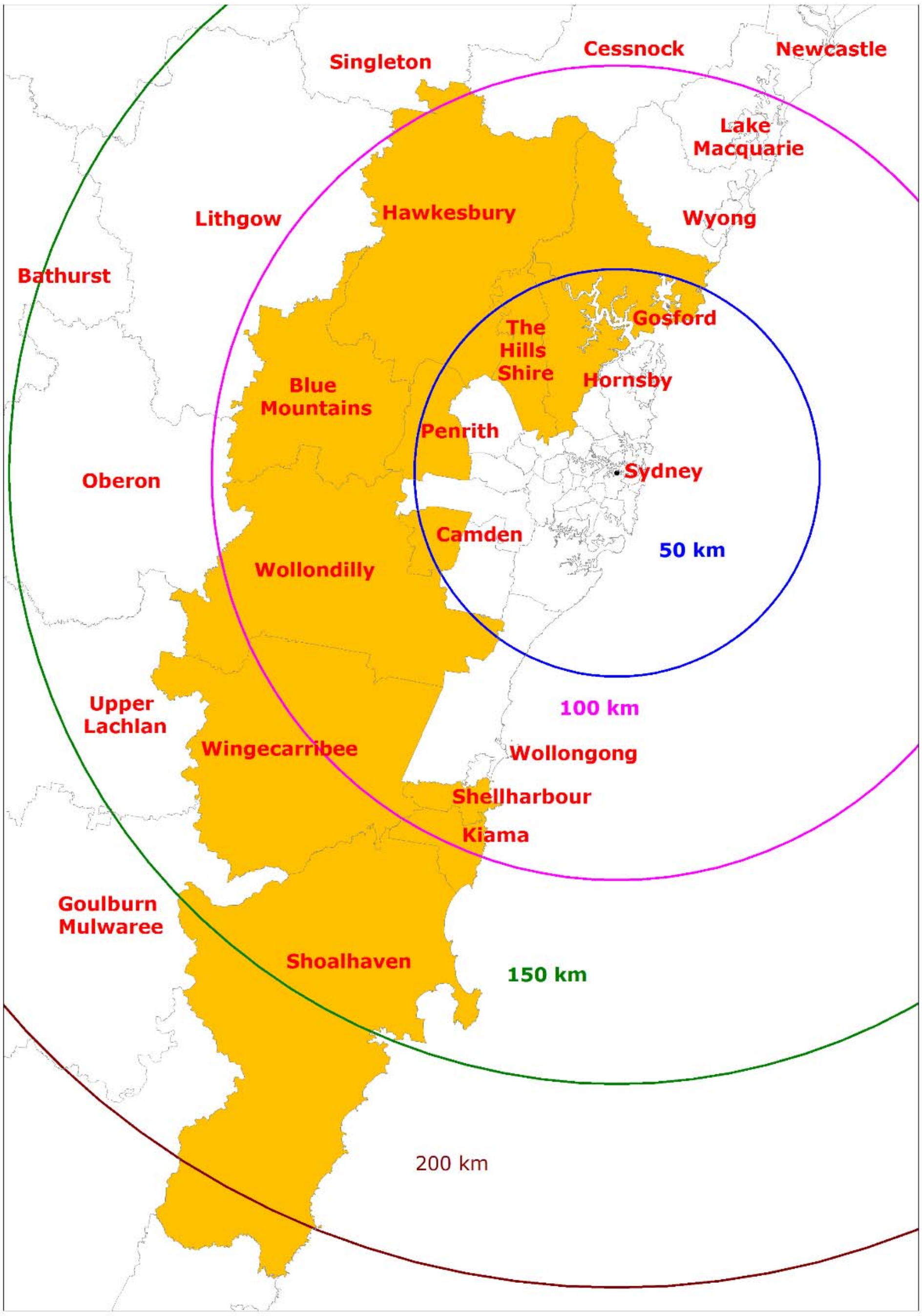
Sydney Peri-Urban Network

Issues Paper



September 2015

Sydney Peri-Urban Network

Issues Paper

Prepared for Sydney Peri-Urban Network
by

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Table of Contents

List of Maps

List of Figures

List of Tables

List of Photos

Executive Summary

The Sydney Peri-Urban Network of Councils comprises twelve Councils on the fringe of Sydney. The aim of the network is to be a leader in advocating for peri-urban issues at the state and national levels of Government. This issues paper has been prepared as part of an Action Plan being developed for the network.

Sydney's peri-urban area has a unique identity being made up of agricultural production, rural landscapes, biodiversity areas as well as settlements and rural residential development. This identity has continued to establish itself since the 1970s and the landscape has changed from one of mostly agriculture and some rural residential to now being mostly rural residential with some agriculture. The peri-urban area extends from Lake Macquarie in the north, Lithgow in the west and Shoalhaven in the south.

The peri-urban area has a population of 1.8 million people, which equates to 39.7% of the Sydney region and it is projected to reach 2.3 million by 2031, with the proportion of Sydney remaining steady. There were 700,161 dwellings at the 2011 census and this is projected to rise to 965,931 by 2031. The occupancy rate is 2.66 people per house which is equivalent to Sydney and the occupancy is projected to reduce to 2.51 by 2031.

The gross regional product of the peri-urban area is estimated to be $70.95 billion which is 20.1% of the Sydney region and 14.9% of NSW. The peri-urban economy is growing at a steady rate of 2.6% per year.

Agriculture is a significant in the peri-urban area having a value of $1 billion at the farm gate with a multiplier of 4 – 5 means it contributes between $4 - $5 billion to the local economy as well as to the food security of the city. There are a number of Council areas that leading the State and Nation in specific commodities as follows:

- *Nurseries* – The Hills is number two in NSW and number seven in Australia;
- *Cut Flowers* – The Hills is number one in NSW and number nine in Australia;
- *Turf* – Hawkesbury is number one in NSW and number one in Australia;
- *Perishable Vegetables* – Hawkesbury is number one in NSW and number nine in Australia;
- *Chicken meat* – Gosford is number one in NSW and number one in Australia;
- *Ducks* – Liverpool is number one in NSW and number three in Australia;
- *Turkeys* – Wollondilly is number one in NSW and number one in Australia;
- *Other Poultry* – Hornsby is number three in NSW and number four in Australia;
- *Eggs* – Penrith is number two in NSW and number four in Australia.

There are a total of 122,495 businesses in the peri-urban area which equates to 5.8% of all businesses in NSW. The majority of these businesses are owner operated (56.4%) or have one to four employees (32.3%). Construction is the highest category of business with 20% of the total followed by professional, scientific and technical services (13%), Rental, hiring and real estate services (10.5%), financial and insurance services (7.7%) and retail trade (6.7%).

More residents travel out of their LGA to work (49%) than work locally (39%). However this ranges from 10 % in Shoalhaven to 61% in The Hills and Camden.

A comparison has been made of the rural and urban lands to tease out any differences and similarities. The demography of the rural lands of the peri-urban area is mostly urban. The age cohorts are basically the opposite to the Sydney Region as a whole.

There are more non-English speaking background people in the rural areas as well as being more volunteers. There are more couples with no children and with children over 15 in the rural areas. There are more people on higher incomes in the rural areas as well as being more properties owned outright and with a mortgage. There are more people with mortgage repayments of $3,000 per week than the urban areas as well as Sydney region. There are more people with internet connections as well as more people who lived at a different address one and five years ago than the urban areas. There are more people with certificate qualifications and less with bachelor degrees in the rural areas. The top five industry sectors of the rural workforce are construction, health care and social assistance, manufacturing, retail trade and education and training. This is the same top five for the urban areas and Sydney region (but in different order). However there are more managers but less professionals living in the rural lands. Working from home for rural residents is more than double that of the urban areas.

The SPUN Councils consider the following list of key issues for the future of the peri-urban area:

- Agriculture
- Rural Subdivision pressure
- Land use conflict
- Rural Villages
- Urban development – expansion and density
- Infrastructure
- Physical Constraints
- Economic Development
- Rural Character
- Environment

These key issues form the basis of the accompanying Action Plan to set a strategic direction for the Sydney Peri-Urban area.

Chapter 1: Introduction

1.1. Introduction

The Sydney Peri-Urban Network (SPUN) was formed in 2013 and comprises 12 Councils on the periphery of Sydney. The network includes the following Councils:

- Blue Mountains
- Camden
- Gosford
- Hawkesbury
- Hornsby
- Kiama
- Penrith
- Shellharbour
- Shoalhaven
- The Hills Shire
- Wingecarribee
- Wollondilly

It was formed in response to the realisation that Sydney's peri-urban area is undergoing significant change, and the growth in the peri urban has brought with it many challenges and opportunities for those Councils. These Councils are an important part of the solution for the long term sustainable management of population growth in New South Wales.

The aim of the Network is:

> *SPUN is a leader in advocating for peri-urban issues at the state and national level.*

It's Vision is as follows:

> *Sydney and surrounding regions' peri-urban Council areas are recognised as being part of New South Wales solution for managing growth while providing opportunities for strengthening local town & village character, settlements, lifestyle, tourism and agricultural (and economic) pursuits. The Network will assist and empower Councils in managing the significant pressures faced in peri urban areas*

This issues paper has been prepared to provide the Network with a strategic direction and to discuss the many issues that confront the communities on the peri-urban area of Sydney. The key issues have been identified by a workshop of the network as well as in discussion with representatives of the member Councils. This has led to the identification of an action plan to identify the key matters that need to be addressed to ensure that the future of the area is sustainable.

1.2. Sydney Peri-Urban Area

In its most basic form, the term 'Peri-Urban' covers the land on the periphery of an urban, normally metropolitan area. It is a complex transition zone from the urban lands of the metropolitan region to the rural lands. It has been described more succinctly in a book on the Peri-Urban Interface as follows:

> *"Some may resemble relatively uniform sprawl, others honeycomb structures or spines of growth along specific corridors. These transition zones – generally known*

> *as Peri-Urban in English – vary in width and nature, and are subject to rapid change with increasing urban pressures. Many indigenous villages, previously located in rural areas a considerable distance from the city, have experienced in-migration, growth and changes in population composition, land use and economic base." (Simon, McGregor, & Thompson, 2006)*

An Australian definition can be found in a document prepared in 2006 on peri-urban areas in Australia. "A peri-urban area can be defined simply as land adjacent to the edge of an urban area, that area of land extending from the built up edge of the city to the truly rural hinterland." (Buxton et al., 2006) p1. It should be noted that the peri-urban land comprises rural land as well as urban settlements which can range in size from less than 100 people to urban centres of 35,000 people. The landscape is made up of a mixture of productive agricultural land, bushland as well as living areas. One defining aspect of the peri-urban area is change (Buxton & Low Choy, 2007). This change has been one of land use as well as population growth.

The matters raised in the definition are relevant for the Sydney peri-urban area. One question that has to be asked is what is the spatial extent of the Sydney peri-urban area?

In the context of Sydney, the extent of the peri-urban area can be spatially defined by two methods:

- Distance from the Sydney CBD measured in time of travel; and
- Proportion of the population who work in Metropolitan Sydney

The distance from the Sydney CBD can be measured in time. It is based on the time taken to drive to and from the city centre. This is generally taken to be in the order of two to two and a half hours. This equates to a distance of 150 to 200 km. However, it cannot be done in such a simplistic manner and needs to be looked at from other parameters like road condition, road width and topography. Suffice to say that it extends geographically to Newcastle in the North, Lithgow in the West and Shoalhaven in the South. However, Newcastle and Wollongong are considered to be metropolitan areas and do not have any issues in common so these two LGAs should be excluded from the Sydney peri-urban area. This is illustrated on map 1.1.

The second way of identifying it is by the proportion of people who travel to work in the Metropolitan area each day. This can be derived from the Census of population and housing. Bunker and Holloway (2003) who mapped it in percentage ranges. This map shows that there are three rings relating to these ranges. The highest range is 85% or more which extended from Sutherland in the south to Penrith in the west and Pittwater in the north. The second ring is 40% to 60% and this included Wollondilly, Blue Mountains and Hawkesbury. The last ring was the 10% to 30% and included Wollongong, Wingecarribee, Gosford and Wyong. This is also shown in the place of work graph in section 2.3.4.

One thing that is a common theme about the Sydney Peri-Urban Council areas is the presence of agricultural production, biodiversity areas, settlements and areas of rural residential land use, as well as communities of interest and similar issues. The agriculture can be high value intensive plants and animals like vegetables, nurseries and poultry or extensive such as grazing of animals.

The biodiversity in the peri-urban area is significant, and comprises some significant vegetation communities as well as a number of threatened species and endangered ecological communities.

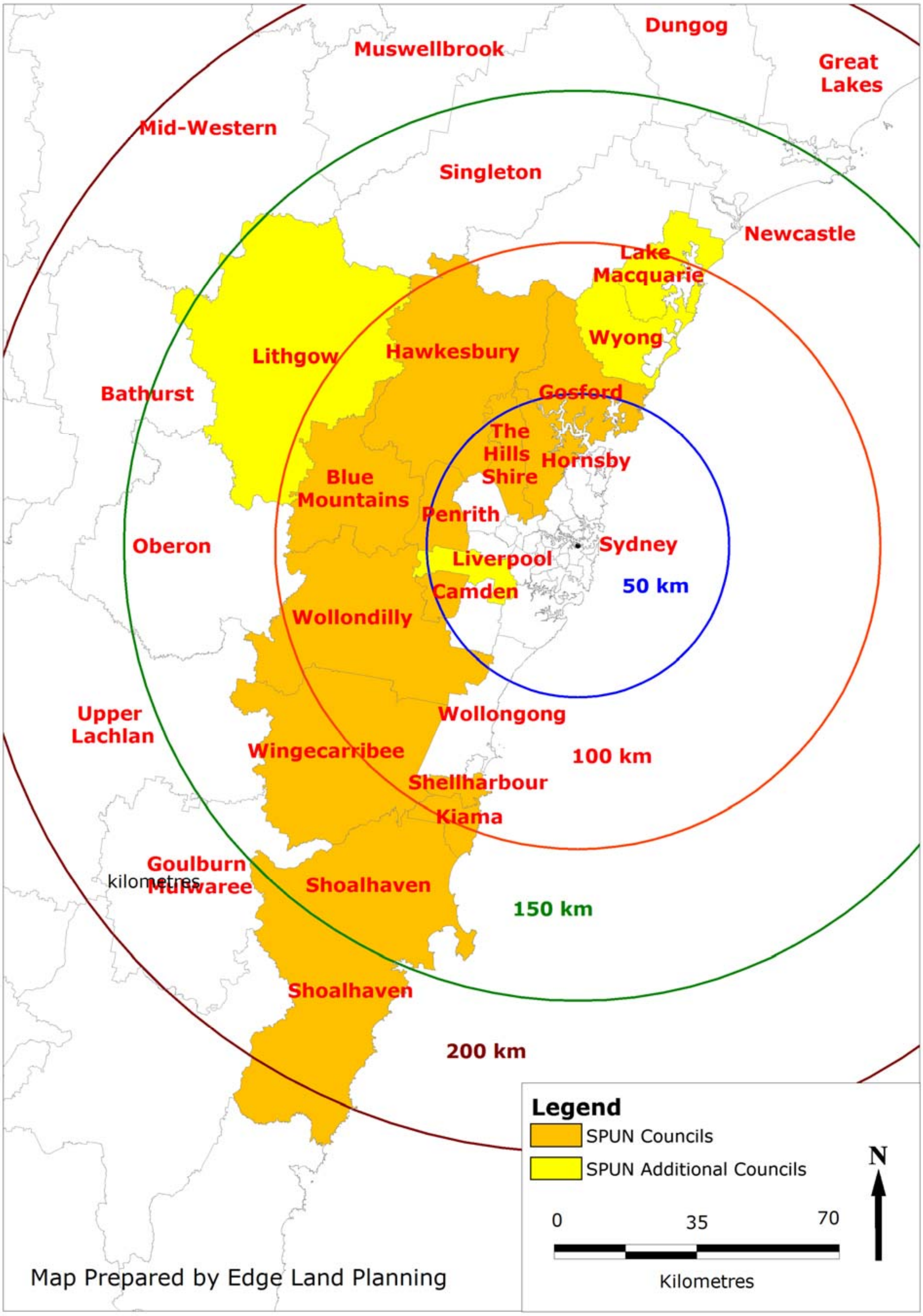
The presence of urban settlements and rural residential land use is another key characteristic of peri-urban areas. The settlements can range in size from smaller than 100 like Nattai in Wollondilly to over 35,000 people like Nowra – Bomaderry. Rural residential development is defined in chapter 3 and basically it includes living on rural land where the person does not gain the main source of their income from the productive capacity of the land. Research has shown that this is usually between 60% and 80% of the rural land use. (Ian Sinclair & Bunker, 2012)

Photo 1.1 shows the rural land around Wilberforce and Pitt Town in Hawkesbury Council area. This photo shows the three key components of the peri-urban area. The Hawkesbury River and its associated alluvial plain is used to grow vegetables and turf, the settlements of Wilberforce and Pitt Town provide living areas as does the rural landscape which also has areas of significant biodiversity.

This distinctive pattern of the current peri-urban area began to emerge out of the population turnaround and counterurbanisation phenomenon of the 1960s and 1970s (Burnley & Murphy, 1995). Since that time, it has changed from a mostly agricultural area with some rural residential development to now become mostly rural residential with some significant pockets of agricultural production (I. Sinclair, 2015).

The network has discussed this and it has been decided that the spatial extent of the Sydney Peri-Urban area would be Lake Macquarie to the north, Lithgow in the west and Shoalhaven in the south. This would mean it covers the existing SPUN Councils with the addition of Lake Macquarie, Lithgow, Liverpool and Wyong Council areas. This can be seen on map 1.1.

Photo 1.1: Rural landscape around Wilberforce



Map 1.1: Sydney Peri-Urban Area

1.3. SPUN Priorities

A workshop was held on 27 November 2014 at Wollondilly Council Chambers in Picton to formulate a Strategic Direction and Action Plan for the Network. The workshop had two aims which were to outline the spatial extent of the peri-urban area as well as to identify the key issues facing it now and those that will be facing it in the future.

The workshop outcomes have been detailed in a separate report. The participants were asked to identify the Liabilities, Assets, Needs and Dreams. These are defined as follows:

- Liabilities – things that are not there / bad
- Assets – things that are good
- Needs – things that would be expected
- Dreams – things that you want

It is important to note that some maters can be all of these. The responses to these were written on butchers' paper and a set of common themes were identified and then these were consolidated into seven key themes which were then prioritised as follows:

1. Agriculture.
2. Economy.
3. Peri Urban identity.
4. Environment.
5. Infrastructure.
6. Housing.
7. Heritage.

It should be noted that some Councils would not have the same priorities, however, all agree on the issues.

Discussion has been held with the SPUN Councils and research has been undertaken of each Council's individual issues. These discussions have revealed a wide range of issues which can be summarised as follows:

- Agriculture
- Rural Subdivision pressure
- Land use conflict
- Rural Villages
- Urban development – expansion and density
- Infrastructure
- Physical Constraints
- Economic Development
- Rural Character
- Environment

These can be correlated to the seven themes identified at the workshop as follows:

Key Issues from Workshop	Key Issues
1. Agriculture	▪ Agriculture ▪ Rural Subdivision Pressure ▪ Land Use conflict
2. Economy	▪ Economic Development
3. Peri-Urban Identity	▪ Rural Character ▪ Rural Villages
4. Environment	▪ Environment ▪ Physical constraints
5. Infrastructure	▪ Infrastructure
6. Housing	▪ Urban Development ▪ Urban expansion & density
7. Heritage	

They are discussed in more detail in the document titled SUPN Action Plan.

1.4. Methodology

This document has been prepared using both primary and secondary data sources.

Discussions were held with planning officers from the SPUN member Councils to ascertain the key issues for each Council.

