis examines income data at a finer level of disaggregation to show variation in median income across SA2s.<sup>15</sup> In 2011, estimated real median weekly household income in SA2s ranged from \$589 (Carlton, Victoria) to \$2,938 (Forrest, Australian Capital Territory).

Map 2.1 reveals the distribution of median weekly household income across Australia by SA2. Higher median incomes are apparent in mining areas (the Pilbara in Western Australia and the Bowen Basin in Queensland) and in and around major cities.

Map 2.1 Median weekly household income, SA2s, 2011



Source: ABS (2011a), custom data request.

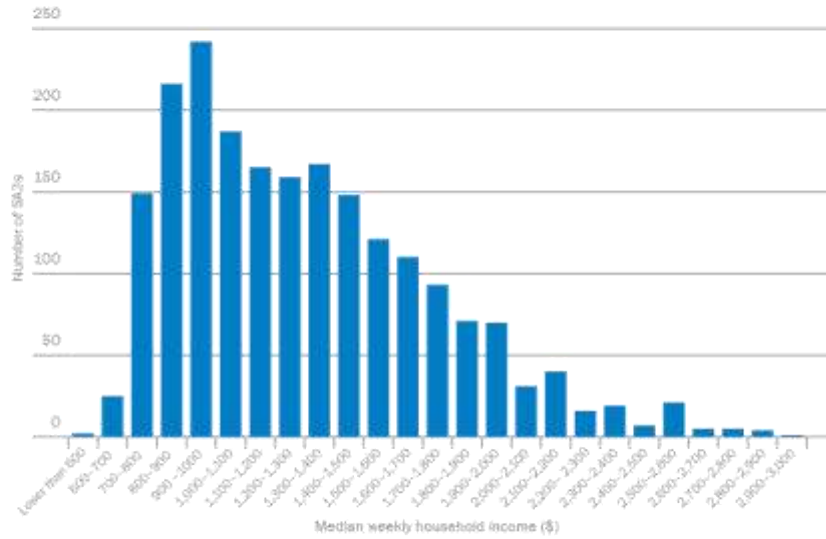
Note: Data is limited to Statistical Areas Level 2 (SA2s) that have at least 400 dwellings and at least 1,000 estimated resident population in 2011. SA2s that did not meet both of these criteria were excluded.

Figure 2.4 below illustrates the frequency distribution of median weekly household income across SA2s. It shows that the most common median weekly household income for SA2 regions is between \$900 and \$1,000.

<sup>15</sup> The following 2011 analysis is limited to SA2s with at least 400 dwellings and at least 1,000 estimated resident population in 2011. SA2s that did not meet both of these criteria were excluded. Of the 2,196 SA2s, 122 were excluded from the analysis on this basis (98 of which were small SA2s with fewer than 90 people). Because the data is based on households rather than individuals, dwellings were considered as well as population when determining which SA2s to include.

For the change analysis between 2001 and 2011, the data is limited to SA2s that met the above criteria and also to SA2s that have at least 1,000 estimated resident population in 2001. An additional nine SA2s were excluded on this basis (three in the Australian Capital Territory; four in Melbourne, Victoria; and two in the greater Darwin area in the Northern Territory). Another six SA2s were excluded as they are newer suburbs that did not exist at the start of the period (five in the Australian Capital Territory and one in Ipswich, Queensland). This exclusion does not affect analysis of larger areas as the ABS calculated the medians for these separately.

Figure 2.4 Median weekly household income, SA2s, 2011



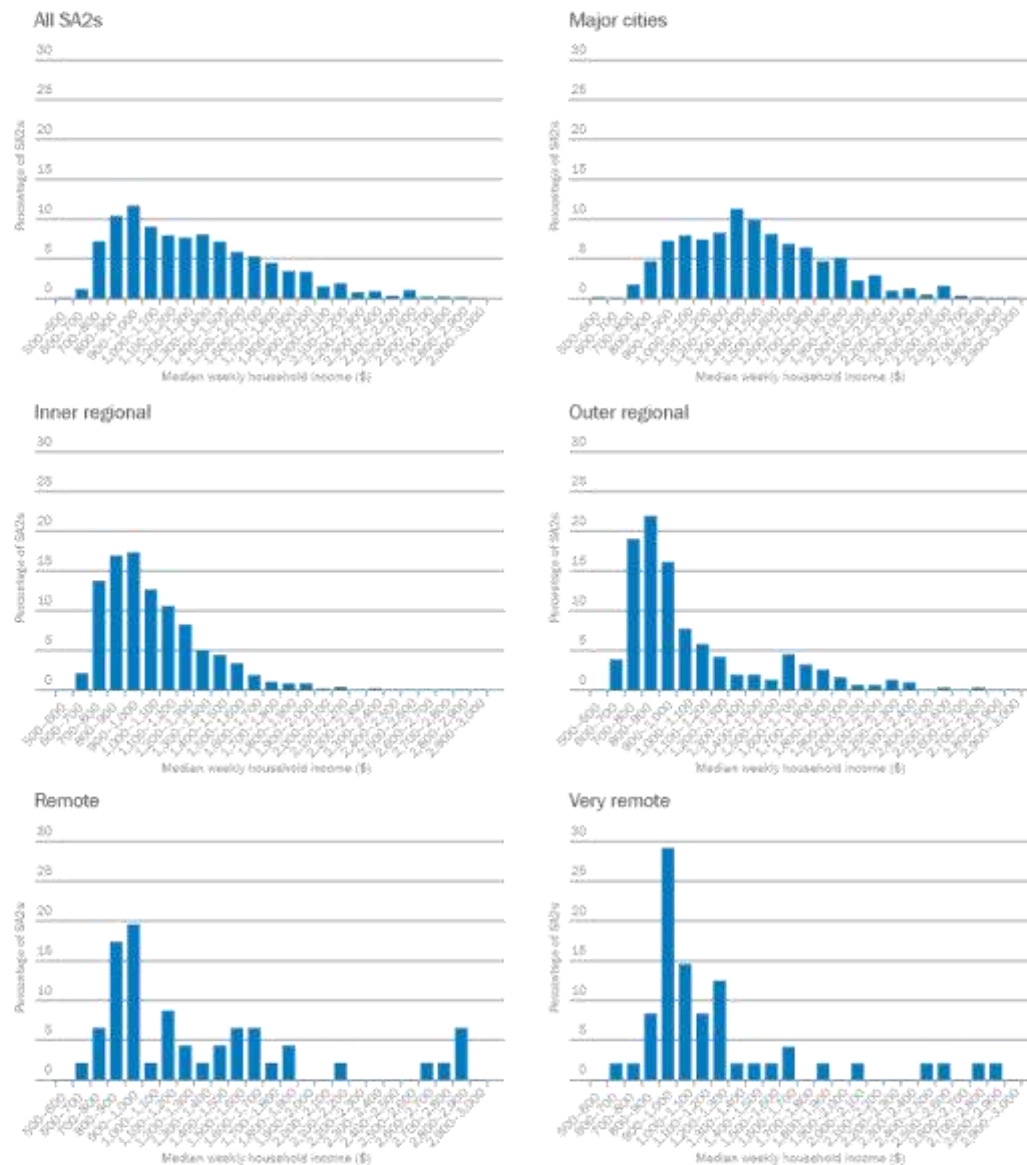
Source: ABS (2011a), custom data request.





Figure 2.5 below illustrates how the SA2 median income is distributed within Remoteness Classes and shows the geographic variation in income within these areas.<sup>18</sup>

Figure 2.5 Income distribution across SA2s within Remoteness Classes, 2011



The greatest concentration of lower incomes is found in *inner regional* and *outer regional* areas.

Remote and very remote areas include SA2s with very high median incomes. This is attributable to employment in mining and associated processing. In very remote areas, SA2s with very high median incomes include Newman and Ashburton in Western Australia, Nhulunbuy and Anindilyakwa (Groote Eylandt) in the Northern Territory and Weipa in Queensland. All of these SA2s had a median weekly household income over \$2,000 in 2011. Similarly, all SA2s with median weekly household income over \$2,000 in remote areas are mining areas.<sup>17</sup> In very remote Australia, the SA2s with the lowest median household income are Coober Pedy in South Australia (\$698 per week), Croydon – Etheridge in Queensland (\$748) and Far West New South Wales (\$829).

Coober Pedy's key industries of mining and tourism are related: its tourism capitalises on its distinctive opal industry. Retail trade accounts for 30 per cent of its resident employment<sup>18</sup> with a third of retail trade being employment in accommodation. Mining accounts for another 12.1 per cent. Service industries are also well represented: the Public Administration and Safety industry accounts for 12.8 per cent of resident employment, while the Health Care and Social Assistance industry accounts for 15.8 per cent (ABS 2011a).

Regional Australia is prominent among the regions with highest household incomes because of the high incomes in mining areas (Karratha, Newman, Port Hedland, South Hedland, Ashburton and Roebourne in the Pilbara in Western Australia; Moranbah in Queensland; and Roxby Downs in South Australia). All of these areas are remote or very remote Australia, except for Moranbah, which is in *outer regional* Australia.

Table 2.6 lists the five regions with the highest median weekly household income in 2011. These areas also have relatively high participation rates (between 65.2 and 70.4 per cent) compared to the national participation rate of 61.4 per cent.

Table 2.6 Real median weekly household income, SA2s, top five, 2011

SA2	2001 (\$)	2006 (\$)	2011 (\$)	Average annual growth, 2006–2011 (%)	Average annual growth, 2001–2011 (%)	Participation rate, 2011 (%)
Forrest ACT	2,642	3,196	2,938	-1.7	1.1	70.3
Karratha WA	1,827	2,371	2,869	3.9	4.6	70.2
Newman WA	1,904	2,627	2,848	1.6	4.1	70.4
Port Hedland WA	1,898	2,355	2,832	3.8	4.1	68.5
South Hedland WA	1,624	2,064	2,817	6.4	5.7	65.2
AUSTRALIA	1,037	1,182	1,234	0.9	1.8	61.4

Source: Income—ABS (2001, 2006a and 2011a), custom data request, ABS (2013d); participation rate—ABS (2011a), custom data request.

Note: The labour force participation rate includes persons 15 and over. It is the number of people employed or actively looking for work and available to work, expressed as a percentage of the population.

Table 2.6 above also reveals that for most of these high-income regions, median income has grown in the past decade at a considerably faster rate than the national annual rate of 1.8 per cent. From 2001 to 2011, the four regional SA2s in the list—all Western Australian mining areas—experienced average growth in household median income of between 4.1 and 5.7 per cent a year. Forrest, a suburb in inner Canberra in the Australian Capital Territory, had the highest 2011 median weekly income of \$2,938.

Table 2.7 below lists the five SA2s with the lowest median weekly household income in 2011. Of the 15 SA2s with the lowest median weekly income in 2011, all but Carlton in Victoria and Elizabeth in South Australia are in regional areas. The list includes both coastal and inland areas.

<sup>17</sup> These regions are Karratha, Port Hedland, South Hedland and Roebourne in Western Australia, Roxby Downs in South Australia and Mount Isa in Queensland.

<sup>18</sup> Includes usual residents aged 15 and over.

In contrast with Table 2.6, the SA2s with lowest median income shown in Table 2.7 below have participation rates ranging from 34.4 per cent to 49.8 per cent, which is between 12 and 27 percentage points below the Australian rate of 61.4 per cent.

Table 2.7 Real median weekly household income, SA2s, bottom five, 2011

SA2	2001 (\$)	2006 (\$)	2011 (\$)	Average annual growth, 2006–2011 (%)	Average annual growth, 2001–2011 (%)	Participation rate, 2011 (%)
Carlton VIC	741	607	589	-0.6	-2.3	49.8
Elizabeth SA	568	618	595	-0.8	0.5	39.0
Sussex Inlet - Berrara NSW	550	620	607	-0.4	1.0	34.4
Ravenswood TAS	579	665	620	-1.4	0.7	45.8
Tuncurry NSW	559	616	625	0.3	1.1	34.4
AUSTRALIA	1,037	1,182	1,234	0.9	1.8	61.4

Source: Income—ABS (2001, 2006a and 2011a), custom data request, ABS (2013d); Participation rate—ABS (2011a), custom data request.

Note: The labour force participation rate includes persons 15 and over. It is the number of people employed or actively looking for work and available to work, expressed as a percentage of the population.

Carlton in Victoria and Elizabeth in South Australia have very different profiles that cannot be captured by a median. Elizabeth is an outer suburb of Adelaide where employment has been based on the car manufacturing industry. Baum et al. (2005, p.3.23) characterise Elizabeth as 'a place doing it tough... a dramatic example of the many emerging communities of disadvantage that have resulted from the restructuring and recession across Australia', citing employment in old economy sectors, high levels of income support recipients and public housing tenure, low incomes, and jobless families (Baum et al. 2005). Carlton in Melbourne is an inner city suburb with a high proportion of university students and public housing. These are likely to be major factors contributing to the low median income (City of Melbourne 2013). In the case of students, this suggests a more transient form of low income.

Table 2.8 below shows the SA2s with the strongest growth in median weekly household income between 2001 and 2011. The Australian median weekly household income growth rate was 1.8 per cent a year.

Regional areas with the greatest growth in household income include:

- Mackay in Queensland (6.7 per cent). This SA2 represents only the centre of Mackay. However, the larger SA4 of Mackay recorded the second-largest real change in income between 2001 and 2011 (behind Perth - Inner). The Mackay SA2 has 7.5 per cent resident employment in coal mining (ABS 2011a).
- Pioneer Valley in Queensland (6.5 per cent) (including Mirani) and Sarina in Queensland (5.8 per cent), both near Mackay.
- Coomera in Queensland (6.4 per cent) on the northern end of the Gold Coast near Brisbane, which has experienced residential development and benefited from proximity to a rail line, enabling easy access to Brisbane.
- Gladstone Hinterland in Queensland (6.2 per cent), a large area outside of Gladstone that includes Mount Larcom, Calliope and Benaraby. In 2001, this area had similar median income to Australia, but by 2011 it was over \$600 a week higher than Australia. Gladstone is an industrial port city, and 16.8 per cent of resident employment in Gladstone Hinterland is in manufacturing. Most of this employment (9.9 per cent) is primary metal and metal product manufacturing associated with mining. An additional 4.0 per cent of Gladstone Hinterland residents work in the mining industry.<sup>19</sup>

<sup>19</sup> The multiple SA2s comprising Gladstone also had strong income growth, ranging from 3.4 per cent a year in Kin Kora - Sun Valley to 5.2 per cent in the Gladstone SA2 (the most central part)—well above the Australian rate of 1.8 per cent.

Table 2.8 Change in real median weekly household income, SA2s, top 15, 2001-2011

SA2	2001 (\$)	2006 (\$)	2011 (\$)	Estimated resident population 2011	Average annual growth 2006-2011 (5 years) (%)	Average annual growth 2001-2011 (10 years) (%)
Waterloo - Beaconsfield NSW	646	1,164	1,368	22,565	3.3	7.8
Perth City WA	876	1,224	1,709	27,978	6.9	6.9
Pallara - Willawong QLD	991	1,441	1,933	3,896	6.1	6.9
Forrestdale - Harrisdale - Piara Waters WA	1,096	1,388	2,116	7,743	8.8	6.8
Mackay QLD	613	860	1,171	4,212	6.4	6.7
Pioneer Valley QLD	818	1,165	1,538	7,226	5.7	6.5
Coomera QLD	852	1,360	1,586	9,075	3.1	6.4
Bulimba QLD	1,300	1,836	2,414	6,245	5.6	6.4
Gladstone Hinterland QLD	1,012	1,323	1,845	10,623	6.9	6.2
Parap NT	1,162	1,436	2,092	2,138	7.8	6.1
Turner ACT	1,108	1,594	1,956	3,734	4.2	5.8
Sarina QLD	859	1,253	1,505	11,857	3.7	5.8
Wickham - Carrington - Tighes Hill NSW	646	886	1,130	8,070	5.0	5.8
Shoal Point-Bucasia QLD	1,087	1,543	1,899	5,470	4.2	5.7
South Hedland WA	1,624	2,064	2,817	9,782	6.4	5.7
AUSTRALIA	1,037	1,182	1,234	22,340,024	0.9	1.8

Source: ABS (2001, 2006a and 2011a), custom data request, ABS (2013d), ABS (2014b).

Over the 10 years to 2011, the vast majority of SA2s experienced median income growth (1,968 of 2,059 SA2s or 96 per cent), while only 91 SA2s experienced a decline in median income. Only eight SA2s had a decline of greater than five per cent a year.

Table 2.9 below shows the SA2s that experienced the largest proportional declines in median weekly household income between 2001 and 2011. The majority of these had median weekly household incomes well below the Australian median of \$1,234.



Table 2.9 Change in real median weekly household income, SA2s, bottom 15, 2001–2011

SA2	2001 (\$)	2006 (\$)	2011 (\$)	Estimated resident population 2011	Average annual growth 2006–2011 (five years) (%)	Average annual growth 2001–2011 (10 years) (%)
Thamarrurr NT	1,108	1,191	866	2,662	-6.2	-2.4
Carlton VIC	741	607	589	15,122	-0.6	-2.3
Kings Park VIC	1,074	981	948	14,305	-0.7	-1.2
Berri SA	849	850	750	4,171	-2.5	-1.2
Penola SA	1,007	995	900	3,147	-2.0	-1.1
Millmerran QLD	1,008	910	908	3,195	0.0	-1.0
Petermann – Simpson NT	1,186	1,058	1,069	2,475	0.2	-1.0
Meadow Heights VIC	968	872	879	15,767	0.2	-1.0
Rushworth VIC	840	786	768	4,129	-0.4	-0.9
Lockington – Gunbower VIC	984	1,035	901	3,814	-2.7	-0.9
Croydon – Etheridge QLD	816	784	748	1,256	-0.9	-0.9
Thomastown VIC	968	888	900	21,430	0.3	-0.7
Narrandera NSW	857	811	798	6,344	-0.3	-0.7
Hoppers Crossing – South VIC	1,299	1,246	1,209	19,327	-0.6	-0.7
Keilor VIC	1,450	1,330	1,353	8,634	0.3	-0.7
AUSTRALIA	1,037	1,182	1,234	22 340 024	0.9	1.8

Source: ABS (2001, 2006a and 2011a), custom data request, ABS (2013d), ABS (2014b).

This section has explored spatial variation in estimated real median weekly household income. It revealed that estimates of real median weekly household income vary by remoteness class, with the lowest median income in *inner* and *outer regional* areas and the highest in *major cities*. For estimates of income among SA2s, the areas with the highest medians include mining regions. The greatest growth was also in mining and related processing areas.

### 2.2.3 The low income ratio

This section examines an indicator of income disparity within regions – the low income ratio. The ratio measures the proportion of income earned by low-income households to the income earned by middle-income households.<sup>20</sup> The low income ratio does not address income disparity across regions but provides only an indication of income disparity *within* a region.

A lower ratio is suggestive of greater income disparity within a region. Regions with very different median incomes can have the same ratio, and the low income ratio does not give any indication of absolute income. In particular, the low income ratio does not capture other facets or greater subtleties of income inequality beyond the relationship between the median income and low-income households.

Table 2.10 shows the low income ratio by Remoteness Class. The table reveals that income disparity is lowest in *inner* and *outer regional* areas and highest in *very remote* areas. The disparity in *very remote* areas may be associated with some very high incomes in mining as well as low incomes due to disadvantage, unemployment and those not in the labour force.

<sup>20</sup> Low income households are defined as those in the 10th percentile and middle-income households by the median (P50). This ratio uses percentiles based on the level of income received by individual households rather than the aggregate level of income received by all households in the income group.

Table 2.10 Low income ratio (intra-regional income disparity) by Remoteness Class 2011

Remoteness Class	Ratio (P10:P50)	2011 median weekly household income (\$)
Major cities	0.38	1,351
Inner regional	0.46	992
Outer regional	0.43	976
Remote	0.36	1,233
Very remote	0.33	1,181
AUSTRALIA	0.40	1,234

Source: ABS (2011a), custom data request.

Notes: Ratio of equivalised weekly household income for low-income households (10th percentile) to median income households (50th percentile). Equivalised household income was calculated by adjusting household income using an equivalence scale. This adjustment reflects the requirement for a larger household to have a higher level of income to achieve the same standard of living as a smaller household. Excludes visitor only and other non-classifiable households. Census data is collected based on income brackets, which creates the potential for stepwise (rather than incremental) shifts in the ratio indicator. Movements in the indicator over time may be affected by changes in the income brackets across censuses. Percentile and median values may be affected by confidentiality in small areas. Cells in this table have been randomly adjusted to avoid the release of confidential data.

Table 2.11 below lists the SA4s with the highest ratios (that is, the lowest income disparity). The SA4s with the lowest income disparity are also those with median household incomes that are considerably lower than the Australian weekly median (\$1,234 in 2011), representing between 63 and 73 per cent of this median. This fact is unsurprising given that there is greater scope for disparity when the median is very high. The figures suggest that regionally, at least at the SA4 scale, less disparity is more likely to be found in low-income regions than in high-income regions.

Table 2.11 Regions with highest income ratio (lowest disparity), 2011

SA4	Ratio (P10:P50)	2011 median weekly household income (\$)
Mid North Coast NSW	0.52	774
Wide Bay QLD	0.50	801
Southern Highlands and Shoalhaven NSW	0.49	896
Coffs Harbour - Grafton NSW	0.49	835
Richmond - Tweed NSW	0.49	865
AUSTRALIA	0.40	1,234

Source: ABS (2011a), custom data request.

Table 2.12 below lists the five regions with the lowest ratio (that is, the highest income disparity). All of the regions except for Outback Northern Territory—which represents all of the Northern Territory outside of Darwin—are capital city regions. As with the regions in Table 2.11, there is a clear relationship between absolute income and the low income ratio. All of these regions have median weekly household incomes that are considerably above the Australian median.

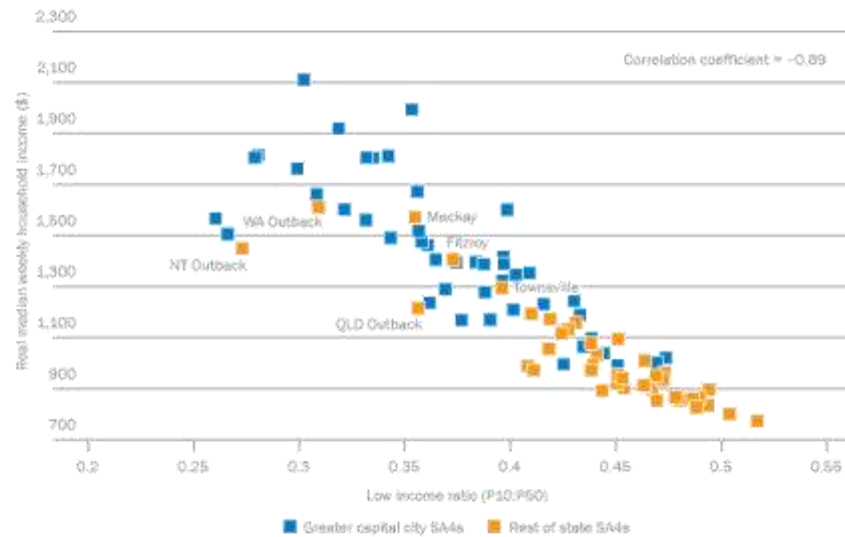
Table 2.12 Regions with lowest income ratio (highest disparity), 2011

SA4	Ratio (P10:P50)	2011 median weekly household income (\$)
Sydney - City and Inner South NSW	0.26	1,568
Melbourne - Inner VIC	0.27	1,506
Northern Territory - Outback NT	0.27	1,450
Sydney - Eastern Suburbs NSW	0.28	1,806
Perth - Inner WA	0.28	1,816
AUSTRALIA	0.40	1,234

Source: ABS (2011a), custom data request.

Figure 2.6 below shows the strong relationship between the low income ratio and real median weekly household income in 2011 for all SA4s (correlation coefficient -0.89). Lower weekly income is correlated with lower ratios (an indicator of less income disparity). The relationship is stronger at the lower income end. This figure implies that regional areas generally have greater income equality than in cities but that this is related to lower median incomes. Among capital city SA4s, the most common range was 0.38 to 0.40; eight of 46 SA4s were in this range. For 'rest of state' SA4s, the most common range was 0.46 to 0.48; nine of 41 SA4s were in this range.

Figure 2.6 Low income ratio and real median weekly household income, SA4s, 2011



Source: ABS (2011a), custom data request.

Note: 'Other Territories' has been excluded because it is significantly smaller than other SA4s. Greater capital city SA4s are those included in the ABS Greater Capital City Statistical Areas.

The 'rest of state' SA4s that have high median incomes and higher income disparity (a smaller low income ratio) include the 'outback' SA4s in the Northern Territory, Western Australia and Queensland. The adjacent SA4s of Mackay and Fitzroy (which includes Rockhampton and Gladstone) are both coal mining areas (see the discussion on Table 2.8 above).

## 2.3 Current issue: regional house prices

The second part of this chapter examines the geographic distribution of house prices. House prices are a significant component of household wealth, which in turn acts as a determinant of consumption levels (BITRE 2009). House prices can also influence migration decisions. For example, people may move to areas with lower house prices because accommodation is more affordable (BITRE 2009) or to free up capital or reduce their cost of living. Conversely, there can also be a reluctance to invest in places that are experiencing or expected to experience slow price growth, and this reinforces the low growth cycle.

Growth in house prices reflects more than growth in the economy, population, employment and income. House prices can also indicate the general appeal of a region and fluctuations in its circumstances.

Another factor affecting house prices is volatility in employment conditions. Smaller places that rely on a single industry are particularly vulnerable to changes within the industry.

House price growth is not uniformly beneficial for all residents. For example, it can cause affordability issues for both purchase and rental for lower-income residents. Beer et al. (2011) discuss common issues pertaining to some mining communities, where housing demand from high-income miners means that the residents in the community who are not engaged in mining are disadvantaged in that they have to compete for high-priced housing. A similar situation can occur in sea change communities, where long-term residents, including younger people entering the housing market, must compete for housing with newer residents who are able to afford the higher prices caused by increased demand (Beer et al. 2011).

Regional house prices are commonly influenced by a lack of economies of scale, lack of skilled labour and high transport costs for building materials. However, capital cities face many other factors that influence regional house prices—for example, population change, incomes, balance of supply and demand and housing finance (Beer et al. 2011).

Beer et al. (2011) report that labour markets shape housing prices because of demand and capacity to afford housing. For example, high-income regions can have higher house prices. Where housing markets are small, they have the potential to change considerably in a short time frame (Beer et al. 2011).

Table 2.13 below shows that consistently in 2009, 2011 and 2013, the highest average house prices were in major cities and the lowest prices were in very remote Australia. This possibly reflects population density as a driver of demand in any given area.

