The world continues to urbanise. In 2008, for the first time in history more than half of the world population lived in cities. The most populous 600 cities in the world are home to 25 per cent of the world’s population and produce around 60 per cent of global GDP (Dobbs et al. 2011). The top 100 generate more than half of this (UNHABITAT 2011). By 2030, only 17 years from now, it is estimated that five billion people or 80 per cent of humanity will be urbanised (UNHABITAT 2011). It is little wonder then that the current era has been called the ‘Triumph of the City’ (Glaeser 2011).

For highly urbanised countries, a wrong step in urban policy can have national implications, especially when around 40 per cent of the national population live in just two cities (as is the case for New Zealand, Chile and Australia). Aside from city states like Singapore and Monaco, Australia is the most urbanised nation on earth (Figure 1-1). Few other countries have as much need to understand how their cities work as Australia.

Figure 1-1 Urbanisation rate of selected countries

![Urbanisation rate of selected countries](source: Ellis 2013)

To the fulfil the need for an informed discussion on the nation’s cities, the Australian Government committed to publishing annual reports on the progress of Australian cities towards the national aspirations described in Our Cities, Our Future – A National Urban Policy for a
productive, sustainable and liveable future (Department of Infrastructure and Transport 2011). *State of Australian Cities 2010* was the first comprehensive snapshot of Australian cities, bringing together data and research to inform development of the National Urban Policy. *State of Australian Cities 2013* is the fourth in the series.

Each State of Australian Cities report follows the same basic structure as the National Urban Policy but differs in exploring a particular facet of the chapter theme. For example, in 2011 the focus of the Population and Settlement chapter was demographic structure and migration flows and in 2012, population growth and housing.

The first section of this chapter signposts the main findings and some of the policy implications flowing from them. The second section discusses the definitions and the way in which data is used.

**Overview of main themes**

The Sustainability chapter of this year’s report focuses on two issues: heat and energy. Heatwaves are the leading cause of fatalities from natural disasters in major cities and the risk may increase with further global warming. Using the severe heatwave in January 2013 as its starting point, the chapter looks at how heat affects cities and the potential role of vegetation or ‘green infrastructure’ in ameliorating temperature extremes in urban environments.

The energy discussion is in two halves: trends in household energy use and an examination of the evidence for transport energy efficiency across modes.

The Liveability chapter spatialises some of the results of changing economic and social conditions in major cities in the 21st Century. In particular it shows how the parts of cities are becoming defined by income, employment, housing and age.

This first part of the report discusses cities in terms of population and productivity. The main focus of Population and Settlement in 2013 is settlement patterns and migration. It shows how population growth is still being accommodated on the fringes of cities and how migration is increasing in its scale and complexity.

The Productivity chapter is in two sections. The first deals with industry structure, in particular the changes occurring in post-industrial cities. The second deals with human capital and shows continuity at the city scale but large changes occurring within cities.

Cities can enable significant increases in productivity. Thick labour markets with many employers and potential employees, as well as many different types of jobs and diverse skills, allow greater division of labour. In a similar way, thick consumer markets allow more specialised production. Complex and interwoven economies are also more stable. Indeed, it has been argued that the increasing stability and resilience of the Australian economy, evident through the course of the 20th century (Lim et al. 2011), is related to the rise of urban economies within the nation and its major trading partners.

While the major changes taking place in Australia’s industrial structure have been subject to extensive commentary by economists and policy makers, it seems the spatial implications are less well appreciated.

For three decades from the 1970s, Australia’s largest cities saw a decreasing reliance on the CBD as the location of jobs. For example the City of Melbourne, between 1971 and
2001, went from having 31 per cent of Melbourne’s total employment to 19 per cent. This was due in part to the creation of jobs as outer areas urbanised, but also due to employers in businesses such as manufacturing relocating from the city centre to cheaper locations, or larger sites, in the middle and outer suburbs (Department of Sustainability and Environment 1970).