Data has been sourced from the following:

- economy.id website (.id The Population Experts, 2015)
- REMPLAN (REMPLAN, 2015)
- State of the Regions Report 2015-16 prepared by National Economics (National Economics, 2015).
- Australian Bureau of Statistics (ABS) Census of Population and Housing (ABS, 2012d)
- ABS 2010-11 Agriculture Census databases: Agricultural Commodities (ABS, 2012a) and Value of Agriculture (ABS, 2012b).
- ABS Business Register (ABS, 2015b)

Chapter 2: Sydney Peri-Urban Area Profile

2.1. Introduction

This chapter outlines the profile of the Sydney peri-urban area. It provides data on the economy and demographics. The Sydney peri-urban area was outlined in chapter 1 and the data for this chapter is a combination of the following Local Government Areas (LGAs):

- Blue Mountains
- Camden
- Gosford
- Hawkesbury
- Hornsby
- Kiama
- Lake Macquarie
- Lithgow
- Penrith
- Shellharbour
- Shoalhaven
- The Hills Shire
- Wingecarribee
- Wollondilly
- Wyong

2.2. Population and Dwelling Growth

The population of the Sydney peri-urban area (based on the definition in section 1.2) in 2014 was estimated by the Australian Bureau of Statistics as being 1,774,162 and the population of the SPUN member Councils is 1,199,535. The projected population of the Sydney Peri-Urban Area in 2031 is 2,325,400 (NSW DP&E, 2014) which is an increase of 551,238 people. The peri-urban area will have 39.7% of Sydney's population which is the same as it is in 2014 and it will have 25.2% of NSW population which will be a slight increase from 2014 of 1.6%.The details of each individual Council is shown in table 2.1.

The Sydney urban area has a population of 4,451,841 and NSW has a population of 7,409,337. The peri-urban area is 39.9% of the population of Sydney and 23.6% of NSW which makes it a very significant part of Sydney as well as NSW. The growth of the population is also significant and the peri-urban area is growing at a rate of 1.2% per annum over the past ten years, which is the same as the Sydney region and higher than NSW which had a growth of 1.0% for the same period.

There were a total of 700,161 dwellings in the Sydney peri-urban area and the SPUN member Councils had 473,811 dwellings in 2011 (ABS, 2012c). The projected dwellings in 2031 is 965,931, which is an increase of 64,855 dwellings. The details of each individual Council is provided in table 2.2.

The occupancy rate of the Sydney Peri-Urban area is 2.66 which is the basically the same as the Sydney region which is 2.69 people per household. The projected occupancy rate in 2031 is estimated to be 2.51 which is slightly lower than the Sydney region (2.62).

It can be seen therefore that the Sydney Peri-urban area has a significant proportion of Sydney and NSW population and dwellings and it is going to remain significant in the future as the area accepts a significant amount of new housing and subsequent population growth.

Table 2.1: Population Growth 2004-2014

LGA	Population 2014	2004-14 Growth		Projected Growth 2031
		% (p.a.)	Number	
Blue Mountains	79,688	0.4%	3,252	97,300
Camden	63,248	2.1%	14,807	162,350
Gosford	170,752	0.5%	10,015	189,050
Hawkesbury	65,114	0.4%	2,584	80,650
Hornsby	166,855	0.7%	12,351	201,750
Kiama	21,047	0.5%	1,211	25,450
Penrith	190,428	0.7%	13,818	261,450
Shellharbour	67,797	0.9%	6,982	84,250
Shoalhaven	97,694	0.8%	8,833	108,150
The Hills Shire	183,563	1.4%	29,221	280,900
Wingecarribee	47,054	0.7%	3,797	51,150
Wollondilly	46,295	1.4%	7,080	57,700
SPUN Total	**1,199,535**	**1.2%**	**113,951**	**1,600,150**
Lake Macquarie	200,796	0.6%	12,625	217,850
Lithgow	21,118	0.3%	700	20,600
Liverpool	195,355	1.5%	31,520	288,950
Wyong	157,358	1.1%	18,776	197,850
Sub-Total	**574,627**	**1.0%**	**63,621**	**725,250**
Sydney Peri-Urban Total	**1,774,162**	**1.1%**	**177,572**	**2,325,400**

Source:,(ABS, 2015a; NSW DP&E, 2014)

Table 2.2: Dwelling Growth 2004-2014

LGA	2011	2016	2021	2026	2031
Blue Mountains	34,750	37,050	39,700	42,350	45,050
Camden	20,050	29,650	38,250	47,800	58,500
Gosford	78,400	81,900	85,550	89,100	91,800
Hawkesbury	24,450	26,350	28,400	30,400	32,400
Hornsby	59,350	63,250	67,550	71,900	76,400
Kiama	9,900	10,750	11,500	12,200	12,900
Penrith	67,150	75,750	84,200	91,850	99,850
Shellharbour	25,800	28,450	30,950	33,350	35,600
Shoalhaven	54,800	57,950	60,650	63,000	64,950
The Hills Shire	59,650	68,800	78,250	88,150	97,450
Wingecarribee	21,400	22,700	23,850	24,750	25,450
Wollondilly	16,100	17,600	19,100	20,550	22,100
SPUN Total	**473,811**	**522,216**	**569,971**	**617,426**	**664,481**
Lake Macquarie	84,150	87,400	90,950	94,100	97,000
Lithgow	10,050	10,400	10,650	10,750	10,750
Liverpool	62,600	71,550	81,250	91,700	100,750
Wyong	69,550	75,150	81,150	87,100	92,950
Sub-Total	**226,350**	**244,500**	**264,000**	**283,650**	**301,450**
Sydney Peri-Urban Total	**700,161**	**766,716**	**833,971**	**901,076**	**965,931**

Source: (ABS, 2012c; NSW DP&E, 2014)

2.3. Economy

The economy of a region is a key factor in determining its sustainability. Key data on the following components of the Sydney peri-urban economy have been compiled:

- Gross Regional Product
- Agriculture
- Businesses
- Building Approvals
- Place of Work

Each will be discussed separately.

2.3.1. Gross Regional Product

The gross regional product is a measure of a region's wealth. They are derived from the ABS data using the same method as for the Gross State Product and Gross National Product. The gross regional product measures the income, expenditure and production of the LGA.

The Gross Regional Product of the peri-urban area $70.95 billion which shows a good growth from 2006 when it was $52.82 billion. This represents 20.1% of Sydney and 14.9% of NSW which is significant. The growth in the economy from 2006 to 2014 was $60.7 billion which equates to 17.4% or 2.2% per annum. This is slightly slower than the Sydney region (20.8% / 2.6%) and NSW (18.5% / 2.3%). It should be noted that the growth figures do not include Lake Macquarie but that economy has also been growing so it will not distort the figures. The details of the Gross Regional Product for each LGA can be seen from table 2.3.

The largest economy is The Hills with $9.14 billion followed by Liverpool ($8.39 billion) Penrith ($7.61 billion), Hornsby ($6.62 billion) and Gosford ($6.35 billion).

It can be seen therefore that the peri-urban area is a very significant part of the Sydney and NSW economies.

Table 2.3: Gross Regional Product

Year	NSW ($b)	Sydney Region($b)	Sydney Peri-Urban Area ($b)	Blue Mountains ($b)	Camden ($b)	Gosford ($b)	Hawkesbury ($b)	Hornsby ($b)	Kiama ($b)	Lake Macquarie * ($b)	Lithgow ($b)	Liverpool ($b)	Penrith ($b)	Shellharbour ($b)	Shoalhaven ($b)	The Hills ($b)	Wingecarribee ($b)	Wollondilly ($b)	Wyong ($b)
2014	477.010	352.76	70.95	2.15	2.55	6.35	2.88	6.62	0.66	8.91	1.50	8.39	7.61	1.78	3.69	9.14	2.03	1.62	5.08
2011	448.320	329.06	58.60	2.09	2.19	6.20	2.76	6.40	0.60	NA	1.29	7.88	7.07	1.67	3.52	8.42	2.01	1.44	5.07
2006	402.410	292.10	52.82	2.00	1.76	6.08	2.49	6.17	0.57	NA	1.22	6.55	6.13	1.57	3.26	7.08	1.86	1.40	4.68
2006 - 2014 Growth	74.6	60.7	18.1	0.2	0.8	0.3	0.4	0.5	0.1	NA	0.3	1.8	1.5	0.2	0.4	2.1	0.2	0.2	0.4
Total Growth	18.5%	20.8%	34.3%	7.6%	44.7%	4.4%	15.6%	7.4%	15.6%	NA	23.4%	28.0%	24.2%	13.1%	13.3%	29.1%	9.0%	15.6%	8.4%
Per annum	2.3%	2.6%	20.1%	0.9%	5.6%	0.5%	1.9%	0.9%	1.9%	NA	2.9%	3.5%	3.0%	1.6%	1.7%	3.6%	1.1%	1.9%	1.1%
2014		13.0%	17.6%	3.5%	4.1%	10.2%	4.6%	10.7%	1.1%	NA	2.4%	13.5%	12.3%	2.9%	6.0%	14.7%	3.3%	2.6%	8.2%
2011		13.1%	17.8%	3.6%	3.7%	10.6%	4.7%	10.9%	1.0%	NA	2.2%	13.4%	12.1%	2.8%	6.0%	14.4%	3.4%	2.5%	8.6%
2006		13.1%	18.1%	3.8%	3.3%	11.5%	4.7%	11.7%	1.1%	NA	2.3%	12.4%	11.6%	3.0%	6.2%	13.4%	3.5%	2.6%	8.9%

Source: (.id The Population Experts, 2015), (REMPLAN, 2015)
Note: Lake Macquarie was not profiled by .id and so the data has been sourced from REMPLAN.

2.3.2. Agriculture

The presence of agriculture is a key part of the distinctiveness of the peri-urban area. This includes highly productive and valuable intensive plants and animals such as nurseries, flowers, turf, perishable vegetables and poultry or extensive agriculture such as grazing of animals. The extensive agriculture in the peri-urban area is usually undertaken in conjunction with rural residential use of the land and is usually on properties of two, five, 10 ha and more. The data below shows that the peri-urban area is a significant producer of nurseries, flowers, turf, perishable vegetables, meat chickens, ducks, turkeys, other poultry and eggs. This is partly historical as well as a factor of proximity to market. Food has always been grown on the edges of the urban areas because of a number of issues including proximity to markets and good growing climate – water and temperature as well as soils.

There are three LGAs that are not classified as peri-urban because they are mostly urban, but do still have significant agricultural economies at present. They are Blacktown, Campbelltown and Fairfield and they have been included in this discussion of agriculture in Sydney's peri-urban area.

The value of agriculture in the peri-urban area is $923.9 million (ABS, 2012b) which is significant. This represents 7.9% of NSW value and 2.0% of Australia's total value of Agriculture production. It should be noted that the ABS figures are conservative and under-report the actual situation because of the voluntary nature of the census which means that not all farmers respond to it as well as there being little validation of the data supplied. In reality, the actual production and subsequent value could be up to one and a half to two times the ABS figure. It is therefore estimated that the value of agriculture in Sydney is $1 billion. (Gillespie & Mason, 2003) The details of the value for the peri-urban area can be seen from table 2.4. It should be noted that the estimate of $1 billion for the value of agriculture in Sydney is based on the Sydney region alone and not the Sydney peri-urban area. The Council areas not in the Sydney region have a combined total value of $182.4 million. Taking this into account, the total value of the peri-urban area could be as high as $1.3 billion.

The multiplier effect is an important concept when discussing the impact of an industry on the local economy. The income earned by farmers leads to more spending in the economy, which creates more spending and so on. So the multiplier effect can be described as the increase in the final income that arises from any new injection in spending. It is an important concept because it allows for the impact of an industry on the overall economy to be measured and compared. The multiplier for extensive agriculture is three and for more intensive forms such as irrigated cropping and intensive animal production, it can get as high as 6. Agriculture in the peri-urban area consists of a significant amount of irrigated plants such as market gardens, nurseries, flowers and turf as well as poultry farms. If this filter is applied to the issue of economic multipliers, the figure for the whole peri-urban area would be closer to four or five. This means that for every one dollar earned by the agriculture sector contributes four to five dollars into the economy, a high proportion of which is to the local economy. Based on a total value of agriculture of $1.3 billion, the multiplier would be in the order of $5.2 billion to $6.5 billion which is significant.

Table 2.4: Value of Agriculture

LGA	Value ($m)	% of Total
Hawkesbury	$146.8	15.9%
Gosford	$131.2	14.2%
Penrith	$83.2	9.0%
Wollondilly	$82.8	9.0%
Liverpool	$73.5	8.0%
Shoalhaven	$62.8	6.8%
Wingecarribee	$44.2	4.8%
Camden	$43.7	4.7%
The Hills	$36.5	4.0%
Blacktown	$36.0	3.9%
Hornsby	$30.4	3.3%
Lake Macquarie	$28.0	3.0%
Campbelltown	$26.8	2.9%
Wyong	$26.1	2.8%
Kiama	$20.4	2.2%
Lithgow	$18.8	2.0%
Fairfield	$14.9	1.6%
Blue Mountains	$9.6	1.0%
Shellharbour	$8.2	0.9%
Sydney Peri-Urban	**$923.9**	**100.0%**

Source: (ABS, 2012b)
Note: These figures are conservative and reference should be made to the discussion above for a more realistic estimate of the value of agriculture.

A review of the agriculture census commodity data provides an idea of the variety of agriculture that is produced in the peri-urban area and the significance of the area for specific commodities. The commodity data is different from the value of production data because it shows the estimated weight or numbers of the individual commodities. The value of production data is based on the commodity data. The sectors that are significant are as follows:

- Nurseries
- Flowers
- Turf
- Perishable Vegetables
- Meat Chickens
- Ducks
- Turkeys
- Other Poultry
- Eggs

The contribution of the Sydney Peri-Urban area of these commodities to the NSW and Australian production is shown in Table 2.5. It can be seen that the peri-urban area is a significant contributor of these specific agricultural commodities.

Table 2.5: Sydney Peri-Urban Agricultural Production

Commodity	% of NSW	% of Australia
Nurseries	47.7%	10.5%
Cut Flowers	53.6%	6.4%
Turf	71.0%	23.4%
NFT Total	67.7%	14.9%
Perishable Vegetables	47.3%	5.2%
Total Vegetables	15.7%	1.8%
Chicken Meat	46.6%	17.8%
Ducks	89.2%	35.1%
Turkeys	46.0%	34.9%
Other Poultry	34.9%	15.4%
Total Poultry Meat	46.2%	18.0%
Eggs	40.1%	12.6%

Source: (ABS, 2012a)

The nursery industry is significant in The Hills, Gosford, Hornsby, Hawkesbury, Wyong and Wollondilly LGAs. The peri-urban area has 47.7% of NSW and 10.5% of Australia's area of Nurseries (ABS, 2012a) which equates to $85.6 million (ABS, 2012b). The Hills is the number one LGA in Sydney (22.2% of the area), number two in NSW (7.9% of the area) and seven (2.0% of the area) in Australia. Hornsby is number two in Sydney (18.7%) and three in NSW (7.6%) and eighth in Australia (1.9%). Gosford is third in Sydney with 14.4% of the area of nurseries, fourth in NSW (7.1%) and number nine in Australia (1.8%). Blue Mountains is number four in Sydney, number six in NSW and sixteenth in Australia. Wollondilly is number five in Sydney, number nine in NSW and twenty-two in Australia.

The cut flower industry is significant in The Hills, Gosford, Hornsby, Hawkesbury, Wyong and Wollondilly. The value of cut flowers in the peri-urban area is $85.6 million and it is 53.6% of NSW and 6.4% of Australia. The Hills is number one in Sydney (22.2% of the area) and NSW (10.1%) and number nine in Australia. Gosford has the second largest area of flowers in Sydney (17.5%), number three in NSW (8.0%) and number eleven in Australia (1.1%). Hornsby is number three in Sydney (15.2%), four in NSW (6.9%) and thirteen in Australia. Hawkesbury is number five Sydney, seventh in NSW and seventeenth in Australia.

Turf is grown mostly in Hawkesbury with some smaller areas in Camden, Wyong, Penrith and Wollondilly. It has a value of $184 million and equates to 71.0% of NSW and 23.4% of Australia's total area of turf. Hawkesbury is the number one turf producer in Sydney (74.8% of the area), NSW (50.4%) and Australia with 17.5% of the area. Camden is the second in Sydney with 8.6% of the area, number three in NSW (5.8%) and eight in Australia (2.0%). Wyong is number three in Sydney (8.1%), number four in NSW (5.5%) and ninth largest in Australia (1.9%). Penrith is number four in Sydney, six in NSW and twelve in Australia with Wollondilly taking number five place in Sydney, number eight in NSW and number fifteen in Australia.

Vegetables grown in Sydney are mostly perishable and include Asian vegetables, herbs, capsicums and chillies, cabbages, celery, cucumbers, eggplant, leeks, lettuce, mushrooms, radish, silverbeet and spinach, spring onions and fresh tomatoes. They are mostly grown in summer and provide a local source of fresh vegetables. The value of vegetable production is $174.7 million and peri-urban Sydney accounts for 47.3% of NSW and 5.2% of Australia's perishable vegetable production as well as 15.7% of NSW and 1.8% of Australia's total vegetable production. Hawkesbury is the number one perishable vegetable producer in Sydney (19.4%), NSW (19.4%) and ninth largest in Australia (2.2%). Liverpool is number two in Sydney (12.4%), four in NSW (5.7%) and twenty-fourth in Australia. Wollondilly is number three in Sydney (11.7%), six in NSW (5.4%) and twenty-fifth in Australia (0.6%). Penrith is number four in Sydney, eight in NSW and twenty-eight in Australia and The Hills is fifth in Sydney, tenth in NSW and thirty-fifth in Australia. It should be pointed out that vegetables are grown in many areas in Australia and the number one perishable vegetable LGA is Bundaberg which has 13.5% of Australia's total, the number two is Whitsunday (12.9%) and number three is Lockyer Valley with 9.4% so the fact that Hawkesbury has 2.2% of the production is quite significant.

Poultry is grown in the peri-urban area and includes chickens, ducks, turkeys and other poultry as well as eggs.

The total value of poultry meat is $312.4 million. Poultry meat in the peri-urban area is 46.2% of NSW and 18.0% of Australia's total. The total number of poultry meat birds is 15,444,798. It should be noted that the ABS combine the poultry meat value data and don't report them individually. However, the production data provides a count of the numbers of chickens, ducks, turkeys and other poultry and these will be discussed below.

Chicken meat is grown mostly in Gosford, Wollondilly, Liverpool, Campbelltown and Penrith with some smaller areas of production in Blacktown, Camden, Wyong, The Hills, Fairfield and Hawkesbury. There are a total of 13,779,434 birds grown each year. Gosford is number one in Sydney (39.2%), NSW (18.1%) and Australia (6.9%). Wollondilly is number two in Sydney (12.9%), three in NSW (5.9%) and number eight in Australia (2.3%). Liverpool is number three in Sydney (12.8%), four in NSW (5.9%) and number nine in Australia (2.3%). Campbelltown is number four in Sydney, number five in NSW and number twelve in Australia and Penrith is number five in Sydney, six in NSW and fourteenth in Australia.

Ducks are grown mostly in Liverpool, Wollondilly, Blacktown, Hawkesbury and Camden with some production occurring in Hornsby, Penrith, Gosford and The Hills. A total of 351,244 duck are grown each year. Liverpool is number one in Sydney and NSW and are third equal in Australia Wollondilly is number two in Sydney and NSW and third equal in Australia. Blacktown is number three in Sydney (18.2%) and NSW (16.2%) and fifth in Australia (6.4%). Hawkesbury is number four in Sydney and NSW and six in Australia and Camden is number five in Sydney and NSW and number seven in Australia.

