ATTACHMENT 7

Wingecarribee demographic and housing study

Final report

Wingecarribee Shire Council
May 2012

Independent insight.

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EXECUTIVE SUMMARY

Introduction to the study

SGS Economics and Planning (SGS) has been engaged by Wingecarribee Shire Council (Council) to prepare a demographic and housing study, which will help Council make informed decisions about accommodating demand for housing over the next 20 years. Objectives of the study are to:

- undertake a detailed analysis of the current and historical demographic and housing profile of Wingecarribee Shire
- establish baseline demographic and housing data that will be suitable for regular review particularly after each census period
- project for the next 20 years, the type and location of housing which will best serve the changing make-up of the Shire bearing in mind the ageing population and associated housing needs
- enable Council to make decisions on how best to accommodate population growth beyond 2020 as predicted in the Regional Strategy, particularly the type of housing is required and where it should be located
- help resolve the broader strategic planning issue of meeting the expected future demands of housing diversity and housing affordability, doing so within appropriate locations throughout the Shire.

Overview of approach

In this study, SGS has used a range of qualitative and quantitative inputs to assess the Shire in terms of demographics and housing. These sources have been used in tandem to allow for the cross-checking of data and assumptions throughout the research process. The strategies recommended by SGS are based on the combined output of all study components and form a 'top-down' approach to strategic planning for housing in the Shire. Taking this work forward, this strategic document should be met from the 'bottom-up' by detailed local planning studies that consider site/ precinct specific urban design and feasibility aspects.

Inputs to the study include the following:

- ABS data was used to analyse the historical profile of the LGA in terms of population demographics and housing types. Additional work was undertaken to assess the pattern of migration to the Shire over the ten years prior to the 2006 census.

- Consultation was undertaken with eight real estate agents, as well as representatives from State agencies including the Department of State and Regional Development, Department of Planning and Infrastructure and Sydney Catchment Authority in order to obtain a qualitative assessment of relevant issues. These included the historical trends affecting housing in the Shire, the local real estate market, the regional context for development, resident demographics, housing preferences, likely future issues, and so on. Four people working in the aged care industry were also contacted, to ascertain the issues facing the Shire in terms of provision of specific aged care housing. Responses were used to estimate the future levels of underprovision of aged care facilities, given the current supply and increases in population, as well as to inform future strategy recommendations.

- The review of strategy and policy provides the policy context for population growth and residential development and helps describe the framework for the study. Issues that were considered included the LGA's role in the broader Sydney to Canberra region, specific targets and objectives relating to housing, and constraints for residential development in individual areas. The outcomes were used to identify available areas for development in the housing capacity model, and to ensure that appropriate recommendations acknowledge existing policy.

- SGS's housing demand model uses the propensities for specific family types to live in certain housing forms in

order to predict demand for separate dwellings, semi detached dwellings[1], and apartments. The housing capacity model, again developed by SGS, ranks each parcel of land in areas zoned for residential development on the basis of the site's attributes and location to specific amenities and services (such as shops and transport connections). The housing demand figures are allocated to areas on the basis of their performance in this assessment, from which a 'heat map' is created showing the locations in which future dwelling demand is likely to be highest.

Summary of findings

Policy framework

The major policy guiding the Wingecarribee LGA is the Sydney-Canberra Corridor Regional Strategy (SCCRS) 2006-2031, which expects the population to grow from 42,300 to 58,700 people by 2031. Bowral is the preferred location for infill development, with Moss Vale and Mittagong expected to contain the majority of greenfield development (1400 and 1000 lots respectively). These centres play a complementary role and have distinctive characters that should be nurtured.

The strategy states that 'the capacity to accommodate more intensive development and higher densities will be subject to local housing needs and general urban design and character'. The objective for future development to be in keeping with the existing character of the region is supported by the Wingecarribee Local Environmental Plan (LEP) 2010, which plans to minimise the spread of urban areas and maintain the original settlement of towns and villages; the Wingecarribee Strategic Plan 2002, which aims to 'ensure that the unique character of the Shire is retained', and the Wingecarribee Community Strategic Plan 2010.

The need for the Shire to provide a range of housing types to cater for different needs and income types is mentioned throughout the literature. The SCCRS anticipates demand for a higher proportion of medium density and infill development, while the Wingecarribee Strategic Plan targets greater flexibility for mixed use development and apartment living in centres. Both of these documents note the need for adaptable housing designs to accommodate ageing in place. The LEP aims to provide housing options in areas with good access to transport, services and employment, and which address differing lifestyle needs.

Resident demographics

In terms of resident demographics, the Wingecarribee LGA had an estimated resident population of 46,960 in 2010[2]. Over 55s comprised almost a third of the LGA's population according to the latest ABS census count; considerably higher than in NSW where the proportion was just a quarter. Over 40 percent of Bundanoon's residents are in this age group. Robertson and the northern villages were the areas of the Shire with the highest proportions of residents under the age of 25.

Migration out of the Shire from 1996 to 2006 was principally of younger people, who may move for further education or to seek specific employment opportunities. Over the same period, there was an increase in migration to the Shire of 'couple families with no children', which could indicate people moving back into the area after their children have left home or people retiring for a rural lifestyle. There was no specific pattern of family types or migrant ages locating in particular areas.

Current housing market

Residential properties at the lower end of the market have been performing well in the Wingecarribee LGA, while the higher end of the market has been slower[3], perhaps due to economic uncertainty. Rental vacancy rates in the Shire are extremely low at less than 1 percent. Factors affecting people's retirement decisions, such as pension values and consumer confidence, have a notable effect on the housing market in Wingecarribee due to its position as an attractive destination for over 55s.

SGS spoke to eight real estate agents[4], who described strong sales of lower priced properties to young families (who are seeking newer style properties with three to four bedrooms) and older buyers, and an oversupply of more

[1] Including townhouses and terraces
[2] ABS Estimated Resident Population, 2011
[3] Analysis of residential sales and rental data from RP Data, April 2011
[4] Four in Bowral, two in Mittagong, one in Moss Vale and one in Hill Top

expensive houses priced over $850,000. Agents also observed demand for apartments in the LGA's larger centres although there is little supply of this type of dwelling and the level of latent demand is therefore untested. It was noted that housing preferences are not seen to be changing dramatically within the Wingecarribee LGA for specific age groups or family types, and that the migration of younger residents from the Shire is likely to be due to employment opportunities elsewhere rather than deficiencies in the local housing market.

Stakeholders in the aged care sector noted that Bowral and Moss Vale are the most popular destinations for migrants, although prices are higher and there is reduced housing choice in these locations. There is a large supply of independent living units (ILUs). However, consultation identified that the ILU market in Wingecarribee tends to attract migrants rather than local residents, with the features of this type of investment and higher prices observed in the local market appearing to constrain the demand for this housing choice. The most prevalent choice for older residents of the Shire is to remain in the family home after retirement, known as ageing in place.

Population and dwelling forecasts

The population projections produced by the Department of Planning and Infrastructure (DoPI) and those estimated by SGS are shown in Table 1.

TABLE 1. POPULATION FORECAST AT FIVE YEARLY INTERVALS

	DoPI forecast	SGS forecast	Difference
2006	44,400	42,273	2,127
2011	47,300	44,203	3,097
2016	50,400	46,144	4,256
2021	53,400	48,205	5,195
2026	56,200	50,518	5,682
2031	58,800	52,901	5,899
2036	61,100	55,136	5,964

Source: Department of Planning and Infrastructure, 2009; SGS Economics and Planning, 2012

The treatment of births and deaths in the two approaches is similar. However, for net migration, the DoPI projections assume a constant increase in net migration, while SGS has assumed that net migration increases at an ever decreasing rate. Additionally, the DoPI projections use Estimated Resident Population (ERP), while the SGS population forecasting model is based on the 2006 ABS census count.

The results from the SGS housing demand model estimate that between 2006 and 2031 across the LGA there will be demand for 4867 additional separate dwellings, 1257 additional medium density dwellings, and 160 apartments, giving a total of 6284 dwellings. While total demand is strongest for detached dwellings, demand growth is forecast to be strongest for semi-detached dwellings (3.16 percent per annum), which may be attributable to decreasing household sizes.

Aged care facilities

Population forecasts prepared by the NSW Department of Planning and Infrastructure indicate that the number of residents aged 55 years and over is expected to grow by more than 70 percent between 2011 and 2036. Over the same period, the number of residents aged over 85 is expected to more than triple from 1170 to 3880 people.

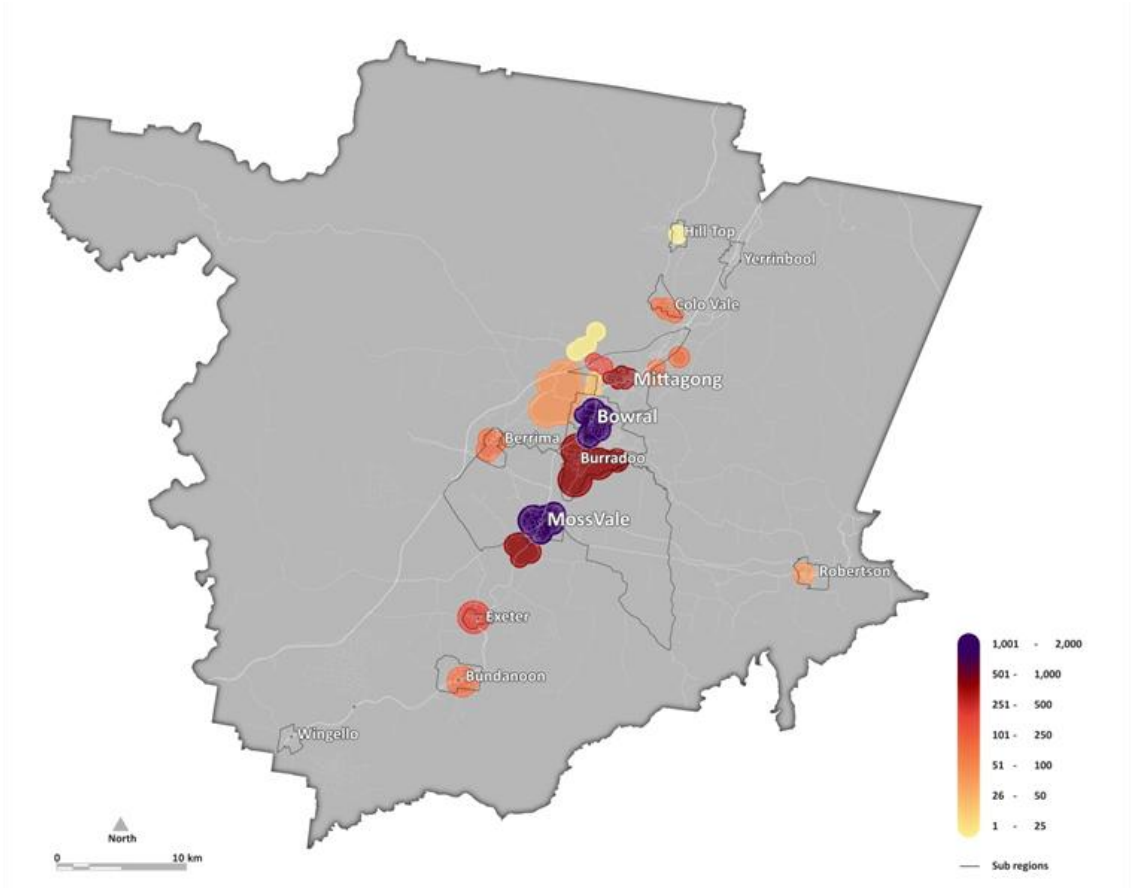
Using DoPI population projections and in the absence of additional aged care facilities, SGS forecast a shortfall in the future supply of housing specifically for older residents: namely a 55 bed shortfall for low care residential aged care and 672 bed shortfall for high care residential aged care by 2036. If no additional capacity is made available, there is also anticipated to be an undersupply of 430 ILUs over the same period. While the majority of older people will be able to age actively while living at home, community resources are likely to be stretched to meet the requirements of others who lack support networks, or where housing design and configuration is inappropriate to ageing in place.

Dwelling capacity

There is sufficient capacity under current controls to satisfy forecast demand for each dwelling type at every five year period for the next 20 years, with an expected capacity for 22,681 dwellings remaining in 2031. This is based on the current planning framework and subject to local conditions being met (such as development feasibility, site

specific issues, and urban design considerations)[5]. The highest dwelling demand in the LGA is expected in Bowral and Moss Vale, as shown in Figure 1.

FIGURE 1. LOCATIONS OF EXPECTED DEMAND TO 2031 (NO. OF DWELLINGS)



Location	Total expected dwelling demand
Bowral Moss Vale	1001 – 2000
Mittagong Burradoo South Moss Vale	501 – 1000
Exeter	251 – 500
Berrima Bundanoon Colo Vale	101 – 250
Robertson	51 – 100
Hill Top	1 – 25
Additional rural areas as shown above.	

Source: SGS Economics and Planning, 2012

Of the smaller centres, Bundanoon is attractive due to transport and service provision, while Burradoo and Exeter are likely to be popular locations for development due to their large lot residential land in addition to road and rail links.

[5] The issue of providing a buffer for future residential development was raised during consultation. Given that there is expected to be sufficient capacity under current controls for 20 years, with considerable subsequent capacity, this is unlikely to require attention in the short to medium term.

Among rural areas, there is particular capacity in Moss Vale and Bowral, although there may be planning pressures in this location given the nearby local light industrial zone and rural residential land with larger lot sizes clustered on the outskirts of the centre.

However, there is also increasing demand for medium density accommodation, such as semi-detached dwellings and townhouses, as well as demand for apartments in town centres. The requirement to contain the growth of urban boundaries and to satisfy demand for smaller dwellings in areas with good access to services will need to be carefully planned to ensure the amenity and character of major centres is maintained.

Objectives and actions

1. Provide sufficient dwelling capacity and a broad mix of new housing

- Prepare planning controls that promote a mix of housing types
- Encourage provision of medium density accommodation in centres
- Conduct a detailed affordable housing study assessing housing stress and price thresholds in the LGA
- Identify suitable sites for rural development
- Assess feasibility issues which may constrain future development

2. Regularly monitor and evaluate the local housing market

- Establish a demand monitoring process
- Establish supply monitoring process

3. Balance residential development with protection of the LGA's unique character and amenity

- Review zoning in Bowral to address pressure from high demand for residential development
- Ensure protection of heritage buildings
- Consider community engagement strategies to ensure support for changes to planning controls or housing objectives
- Protect the distinct characters of the main centres of Bowral, Mittagong and Moss Vale through a review of centre boundaries

4. Lever the private and non-government sector to expand the supply of aged care

- Establish an inter-agency committee for ageing and housing
- Drawing on SGS 'opportunity' mapping, identify appropriate sites near public transport and health facilities as potential locations for residential aged care development

5. Improve housing diversity for older residents

- Encourage development of secondary suite ('granny flat') accommodation in new and existing developments
- Ensure that a proportion of new development is adaptable and accessible

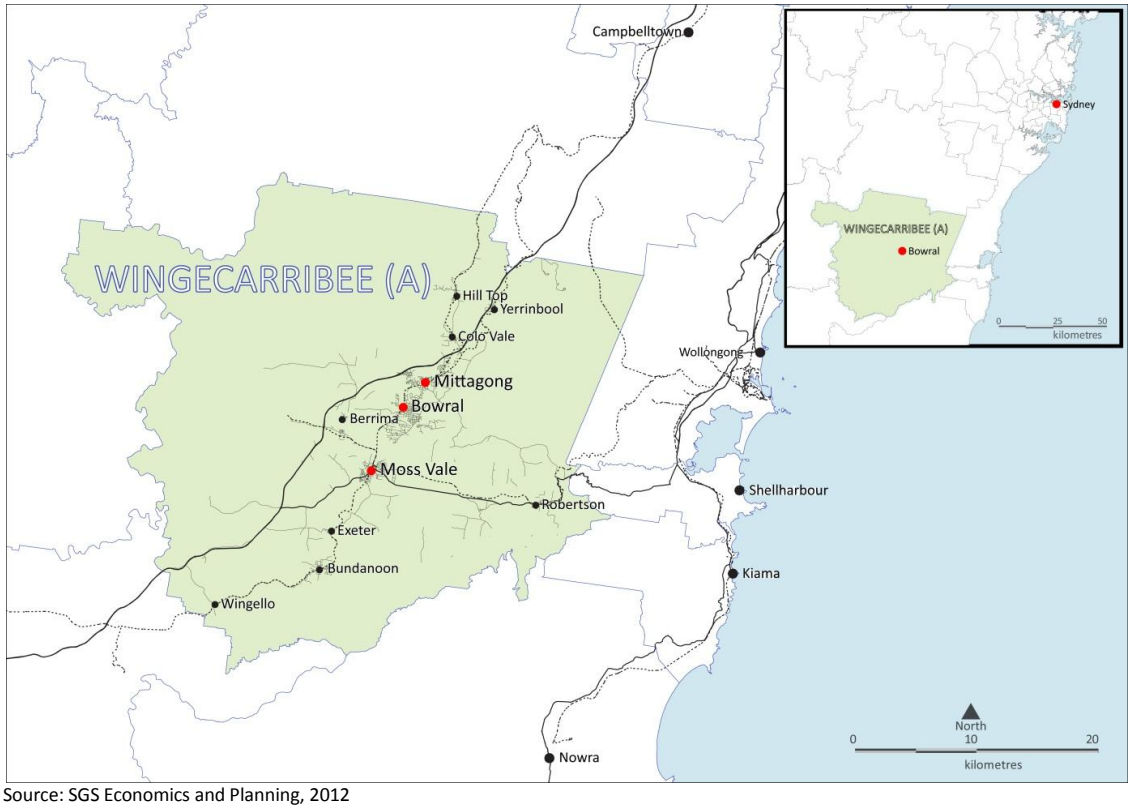
1 INTRODUCTION

1.1 Study background

The Wingecarribee LGA is located in the Southern Highlands of NSW and covers an area of 2700 square kilometres. It straddles the main rail and road transport links between Sydney, Canberra and Melbourne, and has road and rail links to Wollongong. Parts of the Shire are within reasonable commuting distance by road and rail from Sydney (particularly south west Sydney) and Wollongong.

The settlement pattern in the LGA consists of the three main towns of Moss Vale, Mittagong and Bowral, and 16 smaller towns and villages in a rural and bushland setting. Bowral has the highest population of the Shire's centres[6] and is situated 120 kilometres south west of Sydney, 170 kilometres north east of Canberra, and 65 kilometres west of Wollongong by road. At its closest point, the Wingecarribee LGA is 11 kilometres from the coast.

FIGURE 2. CONTEXT MAP



Source: SGS Economics and Planning, 2012

The regional strategy for the area, the Department of Planning and Infrastructure's Sydney to Canberra Corridor Regional Strategy, also incorporates the LGAs of Goulburn-Mulwaree, Upper Lachlan, Yass Valley, Palerang and Queanbeyan. In 2010, the Wingecarribee LGA had an estimated resident population of 46,960[7]. The LGA lies within the Illawarra Statistical Division (SD) through ABS geographies.

[6] ABS (2011)
[7] Australian Bureau of Statistics, Regional Population Growth, 2009-10, Cat. no. 3218.0

1.2 Scope of work and objectives

SGS Economics and Planning (SGS) has been engaged by Wingecarribee Shire Council (Council) to prepare a demographic and housing study.

The study will help Council make informed decisions about accommodating demand for housing over the next 20 years. The Wingecarribee Shire Local Environmental Plan (LEP) provides for some new greenfield urban release areas and infill housing opportunities.

A Reference Panel was established to provide input on key issues and concerns raised about the type and location of future housing supply and comprises members of the local community selected by Council.

The objectives of the demographic and housing study, and their locations in the report, are as follows:

1.3 Strategy and policy framework

A detailed review of regional and local strategies affecting housing in Wingecarribee Shire provides the policy context for population growth and residential development. Issues that were considered include the LGA's role in the broader Sydney to Canberra region, specific targets and objectives relating to housing, and constraints for residential development in individual areas. The strategy and policy review helps describe the framework for the study. The outcomes were used to identify available areas for development in the housing capacity model, and to ensure that appropriate recommendations acknowledge existing policy.

An overview of the strategy and policy framework for the LGA is shown below. Further detail can be found in Appendix A – Strategy and policy framework.

Regional strategies

The major policy guiding the Wingecarribee LGA is the Sydney-Canberra Corridor Regional Strategy 2006-2031. It provides the framework to manage growth in housing and employment and to protect the environment. The Wingecarribee LGA is located at the northern end of the region and its population is expected to grow from 42,300 to 58,700 people by 2031.

Bowral is the preferred location for infill development, with Moss Vale and Mittagong expected to contain the majority of greenfield development (1400 and 1000 lots respectively). These centres play a complementary role and have distinctive characters which should be nurtured. The strategy states that 'the capacity to accommodate more intensive development and higher densities will be subject to local housing needs and general urban design and character'. Additionally, the strategy anticipates demand for new dwellings, particularly a higher proportion of medium density and infill development, and the need for adaptable housing designs.

Local strategies

The Wingecarribee Strategic Plan highlights directions for the provision of increased opportunities and flexibility for mixed use development, and the ability for re-adaptable housing for aged care accommodation. Most new housing will be accommodated in new residential release areas, and medium density development will be restricted in locations close to town centres.

The Wingecarribee Community Strategic Plan provides the future vision, goals and priorities for the LGA to 2031 and was developed by Council in conjunction with the community. The vision statement for the Wingecarribee LGA is: 'a healthy and productive community, learning and living in harmony, proud of our heritage and nurturing our natural environment'. Goals for each theme (leadership, people, places, environment and economy) will be achieved through a three tiered implementation approach involving Council and other stakeholders.

Policy

Wingecarribee Local Environmental Plan (LEP) 2010 applies to the whole Shire. The main aims of the LEP are:

- to maintain Wingecarribee's original settlement pattern of towns and villages
- to encourage the efficient use and development of urban land, minimising the spread of urban areas
- to provide for range of new housing and housing choice in locations that have good access to public transport, retail and commercial services, and employment opportunities
- to provide a range of living opportunities that address differing lifestyle needs.

2 WINGECARRIBEE'S CURRENT POSITION

2.1 Market and demographics

ABS resident data

ABS census data, which collects information from every resident of the Shire every five years and updates this using sample data[8], was used to analyse the historical profile of the LGA in terms of population demographics and housing types. Additional work was undertaken to assess the pattern of migration to the Shire over the ten years prior to the 2006 census. The results from this assessment were used to design the housing demand model described later in the study, and to inform the recommendations for future action in relation to housing.

The following provides a summary of ABS resident data for the Wingecarribee LGA. Further detail is provided in Appendix C – Demographic context and Appendix N – Migrant profiles.

Population

In 2010, the Wingecarribee LGA had an estimated resident population of 46,960. Almost a third of the population of the LGA in 2006 was aged over 55, compared to just a quarter in NSW as a whole.

Burradoo had the highest proportion of people aged over 55, with 53 percent, while in Bowral the figure was 37 percent. The age profiles of Moss Vale and Mittagong are almost identical across all age ranges, with 29 percent of the population of each aged over 55. The northern villages and Robertson had a higher proportion of residents under 25 than elsewhere within the Shire.