Table 2.13 House prices by Remoteness Class, 2009–2013

Remoteness Class	2009	2011	2013
	Average house price (\$)	Average house price (\$)	Average house price (\$)
Major cities	544,528	599,346	649,137
Inner regional	341,665	368,918	380,384
Outer regional	301,166	318,100	321,951
Remote	347,236	394,682	363,670
Very remote	198,576	256,794	267,100
AUSTRALIA	472,410	517,749	557,918

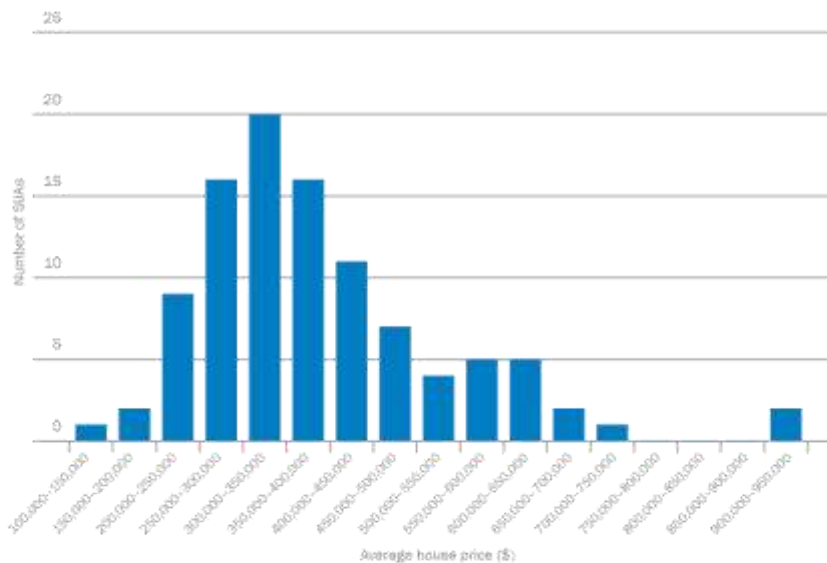
Source: RP Data–Rismark (2014), nominal prices.



### 2.3.1 Geographic distribution of house prices, 2013

This section uses the ABS 101 SUAs to examine average regional house prices because they represent discrete areas. Figure 2.7 below illustrates the distribution of average house prices across SUAs. In 2013, over a third of these regions had an average house price between \$300,000 and \$400,000.

Figure 2.7 Frequency of average house prices, SUAs, 2013



Source: RP Data-Rismark (2014), Nominal prices.  
 Note: SUA = Significant Urban Area.

Table 2.14 below lists the SUAs with the highest average house prices in 2013. Among the urban areas with high house prices are:

- Karratha and Port Hedland in Western Australia – remote mining towns.
- Broome in Western Australia – a remote tourism centre near offshore gas fields.
- Ballina – a coastal town in New South Wales less than a 90 minute drive from the Gold Coast and a two hour drive from Brisbane in Queensland. This area includes Lennox Head and Skennars Head.
- Bowral-Mittagong – a New South Wales Southern Highlands area that is 80 minutes from the Sydney CBD. These adjacent towns are amenity and tourism focused.
- Torquay and Ocean Grove – Port Lonsdale in Victoria – adjacent coastal towns that are 20 to 25 minutes from Geelong and less than an hour and a half from the Melbourne central business district.

Table 2.14 Highest average house prices, top 10 SUAs, 2013

SUA name	Average house price, 2013 (\$)	Estimated resident population, 2013	Average annual growth house prices, 2008-2013 (%)	Average annual population growth, 2008-2013 (five years) (%)	Average annual population growth, 2003-2013 (10 years) (%)
Port Hedland WA	919,920	15,125	7.0	3.2	1.9
Sydney NSW	914,891	4,373,433	5.4	1.6	1.4
Karratha WA	708,752	18,945	0.9	4.4	4.7
Melbourne VIC	664,217	4,181,021	5.0	2.0	1.9
Broome WA	656,444	14,741	0.3	3.1	2.4
Ballina NSW	638,739	24,844	2.1	0.7	0.6
Bowral - Mittagong NSW	638,492	36,994	2.7	1.0	0.8
Perth WA	620,650	1,901,582	3.3	3.1	2.7
Darwin NT	614,853	119,597	8.1	2.1	2.1
Torquay VIC	607,545	17,105	3.0	5.3	4.7

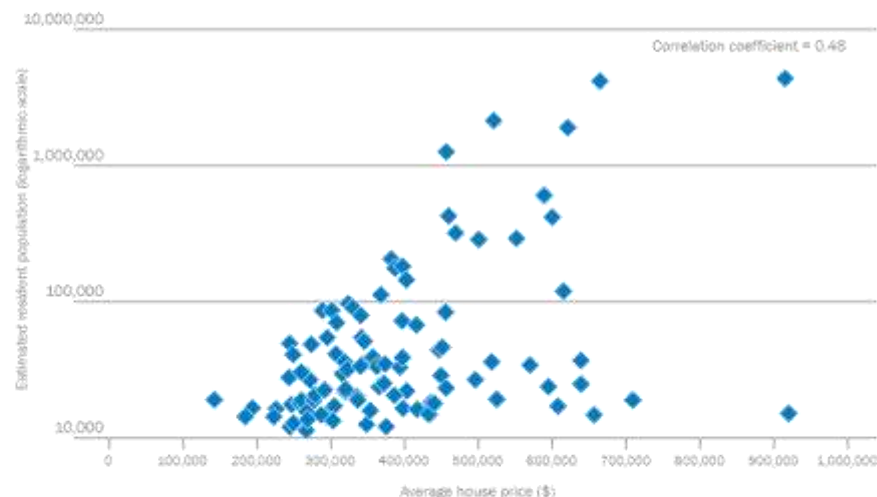
Source: RP Data-Rismark (2014), nominal prices, ABS (2014f).

Figure 2.8 below shows the relationship between the average house price of an SUA in 2013 and the estimated resident population (with a correlation coefficient of 0.48).

The figure reveals that house prices are more variable among SUAs with smaller populations. Clearly, there are other factors besides population that influence house prices in smaller urban areas. Among SUAs with a population of below 20,000, average house prices range from \$142,000 to \$920,000 (the two extremes of the dataset). These extreme prices are both in mining towns—Broken Hill in New South Wales and Port Hedland in Western Australia respectively. However, the towns have different characteristics. Broken Hill will be discussed as a case study in the next section.

The figure also shows that as the population increases, the lowest average house price increases. There is not a tight, simple relationship between population and house prices. However, this figure indicates that the more populated a region is, the higher the potential average house price, regardless of other factors.

Figure 2.8 Relationship between house prices and population, SUAs, 2013



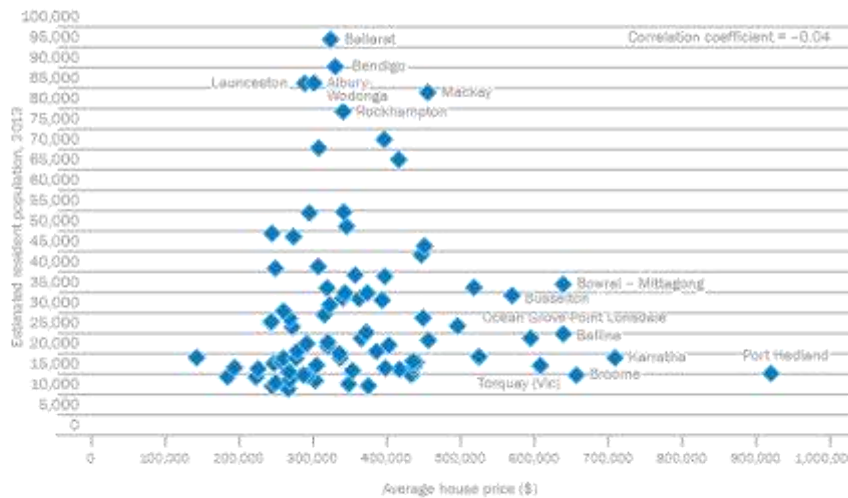
Source: RP Data-Rismark (2014), nominal prices; ABS (2014f).

Note: The vertical-axis uses a logarithmic scale so that larger centres can be included.

Figure 2.9 below examines only the relationship between house prices and population in SUAs of fewer than 100,000 people. The correlation coefficient is  $-0.04$ , meaning that there is no relationship between population and average house prices within this range, and the stronger relationship in Figure 2.8 is driven by the larger centres.

The more populous SUAs have a narrower range of house prices, while the smaller SUAs have a greater range. The areas with the biggest populations do not necessarily have the highest house prices. This may be because the smaller SUAs are more specialised and do not have the range of house types and diversity of suburbs that larger urban areas have. Additionally, the cost of construction is high in remote areas.

Figure 2.9 Relationship between house prices and population to 100,000, SUAs, 2013



Source: RP Data-Rismark (2014), nominal prices, ABS (2014f).

Figure 2.9 also reveals that of the 14 SUAs with populations under 15,000, none except Broome in Western Australia had an average house price over \$435,000. About half (eight) had an average house price of less than \$300,000.

Table 2.15 below lists the 10 SUAs with the lowest average house prices in 2013. Only three urban areas had average house prices under \$200,000: Broken Hill in New South Wales, Port Pirie in South Australia and Moe - Newborough in Victoria. As the table shows, these areas all have populations under 20,000 and have also had negative or negligible population growth in the past decade.

The nature of the local industry and its prospects are likely to be contributing factors to low house prices in these particular areas. Broken Hill's industry is discussed in Box 2.2 below.

Table 2.15 Lowest average house prices, bottom 10 SUAs, 2013

SUA name	Average house price, 2013 (\$)	Estimated resident population, 2013	Average annual growth house prices, 2008–2013 (%)	Average annual population growth, 2008–2013 (%)	Average annual population growth, 2003–2013 (%)
Broken Hill NSW	142,289	19,048	-0.4	-0.6	-0.7
Port Pirie SA	184,135	14,319	0.0	0.1	0.1
Moe – Newborough VIC	193,736	16,578	4.4	-0.3	-0.3
Port Augusta SA	222,807	14,288	-1.0	0.5	0.5
Horsham VIC	225,651	16,282	1.9	0.9	1.0
Maryborough QLD	243,370	27,503	-2.8	0.8	0.9
Burnie – Wynyard TAS	243,514	27,837	1.1	0.2	0.5
Mildura – Wentworth VIC/ NSW	244,279	49,441	1.6	0.8	0.9
Colac VIC	244,614	12,027	2.2	0.6	0.4
Murray Bridge SA	246,768	17,582	0.0	2.1	2.2

Source: RP Data–Rismark (2014), nominal prices, ABS (2014f).

### Box 2.2 Case study: Broken Hill

Broken Hill is a purpose-built mining city in *outer regional* New South Wales with about 19,000 residents. It is remote from other regional centres and capital cities. The average house price in 2013 was \$142,289—the lowest among Australian SUAs. House prices in Broken Hill declined marginally between 2008 and 2013 in contrast with the growth experienced in Australia overall and in other regional New South Wales centres.

As shown in Figure 2.10, Broken Hill falls below Australia and elsewhere in New South Wales on several economic indicators. In 2011, Broken Hill had a median household weekly income of \$786, which is considerably lower than the New South Wales (\$1,237) and Australian (\$1,234) medians. Also, median rent in 2011 was low, at \$150 a week, which is half of the New South Wales median (\$300) (ABS 2011a).

Broken Hill's fortunes have historically been tied to the mining industry. However, as with other mining towns, the amount of employment available in this industry has diminished over time (Schatz 2013). The city's population has been in long-term decline since at least the 1950s (City of Broken Hill 2005), with a decline of over 10,000 people between 1911 and 2006 (BITRE 2014a). Between 2001 and 2013, the estimated resident population fell from 20,929 to 19,048—that is, 1,881 people, or nine per cent over the period. As shown in Figure 2.10, the annual population change has been consistently negative since the turn of the century, while the regional New South Wales population overall grew between 0.3 per cent and 1.1 per cent a year.

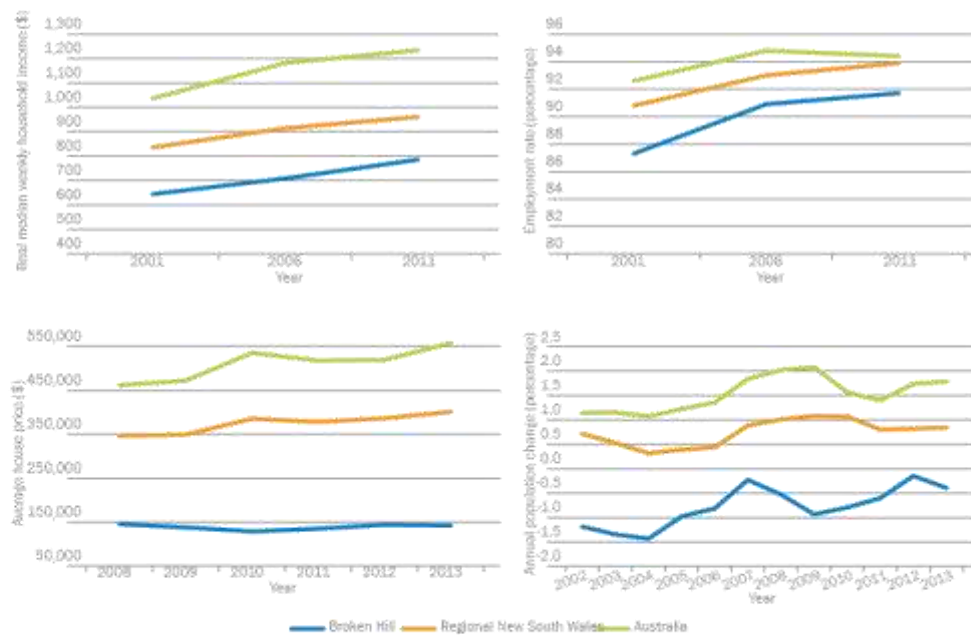
In 2011, 10.7 per cent of Broken Hill's employed residents worked in mining. Services were a significant part of its industry. Another 16.7 per cent were employed in the health care and social assistance industry and 13.5 per cent were employed in retail trade. Accommodation and food services accounted for another 10.0 per cent of employment (ABS 2011a).

The decline in population has affected housing stock. Schatz (2013) reported that there is a 'large number of vacant and derelict houses': 16.9 per cent of private dwellings in 2011 were unoccupied. It has also become difficult for the local government to maintain infrastructure given the lower property rate base (Schatz 2013).



Given this long-term decline in population, the city has attempted to move towards a tourism industry focus by using its cultural heritage qualities: 'the fixed life of the mining industry has led the city to focus on sustainable cultural tourism as an important area of growth with heritage as its major selling point' (City of Broken Hill 2005, p.6). McGhee (2014) reported that artists have been attracted to 'the town's comparatively cheap housing'.

Figure 2.10 Economic indicators for Broken Hill SUAs, New South Wales



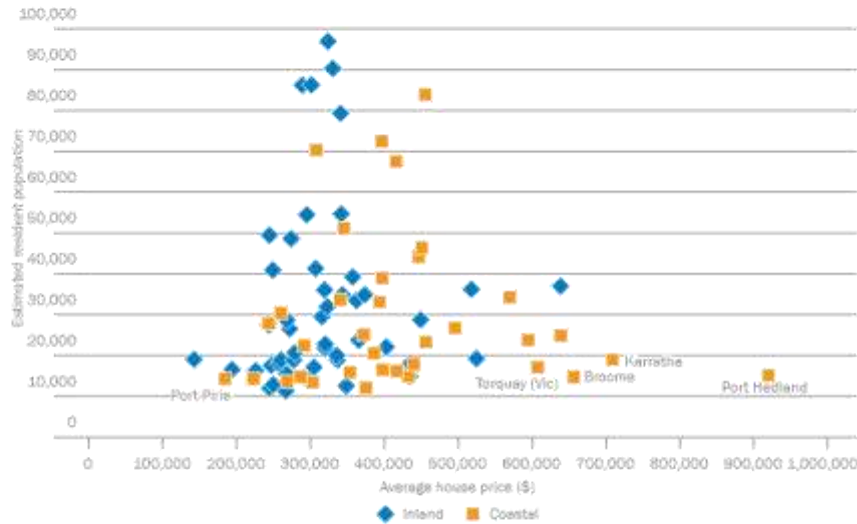
Source: ABS (2001, 2006a and 2011a); ABS (2014f); RP Data-Rismark (2014), nominal (house) prices.  
 Note: Regional New South Wales includes everything outside of the Greater Sydney Greater Capital City Statistical Area.

### 2.3.2 House prices and coastal areas

Given the amenity appeal of the coast, it is useful to investigate whether house prices are higher in coastal areas. Figure 2.11 below shows the relationship between house prices and population (as Figure 2.9 did) but divides the data into two categories: coastal and inland. For the purpose of the analysis, 'coastal' includes only those SUAs with an actual coastal boundary and not those that may be close to the coast but are not directly on it.

Figure 2.11 suggests that coastal regions are more likely to have higher average house prices, and that the majority of SUAs with average house prices over \$400,000 are coastal. However, there is still considerable variation within each category. This indicates that other factors are involved in determining the demand (and cost) for housing.

Figure 2.11 Average house prices and population, coastal and inland SUAs, 2013



Source: RP Data-Rismark (2014), nominal prices; ABS (2014f).

### 2.3.3 House prices and remoteness

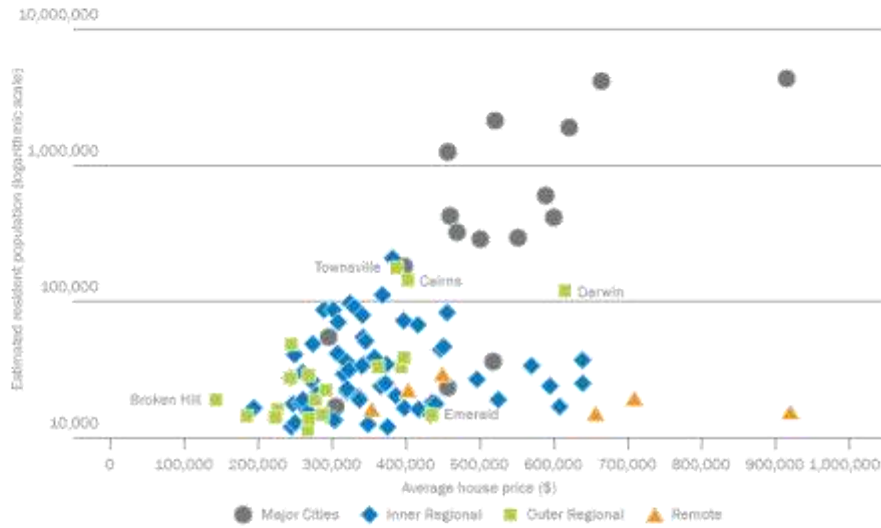
Figure 2.12 below illustrates the relationship between average house price and population for SUAs in 2013. It distinguishes regions by Remoteness Class.<sup>21</sup> This reveals the following patterns:

- Average house prices in major city SUAs tended to rise with population, but there was overlap between the more populous *major city* SUAs and some smaller *inner regional* (largely coastal) towns.
- *Inner regional* SUAs had a wide range of average house prices and there was not a straightforward relationship to population.
- *Outer regional* SUAs tended to have lower average house prices than the other categories, although there was a fair amount of overlap. Most *outer regional* SUAs had an average house price under \$300,000. Those exceeding \$300,000 fell into three categories: large centres with populations over 100,000 (Cairns and Townsville in Queensland and Darwin in the Northern Territory), mining centres (Emerald in Queensland and Kalgoorlie in Western Australia, both of which had over 20 per cent of their 2011 resident employment in mining), and Western Australian port cities (Geraldton and Albany).
- Of the six remote SUAs, three were in the \$350,000 to \$450,000 range (Port Lincoln in South Australia, Mount Isa in Queensland and Alice Springs in the Northern Territory) and three were in the \$650,000 and above range (Broome, Karratha and Port Hedland in Western Australia). High house prices in remote areas are likely to be due to a mixture of high demand in mining areas and cost of constructing new accommodation.

<sup>21</sup> The majority of SUAs fit completely into a single Remoteness Class. For the 19 SUAs that spanned multiple remoteness areas, the SUA was assigned to a single remoteness area based on the area in which the majority of the SUA's population was located. Most (17) had 94 per cent or more in one class, making the assignment straightforward, and the other two had 78 per cent or more.

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Figure 2.12 Average house prices and population, SUAs by Remoteness Class, 2013



Source: RP Data-Rismark (2014), nominal prices; ABS (2014f).

Notes: The vertical axis uses a logarithmic scale so that larger centres can be included. There are no SUAs in very remote Australia.



## 2.4 Conclusion

This chapter has examined spatial economic data from the Yearbook (2014) to explore different facets of regional economic wellbeing. Income and participation alone do not explain the whole story on regional economic wellbeing and prosperity. However, they do contribute to opportunities, resilience and living standards.

The chapter discussed the distribution of several economic indicators across regions and how these have changed over time. Even at the Remoteness Class scale, it is possible to observe considerable geographic disparity.

In 2011, young people's engagement in work and study declined with increasing remoteness. Although it has increased since 2001, *very remote* Australia had by far the lowest engagement rate in 2011. Regional SA4s tended to have lower engagement rates compared with greater capital city regions. These lower engagement rates represent missed opportunities for individuals but also potential for regions to tap into under-utilised resources. The degree of variation emphasises the need for policymakers to consider this issue spatially.

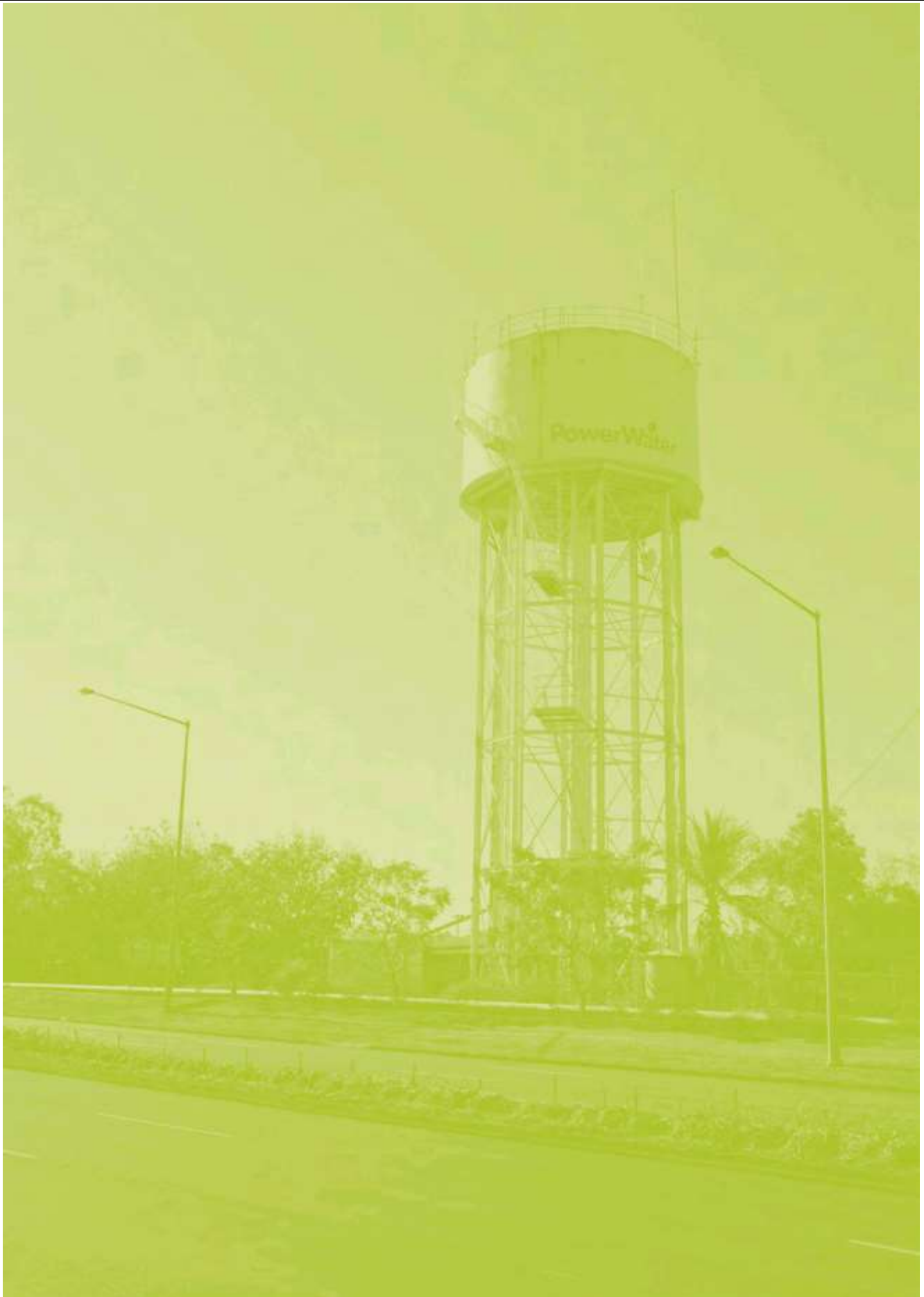
In 2011, median weekly household income was highest in *major cities*, followed by *remote* and *very remote* areas. *Inner regional* and *outer regional* areas had the lowest median weekly income. In *regional* Australia, median weekly income was highest in mining areas. However, this single-industry dependence may have implications for regions coping with change when boom times conclude.

The variation in type of low-income regions (for example, coastal regional areas with older populations, declining urban areas and city areas with high student populations) indicates that outcomes for individuals in these regions are likely to differ. Accordingly, median weekly income alone does not provide policymakers with a complete picture of the health of these regions.

*Regional* areas tended to have a lower income disparity according to the low income ratio, but this is due to lower incomes overall. *Regional* areas with higher income disparity tend to be those with particularly high median incomes, such as mining areas.

House price data for towns and cities reveals that in 2013 higher average house prices were more likely to be found in coastal urban areas, *major cities* and some *remote* urban areas. Lower average house prices were more likely in *outer regional* urban areas. Increases in house prices due to increased demand from *new residents* (for example, in amenity regions) have implications for existing residents, particularly those who struggle with affordability.





Item 15.30

Enclosure 1

## 3. Structural change



### Key points

- Change in the industrial composition of the economy ('structural change') has implications for a wide range of policy areas. Structural change influences economic growth, labour market outcomes, infrastructure demand, trade policy and spatial policy.
- The impacts of structural change vary across regions. Some regions benefit from it, particularly when it is driven by growth in important local industries. Conversely, some regions are negatively influenced by it, particularly when they bear the cost of industrial decline.
- Between 2001 and 2011, major trends at the national level include growth in the Mining, Construction and Health Care and Social Assistance, with a declining reliance on Agriculture, Forestry and Fishing, Retail Trade and Manufacturing industries.
- These national trends are amplified in regional Australia. The mining boom has had a strong employment impact in *regional* and *remote* areas. Declines in agricultural employment are also concentrated in *regional* and *remote* areas.
- Analysis of sub-state regions (SA4s) shows that regions with small populations, low average incomes and a relatively concentrated industry structure were more likely to have experienced high rates of structural change over the period 2001 to 2011.
- Large regions with a diverse industrial structure were less exposed to volatile shifts in industrial composition over the same period.