Turkeys are mostly grown in Wollondilly with some in Liverpool, Gosford, Penrith and Camden. A total of 419,898 turkeys are grown each year. Wollondilly is number one in Sydney (74%), NSW (33.4%) and Australia (25.4%). Liverpool is number two in Sydney (9.3%), five in NSW (4.2%) and number eight in Australia (3.2%).

Other poultry includes quail, Guinea fowl and geese and are mostly grown in Hornsby, Fairfield and Liverpool with some in Penrith, Campbelltown, Wollondilly, Blacktown and Wyong. A total of 894,214 birds are grown each year. Hornsby is number one in Sydney

(44.0%) and number three in NSW. Lake Macquarie is number two in NSW (12.9%) and number three in Australia (5.7%). Fairfield is number two in Sydney (24%), number five in NSW and number nine in Australia. Liverpool is number three in Sydney (12.7%), number seven in NSW (2.8%) and number twelve in Australia. Penrith is number four in Sydney, seven in NSW and fifteenth in Australia. Campbelltown is fifth in Sydney, ninth in NSW and sixteenth in Australia.

Egg production occurs mostly in Penrith, Hawkesbury and Blacktown with some in Wollondilly, Camden, Liverpool and Gosford. There are 36,359,934 dozen eggs produced with a value of $77.5 million in the peri-urban area which is 45.6% of NSW and 12.6% of Australia. Penrith is number one in Sydney (42.7%), second in NSW (13.3%) and number four in Australia (4.2%). Hawkesbury is number two in Sydney (22.8%), number four in NSW (7.1%) and eighth in Australia (2.3%). Blacktown is number three in Sydney (11.1%), eighth in NSW (3.5%) and eighteenth in Australia (1.1%). Wollondilly is fourth in Sydney, tenth in NSW and nineteenth in Australia. Camden is number five in Sydney, eleventh in NSW and twenty-two in Australia.

This data has been summarised in Table 2.6 to show the ranking of the top three LGAs in Sydney and the NSW and Australian rankings for each of the industry sectors discussed above. It can be seen that

Table 2.6: Key Industry Sector LGA Ranking

Industry Sector	Sydney Region	NSW	Australia
Nursery	The Hills (1)	The Hills (2)	The Hills (7)
	Hornsby (2)	Hornsby (3)	Hornsby (8)
	Gosford (3)	Gosford (4)	Gosford (9)
Cut Flowers	The Hills (1)	The Hills (1)	The Hills (9)
	Gosford (2)	Gosford (3)	Gosford (11)
	Hornsby (2)	Hornsby (4)	Hornsby (13)
Turf	Hawkesbury (1)	Hawkesbury (1)	Hawkesbury (1)
	Camden (2)	Camden (3)	Camden (8)
	Wyong (3)	Wyong (4)	Wyong (8)
Perishable Vegetables	Hawkesbury (1)	Hawkesbury (1)	Hawkesbury (9)
	Liverpool (2)	Liverpool (4)	Liverpool (24)
	Wollondilly (3)	Wollondilly (6)	Wollondilly (25)
Chicken Meat	Gosford (1)	Gosford (1)	Gosford (1)
	Wollondilly (2)	Wollondilly (3)	Wollondilly (8)
	Liverpool (3)	Liverpool (4)	Liverpool (9)
Ducks	Liverpool (1)	Liverpool (1)	Liverpool (3)
	Wollondilly (2)	Wollondilly (2)	Wollondilly (4)
	Blacktown (3)	Blacktown (3)	Blacktown (5)
Turkeys	Wollondilly (1)	Wollondilly (1)	Wollondilly (1)
	Liverpool (2)	Liverpool (5)	Liverpool (8)
	Penrith (3)	Penrith (9)	Penrith (13)
Other Poultry	Hornsby (1)	Hornsby (3)	Hornsby (4)
	Lake Macquarie (2)	Lake Macquarie (2)	Lake Macquarie (3)
	Fairfield (3)	Fairfield (5)	Fairfield (9)

Eggs	Penrith (1)	Penrith (2)	Penrith (4)
	Hawkesbury (2)	Hawkesbury (4)	Hawkesbury (8)
	Blacktown (3)	Blacktown (8)	Blacktown (18)

Source: (ABS, 2012a)

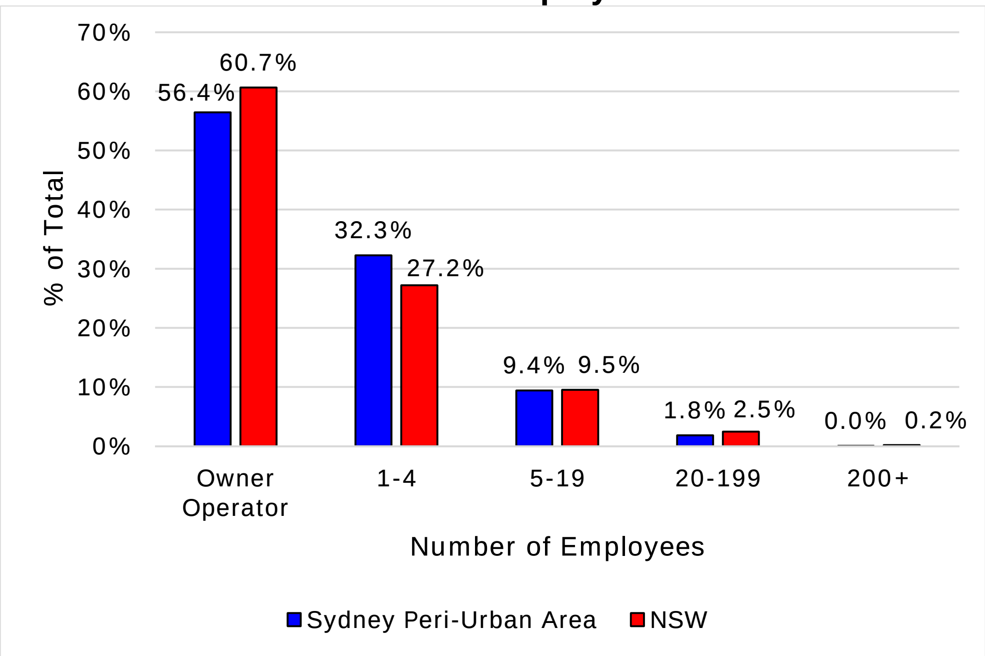
So it can be seen that agriculture production is significant in the Sydney peri-urban area for nurseries, flowers, turf, perishable vegetables, meat chickens, ducks, turkeys, other poultry and eggs.

2.3.3. Businesses

The number of businesses and their type shows the number and range of different businesses in the area. There are a total of 122,495 businesses in the Sydney Peri-Urban area which equates to 5.8% of the total businesses in NSW.

Data has been provided on the number of employees as this will provide an indication of the size of the business. It can be seen from figure 2.1 that the majority of businesses are owner operators (56.4%) and that this is slightly less than for NSW. In the 1 – 4 employees there are 32.3% which is more than NSW an in the 15-19 employees the Sydney Peri-Urban area is the same as NSW and in the 20-199 employees the Sydney Peri-Urban area has 1.8% which is slightly less than NSW.

Figure 2.1: Number of Businesses and Employees



Source: (ABS, 2015b)

Table 2.7 shows the range of business types by employment. It shows that Construction is the number one business type (20%) , followed by professional, scientific and technical services (13%), Rental, hiring and real estate services (10.5%), financial and insurance services (7.7%) and retail trade (6.7%).

Table 2.7: Business Type by Employment Size

Business Type	Sydney Peri-Urban Area					
	Owner Operator	**1-4**	**5-19**	**20-199**	**200+**	**Total**
Agriculture, Forestry and Fishing	4.8%	1.8%	1.9%	1.8%	0.0%	3.5%
Mining	0.1%	0.2%	0.2%	0.7%	0.0%	0.2%
Manufacturing	3.0%	4.3%	7.9%	10.4%	7.1%	4.0%
Electricity, Gas, Water and Waste Services	0.3%	0.3%	0.5%	0.5%	0.0%	0.3%
Construction	18.3%	24.8%	14.8%	11.4%	14.3%	20.0%
Wholesale Trade	3.2%	4.4%	6.1%	7.7%	0.0%	3.9%
Retail Trade	5.2%	7.4%	12.2%	13.3%	7.1%	6.7%
Accommodation and Food Services	1.7%	4.2%	11.4%	12.4%	42.9%	3.6%
Transport, Postal and Warehousing	6.1%	6.4%	3.8%	3.6%	0.0%	5.9%
Information Media and Telecommunications	1.0%	0.8%	0.5%	0.5%	0.0%	0.9%
Financial and Insurance Services	10.9%	4.1%	1.7%	0.8%	7.1%	7.7%
Rental, Hiring and Real Estate Services	15.7%	3.6%	4.6%	2.5%	0.0%	10.5%
Professional, Scientific and Technical Services	11.9%	16.1%	9.7%	6.9%	0.0%	13.0%
Administrative and Support Services	3.7%	4.2%	4.2%	7.0%	7.1%	4.0%
Public Administration and Safety	0.4%	0.6%	0.6%	0.9%	0.0%	0.5%
Education and Training	1.4%	1.3%	2.8%	3.4%	7.1%	1.5%
Health Care and Social Assistance	5.2%	6.3%	9.1%	10.6%	7.1%	6.0%
Arts and Recreation Services	1.6%	1.1%	1.3%	1.6%	0.0%	1.4%
Other Services	3.4%	6.7%	5.5%	2.7%	0.0%	4.7%
Unknown	2.2%	1.4%	1.2%	1.3%	0.0%	1.8%
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source:(ABS, 2015b)

2.3.4. Building Approvals

Building approvals show the strength of an economy as the construction industry is a key contributor to the economic value chain. The construction of buildings provides jobs before the construction begins (planners, architects, engineers, draftsmen, surveyors etc.) as well as during the construction of the buildings (tradesmen, building surveyors, surveyors, building suppliers, hardware stores, etc.) and after construction (furniture, appliances, interior designers, etc.). So it can be seen that the strength of building approvals is a key indicator of the size of a local economy.

The value of building approvals in 2013-14 was $4.69 billion which is 17.4% of the Sydney Region and 22.7% of NSW total building approvals. This shows the significance of the peri-urban area to the Sydney region as well as the whole of NSW. The value of each LGAs building approvals is outlined in table 2.8 where it can be seen that Penrith has the highest value with $713.34 million and 15.2% of the total value. This is followed by Liverpool ($712.54 million / 15.2%) and The Hills ($689.43 million / 14.7%).

Table 2.8: Value of Building Approvals

LGA	2013-14	% of Total
Blue Mountains	$114,340,000	2.4%
Camden	$539,296,000	11.5%
Gosford	$291,888,000	6.2%
Hawkesbury	$114,128,000	2.4%
Hornsby	$419,156,000	8.9%
Kiama	$26,956,000	0.6%
Lithgow	$40,319,000	0.9%
Liverpool	$712,535,000	15.2%
Penrith	$713,336,000	15.2%
Shellharbour	$189,072,000	4.0%
Shoalhaven	$437,773,000	9.3%
The Hills	$689,429,000	14.7%
Wingecarribee	$96,236,000	2.1%
Wollondilly	$108,141,000	2.3%
Wyong	$195,510,000	4.2%
Peri-Urban Area	**$4,688,115,000**	**100.0%**
Sydney Region	$26,984,915,000	17.4%
NSW	$20,659,109,000	22.7%

Source: (.id The Population Experts, 2015)

2.3.5. Place of Work

The place people work is a measure of the number of people who leave the LGA every day. The distances can be far and in a lot of cases it can be as far as the Sydney CBD. It can also have an impact on the commuting time of residents, especially if they drive a car, which the majority of them do as driver. It is also an indicator of the provision of local jobs as well as the proximity to the metropolitan area.

> *"The distance travelled by residents in different industry sectors may be influenced by; the nature of employment opportunities versus the skills and qualifications of local residents; transport options available and commuting times; relationship between wages and salaries and house prices in the local area; and the geographic size of the local area." (.id The Population Experts, 2015)*

This correlates to the data on place of work as shown in figure 2.2 which shows that for the whole peri-urban area, 39% of people worked locally and 49% worked in other LGAs. The highest percentage of working locally is Shoalhaven (79%) followed by Lithgow (76%) and Wingecarribee (69%). The highest proportion of people who work outside the LGA is Hornsby (64%) followed by The Hills and Camden with 61%. It can be seen that the LGAs which are the furthest away from the Sydney CBD have the most proportion of local jobs whilst those closer to the CBD have the least.

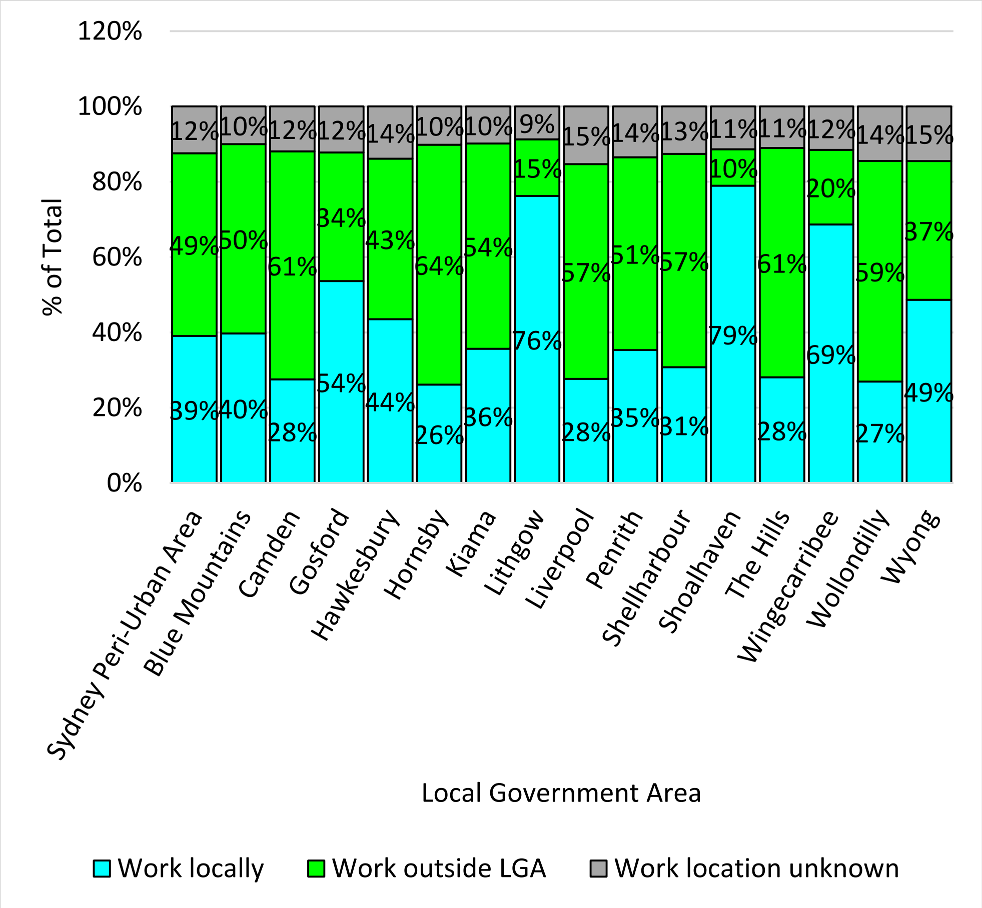


Figure 2.2: Place of Work
Source: (.id The Population Experts, 2015)

2.4. Demographics

The demography of the peri-urban area is distinctive and different from the Sydney Region as a whole. The following discussion outlines a snapshot of the demography of the peri-urban area. It compares the peri-urban area, rural lands and Sydney region. It should be noted that the land use of the rural lands is between 60% and 80% rural residential. It should be noted that the peri-urban area data is the total for each LGA and includes urban and rural land with the majority of the people being urban.

The population pyramid has a distinctive hour glass shape to it, which represents a high proportion of children in the 0-15 year olds and a high proportion of adults in the 35-54 year old cohort, who are the parents of the children. This can be seen from figure 2.3. It is the opposite of the Sydney region which is shown as figure 2.4.

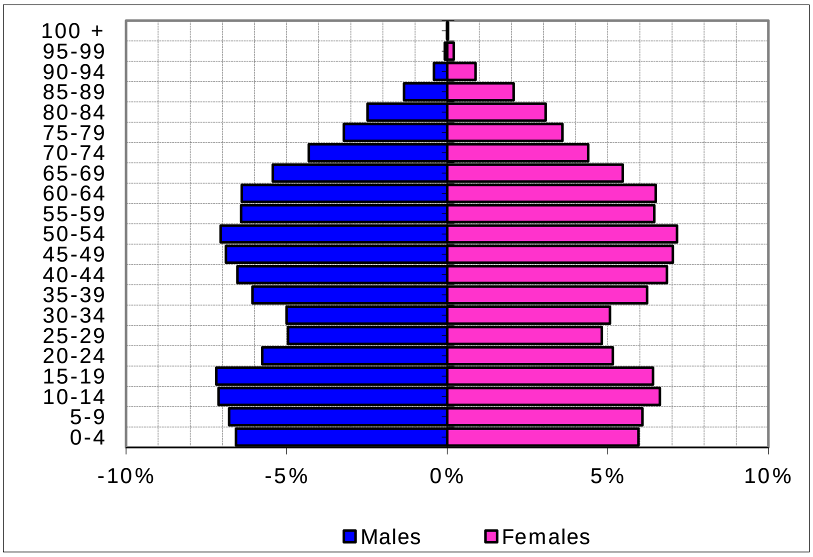


Figure 2.3: Population Pyramid Peri-Urban Area
Source: (ABS, 2012c)

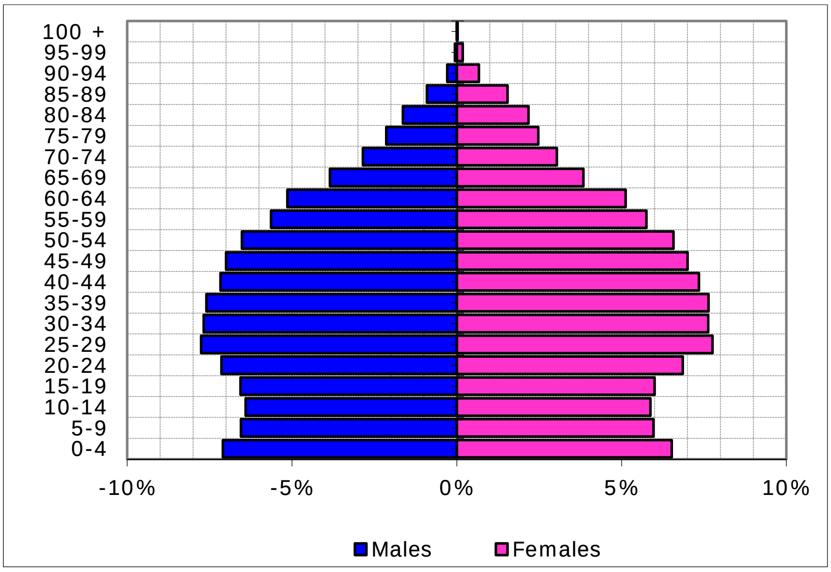


Figure 2.4: Population Pyramid Sydney Region

The differences between the age cohorts for the rural, peri-urban area and Sydney region can be seen on figure 2.5. The rural lands have more 5-19 year olds and 45-69 year olds. The Sydney region has more 0-4 and 25-44 year olds and the peri-urban areas have more 75 year olds and over.