From 1996 to 2006, a high proportion of 25 to 39 year olds moved out of the Wingecarribee LGA. Real estate agents suggested that this could be due to employment opportunities or young families or couples seeking a lifestyle change. During the same period there was a significant increase in 'couple families with no children', which could indicate empty nesters returning to the area or retiring from metropolitan areas.

The number of migrants moving to the Shire between 2001 and 2006 (7789 people) was lower than that in the previous five years (9237 people). Over the ten year period between 1996 and 2006, more than half of all migrants moved to Bowral, Mittagong and Moss Vale. Around a fifth moved to the rural areas. There does not appear to be any defining characteristic of migrants moving to a particular location, which suggests that factors such as access to services play a greater role in their location preferences.[9] ABS census data records information for respondents' place of residence only; as such, information showing ownership of second homes in the Shire is unavailable.

Housing

The housing profile of the Wingecarribee LGA shows the area contains a high proportion of 'separate houses'. Moss Vale centre contains a higher proportion of this type of dwelling when compared to Mittagong and Bowral centres, and the centre also has a higher proportion of residents who do not own a vehicle. This may be because of the large number of over 75s who no longer require a car. The majority of dwellings in Wingecarribee are either 'fully owned' or 'being purchased'. These two categories have increased by 8.6 percent and 54.4 percent respectively from 1996 to 2006.

[8] The most recent census count data available is that taken from the 2006 census. Estimated resident population data was released in 2011 and is the basis for this analysis.

[9] This informs the assumption that migrants choose where to locate based on access to specific services and infrastructure, which is used in later sections to determine where future demand for residential development is likely to be highest.

Socio-economic

The median individual income in Wingecarribee of $462 per week is higher than the Illawarra Statistical Division ($388) and New South Wales ($461). Approximately 45 percent of households in the Wingecarribee LGA earn less than $1000 per week. In Moss Vale and Mittagong this increases to over 50 percent.

The Department of Education, Employment and Workplace Relations (DEEWR) data show the LGA's unemployment rate in June 2011 was 3.4 percent. This is considerably lower than in the wider region, with 6.6 percent in the Illawarra SD, 4.9 percent in Sydney SD, and 5.1 percent in NSW and Australia.

2.2 Housing trends

The Wingecarribee Shire Community Profile 2006 provides the following summary of the housing market in the LGA:

> Housing types are largely unchanged since 2001 and do not match well with the needs of lone persons, couples and other small households.[10]
>
> Separate housing accounts for 90 percent of occupied private dwellings. Higher density housing stocks such as villas or townhouses remain low at 9 percent in 2006. The Planning Department predicts population growth of 15,500 persons will equate to demand for 8,700 new dwellings in the years leading up to 2031.
>
> The current stock of housing available for private rental is also low at 21 percent of occupied private dwellings, comparing to 28 percent for NSW in 2006. Lack of housing choice is contributing to affordability problems for lone person, couple and low income households seeking rental accommodation.
>
> The Housing Department reports that housing affordability is steadily declining with home purchase for lower income households now less affordable than the average for Sydney. Median household and family incomes are lower than that for the State and nation.[11]

Through analysis of residential sales data prior to April 2011, SGS has found that residential properties at the lower end of the market have been performing strongly in the Wingecarribee LGA. The higher end of the market has been struggling; in line with the picture at a national level, where house prices and activity in many areas have been subdued due to economic uncertainty and difficulties for investors in obtaining finance. Wingecarribee, as an attractive destination for retirees and with a high proportion of older residents, is particularly affected by issues affecting people's retirement choices. Lower confidence and reduced pension valuations as a result of the global financial crisis are likely to result in some potential residents delaying retirement, choosing not to move home within a local area or migrate, or becoming reluctant to invest in property.

Consultation with eight real estate agents[12] revealed strong sales for lower priced properties and an oversupply of properties priced over $850,000. Young families and older buyers are seeking properties at the lower end of the market. Consultation suggests that Wingecarribee has a large supply of aged care and retirement accommodation.

There is demand for apartments, particularly in town centres. However, the level of latent demand is untested due to the relatively low levels of stock in the LGA. The new release area, Renwick, is expected to experience strong demand if land is reasonably priced. Consultation in May 2012 suggests that the development has been selling well.

Literature suggests that housing preferences and dwelling demand in Sydney are changing, with buyers seeking smaller properties due to affordability issues, among others. However, there was no clear evidence from the real estate agents and state agencies consulted that preferences are changing dramatically within the Wingecarribee LGA for different forms of housing. Instead, the predicted changes in Wingecarribee's future population structure were viewed as likely to have a greater effect on housing demand.

[10] This was tested during consultation, and while consultation suggests that housing stock may be inappropriate in terms of size of dwellings (and potentially affordability), there was no suggestion that there was any change in demand for specific types of dwellings (such as from detached houses to apartments).

[11] Wingecarrribee Shire Community Profile 2006, Wingecarribee Shire Council, 2008. Accessed 29 March 2012 <www.wsc.nsw.gov.au/uploads/590/wsc_community_profile_june_2008.pdf>

[12] Four in Bowral, two in Mittagong, one in Moss Vale and one in Hill Top

There was also no evidence from consultation that the outward migration of younger people from the Wingecarribee LGA is due to issues with the form and location of existing housing supply; rather, it was suggested that this observed migration is due to younger people seeking further education and employment opportunities elsewhere.

Single residential median sales prices in the LGA increased from $143,250 in 2000 to a high of $379,500 in 2010, with prices dipping to $325,000 by April 2011. The number of sales decreased significantly from 2000 to 2010. Residential strata units in the LGA have also seen an increase in value, from a low of $193,000 in 2000 to $405,000 in 2006. The volatility in prices between 2006 and 2011 is likely to be attributable to the amount and quality of apartments on the market.

Further detail is provided in Appendix E – Housing market.

2.3 Ageing and housing

Consultation with regional aged care service providers and independent living unit operators identified the following issues affecting regional housing demand and supply as they relate to population ageing.

- The region is seen as an attractive location for retirement living, which leads to the perception that service providers must do more to support the planning needs of local population ageing. The region is known to have high socio-economic diversity, and there is a perception that service providers are more interested in capturing the economic benefits that emanate from growth of the local retirement industry, rather than catering to the needs of local people (as well as potential migrants) who do not have the means to purchase accommodation or access services in these centres.

- Bowral, and to a lesser extent Moss Vale, are capturing a substantial proportion of retirement-led migration. Prices are higher in these centres than in most other areas of the Shire, with constrained rental and housing choice as a result of retirement living. The northern villages of Wingecarribee are not seen as being as attractive to retirement-driven migrants.

- Retirement-led migration brings challenges for service provision. Older residents who move to Wingecarribee often seek out large properties, which require significant ground maintenance and are poorly designed to accommodate frail age. It was estimated by one respondent working with patients with Alzheimer's disease that rates of dementia among older migrants to Wingecarribee comprised approximately half the local caseload. Examples were cited of retirees 'escaping' the city expecting improvements in health or wellbeing in the countryside. In some cases, the stresses of relocation and loss of existing social and support networks has resulted in a worsening of dementia symptoms.

Anecdotal evidence suggests that there is a strong preference to age in place in Wingecarribee. It was reported that access to residential aged care centres (the locations form which are shown in Appendix F – Aged/ Seniors living developments) tends to be driven by acute needs – for example, medical diagnosis of an age-related illness or condition – and often after family care resources have been exhausted.

Ageing in place

Ageing in place, or the decision of older residents to continue living in their home after retirement, is by far the most common housing choice in the Wingecarribee LGA. Those ageing in place can access a range of Commonwealth and state funded services to support independent living (as detailed in Appendix G – Aged care support services), ranging from domestic care such as meal preparation, laundry and gardening, through to personal care and support including transport and temporary in-home respite care.

Ageing in place raises numerous challenges, such as:

- reduced supply of housing, through low occupancy of dwellings which present service difficulties for their occupants and community/ local government services (for example, ground maintenance and domestic support)
- increased demand for a range of essential services, including but not limited to primary health care facilities and a range of allied health services
- increased demand for public transport, including the delivery of transport services during off-peak periods and within more finite catchment areas (for example, 400 metres or less) than normally viable

- increased demand for social contact and sociability, driving the use of community infrastructure including community centres, libraries, places of worship and other public and semi-public spaces.

The NSW Department of Family and Community Services estimates that the proportion of Wingecarribee residents eligible to access state funded support services (based on measures of disability and population ageing) is 10.1 percent (4269 people). This is the highest in the South Western Sydney region[13].

Larger centres in the Shire provide a range of facilities that support active ageing in place, including access to primary and allied health services, social organisations and community organising infrastructure, retail facilities and transport services.

However, there are challenges in supporting ageing in place in more rural areas. For the purposes of Commonwealth funding which supports the provision of some community based aged care in the Shire, Wingecarribee is classified as being 'metropolitan', which has significant implications for service delivery given the low availability of supporting infrastructure in these settings, and extensive time requirements for patient and carer transport; detracting from the actual quantity of care provision delivered. Limited public transport services to rural areas compound existing access constraints.

'Granny flat' type accommodation is an additional option for those choosing to age in place. This form of housing can allow older residents to maintain independence while living close to family in often smaller and more manageable homes. It has additional benefits for the community in that the levels of household occupancy can be raised, and the care from family located nearby may reduce the burden on community services.

2.4 Land capacity and suitability

Opportunities on existing residential zoned land

Wingecarribee Shire Council undertook a survey of existing residential zoned land to ascertain opportunities for housing and locations of existing dwellings. The results are shown in Appendix H – Count of dwelling potential.

In summary, Moss Vale, Mittagong and Bundanoon have the highest potential for urban dwellings, with space for 2180, 1663 and 1574 dwellings respectively (60 percent of the total across the Shire). Across rural areas, Exeter has potential for 112 of the total 355 dwellings.

Unsurprisingly, the highest number of existing dwellings in urban areas was found to be located in Bowral, Moss Vale and Mittagong, with 65 percent of the Shire's urban dwellings located in these towns. Exeter and Colo Vale had the highest number of existing dwellings in the villages, with 163 and 134 dwellings respectively.

2.5 Housing capacity assessment

The housing capacity model developed by SGS ranks each parcel of land in areas zoned for residential development on the basis of the site's attributes and location to specific amenities and services (such as shops and transport connections).

Housing demand figures to 2031 (detailed in section 4) are allocated to areas on the basis of their performance in this assessment, from which a 'heat map' is created showing the locations in which future dwelling demand is likely to be highest (section 5).

Definition of terms

The terms described below are used throughout the gap analysis section.

Meshblock	Geographical area defined by the ABS for the 2006 census release. Meshblock boundaries are based on a catchment size of roughly 200 dwellings and vary in size and shape. They do not corrolate to zoning boundaries.

[13] NSW Government, Home and Community Care – Regional Plan 2008-2011, Metropolitan South Region

Dwelling capacity	The number of additional dwellings permissible under current planning controls (above existing dwelling numbers). Capacity is determined by calculations based on minimum lot size controls. Where there are no lot size controls, dwelling calculations are based on average dwelling sizes by zone for developable land.
Flood prone land	Land areas affected by flood prone areas.
Absolute constraint	Specific criterion determining that residential development is not allowed.
Minimum lot size (sub-division limit)	Development control limiting the minimal lot size permissible. These controls generally correlate with zoning boundaries; however, stand alone to zoning controls to allow for variations in these boundaries. This minimum lot size control has been the primary control in calculating maximum potential development.
Maximum developable site coverage	The total land area available for development. The portion of land available for residential development, determined by multiplying the lot land area by a ratio of allowable site cover of the development.
Site coverage	An estimate of the average building footprint area by zone. These estimates have been derived from previous SGS studies and research in comparable areas.
Site coverage ratio	The ratio of the average building footprint area (by zone) to lot area. These estimates have been derived from previous SGS studies and research in comparable areas.

Capacity under current controls

Various types of housing are available in Wingecarribee Shire; the locations for which can be determined via the 2010 Local Environmental Plan and Development Control Plans. Potentially, residential development can occur in all residential and centre zones. Houses are also permissible in some environmental management and some rural zones.

The dwelling capacity assessment identifies dwelling 'potential' or 'capacity' by calculating the maximum potential in the LGA under existing planning controls, and then removing the existing housing stock. The remainder value is the dwelling capacity.

Developable land area used in this analysis is the land remaining once 'constrained' lands are removed. In this definition, constrained lands include:

- zoned land that does not allow for residential development
  - business (B7)
  - environmental (E1, E2)
  - industrial (IN1, IN2, IN3)
  - recreation (RE1, RE2)
  - rural uses (RU3)
  - special uses (SP1, SP2, SP3)
- infrastructure cadastre
- flood prone land (this has been removed from the developable area of a land parcel but does not constrain the lot absolutely).

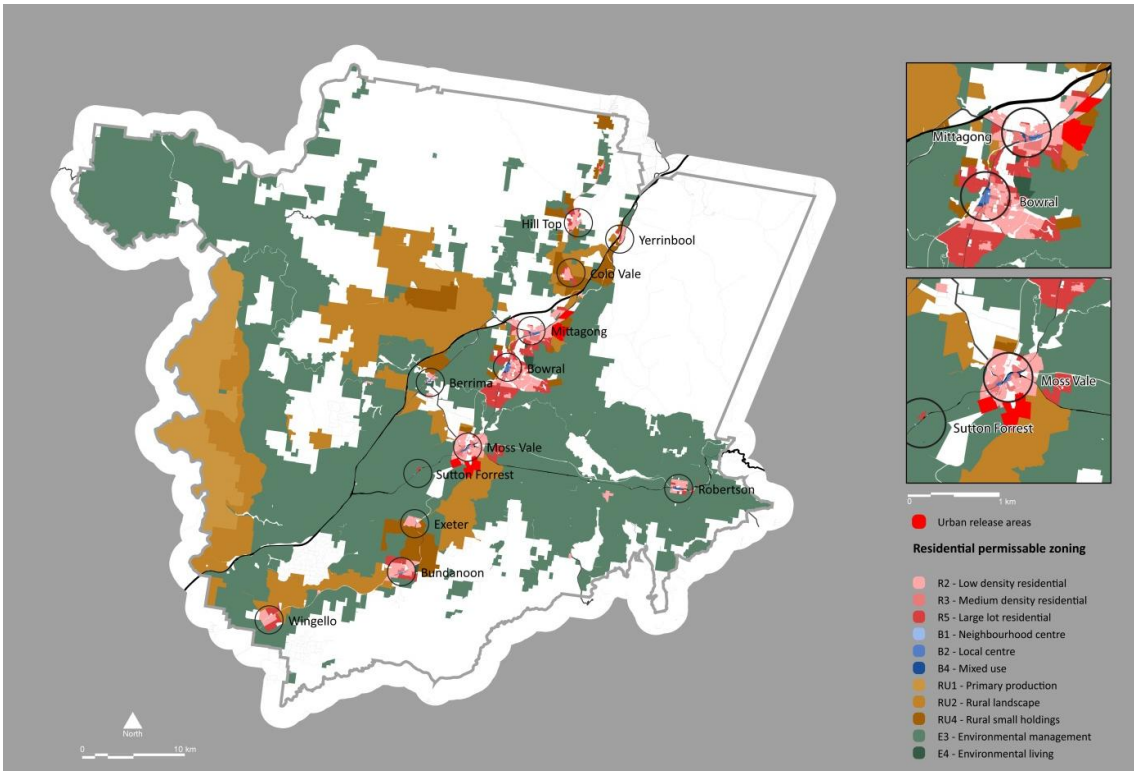
Land zoning and constrained areas are shown in Appendix I – Development constraints.

Maximum potential development

Figure 3 shows all land currently supporting residential development as well as urban release land areas, while the process to determine the maximum potential development can be seen in Figure 4.

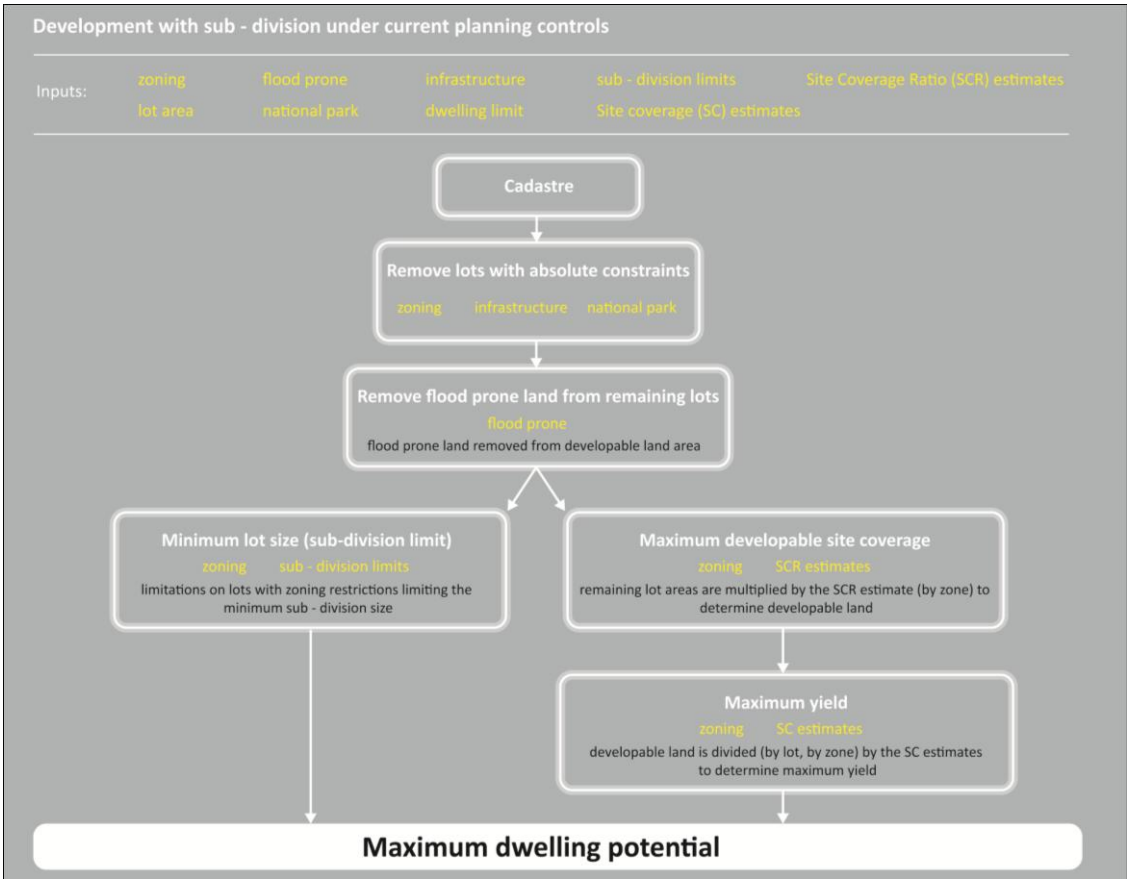
Maximum potential development is calculated for each lot by assessing zoning restrictions (as shown in Table 2 below), planning policies and development controls (as shown in Appendix I – Development constraints). These include limitations on the maximum number of dwellings per hectare, minimum subdivision sizes and maximum floorspace ratios. A value for the total dwelling potential of the LGA is based on these controls, and some basic assumptions on typical dwelling sizes.

FIGURE 3. RESIDENTIAL PERMISSABLE ZONING



Source: Wingecarribee Shire Council; SGS (2012)

FIGURE 4. MAXIMUM POTENTIAL DEVELOPMENT



Source: SGS, 2012

TABLE 2. DEVELOPMENT RESTRICTIONS BY ZONE

Zone	Constrained	Restrictions	Minimum lot area
B1	No	Low density residential, single occupation lots	N/a or 1000 sqm
B2	No		N/a
B4	No		N/a or 700 sqm
B5	Yes	Constrained for non- seniors residential development[14]	N/a
B7	Yes	Constrained for residential development	
E1	Yes	Constrained for residential development	
E2	Yes	Constrained for residential development	
E3	No	Low density residential, single occupation lots	N/a or 1000 to 400,000 sqm
E4	No	Low density residential, single occupation lots	4000 to 400,000 sqm
IN1	Yes	Constrained for residential development	
IN2	Yes	Constrained for residential development	
IN3	Yes	Constrained for residential development	
R2	No	Low density residential, single occupation lots	N/a or 450 to 400,000 sqm
R3	No		N/a or 700 sqm
R5	No	Low density residential, single occupation lots	N/a or 2000 to 8000 sqm
RE1	Yes	Constrained for residential development	
RE2	Yes	Constrained for residential development	
RU1	No	Dual occupations are allowed,	N/a or 400,000 sqm
RU2	No	Dual occupations are allowed,	N/a or 10,000 – 400,000 sqm
RU3	Yes	Constrained for residential development	
RU4	No	Dual occupations are allowed, minimum lot area >	20,000 – 100,000 sqm
SP1	Yes	Constrained for residential development	
SP2	Yes	Constrained for residential development	
SP3	Yes		

Source: Wingecarribee Shire Council and SGS Economics and Planning, 2012

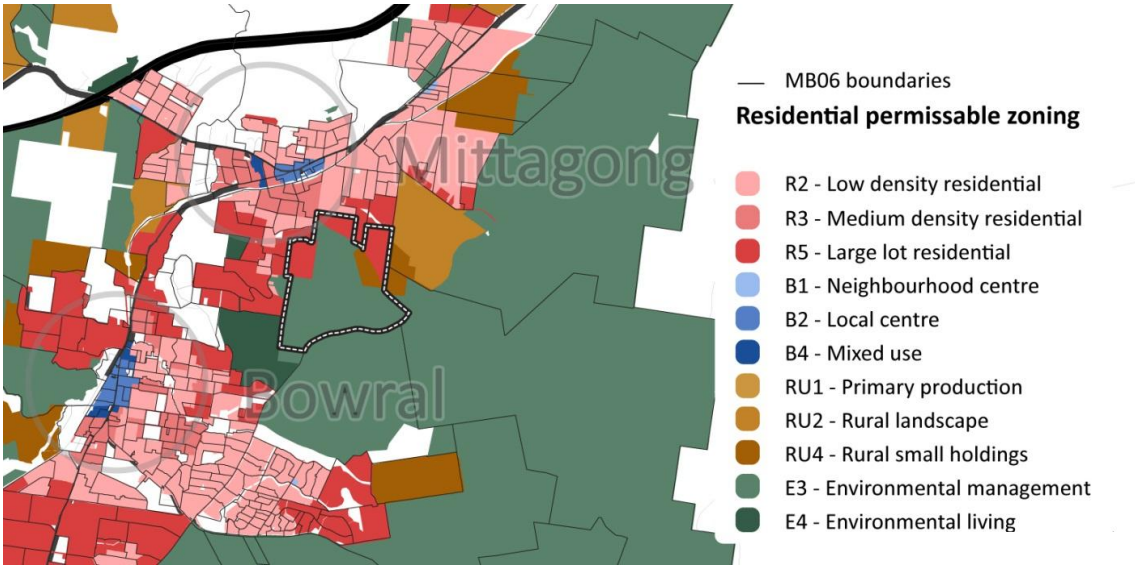
Existing dwellings

ABS 2006 data was used to determine the existing dwelling figures at a 'meshblock' level. Meshblocks are the smallest geographical area at which the ABS releases dwelling count data and were used to allow for maximum geographical definition.