### 3.1 Introduction

Structural change can be explained as the constant evolution of the economy as some industries grow and others decline. Over time, this results in changes to the industrial composition or 'structure' of the economy.<sup>22</sup>

For the most part, structural change is a necessary and beneficial aspect of a functioning market economy. It is a sign that businesses are responding to price signals to produce goods and services that are valued by the market. In a technical sense, it means that factors of production are being allocated to their most efficient uses and this ultimately contributes to improvements in living standards (OECD 2005).

However, high levels of structural change cannot be interpreted as being either unambiguously good or bad for a particular region, because change imposes costs on people and businesses that are affected by industrial decline. The impact on any individual region can be either positive or negative, depending on whether change in that area is

<sup>22</sup> Within regions, change can be gradual or sudden. An extreme example is the closure of a mine in a small town.

driven by industry growth or decline or a combination of the two. Further, a region can experience strong economic growth in the absence of structural change if most industries grow at a similar rate.

Understanding historical and prospective trends in structural change is a priority for formulating policy across a range of domains. Structural change influences labour market outcomes (including skills demand and educational requirements), infrastructure demand and trade policy. It also has implications for spatial policy: particular industries tend to cluster in specific locations; this means that the impacts of industrial growth and decline tend to be geographically concentrated.

At the national level, Australia has experienced some well documented trends in structural change. However, the focus of this chapter is to examine how structural change has unfolded at lower spatial levels.

This chapter is organised into two main sections. The first analyses a headline indicator—the structural change index—which measures the general rate of structural change occurring within regions. It draws on data from *Yearbook 2014* and covers the most recent intercensal period of 2006 to 2011.

The second section provides a more detailed analysis spanning a longer time period. It also focuses on the structural change index but looks more deeply into the relationship between structural change and other economic variables at the sub-state region.

The analysis focuses mostly on labour force data—namely, the share of employment by industry. Labour market data does not entirely explain industrial performance because improvements in productivity can reduce employment in an industry even while its output is growing. Structural change can also be measured in terms of the distribution of investment across industries. For example, in Australia the rate of structural change in investment picked up markedly from 2007–08, reflecting a major shift in investment into resource projects (Department of Industry 2014). However, investment and industrial output data (gross value added) is not available below the state level. Labour force data is therefore the best available indicator that can be disaggregated across both geography and industry and represents the most appropriate measure to be used in a regional analysis of structural change.<sup>23</sup>

Part of the analysis focuses on Remoteness Classes. These allow high-level trends that vary across *major cities*, *regional* and *remote* areas to be summarised. More specific trends are analysed using SA4s, which are designed ideally to correspond with functional economic zones. Accordingly, the geography is reasonably good for isolating industry-level trends that affect specific sub-state regions.

SA4 boundaries are informed by labour market catchment areas. For most non-metropolitan SA4s, the majority of people who live within a given SA4 will also work there. However, metropolitan SA4s are less self-contained, as large cities comprise multiple SA4s within easy commuting distance of each other.<sup>24</sup> Nonetheless they have been included in the analysis where appropriate to provide a basis for comparison against non-metropolitan SA4s.

## 3.2 Headline indicator

### 3.2.1 Structural change index

The structural change index is a measure of the extent of structural change that occurs in a region based on the change in the industry mix of employment between two points in time. The index can be thought of as the total number of percentage points of employment that has moved between industries within a given time period (Productivity Commission 2013b). This particular analysis looks at movements between the 19 employing industries

<sup>23</sup> For a detailed analysis of structural change at the national level (covering output, investment and labour force data) see *Australian industry report 2014*, Department of Industry 2014.

<sup>24</sup> A comparison of 'place of usual residence' with 'place of usual work' data shows that SA4s vary in terms of their self-containment rates. There are 88 SA4s in total, 46 of which are metropolitan. Of these metropolitan SA4s, there are 24 in which more than 50 per cent of employed people who live there actually work in a different SA4. Non-metropolitan SA4s typically have much higher containment rates.

that are defined at the 1-digit level of the Australian and New Zealand Standard Industrial Classification (ANZSIC) 2006.<sup>25</sup>

The data presented in Table 3.1 below illustrates that structural change can have either a positive or a negative effect on economic outcomes at the regional level. The two Remoteness Classes that experienced the strongest employment growth, *major cities* and *very remote*, also experienced the most divergent trends in structural change.

Table 3.1 Structural change index by Remoteness Class, 2006–2011

Remoteness Class	Structural change index (index)	Employment growth (persons)	Employment growth (%)
Major cities	3.6	809,785	12.7
Inner regional	4.1	73,690	4.4
Outer regional	4.3	48,093	5.8
Remote	6.2	6,565	4.8
Very remote	15.5	15,482	24.3
AUSTRALIA	3.8	954,138	10.5

Source: Employment—ABS (2006a, 2011a), custom data request; structural change index—ABS (2006a, 2011a).

Note: Structural change index based on methodology used in Productivity Commission (1998).

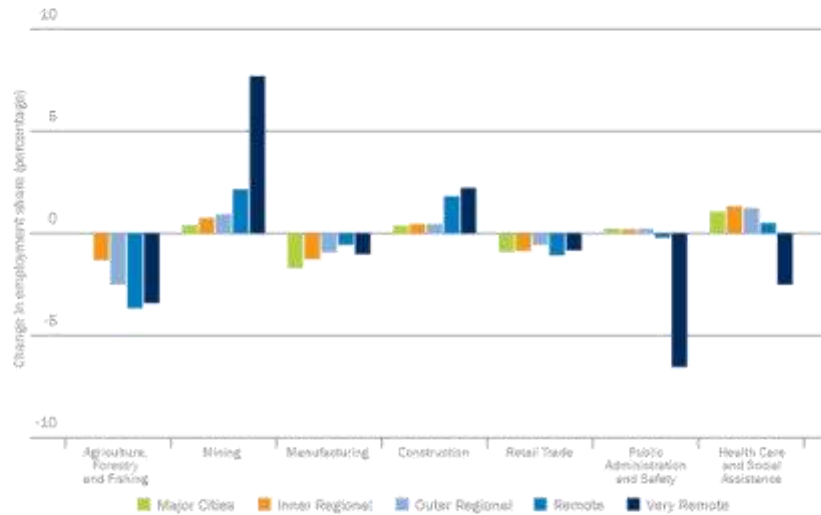
*Major cities* had the lowest rate of structural change between 2006 and 2011, echoing previous findings that populous regions with a diverse economic base are less prone to volatile movements in industry share (BTRE 2003).

*Very remote* areas also experienced strong employment growth. However, unlike *major cities*, growth was based on significant shifts in industrial composition. In part, this reflects that *very remote* areas have a more concentrated industry base and are subject to volatile change caused by booms and busts in key industries. The main contributors to structural change in *very remote* areas were a marked decline in the employment shares of the Agriculture, Forestry and Fishing, and Public Administration and Safety industries. Figure 3.1 below shows that this decline was more than offset by a very steep increase in the employment shares of Mining and to a lesser extent Construction.

<sup>25</sup> ANZSIC is a classification structure that is used to compile and analyse industry statistics in Australia and New Zealand. It describes industries using a hierarchical structure of four levels. The broadest level refers to industry divisions (also known as 1-digit industries). The next level splits the 19 industries further into sub-divisions (also known as 2-digit industries). While ANZSIC describes industries down to a finer level of detail, this publication focuses only on 1-digit and 2-digit industries. For further information see ABS 2013e.



Figure 3.1 Change in employment share for selected industries by Remoteness Class, 2006–2011



Source: ABS (2006a, 2011a) accessed via TableBuilder.

It is important to note that, in regions affected by the mining boom, employment opportunities in the Mining industry do not necessarily flow to the same people who are affected by decline in Agriculture, Forestry and Fishing. Analysis by the Department of Industry (2014) shows that disenfranchised Agriculture, Forestry and Fishing workers most commonly move into Manufacturing and Construction jobs. Interestingly, new jobs in Mining most commonly went to people moving out of Manufacturing and Construction. This may be indicative of churn in the Manufacturing and Construction workforce—that is, skilled workers who are attracted into high-paying Mining jobs being replaced by people moving out of Agriculture, Forestry and Fishing. It may also indicate that Manufacturing and Construction act as bridging industries that allow people to build the skills required in Mining jobs.

Structural change in *inner regional*, *outer regional* and *remote* areas followed similar trends to those in *major cities*—namely, declining shares for Manufacturing and Retail Trade, with an increase in the employment share for Health Care and Social Assistance. However these regions also experienced large shifts in Agriculture, Forestry and Fishing and also Mining. This resulted in a higher rate of structural change than in *major cities* and also in lower employment growth, because job gains in Mining were offset by losses in Agriculture, Forestry and Fishing.

Table 3.2 below lists the five sub-state regions with the highest rate of structural change between 2006 and 2011.<sup>28</sup> These results again illustrate that *remote* regions with smaller populations tend to experience more volatile change in industrial composition. All five regions cover relatively large and sparsely populated geographic areas. The top three regions (Queensland – Outback, Western Australia – Outback and Northern Territory – Outback) cover huge areas of northern Australia that are classed as either *very remote* or *remote*. The other two regions of interest (Western Australia – Wheat Belt and Darling Downs – Maranoa in Queensland) are also relatively large and (comparatively) sparsely populated but incorporate more agricultural areas and farming communities that are classed as *outer* and *inner regional* areas.

<sup>28</sup> The 'Other Territories' SA4 was excluded from the analysis, as it has a significantly smaller population than any other sub-state region and is prone to extreme variance in employment statistics by industry.

Table 3.2 Structural change index, top five sub-state regions, 2006-2011

Sub-state region	Structural change index (index)	Population 2006 (persons)	Employment growth (%)
Queensland - Outback	10.5	81,082	2.6
Western Australia - Outback	9.1	199,302	25.3
Northern Territory - Outback	8.8	95,596	7.7
Western Australia - Wheat Belt	6.8	128,927	5.0
Darling Downs - Maranoa	6.6	117,110	5.3
Average of top five	8.4	124,403	9.2

Source: Structural change index - ABS (2006a, 2011a), accessed via TableBuilder; population - ABS (2014b); employment - ABS (2006a, 2011a), custom data request.

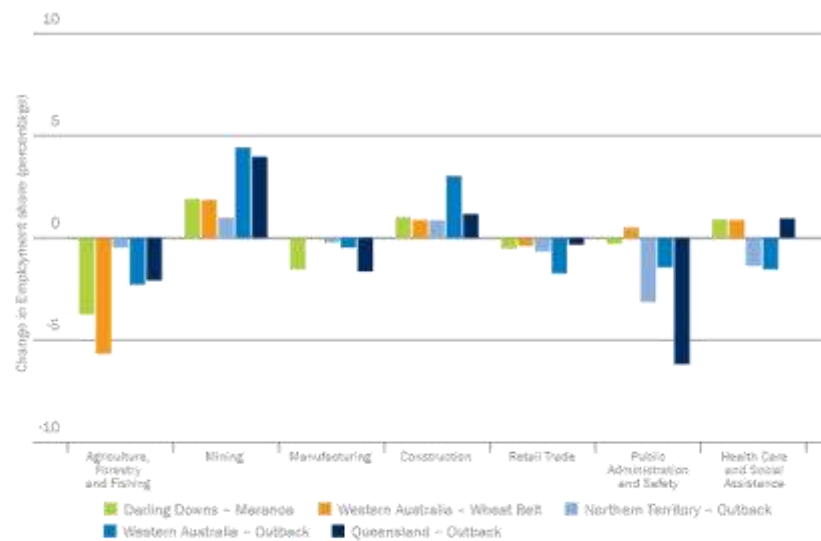
To some extent, trends by industry were similar across the top five regions (Figure 3.2). In each case, the shares of Agriculture, Forestry and Fishing, Manufacturing and Retail Trade fell, while the shares of Mining and Construction increased. In most cases, this resulted in below average employment growth.

However, the magnitude of these trends varied between regions, reflecting some fundamental differences in their initial industrial composition.

Western Australia - Wheat Belt and Darling Downs - Maranoa are predominantly agricultural regions that saw a sharp decline in both the share and total number of jobs in Agriculture, Forestry and Fishing. This was offset to some degree by growth in the share and number of Mining and Construction jobs, although overall employment growth was below average (around five per cent compared with the national figure of 10.5 per cent).

By comparison, the Northern Territory - Outback covers a larger and more remote area, spanning the entire Northern Territory apart from Darwin. It mostly comprises remote communities and has relatively small Agriculture, Forestry and Fishing, and Mining industries, with a large proportion of employment in government and social service related industries. Structural change in this region can be attributed to a reduction in the share of Public Administration and Safety industries and a rise in Education and Training, and Other Services.

Figure 3.2 Change in employment share for selected industries in high-change regions, 2006-2011



Source: ABS (2006a, 2011a).

The shift from government to private sector jobs may reflect policy changes that have affected the way in which employment services are delivered in remote areas. In particular, the Community Development Employment Projects (CDEP) initiative was phased out from 2007 onwards. This programme had previously employed a large proportion of the Indigenous labour force in the Northern Territory, which was classed as employed in Public Administration and Safety. At the 2006 Census, there were 11,661 Indigenous people employed in the Northern Territory and 8,846 participated in the CDEP programme (Department of Finance and Deregulation 2009).

In 2007, the programme was wound down in urban and regional areas and participants were moved to general welfare and unemployment benefits. Further changes were made in 2009 that affected the way CDEP was administered in remote areas. In established job markets, it was replaced with the Job Services Australia programme and the focus shifted away from providing direct employment and towards building workforce skills (Department of Finance and Deregulation 2009).

The impact of the mining boom is clearly evident in the Western Australia – Outback region. Geographically, this region covers the majority of Western Australia (excluding the south-west corner) and incorporates key mining areas and towns including the Pilbara, the Kimberley, Kalgoorlie–Boulder and Geraldton. Growth in the Mining and Construction industries added close to 13,000 jobs between 2006 and 2011. This more than offset a decline in Agriculture, Forestry and Fishing employment of around 1,000 jobs. As a result, Western Australia – Outback is the only region on the list in Table 3.2 that recorded above average employment growth.

Queensland – Outback also benefitted from growth in Mining and Construction. However it had a much greater reliance on Agriculture, Forestry and Fishing, and Public Administration and Safety at the beginning of the period. Both of these industries contracted in line with trends seen elsewhere.

Table 3.3 below shows that in contrast with regions with high structural change, which tended to be in regional and remote areas, the five sub-state regions with the lowest rate of structural change were all large residential regions in and around Sydney. As discussed in the introduction to this chapter, large metropolitan SA4s are less contained than non-metropolitan regions, as people can commute to jobs in other parts of the city. As such, trends in these SA4s may be more reflective of trends in the Sydney Greater Capital City Statistical Area more generally, and data for this is included for comparison. As might be expected, the rate of structural change in the wider area is also very low and actually matches the average rate of change across the bottom five regions.

The main employing industries in the low structural change group were Retail Trade, Professional, Scientific and Technical services, and Health Care and Social Assistance. Structural change in these regions involved moderate shifts away from Manufacturing and Retail Trade, coupled with rising employment in Health Care and Social Assistance. Note that employment growth for these regions tended to be below average, similar to the top five regions.

Table 3.3 Structural change index, bottom five sub-state regions, 2006–2011

Sub-state region	Structural change index (index)	Population 2006 (persons)	Employment growth (%)
Sydney – Baulkham Hills and Hawkesbury	2.6	204,320	4.2
Sydney – North Sydney and Hornsby	2.6	367,060	5.6
Sydney – Outer West and Blue Mountains	2.7	285,376	3.7
Sydney – Inner West	2.8	252,768	10.3
Sydney – Ryde	2.8	160,049	6.3
Average of bottom five	2.7	253,915	6.0
Sydney Greater Capital City Statistical Area	2.7	4,256,161	8.4

Source: Structural change index—ABS (2006a, 2011a), accessed via TableBuilder; population—ABS (2014b); employment—ABS (2006a, 2011a). Custom data request.

### 3.3 Current issue: trends in structural change between 2001 and 2011

This section presents a more detailed analysis of major trends in structural change over a longer time period. Nationally, structural change tends to be a gradual process and data spanning a longer time period can more clearly illustrate important long-run shifts that have shaped the Australian economy. Much of the data is taken from the ABS Census, which provides the best geographic coverage of industrial data. As a result, the analysis generally focuses on the period 2001 to 2011, spanning the most recent and longest period over which comparable industry data is available. Data over a longer time period is provided for a small number of charts as available.

This section begins by setting the scene at the national level before looking more deeply into the way that structural change has varied across regions. The section includes an analysis of structural change by Remoteness Class and also by sub-state region.

#### 3.3.1 National context

At the national level, the Australian economy has been subject to a number of well-documented trends in structural change that have mirrored those in other advanced industrial economies. Over the very long run, these are a declining share of employment in the Agriculture, Forestry and Fishing and Manufacturing, coupled with persistent growth in the share of service industries.

These trends fit within a well-accepted theoretical narrative describing stages of economic development (Soubbotina and Sheram 2000). In undeveloped economies, agriculture tends to be the major industry. But, as economies progress and incomes grow, domestic demand for agricultural output grows at a slower rate than demand for other goods and services given that there is a natural limit to how much food a household needs. Employment also shifts out of agriculture as improved technology and farming practices lift productivity. The combined effect is for greater industrialisation or growth in manufacturing. Later on, productivity growth in manufacturing combined with continued growth in demand for services also leads to a declining employment share in heavy industries and growing share in services. This happens because service jobs generally require more human input and are less easily replaced by technology. As service industries become more advanced, they tend to demand workers with higher skills and education.

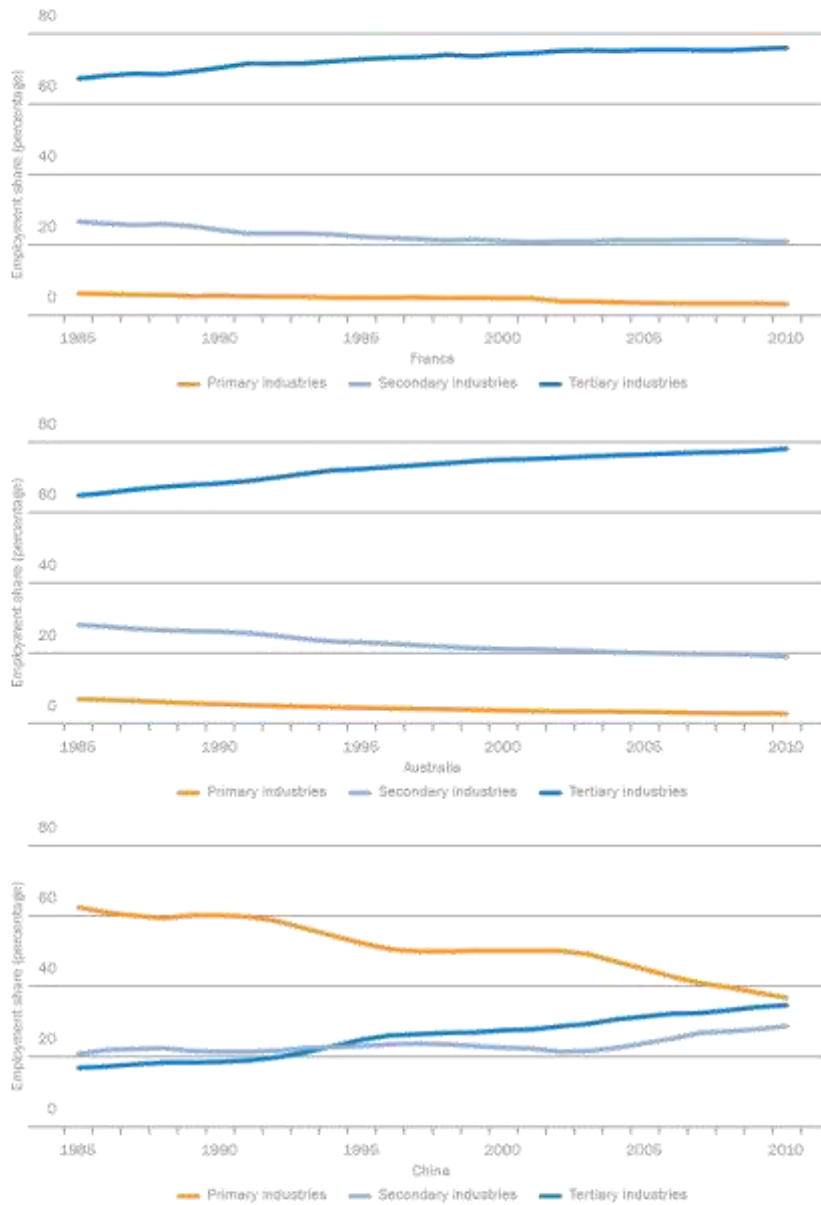
The industrial composition of developed countries is now heavily weighted towards services. Developing economies, on the other hand, are currently going through a period of industrialisation, in which the relative importance of Manufacturing is rising and Agriculture still accounts for a large share of the economy. Figure 3.3 below illustrates these trends by comparing the industrial composition of employment in Australia, France and China.<sup>27</sup> It uses the broad categories of primary industries (Agriculture), secondary industries (Mining, Manufacturing, Construction and Utilities) and tertiary industries (Combined/Service Industries).<sup>28</sup>

<sup>27</sup> The choice of comparison countries was based on both data availability and stage of development. Like Australia, France is a developed economy with a large proportion of employment in services. It is also one of the only developed countries for which comparable data is available. China, on the other hand, is a developing country that is currently shifting into greater manufacturing and service production.

<sup>28</sup> Note that some industrial classification systems describe mining as a primary industry. In this case it is included in the secondary industry group to allow for consistency in comparison with Chinese labour force statistics, which classify mining as a secondary industry.



Figure 3.3 Employment by industry for selected countries, 1985-2010



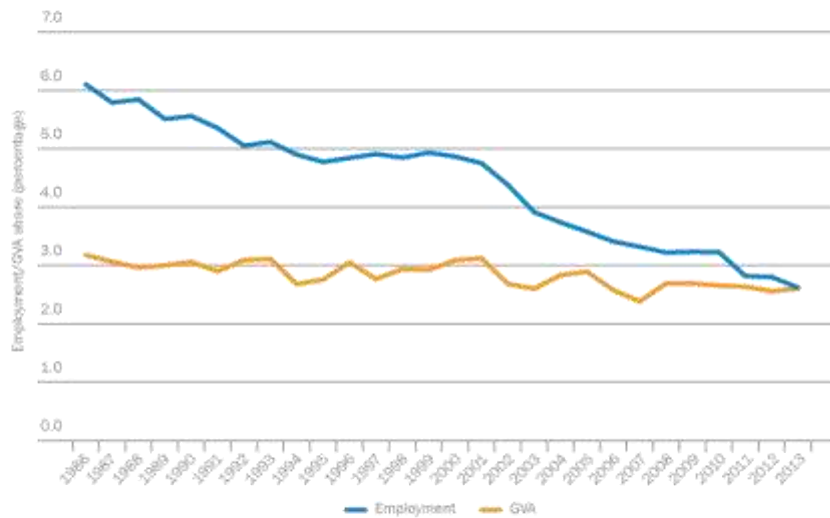
Source: Australia and France - OECD (2014); China - National Bureau of Statistics of China (2013).

A closer examination of Australian data further illustrates how productivity improvements have contributed to structural change.

Data on Agriculture, Forestry and Fishing is most telling. Over the past few decades, output has risen, although its share of gross value added has remained roughly constant (Figure 3.4). Its share of employment on the other hand has steadily declined. This reflects improved labour productivity in the industry. The Productivity Commission

attributes this to a number of developments, including a trend towards larger-scale production through increased farm size and the exit of smaller businesses, increased mechanisation and advances in farm practices related to planting, feed management and breeding (Productivity Commission 2014).

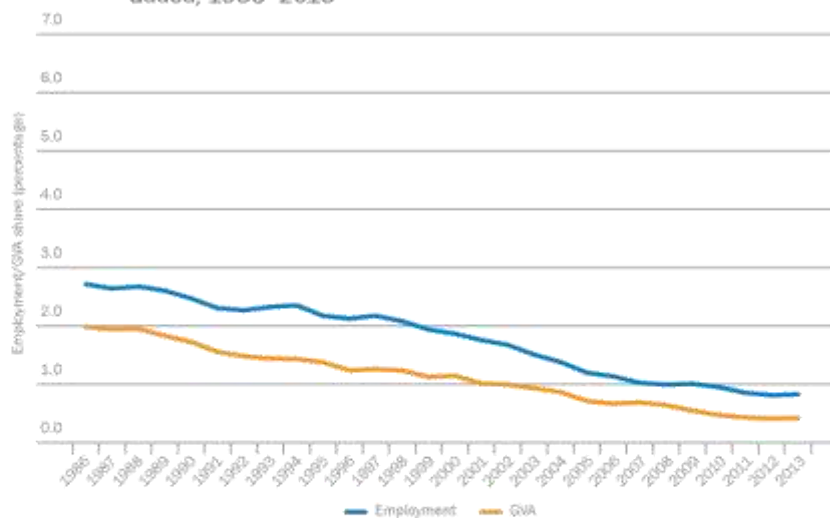
Figure 3.4 Agriculture, Forestry and Fishing, employment vs. gross value added, 1986–2013



Source: GVA - ABS (2014h); employment - ABS (2014j).

The story for Manufacturing is more complex. While it is true that a declining employment share can be partially attributed to productivity improvements, certain sub-divisions have declined markedly in real terms, having lost market share to low-cost international competitors. Manufacturing sub-divisions that are relatively labour intensive and reliant on low-skilled workers have generally relocated to countries with lower labour costs. A commonly cited example is the Textile, Leather, Clothing and Footwear Manufacturing industry, which has seen a decline in the share and real values of employment and gross value added (Figure 3.5).