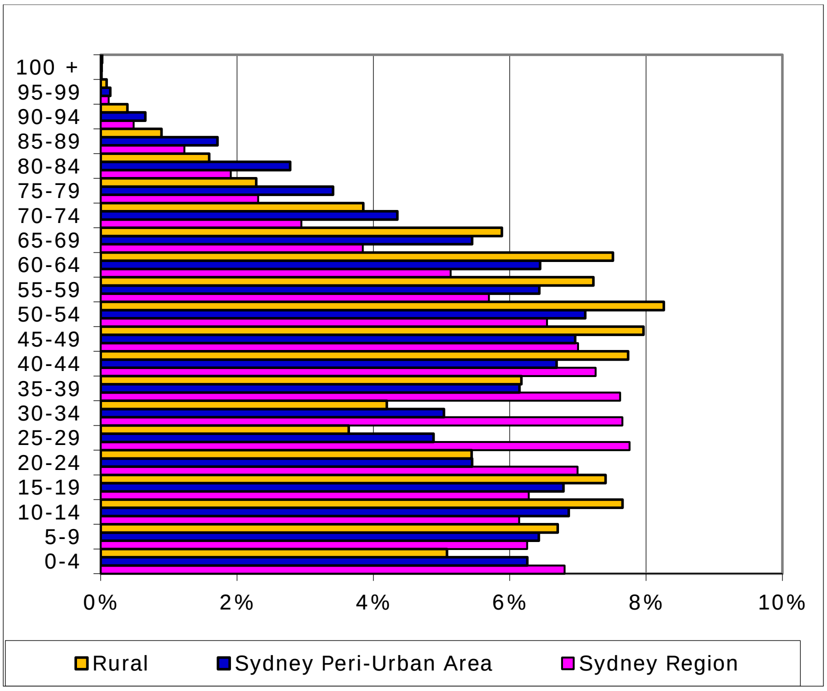


Figure 2.5: Age Comparison

The ethnicity of the area can be seen from the proportion of people form a non-English speaking background (NESB). It can be seen from figure 2.6 that the Sydney region has the most NESB people followed by the rural areas and then the peri-urban area as a whole.

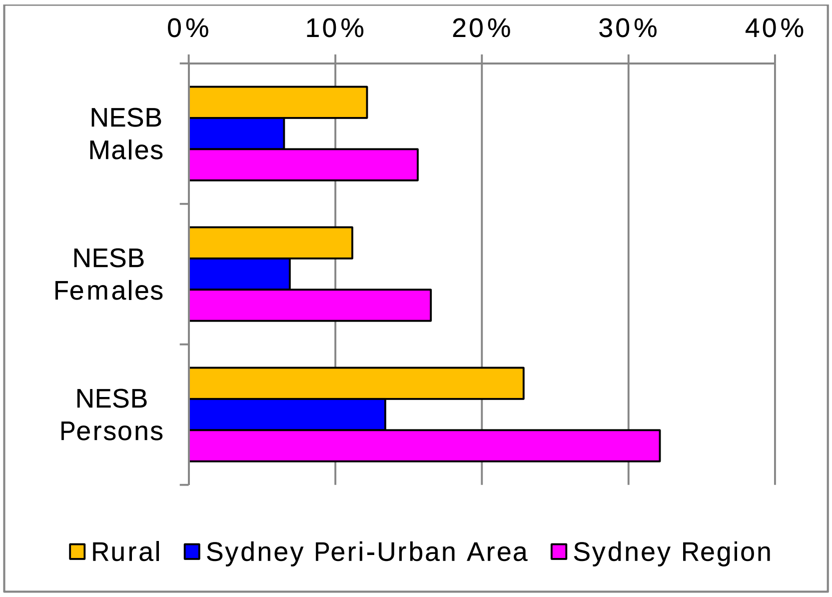


Figure 2.6: Non-English Speaking Background

The education establishment being attended b students is shown in figure 2.7. It can be seen that the rural and peri-urban area as a whole have more students attending pre-school, infants / primary school and secondary school and the students attending TAFE are similar. There are more university and other educational students in the Sydney region.

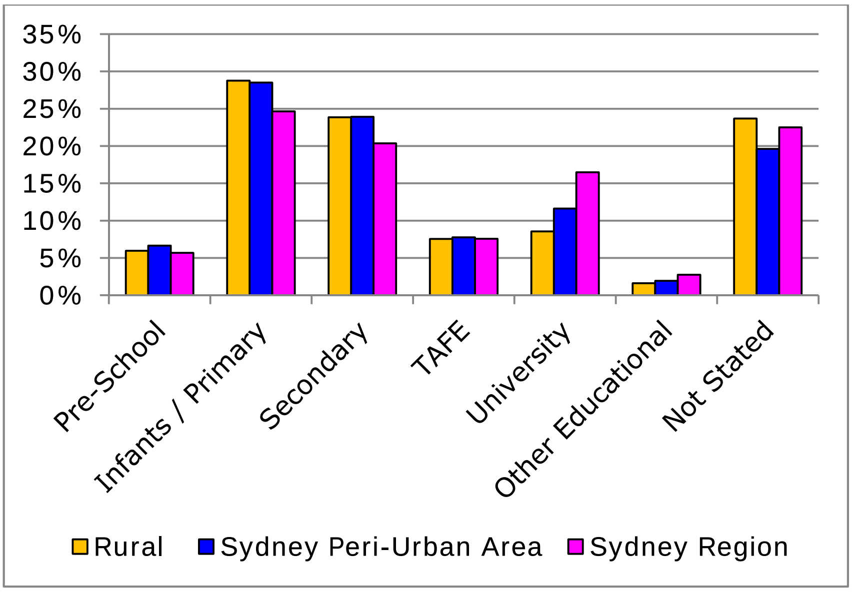


Figure 2.7: Education Establishment

People living in the rural lands do more voluntary work than people living in the peri-urban area and the Sydney region as a whole. This can be seen from figure 2.8

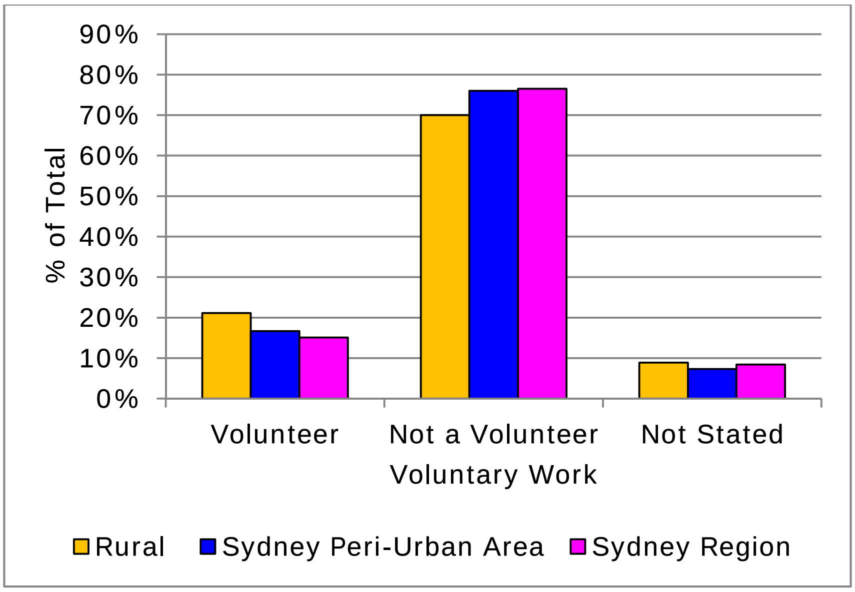


Figure 2.8: Volunteering

Family composition is shown in figure 2.9. This shows that there are more people living in the rural area who are a couple with no children and also a couple with children over 15. There are slightly more couples with children under 15 in the Sydney region and slightly more single parent families with children under 15 in the peri-urban area but slightly more single parent families which children over 15 in the Sydney region.

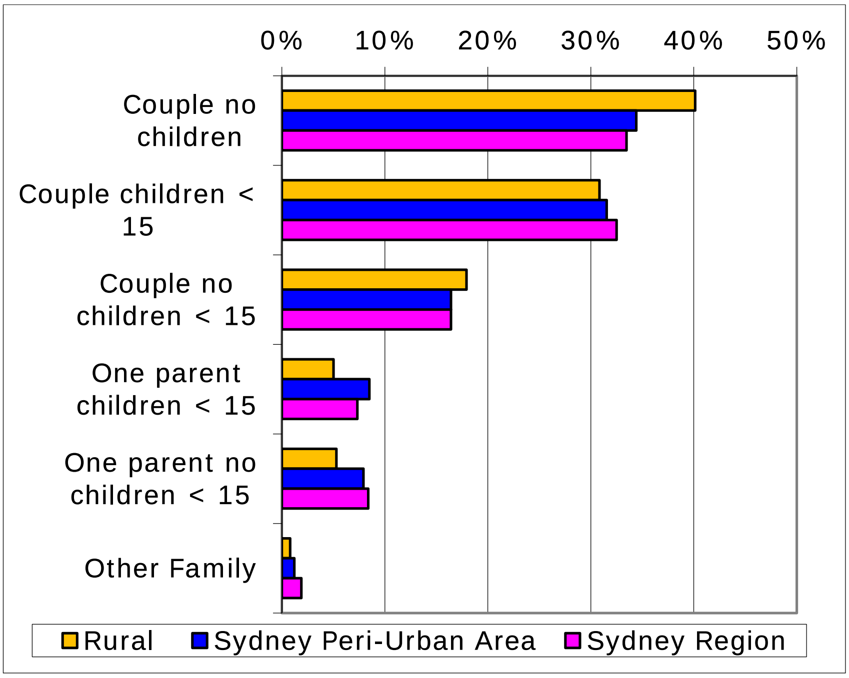


Figure 2.9: Family Composition

The range of weekly income is shown in figure 2.10 and it can be seen that the rural dwellers have less in the income range less than $999 per week and more people with income of greater than $1,000 per week. The peri-urban area and Sydney region have the same in each of the income ranges.

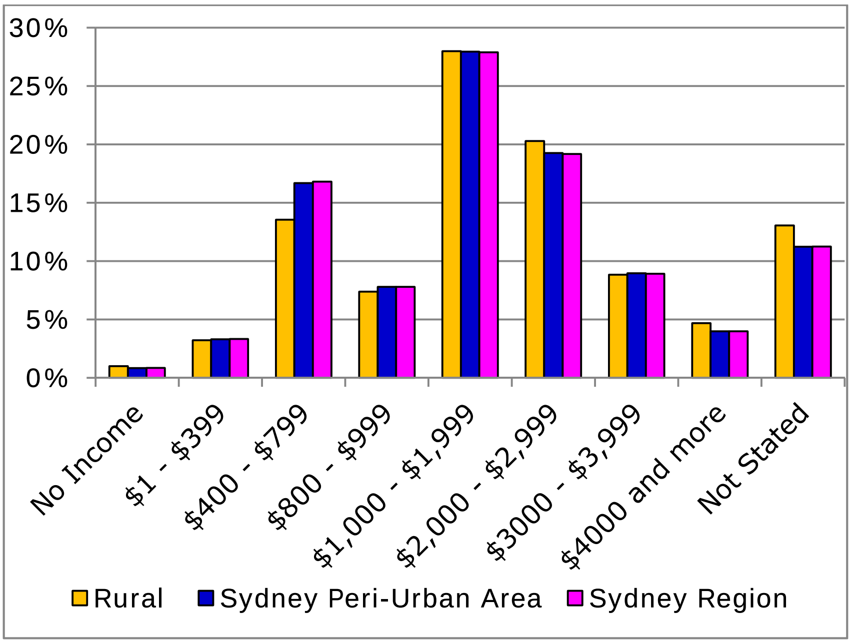


Figure 2.10: Family Weekly Income

The Sydney region has more properties with none or one motor vehicles than the peri-urban area and rural land but the rural areas have more properties with two or more motor vehicles then the peri-urban and Sydney region, as can be seen from figure 2.11.

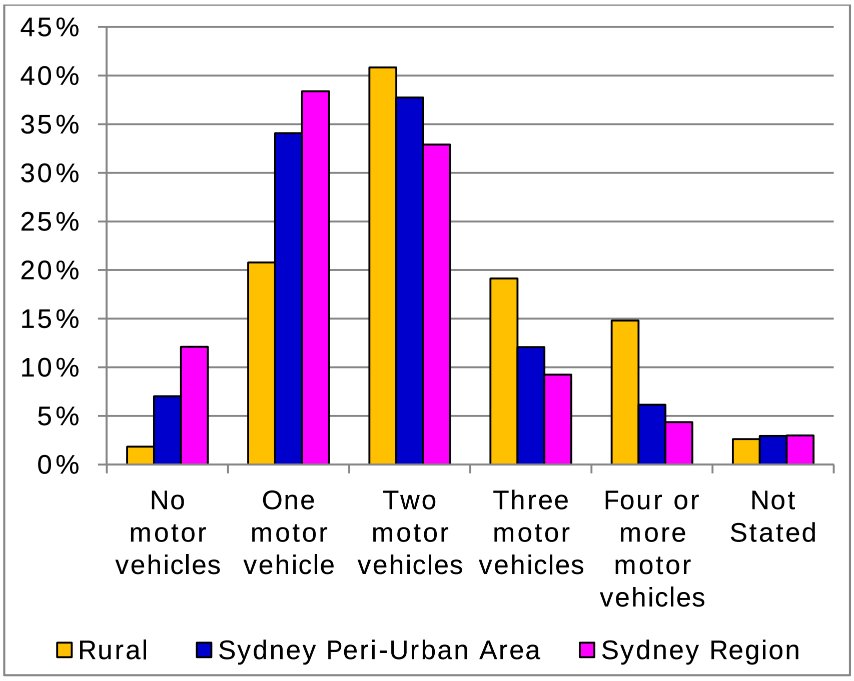


Figure 2.11: Number of Motor Vehicles

The dwelling structure data shows that there are more detached dwellings or separate houses in the rural area than the peri-urban and Sydney region. There are more unoccupied dwellings in the rural area than the peri-urban and Sydney region has the lowest proportion of unoccupied dwellings. This can be seen from figure 2.12.

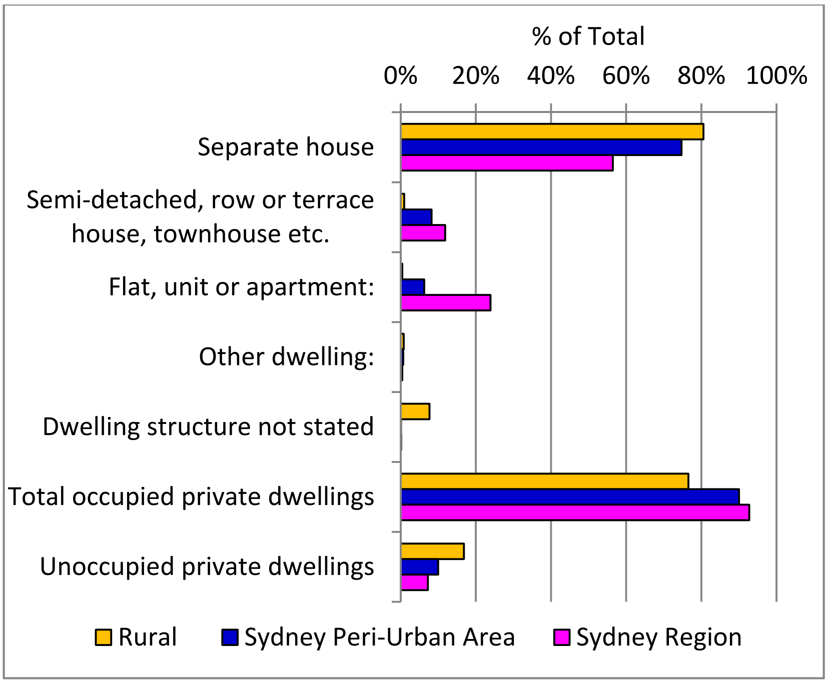


Figure 2.12: Dwelling Structure

Figure 2.13 shows that there are more dwellings in the rural area that are owned outright and with a mortgage and less rented. It is the opposite for the Sydney region and the peri-urban area is between both.

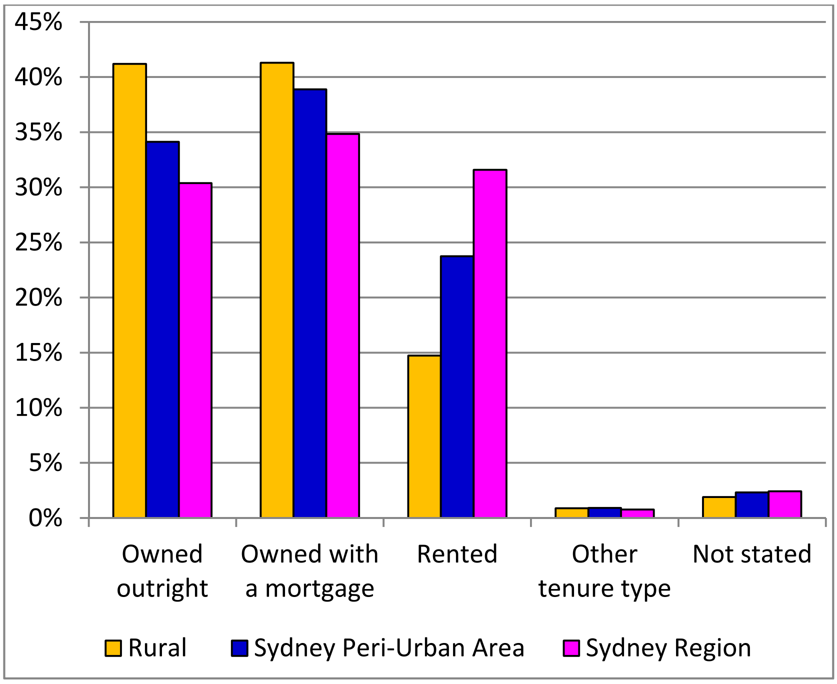


Figure 2.13: Dwelling Tenure

People living in the Sydney region have more two bedroom dwellings than the peri-urban and rural areas and the peri-urban area has more three bedroom and the rural land has more for and more bedroom houses than the peri-urban and Sydney region, as can be seen from figure 2.14.

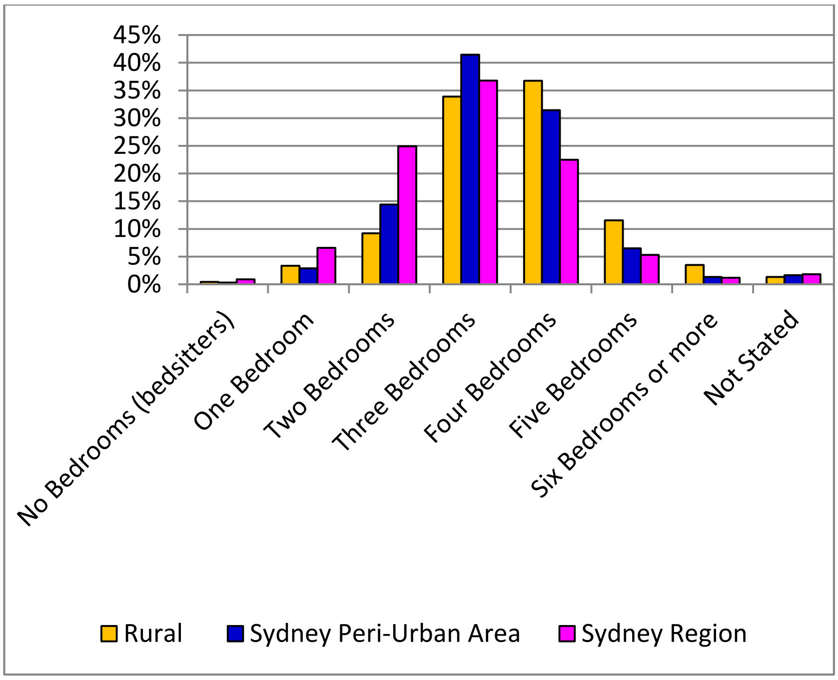


Figure 2.14: Number of Bedrooms

People living in the rural and peri-urban areas have more mortgages less than $999 and the peri-urban area as a whole has more in the $1,000 to $2,399. The Sydney region has slightly more than the peri-urban area of $2,400 to $2,999 and the rural area has slightly more mortgages of $3,000 and more with the peri-urban having considerably less. This can be seen from figure 2.15.