Figure 5 shows the differences in meshblock and zoning boundaries. The black and white dotted line highlights a meshblock containing multiple residential permissible zones within its boundary. It can be seen that the meshblock boundaries often line up with zoning boundaries, but not in every case. The highlighted meshblock area is divided into areas of E3: environmental management, R5: large lot residential and RU4: rural small holdings zones.

[14] B5 land, on which seniors housing is permissible, has been considered constrained from potential developable land. This is because the demographic composition of households was not considered in the gap analysis component of this study.

FIGURE 5. MESHBLOCK AND ZONING CONCORDANCE



Source: SGS Economics and Planning, 2012

Dwelling capacity

Net dwelling capacity is calculated by deducting existing dwelling numbers from the maximum potential. To work with matching geographic areas, the model aggregates dwelling potential numbers from the lot level to the meshblock level allowing existing dwelling numbers to be subtracted from the maximum dwelling potential for the same areas. Therefore, the base unit for the capacity modelling is the meshblock. In summary:

Dwelling capacity (meshblock) = Maximum potential development (sum of the lots to meshblock level) – existing dwellings (meshblock)

The capacity numbers by meshblock are then summed to get the total capacity for each location. These total capacity figures for each location can be seen in Table 3.

TABLE 3. DWELLING CAPACITY BY TOWN/ VILLAGE AND RURAL BALANCE

Location	Role	Capacity
Bowral	Major centre	2,979
Mittagong	Major centre	4,811
Moss Vale	Major centre	5,818
Berrima	Small centre	381
Bundanoon	Small centre	2,138
Burradoo	Small centre	363
Robertson	Small centre	827
Colo Vale	Village	106
Exeter	Village	97
Hill Top	Village	625
Wingello	Village	134
Yerrinbool	Village	60
Rural Balance	Remainder	10,626
Total		28,965

Source: SGS Economics and Planning, 2012

2.6 Opportunity analysis

Development opportunity – residential dwellings

A land ranking process was developed to determine the development opportunity across the LGA. This analysis is based on the assumption that a location close to specific services and attributes is preferable for the residential market.

The ranking was performed using the assessment criteria in Table 4. If a lot is within the specified distance from a particular attribute (the buffer distance), it earns a point. The more points a particular lot receives, the higher its rank in the analysis and therefore the more suitable it is likely to be for residential development. As more services and attributes are added to the analysis, a 'heat map' of development suitability is generated.

Strata title ownership and heritage constraints are assumed to hinder a lot's potential for development and therefore have been assigned a negative value. There is also a weighting on the proximity to shopping centres. This attribute has a cumulative point system whereby if a lot is within one kilometre of multiple shopping centres, the lot will accumulate multiple points.

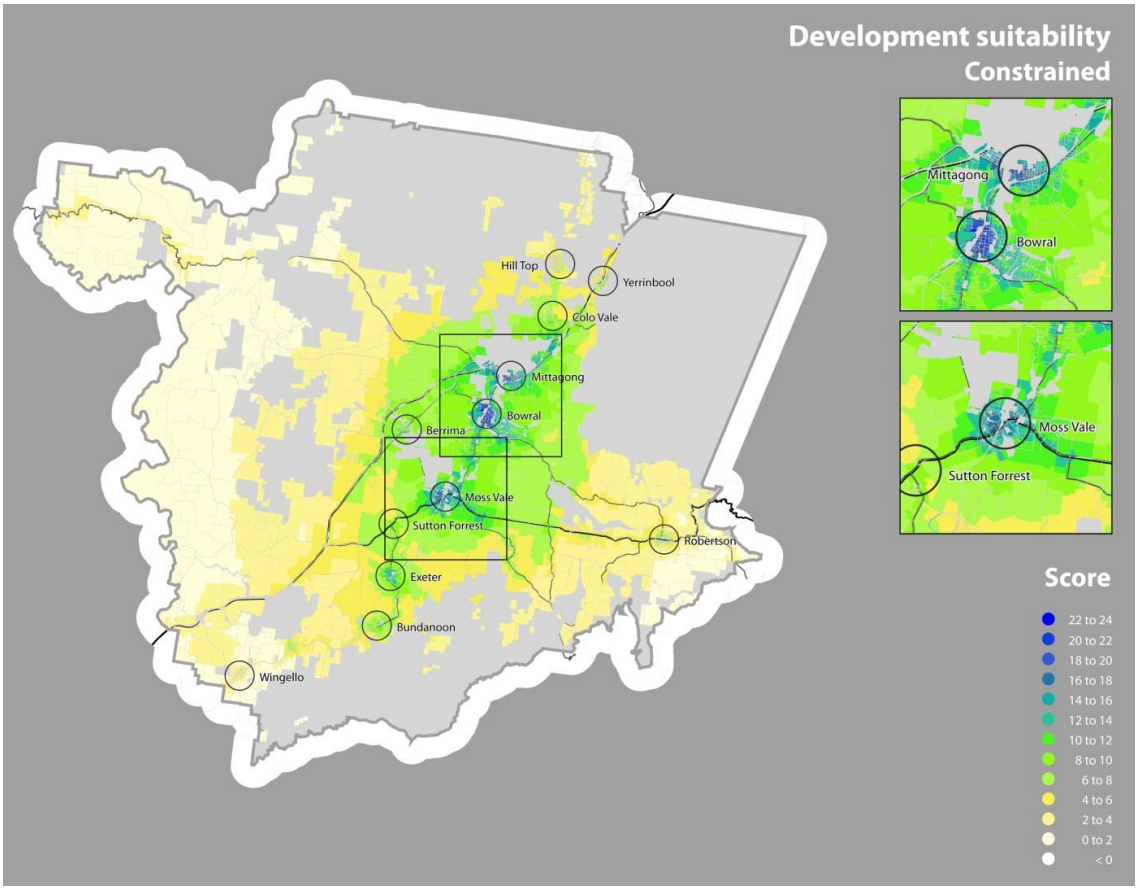
TABLE 4. DEVELOPMENT SUITABILITY ATTRIBUTES

Attribute	Buffer distance	Point allocation
Proximity to recreational parks	2 km	+ 1
sports fields	10 km	+ 1
sports complexes	10 km	+ 1
golf courses	5 km	+ 1
swimming pools	1 km	+ 1
highways	2 km	+ 1
highway on off ramps	1 km	+ 1
main roads	400 m	+ 1
hospitals	5 km	+ 1
train stations	1 km	+ 1
bus routes	400 m	+ 1
bus stops	400 m	+ 1
shopping centres	1 km	+ 1
primary schools	10 km	+ 1
secondary schools	20 km	+ 1
tertiary education facilities	30 km	+ 1
Lot size	Large lot residential	+ 1
Strata title ownership	Negative	- 1
Heritage listed lot	Negative	- 1

Source: SGS Economics and Planning, 2012

Figure 6 shows the result of the development opportunity mapping analysis. Areas of high suitability for residential development, according to the development suitability attributes listed in Table 4, are indicated in blue.

FIGURE 6. DEVELOPMENT SUITABILITY



Source: SGS Economics and Planning, 2012

Opportunity mapping – seniors housing

The locations within Wingecarribee Shire most suitable for seniors housing have been considered within the same framework. The assessment criteria are shown in Table 5.

TABLE 5. DEVELOPMENT SUITABILITY ATTRIBUTES

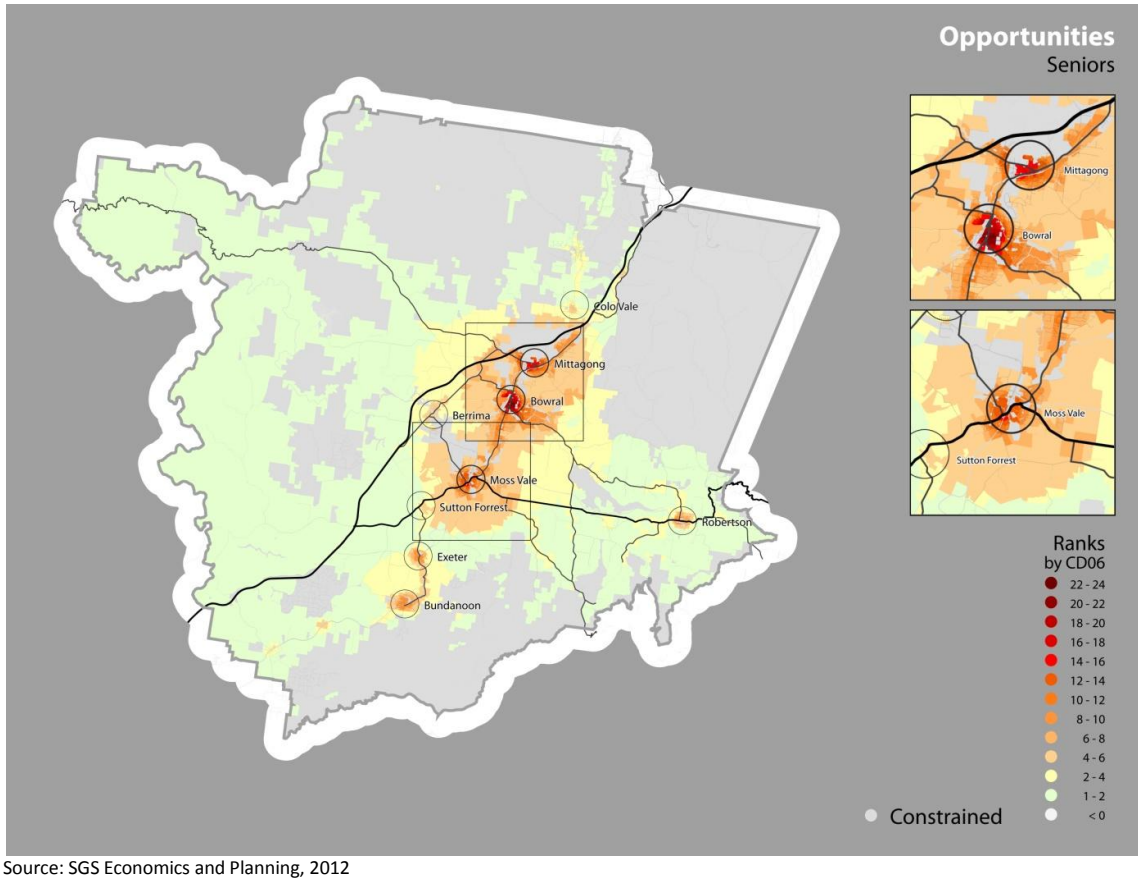
Attribute		Buffer distance	Point allocation
Proximity to	recreational parks	2 km	+ 1
	golf courses	5 km	+ 1
	swimming pools	1 km	+ 1
	main roads	400 m	+ 1
	hospitals	5 km	+ 1
	emergency services (police/ ambulance/ fire station)	5 km	+ 1
	post office	1 km	+ 1
	train stations	1 km	+ 1
	bus routes	400 m	+ 1
	bus stops	400 m	+ 1
	shopping centres	1 km	+ 1
	aged care facility	1 km	+ 1
	library	5 km	+ 1
Strata title ownership		Negative	- 1
Heritage listed lot		Negative	- 1

Source: SGS Economics and Planning, 2012

The results of this assessment are shown in Figure 7. Again, land where residential development is not permitted under current zoning, and other constraints as detailed previously, have been excluded. Bowral, Mittagong and

Moss Vale are shown as most suitable for seniors housing development due to their good access to services, amenity, health facilities and transport.

FIGURE 7. DEVELOPMENT SUITABILITY FOR SENIORS HOUSING



Source: SGS Economics and Planning, 2012

3 WINGECARRIBEE'S FUTURE POPULATION

3.1 Existing population forecasts (DoPI)

In 2009, the NSW Department of Planning and Infrastructure produced population projections from 2006 to 2036 for the Statistical Local Areas (SLAs) and Local Government Areas (LGAs) of New South Wales. These projections are not targets and do not necessarily reflect policy positions[15]. These projections are shown in Table 6 below.

TABLE 6. DEPARTMENT OF PLANNING AND INFRASTRUCTURE POPULATION PROJECTIONS FOR WINGECARRIBEE

Period	Births	Deaths	Net migration	Total growth	Total population at end of period	Average annual growth rate
1996-2001				4,690	42,700	2.3%
2001-2006				1,630	44,400	0.8%
2006-2011	2,420	1,840	2,360	2,940	47,300	1.3%
2011-2016	2,490	2,070	2,660	3,080	50,400	1.3%
2016-2021	2,600	2,300	2,660	2,970	53,400	1.1%
2021-2026	2,690	2,550	2,660	2,810	56,200	1.0%
2026-2031	2,750	2,830	2,660	2,590	58,800	0.9%
2031-2036	2,800	3,140	2,660	2,320	61,100	0.8%

Source: NSW Department of Planning and Infrastructure, 2009

The DoPI notes that trends in fertility, mortality and migration are characterised by random and cyclical fluctuations. Since these are impossible to predict, projection assumptions are often formulated as long-term averages.

The case for new forecasts

It appears that the DoPI projections for net migration to Wingecarribee use a long-term average[16], which is assumed to remain constant from 2011 onwards. In other words, the forecasts assume that net migration increases at a constant rate.

In contrast, the SGS population model uses a logarithm function to forecast net migration. The use of a logarithm function implies that net migration increases at a decreasing rate. This is the key difference in the method, and therefore results, between the two forecasts.

Another difference is that the DoPI projections use Estimated Resident Population (ERP), which is based on a population sample, while the SGS population forecasting model uses 2006 ABS census count of persons. Using the 2006 census data allows consistency with other types of data used in our modelling. This choice does not impact population growth trends; however, it does impact the total population projected[17]. From a conceptual point of view, however, the method used by the DoPI to project births and deaths is largely similar to that used in the SGS model.

[15] Department of Planning and Infrastructure (2009) New South Wales Statistical Local Area Population Projections, 2006-2036, Sydney: Department of Planning and Infrastructure.
[16] Total net migration between 1996 and 2001 was 3207 people, while between 2001 and 2006 it was 1256 people. The 10 year average net migration is therefore 2232.
[17] Since the SGS model starts from a lower starting point than the DOP, the forecast for 2036 will also be lower.

3.2 SGS population forecasts

Assumptions

The change in population over time is comprised of three components – births, deaths and net migration. The base year of the population forecast is 2006 (as the latest census year). In the base case, the population in Wingecarribee has been forecast from 2006 to 2036 in five year intervals, based on the historical birth rate, death rate and observed migration trend. The assumptions and methods briefly summarised below are explained in greater detail in Appendix J – Population modelling.

Births

Historical age specific fertility rates (ASFRs) and total fertility rates (TFRs) for Wingecarribee between 2005 and 2009 are calculated using the birth count data purchased from ABS. The percentage change of Australia-wide projected medium fertility rates[18] is applied to the observed rates in Wingecarribee. The resulting five yearly ASFRs and TFRs are then applied to the female population aged 15 to 40 every five years. This suggests that the birth rate per woman will reduce from 2.02 in 2009 to 1.70 in 2036.

Deaths

Mortality rates by sex are obtained using Life Tables[19] for NSW. Next, the number of deaths between 2005 and 2009 is estimated by applying these age-specific mortality rates to the estimated resident population in Wingecarribee in 2004. The NSW Life Table rates are then adjusted so that the estimated death count is equal to the actual number of deaths observed in Wingecarribee from 2005 to 2009. Given that life expectancy is generally stable nationally, Australia-wide ABS[20] assumptions on changes to life expectancy over time are applied to the life expectancy estimates for Wingecarribee. The resulting mortality rates by age group are applied to the corresponding population age group. This suggests that life expectancy for males is likely to increase from 80.36 in 2010-11 to 82.61 in 2025-26, and for females from 84.86 to 86.51 in the same period.

Net migration

Historical five yearly (and yearly) net migration[21] data for Wingecarribee is obtained from the ABS. A natural logarithm function, which assumes that net migration will increase at a decreasing rate over long periods, is used to project net migration. Due to an outlier, the sample is restricted to the period 2002 to 2009. To derive the age profile of net migrants, the average of each age cohort's share of total net migration across both census years (2001 and 2006) is calculated. It is assumed that this age profile remains unchanged over the forecast period.

Outputs

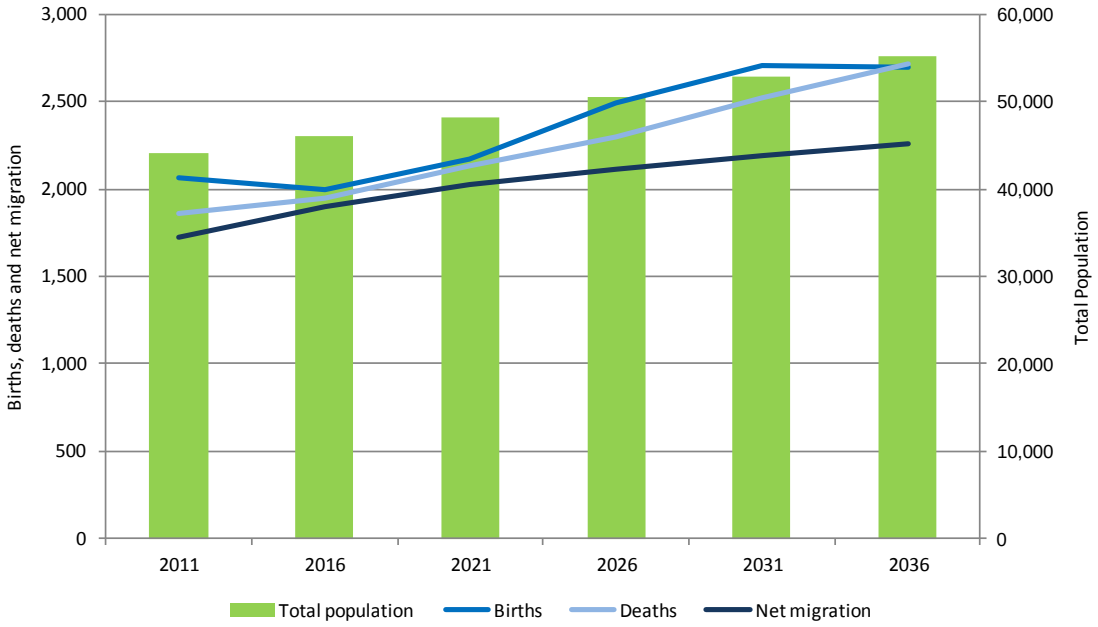
These three components are used to generate population projections using the following five-year rolling formula:

$$ERP_t = ERP_{t-5} + \text{fertility rate} \times \text{female ERP aged 15-49 t-5} - \text{mortality rate} \times ERP_{t-5} + \text{net migration from t-5 to t}$$

The results are shown in Figure 8.

[18] ABS, Population Projection from 2007 to 2101, 2010
[19] These rates represent the probability that a person will die before his or her next birthday
[20] ABS, Population Projection from 2007 to 2101, 2010
[21] Difference between inward and outward migration

FIGURE 8. POPULATION FORECAST FOR WINGECARRIBEE



Source: SGS Economics and Planning, 2012

Net migration and deaths exhibit increasing trends. The increase in the number of deaths is reasonable because the number of people over the age of 65 years old is forecast to increase rapidly with increasing life expectancy. In addition, almost half the population migrating to the Shire are over 65, therefore increasing the death rate per head of population.

It is also noteworthy that births and deaths are growing at a slightly higher rate than net migration. Births are forecast to increase steadily at a rate approximate to the death rate and stabilise after 2031. This indicates that the rate of natural increase is estimated to be low. Overall total population in the LGA is forecast to reach 55,136 by the end of 2036.

Table 7 shows how SGS's population forecasts compare to those prepared by the Department of Planning and Infrastructure. SGS population projections by five year periods by age grouping are provided in Appendix K – Population projections.

TABLE 7. POPULATION FORECAST AT FIVE YEARLY INTERVALS

	DoPI forecast	SGS forecast	Difference
2006	44,400	42,273	2,127
2011	47,300	44,203	3,097
2016	50,400	46,144	4,256
2021	53,400	48,205	5,195
2026	56,200	50,518	5,682
2031	58,800	52,901	5,899
2036	61,100	55,136	5,964

Source: Department of Planning and Infrastructure, 2009; SGS Economics and Planning, 2012

3.3 Net migration scenarios

To test the impact of net migration on the population projections for the LGA, SGS constructed three net migration scenarios, in addition to the baseline forecast detailed above. Each scenario is summarised below, and a discussion of their implementation and results is in Appendix L – Net migration scenarios.

Seniors living migration scenario

For this scenario we considered the impact of higher life expectancy on net migration. Given that the LGA is a prime location for seniors, it is assumed that improved life expectancy across Australia will increase demand for

Wingecarribee as a seniors living location. It is therefore assumed that the seniors living migration scenario will only impact net migration in the 55 to 65 (those approaching retirement) and 65+ (retiree) age groups. Other age groups will not be impacted.

Amenity, lifestyle and services

For this scenario we consider the impact of amenity and lifestyle factors on net migration. Many coastal areas affected by the sea change phenomenon have now reached critical mass. As a result, people are starting to look for alternative lifestyle locations not necessarily located on the coast[22]. Previous research by SGS suggests that socio-demographic phenomena such as sea change, tree change and exurbanisation impact both those nearing retirement and young workers who seek a better environment to raise a family and escape the urban lifestyle. It is therefore assumed that net migrants aged 30 to 54 years will be impacted in this scenario[23]. In addition, net migrants in the 5 to 14 year age group are also included because children are likely to move with their parents[24]. Other age groups will not be impacted.

Employment scenario

The Economic Development Strategic Plan for the Wingecarribee LGA[25] outlines that the key objective of the 'Investment Shire' strategy is to promote investment in the local economy, with a focus on self containment in services and on the attraction of new key industries to create and maintain an environment that fosters investment and employment growth. Natural population growth will result in job creation in population-servicing industries. This aspect of job creation is implicitly captured in the SGS baseline population forecast. In contrast, this migration scenario simulates non-population related exogenous job generation on employment lands in Wingecarribee. It is assumed that only net migrants in the working age population of 15 to 64 years[26] will be impacted.

3.4 Population projections for residents over 55

When considering the effects of ageing on regional housing demand, two main demographic cohorts are relevant to future planning:

- The number of residents aged 55 years and over, who are able to access independent living unit (ILU) accommodation, and whose housing decisions will be influenced by considerations around retirement living and ageing in an 'autonomous' setting.

- The number of residents aged 85 years and over, or the frail aged, who may require assistance to perform household and/ or personal duties, and whose needs may require support in low or high care residential aged care (RAC) settings.

To reiterate, the majority of older residents of the Wingecarribee LGA will choose to remain in their own homes as they age. There will, however, be some residents choosing to move to facilities specifically for those over 55.

NSW Department of Planning and Infrastructure projections have been used to forecast future demand for aged housing. The DoPI forecasts for over 55s are higher than those predicted by SGS for every five year interval to 2036. This means that using DoPI projections is a more conservative approach, in that it will generate higher predicted demand for aged care facilities than if the SGS figures were used. Based on market research and consultation, we assume in this approach that housing preferences are not changing considerably over time; that is, that the percentage of residents requiring specific aged care is constant and demand rises only because the population in specific age ranges rises.

The DoPI forecasts for Wingecarribee project a tripling of the number of residents aged over 85 between 2011 and 2036 (from 1170 to 3880 people, equivalent to 5.4 percent annual growth) and a 72 percent increase in the population aged over 55 years. Around 80 percent of expected growth in the total population (projected to be 15,000 people) is forecast to be made up of over 55s[27].