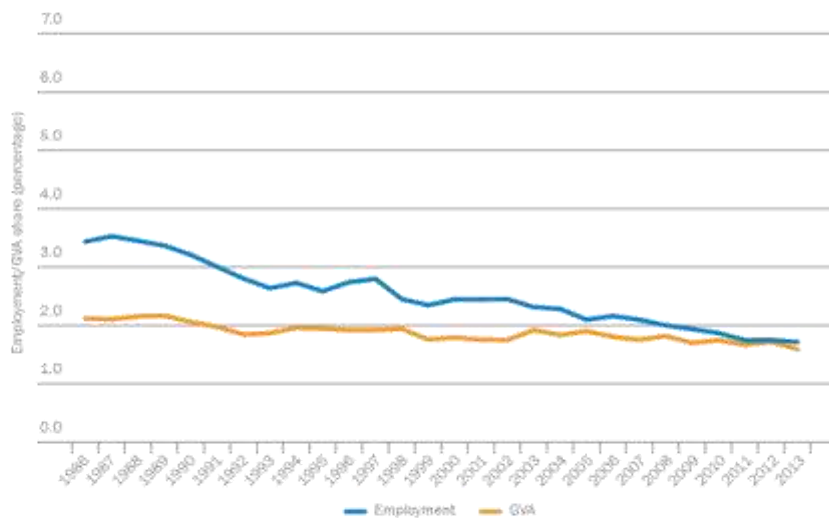
Figure 3.5 Textile, Leather Clothing and Footwear Manufacturing, employment vs. gross value added, 1986–2013



Source: GVA - ABS (2014h); employment - ABS (2014j).

Sub-divisions that use high-skilled labour have fared better, as have those that process raw materials - for example, the Metal and Mineral Product Manufacturing sub-division. The Machinery and Equipment Manufacturing sub-division, has shown a similar trend to the Agriculture, Forestry and Fishing sub-division, with a relatively stable share of gross value added coupled with declining employment. This suggests that the industry has been able to compete through productivity improvement (Figure 3.6). This comes despite the highly publicised decline of auto manufacturing.

Figure 3.6 Machinery and Equipment Manufacturing, employment vs. gross value added, 1986-2013



Source: GVA - ABS (2014h); employment-ABS (2014j).

To remain competitive, Australian manufacturers are increasingly focusing on high-value-adding functions—for example, research, design, management, marketing and after-sales support—in which labour costs are less of a determining factor in competitiveness (Department of Industry 2014). Manufacturing businesses often split their activities across different countries. Anecdotal evidence suggests that even small manufacturing businesses are outsourcing the physical production of goods to low-cost countries while retaining the intellectual property and knowledge-based functions within Australia. As a result, manufacturing businesses in Australia are tending to employ fewer and more highly-skilled workers than in the past.

The growing focus on niche sectors, in which Australia has a resource or knowledge-based advantage, is reflected in various policy documents. For example, both the Australian Government and a number of private institutions have identified advanced manufacturing (such as pharmaceuticals, chemical products, medical devices, mining equipment and aeronautical structures and systems) and food processing as areas in which Australia can compete internationally (Department of Industry 2014; Department of the Prime Minister and Cabinet 2014; Business Council of Australia 2014; Deloitte 2013).

In contrast, the general trend in most service industries has been for growth in the share of both employment and gross value added, demonstrating that services are less prone to the substitution of capital for labour.

### 3.3.2 Industry structure and Remoteness Class

The industrial composition of major cities, regional and remote areas has always varied, reflecting regional specialisation in particular types of activities. Certain industries, such as Agriculture, Forestry and Fishing and Mining, are at least partially tied to location. These industries generally need to be located alongside physical

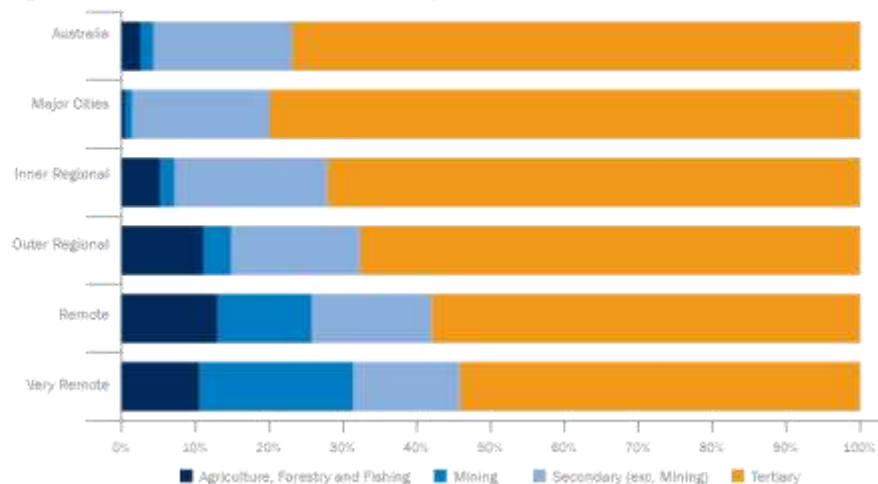
resources, which means that activity is dispersed across regional and remote areas that encompass agricultural land, forests, mineral deposits and so on. The Electricity, Gas, Water and Waste Services industry also tends to locate in inner regional areas that are close enough to major cities and regional centres to supply energy and water to large populations.

Industries that cater directly to households and businesses are distributed more or less according to population. These include certain types of Construction, Retail Trade, basic business services such as administrative and support services, and social services such as Education and Training, and Health Care and Social Assistance.

More complex business services tend to cluster in major cities where they benefit from agglomeration effects, such as having access to large networks of customers (which often include other large businesses), specialist human capital, and large markets for business inputs. These include information media and telecommunications, financial and insurance services, and professional, scientific and technical services. A large proportion of manufacturing also tends to cluster on the fringes of major cities, which offer access to a large workforce and trade markets.

The resulting distribution of industries by Remoteness Class is presented in Figure 3.7 below. Notably, tertiary (service) industries account for the largest share of employment in all Remoteness Classes, although they are most dominant in major cities.

Figure 3.7 Employment share by industry and Remoteness Class, 2011



Source: ABS (2011a), time series profile, second release.

In addition to the tendency towards regional specialisation, there has been a long-run trend of increased centralisation of population and businesses in major cities and regional centres. The forces driving centralisation are discussed in detail in *The Evolution of Australian Towns* (BITRE 2014a), which describes the process by which geographic ties between industries and workforces were transformed through advancements in transport technology and productivity growth in Agriculture, Forestry and Fishing.

Australia’s population was much more dispersed in the early 20th century because people were required to live and work in towns that were co-located with agricultural and mining businesses. As transport technology improved and was more broadly adopted, the effective distance between locations fell and people had greater opportunity to travel for work and more choice when shopping for goods and services. Combined with reduced labour requirements in primary production, this led to a gradual agglomeration of households, retail businesses and services within larger population centres, where businesses could grow through economies of scale.

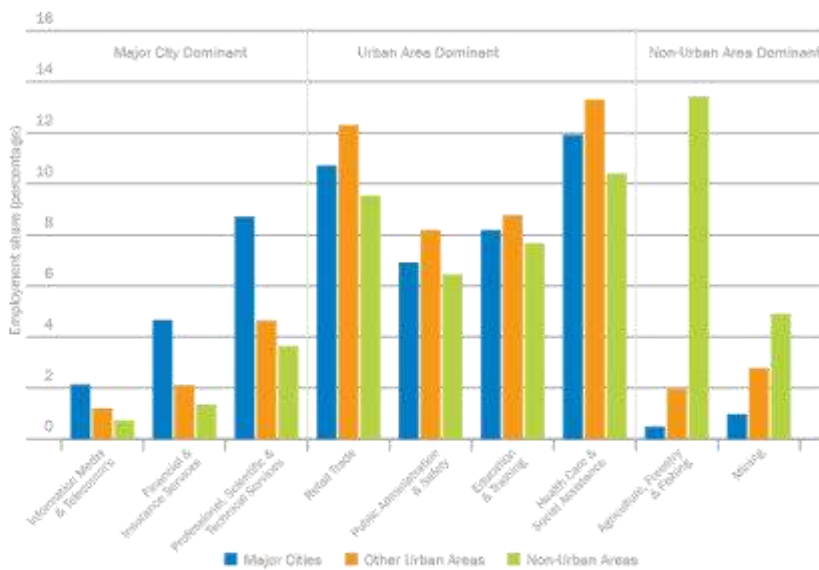


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These patterns are evident when comparing the industrial composition of major cities against urban areas in regional and remote Australia, and non-urban areas.<sup>29</sup> As shown in Figure 3.8 below, urban areas both in major cities and elsewhere share key similarities. Both have a low proportion of employment in the Agriculture, Forestry and Fishing industry and the Mining industry, combined with a relatively high proportion of employment in the Retail Trade industry and in government-related services.

Major cities differ from other urban areas by having a clear specialisation in more complex services. These figures confirm the historical account provided in *The Evolution of Australian Towns* (BITRE 2014a). They also illustrate that, while there is variation between major cities and other Remoteness Classes, there is also significant variation within regional and remote areas, reflecting the structure of urban and non-urban areas in each class.

Figure 3.8 Employment share for selected industries, 2011



Source: ABS (2011a), time series profile, second release.

Interestingly, the forces that have traditionally driven centralisation of services in cities and regional centres (such as advances in transport technology and agglomeration benefits) may now be interacting with a more recent trend that also affects location choices for businesses and households: the widespread adoption of information and communications technology (ICT). ICT further weakens the link between economic activity and the places where people live. This has the potential to both exacerbate and alleviate centralisation for different industries. The impact of ICT on structural change is discussed in more detail in section 3.3.3 below.

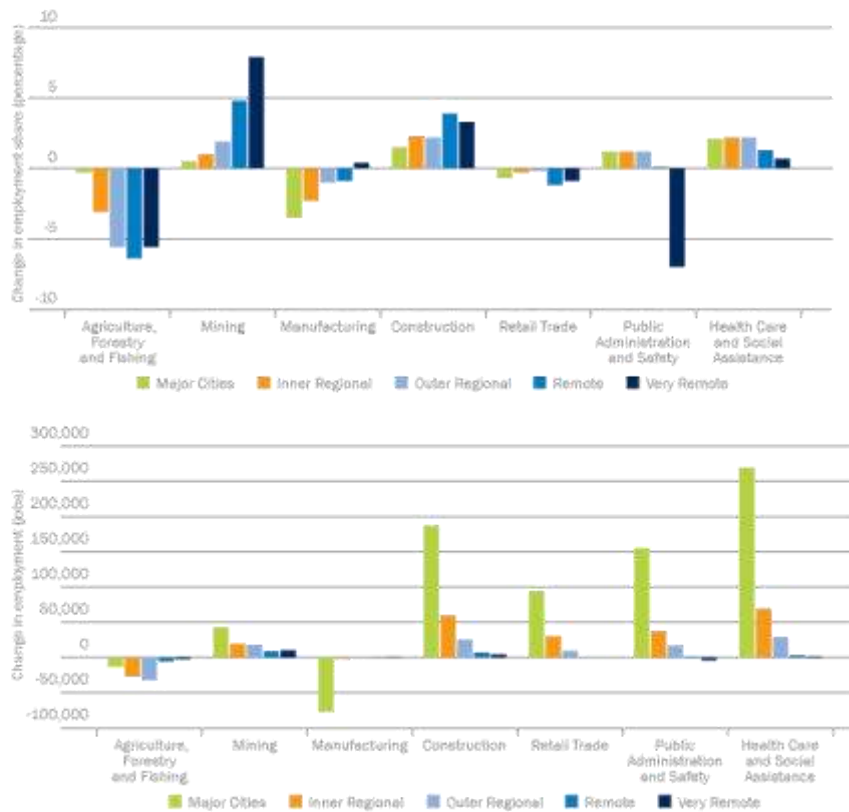
### 3.3.3 Trends across Remoteness Classes

Given the notable differences in the industrial structure of Remoteness Classes, it is no surprise that trends in industrial growth and decline also vary across Remoteness Classes. Developments in major industries such as Agriculture, Forestry and Fishing, Mining, Manufacturing, Construction and various service industries have quite different effects on changing the industrial make-up of each class.

<sup>29</sup> To compare urban areas with non-urban areas, employment data has been allocated into three categories. The first is major cities as defined by the Australian Bureau of Statistics Remoteness Structure. The second, urban areas, comprises all ABS Significant Urban Areas that are not part of a major city. 'Non-urban areas' captures all regions not classed as being in a major city or a Significant Urban Area.

Figure 3.9 below presents the change in both employment share and total job numbers for industries that made a notable contribution to structural change between 2001 and 2011. It is the change in share that determines changes in the proportional structure of the economy. The change in job numbers provides an important context for interpreting how large an impact structural change has made on overall labour market outcomes. Note that for most industries, the change in job numbers is largest in *major cities*, simply because the majority of Australians live and work in *major cities*.

Figure 3.9 Change in employment share and total jobs for selected industries, 2001-2011



Source: ABS (2011a), time series profile, second release.

For some of these industries, there are obvious differences in the impact across Remoteness Classes. Agriculture, Forestry and Fishing is a good example. Its employment share fell across all Remoteness Classes. This probably reflects the combined impact of productivity improvements and a shift between different sub-divisions within Agriculture, Forestry and Fishing, which led to overall job losses for the industry (Productivity Commission 2014). However, the impact in terms of reduced employment share was largest in *regional* and *remote* areas, where the bulk of agricultural employment is based.

Public Administration and Safety also shows a clear divergence across Remoteness Classes. Job numbers for this industry fell in *very remote* areas, in contrast with growth in job numbers for all other Remoteness Classes. This probably reflects the impact of the wind-down of the Community Development Employment Programme, which had previously employed a large number of Indigenous Australians in *remote* regions. The impact on employment share was a sharp decline in *very remote* areas and relatively little change in other Remoteness Classes.

The employment share for Manufacturing fell across all classes except for very remote regions, reflecting the loss of 78,000 jobs at the national level. However, the bulk of job losses (around 77,000) were in *major cities*. To some extent, this can be explained by the spatial distribution of different types of manufacturing, which has been subject to different trends (see Box 3.1).

However, Health Care and Social Assistance witnessed a consistent and significant increase in jobs and share across Remoteness Classes, leading it to become the largest employing industry in Australia as a whole. Growth in this industry can be attributed to:

- rising demand for health services related to population ageing, which increases general demand for health services;
- other trends such as demand for higher quality health services and new technologies; and
- a shift in attitudes that has seen Australians become more health conscious in general (Treasury 2010).

### Box 3.1 Case study: Manufacturing in Australia's regions

Perhaps one of the most visible impacts of structural change in Australia has been the long-run decline of employment in Manufacturing. In 1981, Manufacturing accounted for just over 16 per cent of employment. By 2013 this figure had dropped to roughly eight per cent (ABS 2014g).

The reasons for the decline are well documented. In an open global economy, Manufacturing businesses are internationally mobile and cost efficiencies play a major role in determining where businesses locate their production facilities. Australia is a relatively high-cost location for a number of reasons, including the small scale of local markets and the relatively high cost of labour. The recent and highly publicised decisions by Holden, Ford and Toyota to cease auto manufacturing in Australia are a pertinent example: all three companies cited the high cost of production as a determining factor in their decisions.

While conditions for Manufacturing have been challenging, not all sub-divisions and not all regions are struggling. Spatial analysis of employment data over the intercensal period shows that job losses have been concentrated in *major cities*. On the other hand, regions that have seen strong growth tend to be predominantly *regional* or *remote*.

These trends are linked to the way in which Manufacturing sub-divisions are spatially distributed. *Major cities*, for example, have borne the bulk of auto manufacturing job losses. Table 3.4 shows that the largest declines have all been in *major cities*. Note, however, that it is difficult to specify which particular SA4s have been most affected within *major cities* given that Manufacturing employees can live in one SA4 and commute to another for work. As a consequence, these figures should be interpreted as showing that there have been job losses in *major cities*, but these may have been distributed across a wider area than is actually captured by the five individual SA4s in Table 3.4 below.

Table 3.4 Regions with fastest rate of growth and decline in Manufacturing, 2001-2011

Fastest-growing regions	Growth (%)	Fastest-declining regions	Decline (%)
Mackay (QLD)	41.9	Adelaide - South	-29.6
Mandurah (WA)	35.5	Melbourne - Inner East	-28.4
Northern Territory - Outback	32.6	Sydney - Sutherland	-28.1
Bunbury (WA)	28.2	Sydney - Inner South West	-25.8
Western Australia - Outback	27.1	Australian Capital Territory	-25.6

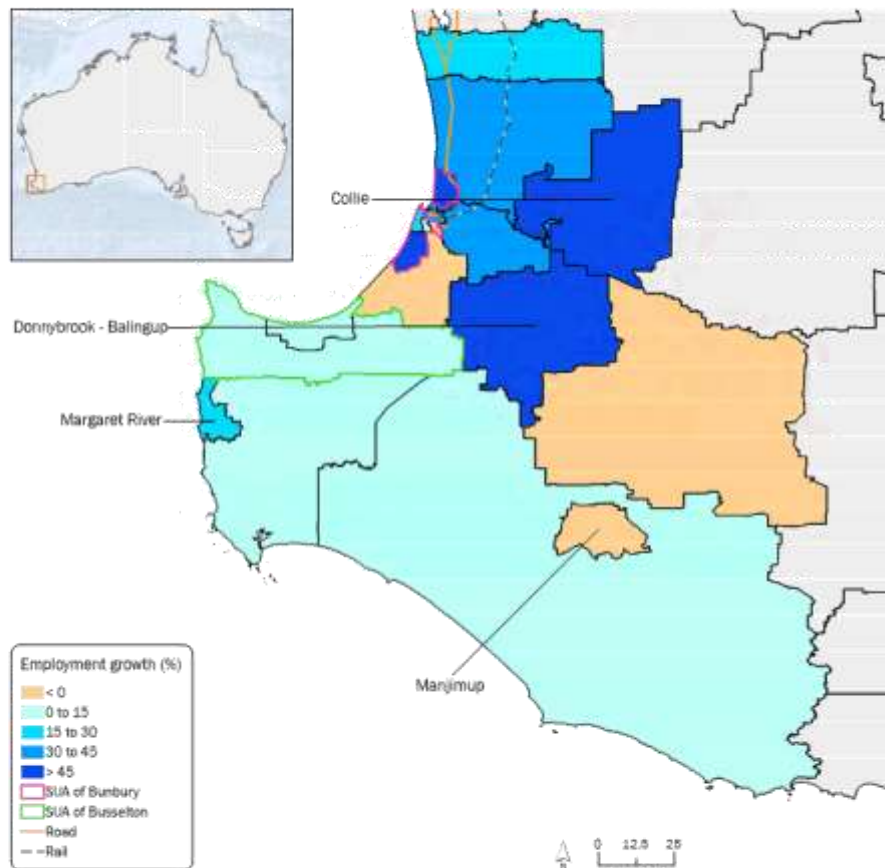
Source: ABS (2011a), time series profile, second release.



In regional and remote areas, employment gains seem to have taken place in Manufacturing sub-divisions that are tied to the resources sector. For example, manufacturing activity in both Western Australia – Outback and Northern Territory – Outback is focused on the transformation of raw materials through activities such as aluminium smelting, gold refining and nickel smelting. In Mackay in Queensland, growth appears to have been concentrated in sub-divisions that cater to mining and agribusiness, including metal product manufacturing and specialist machinery and equipment manufacturing (Mackay Regional Council 2014). Manufacturing job growth in Mandurah is attributable to the Alcoa alumina refinery in nearby Pinjarra.

Growth in resource-related Manufacturing is also evident in the Bunbury region of Western Australia, which is located in the south-west corner of the state. It incorporates the regional cities of Bunbury and Busselton and the wine-producing Margaret River region. Manufacturing focuses on raw material processing, including alumina refining, wine making, meat processing and basic chemical manufacturing (South West Development Commission and RDA South West 2014). It also includes some machinery, equipment and metal fabrication. As shown in Map 3.1, growth over the period was concentrated in the SUA of Bunbury and nearby regional areas of Donnybrook and Collie. Some growth is also evident in Margaret River, reflecting growth in wine making. The Busselton SUA, on the other hand, had only moderate growth in Manufacturing. Conversely, the town of Manjimup saw a large decline in employment associated with poor outcomes in timber processing.

Map 3.1 Growth in Manufacturing employment, Bunbury, 2001–2011



Source: ABS (2011a), time series profile, second release.



Divergent experiences across the Remoteness Classes also highlight how the widespread adoption of ICT has influenced structural change in some industries. As outlined above, improvements in transport technology throughout the 20th century weakened the link between primary production and population centres, encouraging centralisation of service industries in cities and regional centres (BITRE 2014a). Over the past few decades, advancements in computer technology and internet access have also had a transformative impact on the way in which businesses operate.

ICT can weaken physical ties between economic activity and the places where people live. ICT allows services to be produced and traded from any location. It also allows for remote performance of functions involved in producing physical goods. This has the potential to both exacerbate and alleviate centralisation for different industries. For example, remote technology further reduces the need to co-locate labour with physical resources in agricultural and mining activities. Relevant practices include remote monitoring of soil conditions, electronic cattle tracking and the use of driverless trucks in mining.

Similar trends are at least partially evident in Mining employment over the past decade. Between 2001 and 2011, Mining employment grew by roughly 100,000 jobs. Almost 45,000 of these were recorded as being in *major cities* (based on place of enumeration data), with 24,000 in Perth and Mandurah. While some of the workers performing these jobs would be fly-in, fly-out workers whose jobs are physically located at remote mine sites, at least some of these jobs are actually located within city offices. This trend, which perhaps runs counter to some perceptions of Mining as being based almost entirely in *remote areas*, raised the proportion of Mining employment located in *major cities* to 39 per cent (up from 33 per cent in 2001). Looking forward, the Australian Workforce and Productivity Agency (2013) predicts that further automation of processes and implementation of remote workforce practices will mean that an even greater share of mining jobs will be located in cities.

At the same time, ICT allows people and businesses in service industries to locate outside of *major cities* while remaining connected to customers and suppliers. For example, Hippo Animation—a major Chinese animation studio—recently established a joint venture with local partners Vue Group to produce films in the regional city of Bunbury in Western Australia (McHugh 2013). The joint venture will focus on producing animated and computerised live-action films that make extensive use of computer-generated imagery. This is an illustrative example of high-tech and human capital dependent services being produced in a *regional area* for distribution to a global market.

For other service industries, ICT has spurred further centralisation in *major cities*. The Finance and Insurance Services industry has centralised much of its operations over the last 20 years due to the introduction of automatic teller machines, telephone banking and internet banking. This has reduced the need to maintain branches, which have gradually closed in *regional areas* from around 1993 onwards, meaning that the share of finance employees located in central offices grew.

ICT has altered the competitive landscape and business practices of Retail Trade. In 2006, Retail Trade was the largest employing industry in Australia. However, it has since been surpassed by Health Care and Social Services. Growth in Retail Trade employment was relatively slow between 2006 and 2011. This partially reflects reduced consumer spending during the Global Financial Crisis. However, slow employment growth also reflects a declining reliance on labour in this industry. This has resulted from technological advances such as the implementation of self-serve facilities in major retail outlets and the growth in internet shopping facilitated by greater internet access (Department of Industry 2014). Online retailing has also been encouraged by the high value of the Australian dollar over recent years, which has made international purchases more affordable.

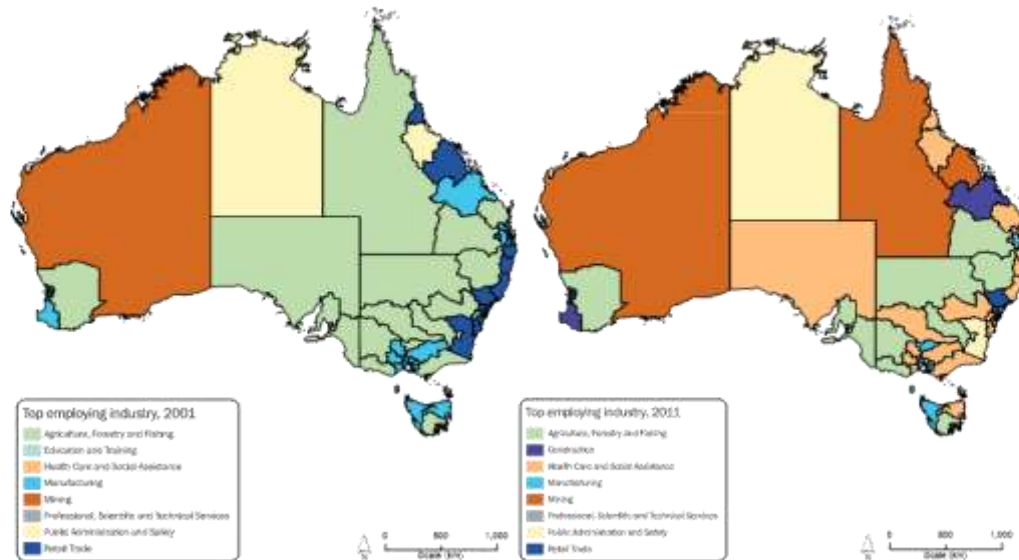
In general, online retailers have been able to capture a growing share of the market by offering customers a convenient service and often at a reduced price compared with ‘bricks and mortar’ retailers (online retailers have lower wage costs and overheads because they do not need to invest as much in physical store space). Notably, domestic retailers, including major supermarket chains and department stores, have also moved into online retailing, offering a choice of delivery services or in-store pick-up (Department of Industry 2014). These trends are likely to continue in the future, with more retailers offering a mixed service that gives customers the option of visiting physical store fronts or ordering online. The implications of these developments are that there will be a continued decline in labour intensity in retail trade, and growth in demand for parcel and freight businesses.

### 3.3.4 Trends across sub-state regions

This section analyses trends in structural change across sub-state regions. Given the larger number of regions involved (there are 88 SA4s), the analysis focuses on summary statistics that allow us to compare general characteristics of regions that have high rates of structural change, with regions that have low rates of structural change. For example, it attempts to identify relationships between the rate of structural change and variables such as regional population, industrial diversity and main industry of employment. Case studies are also included to allow for a more detailed analysis of particular places.

Map 3.2 below provides a high-level overview of how trends in structural change have altered the industry mix for different types of region. One of the most obvious trends has been the growing dominance of Health Care and Social Assistance. In 2001 Agriculture, Forestry and Fishing was the top employing industry for much of inland Australia. The top employing industries in major cities and coastal areas, particularly along the east coast, tended to be either Manufacturing or Retail Trade. By 2011, Health Care and Social Assistance had become the top employer for many of these regions.

Map 3.2 Largest employing industry, 2001-2011



Source: ABS (2011a), time series profile, second release.

Another visible trend has been the emergence of Mining and Construction as the top employing industries in regional and remote areas of Queensland. Map 3.2 above also highlights the diversity of experience amongst regions within the broader Remoteness Classes. For example, a number of regional and remote SA4s have undergone a transition from being predominantly agricultural to having a greater focus on Mining and Construction. These regions can be characterised as being primary producers. Darling Downs – Maranoa is one such region, as discussed in detail in Box 3.2 below. Given the very large employment swings in these regions, they tend to rank highly on the structural change index and have a disproportionate impact on the statistical relationship between structural change and other descriptive characteristics, as discussed in more detail below.