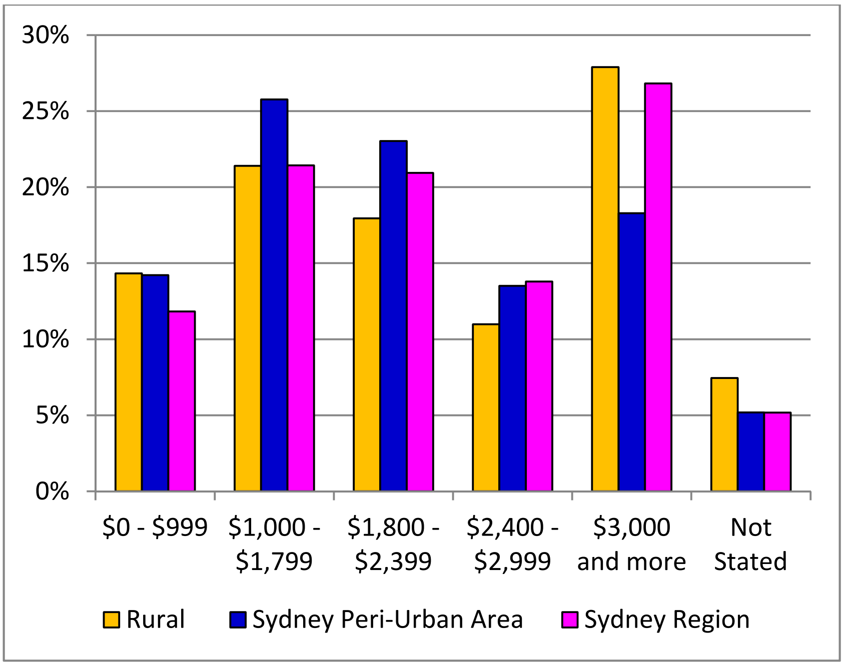


Figure 2.15: Mortgage Repayments

Internet connection is mostly broadband and as can be seen from figure 2.16 there are slightly more dwellings in the rural area that have broadband and also which have more internet connections. The Sydney region is next with the peri-urban area having the least internet connections.

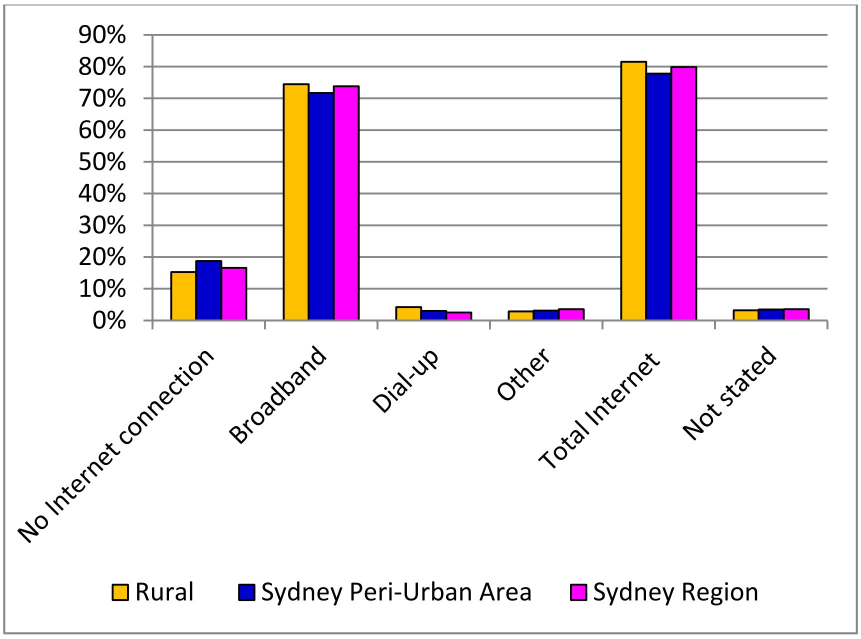


Figure 2.16: Internet Connection

Figure 2.17 shows the mobility of the population and it can be seen that the people living in the rural area move nearly as much as the Sydney region. People living in the wider peri-urban area are the least mobile.

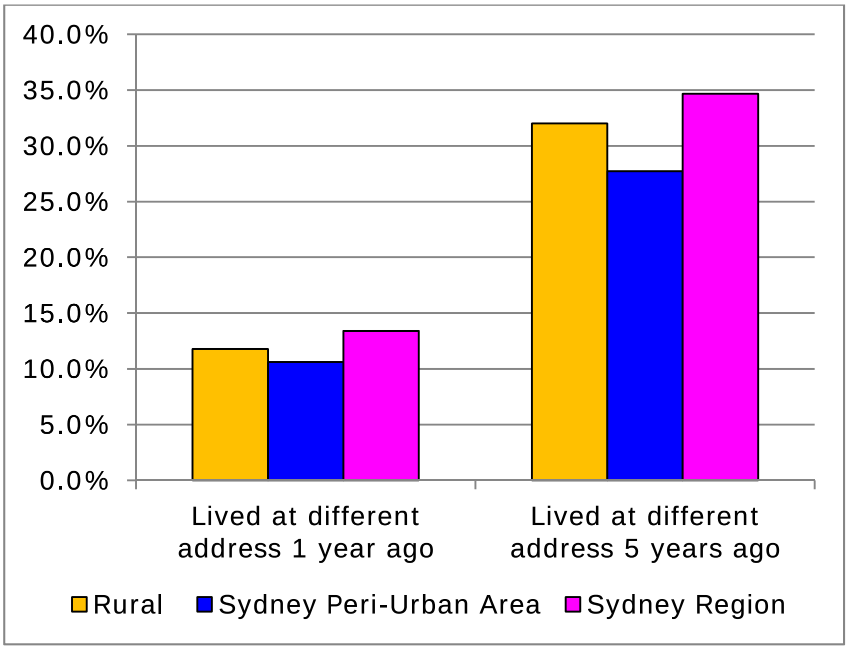


Figure 2.17: Mobility of population

The level of qualification is shown in figure 2.18 and it can be seen that there are more people with postgraduate, graduate diploma and bachelor degrees in the Sydney region and the least is in the rural areas. There are more people with a certificate qualification in the rural lands. This suggests that there are more tradesmen in the rural areas which is logical as this is where they can park their trucks as they are not permitted in the urban areas.

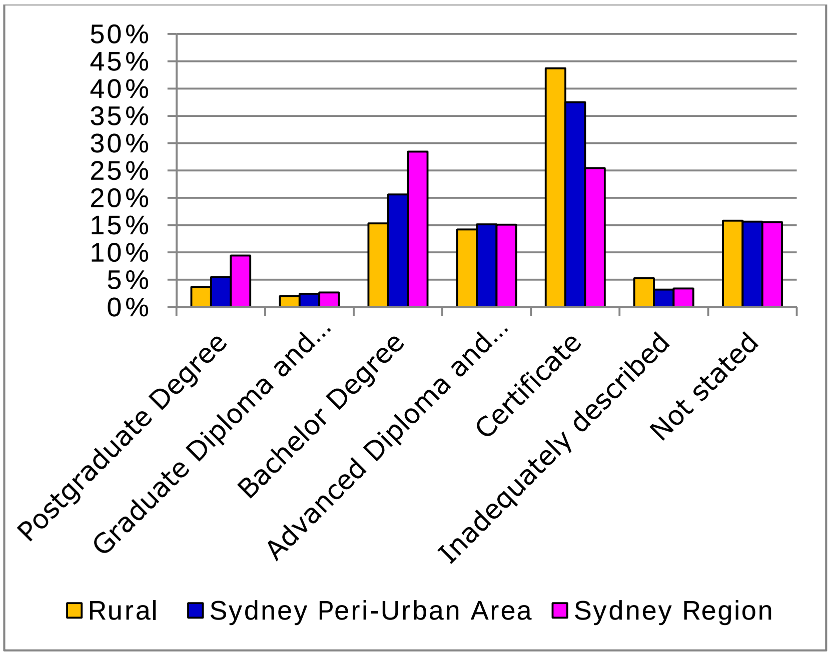


Figure 2.18: Qualification

The industry sectors of employment can be seen from figure 2.19 and table 2.9 and the top five industry sectors for the rural, peri-urban and Sydney region can be seen from table 2.10. It can be seen that the top five sectors are the same for the rural and peri-urban areas and same as the top four for the Sydney region and number six is construction. Agriculture is number six at 6.2% of the rural population.

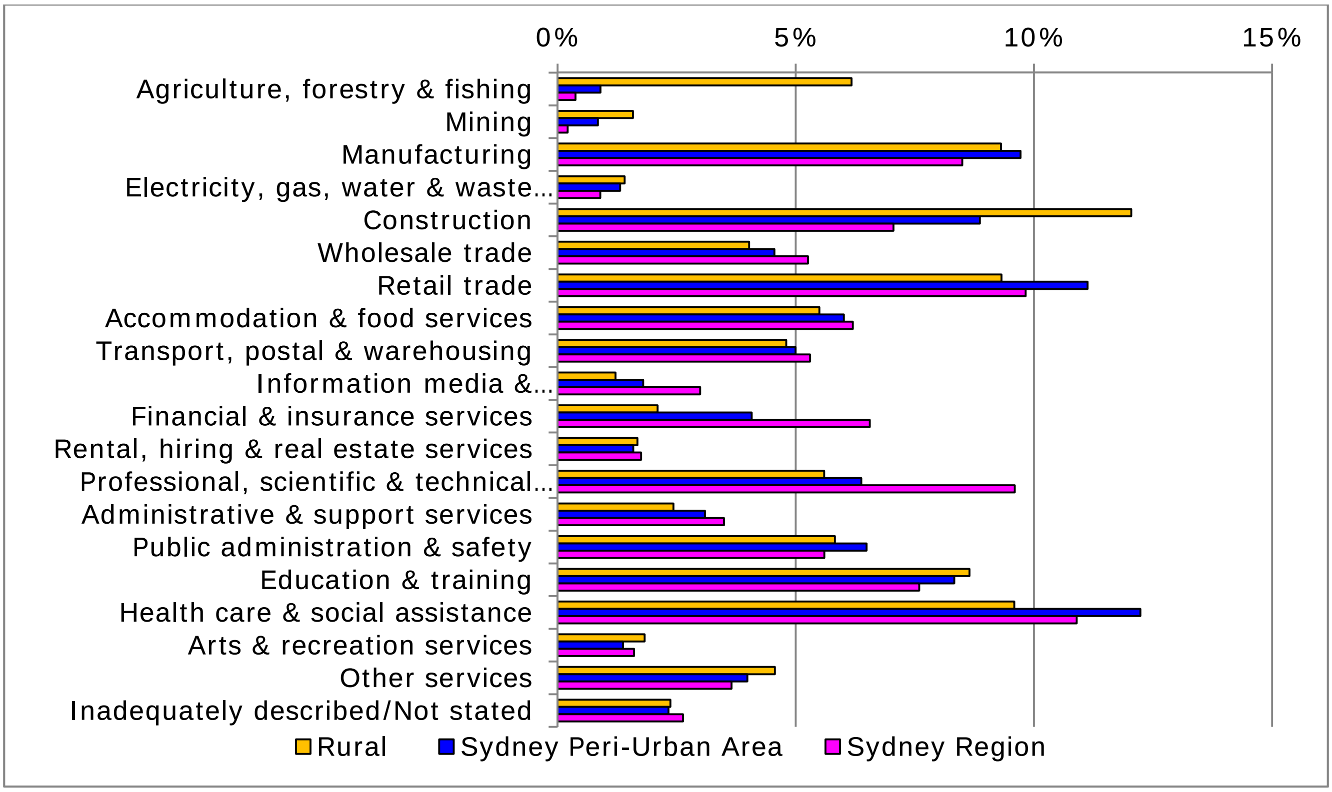


Figure 2.19: Employment

Table 2.9: Employment

Industry Sector	Sydney Peri-Urban Area	Rural	Sydney Region
Agriculture, forestry & fishing	1.6%	6.2%	0.4%
Mining	1.1%	1.6%	0.2%
Manufacturing	9.2%	9.31%	8.5%
Electricity, gas, water & waste services	1.4%	1.4%	0.9%
Construction	9.9%	12.0%	7.1%
Wholesale trade	3.4%	4.0%	5.3%
Retail trade	11.8%	9.32%	9.8%
Accommodation & food services	7.2%	5.5%	6.2%
Transport, postal & warehousing	4.5%	4.8%	5.3%
Information media & telecommunications	1.6%	1.2%	3.0%
Financial & insurance services	2.6%	2.1%	6.6%
Rental, hiring & real estate services	1.7%	1.7%	1.8%
Professional, scientific & technical services	5.1%	5.6%	9.6%
Administrative & support services	3.2%	2.4%	3.5%
Public administration & safety	7.1%	5.8%	5.6%
Education & training	7.8%	8.6%	7.6%
Health care & social assistance	12.9%	9.6%	10.9%
Arts & recreation services	1.5%	1.8%	1.6%
Other services	4.1%	4.6%	3.7%
Inadequately described/Not stated	2.2%	2.4%	2.6%
Total	**100.0%**	**100.0%**	**100.0%**

Table 2.10: Top Five Industry Sectors

Rural	Peri-Urban Area	Sydney Region
Construction	Health Care and Social Assistance	Health Care and Social Assistance
Health Care and Social Assistance	Retail Trade	Retail Trade
Manufacturing	Manufacturing	Professional, scientific and technical services
Retail Trade	Construction	Manufacturing
Education and Training	Education and Training	Education and Training

The occupation of the workforce can be seen in figure 2.20 and it can be seen that the rural area has the most managers and the Sydney region has the most professionals. Technicians and trades are the highest in the rural lands and lowest in the Sydney region. The peri-urban area has the most clerical and administrative as well as sales. Most machinery operators and labours live in the rural areas.

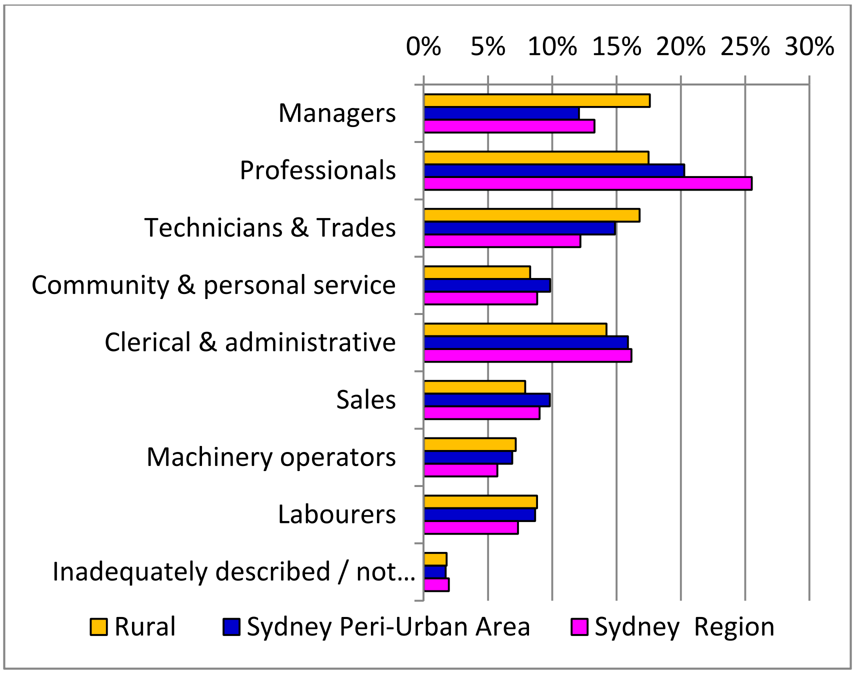


Figure 2.20: Occupation

The rural area has more than double the proportion of people who worked from home than the wider peri-urban area and the Sydney region, as can be seen from figure 2.21

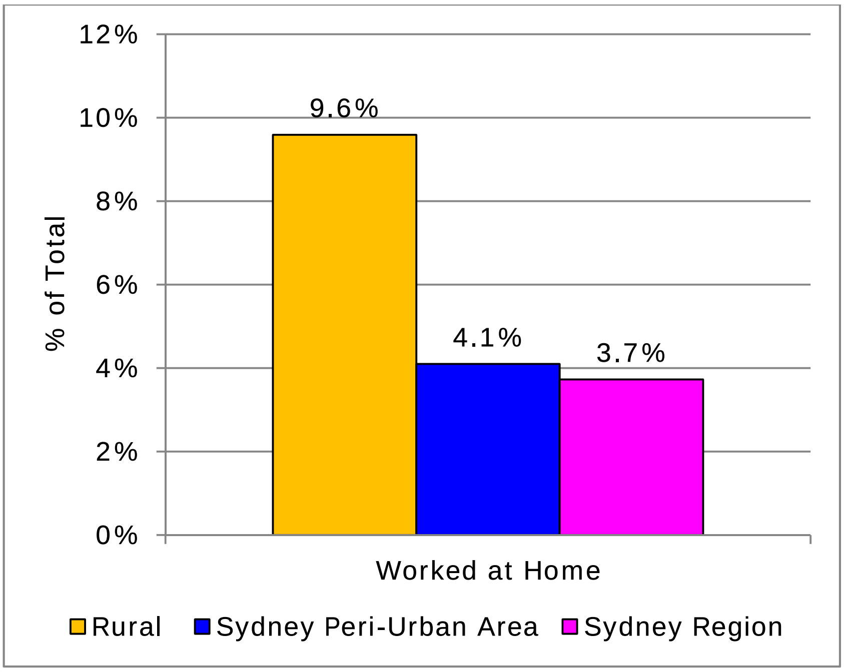


Figure 2.21: Worked at Home

Chapter 3: Issues

3.1. Introduction

The issues that have to be considered for the future of the peri-urban area can be grouped into two broad headings of:

- Environmental Opportunities and Constraints
- Social and Economic Factors

Underlying all of the issues are the philosophies of Ecologically Sustainable Development (ESD) and Catchment Management (CM). It is shown graphically in figure 2.1. The figure illustrates the interconnectedness of the issues and the fact they all must be considered in relation to each other and cannot be considered in isolation.

All three are interrelated and have to be considered as such. The environment in which we live has to be treated carefully so we can ensure it is left in a good state for the future generations. However, for there to be future generations, we must have settlements in which to live – be they urban areas or rural residential use or in houses scattered throughout the countryside. If we are going to live in an area, there also must be a market economy. There is a need to find the balance between these three so we can have a sustainable future and can leave an intact environment to the future generations.