[22] B Salt, The Big Shift, Who we are and where we are headed, 3rd Edition, Hardie Grant Books, South Yarra, Australia, 2004
[23] The 55+ age group is excluded because it is captured by the seniors living net migration driver
[24] The correlation between the two age groups is also revealed by the age structure of net migration in the LGA
[25] Wingecarribee Shire Council, Economic Development, Strategic Plan 2008- 2016, 2006
[26] Australian Bureau of Statistics, Population by Age and Sex, Australian States and Territories, Cat. No. 3201.0, Jun 2010
[27] NSW Government, 2010. NSW Statistical Local Area Population Projections (April 2010). Accessed online, 19 October 2011 at: <www.planning.nsw.gov.au/StrategicPlanning/Populationandhousingprojections/tabid/124/language/en-AU/Default.aspx>

Table 8 provides a breakdown of forecast population growth for residents aged over 55. In almost all instances, the rate of population growth of older residents in Wingecarribee is higher than the NSW average.

TABLE 8. POPULATION AGED 55+ (PROXY FOR ILU DEMAND)

	2011	2016	2021	2026	2031	2036
Wingecarribee (C)	16,600	19,570	22,400	24,810	26,910	28,590
Growth (%)	-	17.9%	14.5%	10.8%	8.5%	6.2%
NSW (State)	1,875,400	2,108,400	2,335,100	2,545,600	2,752,800	2,936,600
Growth (%)	-	12.4%	10.8%	9.0%	8.1%	6.7%

Source: NSW Department of Planning and Infrastructure, 2011

Rates of population ageing for residents over 85 years are illustrated in Table 9. Such high levels of growth, even when set against a relatively low population base as recorded in 2011, are significant given the high community care needs of people aged over 85 choosing to live at home, and the likely increase in demand for accommodation within low and high care residential aged care settings.

TABLE 9. POPULATION AGED 85+ (PROXY FOR RAC DEMAND – HIGH CARE)

	2011	2016	2021	2026	2031	2036
Wingecarribee (C)	1,170	1,490	1,780	2,250	2,970	3,880
Growth (%)	-	27.4%	19.5%	26.4%	32.0%	30.6%
NSW (State)	145,200	171,800	189,500	220,400	274,100	353,100
Growth (%)	-	18.3%	10.3%	16.3%	24.4%	28.8%

Source: NSW Department of Planning and Infrastructure, 2011

4 HOUSING REQUIREMENTS FOR THE FUTURE POPULATION

4.1 Housing demand model

SGS has previously completed research considering the drivers of population and housing growth. We have found that the principal factor determining future dwelling demand is the profile of family types in the predicted population.

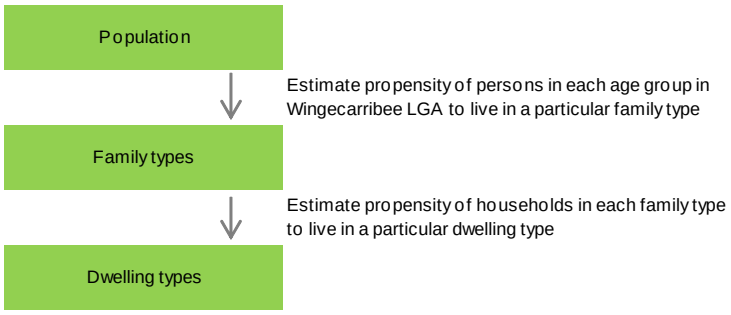
As such, we have constructed a housing demand model, which uses the propensities for specific family types to live in certain housing forms in order to predict demand for separate dwellings, semi-detached dwellings[28], and apartments. By examining these patterns at a broad spatial level we are able to determine underlying housing preferences. This forms the basis of a forecast of underlying demand for housing and enables forecasts by dwelling type and number of bedrooms based on forecast population growth and demographic characteristics. This method allows for changing housing preferences; the inputs to which would usually come from consultation.

The outputs from this model – figures for estimated future housing demand – are then allocated to areas within the Shire in the housing gap analysis (section 5).

Method and assumptions

The underlying demand for particular dwelling types for the Wingecarribee LGA has been estimated using a 'propensity-based model'. The propensity to belong to a particular household is expected to change over time with decreasing fertility rates and lifestyle choices. It is difficult to estimate the extent to which family types or the propensity of particular family types to live in particular dwelling types will change in future. Typically, the forecast result will ascribe the decreasing prevalence of traditional family units (composed of a mother, father and two children). The method used to encapsulate these forecast changes in the relationship between population and dwellings is described below.

FIGURE 9. SUMMARY OF SGS HOUSING MODEL



Source: SGS Economics and Planning, 2012

Each step of the process is briefly described below:

[28] Including townhouses and terraces

1. Population projections by age group are sourced from the SGS population forecasting model. As discussed in section 3.3, three alternative net migration scenarios and a baseline population forecast were developed. These projections are disaggregated into family/ relationship type, where the future distribution between age group and family/ relationship type is linearly extrapolated based on the trends in 1996, 2001 and 2006 ABS census data.

   Projected family types (by number of people) are converted to number of households based on the trends observed in household sizes of different family and household types in 1996, 2001 and 2006 ABS census data. As such, it is assumed that recent trends in household size continue into the future and that there is no current latent demand for particular housing types. This is based on advice from real estate agents contacted during the consultation phase.

2. Projected family types are then disaggregated into dwelling types. Again, future distribution is linearly extrapolated based on the trends in 1996, 2001 and 2006 ABS census data. In other words, it is assumed that the historic trends for different family types to choose particular dwellings continues into the future, and that these choices in the past have not been affected by supply constraints (that there has been a match between demand for particular dwelling types and supply of these dwelling types).

A baseline dwelling forecast and three scenarios have been developed using corresponding population forecasts. The purpose of running the three dwelling scenarios[29] is to examine how demand for different dwelling types would change if the Wingecarribee LGA experienced increased net migration in people belonging to certain age groups as captured by the migration scenarios.

4.2 Model outputs

The baseline results of step 1 of the model are shown in Table 10. Between 2006 and 2031, the number of people living in couple with no children households is estimated to increase at the greatest rate, at an average of 1.94 percent per annum. The number of people living in lone person households is also estimated to increase at a rate above other family types, at an average of 1.93 percent per annum.

The relative shares of each family type are shown at five year intervals in Table 10. The relative share of couples with children is estimated to decline, while the relative share of couples with no children is marginally increasing. Other family types remain stable.

These results are consistent with the historical trend of older couples with no children moving in to the LGA and younger people moving out.

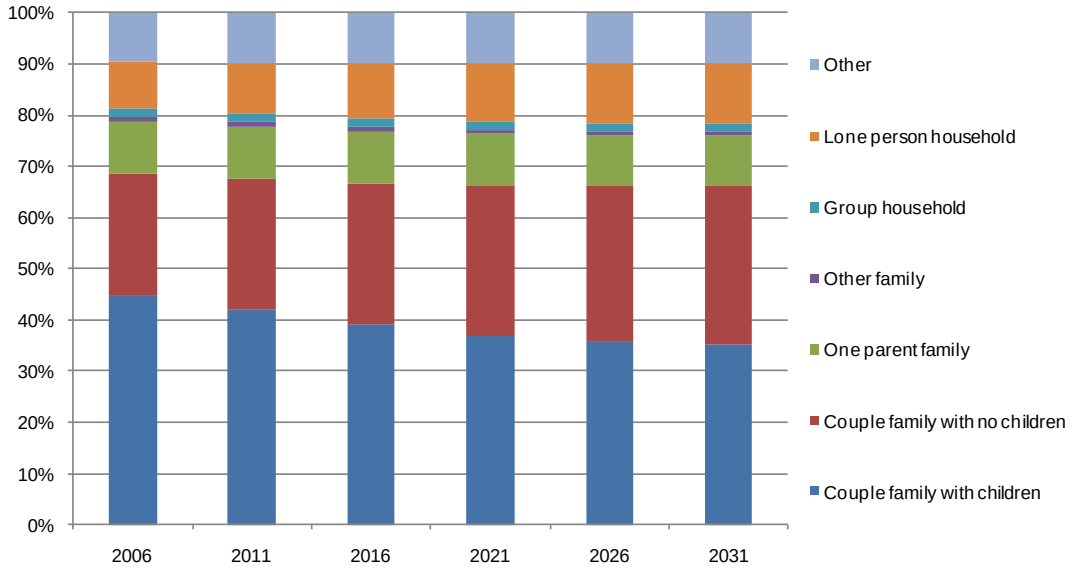
TABLE 10. BASELINE FAMILY TYPE PROJECTIONS

Family composition	2006	2011	2016	2021	2026	2031	2006-31 change	AAGR 2006-31
Persons living in								
Couple family with children	18,840	18,540	18,046	17,773	18,056	18,660	-180	-0.04%
Couple family with no children	10,106	11,268	12,723	14,204	15,414	16,349	6,243	1.94%
One parent family	4,301	4,550	4,684	4,798	4,983	5,263	963	0.81%
Other family	415	402	371	332	308	292	-123	-1.40%
Group household	686	748	815	870	885	889	203	1.04%
Lone person household	3,906	4,374	4,928	5,437	5,901	6,301	2,395	1.93%
Other	4,019	4,322	4,578	4,790	4,971	5,147	1,128	0.99%
Total persons	42,273	44,203	46,144	48,205	50,518	52,901	10,628	0.90%

Source: SGS Economics and Planning, 2012

[29] Since the projected population and family composition is different for each migration scenario, it is plausible that this would be reflected in different dwelling profiles. However, the variation in the dwelling profile depends on the magnitude of the impact of net migration on the total population and the underlying dwelling type propensities of the net migrants.

FIGURE 10. SHARE OF PEOPLE IN EACH FAMILY TYPE, BASELINE PROJECTIONS



Source: SGS Economics and Planning, 2012

The projected baseline population increase translates into an additional 6220 households[30].

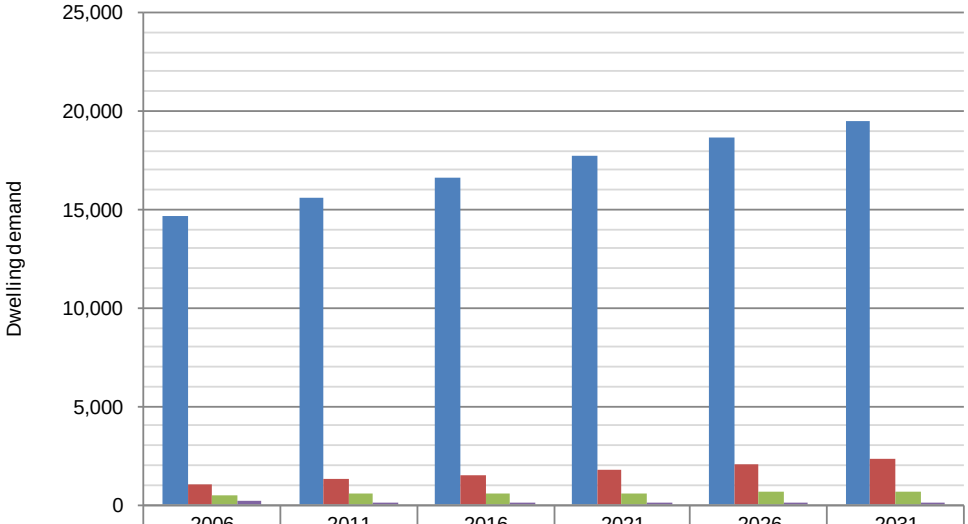
Results of the baseline dwelling forecast (Figure 11) indicate that between 2006 and 2031, across the LGA there will be an estimated demand for 6284 dwellings, comprising:

- 4867 additional separate dwellings (average annual growth rate: 1.15 percent)
- 1257 additional semi-detached/ row/ terrace/ townhouse dwellings (average annual growth rate: 3.16 percent)
- 160 flat/ unit/ apartments (average annual growth rate: 1.09 percent).

While demand is strongest for separate dwellings, demand growth is forecast to be strongest for the ABS category of 'semi-detached dwellings' (which includes town houses, although is unrelated to lot size) with an average annual growth rate of 3.16 percent. Given the historical preference for separate dwellings and large land lots, it is expected that separate dwellings will continue to dominate the dwelling mix in the next 25 years.

[30] Average Annual Growth Rate (AAGR) of 1.29 percent

FIGURE 11. BASELINE DWELLING DEMAND PROJECTIONS (CUMULATIVE TOTALS)



	2006	2011	2016	2021	2026	2031
Separate house	14,668	15,553	16,616	17,705	18,693	19,535
Semi-detached	1,066	1,266	1,525	1,794	2,062	2,323
Flats	512	515	560	603	641	671
Other	169	94	91	96	101	105

Source: SGS Economics and Planning, 2012

4.3 Summary

Our projections show that the population of the Wingecarribee LGA is predicted to increase to 55,136 by the end of 2036, and that the number of people living alone will increase more than proportionately. We anticipate that dwelling demand will mainly be for separate housing, while the highest growth rate over the period will be for the ABS category of semi detached houses, which includes townhouses.

4.4 Aged facilities: Independent Living Units

Independent living units (ILUs) are purpose built or configured complexes that support ageing in a low care residential setting. Residence in an ILU is limited to those aged over 55 years and these facilities typically provide a sheltered community or village environment, where individual units are supported by emergency alarm systems and an on-site caretaker or manager. ILU developments may also include provision for a space which can be utilised by a visiting allied health service provider, such as a nurse or physiotherapist. It is estimated that there are 34,700 independent living units in Australia, with 13,600 (approximately 40 percent) of these located in NSW[31].

As advised by Wingecarribee Shire Council, there are currently 595 independent living units approved and constructed, or under construction. Assuming that the current service ratio of 3.6 percent remains constant (that is, 36 in every 1000 residents in Wingecarribee over 55 desires accommodation in an ILU, with the majority of older residents ageing in place), and no additional capacity is made available, the undersupply of 430 ILUs shown in Table 11 can be expected.

[31] Australian Aged Care Guide (October 2011). Accessed online, October 2011 at: <www.agedcareguide.com.au/residential.asp?stateid=2&lgaid=168>

TABLE 11. BASE CASE ILU DEMAND

	2011	2016	2021	2026	2031	2036
A: Population (55+)	16,600	19,570	22,400	24,810	26,910	28,590
B: Existing ILUs (2011 data)	595	595	595	595	595	595
C: Calculated propensity (=B/A in 2011, held constant for all subsequent years)	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%
ILU requirement given current propensity (=A/C)	595	701	803	889	965	1025
Predicted undersupply with current propensity	-	106	208	294	370	430

Source: Wingecarribee Shire Council and SGS Economics and Planning, 2012

Demand for ILUs in Wingecarribee is expected to be a minimum of 430 new units by 2036. This estimate is based on current levels of propensity of 3.6 percent and may therefore be conservative. In order to estimate a reasonable 'rule of thumb' for provision, providers of ILUs in Wingecarribee were consulted. They estimated propensities of 4 to 5 percent as probable, which would indicate a potential shortfall in demand of up to 692 new ILU units by 2036, as shown in Table 12.

TABLE 12. MARKET CASE ILU DEMAND

	2011	2016	2021	2026	2031	2036
Population (55+)	16,600	19,570	22,400	24,810	26,910	28,590
Undersupply (4.5% propensity)	-	286	413	521	616	692

Source: Consultation, SGS Economics and Planning, 2012

Demand for ILU units within Wingecarribee Shire is currently distributed between higher-value developments in Bowral and areas with perceived rural and lifestyle amenity, with developments in Moss Vale and the northern villages catering to the lower value ends of market. Consultation identified that while the overall propensity for ILU dwellings is currently low, there are a number of factors that have limited take up of this type of accommodation:

Price
- ILUs require outright purchase of a property, rather than payment of a bond or rent on services. In addition to higher establishment costs, residents also pay a Strata fee, with additional services sometimes provided at an at-cost basis.

Investment portability
- An ILU cannot be on-sold as readily as mainstream housing as the prospective occupant must fulfil minimum age criteria (55+) and accept Strata laws that restrict the use of the property for other purposes (for example, subletting).

Market conditions
- Relative cooling of the housing market since 2008 and public uncertainty in the property market inhibited the sale of a number of ILU dwellings, as prospective buyers were often required to on-sell the existing family home to access these dwellings (mortgage finance is difficult to secure for ILU type dwellings).

Perception
- There is limited public differentiation between ILU and other strata-type development, with mainstream strata type developments seen to offer a higher degree of market flexibility.

4.5 Aged facilities: residential aged care

Demand for residential aged care is split into two main categories of provision: residential low care, which provides a semi-autonomous nursing home or hostel style care environment, and residential high care, which caters to those with limited independent mobility or high personal care needs (including medical support needs).

The Commonwealth Department of Health and Ageing (DoHA) controls the supply of subsidised aged care places through its role in setting the aged care planning ratio target. In accordance with this target, DoHA allocates and funds aged care places supplied by approved providers, for a set number of operational places for every 1000 Australians aged 70 years and over.

The current planning ratio for aged care places, as defined by the Commonwealth Department of Health and Ageing, is 113 places per 1000 people aged 70 years. The target mix is distributed as follows:

- 44 low care places per 1000 people aged 70 years and over (4.4 percent)
- 44 high care places per 1000 people aged 70 years and over (4.4 percent)
- 25 community care places per 1000 people aged 70 years and over (2.5 percent), comprising 21 Community

Aged Care Places and four Extended Aged Care at Home.

Low care projections

Residential aged care (low care) settings are nursing home establishments that provide lower levels of care support, catering for those who need some help with basic duties (for example, eating and dressing) but who can generally move about on their own. Support services such as cleaning, laundry and meals are provided, and some allied health services such as nursing may be delivered on site. According to the Department of Health and Ageing and Wingecarribee Shire Council, the following provision of low care services currently exists in Wingecarribee:

- Bowral House (Bowral) 10 beds
- HarbisonCare (Burradoo) 93 beds
- HarbisonCare (Moss Vale) 126 beds, with 49 additional Dementia beds
- Warrigal Care (Bundanoon) 20 beds
- Anthem (Bowral) 22 beds

Assuming that the current service ratio of 7.8 percent is adequate; remains constant (that is, 78 in every 1000 residents over age 75 in Wingecarribee requires accommodation in a low care RAC), and no additional bed capacity is made available, the undersupply of 555 low care beds by 2036 as shown in Table 13 can be expected.

TABLE 13. BASE CASE LOW CARE BED DEMAND

	2011	2016	2021	2026	2031	2036
A: Population (75+)	4110	5060	6440	8150	9660	11,240
B: Current low care supply (beds)	320	320	320	320	320	320
C: Calculated propensity (=B/A in 2011, held constant for all subsequent years)	7.8%	7.8%	7.8%	7.8%	7.8%	7.8%
Low care requirement given current propensity (=A/C)	320	394	501	635	752	875
Predicted undersupply with current propensity	-	74	181	315	432	555

Source: Department of Health and Ageing, 2010; Wingecarribee Shire Council, 2012; SGS Economics and Planning, 2012

High care projections

Residential aged care (high care) settings are nursing home type establishments which cater to the needs of the frail aged (typically those over age 85) and older people with high or complex needs. High level care settings typically offer nursing and additional personal care services within the facility, and will be sufficiently staffed to administer nursing procedures, therapy services and medication to older residents. According to the Department of Health and Ageing and Wingecarribee Shire Council, the following provision of high care services exists in Wingecarribee:

- Bowral House (Bowral) 71 beds
- HarbisonCare (Burradoo) 40 beds
- HarbisonCare (Moss Vale) 12 beds
- The Abbey Nursing Home (Mittagong) 77 beds
- Warrigal Care (Bundanoon) 66 beds
- Anthem (Bowral) 24 beds

High care bed facilities were identified in consultations to be one of the most pressing needs for older residents. However, it was suggested that demand for services is constrained by resident perceptions that some facilities are understaffed, that residential aged care facilities may not provide for the full range of physical and social support needs of older residents, and that they are not flexible enough for individual circumstances (for example, frail aged people caring for partners or other family members).

Assuming that the current service ratio of 24.8 percent remains constant (that is, 248 in every 1000 residents aged over 85 require accommodation in a high care residential aged care facility), and no additional bed capacity is made available, the undersupply of 672 high care beds by 2036 as shown in Table 14 can be expected.

TABLE 14. BASE CASE HIGH CARE BED DEMAND

	2011	2016	2021	2026	2031	2036
A: Population (85+)	1170	1490	1780	2250	2970	3880
B: Current high care supply (beds)	290	290	290	290	290	290
C: Calculated propensity (=B/A in 2011, held constant for all subsequent years)	24.8%	24.8%	24.8%	24.8%	24.8%	24.8%
High care requirement given current propensity (=A/C)	290	369	441	558	736	962
Predicted undersupply with current propensity	-	79	151	268	446	672

Source: Department of Health and Ageing, 2010; Wingecarribee Shire Council, 2012; SGS Economics and Planning, 2012

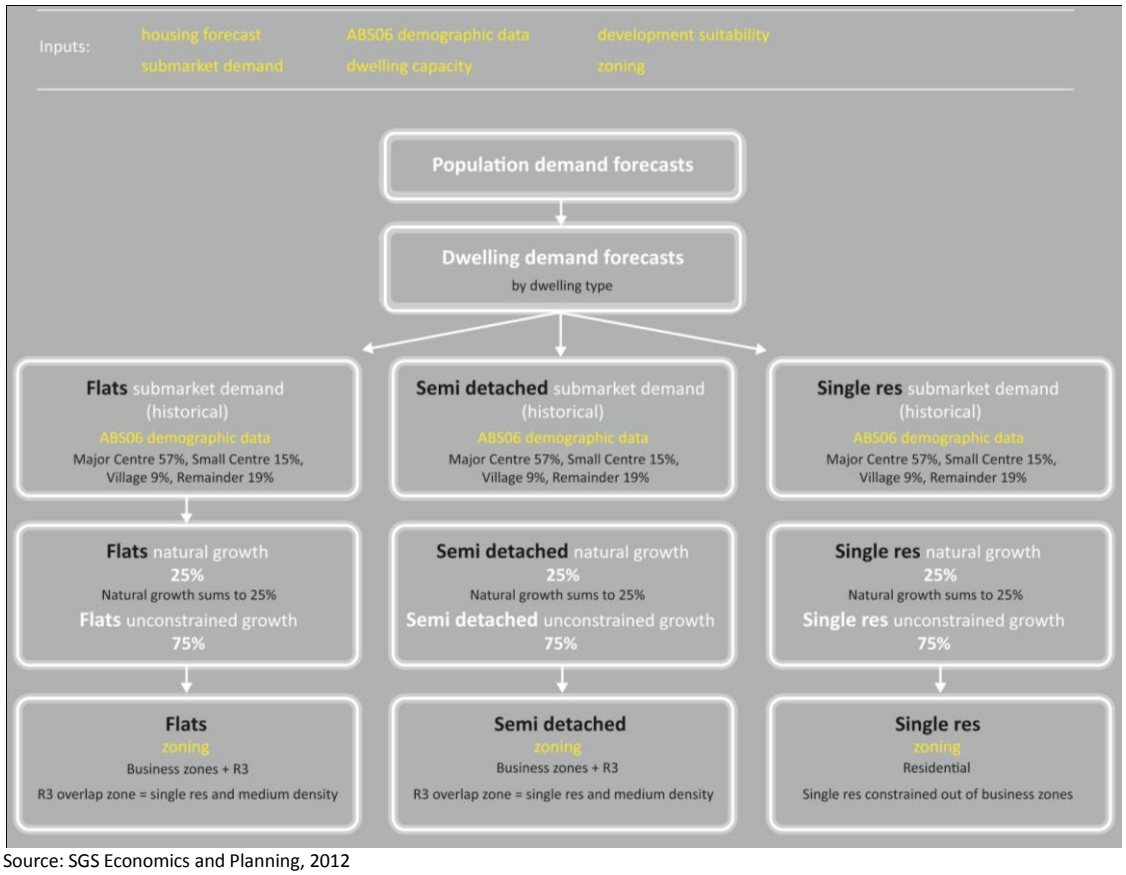
5 HOUSING GAP ANALYSIS

5.1 Gap analysis using SGS projections

Housing gap analysis has been completed by allocating forecast dwelling demand to land areas within the LGA. The purpose of the demand allocation process is to test the capacity of Wingecarribee in light of future population growth and dwelling requirements. The results of the analysis show where demand is expected to be the highest and not where development should be located. In practice, this 'strategic' assessment will need to be met from the 'bottom up' by local planning studies to determine specific development prospects.