This spatial economic expansion appear to have stopped, and may even be reversing. Census data suggests that from 2001 to 2011, the City of Melbourne’s share of Melbourne’s total employment went from 19 per cent to 20 per cent.

As described in State of Australian Cities 2012, economic value and by extension high-paying jobs are increasingly concentrating in city centres as part of the change from labour intensive industrial production to knowledge intensive transaction industries which rely on high job densities for their productivity. This is not a particularly Australian phenomenon; it is happening in the cities of developed nations all over the world (Moretti 2012).

Chapter 3 of this report discusses this in some detail. It shows that while the contribution of manufacturing to the economy is still growing, employment is falling as the industry is becomes more capital intensive to remain competitive in an increasingly globalised trading environment (Figure 1-2).

Figure 1-2 Manufacturing employment and change in Gross Value Added, 1985–2012

The spatial aspects of this are critical. The jobs which moved over time to the middle and outer suburbs meant that manufacturing became a key employer in outer suburbs (many of which over time became ‘middle’ suburbs as cities spread). Indeed, manufacturing remains the largest employer in the outer suburbs of many major cities in south eastern Australia.

As a result, the middle and outer suburbs are where the loss of manufacturing jobs is felt most acutely. One of the clearest examples of this is in Melbourne as shown in Map 1-1.
Falling manufacturing employment would not be such a challenge if the other kinds of jobs traditionally located in outer suburbs – retail, construction and transport and logistics – were producing replacement jobs, both in number, hours of work, and in remuneration levels. They are not. For example, as discussed in Chapter 2, between 2006 and 2011 the net growth in private sector employment in Western Sydney (an area containing middle and outer suburbs, including the employment centre of Parramatta) was virtually zero. Jobs growth was almost exclusively in the public sector and mostly in the health and community services industry (O’Neill 2013). This is an additional problem because this industry, like most personal service industries, has had low productivity growth for some decades and cannot drive a rise in living standards in the same way as manufacturing (Moretti 2012).
The changed trend in terms of jobs in middle and outer suburbs has not been accompanied by a change in the trend of settlement patterns in Australian major cities. As described in Chapter 2 of this report, significant population growth in most of our major cities is happening on the edge, just as has been the case since the Second World War. This can be seen in the example of Melbourne in Map 1-2.

Map 1-2 Population change in Melbourne, 2001–11
Figure 1-3 shows that, during the decade to 2011, the self-sufficiency of the outer sector of Australia’s three largest cities increased slightly, then decreased, particularly in Melbourne.

What Figure 1-3 cannot show is, for example, if high paying, high productivity jobs are being replaced by low paying, low productivity jobs as shown in the example above for Western Sydney. It does not show how documented broader trends for full time work to be replaced by casual and part time work are playing out in such areas.

![Figure 1-3](image)

**Figure 1-3** Employment self-sufficiency ratios in outer Sydney, Melbourne, Brisbane and Perth, 2001, 2006 and 2011

- **Melbourne**
- **Sydney**
- **Brisbane**
- **Perth**

Note: Self-sufficiency is the ratio of the number of people who work in the region to the number of employed people who live in the region.

Source: BITRE data

What is giving added urgency to the challenge is that Australia has one of the highest rates of population growth in the developed world (Chapter 2) which is forecast to see four million extra people settled in the capital cities by 2035. If large numbers of these new residents are accommodated on the edges of capital cities as happens now, in the absence of changes to the nature of employment in middle and outer suburbs, there is a real likelihood of much greater demand for transport infrastructure to connect them with better paid jobs located further in. This is likely to exceed not only the capacity of current infrastructure but of future Governments to provide sufficient infrastructure.

The alternative seems even more unpalatable; a significant proportion of the urban population at risk of being “locked out” of their city’s prosperity by a steepening inner-city house price gradient and congested road and rail systems.
In the recently published book, *Australia’s unintended cities: The impact of housing on urban development*, Rawnsley and Spiller described the essence of the situation.

Metropolitan Melbourne may be drifting towards a seriously divided city which cannot credibly claim sustainability or superior liveability. Just as importantly, this urban structure is doing nothing to improve human capital and labour productivity at a time when the nation is in pressing need of a boost in this area.