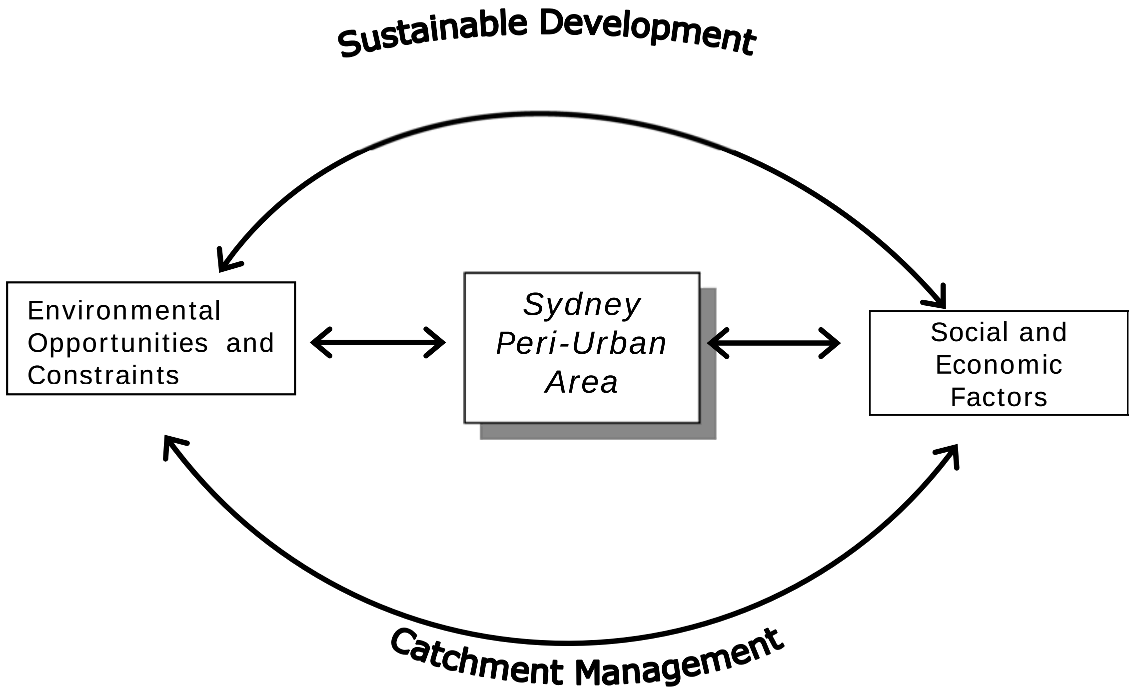


Figure 3.1: Issues and Themes
Source: (Ian Sinclair, 2002)

One aspect of the issues is their complimentary complexity. This was a term that was used to describe the outcomes of a workshop held in 2004 at the University of Western Sydney titled "From the Outside Looking In – The Future of Sydney's Rural Land" that looked at the many values of the rural lands of Sydney and was focused on the peri-urban area. This workshop concluded as follows

> *"...that there was a need to consider the land for its own values and not just land in waiting for urban development. There is a need to consider it from the outside looking in and not the inside looking out. By doing this we can grow food and grow houses and have a more sustainable future."* (Ian Sinclair, Docking, Jarecki, Parker, & Saville, 2004)

3.2. Peri-Urban Area Issues

As discussed in section 1.3, the list of key issues for the Sydney Peri-urban Councils is as follows:

- Agriculture
- Rural Subdivision pressure
- Land use conflict
- Rural Villages
- Urban development – expansion and density
- Infrastructure
- Physical Constraints
- Economic Development
- Rural Character
- Environment

The following sections discusses in brief, the issues that affect the peri-urban area. It is not intended to be a detailed discussion of each one, merely a brief outline of the issue and why it is important for the peri-urban area. They have been ranked to reflect the Key issues and themes. Other issues that flow on from the key issues and help to describe the complimentary complexity of the issues have been discussed as well.

3.2.1. Agriculture

Agriculture is a significant land use in the peri-urban area. This has been highlighted in section 2.3.2. Photo 3.1 shows the Richmond Lowlands and Pitt Town Bottoms area of Hawkesbury where a significant amount of perishable vegetables are grown on the rich alluvial soils. Photo 3.2 shows some of the chicken meat farms in Upper Mangrove in the Gosford LGA which is the number one chicken meat producing LGA in Australia.

Agriculture has been grown on the fringe of Sydney since the early days of settlement. However it has been continually paved over as the city has expanded. The first metropolitan wide plan for Sydney was prepared in 1948 and was called the County of Cumberland Plan. Professor Denis Winston made the following observations about the peri-urban agriculture in a book about the plan published in 1957 which is reproduced below:

> *"The County is a small area and not particularly rich from the growing point of view, yet in 1947 it produced three-quarters of the State's lettuces, half the spinach, a third of the*

> *cabbages and a quarter of the beans; 70 percent of the State's poultry farms were in the County and more than 18 percent of Sydney's milk came from the County; the preservation of the farms and market gardens is therefore of considerable importance for the well-being of Sydney as well as for the economy of the State. Rural production in the county has always played an important part in supplying food for Sydney, the advantages of proximity to the largest market in Australia more than compensating for the somewhat poor soil conditions." p 49 (Winston, 1957)*

There are many reasons why agriculture is located in the peri-urban area and the commodities and their significance have been outlined in section 2.3.2. Suffice to say they include proximity to market, good soils and water. The continuation of agriculture in Sydney's peri-urban area is seen as important because of the climate change scenarios for the inland NSW area not conducive to relocating it to those regions.

The main issue for the future of agriculture is related to the attitude of the community and government to it as 'land in waiting for subdivision'. Food has always been grown on the fringe of urban areas but the land has not been treated as a legitimate land use because it has always been seen as being able to change to another use such as rural residential, urban or other non-agricultural land uses. This has been described as 'the impermanence syndrome.

> *"The impermanence syndrome is defined as the shortening of farmers' planning horizons. Urban fringe farmers are said to be reluctant to invest in their farming operations, due to concerns about the minimal salvage value of such investments at the time of ultimate sale, which is almost always for development" (Lopez, Adelaja, & Andrews, 1988)*

Photo 3.1: Richmond Lowlands and Pitt Town Bottoms

Photo 3.2: Poultry Farms Upper Mangrove

This impermanence syndrome can be overcome by introducing market based mechanisms and economic development tools. Kiama Council are have introduced some innovative programs as follows:

- Local restaurants are using locally produced food. They have a food industry dinner in May. The Pines Dairy and Buena Vista farm visits are examples of this. There are also a number of growers supplying seasonal fruit and vegetable to restaurants and cafes. Little Blowhole Cafe does this. Crooked River winery has some local food. There are some local people who are committed foodies. The Gerringong Tea House uses tea which is grown at nearby Foxground.
- They have a farmers market on Wednesdays from 3 pm to 6pm.
- Council has formed an agri-project team to assess development applications for agriculture which includes the planning and economic development functions of Council.

Other ways of addressing the impermanence syndrome is as follows:

- Consider agriculture as a constraint when considering land for other uses
- Set a dollar value for land for agriculture and this will help to preserve it in the community's mind.
- There is potential to encourage third-party use of agricultural lands by leasing it for agricultural purposes
- Introduce farmland rating and assess it using profitability criteria such as is done by Kiama Council;
- Relate fresh food provision to health programs
- Promote agri-tourism such as Hawkesbury Harvest
- Encourage urban agriculture such as community gardens to be required in new subdivisions in a similar fashion to ‘pocket parks’

- Recognise that there is a need to introduce a suite of mechanisms to protect agriculture and that zoning alone will not lead to the preservation of agriculture in the peri-urban areas. This needs to address, policy and regulation, market based mechanisms an incentives, economic development, infrastructure, community engagement, communication and education (Ian Sinclair & Bunker, 2012)
- Building resilience of Sydney's food system. SPUN has partnered with the Institute for Sustainable Futures at the University of Technology Sydney and received a grant from Local Government NSW and the Office of Environment and Heritage to prepare a map of 'food sheds' – land areas that could potentially feed peri-urban and regional centres in selected councils in Western Sydney. The project will build resilience of Sydney's food system to climate change by giving local government new quantitative tools and processes for assessment of the roles, functions and values that local agriculture can play. The food sheds maps produced in this project have a potential role to play in shifting community attitudes.

3.2.2. Rural Residential development

The rural land use mix is a good indicator of peri-urban areas and it is the prevalence of rural residential development which is the indicator. A definition has been devised and which is from a chapter from a recent planning text and is as follows:

> *"The residential use of rural land is called rural residential development; that is, people live on rural lots, but use the land primarily for residential rather than agricultural purposes. Although some engage in 'hobby farming', most derive the principal source of their income from pursuits not carried out on the land. The main distinction between urban housing and rural residential housing is bigger lot size and larger distances between dwellings. This creates a sense of openness and of living in the landscape rather than in an urban area. Rural residential dwellings are often large (up to 1000 to 2000 square metres in floor area). They can be found in clusters of new houses and are often mixed with intensive plant and animal uses, which invariably leads to rural land-use conflict (Sinclair et al. 2004). They can have varying degrees of native vegetation cover, from totally covered to totally cleared. This has been termed 'rural sprawl' (Daniels & Daniels 2003) because of its pervasiveness over the rural landscape, particularly adjoining the metropolitan areas as well as large cities and towns.*
>
> *Rural residential development can be divided into two main categories: rural fringe and rural living. Rural fringe development is characterised by single detached houses and dual occupancies on lot sizes of approximately 4000 square metres to two hectares laid out in an estate. This estate usually joins or is in close proximity to an urban area.*
>
> *Rural living, on the other hand, features single detached houses and dual occupancies on lot sizes between one hectare and 40 to 100 hectares and can adjoin farmland or vegetated areas (it should be noted that there are sometimes lots of less than one hectare). People living on these lots use the land primarily for residential purposes, although they may graze some cattle or have horses. This requires lot sizes of more than two hectares if land degradation is to be avoided. The lots do not adjoin townships or villages and are scattered throughout the rural landscape." (Ian Sinclair & Bunker, 2012)*

Photo 3.3 shows rural fringe development at Grassmere in Camden and photo 3.4 shows rural living development at Exeter in Wingecarribee Shire.

Photo 3.3: Rural Fringe Rural Residential Development

Photo 3.4: Rural Living Rural Residential Development

It is the combination of rural living and rural fringe that defines the extent of rural residential as an indicator for the peri-urban area.

Land use surveys carried out by Edge Land Planning show that the land use mix for rural lands is dominated by rural residential development. The Western Sydney Land Use Study carried out in 2003 for the LGAs from The Hills to Blue Mountains to Camden and Campbelltown as well as Fairfield and Blacktown shows that rural residential accounted for 78.3% of the rural land use. The proportion is similar for o ther peri-urban Councils as can be seen from the following selected areas:

- Mudgee (now part of Mid-Western): 55.3%
- Wingecarribee: 66.2%
- Kiama: 62.3%
- Blue Mountains: 78.8%
- The Hills: 84.5%
- Hawkesbury: 83.1%
- Port Stephens: 78.7%

Source: (Edge Land Planning, 2003a, 2003b, 2011)

It can therefore be estimated that the land use for the peri-urban area would be between 60% and 80% rural residential.

Rural residential development is an issue because it causes land use conflict as well as creating demands on infrastructure. It also causes the price of land to rise because of the desire of people to live in a rural area. This is an increasing trend and it is not just felt on the edge of Sydney, it is being experienced in all areas where there is a strong growth – mostly coastal and peri-urban areas all around Australia. It is also a significant issue in developed nations around the world.

3.2.3. Land Use Conflict

Rural land use conflict is one of the most significant issues facing food production. It has been defined by Learmonth et al as follows:

> *"Land use conflict occurs when there is a disagreement or dispute as to the use of land and / or a feeling that a person's s rights or well-being or the rights of the environment are being threatened by an action or undertaking of another or the inaction of another."* (Learmonth, Whitehead, Boyd, & Fletcher, 2007)

It occurs when there is a difference of opinion about the values placed on the use of the land, which can be basically grouped into agricultural or non-agricultural (usually residential, but increasingly other urban type uses are being introduced). In most cases it occurs when people move into a dwelling or build a dwelling on land (small and large lots) which is either adjacent to or near to an operating farm - these can be intensive and extensive agricultural operations. The resident will experience a loss of amenity due to either noise, odour, dust, night time activities, spray drift, etc. The environmental legislation governing pollution is based on an urban situation and one that assumes that all pollution can be contained within the boundaries of the land. Noise pollution is a case in point. The noise pollution legislation says that if the noise being emitted is higher than 5 DbA than the ambient noise level, the operation is in breach of the noise pollution legislation. If the neighbour complains, the local Council can require the farmer to bring the noise down to the required level. This can often force farming operations to be restricted to certain hours, thus reducing the intensity and duration of the nuisance. But such restrictions can in turn force farmers either to move or to cease farming, which accelerates the conversion of land to rural residential purposes. It could be said that the legislation benefits the complainant and not the producer because its target levels have been set for an urban situation, not a rural one. (Ian Sinclair & Bunker, 2012)

Land use conflict typically occurs when there is a fragmented ownership pattern as occurs in Hawkesbury LGA particularly in areas like Oakville – Maraylya which have seen the intrusion of rural residential development into existing farming areas, which causes conflict. This can be seen from photo 3.5 which shows poultry farms, market gardening and rural residential development adjoining each other.

Photo 3.5: Incompatible Land Uses

3.2.4. Economy

The significance of the peri-urban economy has been discussed in section 2.3. It shows that the area is a significant part of the Sydney and NSW economy.

The economic drivers of the peri-urban areas are diverse. They can be categorised into public and private sector. They can be most easily described using the industry of employment categories and business counts. The public sector includes the following sectors:

- Administrative and support services
- Public administration and safety
- Education and training
- Health care and social assistance
- Arts and recreation services
- Electricity, gas, water and waste services

The private sector economic drivers include the following sectors:

- Agriculture, forestry and fishing
- Mining
- Manufacturing
- Electricity, gas, water and waste services
- Construction
- Wholesale trade

- Retail trade
- Accommodation and food services
- Transport, postal and warehousing
- Information media and telecommunications
- Financial and insurance services
- Rental, hiring and real estate services
- Professional, scientific and technical services

The top five economic drivers for the peri-urban area as drawn from the employment and business databases are as follows:

- Construction
- Professional Scientific and Technical Services
- Retail trade
- Health care and social assistance
- Education and training

It can be seen that they are a mix of public and private sector.

The economic drivers vary in relation to the size of the population as well as the proximity to the metropolitan area. In the Council areas closer to the metropolitan area there are a range of small and large private sector businesses involved in manufacturing and light industrial uses. There are also more retail trade and accommodation and food services. In the areas further away from the metropolitan area, the presence of large employers is limited to some specialised manufacturing like the Cement mills in Wingecarribee and Wollondilly and Australian Paper Mill and Shoalhaven Starches in Shoalhaven.

A key issue for the future is to ensure that the economic drivers are maintained and where appropriate increased and diversified.

3.2.5. Peri-Urban Identity

The peri-urban identity can be described as a mixture of landscape having the following characteristics:

- Mixture of rural and urban areas;
- Significant amount of rural residential development comprising of both rural fringe and rural living categories;
- Productive agriculture which is both intensive and extensive;
- Biodiversity areas;
- Topographically diverse;

The urban areas are made up of housing, employment and open space. Some are part of the Sydney metropolitan area and others are smaller settlements ranging in size from less than 100 at Nattai in Wollondilly to 34,885 people in Nowra Bomaderry in Shoalhaven.

Photo 3.6 shows the landscape around Jamberoo in Kiama LGA and this displays the components of the peri-urban identity.

Photo 3.6: Peri-Urban Landscape around Jamberoo

Living in rural areas is becoming a lifestyle trend on the peri-urban area. People are moving from the urban parts to have a larger block of land and live in a rural environment. In consultations carried out in rural fringe areas, these people cite this as their main reason for moving to these areas and they also state that they do not want to see the area becoming urbanised. In addition, they are building large and expensive houses. These people move to urban areas as well as onto rural residential land.

This desire for lifestyle living brings with it problems of service delivery and infrastructure. The areas where these people live don't have the range of services and facilities in the metropolitan areas but the demand them.

3.2.6. Environment

The environmental issues cover the following

- Water quality
- On-site effluent disposal
- Biodiversity
- Threatened species
- Weed management
- Air quality
- Waste and rubbish
- Pest animals
- Rivers and foreshores
- Noise pollution

All of these are issues for the peri-urban area and they vary with the degree of significance in each council area. There is a need to ensure that measures are put in place to ensure that they can be maintained into the future.

Photo 3.7 shows Lake Conjola in Shoalhaven LGA which is a significant coastal lake with biodiversity and housing.

Photo 3.7: Biodiversity at Lake Conjola

3.2.7. Infrastructure

Infrastructure can be divided into hard and soft infrastructure. Hard infrastructure includes the following:

- Roads
- Railway
- Water
- Sewer
- Open Space
- Facilities and buildings
- Waste disposal

Soft infrastructure includes the following:

- Health services
- Education
- Community services

They are provided by a mixture of State and Local Government as well as the private and not-for-profit sectors.

The provision of infrastructure in peri-urban councils is a significant one. It is one of the largest areas of expenditure and is likely to continue into the future.

3.2.8. Housing

Housing in the peri-urban area is a mixture of densities and types. The main aspect that differentiates it from other areas is the mixture of metropolitan area housing and smaller settlements.

In a number of LGAs this is within the one jurisdiction. Areas such as Hornsby, The Hills, Hawkesbury, Penrith, Liverpool, Camden and Campbelltown and Shellharbour have both metropolitan and small settlement housing. As one travels further away from the metropolitan area, one sees the settlements get larger, This can be seen in such areas as Gosford, Wyong, Wollondilly, Wingecarribee, Kiama and Shoalhaven.

The mix of densities is also a key feature and issue. In the metropolitan area Councils, there is high density, medium density and low density housing. In the areas with settlements there is only medium and low density housing.

Housing affordability is a key issue across all of Sydney, Wollongong and Newcastle and is also an issue in the peri-urban areas.

3.2.9. Heritage

The heritage resources of the peri-urban areas cover Aboriginal and European settlement. Some of the most significant aspects of the growth and development of the history of Sydney are to be found in the peri-urban area.

The Aboriginal heritage resources cover places of significance as well as physical evidence of Aboriginal occupation. This includes places associated with the dreamtime as well as rock art and carvings, carved trees and middens.

The European heritage resources cover the following:

- Houses
- Commercial and industrial buildings
- Roads and railways
- Water supply
- Pastoral and agriculture

The reservation of both Aboriginal and European heritage is a significant issue.

3.2.10. Social Issues

Social issues in the peri-urban area are related to a number of factors including housing, access, transport, isolation and employment. The range of social issues being faced include:

- Children services
- Youth and young people
- Ageing
- Disability
- Culture
- Community safety
- Men’s health

All of the peri-urban councils have community development and other social programs that cover all of these issues to differing degrees. These issues are likely to become more significant in the future and they need to be addressed in order to ameliorate the impact.

3.2.11. Climate Change

The climate of an area is very important and has a direct impact on the economic, social and environmental aspects of the local area. "The landscape, and the plants and animals in it, are all determined to a large extend by climate acting over long intervals of time" (Pittock, 2009 p 1)

Climate change will lead to hotter days, more frequent and severe storms, sea level rise as well as lower rainfall.

Whilst it is acknowledged that Council cannot do a lot to directly impact on climate change, it can help in spreading the message about the issue and leading by example.

This is an issue that will need to be addressed into the future.

3.2.12. Natural Hazards

Three types of natural hazards are experienced by people living in the peri-urban areas. They are:

- Bushfire
- Flooding
- Tidal surge and sea level rise

Each of them has the potential to impact on the people and assets within these areas. It is likely that these will become more frequent as a result of climate change.

3.2.13. Land Degradation

Land degradation is related to the water quality as well as the topography. Activities that may result in land degradation are primarily those leading erosion.

It is therefore evident that agricultural and residential uses contribute to land degradation and there is a need to ensure that it is properly managed. It should be pointed out that urban and rural residential uses also contribute to land degradation in some cases in a more dramatic way.

Weeds are one of the most serious threats to Australia's natural environment and primary production. They can destroy the native species, contribute significantly to land degradation and reduce farm and forest productivity. The National Weeds Strategy has identified the problem and states that the cost of weeds to Australia is approximately $3.3 billion per annum. The New South Wales weeds strategy estimates the value of control and lost production at $600 million per annum. Both the National and State strategies identify funding, education and better coordination of control programs as being important.