Other regional and remote areas have seen a decline in Agriculture, Forestry and Fishing that was not offset by growth in Mining. This resulted in a greater reliance on service industries. These regions are shifting away from primary production and focusing on being service centres for regional populations. The Murray region of New South Wales is one such example, where Health Care and Social Assistance has replaced Agriculture, Forestry and Fishing as the main employer.

Further, other regional areas have seen trends that more closely mirror those in major cities in the sense that structural change has been dominated by experiences within regional centres. The Cairns and Townsville SA4s in Queensland, for example, both contain sizeable regional cities and have seen a shift from one service industry to another (that is, a shift out of Retail Trade and Public Administration and Safety respectively, into Health Care and Social Assistance).

As discussed above, structural change can have either a positive or a negative impact on individual regions, so it was not expected that the rate of structural change would necessarily correlate with measures of economic performance. However, it was expected that characteristics such as population size and industrial diversity may have a relationship with structural change given that previous research suggests that smaller and more concentrated economies are more vulnerable to volatile movements in industry composition (BTRE 2003).

A correlational analysis was conducted to test for relationships between structural change and other characteristics of regional economies. The statistic presented in Table 3.5—Pearson's *r*—measures the strength of the linear relationship between two variables. In this case, it measures the linear relationship between the structural change index and each of the four variables listed in the first column. Pearson's *r* can take on any value from -1 to 1. Negative values mean that the relationship between variables is inverse—that is, as one variable rises, the other tends to fall. Positive values mean that the relationship between variables is positive—that is, higher values for the first variable are associated with higher values for the second variable. The closer the value is to either -1 or 1, the stronger the relationship. A value of 0 equates with no linear relationship.

Table 3.5 Correlations between structural change index and selected variables, 2001–2011

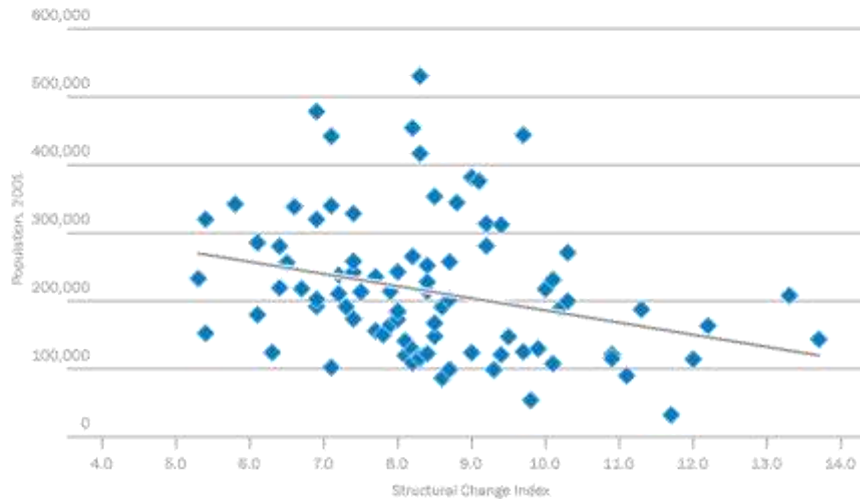
Variable	Correlation (Pearson's <i>r</i> )	Significance (p-value)
Population (2001)	-0.29	0.01
Industrial diversity (2001) (a)	-0.26	0.01
Median household income (2001)	-0.41	0.01
Business entry rate (2001–2011)	-0.28	0.01

Source: Population—ABS (2014b); industrial diversity—ABS (2011a), time series profile, second release; income—ABS (2001), custom data request, ABS (2013d); business entry—ABS (2014i).

Notes: (a) Diversity was calculated using the method presented in Jackson (1984). The raw figures were converted using the formula  $(1 - \text{diversity})$  so that higher values relate to greater levels of diversity and vice versa. Correlation was calculated using data for all SA4s except for Other Territories ( $n = 87$ ).

To illustrate, consider the relationship between the rate of structural change and population size at the beginning of the period. The correlation coefficient is -0.29, which means there is a mild negative relationship between structural change and population size. That is, regions with larger populations at the start of the period tended to have lower rates of structural change. This is also evident in Figure 3.10 below, which presents a scatter plot of structural change compared with population size.

Figure 3.10 Structural change (2001–2011) versus population (2001) for sub-state regions



Source: Population—ABS (2014b); structural change index—ABS (2011a), time series profile, second release.

Statistically significant relationships were also found between structural change and the other variables. The results suggest that high structural change regions tended to have a relatively concentrated industry structure and relatively low incomes at the beginning of the period. Further, high structural change regions tended to have a low rate of business entry over the period.

Note that the effect size for each variable is relatively small. In each case, the coefficient ranges from around 0.3 to 0.4, meaning that these variables have some association with structural change but do not explain the whole story. However, they do paint a picture that is consistent with the results discussed earlier—namely, small regions with concentrated industry structures and low starting incomes were more likely to have experienced high structural change.

It is possible that these results were largely driven by the experience in regions that were affected by the mining boom. The mining boom tended to have a large impact in regional and remote areas that began the period with a high reliance on Agriculture, Forestry and Fishing and associated low incomes. The finding that business entry rates were lower in regions with high structural change may also suggest that there was a movement towards larger average business sizes. That is, smaller businesses may have left the market and been replaced by a small number of large employers. This trend would be consistent with a switch between agricultural and mining businesses, with small farm businesses being aggregated into large agricultural producers, combined with the entry of large mining employers in rural areas.

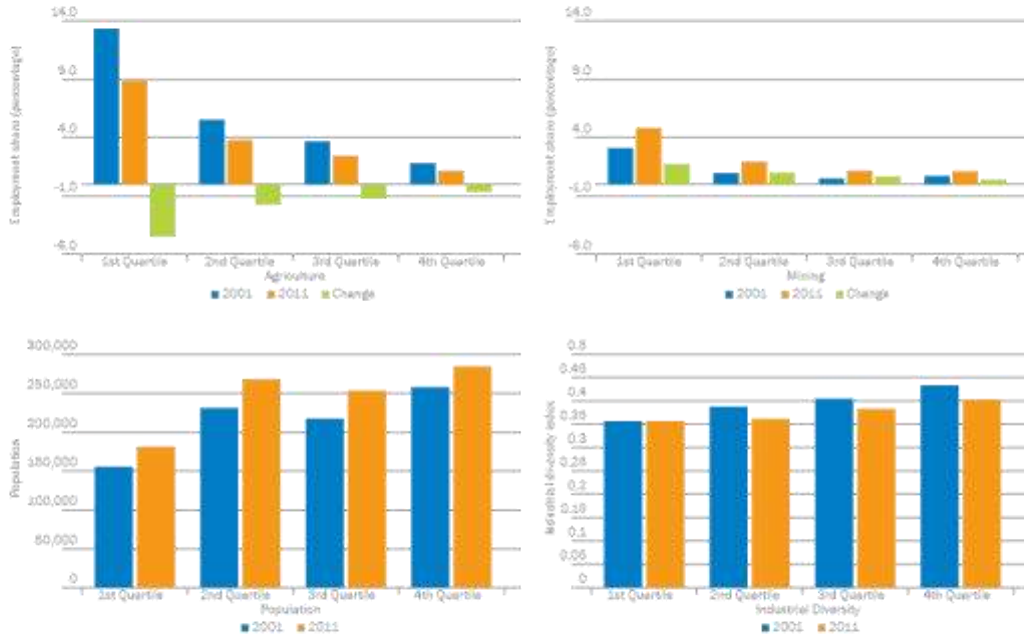
Another way of analysing trends that may have influenced structural change is to divide regions according to their rank on the structural change index. The following analysis groups regions into quartiles. The first quartile comprises the top 25 per cent of regions as ranked on the structural change index. The second quartile comprises the next 25 per cent, and so on, in descending order.

Once again, this analysis highlights the impact of the mining boom between 2001 and 2011. As shown in Figure 3.11, regions in the first quartile (and to a lesser extent the second quartile) tended to have a larger reliance on Agriculture, Forestry and Fishing and Mining, and a relatively small population at the beginning of the period.



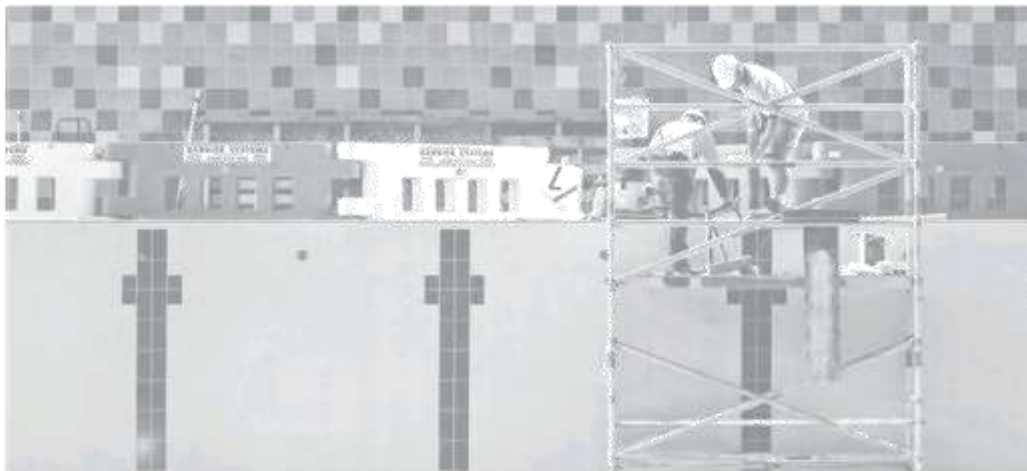
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Figure 3.11 Selected characteristics by quartile, 2001-2011



Source: ABS (2011a), time series profile, second release.

The first and second quartiles also tended to have lower industrial diversity in 2001, consistent with the correlational analysis. Interestingly, it appears that diversity remained stable in the first quartile, perhaps as one major employing industry (Agriculture, Forestry and Fishing) lost share to another (Mining). In the other quartiles, diversity fell, meaning that their industry structure became more concentrated. This is consistent with a trend of employment growth in industries that were already major employers, perhaps highlighting the impact of growth in Health and Social Services employment.



### Box 3.2 Case study: structural change in Darling Downs – Maranoa

Darling Downs – Maranoa is an inland region of southern Queensland that has traditionally specialised in Agriculture, Forestry and Fishing. Like many regional and remote areas of Australia, Darling Downs – Maranoa is undergoing structural change characterised by a long run decline in Agriculture, Forestry and Fishing employment combined with a more recent spike in Mining and Construction activity (Map 3.3).

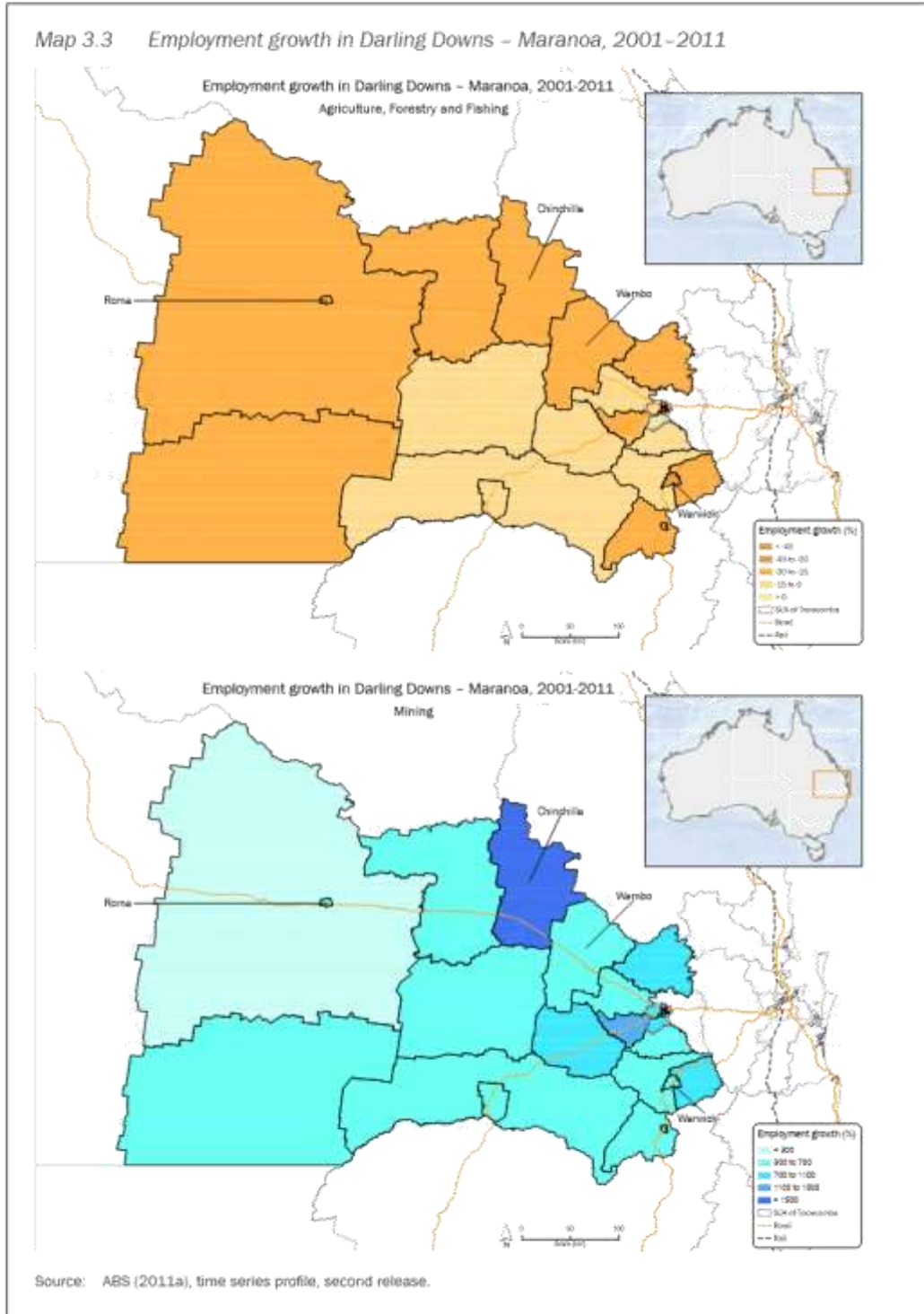
The region is located directly north of the border with New South Wales, west of the Great Dividing Range and adjacent to the city of Toowoomba. It encompasses large tracts of highly productive agricultural land that has traditionally supported a diverse range of activities, including wheat and other grain, cotton, egg, livestock and pig production, forestry and various types of horticulture (ABS 2008a).

Agriculture, Forestry and Fishing remains the largest employer in the region, although employment declined by 17.3 per cent between 2001 and 2011 (ABS 2011a). To some extent, this reflects the impact of extreme weather conditions over the period. An extended period of drought affected broad acre cropping throughout the middle of the period, while the combined impact of drought followed by flooding caused a drastic reduction in livestock production in 2011 (Australian Bureau of Agricultural and Resource Economics and Sciences 2011). Employment decline also reflects growing productivity through improved farming practices and technology.

The other key trend affecting Agriculture, Forestry and Fishing is competition for land use with a rapidly growing resources sector. The region contains deposits of thermal coal, coal seam gas and petroleum, including various gas fields within the Surat Basin. Parts of the region, particularly the north, have been subject to the rapid development of coal seam gas projects over the past decade (Department of State Development, Infrastructure and Planning 2013). This has contributed to a decrease in the land area dedicated to Agriculture, Forestry and Fishing. This is reflected in Map 3.3 below, which illustrates both a decline in Agriculture, Forestry and Fishing employment and rapid growth in Mining employment in most areas. The trend is particularly pronounced in regional towns in the north such as Dalby (within the SA2 of Wambo) and Chinchilla.

Conversely, the south of the region has been less exposed to growth in the resources sector. The SUA of Warwick is an interesting case in point. The region suffered a major decline in Agriculture, Forestry and Fishing employment, combined with relatively modest growth in Mining employment.

Note that while both Mining and Construction employment for the region grew significantly between 2001 and 2011, Agriculture, Forestry and Fishing is still the largest employing industry with a total of approximately 11,200 employees as of 2011 (compared with around 6,000 for Mining and Construction). The implication is that Agriculture, Forestry and Fishing is still extremely important for the local economy and that while job gains in Mining and Construction are a welcome development, they cannot be relied upon to fully replace job losses in the farming sector.



## 3.4 Conclusion

In summary, while a high-level narrative can be constructed around major trends in structural change, experiences vary from region to region and this has implications for regional policy.

The mining boom was the major driver of structural change in *remote* and very *remote* regions over the latter part of the intercensal period. These regions tended to rank highly on measures of structural change. *Remote* and very *remote* regions are characterised by having small economies with a heavy reliance on a small number of industries. This makes them vulnerable to volatile swings in employment. Over the recent past, structural change was driven by rapid growth in Mining and Construction employment combined with decline in Agriculture, Forestry and Fishing employment.

Looking ahead, it is likely that *remote* and very *remote* regions will again be subject to volatile change. The Mining industry is transitioning from an investment phase to a production phase. This transition is characterised by an increase in the volume of production but a decrease in labour requirements. This is because the investment phase requires a large workforce to build resource projects, whereas production involves greater automation of processes and fewer workers. Therefore, the employment share of Mining is likely to drop and may create challenging labour market conditions in *remote* areas. This is likely to create challenges for regions and policymakers.

The advantage of the transition is that it will release workers, including both current Mining employees and Construction employees, who have the skills required to build infrastructure and housing. This may alleviate some of the cost pressures faced by construction businesses that were previously forced to compete with mining for skilled labour.

*Inner* and *outer regional* areas, on the other hand, appear to be transitioning towards a greater reliance on service industries. Traditionally, these regions have focused on Agriculture, Forestry and Fishing, and while agricultural output may continue to grow in the future, it is becoming less labour intensive and is unlikely to provide as many employment opportunities as it once did. Job growth in these regions is more likely to come from human services related industries, particularly Health Care and Social Assistance, as population ageing unfolds and drives demand for health and aged care. This will also have implications for population distribution given that service industries are more likely to cluster in regional centres than in smaller towns and rural areas.

Manufacturing in general will continue to operate in a highly competitive international market. These conditions will probably favour business that can create value by providing a unique product offering and after-sale services rather than competing on price (Department of Industry 2014).

At a regional level, the impact of change in Manufacturing is likely to be most concentrated in *major cities*. However, there are also businesses which specialise in the transformation of mineral products which fared relatively well between 2001 and 2011. Many of these types of businesses are concentrated in *regional* and *remote* areas close to resource projects. There are further opportunities for growth in this area, particularly if the volume of Mining output continues to grow. Interestingly, Manufacturing in *regional* and *remote* areas may provide employment opportunities for people leaving the Mining workforce, given that many Mining employees originally came from Manufacturing jobs (Department of Industry 2014).





Item 15.30

Enclosure 1

## 4. Social progress



### Key points

- This chapter analyses social progress using indicators of health, safety, community connections and engagement.
- Indicators of social progress are important elements in assessing whether the quality of life in a region is improving.
- Social indicators can evaluate the level of social development and assess the impact of government policies.
- Australians in regional areas are more socially engaged and connected than those in major cities.
- However, people in regional and remote areas have relatively poorer health outcomes than those in major cities, as measured by indicators such as life expectancy and rates of physical activity.
- Mental health is a key aspect of life quality. Mental health outcomes, as measured by the rate of suicide, are worse in regional and remote areas than in major cities.
- This difference could be attributable to various factors, including differences in the types of mental health services across regions and differences in the way in which people seek treatment and access mental health services.
- There are fewer mental health services available in regional and remote areas of Australia, as measured by the number of mental health professionals per head of population.
- Accordingly, regional Australians would have more difficulty accessing mental health services.

### 4.1 Introduction

There is more to wellbeing than economic performance. Progress goes beyond increases in material prosperity. In this regard, indicators of social progress can provide a useful insight into the experiences and living conditions of people in different regions. They can help to answer the question: 'Is life in your region getting better?'. However, social indicators are often overlooked when analysing regional Australia because they can be more difficult to quantify and interpret than measures of economic performance.

The aim of this chapter is to use available measures of social progress to construct a more detailed and nuanced picture of the factors that contribute to living standards in regional Australia. The terms 'social progress' and 'quality of life' are used throughout the text to refer to this concept.

Indicators of social progress are also useful when considering spatial policy, because outcomes can vary between metropolitan and regional areas. Differences in health outcomes, safety and social engagement raise important questions around inter-regional equity.

This chapter is organised into two sections. The first analyses regional performance on various measures of social progress that are included in the 'society' domain of the Indicator Framework, which is presented in the companion document to this publication: *Progress in Australian regions: Yearbook 2014*. Specific indicators include:

- life expectancy at birth
- level of physical activity
- victimisation rates for both physical assault and malicious property damage
- rates of voluntary work and unpaid help.

The second section provides a detailed analysis of mental health in regional Australia. Mental health is a major determinant of life quality, and mental health outcomes can vary greatly between regional and metropolitan areas.

Data is analysed at different geographic scales according to availability and fitness for purpose. Most statistics are examined at multiple levels, allowing for comparisons across Remoteness Classes, Greater Capital City Statistical Areas (GCCSA) and, where available, SA4s.

## 4.2 Progress indicators

### 4.2.1 Health

A person's health affects many aspects of their life, including the ability to socialise with family and friends, participate in the community, educate themselves and contribute economically through work participation (ABS 2011b). It is a major component of a person's wellbeing.

Life expectancy is a commonly used indicator of health outcomes because it is directly related to progress in the health conditions of people living in a particular region. As shown in Table 4.1 below, life expectancy in Australia increased by 1.0 years between 2006 and 2012 to 82.0 years. However, life expectancy is uniformly lower for people living outside of a GCCSA. Tasmania had the smallest gap, with life expectancy 0.3 years higher in Hobart compared with the rest of the state. This contrasts with the Northern Territory, which had a substantial gap of 7.9 years between life expectancy for Darwin and that of rest of the Territory. This outcome largely reflects the life expectancy gap for Indigenous Australians, who comprise more than half of the Northern Territory population outside of Darwin. Indigenous life expectancy is about 10 years lower than that of all other Australians (Australian Institute of Health and Welfare 2014a).

Table 4.1 Life expectancy at birth, 2006–2012

Region	Life expectancy 2006 (years)	Life expectancy 2009 (years)	Life expectancy 2012 (years)
Greater Sydney NSW	81.8	82.3	83.1
Rest of NSW	80.2	80.6	81.1
Greater Melbourne VIC	82.0	82.5	83.3
Rest of VIC	80.4	80.7	81.3
Greater Brisbane QLD	81.4	81.7	82.2
Rest of QLD	80.7	81.1	81.4
Greater Adelaide SA	81.2	81.7	82.2
Rest of SA	80.2	80.9	81.3
Greater Perth WA	82.0	82.3	83.1
Rest of WA	80.0	80.0	81.1
Greater Hobart TAS	80.0	79.6	80.8
Rest of TAS	79.5	79.9	80.5
Greater Darwin NT	78.9	78.7	81.1
Rest of NT	71.1	73.0	73.2
ACT	81.9	82.4	83.1
AUSTRALIA	81.0	81.6	82.0

Source: ABS (2013f).

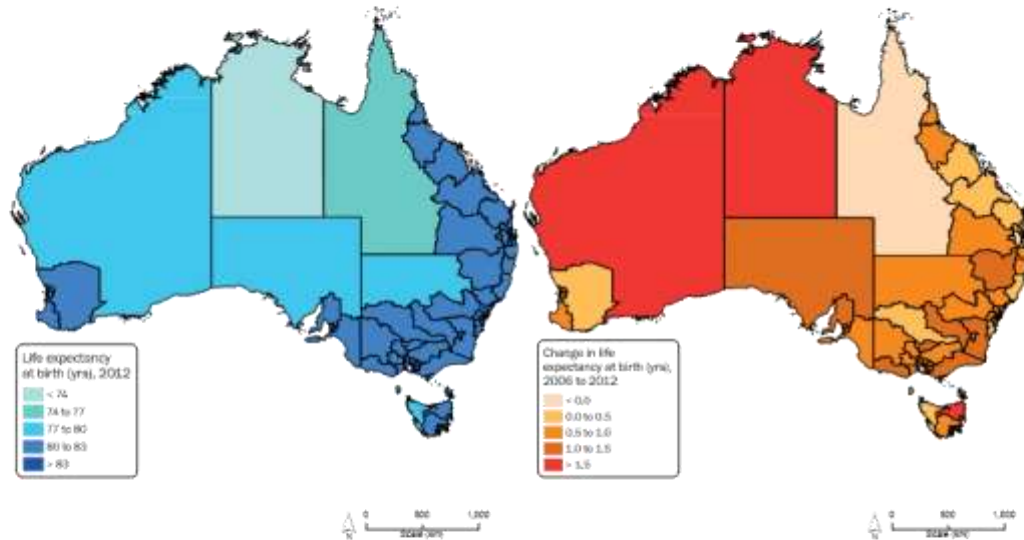
Between 2006 and 2012, life expectancy in GCCSAs tended to increase by more than life expectancy outside of these areas. In other words, for most states and territories the life expectancy gap widened. Exceptions to this trend were South Australia and Tasmania. In Western Australia, life expectancy in Perth and the rest of the state increased at about the same rate (1.1 years) and the gap remained at two years.

Map 4.1 shows the life expectancy across SA4s in 2012 and the change between 2006 and 2012. In absolute terms, the five SA4s with the highest life expectancy in 2012 were all in GCCSAs, four of which were in Greater Sydney. Outside the GCCSAs and the Australian Capital Territory, the highest figures were in the Sunshine Coast and Gold Coast regions of Queensland, Bunbury in Western Australia and the Illawarra in New South Wales.





Map 4.1 Life expectancy at birth, 2012, and change in life expectancy at birth, 2006–2012



Source: ABS (2013f).

Examination of the change in life expectancy for sub-state regions (Table 4.2 below) shows that the largest increases were again concentrated in GCCSAs. Notable change was recorded in Greater Darwin (2.2 years), Sydney – City and Inner City (2.0 years) and Brisbane – Inner City (2.0 years). Outside GCCSAs, Northern Territory – Outback also saw a large increase of 2.1 years, which was coming from a very low base of 71.1 years. Despite this improvement, life expectancy in Northern Territory – Outback remains the lowest in the country, at 73.2 years. Queensland – Outback was the only region to record a decrease in life expectancy (down 0.1 years).