This disadvantageous pattern of urban development may not be planned and its consequences not intended. But it is certainly not accidental. Successive generations of plans for metropolitan Melbourne have promoted a poly-nucleated structure… The reality, however, is that the metropolis is afflicted with relentless pressure for low density urban expansion into districts that are increasingly distant from the main concentrations of employment.

This pressure is fuelled by a compelling bipartisan agenda to improve housing affordability for ordinary households. Regrettably, trying to solve the affordability problem by cutting up more land on the urban fringe may be like trying to fix a flagging economy by printing more money. Ultimately, this approach may devalue the whole metropolis and compromise its capacity for sustainable prosperity (2012).

Chapter 5 gives a sense of how this situation is playing out on the ground. It paints a picture of cities increasingly stratified by income, skills, age, workforce participation and housing (some examples are shown in Maps 1-3, 1-4 and 1-5).
Map 1-3  Proportion of persons unemployed in Melbourne, 2011
Map 1-4 Proportion of people with no post school qualifications in Melbourne, 2011
This spatial stratification was highlighted in a recent report by the Grattan Institute (Kelly and Mares 2013) which outlined three basic policy options: 

*Job creation in outer suburban areas.* A feature article by the National Growth Areas Alliance explores this in Chapter 3.
Moving people closer to jobs. This has been a key objective of most capital city plans for more than two decades. Chapter 2 shows that successes have been limited and the most population growth is still occurring on the urban fringe.

Improvements to transport systems, particularly high density links into city centres. Projects like the M5 East and the North-West Rail in Sydney and the CityLink and Western Ring Road in Melbourne show just how expensive such solutions can be, while the projected costs of projects such as WestConnex and East-West Link illustrate some of the implications of continuing with current approaches.

A range of additional policy options may be available. Whichever policy approach is pursued – jobs to people, people to jobs, changed or improved transport connections between, or doing nothing and accepting a number of productivity and social consequences – there will be impacts on liveability and sustainability, not just on productivity. These trade-offs need to be considered, debated, and understood by the community.

It is not the place of State of Australian Cities reports to propose or prioritise policy responses to the challenges of 21st Century urbanism. Their purpose is to describe the arc of the social, economic and environmental aspects of the nation’s major cities so that discussions on options and trade-offs are better informed.

Reading State of Australian Cities 2013

What’s new in 2013

The Australian Bureau of Statistics (ABS) released the data from the 2011 Census in two tranches. The first was released in July 2012 and contained the Basic Community Profiles which focus on population and housing. This data formed the basis of much of State of Australian Cities 2012. The second tranche, released after State of Australian Cities 2012 was published, contains data on skills, migration and industry structure. This information is the basis for discussions of human capital, changing industry structure and Australia’s population movement in this report.

This report is the first to incorporate a large number of maps. The online version includes links to an application that enables interactivity with the maps.

Using the maps

The maps in State of Australian Cities 2013 are in three formats. The hard copy reports use a small sample of the maps to illustrate part of the discussion. The USB drive versions of the report use a PDF format for the maps, which are at medium resolution and can be panned and zoomed. The maps are also separately available in high resolution on the Major Cities Unit website, www.majorcities.gov.au. They allow the reader to turn layers on and off and visualise different aspects of our cities at different scales. Maps use the ABS Statistical Area 2 (SA2). Those maps showing longer time series only use Statistical Local Area (SLA).
Definition of major cities

The State of Australian Cities reports define major cities as those with a population of more than 100,000 residents. This follows the ABS definition (2011b) and the convention in Australian urban studies literature (Forster and Hamnett 2007). Applying this definition, there are 18 major cities in Australia (Map 1-6). In 2011, 77.3 per cent of the population lived in these cities, up from 75.9 per cent in 2001. Between 2011 and 2012 the population of Australia’s capital cities grew by 1.8 per cent, faster than the remainder of Australia (1.2 per cent). Perth had the fastest growth of all capital cities at 3.6 per cent, ahead of Darwin and Brisbane (both 2.0 per cent). The slowest growth was in Greater Hobart (ABS 2013c).