Housing demand projections have been allocated across the LGA in five year intervals (forecasted to 2036). The inputs required to determine this growth were the housing projections from Section 4.2, the capacity numbers identified from the analysis in Section 2.5 and the development suitability ranking from Section 2.6. This allocation process uses the development suitability rank to allocate the demand to the most suitable areas first. When the capacity in these most suitable areas is used up, the demand is allocated to areas of the next highest rank.

FIGURE 12. DEMAND ALLOCATION PROCESS



Source: SGS Economics and Planning, 2012

Housing forecasts

The housing forecasts have previously been identified by dwelling type: detached, semi-detatched and apartment dwellings. The forecasts have also been projected at five year intervals to 2031.

Submarket demand

Basic housing submarkets were identified before the dwelling projections were allocated. These submarkets were defined by grouping centres into a hierarchy according to definitions provided by Council (based on ABS collection district geographies and detailed in Appendix D – Centres defined by CD). This is shown in Table 15.

TABLE 15. SUBMARKET HIERARCHY

Submarket	Centre
Major centre	Bowral
	Mittagong
	Moss Vale
Small centre	Berrima
	Bundanoon
	Robertson
Village	Colo Vale
	Exeter
	Hill Top
	Wingello
	Yerrinbool
Remainder	Remainder

Source: SGS Economics and Planning, 2012

The proportion of dwellings within each of these subregions as at the 2006 ABS census was used to split demand figures in future years. The proportions are shown in Table 16.

TABLE 16. SUBMARKET DWELLING PROPORTION

Subregion	Proportion
Major centre	53 %
Small centre	16 %
Village	11 %
Remainder	20 %

Source: ABS, 2006

Natural growth

A quarter of the total forecast demand has been identified as 'natural growth' and has been allocated within each centre. This figure was determined by observing the lowest positive historical growth rate within all centres from 2001 to 2006 of two percent. This two percent value was multiplied by the total additional dwelling number in 2006 to determine a proxy for natural growth. This proxy was then divided by the total forecast demand figure to determine the percentage value.

This natural growth percentage is implemented by taking 25 percent of total forecast dwelling numbers for each five year period, for each subregion and then splitting this natural growth figure by centre based on the historical location of growth within each centre in the submarket.

The remaining 75 percent of the demand is allocated as unrestricted demand.

Method for allocating dwelling demand

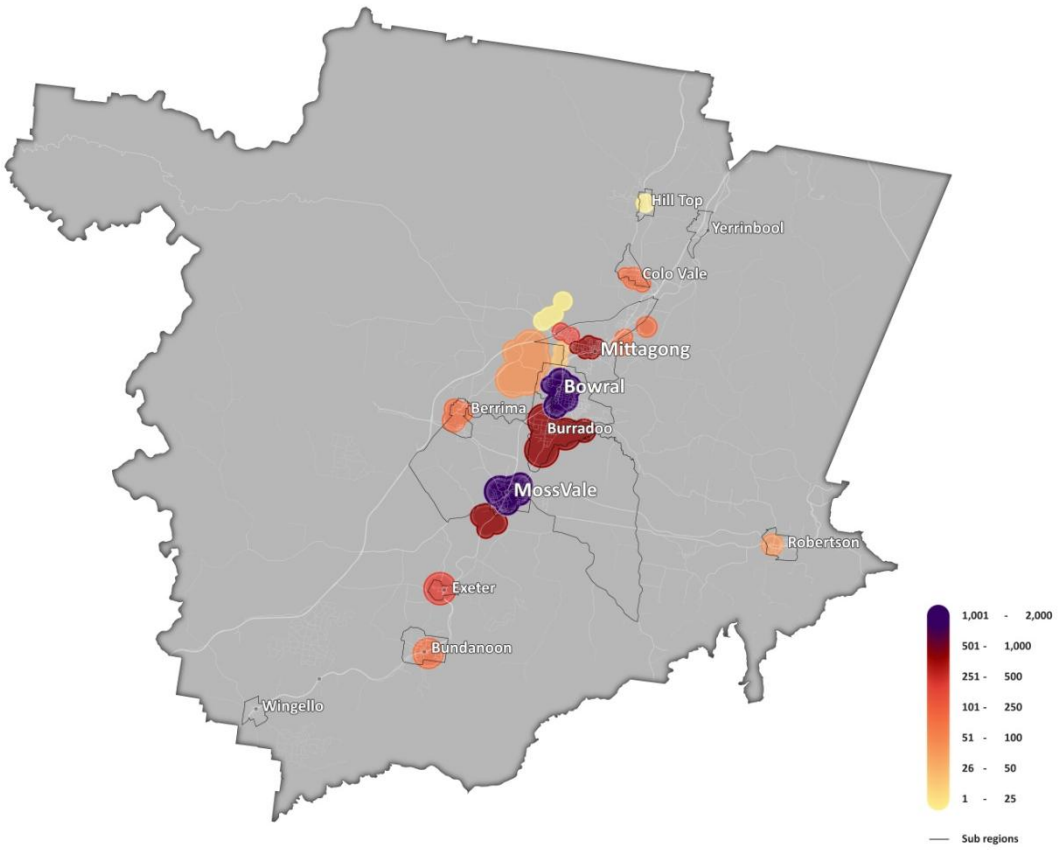
Demand was allocated to meshblocks with available capacity by dwelling type suitability. To assess dwelling type suitability, zoning information was collected for allowable dwelling forms for each meshblock (for example, 40 percent may be zones for medium-high density, and 60 percent for low density). Capacity figures were calculated by considering both the allowable dwelling forms, and the total developable land within the meshblock. This provides a capacity value for medium/ high density development, and a figure for capacity allocated as low density development. If there were medium and high density zoned land, this demand was allocated to the meshblock first. If the medium and high density development demand was fully allocated, the remaining demand was allocated to single residential development (low density).

Demand allocation outputs

As with the other components of the housing capacity assessment, the base unit used for mapping demand was the meshblock geographies. This was required as the capacity numbers are at this level. However, allocation has been aggregated and mapped at a broader level and shows areas where future demand for residential development is likely to be highest.

The following map shows expected locations for total future dwelling demand to 2031.

FIGURE 13. LOCATIONS OF EXPECTED DEMAND TO 2031 (NO. OF DWELLINGS)



Location	Total expected dwelling demand
Bowral Moss Vale	1001 – 2000
Mittagong Burradoo South Moss Vale	501 – 1000
Exeter	251 – 500
Berrima Bundanoon Colo Vale	101 – 250
Robertson	51 – 100
Hill Top	1 – 25
Additional rural areas as shown above.	

Source: SGS Economics and Planning, 2012

The map shows that demand is expected to be the highest in Bowral and Moss Vale. The map does not show where development is recommended; only where residential demand is likely to be highest over the next 20 years.

Demand mapping by centre can be seen in Appendix M – Demand allocation by area.

Conclusions

Bowral, Moss Vale and Mittagong have the highest development suitability ranks and in combination with the capacity within these centres, the majority of the forecast dwelling demand is expected to be in these towns. Overall, there is sufficient capacity to satisfy demand across the LGA to 2031, with capacity for 22,681 dwellings remaining after 2031, as shown in Table 17. This is based on the current planning framework and subject to local conditions being met (such as development feasibility, site specific issues, and urban design considerations).

TABLE 17. DWELLING CAPACITY, WINGECARRIBEE LGA

Category	Single residential	Semi-detached	Apartments	Total demand	Total capacity	Remaining capacity
Major centre	2,591	1,083	147	3,821	13,608	9,787
Small centre	799	9	9	817	3,709	2,892
Village	522	4	0	526	1,022	496
Remainder	955	161	4	1,120	10,626	9,506
Total	4,867	1,257	160	6,284	28,965	22,681

Source: SGS Economics and Planning, 2012

Major centres

- There is sufficient capacity under current controls to satisfy forecast demand.
- Bowral and Mittagong are likely to receive the majority of the medium and high density demand across future years. This aligns with the Sydney to Canberra Strategy, which recommends that 'demand for urban growth is directed to major regional centres'.
- Mittagong and Moss Vale are expected to receive the majority of the demand for low density housing, as well as land on the outskirts of Bowral.
- The demand in Mittagong is being allocated on the western edge of the centre, on the Old Hume Highway towards Welby, due to the Highlands Homemaker Centre and surrounding retail services.

Small centres

- Bundanoon is the strongest performer of the small centres in terms of likely dwelling demand due to its rail access and services.
- In this analysis, Burradoo has large capacity figures and a high suitability rank. This rank is driven by good access via Moss Vale road and access to education facilities whilst having good amenity features (large lot residential).

Villages

- Demand is expected in Exeter due to the rail station and larger lot amenity.

Remainder

- Pressure for single residential development is expected at the southern edge of Moss Vale with high capacity and good access to services.
- Some demand is expected to the west of Bowral centre, where there is a considerable amount of land zoned for large lot residential. There are inherent planning considerations in this area with the close proximity to the local light industries to the west of the Bowral train station and line.
- There is a pocket of expected demand in the Mittagong/ Breamar area close to the site of the new Renwick development allowing residential development at a higher density.

5.2 Gap analysis using DoPI projections

As a sensitivity exercise, the population projections generated by the Department of Planning and Infrastructure (detailed in section 3.1) were converted to dwelling projections using the housing demand model outlined in Section 4.1 and tested against maximum potential capacity. The gap analysis using this population forecast is shown below.

TABLE 18. DWELLING CAPACITY, WINGECARRIBEE LGA – DOPI PROJECTIONS

Category	Single residential	Semi-detached	Apartments	Total demand	Total capacity	Remaining capacity
Major centre	3,499	1,462	198	5,159	13,608	8,449
Small centre	1,079	12	12	1,103	3,709	2,606
Village	705	5	0	710	1,022	312
Remainder	1,289	218	5	1,512	10,626	9,114
Total	6,571	1,697	216	8,484	28,965	20,481

Source: SGS Economics and Planning, 2012

This sensitivity test shows that even under a higher population scenario, there is still sufficient capacity to accommodate projected dwelling demand in the Wingecarribee LGA to 2031, with capacity for 20,481 dwellings remaining after 2031.

6 HOUSING STRATEGY

6.1 Summary

Policy framework

The major policy guiding the Wingecarribee LGA is the Sydney-Canberra Corridor Regional Strategy (SCCRS) 2006-2031, which expects the population to grow from 42,300 to 58,700 people by 2031. Bowral is the preferred location for infill development, with Moss Vale and Mittagong expected to contain the majority of greenfield development (1400 and 1000 lots respectively). These centres play a complementary role and have distinctive characters that should be nurtured.

The strategy states that 'the capacity to accommodate more intensive development and higher densities will be subject to local housing needs and general urban design and character'. The objective for future development to be in keeping with the existing character of the region is supported by the Wingecarribee Local Environmental Policy (LEP) 2010, which plans to minimise the spread of urban areas and maintain the original settlement of towns and villages; the Wingecarribee Strategic Plan 2002, which aims to 'ensure that the unique character of the Shire is retained', and the Wingecarribee Community Strategic Plan 2010.

The need for the Shire to provide a range of housing types to cater for different needs and income types is mentioned throughout the literature. The SCCRS anticipates demand for a higher proportion of medium density and infill development, while the Wingecarribee Strategic Plan targets greater flexibility for mixed use development and apartment living in centres. Both of these documents note the need for adaptable housing designs to accommodate ageing in place. The LEP aims to provide housing options in areas with good access to transport, services and employment, and which address differing lifestyle needs.

Resident demographics

In terms of resident demographics, the Wingecarribee LGA had an estimated resident population of 46,960 in 2010.Over 55s comprised almost a third of the LGA's population according to the latest ABS census count; considerably higher than in NSW where the proportion was just a quarter. Over 40 percent of Bundanoon's residents are in this age group. Robertson and the northern villages were the areas of the Shire with the highest proportions of residents under the age of 25.

Migration out of the Shire from 1996 to 2006 was principally of younger people, who may move for further education or to seek specific employment opportunities. Over the same period, there was an increase in migration to the Shire of 'couple families with no children', which could indicate people moving back into the area after their children have left home. There was no specific pattern of family types or migrant ages locating in particular areas.

Current housing market

Residential properties at the lower end of the market have been performing well in the Wingecarribee LGA, while the higher end of the market has been slower[32], perhaps due to economic uncertainty. Rental vacancy rates in the Shire are extremely low at less than 1 percent. Factors affecting people's retirement decisions, such as pension values and consumer confidence, have a notable effect on the housing market in Wingecarribee due to its position as an attractive destination for over 55s.

SGS spoke to eight real estate agents[33], who described strong sales of lower priced properties to young families (who are seeking newer style properties with three to four bedrooms) and older buyers, and an oversupply of more expensive houses priced over $850,000. Agents also observed demand for apartments in the LGA's larger centres although there is little supply of this type of dwelling and the level of latent demand is therefore untested. It was

[32] Analysis of residential sales and rental data from RP Data, April 2011
[33] Four in Bowral, two in Mittagong, one in Moss Vale and one in Hill Top

noted that housing preferences are not seen to be changing dramatically within the Wingecarribee LGA for specific age groups or family types, and that the migration of younger residents from the Shire is likely to be due to employment opportunities elsewhere rather than deficiencies in the local housing market.

Stakeholders in the aged care sector noted that Bowral and Moss Vale are the most popular destinations for migrants, although prices are higher and there is reduced housing choice in these locations. There is a large supply of independent living units (ILUs). However, the ILU market in Wingecarribee tends to attract migrants rather than local residents, with the features of this type of investment and higher prices observed in the local market appearing to constrain the demand for this housing choice. The most prevalent choice for older residents of the Shire is to remain in the family home after retirement, known as ageing in place.

Population and dwelling forecasts

The population projections produced by the Department of Planning and Infrastructure and those estimated by SGS are shown in Table 19.

TABLE 19. POPULATION FORECAST AT FIVE YEARLY INTERVALS

	DoPI forecast	SGS forecast	Difference
2006	44,400	42,273	2,127
2011	47,300	44,203	3,097
2016	50,400	46,144	4,256
2021	53,400	48,205	5,195
2026	56,200	50,518	5,682
2031	58,800	52,901	5,899
2036	61,100	55,136	5,964

Source: Department of Planning and Infrastructure, 2009; SGS Economics and Planning, 2012

The treatment of births and deaths in the two approaches is similar. However, for net migration, the DoPI projections assume a constant increase in net migration, while SGS has assumed that net migration increases at an ever decreasing rate. Additionally, the DoPI projections use Estimated Resident Population (ERP), while the SGS population forecasting model is based on the 2006 ABS census count.

The results from the SGS housing demand model estimate that between 2006 and 2031 across the LGA there will be demand for 4867 additional separate dwellings, 1257 additional medium density dwellings, and 160 apartments, giving a total of 6284 dwellings. While total demand is strongest for detached dwellings, demand growth is forecast to be strongest for semi-detached dwellings (3.16 percent per annum), which may be attributable to decreasing household sizes.

Aged care facilities

Population forecasts prepared by the NSW Department of Planning and Infrastructure indicate that the number of residents aged 55 years and over is expected to grow by more than 70 percent between 2011 and 2036. Over the same period, the number of residents aged over 85 is expected to more than triple from 1170 to 3880 people.

Using DoPI population projections and in the absence of additional aged care facilities, SGS forecast a shortfall in the future supply of housing specifically for older residents: namely a 55 bed shortfall for low care residential aged care and 672 bed shortfall for high care residential aged care by 2036. If no additional capacity is made available, there is also anticipated to be an undersupply of 430 ILUs over the same period. While the majority of older people will be able to age actively while living at home, and others may be able to move in with family members, community resources are likely to be stretched to meet the requirements of others who lack support networks or where housing design and configuration is inappropriate to ageing in place.

Dwelling capacity

There is sufficient capacity under current controls to satisfy forecast demand for each dwelling type at every five year period for the next 20 years, with an expected capacity for 22,681 dwellings remaining in 2031. This is based on the current planning framework and subject to local conditions being met (such as development feasibility, site

specific issues, and urban design considerations)[34]. The highest dwelling demand in the LGA is expected in Bowral and Moss Vale. Of the smaller centres, Bundanoon is attractive due to transport and service provision, while Burradoo and Exeter are likely to be popular locations for development due to their large lot residential land in addition to road and rail links.

Among rural areas, there is particular capacity to the south of Moss Vale centre and to the west of Bowral, although there may be planning pressures in this location given the nearby local light industrial zone and rural residential land with larger lot sizes clustered on the outskirts of the centre.

However, there is also increasing demand for medium density accommodation, such as semi-detached dwellings and townhouses, as well as demand for apartments in town centres. The requirement to contain the growth of urban boundaries and to satisfy demand for smaller dwellings in areas with good access to services will need to be carefully planned to ensure the amenity and character of major centres is maintained.

6.2 Objectives and actions

1. Provide sufficient dwelling capacity and a broad mix of new housing

A population mix that is diverse in terms of income and wealth helps to create a rich social and cultural landscape, as well as enabling the efficient economic functioning of the area. Council should strive to encourage a range of housing options to enable the local area to continue to accommodate a diverse and growing population.

1.1 Prepare planning controls that promote a mix of housing types

Planning controls should be reviewed to facilitate the delivery of a mix of housing types. Large developments can offer particular opportunities.

For all developments an appropriate mix of one, two and three bedroom dwellings should be encouraged.

Allowing secondary dwellings, with appropriate planning controls and in appropriate locations can provide additional smaller dwellings without a significant change to the existing character of lower density areas.

The current regular review process for planning controls should be continued, to ensure early identification and forward planning of additional areas for longer term residential development.

1.2 Encourage provision of medium density accommodation in centres

Providing a diverse range of housing options is a key step in improving affordability as households are more likely to be able to rent or purchase housing which suits their circumstances. Furthermore, provision of medium density housing in the LGA's larger centres (Bowral, Moss Vale and Mittagong) will reduce the spread of existing urban areas and protect the rural character of the LGA while accommodating future population growth.

This is in line with the Sydney to Canberra Corridor Strategy. It recommends that within Wingecarribee, new greenfield areas and medium density housing be focussed in and around Bowral, as a major regional centre. This is to ensure the environmental impact of settlement is managed, to reinforce the centre's role providing higher order retail and commercial services, and to 'creat[e] a vibrant centre with greater housing choice'. The major towns of Mittagong and Moss Vale also play an important role and together the three centres will accommodate the majority of the Shire's growth.

Council should review existing planning instruments to ensure that there are no significant barriers to the development of medium density housing (such as maximum lot sizes for subdivision, increased densities in centres and public transport infrastructure, minimum dwelling sizes, excessive car parking requirements, and the permissibility of shop-top housing development).

[34] The issue of providing a buffer for future residential development was raised during consultation. Given that there is expected to be sufficient capacity under current controls for 20 years, with considerable subsequent capacity, this is unlikely to require attention in the short to medium term.

Potential incentives that encourage medium density housing in centres and mixed use developments combining retail, office and residential uses should be investigated. This could be through consultation with the development industry to gain insight into the ability, desirability, returns and practical incentives required to make these types of development feasible.

Closely integrate planning controls that enable medium density development in centres with environmental, urban design and heritage consideration to ensure that the character of centres such as Bowral, Moss Vale and Mittagong is not jeopardised.

1.3 Conduct a detailed affordable housing study assessing housing stress and price thresholds in the LGA

Affordable housing, where less than 30 percent of a household's gross income is used towards rental or mortgage repayments, should be provided for a full spectrum of household income levels and cover a range of assistance including State housing, community housing, shared equity, National Rental Affordability Scheme, and lower priced homes for purchase.

In addition to increasing the capacity of residents to afford housing, well located affordable housing also helps to attract and retain key workers, such as staff of local aged care facilities, in the area.

Comparing the results of an affordable housing study against the current market offer may suggest a role for Council in encouraging development of a greater share of low cost and affordable housing. This may involve actions such as:

- collaborating with not-for-profit organisations and community housing providers to facilitate construction of affordable housing (for example, assisting in identification of development opportunities and providing planning and concept development advice, as well as infrastructure provision and community engagement)
- partnering with government agencies to secure state and federal funding for affordable housing delivery, to identify potential development sites, and to ensure that opportunities for construction and renewal of public housing stock are maximised
- planning for affordable housing on rezoned sites
- investigating the potential for implementation of an inclusionary zoning provision, if not already in place, or negotiated agreements with developers on a case-by-case basis.

1.4 Identify suitable sites for rural living development

SGS's modelling showed that within the rural submarket, some areas are expected to attract considerably higher demand for housing development. However, development in these areas may not necessarily be desirable from a planning perspective.

Suitable sites to accommodate demand for rural residential development should therefore be identified to allow Council to respond to growth rates and development needs in a timely manner. This process will need to take into account development sensitivities and design considerations, and balance the requirements for servicing and infrastructure provision.

1.5 Assess feasibility issues which may constrain future development

Further work should be undertaken by Council to explore how much of the capacity calculated by SGS is likely to be feasible for development. This should consider the realistic potential for redevelopment of existing properties as well as economic feasibility issues that may reduce the potential to achieve the theoretical capacity, for example the cost of infrastructure upgrades and provision of new roads.

It would also consider the feasibility of smaller development forms. This study has shown that there is sufficient capacity beyond 2031 but an assessment of the feasibility of such development on specific sites is recommended.

2. Regularly monitor and evaluate the local housing market

2.1 Establish a demand monitoring process

Council should undertake periodic review of sales figures by dwelling type and location and consider regular consultation with local real estate agents.

Partnering with developers to conduct surveys of potential buyers for new large scale developments will provide information on buyer profiles, and potentially show latent demand for underprovided housing types. This will

enable Council to better assess future development applications and inform updates to zoning and other planning controls.

Monitoring both resident and in-migrant population numbers and profiles will give an indication of areas in high demand and may also point to changing housing needs.

2.2 Establish supply monitoring process

Council should monitor development approvals and building activity against documented dwelling capacity reported in this study. Supply monitoring should be conducted at the sub-market level.

The availability of land for residential development should also be considered, including surplus public land, to ensure future opportunities are recognised. Up to date land audit data should be maintained to provide land availability and capacity figures on developed sites.