Table 4.2 Life expectancy at birth, top and bottom regions, 2012

Top five regions	Life expectancy (years)	Bottom five regions	Life expectancy (years)
Sydney – North Sydney and Hornsby	85.4	Northern Territory – Outback	73.2
Melbourne – Inner East	85.1	Queensland – Outback	75.2
Sydney – Ryde	84.7	Far West and Orana	78.9
Sydney – Baulkham Hills and Hawkesbury	84.6	Western Australia – Outback	79.4
Sydney – Sutherland	84.4	South Australia – Outback	79.8

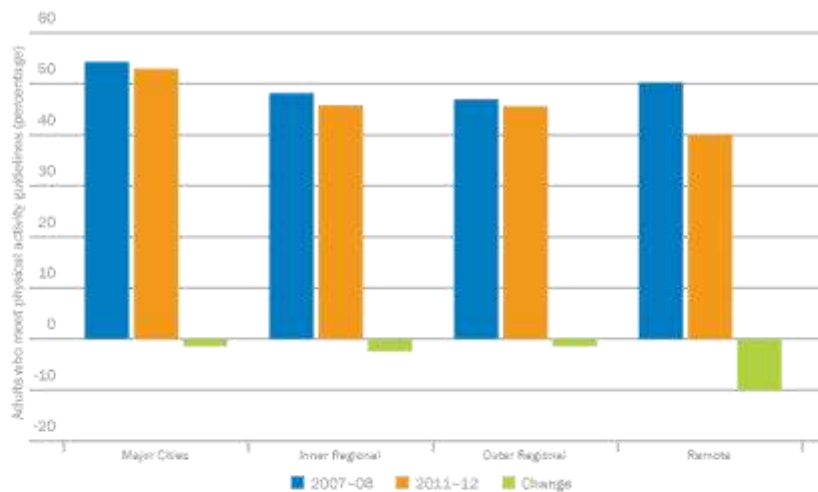
Source: ABS (2013f).

There is a considerable body of research on the factors underlying the life expectancy gap between metropolitan and regional areas. Regional Australians have fewer years of completed education—which may impact health-related knowledge—and lower incomes, which may reduce capacity to access health services. Moreover, regional Australians score higher on health risk factors. They are more likely to have disability, be overweight or obese, and smoke and drink at a higher rate than people in major cities (Australian Institute of Health and Welfare 2013a). Compounding matters, the ability to access appropriate health services generally decreases with increasing remoteness (Barclay 2014). The implication for policymakers is that health outcomes could be improved by targeting these underlying factors—for example, through programmes that improve access to health services in regional areas and that seek to reduce risk factors, including body weight, and smoking and drinking rates.

Physical activity is another determinant of good health. Low levels of physical activity are identified as a risk factor for various conditions, including cardiovascular disease, diabetes and osteoporosis. There is also a well-established link between sedentary behaviour and chronic disease and obesity.

Nationally, between 2007–08 and 2011–12 the proportion of adults who met physical activity guidelines<sup>30</sup> of spending 150 minutes exercising a week fell by 1.5 percentage points. As shown in Figure 4.1 below, the proportion of adults who met physical activity guidelines fell across all Remoteness Classes, with the largest decline in remote areas. As a result, remote Australia has dropped from being the second most active in 2007–08 to the least active as of 2011–12. The general pattern now is that levels of physical activity decline as remoteness increases.

Figure 4.1 Percentage of adults who met physical activity guidelines, 2007–08 to 2011–12



Source: ABS (2009b, 2014k).

Note: Excludes very remote areas of Australia. This is unlikely to affect national estimates.

This outcome may be counterintuitive given that rural Australians are often perceived to be more active than metropolitan Australians given the physical nature of work in rural industries (ABS 2011c). However, the active nature of a person’s job may reduce the level of physical activity they undertake outside of work. Therefore, it is difficult to gauge the combined level of physical activity that a person undertakes through both work and recreation.

Another explanation relates to access to and availability of sporting facilities. Participation in sport is slightly higher in major cities compared with regional and remote areas. This may reflect differences in availability of sporting infrastructure (ABS 2012c).

For sub-state regions, 45 of the 82 reported regions saw a decline in the proportion of adults who met physical activity guidelines. Large decreases were recorded in regional cities and parts of major cities, including Geelong (Victoria) (-21.2 per cent), Brisbane – West (Queensland) (-17.3 per cent), Mandurah (Western Australia) (-17.2 per cent), Shepparton (Victoria) (-17.1 per cent) and Newcastle and Lake Macquarie (New South Wales) (-16.7 per cent). In absolute terms, in 2011–12 New England and North West, Toowoomba, Barossa – Yorke – Mid North, Logan – Beaudesert and Fitzroy had the lowest proportion of adults who met physical activity guidelines. All were at or below 35 per cent.

<sup>30</sup> The Department of Health issues *Physical activity and sedentary behaviour guidelines*. These are available at <http://www.health.gov.au/internet/main/publishing.nsf/content/health-pubhlth-strateg-phys-act-guidelines>

State of Regional Australia 2015 Progress in Australian Regions

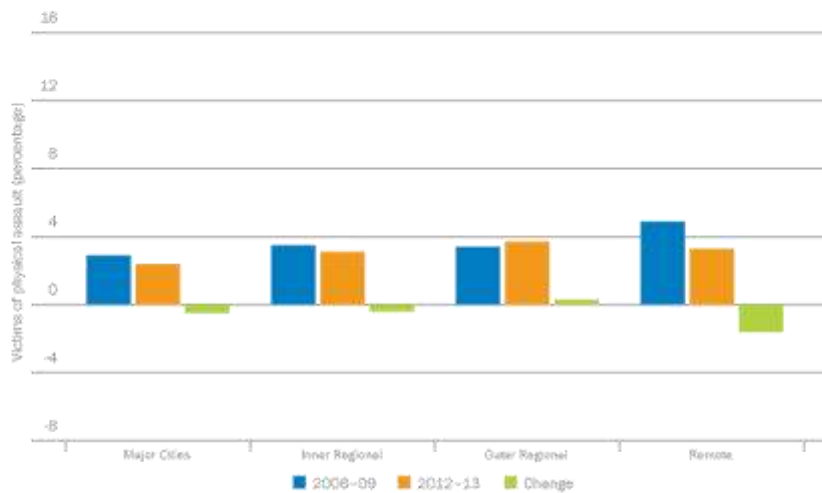
Similar to trends in life expectancy, the regions that showed sizeable increases in the proportion of adults who met physical activity guidelines were concentrated in Sydney. Sydney also accounts for four of the top five regions in the area of physical activity, with the highest proportion of adults who met physical activity guidelines in absolute terms in 2011-12.

### 4.2.2 Safety

Victimisation rates for physical assault and malicious property damage give an indication of personal safety in a region. Personal safety is an important aspect of life quality. As noted by the ABS, 'crimes committed against individuals can impact directly on the physical, financial and emotional wellbeing of the victim, as well as indirectly on the people around them' (ABS 2014).

It is commonly thought that regional areas perform well on measures of safety. According to Quinne and Morrell (2008), rural communities are often perceived to have low levels of crime and residents report high feelings of safety. However, these perceptions are not necessarily supported by the data, at least as measured by victimisation rates for physical assault and malicious property damage. Figure 4.2 below shows that in 2012-13 residents of major cities reported a lower rate of physical assault than residents of all other Remoteness Classes. Moreover, between 2008-09 and 2012-13, major cities experienced the largest decline of all remoteness areas in malicious property damage victimisation rates.

Figure 4.2 Victims of physical assault across Remoteness Classes, 2008-09 to 2012-13

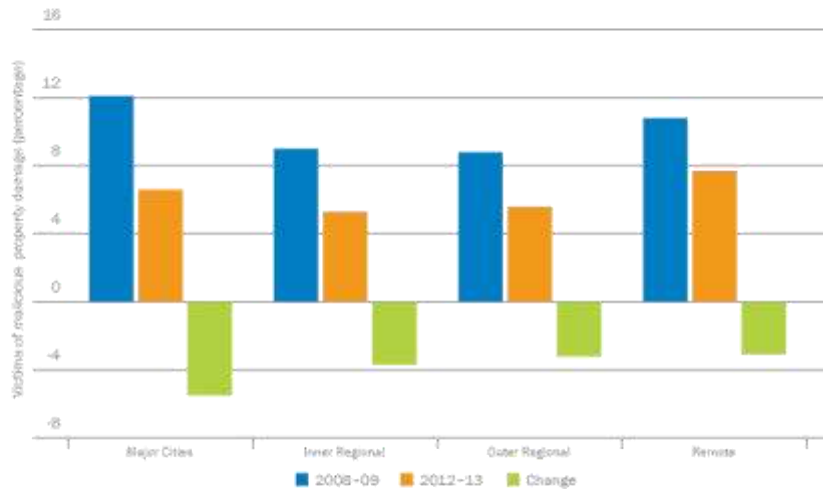


Source: ABS (2010c, 2013g).

Note: Excludes very remote areas of Australia. This is unlikely to affect national estimates.

However, the outlook in terms of safety is not entirely unfavourable for regional Australia. The decrease in the physical assault victimisation rate in remote Australia (1.6 per cent) was more than three times higher than the next Remoteness Class. Further, while major cities experienced the largest decline of all remoteness areas in malicious property damage victimisation rates, that Remoteness Class figure in 2012-13 (6.6 per cent) was still higher than rates in inner and outer regional areas (Figure 4.3). Therefore, common community perceptions of safety in regional Australia are not entirely without basis.

Figure 4.3 Victims of malicious property damage across Remoteness Classes, 2008–09 to 2012–13



Source: ABS (2010c, 2013g).

Note: Excludes very remote areas of Australia. This is unlikely to affect national estimates.

### 4.2.3 Community connections and engagement

A focus on health and safety alone provides an inadequate picture of a region’s life quality. Community connections and engagement, social cohesion and involvement in civic life are other important components. And on these criteria, at least as measured by rates of voluntary work, outcomes in *regional* and *remote* areas surpass that experienced in *major cities*.

As noted by the ABS, ‘the effect of volunteering on the functioning and connectedness of communities is increasingly being recognised. Through their contribution to a wide range of organisations, volunteers help to build social networks, shared values and social cohesion’ (ABS 2008b). Beyond contributing to community connections and engagement, volunteers also provide services that would otherwise have to be paid for or left undone. This allows organisations to allocate limited finances elsewhere.

The value of the work contributed by volunteers to non-profit institutions is estimated to be billions of dollars a year. While dollar values vary dramatically from source to source, the Australian Institute of Health and Welfare (2001) estimated that in 1999–2000, the value of volunteering, as measured in time inputs, was almost double the value of combined government expenditure on welfare services. At the individual level, research suggests that volunteering can lead to improved physical and mental health (ABS 2008b). In 2006, people who described their own health as excellent or very good were more likely to be regular volunteers (23 per cent) than people who described themselves as having fair or poor health (14 per cent) (ABS 2008b). Moreover, volunteering provides an increased sense of community belonging and ‘can help reduce feelings of personal isolation, offer people skills, social contacts, support a greater sense of self-worth, and challenge the stereotypes we have about different social groups’ (Volunteering Australia 2012, p.9).

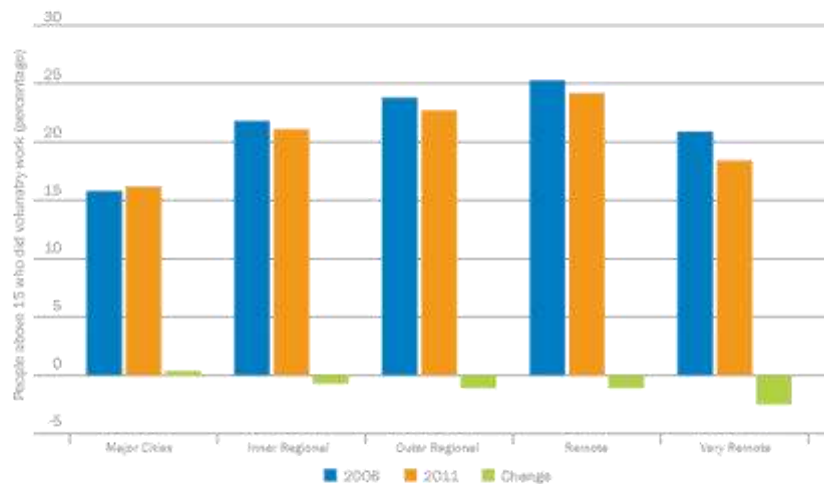
In 2011, the percentage of people who undertook voluntary work through an organisation or group across Remoteness Classes varied from 16.2 per cent in *major cities* to 24.2 per cent in *remote* Australia (Figure 4.4). *Very remote* Australia still had a higher proportion of volunteers than *major cities*.

However trends in volunteering rates between 2006 and 2011 show a decline in volunteering for regional Australia. While *remote* and *regional* Australia had higher rates of volunteering, *major cities* was the only Remoteness Class to



experience an increase in participation from 2006. The volunteering rate in all other Remoteness Classes fell, with the largest fall in very remote Australia.

Figure 4.4 Percentage of people above 15 who did voluntary work, 2006–2011



Source: ABS (2006a, 2011a), custom data request.

Among sub-state regions (Table 4.3 below), the highest rates of participation in voluntary work in 2011 were all outside of major cities areas. Conversely, the lowest rates of participation were found in outer suburbs of Sydney and Melbourne. Interestingly, the pattern of change between 2006 and 2011 is essentially the reverse: large increases are seen in parts of major cities, while the largest decreases in participation took place in regional and remote areas. In other words, the gap in participation rates between major cities and regional areas has declined. Volunteering in major cities started from a low base and is increasing, while volunteering in regional and remote areas started from a relatively high point and is decreasing. Interestingly, the region with the highest proportion of volunteers also has the oldest age profile. This suggests a link between the two.

Table 4.3 Percentage of people above 15 who did voluntary work, top and bottom SA4s, 2011

Top five SA4s	Volunteers (%)	Bottom five SA4s	Volunteers (%)
Barossa – Yorke–Mid North	28.9	Sydney–South West	8.4
Western Australia–Wheatbelt	28.2	Sydney–Inner South West	10.7
Warrambool and South West	27.5	Melbourne–West	11.5
North West	27.4	Sydney–Blacktown	11.6
South Australia–South East	26.8	Sydney–Parramatta	12.0

Source: ABS (2011a), custom data request.

Despite falls in the rate of voluntary work in regional areas in recent years, overall rates of participation remain higher than in major cities. Part of the reason perhaps lies in the fact that volunteers often bridge the gap where paid services cannot be provided for rural communities (van de Wetering 2012). Moreover, as Lynne Dalton, CEO of the Centre for Volunteering, has stated, ‘in the country, when you join a club or an organisation to do a job or to help out, you really have a sense of a direct influence on how your community is, how it travels, how robust it is, how together it is, what good things are happening’ (van de Wetering 2012).

While there has been a recent trend of declining rates of voluntary work in regional and remote Australia, other metrics show that regional Australians are increasingly participating in other activities that demonstrate high levels

of community connection and engagement. As Table 4.4 below reveals, in *outer regional* and *remote* areas, the proportion of people who have actively participated in a civic or political group in the last 12 months grew markedly between 2006 and 2010. Civic engagement in these areas is now well above engagement in *major cities* and *inner regional* areas, both of which saw a decline over the same period.

Table 4.4 *Actively participated in a civic or political group in the last 12 months, 2006–2010*

Remoteness Class	2006 (%)	2010 (%)	Change (percentage points)
Major cities	18.1	18.0	-0.1
Inner regional	19.9	19.8	-0.1
Outer regional and remote	18.8	21.6	2.8
AUSTRALIA	18.6	18.7	0.1

Source: ABS (2007, 2011d).

Note: Excludes very remote areas of Australia. This is unlikely to affect national estimates.

## 4.3 Current issue: mental health in regional Australia

### 4.3.1 The prevalence of mental illness

Mental ill health relates to problems associated with mental states, emotions, thoughts and behaviours. It is difficult to clearly define boundaries between normal mental function and mental illness, because individual variances in mental health are generally conceptualised as falling along a continuum. Consequently, definitions of mental illness are usually inclusive and attempt to deal with ambiguity by describing mental illness from multiple perspectives. SA Health (2010, p.19), for example, defines mental illness as '[a] clinically diagnosable disorder that significantly interferes with an individual's cognitive, emotional or social abilities' and notes that this includes a range of well-known conditions such as anxiety, depression, substance use disorders and schizophrenia.

Mental illness can have a devastating impact on individuals and their families, friends and co-workers. Around half of all Australians will experience at least one mental disorder over their lifetime (ABS 2009a). Each year, one in five Australians aged between 16 and 85 years experience symptoms of a mental disorder (ABS 2009a). In addition to the personal costs of mental illness, the economic costs are estimated to be significant. Australia loses more than nine million working days each year to mental illness and the cost to business has been estimated at \$237 million a year in extra leave taken. The annual cost of mental illness in Australia has been estimated at \$20 billion (ABS 2009a).

There is a perception that the situation is comparatively worse in *regional* and *remote* areas of Australia, because mental health outcomes, as measured by the rate of suicide (a strong indicator of significant mental illness), are demonstrably worse outside of *major cities*.<sup>34</sup> According to the Royal Australian and New Zealand College of Psychiatrists (2013), suicide rates increase significantly with the remoteness of the community. Based on ABS data (2011b), people living outside *major cities* are two-thirds more likely to die from suicide than those in *major cities*.

This statistic raises the question of why mental health outcomes are poorer in *regional* and *remote* areas. Various explanations have been offered. Among the most common are variances in the prevalence of mental illness across Remoteness Classes or differences in the way people respond to mental illness and seek treatment in different areas. As Martin Laverty (2014), CEO of the Royal Flying Doctor Service, notes 'determinants of mental

<sup>34</sup> While the World Health Organization's Suicide Prevention Report (2011) states "... the link between suicide and mental disorders is well established...", there remains some debate in the Australian community.

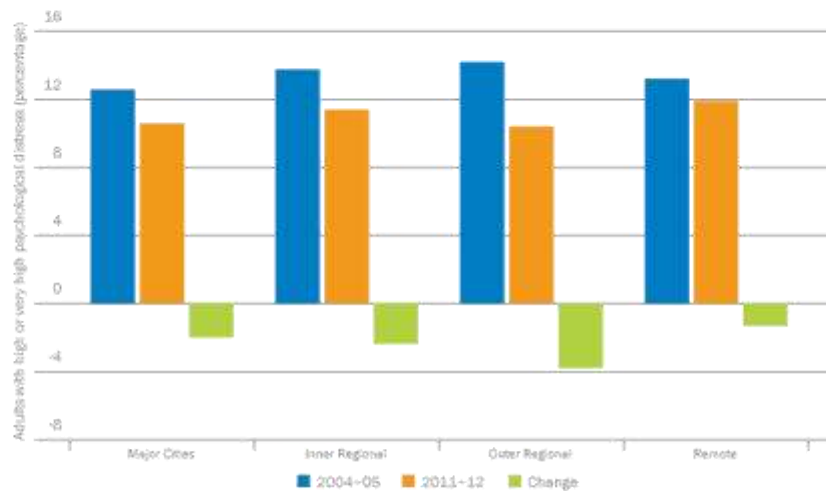
health risk are no different to risks that also exist in metropolitan areas. The difference is that responding to these determinants requires different city and country approaches; one size does not fit all in the bush.

There are a number of risk factors supporting the proposition that mental illness may be higher in regional and remote areas. For example, environmental risk factors that increase the prevalence of mental illness, such as the impact of natural disasters (drought, flood and bushfire), are more common in regional and remote areas. Natural disasters in agricultural areas destroy output and put financial stress on farming communities.

Other social and health-related risk factors, such as smoking rates, illicit drug use and alcohol consumption, are also higher in regional and remote areas. While it should be remembered that the relationship between mental health and these risk factors is complex, with uncertainty about the strength and direction of causality, the use of alcohol and tobacco certainly increases the complexity of mental illness (Health Performance Council 2013).

Despite differences in risk factors, statistical measures of the prevalence of mental illness by remoteness provide mixed evidence. For example, one important indicator of mental health, the level of psychological distress that people experience, shows little variance across geography. The ABS *Measures of Australia's Progress* (2014) uses psychological distress as an indicator of general mental health and wellbeing, because there is an association between high psychological distress and mental health conditions. The Health Performance Council (2013) specifically notes that psychological distress is linked to anxiety and affective disorders. As shown in Figure 4.5 below, the proportion of people with high or very high levels of psychological distress is relatively stable across Remoteness Classes. Further, rates of psychological distress decreased in all Remoteness Classes between 2004-05 and 2011-12 and the instance of psychological distress is now lowest in outer regional areas.

Figure 4.5 Percentage of adults with high or very high psychological distress, 2004-05 to 2011-12



Source: ABS (2006b, 2014k).

Note: Excludes very remote areas of Australia. This is unlikely to affect national estimates.

However, self-reported measures of psychological distress are only one part of the picture. A different ABS (2011b) survey, which asked more specific questions about mental health conditions, found that people living outside major cities were 16 per cent more likely to report they had a mental or behavioral problem in 2007-08. These contradictory findings make it difficult to clearly state whether the prevalence of mental illness varies across Remoteness Classes.

In addition to risk factors that influence the prevalence of mental illness, health outcomes are also influenced by risk factors that affect people's willingness and ability to access mental health treatment. Some of these are social. For example, some commentators have suggested that regional Australians are influenced by a 'culture of stoicism

that sometimes puts people off seeking help' for mental health problems (Government of Western Australia Health Commission 2013). Small communities in *regional* and *remote* areas also have smaller social networks, meaning there is a greater likelihood that others will become aware of attempts to seek treatment. This may deter people who are concerned with reputational risk.

Access to services also varies notably across Remoteness Classes. *Regional* and *remote* areas have fewer mental health services, fewer qualified professionals and a narrower range of service options (Lavery 2014). The consequence is that people in *regional* and *remote* areas have fewer opportunities to engage in and complete mental health treatments than those in *major cities*.

### 4.3.2 Access to mental health services in regional Australia

The focus of this section is access to mental health services in *regional* and *remote* Australia. Of the risk factors mentioned, access to services is one of the most relevant from a policy perspective given the government's role as a health service provider. Access to mental health services can also be explored in detail, as the Australian Institute of Health and Welfare publishes a rich collection of health expenditure and health access data that can be split across geography.

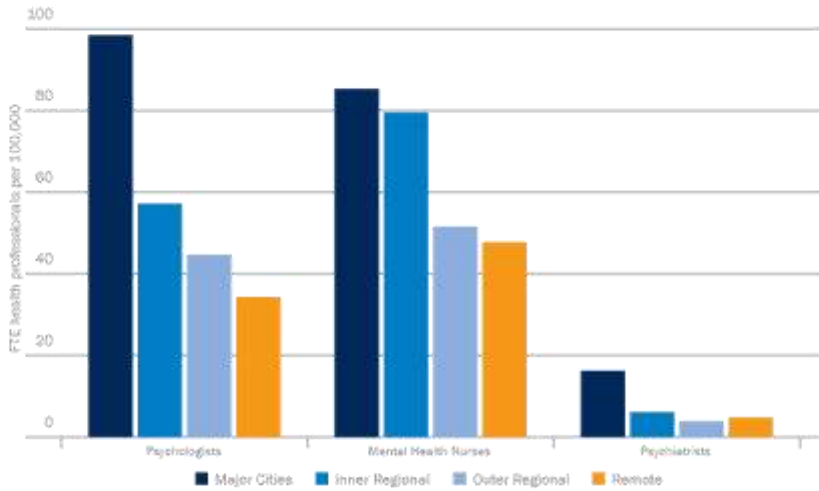
Ready access to mental health services has been proven to significantly improve outcomes. The vast majority of mental illnesses are treatable provided that people have access to appropriate care and services (ABS 1999).

In 2011–12, expenditure on mental health services was \$7.2 billion, or 5.4 per cent of recurrent health expenditure (Australian Institute of Health and Welfare 2013b; Australian Institute of Health and Welfare 2013c). Mental health expenditure per person grew from \$282 in 2007–08 to \$322 in 2011–12, equating to a growth rate of around 3.5 per cent a year (Australian Institute of Health and Welfare 2013b). While growth in expenditure was relatively modest, the proportion of general practitioner visits that were mental health related increased from 10.8 per cent in 2007–08 to 12.1 per cent in 2011–12 (Australian Institute of Health and Welfare 2014b). This may reflect growing public awareness of, and willingness to seek treatment for, mental illness.

Access to all kinds of health services is lower in *regional* and *remote* areas of Australia, which reflects the greater cost of providing services to small, remote communities. While efforts are made to ensure that Australians in all regions can access services, it is uneconomical to situate a full array of health services in every town. Therefore, specialist services are often concentrated within cities and larger regional towns, where they can treat a relatively large population, it is easier to source qualified personnel and health professionals can be supported by appropriate health infrastructure and equipment. Consequently, access to specialist mental health services is particularly limited in more *remote* regions. As shown in Figure 4.6 below, the number of psychologists, psychiatrists and mental health nurses is markedly lower in *regional* and *remote* areas. It follows that the use of specialist services is appreciably lower in more *remote* parts of Australia. For example, residents of *major cities* were almost twice as likely to have visited a psychologist in 2007 (15 per cent) compared with those from other areas (8 per cent) (ABS 2009a).



Figure 4.6 Full-time equivalent health professionals per 100,000 population, 2012



Source: Australian Institute of Health and Welfare (2014c).

One of the unfortunate implications of difficulty in accessing mental health services in *regional* and *remote* areas is that serious cases of mental illness can impact on other areas of the community including, for instance, through encounters with police and emergency evacuation. In *remote* areas of the Northern Territory, there have been reports of people with serious mental illnesses being incarcerated indefinitely because local mental health facilities are unequipped to deal with acute cases (Smith 2012).

This is a complicated policy area given the noted difficulties in providing specialist health services to remote populations. The implication for policymakers is to consider ways in which access to treatment can be encouraged and improved in *regional* and *remote* areas.



**Box 4.1 Case study: Mental health in regional South Australia**

Regional South Australia equates to approximately 23 per cent of the state's population (ABS 2014b). As Table 4.5 below illustrates, when considering the GCCSA compared with the rest of the state, it is the only area of the country to have experienced an increase in psychological distress between 2004 and 2011.

Table 4.5 Percentage of adults with high or very high psychological distress, 2004-05 to 2011-12

Region	2004-05 (%)	2007-08 (%)	2011-12 (%)	2004-05 to 2011-12 % Change
Greater Sydney NSW	13.0	13.3	10.1	-2.9
Rest of NSW	11.9	12.1	11.1	-0.8
Greater Melbourne VIC	12.6	11.9	10.6	-2.0
Rest of VIC	14.7	11.8	14.0	-0.7
Greater Brisbane QLD	14.4	12.5	11.4	-3.0
Rest of QLD	14.3	10.9	10.1	-4.2
Greater Adelaide SA	12.1	11.8	10.3	-1.8
Rest of SA	12.5	16.7	15.1	2.6
Greater Perth WA	11.5	10.0	10.8	-0.7
Rest of WA	12.9	10.3	9.6	-3.3
Greater Hobart TAS	14.9	9.5	8.8	-6.1
Rest of TAS	10.9	12.2	9.1	-1.8
Greater Darwin NT	20.0	14.7	9.2	-10.8
Rest of NT	n.p.	n.p.	8.4	n.p.
Australian Capital Territory	12.1	10.9	9.2	-2.9
AUSTRALIA	13.0	12.0	10.8	-2.2

Source: ABS (2006b, 2009b, 2014k).