There are a number of weeds within the peri-urban area that are a problem. These include the following:

- Alligator Weed
- Bitou Bush
- Blackberry
- Chinese Violet
- Lantana
- Ludwigia
- Pampas Grass
- Privet
- Water Hyacinth

All of these weeds have the potential to have an impact on the potential for agriculture as well as being invasive into areas of biodiversity.

3.2.14. Mining, CSG and Extractive Industries

Mining for coal occurs in Wollondilly, Wingecarribee Councils. It is underground so the impacts are more related to access to the pit head and subsidence.

Coal Seam Gas (CSG) extraction is occurring in the Camden, Campbelltown and Wollondilly areas and exploration is occurring in most of the other Council areas. This is becoming an issue for the future and has the potential to impact on agriculture as well as dwelling houses. The NSW Government have been implementing a buyback of petroleum licenses as part of its NSW Gas Plan. This has seen a significant number of Petroleum Exploration Licenses in the Sydney Peri-Urban area being bought back and extinguished.

Extractive industries include hard rock and sandstone quarrying and sand extraction.

3.3. Peri Urban Council Profiles

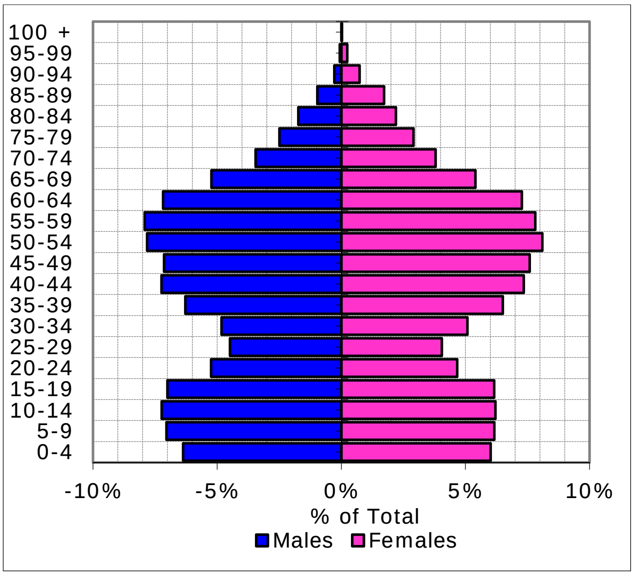
A profile has been put together of each of the peri-urban Councils. It includes key economic and demographic statistics as well as a summary of the key issues affecting the Council that has been derived from the interviews as well as documents and the author’s knowledge of the Council area.

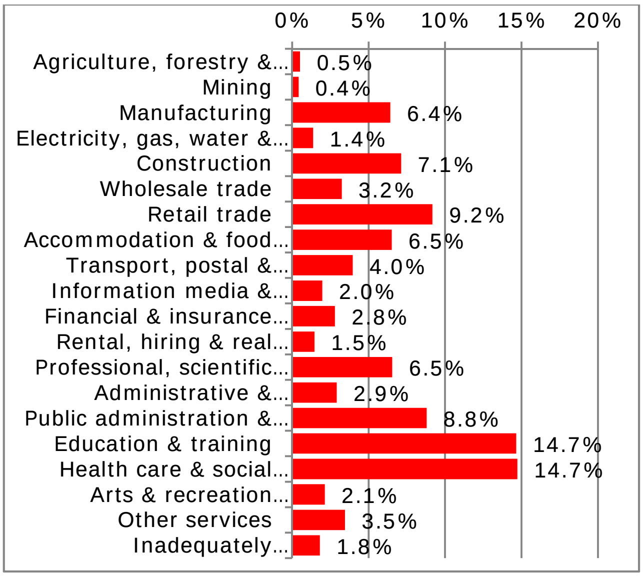
3.3.1. Blue Mountains

Economic Data

Gross Regional Product	$2.15 b
Value of Building Approvals	$114.34 m
Local Businesses	5,275
Local Jobs	20,313
People work outside LGA	50%
Unemployment	5.71%

Demographic Data





Population (2014)	79,668
Population Growth (2004-14)	0.4%
Population Projection 2031	97,300
Dwellings (2011)	28,032
Dwellings 2031	39,800
Median Age	42
Median Household Income	$1,270
Average Household Size	2.5
Worked from Home	6.0%

Key Issues

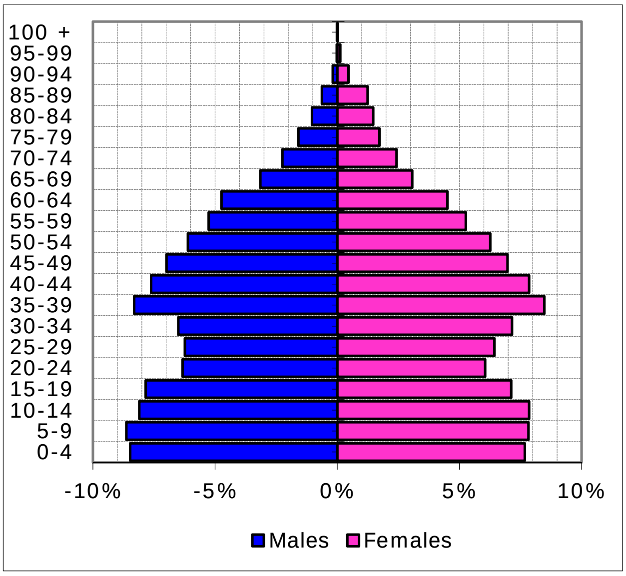
- World heritage national park
- Topography
- Lack of urban expansion opportunities
- Natural hazards – bushfire
- Biodiversity
- Local jobs

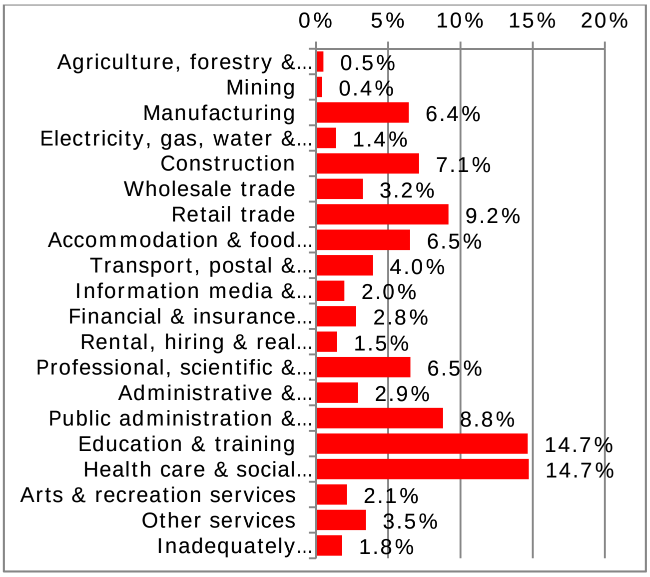
3.3.2. Camden

Economic Data

Gross Regional Product	$2.55 b
Value of Building Approvals	$539.30 m
Local Businesses	5,135
Local Jobs	23,295
People work outside LGA	61%
Unemployment	2.77%

Demographic Data





Population (2014)	63,248
Population Growth (2004-14)	2.1%
Population Projection 2031	162,350
Dwellings (2011)	17,837
Dwellings 2031	55,700
Median Age	34
Median Household Income	$1,727
Average Household Size	3.0
Worked from Home	3.6%

Key Issues

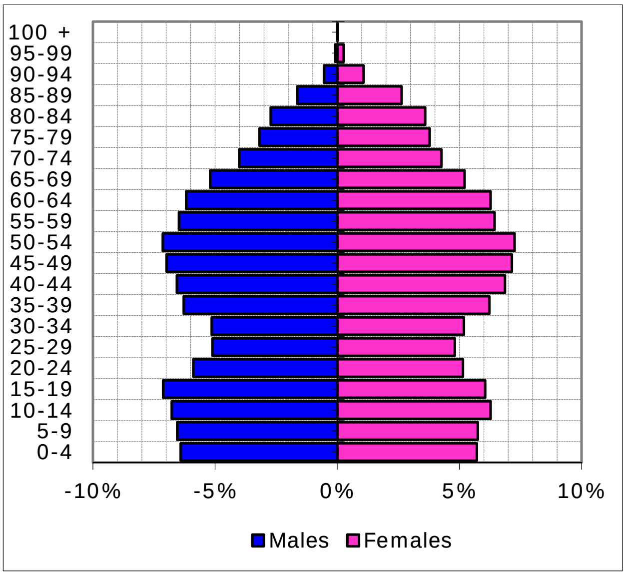
- Urban development density and mix – South West Growth Centre
- Agriculture
- Land use conflict in new urban release areas
- Pressure for rural subdivision and rural residential development
- Road infrastructure – proposed Outer Sydney Orbital road (M9)
- Capacity to fund infrastructure
- Economy
- Badgerys Creek Airport

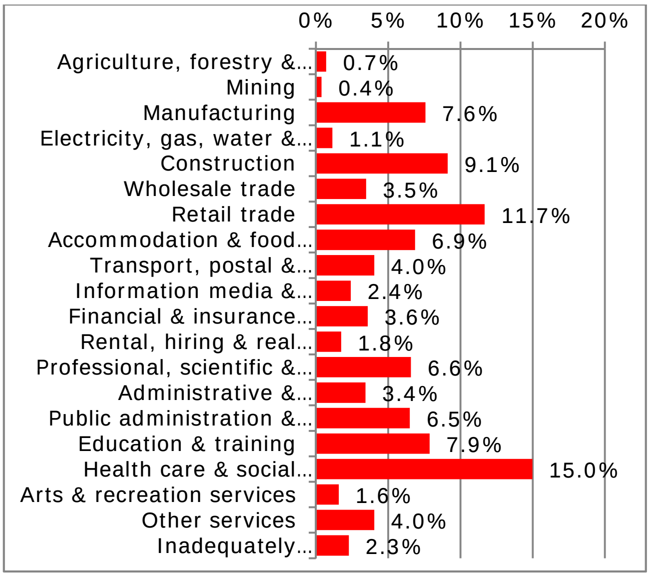
3.3.3. Gosford

Economic Data

Gross Regional Product	$6.35 b
Value of Building Approvals	$291.89 m
Local Businesses	12,779
Local Jobs	63,811
People work outside LGA	34%
Unemployment	5.35%

Demographic Data





Population (2014)	170,752
Population Growth (2004-14)	0.5%
Population Projection 2031	189,050
Dwellings (2011)	46,530
Dwellings 2031	79,600
Median Age	42
Median Household Income	$1,089
Average Household Size	2.5
Worked from Home	5.0%

Key Issues

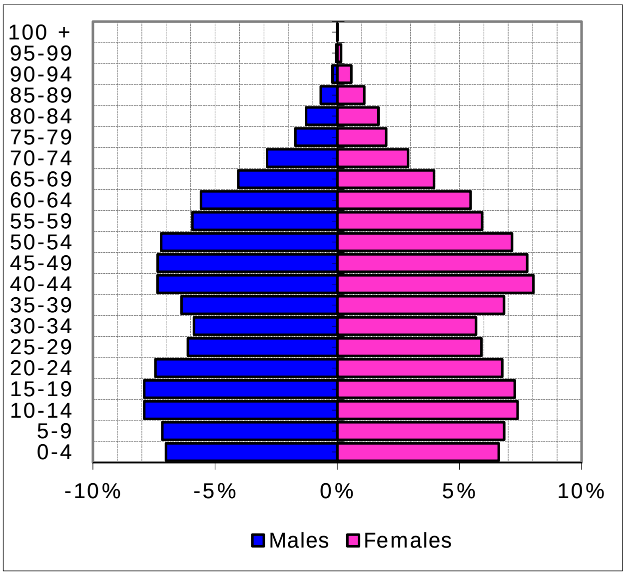
- Urban density
- Physical constraints to development
- Agriculture
- Pressure for rural subdivision and rural residential development
- Economic development
- Infrastructure

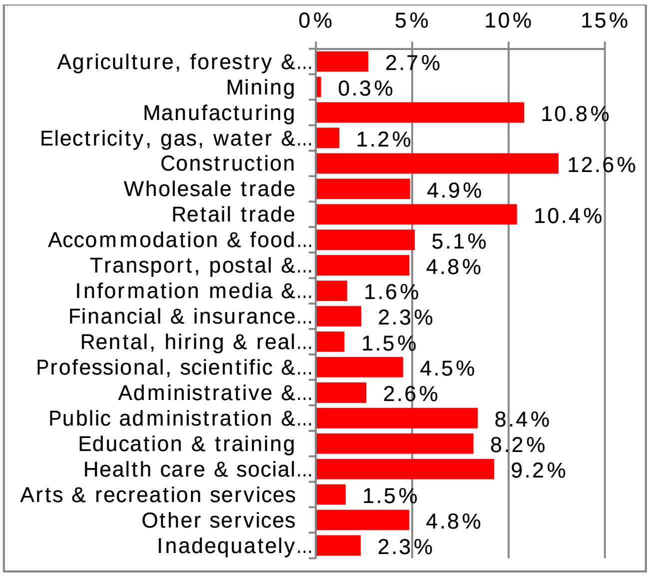
3.3.4. Hawkesbury

Economic Data

Gross Regional Product	$2.8 b
Value of Building Approvals	$114.13 m
Local Businesses	6,343
Local Jobs	27,140
People work outside LGA	43%
Unemployment	7.83%

Demographic Data





Population (2014)	65,114
Population Growth (2004-14)	0.4%
Population Projection 2031	80,650
Dwellings (2011)	20,842
Dwellings 2031	30,150
Median Age	36
Median Household Income	$1,385
Average Household Size	2.8
Worked from Home	4.9%

Key Issues

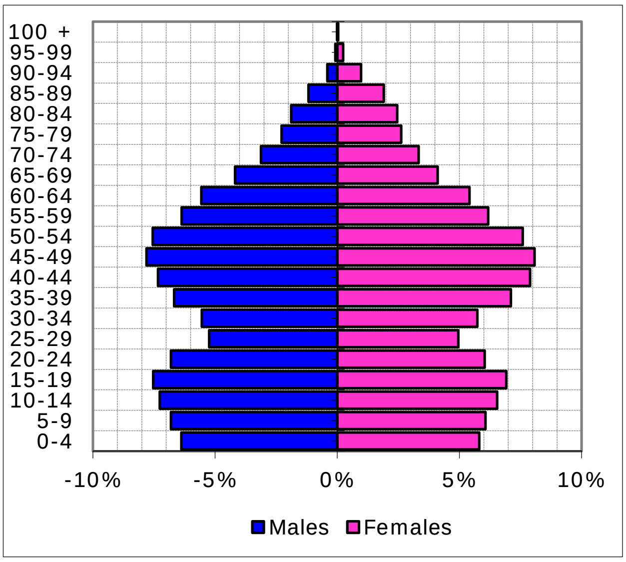
- Agriculture
- Economic development
- Urban development density and mix – North West Growth Centre & rural villges
- Local jobs
- Pressure for rural subdivision and rural residential development
- Liveability of residents
- Tourism
- Infrastructure – future roads & Hawkesbury river crossing
- Funding of infrastructure and new urban areas

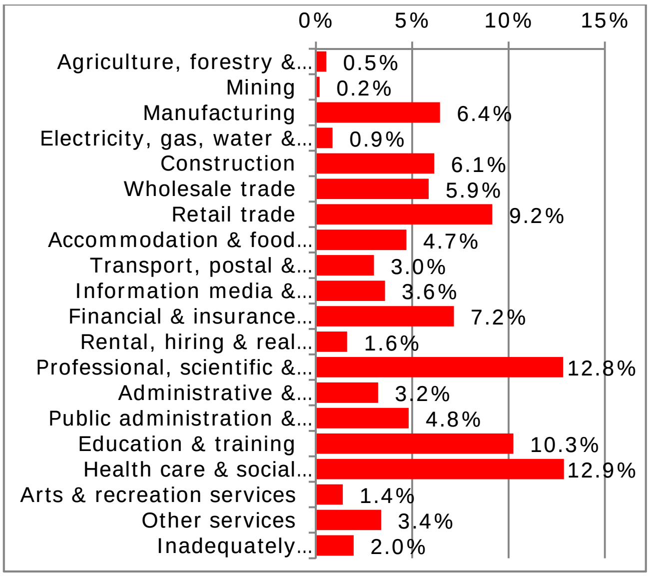
3.3.5. Hornsby

Economic Data

Gross Regional Product	$6.62 b
Value of Building Approvals	$419.16 m
Local Businesses	15,282
Local Jobs	52,804
People work outside LGA	64%
415290Unemployment	5.23%

Demographic Data





Population (2014)	166,855
Population Growth (2004-14)	0.7%
Population Projection 2031	201,750
Dwellings (2011)	52,672
Dwellings 2031	72,200
Median Age	39
Median Household Income	$1,824
Average Household Size	2.9
Worked from Home	5.1%

Key Issues

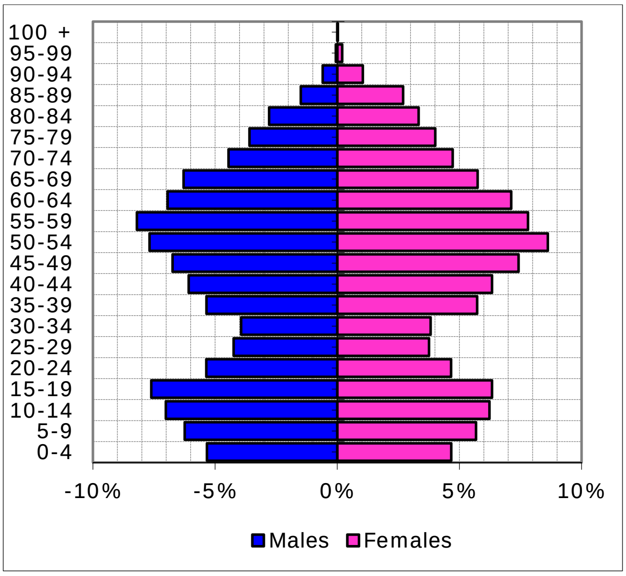
- Pressure for rural subdivision and rural residential development
- Economic development
- Tourism
- Public transport
- Urban development density and mix
- Physical constraints to development
- Rural villages

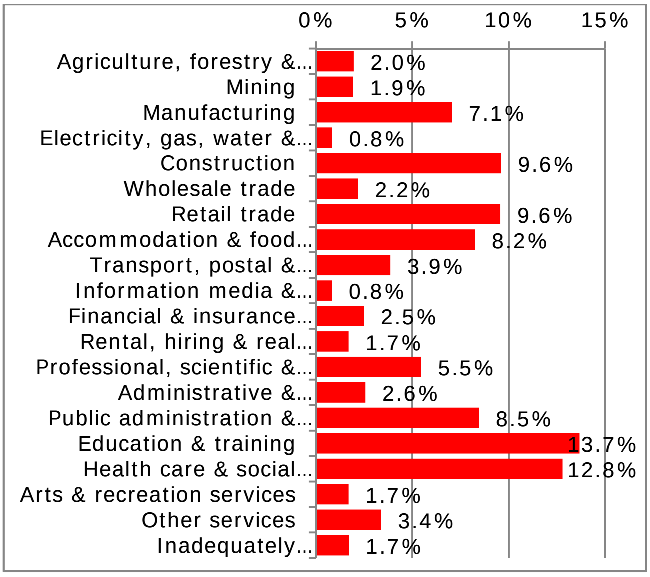
3.3.6. Kiama

Economic Data

Gross Regional Product	$0.66 b
Value of Building Approvals	$26.96 m
Local Businesses	1,011
Local Jobs	5,771
People work outside LGA	54%
Unemployment	2.91%

Demographic Data





Population (2014)	21,047
Population Growth (2004-14)	0.5%
Population Projection 2031	25,450
Dwellings (2011)	7,414
Dwellings 2031	10,550
Median Age	45
Median Household Income	$1,234
Average Household Size	2.5
Worked from Home	5.8%