Regular audits should be undertaken to ensure ongoing efficiency in Council's Development Approvals process and attainment of 'best practice' standards.

3. Balance residential development with protection of the LGA's unique character and amenity

3.1 Review zoning in Bowral to address pressure from high demand for residential development

There are likely to be areas of Bowral in particular requiring stricter development controls to protect from over-development.

For example, if the industrial zone to the west of the centre is strategic or helps meet targets for employment generation, there may be additional controls that could be implemented to ensure that this is not up-zoned in future. This land would rank particularly highly for residential development given its access to the centre and more rural amenity.

Bowral is likely to be the preferred location for tourist accommodation in the Shire. Although the impact may be small as a proportion of total dwelling demand, nonetheless it is a factor for consideration in this area.

3.2 Ensure protection of heritage buildings

Recommendations from the Wingecarribee Heritage Survey completed in 2008, which identifies historic buildings requiring planning protection from certain types of development, should be undertaken as soon as possible and progress monitored over time.

3.3 Consider community engagement strategies to ensure support for changes to planning controls or housing objectives

It is important to provide a greater range of housing diversity and density to meet future needs and achieve a more sustainable urban form. However, community concerns need to also be considered and managed.

The provision of higher density and more affordably priced housing in Wingecarribee should not be at the expense of design standards. Planning for attractive housing that integrates well with the unique character of the LGA may help gain support for new developments from existing residents.

Providing information and updates on housing strategies and development plans for local centres, and facilitating workshops where residents can raise concerns at inception, is important to mitigate risks to development feasibility later in the process.

3.4 Protect the distinct characters of the main centres of Bowral, Mittagong and Moss Vale through a review of centre boundaries

The Sydney to Canberra Corridor Strategy notes that it is critical to maintain the distinction between the three towns to prevent them becoming joined by development. This can be achieved through carefully considering proposed rezoning for residential and commercial uses to ensure these areas are protected, and potentially expanding existing environmental zones if appropriate.

4. Lever the private and non-government sector to expand the supply of aged care

Council should begin engaging with providers in the residential aged care (RAC) sector as a priority, and in the independent living unit (ILU) sector. The aim of these actions will be to improve the level of communication between parties, and provide the right signals for developers and operators of aged care to consider Wingecarribee as a feasible location for services.

4.1 Establish an inter-agency committee for ageing and housing

Council should coordinate this group, and set parameters around membership, meeting intervals, and terms of reference. Aims for the committee may include improvement in communication between Council and the private sector (for example, on the forward pipeline of RAC and ILU development at pre-feasibility or feasibility stage), and encouraging operators to consider and provide a diversity of RAC and ILU in a diversity of locations, to sustain competition and the emergence of new housing options.

4.2 Drawing on SGS 'opportunity' mapping, identify appropriate sites near public transport and health facilities as potential locations for RAC development

This exercise will involve considerations of social infrastructure and capacity. The process for site identification should also be informed by consultation with the Southern Highlands Division of General Practice, NSW Health, and relevant non-governmental organisations (for example, Anglicare South West), and where possible, take into account desired improvements in the form and function of settlements as outlined in Council's DCP and strategic plans. It is recommended that Council map local pressures on social and health infrastructure, to determine where future RAC development could be sustained.

5. Improve housing diversity for older residents

According to consultation, ILU accommodation attracts over 55s from outside the Shire to relocate to Wingecarribee rather than principally serving local residents, who are, for the most part, excluded from the market by high prices. There is also the need to consider resident preferences for ageing in place.

5.1 Encourage development of secondary suite ('granny flat') accommodation in new and existing developments

Granny flat accommodation is likely to support a higher degree of ageing in place in ways that are supported by intergenerational care and improve levels of household occupancy. In some cases, this may reduce the case load for community service by supporting enhanced home care from family and friends, and reduce the overall demand for new housing as occupancy levels are optimised. Under the Wingecarribee LEP 2010, secondary dwellings are currently allowed in all zones where dwellings are permissible, and such development should be promoted by Council where possible.

5.2 Ensure that a proportion of new development is adaptable and accessible

Council should ensure that at least 10 percent of new residential development is adaptable and accessible; specifically that it is designed to be flexible and easily modified to cater for residents with existing disabilities and future needs. AS4299 should be the adopted minimum for defining adaptability.

7 APPENDIX A – STRATEGY AND POLICY FRAMEWORK

7.1 Regional strategies

Sydney-Canberra Corridor Regional Strategy 2006-2031

The Sydney-Canberra Corridor Regional Strategy (SCCRS) was prepared by the NSW Department of Planning and Infrastructure in 2008, and incorporates the local government areas of Wingecarribee, Goulburn Mulwaree, Upper Lachlan, Yass Valley, Palerang and Queanbeyan. The Strategy provides the framework to manage and direct growth in housing and employment, and to protect the environment to 2031.

The region is characteristically divided into three subregions – northern, central and southern. The northern subregion consists of the Wingecarribee LGA, the central subregion consists of the Upper Lachlan and Goulburn Mulwaree LGAs, and the southern subregion consists of the Yass Valley, Palerang and Queanbeyan LGAs.

FIGURE 14. SYDNEY-CANBERRA CORRIDOR

Source: SCCRS, 2008

Outlined population growth and dwelling growth to 2031 are shown in Table 20 and Table 21.

TABLE 20. POPULATION GROWTH TO 2031, BY LGA

Local Government Area	Population change
Wingecarribee	16,400
Upper Lachlan	350
Goulburn Mulwaree	3,500
Yass Valley	4,000
Palerang	5,000
Queanbeyan	16,100

Source: SCCRS, 2008

The Wingecarribee LGA is projected to grow by almost 40 percent from 42,300 to 58,700 people by 2031. The three major urban areas in the LGA are Bowral, Mittagong and Moss Vale. The Strategy places emphasis on separation between each of these centres while retaining their unique identity. The character and role of each centre includes:

- Bowral – major region centre providing higher order retail and commercial services
- Mittagong – local service centre
- Moss Vale – administrative and rural service centre.

Bowral is the preferred location for infill development, providing developments with a greater range of housing choices. Moss Vale and Mittagong will contain the majority of greenfield development with 1,400 and 1,000 lots respectively in the short to medium term. Further areas will need to be identified in the long term.

TABLE 21. DWELLING SUPPLY TARGETS, BY SUBREGION

Subregion	Demand (dwellings)	Supply		
		Current dwelling potential (dwellings)	Proposed/ planned release areas (dwellings)	Over/ under supply
Northern	8,700	2,200	3,500	-3,000
Central	2,300	1,300	3,200	2,200
Southern	14,200	1,500	10,00	-2,700
Total Sydney-Canberra corridor	25,200	5,000	16,700	-3,500

Source: SCCRS, 2008

Wingecarribee will require a higher proportion of medium density housing and infill development to accommodate the growing population. The planning and design of dwellings must consider the surrounding landscape and the area's location within a sensitive drinking water catchment. New development should be based on 'neighbourhood planning principles', which include:

- a public transport network that links bus services into the rail system and major regional centres
- a range of land uses to provide the right mix of houses, jobs, open space, recreational space and green space
- easy access to major town centres with a full range of shops, recreational facilities and services along with smaller village centres and neighbourhood shops
- jobs available locally and regionally – reducing the demand for transport services
- streets and suburbs planned so that residents can walk or cycle to shops and other activity spaces for their daily needs
- a wide range of housing choices to provide for different needs and incomes. Traditional houses on their own block will be available along with smaller, lower-maintenance homes, units and terraces for older people and young singles or couples
- conservation lands in and around the developments sites, to help protect biodiversity and provide open space for recreation.

Increased demand for employment lands will be population driven. Demand will be influenced by the area's proximity to the regional markets of Sydney and Canberra, and land affordability. This will place pressure on land availability. Table 22 shows expected employment growth in the region.

TABLE 22. EMPLOYMENT GROWTH, BY LGA

Local Government Area	Employment change
Wingecarribee	9,000
Upper Lachlan	-
Goulburn Mulwaree	1,650
Yass Valley	2,500
Palerang	3,200
Queanbeyan	11,250

Source: SCCRS, 2008

The following employment lands have been identified in the region.

- Northern subregion – 347 hectares of existing zoned employment land: 212 hectares is occupied and 135 hectares is vacant
- Central subregion – 615 hectares of existing zoned employment land: 465 hectares is occupied and 150 hectares is vacant
- Southern subregion – 815 hectares of existing zoned employment land: 785 hectares is occupied and 30 hectares is vacant or underutilised.

7.2 Local strategies

Wingecarribee 2031 Community Strategic Plan

The Wingecarribee Community Strategic Plan provides the future vision, goals and priorities for the LGA to 2031 and was developed by Council in conjunction with the community in 2010. The plan is guided by the principles of social justice and sustainability with an over-arching vision statement defining and directing the purpose of the plan. The vision statement for the Wingecarribee LGA is:

'a healthy and productive community, learning and living in harmony, proud of our heritage and nurturing our natural environment'.

The Strategic Plan is comprised of five themes – leadership, people, places, environment and economy. Each theme contains an identified set of goals will be achieved through a three tiered implementation approach with responsibility of a leader, facilitator and advocate.

- Council has identified its role as the leader with responsibility to develop and implement detailed plans and actions to achieve the identified goals and deliver the outcomes of the strategy.
- Council in conjunction with other stakeholders will facilitate the development and implementation of the strategy to achieve progress towards the end goal.
- Council in conjunction with other stakeholders will advocate for the development and implementation of the strategy to achieve progress towards the end goal.

Each theme is complemented by an explanation of Council's role as well as the role of other stakeholders. It also has an outlined set of provisions for measuring progress in achieving the goals. A summary of the goals for the five themes is provided below.

Leadership — Leadership goals and strategies are centred on trust, collaborative planning between all stakeholders, community partnerships and involvement and inclusionary policies. Leadership themes mentioned include participatory governance, community leadership and active stakeholder engagement with Council.

People — The goals and strategies under the 'people' theme centre on access to a wide range of community services and facilities, healthy lifestyle provisions, adequate local services and active infrastructure as well as support for a vibrant and diverse community. Other 'people' related themes include job security, social support services, forward thinking community programs and cultural diversity.

Places — The identified goals for places is centred around an integrated and efficient transport network, housing choice, maintaining the unique character of towns and villages, unique places and

heritage conservation.

Environment	The identified themes for the environment involve protecting the natural environment, sustainability, waste reduction and becoming carbon neutral.
Economy	Goals and strategies identified in the 'economy' theme are based on emphasising the educational attributes of the area, increasing tourism, agribusiness and sustainability, as well as maintaining a diverse economy.

Wingecarribee Local Environmental Plan 2010

The Wingecarribee Local Environmental Plan (LEP) was prepared by Wingecarribee Shire Council in 2010. The main aims of the LEP include to:

- maintain Wingecarribee's original settlement pattern of towns and villages dispersed through a rural and native vegetation landscape
- encourage the efficient use and development of urban land, minimising the spread of urban areas into rural and native vegetation environments, thereby increasing the accessibility of the population to urban facilities and services
- provide opportunities for a range of new housing and housing choice in locations that have good access to public transport, community facilities and services, retail and commercial services and employment opportunities, including opportunities for the provision of adaptable and affordable housing
- provide for a range of living opportunities that address differing lifestyle needs without compromising the environmental quality of Wingecarribee, and the value of its natural resources such as water, biodiversity and agricultural land.

The LEP contains three residential zonings:

- Zone R2 – Low Density Residential
- Zone R3 – Medium Density Residential
- Zone R5 – Large Lot Residential

Wingecarribee Strategic Plan

The Wingecarribee Strategic Plan was produced by Council in 2002 to provide a policy basis for Council's statutory plans. The Strategic Plan is structured into seven parts; with the first and second parts identifying the structure and recommendations for implementation and the remaining parts comprising smaller plans and strategies to meet the aims and recommendations of the Plan.

- Plan structure
- Overview and recommendations for implementation
- Issue sub-plans
- Ecological setting overplans
- Precinct plans
- Summary of non-statutory planning, policies and actions;
- Paying for growth and development.

The scope and purpose of the plan are identified in the vision statement:

> 'to make the Shire a better place in which to live, and in doing so, ensure that the unique character of the Shire is retained.'

The vision is outlined in a broad set of planning goals, which Council hopes can feed into statutory plans. The overview outlines the need for an integrated planning platform that allows strategic and assessment planning to follow a common set of goals to achieve the best outcomes for both areas of planning.

The Plan also outlines the key strategic directions and outcomes for future planning and the planning objectives, strategies and actions. These focus on the major planning issues and areas that require addressing in both strategic planning and development planning. The issues identified are:

- population and housing

- environment
- agriculture and rural lands
- employment and economic development
- business centres
- tourism
- villages
- industrial development
- mining and extractive industries.

The main strategic directions concerning housing in the Plan are:

- statutory provisions for new residential release areas to accommodate a considerable amount of new dwelling stock
- to provide greater opportunities and flexibility for mixed use development and apartment living close to existing business centres
- to ensure there are provisions for newly created medium density and high density dwelling stock are adaptable for aged care facilities
- to restrict medium density development away from centres.

Wingecarribee Shire Community Profile 2006

The Wingecarribee Community Profile 2006 is a demographic summary of the residents within the Shire, with the majority of data extrapolated from the ABS. The Profile is broken down into major demographic characteristics and provides a summary with quantitative data on each topic area. It gives an insight into the current demographic mix within Wingecarribee (providing comparisons with neighbouring areas as well as major areas such as NSW and Queensland) and expected demographic changes based on past and current trends, for the purpose of informing Council about the likely future needs of its residents.

Wingecarribee's demographic profile will be influenced by its location as a semi-rural shire, with a major proportion of its population living within commuting distance from Sydney. Notable points in the Community Profile that inform this study include the following.

- The majority of the population (61 percent) lives in the urban areas in and around the three major towns of Bowral, Mittagong and Moss Vale. When villages are included, 82 percent of all residents live in urban and semi-urban areas with the remaining residents living in rural areas.
- The population is increasingly ageing, with an increase of residents aged over 55 recorded over the ten years to 2006. The number of residents under eighteen years of age is decreasing.
- Household sizes have been decreasing, with a growing proliferation of lone person households and couple households with no children. The profile notes that the housing mix has not changed to meet this shift towards smaller households, which is set to accelerate into the coming decades.
- The median income of residents and households was lower than the median income in NSW and of Australian individuals and households.
- There was a shift between 2001 and 2006 in home ownership, which saw fewer homes being fully owned and increased levels of renters and homes being purchased. In comparison to the rest of NSW, the proportion of homes being rented was substantially lower and the number of homes fully owned was much higher. This could reflect the number of older residents in the region and the lower proportion of younger people in the workforce.
- The median weekly rental cost of dwellings is considerably lower than the NSW median and slightly higher than in Australia overall. The median monthly housing loan repayment is comparable to the rest of NSW, at $1,517. This is higher than the Australian median monthly housing loan repayment of $1,300 and reflects housing prices in NSW.

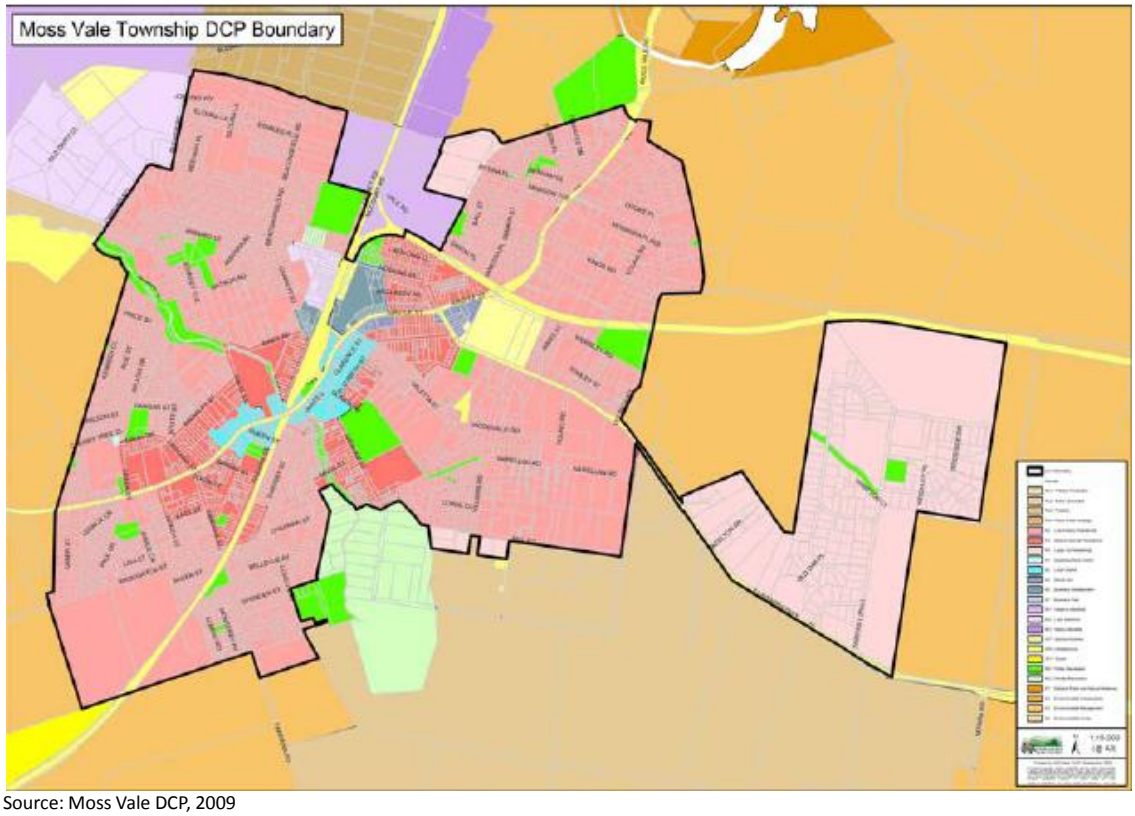
A summary of the development control plans for the centres of Moss Vale, Bowral and Mittagong are provided in Appendix B – Development Control Plans.

8 APPENDIX B – DEVELOPMENT CONTROL PLANS

8.1 Moss Vale Development Control Plan

The Moss Vale Development Control Plan (DCP) is the principal non-statutory planning regulation used to guide development and built form in the Moss Vale area. It commenced in 2010 and covers all areas in Moss Vale centre, as well as the small suburban area just east of the town.

FIGURE 15. MOSS VALE DCP BOUNDARY



Source: Moss Vale DCP, 2009

The DCP is divided into three parts. Parts A and C are applicable to residential zoned land.

Part A

- Applies to all land within Moss Vale.
- Contains the overall objectives of the DCP and considers principles and controls applicable to all development within Moss Vale, addressing issues such as site analysis, ecologically sustainable development, heritage and design, designing for safety, and signage.

Part C

- Applies to development on residential-zoned land within the Moss Vale township.
- Specific controls have been developed for various types of residential and ancillary developments, as well as non-residential land uses with the potential for significant

urban impacts, such as educational establishments, places of worship and childcare centres.

- Residential zoned land with the capacity for redevelopment to a higher density or that is located within a designated Conservation Area, has been allocated to one of 12 Residential Precincts. Additional precinct-based controls may apply to developments.

Objectives of the plan relating to residential uses are provided below.

Residential amenity	• Conserve the unique characteristics of existing residential areas of the Moss Vale township • Encourage new residential development that is sympathetic to existing or desired future streetscapes and neighbourhood character • Ensure that residential development includes sustainable principles such as energy and water efficiency, using sustainable building products where ever possible • Contribute to the enhancement of the urban amenity • Ensure that there is no light spill from any new development which would adversely impact on surrounding residents, including diminishment of the night sky experience.
Residential diversity	• Promote a mix of housing types to increase residential choice within the town, particularly around bus and rail connections • Encourage appropriate site amalgamation and redevelopment to provide a range of residential opportunities throughout the town.
Heritage conservation areas	• Moss Vale contains five heritage conservation areas, at: – Argyle Street North – Valetta Street – Throsby/ Arthur Street – East Street – Argyle Street South/ Browley Street • Preserve and protect buildings of heritage and cultural value • Ensure that redevelopment immediately adjacent to buildings of heritage or cultural value in no way detracts from the visual quality or amenity of heritage buildings • Ensure that redevelopment within or immediately adjacent to Conservation Areas reflects the high heritage value of the Areas and contributes to that value.

Seven precincts have been designated as residential zoned land with the potential for redevelopment. These include:

- Northern Entrance
- Southern Entrance
- Lackey Road
- Railway Street
- Elizabeth Street North
- Elizabeth Street South
- Kirkham Street

Some of the specific controls which apply to residential development include the following.

TABLE 23. SPECIFIC CONTROLS FOR RESIDENTIAL DEVELOPMENT

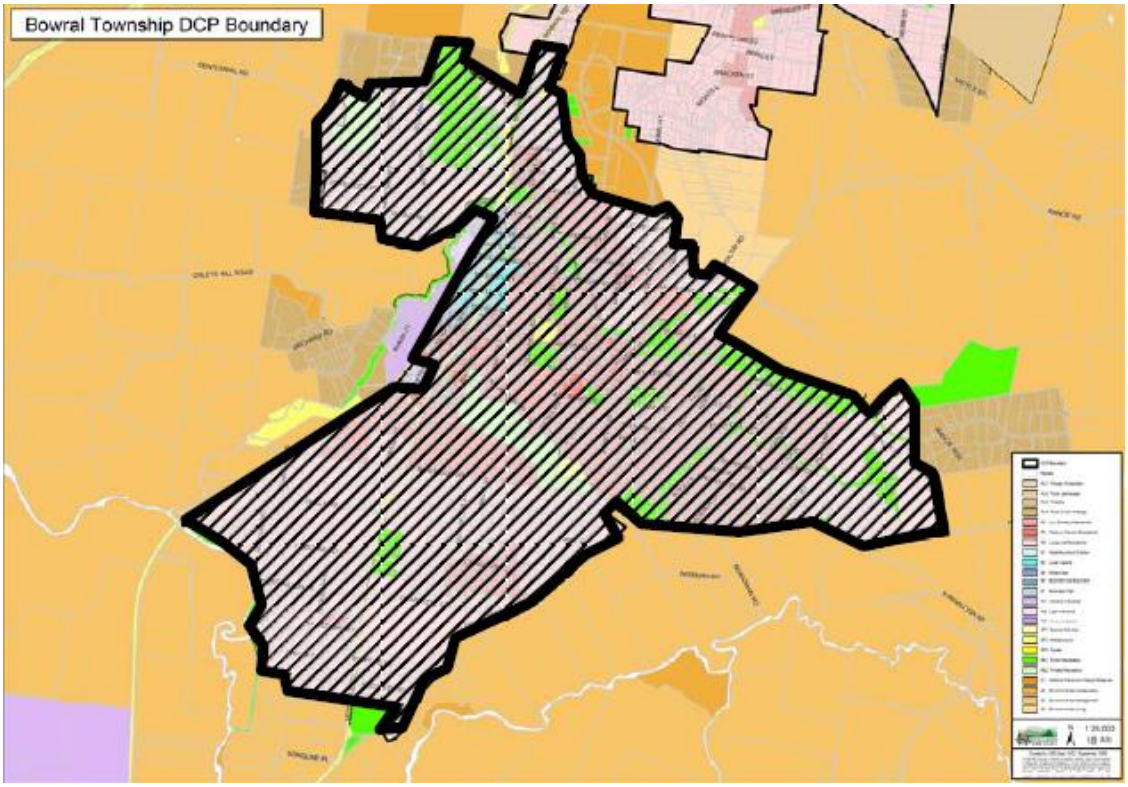
Detached dwellings			
Building height	Maximum height of dwelling house must not exceed 7.0 metres to underside of eaves.		
Front setbacks	Lot size	Minimum required front setback	
	<900 sqm	4.5 metres	
	900 sqm -1,500 sqm	6.5 metres	
	>1,500 sqm	15 metres	
Side setbacks	Lot size	Minimum required front setback	
	<900 sqm	0.9 metres	
	900 sqm -1,500 sqm	1.5 metres	
	>1,500 sqm	2.5 metres	
Rear setbacks	Lot size	Minimum required front setback	
	<900 sqm	3-8 metres, depending on building height	
	900 sqm -1,500 sqm	5-12 metres, depending on building height	
	>1,500 sqm	10-15 metres, depending on building height	
Dual occupancies and secondary dwellings			
Setbacks	10 metres between dwellings on north-south oriented lot. 5 metres between dwellings on east-west oriented lot. Site coverage should not exceed 65% of total site. Frontage built upon shall not exceed 50% or 90 sqm, whichever is less.		
Density, bulk and scale	Dual occupancy may not exceed one dwelling per 500 sqm. Maximum floorspace ratio for dual occupancy is 0.5:1. Dual occupancies shall not exceed 7 metres to underside of eaves. Maximum floorspace for secondary developments is 60 sqm.		
Medium density development			
Site amalgamation	Requires 25 metres of site frontage.		
Site planning	Avoid long, unbroken building forms greater than 25 metres.		
Density and site coverage	Sub-zone	Dwelling type	Maximum FSR
	R3 – A	Multi-dwelling housing	0.4:1
	R3 – B	Multi-dwelling housing	0.5:1
	R3 – C	Residential flat buildings	0.6:1
Building height	Must not exceed 6 metres to the underside of eaves.		
Residential flat buildings			
Front setbacks	Residential flat buildings will be set back a minimum of 9 metres from the street frontage.		
Side setbacks	Side setbacks will equal 1.5 metres plus the height of the building metres.		
Building height	Will not exceed 8 metres in height		
Density	Maximum density of 0.6:1.		
Building separation	Minimum separation of 6 metres between buildings on any site.		
Parking	Dedicated resident parking at 1 space per 1 and 2 bedroom dwellings. Dedicated resident parking at 2 space per 3 or more bedroom dwellings Dedicated visitor parking at 1 space per 3 dwellings.		