Notes: Proportion of adults (18 years and over) who scored 22 or more on the Hessler Psychological Distress Scale. Excludes very remote areas of Australia. This will have only a minor effect on estimates for individual states and territories, except the Northern Territory where the population living in very remote areas accounts for around 23 per cent of all persons in 2011-12.

There are a number of factors that may have contributed to poor mental health in regional South Australia. Lower access to mental health services may be one reason for high levels of psychological distress in the region. Regional South Australians use mental health services at a significantly lower rate than people in Adelaide (Health Performance Council 2013). Providing health services in regional South Australia is difficult, because the rural population is dispersed and there are few regional centres. This causes variation in accessibility between Adelaide and elsewhere in the state and also between *regional* and *remote* communities outside of Adelaide.

Further, regional residents tend to receive a different type of care compared with metropolitan residents. General practitioners are usually the first or only contact for regional communities, meaning that patients are less likely to receive specialised psychiatric care (Response Ability 2008). Regional South Australians have close to three times the Australian average for mental health admittance without specialised care and receive less follow-up care once they are released from hospital (Health Performance Council 2013).

Regional South Australians are also less likely to seek treatment for mental illness. In 2012, fewer than one in 10 residents with psychological distress were reported to have obtained professional help, compared to one in five residents in Adelaide (Health Performance Council 2013). To some extent, this trend is explained by an existing culture of 'self-reliance', a fear of community castigation due to social stigma and a lack of confidentiality, particularly in small communities (Health Performance Council 2013; Suicide Prevention Australia 2008).

Chronic conditions such as respiratory and cardiovascular disease have a strong correlation with mental health and its severity (Health Performance Council 2013). Regional South Australian residents are more likely to live with two or more chronic conditions at a rate of 17.8 per cent compared with 15.8 per cent for those in Adelaide (Health Performance Council 2013). The onset of chronic disease can be the result of alcohol and illicit substance abuse, which is also reported at higher levels in the regional community. These issues are again exacerbated by a reluctance to seek professional help for health conditions, which in turn heightens physiological distress (Health Performance Council 2013).

Tougher regional economic conditions as a result of geographic distance and climate variation (in particular, long-term drought) possibly further contribute to levels of psychological distress. These harsh conditions can leave residents with greater exposure to occupational risk and lower socioeconomic status, both of which are known to have a correlation with the prevalence of psychological distress (University of Adelaide 2009; Health Performance Council 2013).

## 4.4 Conclusion

This chapter examined trends in social progress indicators for regional areas and compared these with *major cities*. The analysis of different aspects of social progress paints a mixed picture.

Although Australians are living a more sedentary lifestyle than in the past, health outcomes across Australia have improved over the past decade. It is possible that advances in technology, pharmaceuticals and medical treatment have offset the health risks posed by increased obesity (ABS 2011b).

Life expectancy in all regions increased between 2006 and 2012, although the increase was generally larger in GCCSAs compared with rest of state areas. In absolute terms, life expectancy is slightly lower in regional areas compared with GCCSAs. Both outcomes could be attributed to a number of factors, including greater access to health services in GCCSAs, differences in health risk factors across location and variances in demographics across Remoteness Classes. For example, rates of physical activity are higher in *major cities*, which may contribute to better health outcomes compared to *regional* and *remote* areas.

Almost all regions saw improvements in safety, with a general decline in rates of physical assault and malicious property damage. This indicator also reveals an interesting contrast between *regional* areas and *major cities*. While rural areas are often perceived as being safer, assaults and property damage are more prevalent in *regional* areas than *major cities*. Regional areas continue to outperform *major cities*, however, on measures of community connections and engagement.

A detailed analysis of mental health highlights the impact of reduced access to services in regional areas. Mental health outcomes are poorer in *regional* and *remote* areas, possibly because treatment options are more difficult to access. *Regional* and *remote* areas may lack the infrastructure and scale to support specialist services that are more readily available in major population centres. Regional Australians are also less likely to seek treatment when suffering from a mental illness (Health Performance Council 2013).

## 5. Infrastructure



### 5.1 Introduction

Well-functioning infrastructure is integral to the liveability, economic opportunities and competitiveness of a region. Well-chosen infrastructure projects can enhance economic efficiency, improve productivity and stimulate employment. It also plays an important role in providing access to essential services such as education, health, water and telecommunications.

Infrastructure has been instrumental in shaping the settlement patterns of towns and cities across Australia. Since 2001, Australian real infrastructure construction activity has increased strongly, mainly due to sharp increases in the construction of transport, water and energy infrastructure.

The recently released *Australian Infrastructure Audit* (Infrastructure Australia 2015) confirms the challenges facing Australian infrastructure and the importance of ensuring that investments optimise productivity and enhance the quality of life in both cities and regional areas.

One of the ongoing challenges in the provision of infrastructure is funding. Since 2000, private sector involvement in the construction of infrastructure has increased sharply: initially in the form of private sector-owned projects, then from 2005 in the form of private sector construction of public sector projects (BITRE 2014b).

This chapter will focus on a number of infrastructure trends in regional Australia. In particular, it will examine data relating to the movement of freight (on roads and through ports) and the movement of people (on roads and through airports). The chapter also includes a number of case studies of infrastructure programmes currently being rolled out by the Australian Government across regional Australia, such as the Roads to Recovery Programme and the Regional Aviation Access Programme which facilitate economic activity and access to services. These help ensure that communities in regional Australia will have the best possible opportunities to prosper and grow their economies over the coming decades.

### 5.2 Infrastructure and long-term development

Infrastructure, especially when associated with new technology such as the advent of motor vehicles, telecommunications and computers, has been instrumental in shaping the distribution of towns and cities across Australia. *The evolution of Australian towns* (BITRE 2014a) explored this issue by examining the shifting pattern of development over time.

There are also other ways in which infrastructure influenced settlement patterns in Australia, particularly where infrastructure was associated with the delivery of services within towns. Examples include physical infrastructure such as housing, utilities, schools, hospitals and also businesses, networks, organisations and social structures.



A significant consequence of the placement of physical infrastructure is that it can entrench path dependence by funneling economic activity towards those towns that already have significant capacity associated with a service. For example, a town which already has a sizeable hospital is more likely to become the site for expansion of regional medical services. The existence of the initial infrastructure increases the possibility of the establishment of similar and related infrastructure.

More generally, high quality infrastructure plays a strong role in the competition between towns in attracting people and businesses. If a town is regarded as having better schools, medical services and shopping precincts than its neighbours, it will likely attract more people creating a virtuous circle to attract more shops, services and housing.

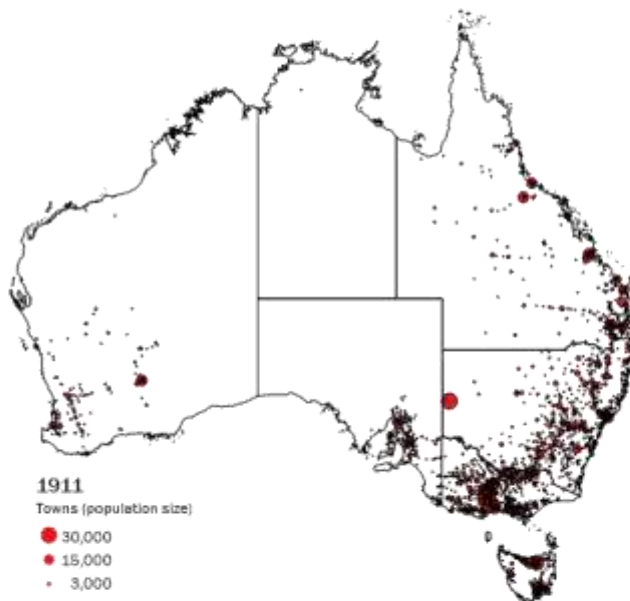
Built infrastructure can also decelerate the decline of towns. Existing housing stock can continue to be used even in locations where employment opportunities may have declined. However, infrastructure legacy can also be repurposed to suit new situations, as once built it can have life beyond its immediate function. Shopping centres and industrial sites may be transformed into housing, craft centres and markets and houses can be modified for commercial use.

The development of transport infrastructure such as railways and roads has played a significant role in the location of and expansion of activity. For example, the advent of railways from the mid-1800s dramatically changed the transport patterns and location of economic activity in Australia. They represented a major technological advancement, replacing inefficient and expensive transport systems based on bullocks and horses. Rail created opportunities for the export of ores and rural produce, commerce and travel. This activity enabled industry to bloom in new areas and create new wealth.

The original rail routes also had a significant impact on the development of other transport networks with many major highways forming adjacent to rail lines, cementing the role of towns as hubs, long after their importance had been largely usurped by the road network. Improved infrastructure can also result in reduced services in small local centres, as it becomes cheaper to source inputs/services from higher volume suppliers further afield.

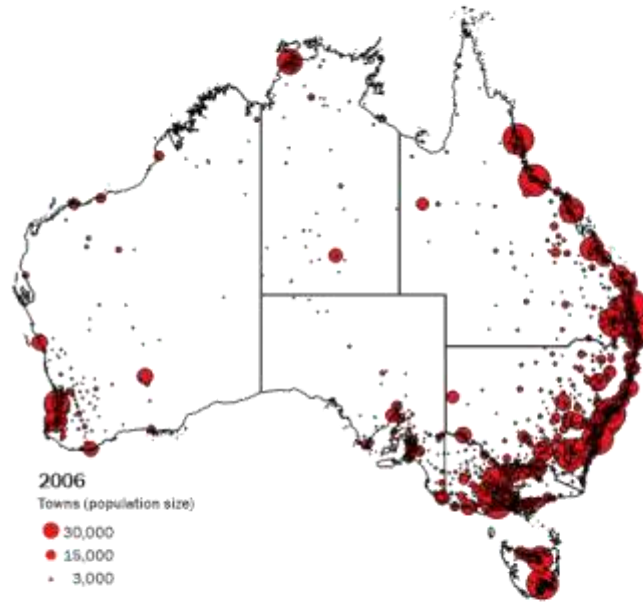
Maps 5.1 and 5.2 below show the way in which settlement patterns have changed between 1911 and 2006.

Map 5.1 Towns in Australia by population size, 1911



Source: BITRE (2014a).

Map 5.2 Towns in Australia by population size, 2006



Source: BITRE (2014a).

### 5.3 Moving freight

While rail was prominent in determining initial settlement patterns, the freight network has since become more complex. In 2011-12, the domestic freight task totalled almost 600 billion tonne kilometres which is equivalent to approximately 26,000 tonne kilometres moved for every person in Australia (BITRE 2014c). While capacity across the freight network varies, key parts of the network are already under pressure to meet growing demand. This growth has implications for ports, road and rail networks, intermodal terminals and freight corridors. Map 5.3 below illustrates the major freight flows in Australia in 2011-12.





### 5.3.1 Road freight activity

Road transport is the main mode of transportation for the majority of commodities produced and/or consumed in Australia. In 2011-12, road freight accounted for approximately 35 per cent of the total freight task. The growth in road freight has contributed to a quadrupling of total freight volumes over the past four decades (BITRE 2014c). However, despite their contribution to the total freight task, freight vehicles account for less than 10 per cent of road use with light vehicles accounting for approximately 92 per cent of vehicles on the road (BITRE 2014c).

#### The Heavy Vehicle Safety and Productivity Programme

The Australian Government has committed \$200 million in new funding over five years from 2014-15 to improve productivity and safety outcomes of heavy vehicle operations across Australia through funding infrastructure projects. The first three rounds of the programme provided \$120 million in funding from 2008-09.

Over \$95 million has been approved for over 50 projects under round four. The overwhelming majority of these are in regional Australia.

Projects about to commence include:

- Road works and safety upgrades surrounding the Mugincoble Silos near Parkes which will enable grain deliveries to be made more efficiently during harvest time.
- Assistance to build a new truckstop in Tumoulin in the Tablelands Regional Council for use by local and regional freight companies.
- Funding to the Greater Hume Shire Council to undertake 2.3 kilometres of roadworks along the Gingellic Rd at Yarara Gap which will complete a missing link that will open up access to a further 50km of B double route.





Table 5.1 below shows that in Australia between 2001-01 and 2011-12, road freight increased from 146.1 billion tonne kilometres to 207.5 billion tonne kilometres.

Table 5.1 Road freight tonne kilometres by capital city/balance of state

Region	Billion tonne kilometres	Billion tonne kilometres	Billion tonne kilometres	Change billion tonne kilometres
	2001-02	2006-07	2011-12	2001-02 to 2011-12
Sydney	9.7	11.2	12.5	2.8
Rest of New South Wales	41.4	49.4	57.6	16.2
Melbourne	9.8	11.2	12.5	2.7
Rest of Victoria	22.4	28.2	32.2	9.8
Brisbane	5.7	7.5	8.6	2.9
Rest of Queensland	19.7	26.0	29.1	9.4
Adelaide	2.1	2.6	2.9	0.8
Rest of South Australia	8.3	11.7	13.7	5.4
Perth	3.6	5.1	5.8	2.2
Rest of Western Australia	18.1	23.9	26.1	8.0
Hobart	0.3	0.4	0.4	0.1
Rest of Tasmania	2.4	3.0	3.3	0.9
Darwin	0.2	0.3	0.3	0.1
Rest of Northern Territory	2.2	1.7	2.2	0.0
Australian Capital Territory	0.3	0.3	0.3	0.0
AUSTRALIA	146.1	182.4	207.5	61.4

Source: BITRE (2013a).

Note: Based on the Statistical Divisions structure under the Australian Standard Geographical Classification. These estimates use the Statistical Division boundaries current at the time data was collected and may vary across reference periods.

The greatest increase (16.2 billion tonne kilometres) was seen in the Rest of New South Wales where the freight task is projected to double to nearly 794 million tonnes by 2031 (State of New South Wales 2013). This increase in freight capacity demand for all commodities is associated with population growth and increases in economic activity across the state. Almost half of the New South Wales total current task is accounted for by mining. The most frequently used road corridors in New South Wales are the Pacific (M1) and Hume (M31) highways, which carry most of the 81 estimated million tonnes of interstate freight between Melbourne, Sydney and Brisbane. Road corridors including the Newell (A39), Sturt (A20) and New England (A15) highways support primary industries in western New South Wales (State of New South Wales 2013).

### Bridges Renewal Programme

The objectives of the Bridges Renewal Programme are to contribute to the productivity of bridges serving local communities and facilitate higher productivity vehicle access. The Australian Government has committed \$300 million over four years from 2015-16 to the programme. The programme contributes up to 50 per cent of the bridge costs, working in partnership with state, territory and local governments.

Over \$100 million has been allocated in round one to 69 bridge projects, mostly in regional Australia.

Bridges that have been approved include:

- The replacement of the Abercrombie Creek Bridge in Upper Lachlan Shire, NSW, which will ensure cattle and timber movements between Oberon and Goulburn have a reliable route to market.
- The replacement of the failing Nine Mile Bridge in Glenn Innes Severn Council which will ensure that local farmers can bring in supplies and move their primary produce to market.
- The Nive River Bridge, 23km north of Augathella in Murweh Shire Council, which is being upgraded to ensure cattle road trains have a reliable flood-proof access route and that communities have vital access to facilities in town.
- The replacement of the Westmoor Bridge in Northern Tasmania which will ensure community access in addition to upgrading the capacity to move rural produce such as cattle, seafood, berries, sheep and grains. Having a more reliable bridge with a higher load limit will enable the Council to encourage further rural industries to establish themselves in this highly productive area of Tasmania.

### 5.3.2 Australia's bulk ports

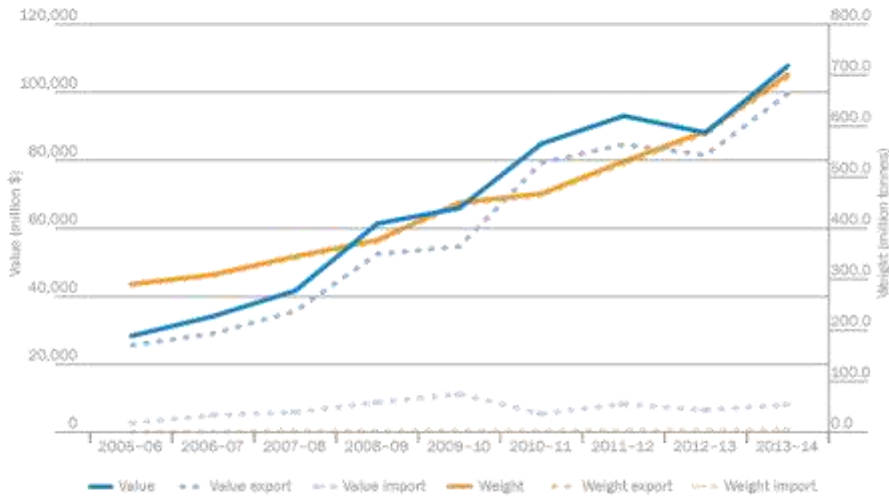
BITRE (2013b) reported that Australia's bulk ports have experienced extraordinary growth in the last decade, with tonnage rising by over 75 per cent. Mining exports account for most of this growth.

The major export ports include: three iron ore ports (Port Hedland, Dampier and Cape Lambert) and three coal ports (Newcastle, Hay Point and Gladstone). Ongoing development of ore and mineral reserves is propelling the expansion of these and other ports such as Brisbane, Abbot Point, Esperance and Geraldton (BITRE 2013b).

Figure 5.1 below shows that the Western Australia – Outback SA4 experienced the highest increase in both value and weight of sea freight due to increases in Port Hedland, Port Walcott and Dampier. Port Hedland accounted for about half of the Western Australia – Outback SA4 total increase for both weight and value. The combined weight of all freight through capital city ports was less than half that of Port Hedland in 2013-14. At these three sea ports, increases in exports dominated the weight change over 2005-06 to 2013-14.

State of Regional Australia 2015 Progress in Australian Regions

Figure 5.1 Value and volume of sea freight Western Australia – Outback SA4, 2005–06 to 2013–14



Source: ABS, international cargo statistics, unpublished data.

**Box 5.1 Australia’s bulk ports**

Enhanced infrastructure and efficient logistics chains are central to achieving the tonnage growth experienced in the last decade. Bulk port facilities have been expanded greatly, notably with a five-fold increase in iron ore export capacity at Port Hedland, the world’s largest bulk export port. The world’s largest coal export port is Newcastle, where coal terminal capacity more than doubled in the seven years to 2012–13 with further expansion underway. The expansion includes additional jetties and berths to take larger vessels, additional stockyards for blending stocks and additional, higher-capacity ship loader equipment.

It has also been necessary to expand the infrastructure of the upstream logistics chain which, in terms of high-volume dry bulk, means railways. For example, early Pilbara lines operate trains hauling around 9,000 tonnes of ore while recently-opened Pilbara railways run with trains hauling up to 33,000 tonnes, with the world’s heaviest wagons carrying around 130 tonnes of ore per wagon. New railways, new signalling, new and longer passing loops and double and triple-tracking have added railway capacity.

Liquefied Natural Gas (LNG) exports are also increasing, notably as reserves in Western Australia and Queensland are tapped and the world market for LNG grows. The gas chain is very different from dry bulk logistics, involving movements from gas fields to processing plant to vessels by pipeline. Offshore processing and loading of gas is also changing the perception of a port.

Bulk ports are also central to Australia’s domestic activities, such as for handling the importing, exporting and domestic distribution of crude and refined oil around the country, handling cement materials and for shifting bauxite-based commodities between mining areas, refineries and smelters.

The growth in tonnage along the logistics chain has increased the importance of systems for logistics coordination, particularly where there are multiple mines, common-user railways and shared-use port terminals. Formal systems for infrastructure planning and day-to-day operations have matured in the last decade, such as the Hunter Valley Coal Chain Coordinator. This organisation, co-owned by mining companies and infrastructure and service providers, aims to maximise efficient throughput of coal from the Hunter Valley coal fields to and through Newcastle, with long-term capacity planning and day-to-day oversight.

In contrast with container ports, bulk ports typically incorporate a production task—the commodity may be crushed, screened or blended (as with iron ore and coal) or is processed (as with bauxite, alumina, crude oil and gas).

Reproduced from BITRE (2013b), p. v.

### 5.3.3 Volume of freight through ports

Coastal shipping accounts for around 17 per cent of total domestic freight movements (in mass distance terms) and comprises 10 per cent of total freight volumes through Australian ports. Bulk commodities, such as aluminium ores, iron ore and petroleum, account for over 70 per cent of domestic coastal shipping movements. Transport of bauxite between Weipa and Gladstone in Queensland account for 30 per cent—and iron ore from the Pilbara to Port Kembla 20 per cent—of total domestic sea freight. Eastern states, Perth and Bass Strait shipping together account for a further 18 per cent of total coastal shipping movements (BITRE 2014c).

Between 2008–09 and 2012–13, the volume of freight increased through ports in all Remoteness Classes. Table 5.2 below shows that between 2008–09 and 2012–13, the greatest growth in the volume of freight through ports was in *remote Australia* (69.3 per cent).

Table 5.2 Volume of freight through ports by Remoteness Class, 2008–09 to 2012–13

Remoteness Class	Volume of freight through ports 2008–09 tonnes million	Volume of freight through ports 2010–11 tonnes million	Volume of freight through ports 2012–13 tonnes million	Percentage change 2008–09 to 2012–13
Major cities	253.2	288.0	329.4	30.1
Inner regional	102.4	101.1	111.9	9.2
Outer regional	156.9	166.1	187.8	19.7
Remote	233.4	300.0	395.1	69.3
Very remote	170.9	197.4	220.7	29.1
AUSTRALIA	916.9	1,052.6	1,244.8	35.8

Source: Department of Infrastructure and Regional Development (2014a).

In 2008–09, ports in *major cities* transported the largest volume of freight (253.2 million tonnes). By 2012–13, this had switched to ports in *remote Australia* which were handling 395.1 million tonnes (compared to 329.4 million in *major cities*). The key reason behind this change was the impact of the mining boom and its associated increase in bulk exports of iron ore (in addition to other minerals). Ports in *very remote Australia* had the third highest level of freight with 220.7 million tonnes, which also reflects the mining boom and its concentration in regional areas.

In 2012–13, the non-metropolitan region which handled by far the largest volume of freight was Outback Western Australia with 595.8 million tonnes. This represented a 55 per cent increase on the 2008–09 figure of 384.3 million tonnes.

The region with the second largest freight volume was Newcastle and Lake Macquarie, which recorded 148.7 million tonnes in 2012–13. This represents a 55 per cent increase on the 2008–09 figure of 95.6 million tonnes. The region with the third largest volume of freight was Mackay in Queensland which recorded 116.4 million tonnes in 2012–13. This represents a more modest 17 per cent increase on the 2008–09 figure of 99.2 million tonnes. As these ports are all located in mining regions, the large volumes of freight can be largely attributed to mining.

### 5.3.4 Air freight

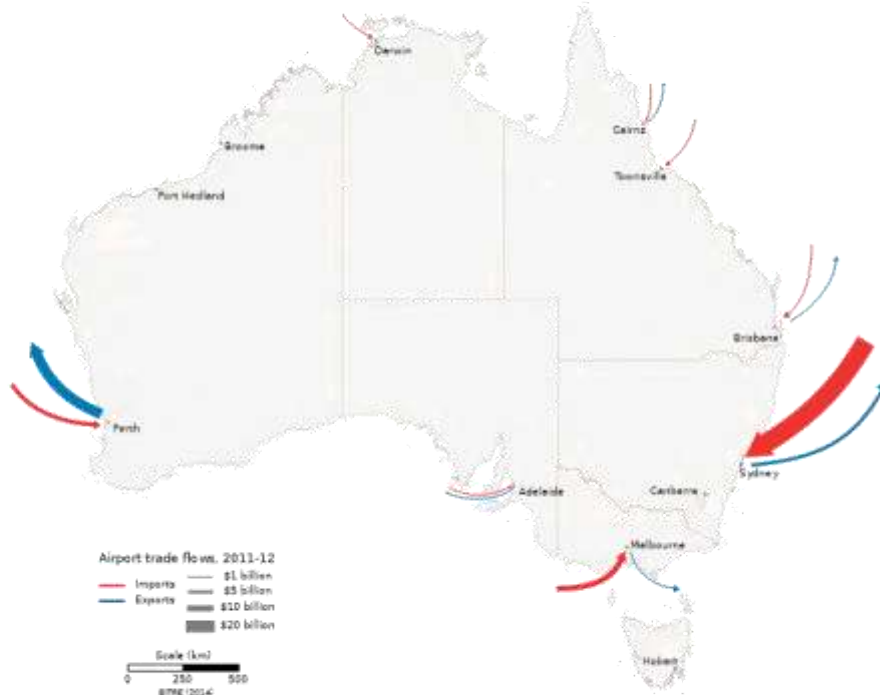
The volume cost of air freight means that it is more appropriate for low density and high value commodities, such as parcels, perishable/short-lived products, precious metals and gemstones. Accordingly, it tends to comprise only a small share of freight volumes. For example, domestic air freight accounts for less than 0.01 per cent of total domestic freight movements. The majority of this freight comprises newspapers, parcels and other light goods transported between capital cities in either dedicated freighters or in freight holds of regular passenger service aircraft (BITRE 2014c).

Similarly, international air freight also represents less than 0.1 per cent of Australia's total merchandise trade by volume, but comprises over 21 per cent of total trade by value (17 per cent of total exports and 26 per cent of



total imports) and was worth over \$110 billion in 2011–13 (BITRE 2014c). Map 5.4 below illustrates the value of merchandise trade through Australian airports in 2011–12.

Map 5.4 Value of merchandise through Australian airports, 2011–12



Source: BITRE (2014c).

Sydney is the largest air import/export airport by combined trade value, and accounted for more than half of total Australian merchandise air imports in 2011–12. The three largest commodity groups—pharmaceuticals, mobile phones and computer equipment—together accounted for over 30 per cent of total air imports by value in 2011–12. Medicinal and pharmaceutical products are the largest air export commodities (BITRE 2014c).

Perth is the largest Australian export airport by value with gold being by far the largest export commodity by value (fish and meat are the largest air export commodities by mass). Melbourne is the second largest Australian import airport by value—again, pharmaceuticals and computer equipment are among the largest import commodities by value (BITRE 2014c).

However, while Sydney and Perth have the greatest value of air imports and exports, Table 5.3 below shows that the greatest percentage growth in air freight between 2005–06 and 2013–14 was in Townsville. This was mainly attributable to growth in imports of gold.