Map 1-6 Major cities of Australia
Geographic Boundaries

To make valid comparisons, the State of Australian Cities reports use the ABS boundaries that most closely relate to the built urban areas.

The 2011 Census marked the first major change to the ABS geography for nearly 50 years. Previously, ABS units were based on Collection Districts – a Collection District being the area a Census collector could reasonably cover when distributing and collecting Census forms (about 200 households). These were then built up into Statistical Local Areas and Local Government Areas. One of the main problems with the system was that every time Local Government Areas changed, the ABS geography changed. Given this happened in most years, constructing a data time series was difficult and became progressively more inaccurate the longer the time period sought.

To address this, a new geographic unit called a ‘mesh block’ was adopted for the 2011 Census. In an urban context, mesh blocks are areas that contain between 30 and 60 dwellings. Mesh blocks have two main advantages:

1. They essentially function like small Lego bricks and can be built up into a variety of geographies according to requirements.

2. The area of mesh blocks will remain stable through time, which means that those wishing to construct a time series will not have to deal with continual changes in geographic areas and long and accurate time series will eventually be possible.

As part of the changeover, much of the Census geography used in previous State of Australian Cities reports is no longer supported by the ABS. The Statistical Divisions used for capital cities in earlier reports have been replaced by Greater Capital City Statistical Areas. Unlike the old Statistical Divisions these new boundaries cross local government boundaries, allowing the ABS to more closely approximate the settled area of cities to changing urban boundaries. The differences between the old and new geographies are shown in Appendix 1 and are outlined below:

- **Sydney.** Little has changed, with some extension in the Blue Mountains.
- **Melbourne.** The boundary of Melbourne has been greatly extended northwards and now takes in Macedon, Lancefield and the Murrindindi shire.
- **Brisbane.** This city has the largest boundary changes of all and nearly doubles in area. The new areas are mainly to the west and include the rapidly suburbanising Beaudesert, the former dairying areas of Boonah and the Eastern Downs around Esk stretching nearly as far north as Nanango.
- **Adelaide.** This city has two areas added to it. The northern boundary now takes in the former agricultural areas of Roseworthy and Two Wells while to the east, Adelaide now includes Hahndorf and Mt Barker and extends out as far as Mt Torrens.
- **Perth.** Much of the former Peel area has been added to Perth which now includes Mandurah and Pinjarra.
- **Hobart.** There are only minor changes to this city – the boundary moves a little further to the east to take in the fishing village of Dunalley.
- **Canberra.** The boundary now takes in the whole of the ACT, but the effect on its population is minimal.
- **Darwin.** Unchanged.
In previous State of Australian Cities reports, ABS units called Statistical Districts were used to define the non-capital major cities. This is no longer used by the ABS but have been manually reconstructed using Statistical Local Areas. It has therefore been possible to construct a time series back to 1996 for the non-capitals.

Inevitably with such a major change, there has been a period of adjustment and this report does contain some data on the old boundaries, particularly in the longer time series.

Residence

In the 2006 Census, the ABS introduced a major change that also affects the time series used in this report. All previous Censuses were based on place of enumeration i.e. a person was counted where they were on Census night. In order to improve the accuracy of the Census, 2006 and 2011 data was also based on place of usual residence. In most cases, the difference between the two methods is slight – often a fraction of a per cent – but it presents a dilemma to those constructing a time series. The choice is between continuing to use the less accurate place of enumeration data or changing to place of usual residence and having a very slight discrepancy between the pre- and post-2001 Census data. The approach taken in this report is to use place of enumeration data pre 2001 and place of usual residence post 2001 as a default because the value of long time series usually outweighs a slight loss in short-term accuracy. The exception is where the time series involves very small changes over the years. In these cases, only place of usual residence data is used.

Chapter 1 references

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*Brisbane-Kurilpa Bridge-Arup.*

Image courtesy of David Sanderson