Key Issues

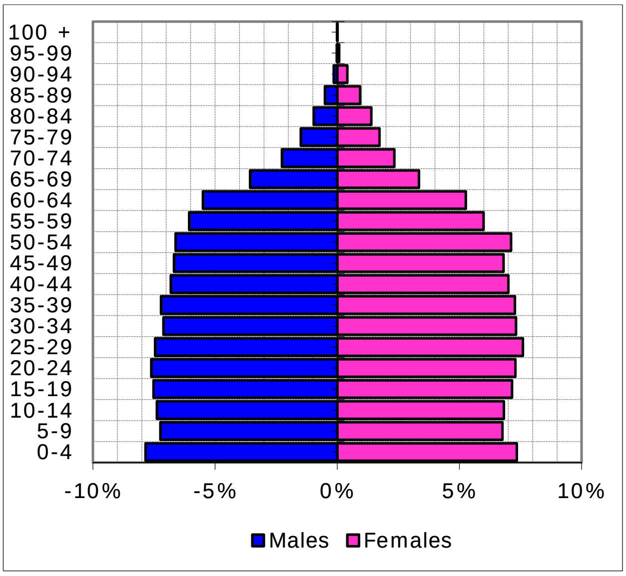
- Agriculture
- Economic development
- Local restaurants use local food
- Farmers markets Wednesday afternoon
- Health promotion and food
- Tourism – agritourism
- Pressure for rural subdivision and rural residential development
- Urban development density and mix

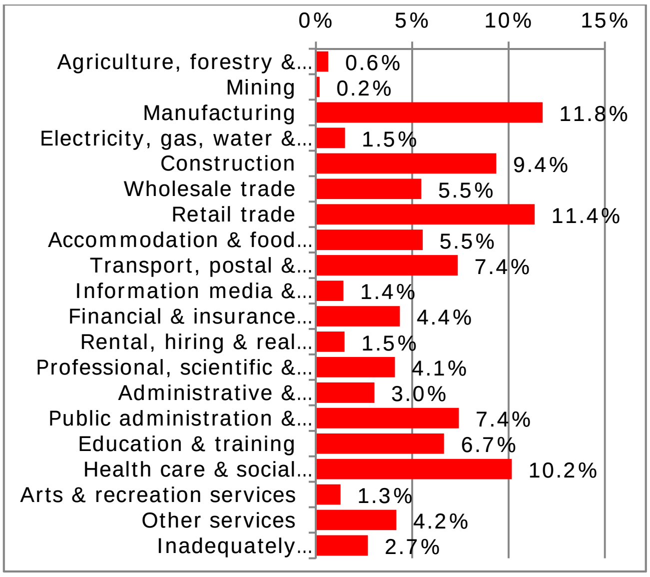
3.3.7. Penrith

Economic Data

Gross Regional Product	$7.61 b
Value of Building Approvals	$713.37 m
Local Businesses	12,424
Local Jobs	70,443
People work outside LGA	51%
Unemployment	6.62%

Demographic Data





Population (2014)	190,428
Population Growth (2004-14)	0.7%
Population Projection 2031	261,450
Dwellings (2011)	48,409
Dwellings 2031	94,850
Median Age	34
Median Household Income	$1,398
Average Household Size	2.9
Worked from Home	2.6%

Key Issues

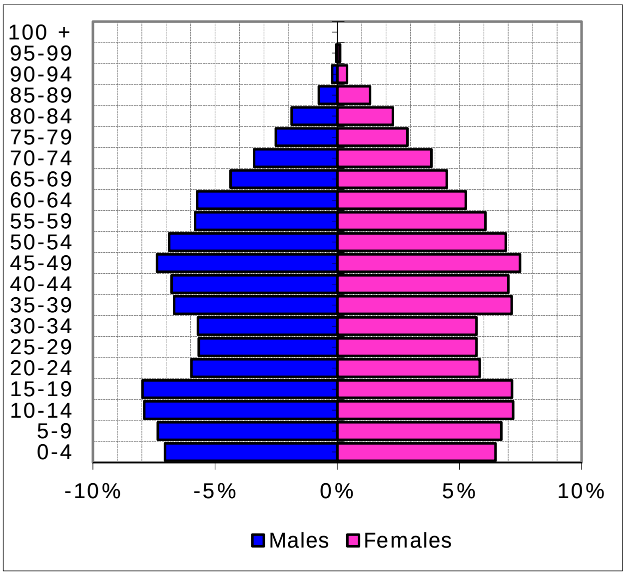
- Agriculture
- Economic development
- Local jobs
- Urban development density and mix
- Public transport – rail
- Rural villages
- Infrastructure – future roads & rail
- Pressure for rural subdivision and rural residential development
- Onsite effluent disposal

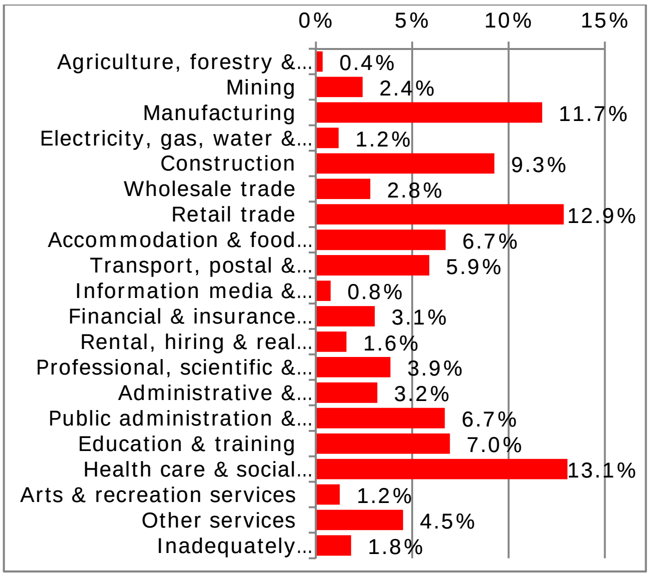
3.3.8. Shellharbour

Economic Data

Gross Regional Product	$1.78 b
Value of Building Approvals	$189.07 m
Local Businesses	2,947
Local Jobs	17,921
People work outside LGA	57%
Unemployment	6.09%

Demographic Data





Population (2014)	67,797
Population Growth (2004-14)	0.9%
Population Projection 2031	84,250
Dwellings (2011)	18,460
Dwellings 2031	33,500
Median Age	37
Median Household Income	$1,126
Average Household Size	2.7
Worked from Home	2.0%

Key Issues

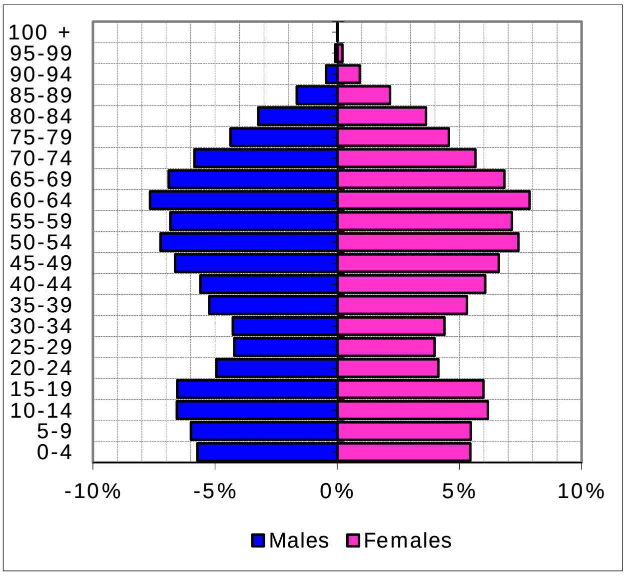
- Agriculture
- Pressure for rural subdivision and rural residential development
- Urban development density and mix – Calderwood Valley
- Economic development
-

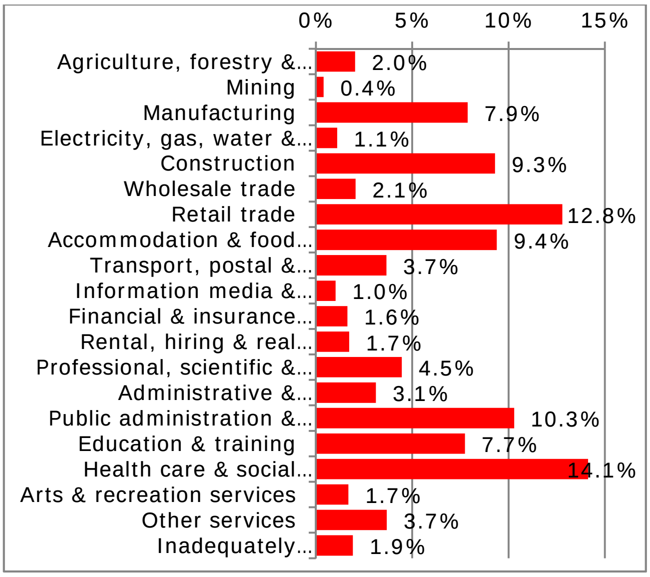
3.3.9. Shoalhaven

Economic Data

Gross Regional Product	$3.69 b
Value of Building Approvals	$437.78 m
Local Businesses	7,119
Local Jobs	34,763
People work outside LGA	10%
Unemployment	8.68%

Demographic Data





Population (2014)	97,694
Population Growth (2004-14)	0.8%
Population Projection 2031	108,150
Dwellings (2011)	31,845
Dwellings 2031	47,750
Median Age	46
Median Household Income	$822
Average Household Size	2.3
Worked from Home	4.9%

Key Issues

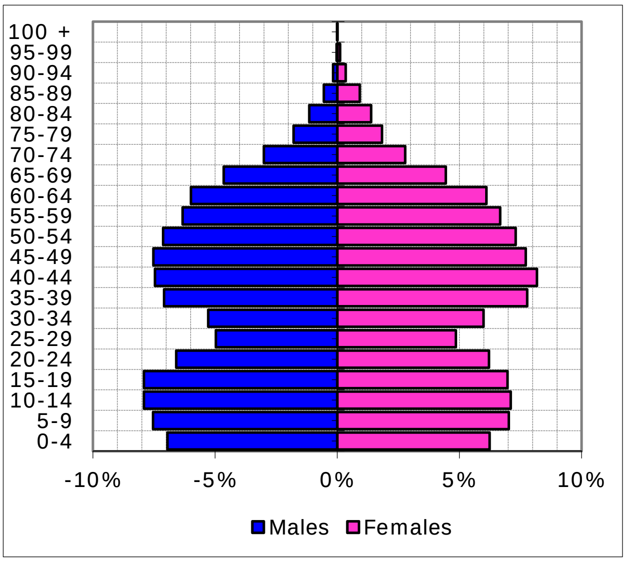
- Agriculture
- Pressure for rural subdivision and rural residential development
- Urban development density and mix – Calderwood Valley
- Economic development
- Infrastructure – new road bypasses of Berry and proposed Nowra Bomaderry
- Local jobs

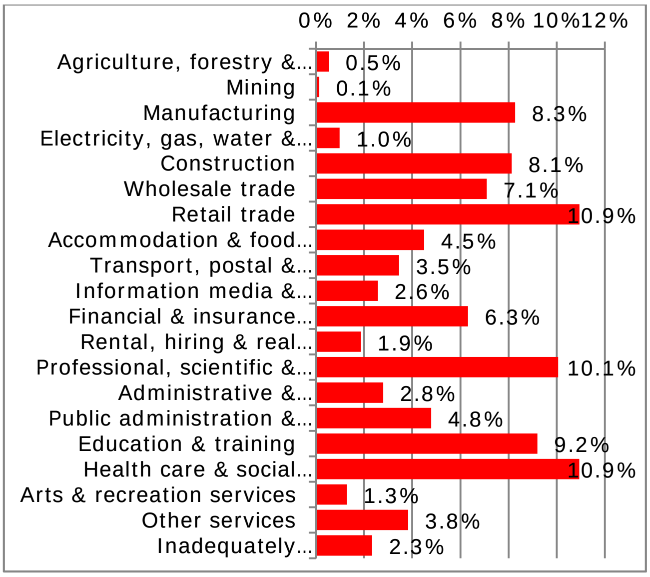
3.3.10. The Hills

Economic Data

Gross Regional Product	$9.14 b
Value of Building Approvals	$689.43 m
Local Businesses	19,861
Local Jobs	74,944
People work outside LGA	61%
Unemployment	4.09%

Demographic Data





Population (2014)	183,563
Population Growth (2004-14)	1.4%
Population Projection 2031	280,900
Dwellings (2011)	53,294
Dwellings 2031	92,900
Median Age	38
Median Household Income	$2,044
Average Household Size	3.1
Worked from Home	5.3%

Key Issues

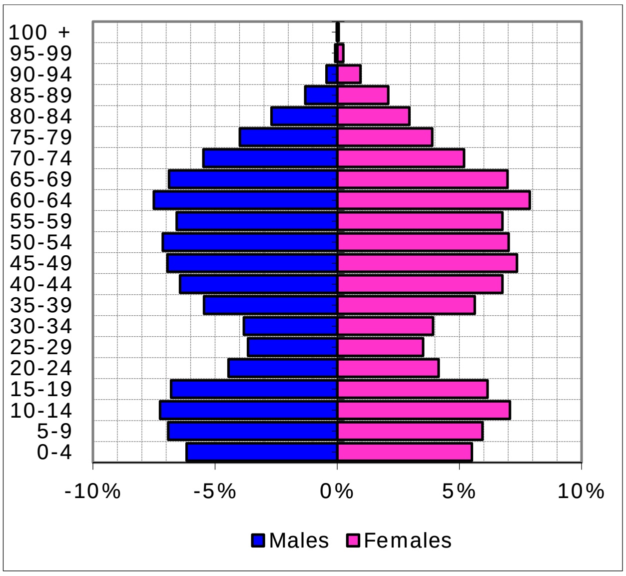
- Urban development density and mix – North West Growth Centre
- Pressure for rural subdivision and rural residential development
- Economic development
- Tourism
- Public transport – future North West Rail
- Physical constraints to development
- Rural villages

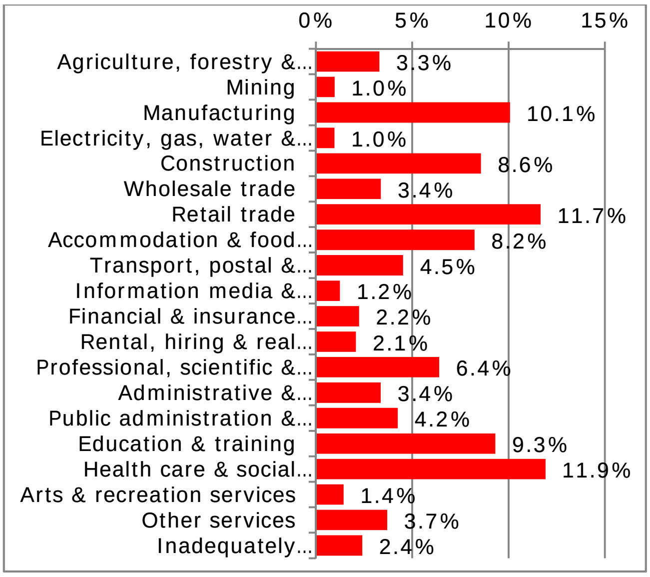
3.3.11. Wingecarribee

Economic Data

Gross Regional Product	$2.03 b
Value of Building Approvals	$96.24 m
Local Businesses	5,062
Local Jobs	18,359
People work outside LGA	20%
Unemployment	3.4%

Demographic Data





Population (2014)	47,054
Population Growth (2004-14)	0.7%
Population Projection 2031	51,150
Dwellings (2011)	16,695
Dwellings 2031	21,750
Median Age	45
Median Household Income	$1,094
Average Household Size	2.5
Worked from Home	7.9%

Key Issues

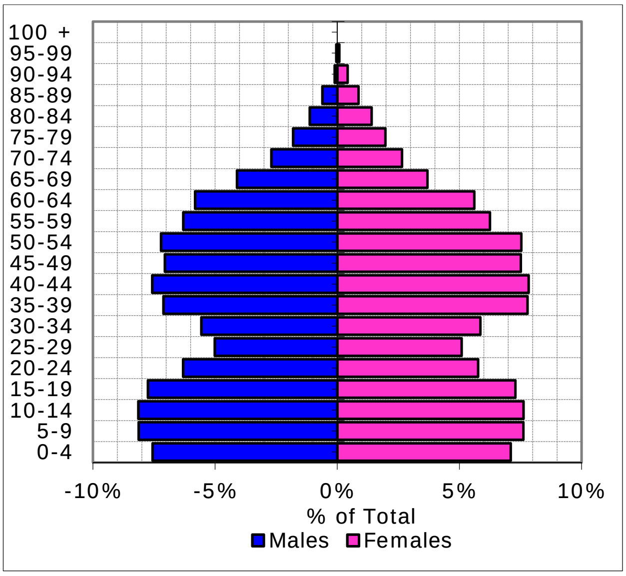
- Pressure for rural subdivision and rural residential development
- Agriculture
- Tourism – agri-tourism
- Urban development density and mix
- Coal mining and Coal Seam Gas
- Rural villages

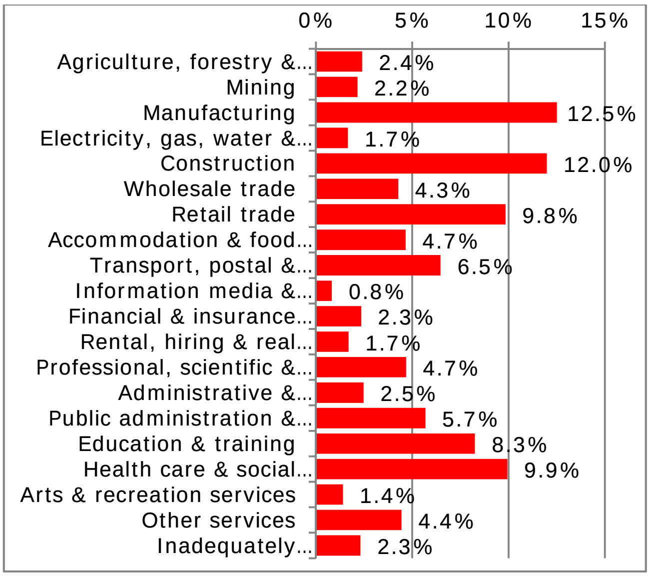
3.3.12. Wollondilly

Economic Data

Gross Regional Product	$1.62 b
Value of Building Approvals	$108.14 m
Local Businesses	3,753
Local Jobs	12,592
People work outside LGA	60%
Unemployment	2.97%

Demographic Data





Population (2014)	46,295
Population Growth (2004-14)	1.4%
Population Projection 2031	57,700
Dwellings (2011)	13,951
Dwellings 2031	20,550
Median Age	36
Median Household Income	$1,478
Average Household Size	3.0
Worked from Home	4.9%

Key Issues

- Agriculture
- Pressure for rural subdivision and rural residential development
- Tourism – agri-tourism
- Urban development density and mix – Greater Macarthur Investigation Area
- Coal mining and Coal Seam Gas
- Rural villages

Chapter 4: Conclusion

The Sydney Peri-Urban Network is comprised of twelve Councils on the fringe of metropolitan Sydney. It was established in 2013.

It was formed in response to the realisation that Sydney's peri-urban area is undergoing significant change, and the growth in the peri urban has brought with it many challenges and opportunities for those Councils.

This issues paper has been prepared as part of an Action Plan to provide the Network with a strategic direction and to discuss the many issues that confront the communities on the peri-urban area of Sydney. The key issues have been identified by a workshop of the network as well as in discussion with representatives of the member Councils. This has led to the identification of an action plan to identify the key matters that need to be addressed to ensure that the future of the area is sustainable.

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