Table 5.3 Imports and exports from airports, 2005–06 to 2013–14

	2005–06			2013–14			% change from 2005–06 to 2013–14		
	Export	Import	Total	Export	Import	Total	Export	Import	Total
	Value (millions \$)								
Sydney	10,242.7	27,420.2	37,662.9	16,215.4	37,984.4	54,199.8	58.3%	38.5%	43.9%
Fremantle	11,237.5	6,104.9	17,342.4	17,170.5	6,012.1	23,182.6	52.8%	-1.5%	33.7%
Townsville	3.8	442.7	446.5	6.5	1,366.3	1,372.7	71.8%	208.6%	207.5%

Source: ABS, international cargo statistics, unpublished data.

Figure 5.2 below shows how the value and volume of Townsville's air freight has changed over time.

Figure 5.2 Value and volume of air freight Townsville SA4, 2005-06 to 2013-14



Source: ABS, international cargo statistics, unpublished data.

### 5.3.5 Rail freight

Rail is generally the heavy lifter and long distance athlete of Australia's land transport network. While road is better suited for time sensitive, shorter distance freight tasks, rail is able to carry high volumes of goods, further for less cost than road.

In 2011-12, rail moved approximately 49 per cent of Australia's total freight task in tonne kilometres (BITRE 2014c). The majority of this was moved on standalone mineral network and included transporting around 502 million tonnes of iron ore to port (Australia's largest export commodity accounting for 23.7 per cent of total export value in 2011-12) and 301 million tonnes of coal, Australia's second largest export commodity (BITRE 2014c).

Rail also plays a key role in the transportation of some agricultural products from regional areas to port. For example, practically all of the Australian rice exports in 2011-12 were transported by rail from mill to port. Nearly all of Australia's rice is grown in the Riverina region of NSW and is exported through the Port of Melbourne. While rail is suitable for moving consolidated agricultural goods to port, collection and aggregation of agricultural goods is largely a task for road freight (BITRE unpublished).

## 5.4 Moving people

### 5.4.1 Transport mode for journey to work

Journey to work data is an important information source for policy makers. It enables travel patterns to be analysed to forecast behaviours such as use of public transport, catchment areas for transport routes and planning of transport systems. Furthermore, this data is also integral to planning industrial developments and the release of residential and industrial land.

In Australia, many commuters use more than one mode of transport to get to work. Modes of transport have been classified as public transport (e.g. bus, train or ferry), private vehicle (e.g. car, truck or motorbike), active travel (e.g. bicycle or walking) and working from home.

Table 5.4 below shows that in 2011, the bulk of transport to work across all Remoteness Classes was undertaken by private vehicles (76.8 per cent). This represents a slight decline from 2006, when 77.5 per cent of commuters used private vehicles.

Table 5.4 Transport mode shares for journey to work by Remoteness Class

Remoteness Class	Public per cent	Private per cent	Active per cent	Other per cent	Work from home per cent
<b>2006</b>					
Major Cities	14.2	76.3	4.8	0.5	4.2
Inner Regional	2.0	83.6	6.3	0.7	7.4
Outer Regional	1.8	78.8	8.5	1.4	9.5
Remote	3.1	71.5	12.9	1.9	10.6
Very Remote	4.7	51.8	31.2	2.6	9.7
AUSTRALIA	10.7	77.5	5.7	0.7	5.4
<b>2011</b>					
Major Cities	15.7	74.6	4.8	0.6	4.1
Inner Regional	2.6	84.8	5.3	0.8	6.5
Outer Regional	2.1	81.2	7.2	1.3	8.2
Remote	4.2	74.1	11.2	1.7	8.7
Very Remote	9.3	53.1	26.1	4.0	7.5
AUSTRALIA	12.1	76.8	5.4	0.7	5.0

Source: Department of Infrastructure and Regional Development (2014a) using ABS (2006a, 2011a) retrieved using TableBuilder.  
Private vehicle includes car as driver, car as passenger, truck, motorbike/scooter.  
Public transport includes train, bus, ferry, tram and taxi.  
Active travel includes bicycle and walking.

The data shows a greater reliance on private vehicles in *inner regional* and *outer regional* areas. The data also shows that for all Remoteness Classes, the dominant form of transport to work is by private vehicle. However, between 2006 and 2011 in *very remote* Australia, the population share using public transport rose from 4.7 per cent to 9.3 per cent. Conversely, the *very remote* population share using active transport declined from 31.2 per cent to 26.1 per cent in the same time period.

#### 5.4.2 Kilometres travelled by passenger vehicles

Passenger vehicle use is a major component of total road transport use in Australia. Over 70 per cent of all domestic passenger movements occur on roads. Driving remains by far the preferred means of transport within cities and for trips up to 400 kilometres (Department of Infrastructure and Regional Development 2014b). At 31 January 2014, there were an estimated 17.6 million vehicles registered in Australia (ABS 2014m). Of the total kilometres travelled by passenger vehicles in 2012, 52.7 per cent was for personal and other use. The remaining kilometres travelled by passenger vehicles comprised travel to and from work (27.3 per cent) and business use (19.9 per cent) (ABS 2013h).

Between 2001-02 and 2011-12, total passenger vehicle use (PVU) in Australia increased from 189.9 billion kilometres to 219.3 billion – a total national increase of 29.3 billion (Department of Infrastructure and Regional Development 2014a).

The region with the largest increase in PVU during this period of time was regional Queensland which experienced a total increase of 5.2 billion. This was closely followed by Melbourne and Sydney which experienced increases of 4.6 and 4.3 billion respectively. Both metropolitan and regional areas of South Australia, Tasmania and the Northern Territory all only experienced increases of PVU at or below 0.5 billion (Department of Infrastructure and Regional Development 2014a).

The use of the roads is highly unequally distributed among drivers and vehicles. Motorcycles and 'other trucks' tend to have high numbers of very low use vehicles. Car use is also heavily skewed with most people driving relatively short distances and a few driving long distances every year. For example, 50 per cent of drivers account for 20 per cent of distance travelled, while the 20 per cent of people who use their cars most account for 50 per cent of the distance travelled (BITRE 2014d).

Road usage imposes costs for maintaining and constructing the Australian road system. Annually, this is estimated to be \$18 billion (BITRE 2014d). Road use also imposes congestion costs on the economy through traffic delays. For example, Infrastructure Australia's recent *Australian Infrastructure Audit* estimated the cost of congestion to the Australian economy in 2011 as \$13.7 billion. In the absence of additional infrastructure capacity, this figure is expected to increase to \$53.3 billion in 2031 (Infrastructure Australia 2015). Car use also has a number of social costs such as environmental pollution and road transport accidents.

### Roads to Recovery Programme

The Roads to Recovery Programme forms a key partnership between the Australian Government and local government in delivering the vital infrastructure required to grow and strengthen our economy.

The Programme provides funding to all councils (and state/territory governments responsible for roads in unincorporated areas where there are no councils) for maintenance and/or upgrading local roads. These are the roads used daily by all Australians to access their homes, schools, businesses, regional centres and major highways.

In addition to the Government's commitment to maintain Roads to Recovery funding at the current level of \$350 million per annum from 2014-15 to 2018-19, the 2015 Budget confirmed a further \$350 million will be provided in 2015-16. Furthermore, on 23 June 2015, the Australian Government announced that an additional \$1.105 billion will be provided to Roads to Recovery in the next two years. This brings total funding for the Programme to \$3.205 billion over the five years to 2019.

Each council has a set allocation of funding over this period and councils choose the road projects on which they will spend their Roads to Recovery funding according to local priorities.

Since its commencement in 2000-01 to 2013-14, Roads to Recovery has provided just under \$4.5 billion direct to local government for almost 45,000 local road projects. More than 2,300 further projects have so far been listed for funding under the current 2014-19 Programme.

Councils have reported that around 31 per cent of funding has been used on projects which helped achieve their asset maintenance strategies and 26 per cent on projects which improved road safety. The next highest categories were: improved access for heavy vehicles (9 per cent); amenity of nearby residents (6 per cent); improvements to school bus routes (5 per cent); traffic management (5 per cent) and regional economic development (4 per cent).



### 5.4.3 Road fatalities

In 2014 there were 1,153 fatalities as a result of road traffic accidents in Australia (BITRE 2014e). While the total number of deaths due to road transport accidents in Australia has decreased from its peak of 3,798 in 1970 (ABS 2012d), road crashes continue to impose a significant cost on families, society and the economy. In addition to the personal trauma caused, it is estimated that road deaths and injuries cost the economy \$27 billion a year – the equivalent of 1.8 per cent of health expenditure and 1.8 per cent of Gross Domestic Product (2012–13) (BITRE 2014d).

Despite population growth and increased motor vehicle use, significant progress has been made in reducing Australia's annual road toll. For example, over the decade to 2013, national annual fatalities have decreased by 25 per cent while fatalities per population have decreased by 35 per cent. The decline in fatalities was weaker during the first half of the decade (nine per cent) but accelerated to 17 per cent over the last five years (BITRE 2013c).

Table 5.5 shows that in 2012, road deaths per 100,000 in *regional* and *remote* areas were much higher than the national average (Department of Infrastructure and Regional Development 2014a). This may be partly attributable to the longer distances travelled, higher speeds and wildlife on the road.

However, regional areas have also seen a decrease in road fatalities. For example, between 2008 and 2012, road fatalities in *remote* Australia decreased by 3.2 people per 100,000 and in *very remote* regions they decreased by 11.1 people per 100,000 people. The vast proportion of the decrease in fatalities in *very remote* Australia occurred between 2010 and 2012 when fatalities per 100,000 dropped from 39.5 to 27.1 per 100,000 people. Similarly, while fatalities in *remote* Australia increased between 2008 and 2010, they then decreased between 2010 and 2012 by 6.4 deaths per 100,000 (Department of Infrastructure and Regional Development 2014a).

Table 5.5 Road fatalities by Remoteness Class, 2008–2012

Remoteness Class	2008 People per 100,000	2010 People per 100,000	2012 People per 100,000	2008–2012 Change people per 100,000
Major Cities	3.7	2.9	2.8	-0.9
Inner Regional	11.5	11.5	10.9	-0.7
Outer Regional	14.9	14.0	13.7	-1.2
Remote	18.9	22.1	15.7	-3.2
Very Remote	38.2	39.5	27.1	-11.1
AUSTRALIA	6.8	6.1	5.7	-1.0

Source: Department of Infrastructure and Regional Development (2014a), using BITRE estimates based on unpublished geocoded data, BITRE (2014e) [www.bitre.gov.au/statistics/safety/fatal\\_road\\_crash\\_database.aspx](http://www.bitre.gov.au/statistics/safety/fatal_road_crash_database.aspx).  
The road safety agencies in each jurisdiction use detailed criteria to define road crashes and road deaths. Broadly, a death is classified as resulting from a road crash if the crash occurred on a public road, is unintentional and the death occurred within 30 days from injuries sustained in the crash.  
Between three and six fatalities have been excluded annually due to lack of remoteness class information. This represents between 0.2 and 0.5 per cent of total road fatalities.

### Black Spot Programme

The Australian Government Black Spot Programme has been a very successful road safety initiative. Since its introduction in 1996, it has provided almost \$1 billion in funding to deliver improvements to over 6,500 sites around Australia. A recent evaluation of the programme found that fatal and casualty crashes have been reduced at treated sites by 30 per cent, equalling one life a year for every 84 projects.

The Black Spot Programme provides funding for safety works such as roundabouts, traffic signals, crash barriers and street lights at sites on our roads where there have been serious crashes or where serious crashes are likely.

Total funding for the programme over five years to 2019 is \$500 million. The Government has broadened the eligibility criteria for this programme for 2015-16 and 2016-17 to make it easier for regional areas to compete for the additional funding.

The Government will also ensure that at least 50 per cent of funding is dedicated to fixing sites in regional Australia where more than 60 per cent of road deaths and a significant proportion of serious injuries occur. This ensures that crash locations in rural areas are treated and that rural and regional areas receive much needed road safety enhancements.

### 5.4.4 Passengers through airports

Between 2009 and 2013, airport passenger movements increased steadily (by 17.737 million) in all major Australian cities. Table 5.6 below shows that in regional areas, there was also a steady increase, albeit in lower total numbers. *Outer regional* Australia experienced the largest increase in airport passenger movements over this period of time (1.854 million) followed by *inner regional* Australia (1.061 million). The jurisdictions with the largest non-metropolitan airport passenger movements included Western Australia and Queensland, the latter of which recorded non-metropolitan passenger movements equal to that of Brisbane (Department of Infrastructure and Regional Development 2014a).

Table 5.6 Number of passengers through airports by Remoteness Class

Remoteness Class	2009 passengers (‘000)	2011 passengers (‘000)	2013 passengers (‘000)	2009-2013 change (‘000)
Major Cities	101,971.7	111,454.7	119,709.2	17,737.4
Inner Regional	8,187.1	8,500.9	9,248.8	1,061.7
Outer Regional	8,142.5	9,237.4	9,996.7	1,854.2
Remote	3,015.4	3,451.2	3,653.7	638.3
Very Remote	1,114.7	1,431.6	1,561.4	446.6
AUSTRALIA	122,431.4	134,075.8	144,169.7	21,738.3

Source: Department of Infrastructure and Regional Development (2014a), using BITRE Airport Traffic Data. Regular public transport operations.

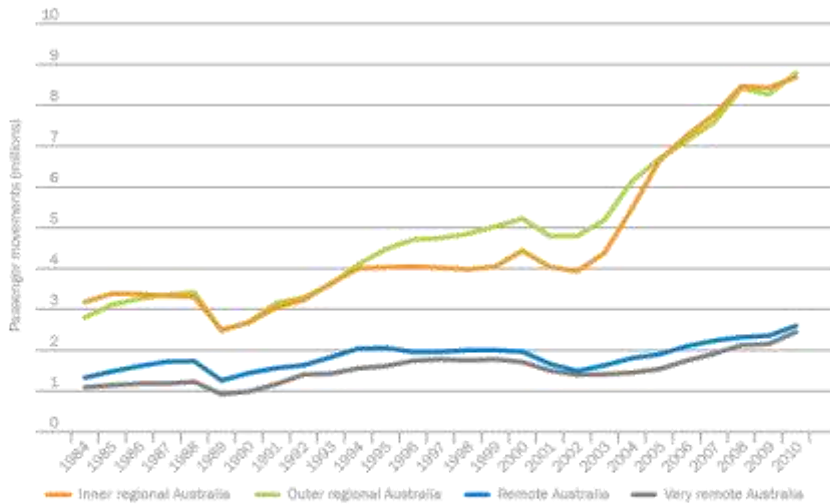
Within regional Western Australia, the vast majority of passenger movements occurred in the region of Western Australia - Outback. In regional Queensland, the majority of movements occurred in Cairns, Fitzroy, Gold Coast and Mackay (Department of Infrastructure and Regional Development 2014a). The locations suggest the influence of fly-in fly-out arrangements.

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Between 2005 and 2010, total passenger movements at regional airports increased from 16.8 to 22.5 million. This increase exceeded the average annual growth rate for passenger movements in every major city by 0.4 per cent. Most of this growth was from passengers travelling on regional air routes between major cities and regional areas – routes which constitute 90 per cent of all passenger flows in the regional aviation market. Over the same time period, the number of regional airports declined from 169 to 148 and the number of airlines serving regional airports fell from 33 to 28 (BITRE 2011b).

The number of air routes between regional areas has remained higher than the number of air routes between major cities and regional areas. While trends for passenger movements at regional airports in inner and outer regional Australia are both moving strongly together, both remote and very remote Australia have gone from negative growth rates per year in the period of 2000–2005 to an average annual growth rate of 6.5 in remote Australia and 9.6 in very remote Australia (BITRE 2011b).

Figure 5.3 Passenger movements at regional airports by Remoteness Class, 1984–2010



Source: BITRE (2011b).

There has been a declining trend in the number of regional airports with Regular Public Transport (RPT) over the last two decades (Deloitte 2012). Since 2006, RPT services have ceased at 45 regional airports which 25 airports taking on new RPT services. The majority of these changes have occurred in Queensland and the Northern Territory. Since 1985, there has also been a decline in regional airports. In all regions from inner regional to very remote Australia, the number of airports has almost halved over the last two decades, although there has been a recovery in regional airport numbers since 2008 (Table 5.7).

Table 5.7 Number of regional airports served by Remoteness Class

Remoteness Class	1985	2000	2012
Inner Regional	43	37	26
Outer Regional	47	36	28
Remote	38	22	16
Very Remote	136	86	101
Total Regional Airports Served	264	181	171

Source: BITRE (2013d).

Regional airports are now served by 27 airlines including Qantas, Regional Express, Skytrans Airlines, Sunstate Airlines and Virgin Airlines. The majority of regional airports in Australia however are served by a single airline.

From an economic perspective, regional airports are estimated to contribute \$77 million to regional Australia. Regulation however imposes an impact on regional and remote airports, comprising around 12 per cent of total expenses. This is compared to four per cent for major and major regional airports (Deloitte 2012).

### Remote Air Services Subsidy (RASS) Scheme

This scheme forms part of the Australian Government's Regional Aviation Access Programme (RAAP). RASS subsidises a regular weekly air transport service for the carriage of passengers and goods such as educational materials, medicines, fresh foods and other urgent supplies to communities in remote and isolated areas of Australia. Due to the distances involved and with road access to many communities often cut for several months during the wet season, a regular air service offers the only reliable means of transport. Mail is carried on these flights under a separate contract with Australia Post.

A RASS community is typically a cattle station or an Indigenous community with a population ranging from six to approximately 200 people. The population of a typical RASS community may change during the mustering or wet season.

The RASS provides some 366 communities in remote and isolated areas of Australia with improved access through the subsidy of a regular air transport service. This includes 260 directly serviced locations and a further 106 neighbouring communities that receive mail through RASS ports. The 260 directly serviced locations include 86 Indigenous communities.

## 5.5 Conclusion

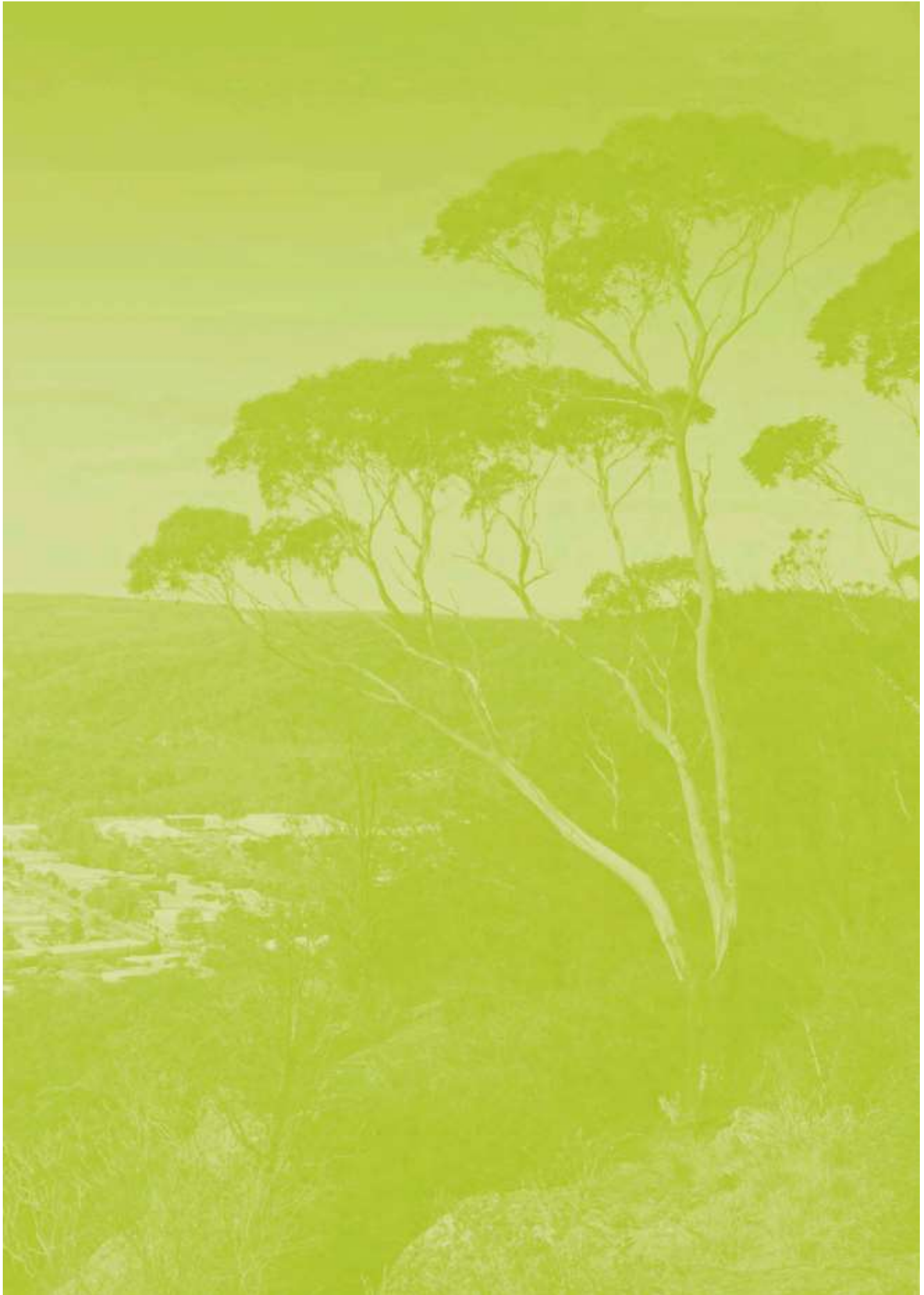
Infrastructure is vital to ensuring that Australia's regions are able to grow and prosper as the 21st century becomes increasingly globalised and competitive. It is also important for ensuring that the residents of regional areas of Australia have access to high quality services and can enjoy a quality of life comparable to their urban counterparts. Through key statistics on moving freight and moving people, this chapter has highlighted the number of ways in which the Australian Government is helping to achieve both of these important aims. Through building world class infrastructure, direct economic benefits can be delivered to both regions and their surrounding areas.

Infrastructure has been vital to shaping the settlement patterns of towns and cities across Australia. Infrastructure continues to underpin all regional Australian economies by promoting the efficient flow of people and resources while also providing regional Australians with access to essential services such as education and health.

The impact of the mining boom has exerted significant pressure on regional Australia's infrastructure networks. For example, in 2008-09, ports in remote Australia overtook ports in major cities in terms of the volume of freight being moved through them. Similarly, airline passenger movements in remote and very remote Australia have gone from negative growth rates a year between 2000-2005 to an average growth rate of 6.5 and 9.6 per cent respectively reflecting the increased demand for fly in-fly out workers.

For personal travel, car use continues to be an integral mode of transport in regional Australia with vehicle kilometres increasing more quickly than population growth outside major cities. In addition to the cost of maintaining and constructing roads, road use also imposes significant economic and social costs as a result of road fatalities. Fortunately, despite population growth and increased road use, the road toll has been declining significantly as a result of public awareness campaigns and safer road infrastructure.





Item 15.30

Enclosure 1

## 6. Conclusion



While national data is useful for providing an overall picture of economic and social wellbeing, it can often obscure what is occurring in particular locations.

This report illustrates how major trends can have differential effects upon regions. The main themes—population change, economic wellbeing, structural change, social progress and infrastructure—show that regions differ in the way they experience and respond to change. For example, while Australia's population is ageing overall, regionally the characteristics of ageing populations differ and the resultant challenges vary. A number of case studies illustrated this variation and the effect that income, wealth and accessibility to larger population centres can have.

Regions with ageing populations that have low property prices and high dependence on the age pension will face different challenges from those with high property prices and a greater proportion of self-funded retirees. Indeed, in the case of the latter, there are potential opportunities associated with the greater wealth they bring to a region.

Spatial variation is also evident in economic wellbeing indicators. National measures such as Gross Domestic Product illustrate the way in which Australia as a whole is progressing economically. However, examination of economic indicators at the regional level provides greater insight into the spatial distribution of this prosperity.

Youth engagement in work or study is more likely to be higher in *major cities* and much lower in *remote Australia*. The differing rates relate to both the availability of educational services and employment opportunities, and the propensity to take advantage of them. Low rates of engagement are found not only in remote areas but also in larger centres and those close to capital cities. This suggests that low engagement is not limited to areas whose opportunities are curtailed by geographic isolation.

The data on estimated median household income, an indicator used for living standards, reveals that *inner regional* and *outer regional* areas consistently have the lowest median incomes. At the same time, the influence of mining is reflected in *remote Australia* which experienced the fastest income growth. Future analysis may indicate the impact that a slowdown in mining can have on incomes in these areas.

The overarching theme of this report has been the different ways in which regions change. Some regions have benefited from change, such as growth in important local industries. However, others have experienced the adverse impacts associated with industrial decline.

Shifts in industrial composition have delivered strong employment growth in regional Australia. This change is partially reflective of the more concentrated industry base in these areas, which is particularly susceptible to change caused by booms and busts in key industries.

Between 2001 and 2011, there was national growth in Mining, Construction, and Health Care and Social Assistance with a corresponding decline in Agriculture, Forestry and Fishing, Retail Trade and Manufacturing. Both of these trends have been exacerbated in regional Australia. While the mining boom has delivered strong employment in *regional* and *remote Australia*, a corresponding decline in employment in agriculture has also been experienced in these areas.

Because wellbeing transcends economic progress, the analysis of social progress provides greater insight into the experiences and living conditions of people in different regions. Measures of social progress from the *Progress in*

*Australian Regions: Yearbook 2014* were used to develop a nuanced picture of the factors that contribute to living standards in regional Australia.

Differences in health outcomes, safety and social engagement raise important questions around inter-regional equity. The lower life expectancy in regional areas compared with Greater Capital City Statistical Areas can be attributed to a number of factors, including greater access to health services in these areas, differences in health risk factors across location and variation in demographics across Remoteness Classes.

This lack of access to services is illustrated through a focus on mental health. Mental health outcomes are poorer in regional and remote areas, possibly because treatment options are more difficult to access. Regional and remote areas may lack the infrastructure and population to support specialist services that are more readily available in larger areas.

While lifestyle factors are often cited as a key motivation for internal migration to regional areas, the analysis suggests that regional areas do not necessarily perform any better than major cities on available measures of life quality such as health, safety and community engagement.

For a country as large and wide as Australia, infrastructure is essential for facilitating flow of services, people and goods between regional areas, towns, cities and export points. This report has shown the role infrastructure plays in the long-term development of regional towns and cities. Continued investment in infrastructure will be necessary to meet the growing need to move people and freight to and through regional Australia.

*Progress in Australian Regions: State of Regional Australia 2015* provides a detailed snapshot of life experiences in the regions from demographic, economic, employment, social and infrastructure perspectives. By examining issues spatially and seeing the way in which they change over time, an essential understanding of the unique challenges faced by regions and the ways in which they respond to these can be used to create regions that are more productive, sustainable and resilient.



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