Source: Moss Vale DCP, 2010

8.2 Bowral Development Control Plan

The Bowral Development Control Plan (DCP) is the principal non-statutory planning regulation that is used to guide development and built form in the Bowral area. It commenced in 2010 and covers all areas in Bowral centre (as shown below).

FIGURE 16. BOWRAL DCP BOUNDARY



Source: Bowral DCP, 2010

There are eight residential precincts designated with the potential for redevelopment. These include:

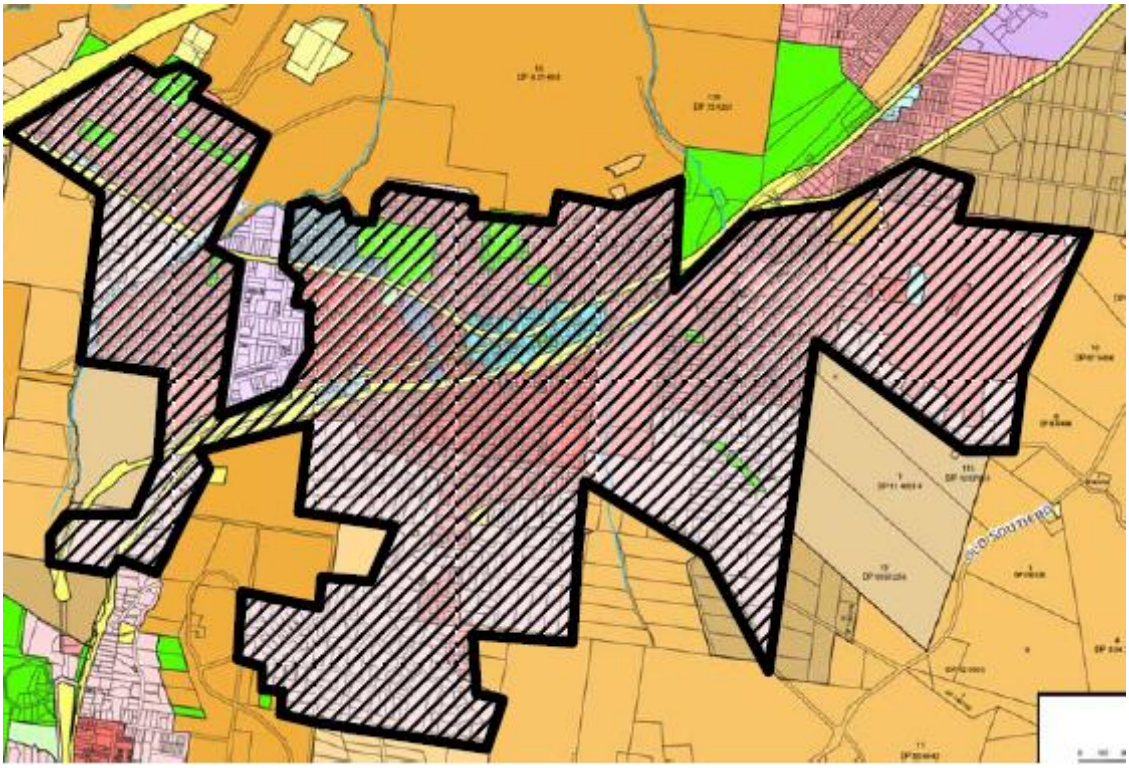
- Bowral conservation precinct
- North Entrance medium density precinct
- Central Bowral medium density precinct
- Shephard Street medium density precinct
- Southern Entrance medium density precinct
- North-eastern precinct
- OLSH precinct
- Steiner School precinct.

Specific controls which apply to residential development are identical to those detailed in Table 23.

8.3 Mittagong Development Control Plan

The Mittagong Development Control Plan (DCP) is the principal non-statutory planning regulation that is used to guide development and built form in the Moss Vale area. It commenced in 2010 and covers all areas in Mittagong centre, also incorporating Welby (as shown below).

FIGURE 17. MITTAGONG DCP BOUNDARY



Source: Mittagong DCP, 2010

The DCP outlines four residential precincts with the potential for redevelopment. These include:

- Heritage Precinct
- The Maltings Precinct
- Medium Density Precinct
- Mount Gibraltar Precinct

Specific controls which apply to residential development are identical to those detailed in Table 23.

9 APPENDIX C – DEMOGRAPHIC CONTEXT

9.1 Population

The population baseline profile for the Wingecarribee LGA and comparison areas is shown in Table 25 and Table 26. The LGA is benchmarked against the Illawarra Statistical Division (SD), the Sydney-Canberra Corridor region and NSW. The profiles of specific towns and villages are also shown. These were identified by collection districts (shown in Appendix D).

Table 24 shows the estimated resident population for the Wingecarribee LGA in 2010. The LGA had a population of 46,960; 9.9 percent higher than in 2001.

TABLE 24. WINGECARRIBEE ESTIMATED RESIDENT POPULATION DATA, 2001-2010

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Wingecarribee	42,740	43,350	43,678	43,876	44,060	44,374	44,967	45,618	46,317	46,960

Source: ABS, 2011

In 2006, the Wingecarribee LGA had a higher proportion of people aged over 55 (31.9 percent) compared to the Illawarra SD (28.6 percent), the Sydney-Canberra Corridor Region (26.4 percent) and NSW (24.8 percent). Bundanoon centre had the highest proportion of people aged over 55, with 42 percent, while in Bowral and Mittagong the figure was approximately 33 percent.

Compared to NSW, the Wingecarribee LGA had a higher proportion of residents in each age category above 45 years, and contains a lower proportion of residents aged between 20 and 44 years of age (approximately 25 percent) than NSW as a whole (approximately 35 percent).

In the Wingecarribee LGA a higher proportion of residents (79.3 percent) were born in Australia than in NSW (69 percent). Compared to the Wingecarribee LGA, Bundanoon, Mittagong and Bowral centres have a high proportion of families that are 'couple family with no children'. This could be due to the high proportion of older empty nesters living in these areas.

TABLE 25. POPULATION PROFILE

	Moss Vale		Bowral		Mittagong		Bundanoon		Wingecarribee		Illawarra		Syd-Can Corridor		New South Wales	
	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%
Median age of persons									42		39		-		37	
Age profile (5 year age groups)																
0-4 years	448	6%	524	6%	440	6%	113	6%	2,532	6%	23,852	6%	8,731	6%	420,434	6%
5-9 years	514	7%	687	7%	503	7%	98	5%	2,986	7%	26,378	7%	9,681	7%	431,927	7%
10-14 years	583	8%	705	7%	623	8%	118	6%	3,256	8%	28,491	7%	10,338	8%	446,564	7%
15-19 years	624	8%	560	6%	586	8%	92	5%	2,976	7%	26,958	7%	9,347	7%	439,863	7%
20-24 years	346	5%	365	4%	328	4%	82	4%	1,658	4%	23,363	6%	6,903	5%	431,855	7%
25-29 years	334	5%	290	3%	299	4%	63	3%	1,555	4%	20,282	5%	6,565	5%	424,153	6%
30-34 years	354	5%	419	4%	405	5%	77	4%	2,118	5%	23,570	6%	8,345	6%	466,887	7%
35-39 years	453	6%	538	6%	460	6%	110	5%	2,683	6%	25,388	6%	10,012	7%	474,681	7%
40-44 years	549	7%	659	7%	475	6%	138	7%	3,098	7%	28,468	7%	10,744	8%	483,154	7%
45-49 years	546	7%	678	7%	564	8%	129	6%	3,163	7%	28,693	7%	10,584	8%	475,231	7%
50-54 years	449	6%	594	6%	503	7%	153	8%	2,771	7%	25,926	7%	9,473	7%	429,105	7%
55-59 years	455	6%	617	7%	519	7%	186	9%	3,048	7%	25,087	6%	9,412	7%	401,922	6%
60-64 years	443	6%	645	7%	454	6%	185	9%	2,846	7%	21,659	5%	7,744	6%	317,622	5%
65-69 years	371	5%	566	6%	405	5%	169	8%	2,360	6%	19,168	5%	6,038	4%	254,423	4%
70-74 years	297	4%	524	6%	333	4%	127	6%	1,853	4%	16,223	4%	4,603	3%	210,902	3%
75-79 years	266	4%	418	4%	264	4%	87	4%	1,494	4%	14,078	4%	3,779	3%	188,091	3%
80-84 years	182	2%	343	4%	177	2%	52	3%	1,032	2%	9,784	2%	2,574	2%	140,701	2%
85-89 years	94	1%	187	2%	83	1%	35	2%	559	1%	4,699	1%	1,285	1%	74,531	1%
90-94 years	40	1%	78	1%	36	0%	18	1%	231	1%	1,732	0%	550	0%	29,463	0%
>95 years	3	0%	22	0%	-	0%	3	0%	53	0%	411	0%	127	0%	7,665	0%
Total	7,351	100%	9,419	100%	7,457	100%	2,035	100%	42,272	100%	394,210	100%	136,835	100%	6,549,174	100%
Family composition																
Couple family																
no children	736	25%	1,196	31%	813	27%	313	36%	5,003	29%	42,204	26%	14,672	26%	618,586	24%
children under 15	567	19%	764	19%	590	19%	132	15%	3,481	20%	31,480	20%	11,766	21%	538,338	20%
no children under 15	210	7%	255	7%	217	7%	44	5%	1,306	8%	14,902	9%	4,644	8%	254,343	10%
One parent family																
children under 15	241	8%	207	5%	188	6%	39	4%	980	6%	10,068	6%	3,143	6%	148,946	6%
no children under 15	152	5%	163	4%	137	4%	32	4%	681	4%	7,588	5%	2,166	4%	126,849	5%
Other/ Not applicable	1,060	36%	1,334	34%	1,120	37%	320	36%	5,611	33%	53,469	34%	19,077	35%	941,059	36%
Total	2,966	100%	3,919	100%	3,065	100%	880	100%	17,062	100%	159,711	100%	55,468	100%	2,628,121	100%

Source: ABS, 2006

TABLE 26. POPULATION PROFILE

	Burradoo		Robertson		Exeter		Wingello		Berrima		Hill Top		Colo Vale		Yerrinbool	
	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%
Age profile (5 year age groups)																
0-4 years	55	3%	106	9%	13	3%	17	6%	53	6%	185	10%	89	7%	117	11%
5-9 years	123	6%	109	9%	38	9%	22	7%	59	7%	153	8%	109	9%	98	9%
10-14 years	134	6%	84	7%	34	8%	24	8%	54	6%	171	9%	117	10%	75	7%
15-19 years	113	5%	77	6%	23	6%	14	5%	38	4%	136	8%	92	8%	65	6%
20-24 years	36	2%	45	4%	9	2%	13	4%	48	6%	86	5%	52	4%	39	4%
25-29 years	25	1%	54	4%	10	2%	11	4%	63	7%	128	7%	56	5%	59	6%
30-34 years	35	2%	95	8%	22	5%	17	6%	65	7%	146	8%	80	7%	94	9%
35-39 years	85	4%	102	8%	21	5%	29	10%	73	8%	176	10%	106	9%	87	8%
40-44 years	123	6%	100	8%	41	10%	24	8%	80	9%	148	8%	104	9%	75	7%
45-49 years	157	8%	65	5%	31	8%	19	6%	51	6%	127	7%	91	8%	72	7%
50-54 years	129	6%	104	9%	19	5%	15	5%	58	7%	83	5%	70	6%	55	5%
55-59 years	177	9%	87	7%	31	8%	18	6%	70	8%	85	5%	65	5%	54	5%
60-64 years	201	10%	79	7%	26	6%	23	8%	54	6%	72	4%	58	5%	51	5%
65-69 years	187	9%	54	4%	27	7%	27	9%	32	4%	44	2%	52	4%	41	4%
70-74 years	136	7%	23	2%	31	8%	12	4%	33	4%	30	2%	31	3%	23	2%
75-79 years	137	7%	13	1%	11	3%	13	4%	19	2%	14	1%	28	2%	15	1%
80-84 years	99	5%	8	1%	7	2%	4	1%	11	1%	16	1%	7	1%	8	1%
85-89 years	69	3%	3	0%	7	2%	3	1%	10	1%	3	0%	-	0%	3	0%
90-94 years	34	2%	-	0%	-	0%	-	0%	-	0%	-	0%	3	0%	3	0%
>95 years	15	1%	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%
Total	2,070	100%	1,208	100%	401	100%	305	100%	871	100%	1,803	100%	1,210	100%	1,034	100%
Family composition																
Couple family																
no children	323	39%	131	29%	52	32%	39	31%	100	28%	142	22%	102	24%	92	24%
children under 15	142	17%	114	25%	44	27%	22	17%	71	20%	188	29%	136	32%	120	31%
no children under 15	66	8%	44	10%	10	6%	7	6%	19	5%	66	10%	40	9%	28	7%
One parent family																
children under 15	11	1%	41	9%	4	2%	13	10%	19	5%	58	9%	33	8%	30	8%
no children under 15	27	3%	10	2%	-	0%	6	5%	4	1%	26	4%	27	6%	16	4%
Other/ Not applicable	251	31%	113	25%	55	33%	40	32%	148	41%	161	25%	91	21%	101	26%
Total	820	100%	453	100%	165	100%	127	100%	361	100%	641	100%	429	100%	387	100%

Source: ABS, 2006

Table 27 shows the change in population (in age categories) from 1996 to 2006. During this period the Wingecarribee LGA's population increased by 13.8 percent. The highest growth occurred in the age groups of people aged over 85 years, 60 to 64 year olds and 55 to 59 year olds. There was a decline in residents aged between 20 and 39, which may be attributable to work reasons, and young families and couples moving out of the area.

TABLE 27. WINGECARRIBEE LGA, CHANGE IN POPULATION BY AGE CATEGORY

	1996	2001	2006	% 1996 to 2006
0-4	2,795	2,760	2,540	-9.1%
5-9	3,134	3,248	2,981	-4.9%
10-14	2,937	3,449	3,248	10.6%
15-19	2,744	2,897	2,947	7.4%
20-24	1,812	1,605	1,632	-9.9%
25-29	2,036	1,941	1,565	-23.1%
30-34	2,510	2,443	2,109	-16.0%
35-39	2,830	2,916	2,671	-5.6%
40-44	2,653	3,097	3,073	15.8%
45-49	2,531	2,759	3,109	22.8%
50-54	2,097	2,691	2,691	28.3%
55-59	1,813	2,458	2,917	60.9%
60-64	1,592	2,142	2,789	75.2%
65-69	1,626	1,811	2,275	39.9%
70-74	1,379	1,639	1,808	31.1%
75-79	986	1,292	1,465	48.6%
80-84	653	808	1,006	54.1%
85 and over	456	680	845	85.3%
Overseas visitors	193	204	198	2.6%
Total	36,777	40,840	41,869	13.8%

Source: ABS, 2006

Table 28 shows the change in family composition in the Wingecarribee LGA from 1996 to 2006. There have been significant increases in the number of families in the 'couple family with no children' and 'other family' categories. The 'couple family with no children' category could be accounted for by the increase in empty nesters, people who are aged over 55 and have moved into the LGA for a tree-change or due to lifestyle factors.

TABLE 28. WINGECARRIBEE LGA, CHANGE IN FAMILY COMPOSITION

	1996	2001	2006	% 1996 to 2006
Couple family	655	837	1,327	102.6%
no children	1,805	2,061	2,268	25.7%
children under 15	171	215	300	75.4%
no children under 15	214	253	298	39.3%
One parent family	51	64	76	49.0%
children under 15	223	292	450	101.8%
no children under 15	3,119	3,722	4,719	51.3%
Other/ Not applicable	655	837	1,327	102.6%
Total	1,805	2,061	2,268	25.7%

Source: ABS, 2006

9.2 Housing

The housing profile for the Wingecarribee LGA and benchmarked areas is shown in Table 29. The Wingecarribee LGA as a whole contains a large proportion of 'separate houses' (89.7 percent). Specifically, Moss Vale (86.2 percent) and Bundanoon (96.1 percent) centres contain high proportions of 'separate houses' compared to Bowral centre (80.7 percent) and Mittagong centre (82.3 percent). Consultation revealed a similar trend, where Moss Vale and Bundanoon contain higher proportions of low density housing, and Bowral and Mittagong contain higher proportions of medium density housing.

The Wingecarribee LGA, Bowral centre and Mittagong centres each have 40.8 percent of 'fully owned' dwellings, while ownership is 50.6 percent in Bundanoon. This is higher than all of the benchmarked areas. Wingecarribee also had a relatively high proportion of dwellings 'being purchased'. Moss Vale centre had a high proportion of dwellings (10.4 percent) who do not own a vehicle compared to the LGA (6.1 percent) and is line with the Illawarra SD proportion (also 10.4 percent). However, this is lower than NSW (12.1 percent). In comparison other centres had much lower proportions of dwellings with no vehicle.

Wingecarribee had the same median housing loan repayment as NSW ($1517 per month). However, the rent in the LGA is cheaper, at $195 to $210 per week.

TABLE 29. DWELLING STRUCTURE

	Moss Vale		Bowral		Mittagong		Bundanoon		Wingecarribee		Illawarra		Syd-Can Corridor		New South Wales	
	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%
Separate house	2,751	87%	3,505	80%	2,737	85%	1,007	95%	16,892	89%	140,380	80%	50,858	84%	1,886,692	69%
Semi-detached, row or terrace house, townhouse etc with one storey	172	5%	545	12%	189	6%	9	1%	1,055	6%	7,726	4%	3,153	5%	134,946	5%
Semi-detached, row or terrace house, townhouse etc with two or more storeys	52	2%	134	3%	8	0%	-	0%	221	1%	6,282	4%	1,035	2%	133,438	5%
Apartment in a one or two storey block	135	4%	157	4%	206	6%	19	2%	536	3%	11,648	7%	2,962	5%	188,139	7%
Apartment in a three storey block	-	0%	15	0%	4	0%	-	0%	20	0%	3,568	2%	808	1%	163,326	6%
Apartment in a four or more storey block	-	0%	-	0%	-	0%	-	0%	-	0%	3,546	2%	542	1%	176,105	6%
Apartment attached to a house	6	0%	12	0%	20	1%	-	0%	47	0%	379	0%	98	0%	5,464	0%
Caravan, cabin, houseboat	41	1%	3	0%	51	2%	4	0%	145	1%	2,095	1%	707	1%	24,808	1%
Improvised home, tent, sleepers out	-	0%	-	0%	-	0%	-	0%	25	0%	100	0%	154	0%	3,680	0%
House or flat attached to a shop, office etc.	3	0%	3	0%	6	0%	10	1%	43	0%	405	0%	212	0%	9,796	0%
Not stated	-	0%	-	0%	-	0%	-	0%	3	0%	90	0%	40	0%	2,324	0%
Not applicable	13	0%	13	0%	12	0%	10	1%	75	0%	352	0%	213	0%	6,523	0%
Total	3,173	100%	4,387	100%	3,233	100%	1,059	100%	19,062	100%	176,571	100%	60,782	100%	2,735,241	100%

Source: ABS, 2006

TABLE 30. DWELLING STRUCTURE

	Burradoo		Robertson		Exeter		Wingello		Berrima		Hill Top		Colo Vale		Yerrinbool	
	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%
Separate house	910	98%	481	99%	200	100%	152	100%	375	95%	618	99%	443	100%	399	99%
Semi-detached, row or terrace house, townhouse etc with one storey	-	0%	-	0%	-	0%	-	0%	-	0%	4	1%	-	0%	-	0%
Apartment in a one or two storey block	6	1%	-	0%	-	0%	-	0%	3	1%	-	0%	-	0%	-	0%
Apartment attached to a house	3	0%	-	0%	-	0%	-	0%	3	1%	-	0%	-	0%	-	0%
Caravan, cabin, houseboat	4	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%
Improvised home, tent, sleepers out	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	4	1%
House or flat attached to a shop, office etc.	-	0%	7	1%	-	0%	-	0%	7	2%	-	0%	-	0%	-	0%
Not applicable	7	1%	-	0%	-	0%	-	0%	7	2%	-	0%	-	0%	-	0%
Total	930	100%	488	100%	200	100%	152	100%	395	100%	622	100%	443	100%	403	100%

Source: ABS, 2006

TABLE 31. HOUSING PROFILE

	Moss Vale		Bowral		Mittagong		Bundanoon		Wingecarribee		Illawarra		Syd-Can Corridor		New South Wales	
	Total	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**
Tenure type																
Fully owned	991	31%	1,599	36%	1,093	34%	424	40%	6,420	34%	58,035	33%	18,452	30%	820,540	30%
Being purchased	810	26%	1,051	24%	898	28%	259	24%	5,340	28%	44,432	25%	17,827	29%	740,463	27%
Being purchased under a rent/ buy scheme	-	0%	3	0%	9	0%	3	0%	21	0%	263	0%	73	0%	4,872	0%
Rented	785	25%	841	19%	708	22%	114	11%	3,201	17%	37,435	21%	11,885	20%	674,924	25%
Being occupied rent-free	40	1%	30	1%	16	0%	8	1%	212	1%	1,255	1%	767	1%	25,730	1%
Being occupied under a life tenure scheme	8	0%	44	1%	11	0%	3	0%	69	0%	686	0%	180	0%	9,758	0%
Other tenure type	4	0%	26	1%	6	0%	6	1%	74	0%	574	0%	223	0%	10,312	0%
Not stated	158	5%	200	5%	165	5%	33	3%	880	5%	8,935	5%	3,153	5%	183,854	7%
Not applicable	370	12%	602	14%	325	10%	208	20%	2,845	15%	24,956	14%	8,222	14%	264,788	10%
Total	3,166	100%	4,396	100%	3,231	100%	1,058	100%	19,062	100%	176,571	100%	60,782	100%	2,735,241	100%
Number of vehicles																
None	259	8%	284	6%	200	6%	41	4%	934	5%	14,803	8%	3,427	6%	276,746	10%
1 motor vehicle	1,089	34%	1,482	34%	1,156	36%	380	36%	5,760	30%	57,184	32%	17,346	29%	907,164	33%
2 motor vehicles	886	28%	1,370	31%	968	30%	293	28%	6,039	32%	50,235	28%	18,916	31%	775,915	28%
3 motor vehicles	258	8%	317	7%	289	9%	60	6%	1,730	9%	13,534	8%	6,160	10%	212,387	8%
4 motor vehicles	80	3%	76	2%	75	2%	20	2%	521	3%	3,995	2%	2,047	3%	64,987	2%
5 or more vehicles	37	1%	45	1%	33	1%	6	1%	235	1%	1,477	1%	1,018	2%	27,241	1%
Not stated	194	6%	230	5%	178	6%	47	4%	999	5%	10,386	6%	3,646	6%	206,013	8%
Not applicable	366	12%	598	14%	328	10%	210	20%	2,844	15%	24,957	14%	8,222	14%	264,788	10%
Total	3,169	100%	4,402	100%	3,227	100%	1,057	100%	19,062	100%	176,571	100%	60,782	100%	2,735,241	100%
Selected averages																
Median housing loan repayment ($/ monthly)	-		-		-		-		1,517		1,430		-		1,517	
Median rent ($/ weekly)	-		-		-		-		195		180		-		210	
Average number of persons per bedroom	-		-		-		-		1		1		-		1	
Average household size	-		-		-		-		3		3		-		3	

Source: ABS, 2006

TABLE 32. HOUSING PROFILE

	Burradoo		Robertson		Exeter		Wingello		Berrima		Hill Top		Colo Vale		Yerrinbool	
	Total	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**	**Total**	**%**
Tenure type																
Fully owned	440	47%	145	30%	71	36%	44	28%	123	31%	126	20%	121	27%	103	26%
Being purchased	198	21%	199	41%	60	30%	46	30%	140	35%	364	59%	198	45%	199	49%
Being purchased under a rent/ buy scheme	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	3	1%	-	0%
Rented	84	9%	73	15%	18	9%	21	14%	66	17%	77	12%	78	18%	42	10%
Being occupied rent-free	7	1%	3	1%	-	0%	3	2%	-	0%	3	0%	-	0%	4	1%
Being occupied under a life tenure scheme	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%
Other tenure type	-	0%	-	0%	-	0%	-	0%	3	1%	3	0%	-	0%	-	0%
Not stated	48	5%	11	2%	4	2%	7	5%	11	3%	28	5%	14	3%	16	4%
Not applicable	159	17%	53	11%	45	23%	34	22%	52	13%	21	3%	30	7%	39	10%
Total	936	100%	484	100%	198	100%	155	100%	395	100%	622	100%	444	100%	403	100%
Number of vehicles																
None	31	3%	10	2%	4	2%	8	5%	25	6%	15	2%	-	0%	15	4%
1 motor vehicle	238	26%	129	27%	61	31%	49	31%	123	31%	190	30%	126	28%	114	28%
2 motor vehicles	342	37%	197	41%	62	31%	43	28%	136	35%	262	42%	184	42%	154	38%
3 motor vehicles	81	9%	62	13%	17	9%	10	6%	34	9%	71	11%	66	15%	52	13%
4 motor vehicles	18	2%	11	2%	4	2%	3	2%	5	1%	25	4%	21	5%	11	3%
5 or more vehicles	14	2%	4	1%	-	0%	-	0%	3	1%	6	1%	6	1%	-	0%
Not stated	47	5%	21	4%	8	4%	9	6%	15	4%	32	5%	10	2%	17	4%
Not applicable	162	17%	52	11%	44	22%	34	22%	53	13%	22	4%	30	7%	39	10%
Total	933	100%	486	100%	200	100%	156	100%	394	100%	623	100%	443	100%	402	100%

Source: ABS, 2006

Table 33 shows the change in dwelling structure in the Wingecarribee LGA from 1996 to 2006. Over this ten year period the total number of dwellings in the LGA increased by 21.5 percent. It shows there have been considerable increases in the number of 'semi-detached, row or terrace houses, townhouses'. During this period there was a relative fall in the number of 'flats, units and apartments' as a proportion of total dwellings (3.4 percent in 1996 to 2.9 percent in 2006). This may indicate a lack of demand for this type of dwelling or no apartment developments are being built.

TABLE 33. WINGECARRIBEE LGA, CHANGE IN DWELLING STRUCTURE

	1996	2001	2006	% 1996 to 2006
Separate house	11,412	13,252	13,957	22.3%
Semi-detached, row or terrace house, townhouse etc with:				
One storey	493	526	844	71.2%
Two or more storeys	87	170	160	83.9%
Total	580	696	1,004	73.1%
Flat, unit or apartment:				
In a one or two storey block	335	296	411	22.7%
In a three storey block	14	0	16	14.3%
In a four or more storey block	0	5	0	-
Attached to a house	87	65	36	-58.6%
Total	436	366	463	6.2%
Other dwelling	145	157	138	-4.8%
Dwelling structure not stated	239	74	4	-98.3%
Total	12,812	14,545	15,566	21.5%

Source: ABS, 2006

Table 34 shows the change in tenure type from 1996 to 2006. The total number of dwellings being 'fully owned' grew by 8.6 percent during this period. The number of dwellings 'being purchased' grew by 54 percent.

TABLE 34. WINGECARRIBEE LGA, CHANGE IN TENURE TYPE

	1996	2001	2006	% 1996 to 2006
Fully owned	5,913	6,892	6,423	8.6%
Being purchased	3,474	4,155	5,363	54.4%
Rented:				
Real estate agent	1,561	1,549	1,946	24.7%
State or territory housing authority	344	357	400	16.3%
Person not in same household	801	777	661	-17.5%
Housing co-operative/ community/ church group	37	133	106	186.5%
Other landlord type	289	286	164	-43.3%
Landlord type not stated	176	88	135	-23.3%
Total	3,208	3,190	3,412	6.4%
Other tenure type	136	191	142	4.4%
Tenure type not stated	499	695	878	76.0%
Total	13,230	15,123	16,218	22.6%

Source: ABS, 2006

Table 35 shows the change in loan repayments in the Wingecarribee LGA from 1996 to 2006. The proportion of families who are paying more than $1,600 per month in loan repayments have increased dramatically, particularly over the last five years. This could indicate families are purchasing larger homes and borrowing more money or families are forced to purchase beyond their means as lower to mid priced dwellings are not available.

TABLE 35. WINGECARRIBEE LGA, CHANGE IN HOUSING LOAN REPAYMENTS

Loan repayment	1996	2001	2006
$1 to $249	3.3%	1.9%	1.6%
$250 to $399	5.2%	3.2%	1.4%
$400 to $549	9.8%	6.6%	3.2%
$550 to $749	16.7%	12.5%	5.5%
$750 to $949	18.5%	17.4%	7.3%
$950 to $1,199	18.4%	17.5%	10.7%
$1,200 to $1,399	9.7%	11.6%	9.5%
$1,400 to $1,599	4.3%	7.2%	8.3%
$1,600 to $1,999	3.9%	7.9%	16.1%
$2,000 to $2,999	3.7%	6.7%	19.6%
$3,000+	1.6%	3.1%	9.5%
Not stated	4.9%	4.5%	7.4%

Source: ABS, 2006

9.3 Socio-economic

We have considered the socio-economic profile of the Wingecarribee LGA and benchmark areas as shown in the 2006 ABS census data. Wingecarribee had a higher median individual income ($462 per week) compared to NSW ($461) and Illawarra SD ($388).

Overall, the Wingecarribee LGA and each of the centres have low proportions of individuals earning more than $2,000 per week compared to NSW (for example, 1.8 percent in Moss Vale, 4.4 percent in Bowral, 3.5 percent in Mittagong, and 3.7 percent in the LGA, compared to 4.1 percent in NSW). Approximately half of the households in Bundanoon, Moss Vale and Mittagong centres earn less than $1,000 per week, which could be due to the high number of older people who no longer work in the area or single income households.

Mittagong and Bowral centres have high proportions of people who have attained a postgraduate or bachelor degree (26.6 percent and 24.7 percent respectively) compared to the LGA (23.1 percent) and the region (23.7 percent), but a lower proportion to NSW (27.9 percent). This may be due to people living in Wingecarribee and commuting to work in Sydney. In contrast, Bundanoon centre has a lower proportion (22.6 percent) of people with graduate or postgraduate qualification.

Table 36 shows the unemployment rate for the Wingecarribee LGA as published by The Department of Education, Employment and Workplace Relations (DEEWR). The unemployment rate increased steadily over the last year to September 2010, which could be due to many younger adults moving out of the area and limited employment opportunities.

TABLE 36. DEEWR UNEMPLOYMENT RATE

	Unemployment					Unemployment rate					Labour force
	Sep '09	Dec '09	Mar '10	Jun '10	Sep '10	Sep '09	Dec '09	Mar '10	Jun '10	Sep '10	Sep '10
Wingecarribee	451	540	638	671	794	2.1	2.5	2.8	2.9	3.4	23,527

Source: DEEWR, 2010

In 2006, there were 18,999 people in the labour force and 12,573 people not in the labour force in the Wingecarribee LGA. The high proportion of people not in the labour force is likely to be primarily due to the ageing population in the LGA.

The majority of people in the Wingecarribee LGA are employed in the retail trade (12 percent), followed by manufacturing (11 percent) and health care and social assistance (10.8 percent). The main industries of employment for each of the centres is as follows:

Moss Vale	Manufacturing	14.6%
	Retail trade	11.6%
	Health care and social assistance	11%

Bowral	Retail trade	13.1%
	Health care and social assistance	12.7%
	Education and training	11.8%
Mittagong	Retail trade	11.9%
	Education and training	11.5%
	Manufacturing	10.7%

Bundanoon, Bowral and Mittagong centres have a high proportion of 'professionals'. Consultation revealed that these centres attract people who commute to work to Sydney but want the lifestyle that Wingecarribee offers.

Table 37 shows the level of rental housing stress in the Wingecarribee LGA. The green text represents the households that spend more than 30 percent of their gross income on rent and are defined as being under rental stress, of which there are 977 in total.

TABLE 37. RENTAL HOUSING STRESS

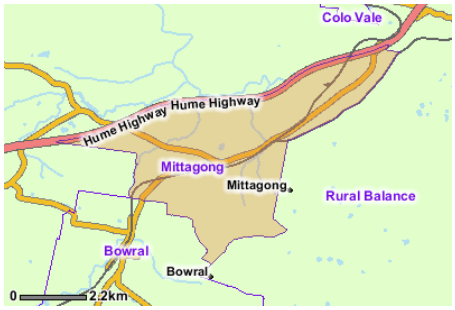
Income	**Rent**										
	$0 - $49	**$50 - $99**	**$100 - $139**	**$140 - $179**	**$180 - $224**	**$225 - $274**	**$275 - $349**	**$350 - $449**	**$450 - $549**	**$550+**	**Total**
Negative/ Nil income	9	-	3	3	6	4	4	-	-	3	35
$1-$149	10	18	6	5	6	-	5	-	-	3	59
$150-$249	20	100	28	36	21	19	3	-	-	3	235
$250-$349	29	72	61	87	72	27	8	4	-	-	373
$350-$499	8	7	29	17	29	14	12	5	-	-	132
$500-$649	34	31	67	124	153	64	37	3	-	-	527
$650-$799	16	11	38	64	76	58	24	4	3	-	297
$800-$999	22	5	27	54	94	64	24	5	-	-	295
$1,000-$1,199	29	11	24	49	135	65	47	11	3	3	388
$1,200-$1,399	9	-	5	17	49	54	29	10	-	-	180
$1,400-$1,699	19	4	7	26	42	48	35	5	7	-	201
$1,700-$1,999	6	4	6	8	38	31	18	18	-	6	135
$2,000-$2,499	8	-	4	-	17	17	35	21	-	-	105
$2,500-$2,999	-	-	3	4	10	11	26	17	3	9	87
$3,000 or more	-	-	-	-	5	4	13	13	7	3	45
Partial income stated	16	15	18	27	50	46	33	15	8	3	242
All incomes not stated	-	11	9	8	8	4	4	4	-	10	72
Total	235	289	335	529	811	530	357	135	31	43	3408

Source: ABS, 2006 (excludes 'not stated')

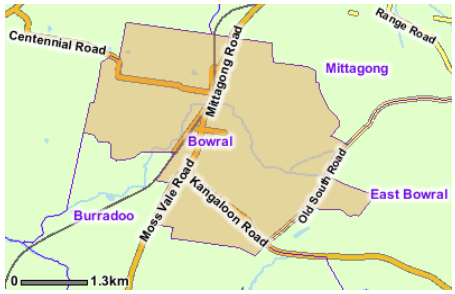
10 APPENDIX D – CENTRES DEFINED BY CD

Moss Vale[35]	1200701	1200709	1200715
	1200702	1200710	1200804
	1200705	1200711	1200818
	1200706	1200712	
	1200707	1200713	
	1200708	1200714	

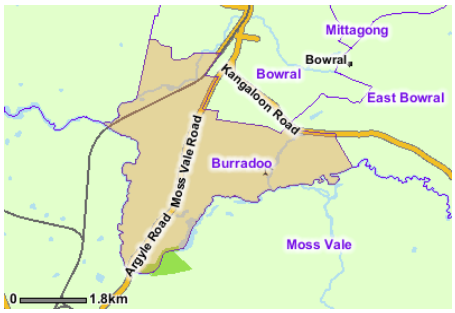
Mittagong	1200612	1201005	
	1200907	1201007	
	1200909	1201009	
	1201001	1201010	
	1201002	1201011	
	1201003	1201012	



Bowral	1200901	1200908	1201108
	1200902	1201014	1201109
	1200903	1201102	1201110
	1200904	1201103	1201112
	1200905	1201104	1201113
	1200906	1201105	



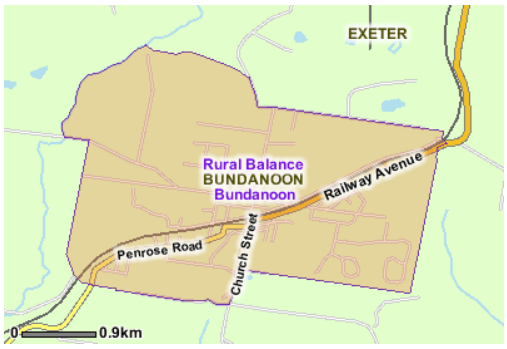
Burradoo	1201101		
	1201106		
	1201107		
	1201111		



[35] Note: Collection districts comprising each town or village as defined by Wingecarribee Shire Council, 2012

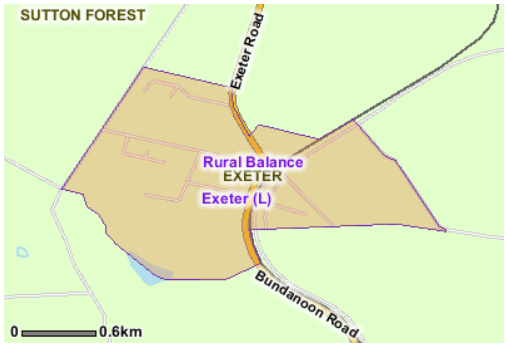
Bundanoon

1200801
1200802
1200812
1200815
1200816



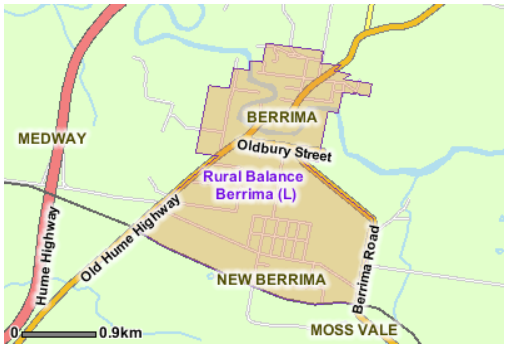
Exeter

1200813



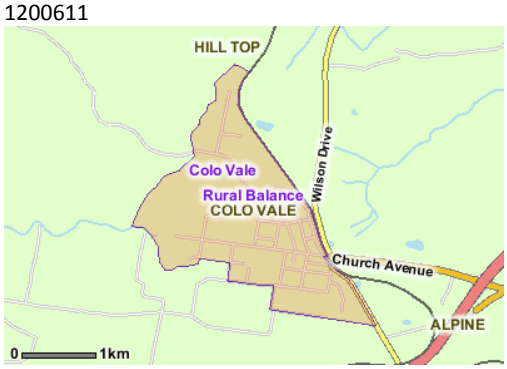
Berrima

1200601
1200602



Colo Vale

1200605
1200611

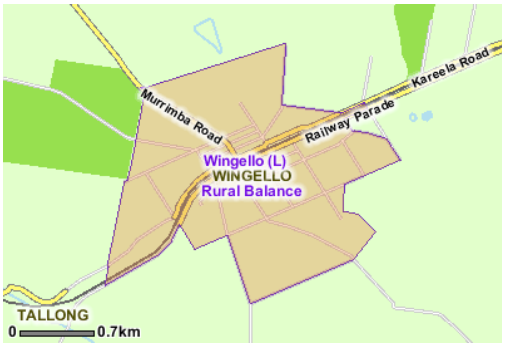


Robertson

1200807
1200808

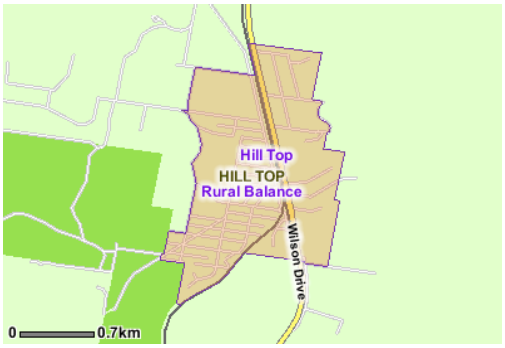
Wingello

1200814



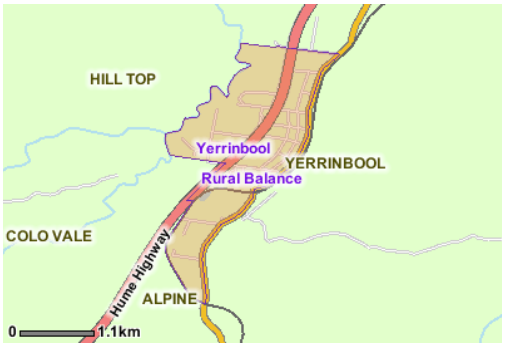
Hill Top

1200607
1200613



Yerrinbool

2100610



11 APPENDIX E – HOUSING MARKET

11.1 Overview

Consultation was undertaken with local residential property market agents in December 2010 to gain a better understanding of the local property market in the Wingecarribee LGA. Agents provided the following information about the current market performance, drivers of demand, buyers moving into the area and likely future trends in the property market.

The market is performing strongly at the lower end of the market...

Property sales have been strong for homes in the northern parts of the Shire; three and four bedroom family houses priced under $500,000 in particular. Areas such as Bowral, Mittagong and smaller northern villages are popular due to their proximity to Sydney and the potential to commute.

East Bowral has been performing strongly as families are seeking newer, reasonably priced, three or four bedroom houses. Detached houses of 800 to 1000 square metres, with three bedrooms and priced between $350,000 and $550,000 are most in demand.

Moss Vale and Berrima have seen fewer sales when compared with Bowral and Mittagong, which is likely to be due to their locations further south in the LGA and lesser access to services. Moss Vale town centre is also perceived to be underperforming, with a high number of shop vacancies.

The higher end of the market is performing poorly...

There is currently an oversupply of properties on the market priced over $850,000, with properties at the medium to high end of the market not selling particularly well. Typical sales prices are above $800,000 for properties of 1000 square metres and four or more bedrooms.

Wingecarribee has a fairly slow take-up of residential properties, with properties being on the market on average for approximately three to four months. Properties with a sales value of less than $450,000 are typically on the market for a month. More expensive properties of over $850,000 can often be on the market in excess of six months.

The area has difficulty attracting higher-end buyers as salaries in Wingecarribee are not comparable to those in Sydney. Additionally, there is an oversupply of these types of properties on the market, particularly in Burradoo.

Wingecarribee has a very low rental vacancy rate...

Wingecarribee has a very low rental vacancy rate of currently below one percent. The high demand for rental properties has not translated into higher property values or an increased investment value. Rental properties are typically on the market for less than one week. Detached houses priced between $300 and $500 per week are most in demand, while those priced between $550 and $850 are most in supply. Apartments priced between $180 and $300 per week are most in demand.

In line with real estate consultation, Housing NSW median weekly rental data shows that prices for three bedroom houses have increased at a faster rate (64.1 percent) than two bedroom houses (47 percent) from 2000 to 2010. Rental prices of one bedroom apartments have grown at a slower rate (39.1 percent) than two bedroom apartments (61.3 percent) from 2001 to 2010.

Wingecarribee offers an affordable option for young families compared to Sydney...

The Wingecarribee LGA (the towns of Bowral and Mittagong in particular) is attractive to young families because it offers an affordable alternative to Sydney and there are a number of high quality schools. There is also strong interest in the area from empty nesters. The opportunity to have a rural lifestyle within commuting distance of Sydney is an important attribute of the area.

Older buyers are demanding properties at the lower end of the market...

Older buyers and retirees are seeking properties priced between $400,000 and $600,000, and are more interested in locating in the south of the LGA, particularly in Moss Vale and Bundanoon. There is demand from some older residents to downsize from large acreages to dwellings close to town centres, within walking distance of local services and preferably a train station with connections to Sydney.

There is a large supply of aged care and retirement accommodation...

Real estate consultation revealed there is considerable existing stock of aged care and retirement accommodation, particularly in Bowral. Aged care and retirement accommodation is typically complexes of detached dwellings or single storey villas, many of which offer high quality amenities such as a pool or gym facilities. However, these types of properties are viewed as a less attractive investment than other dwellings in Wingecarribee, as they are available only to a limited market of buyers aged over 55 years.

There is observed demand for apartments...

Real estate consultation indicated there is observed demand for apartments in the Wingecarribee LGA; in particular, those with two to three bedrooms, priced between $300,000 and $400,000 and located close to town centres, notably Bowral. The demand for apartments has been untested due to the low availability of stock in the LGA.

Apartments typically attract younger workers and some empty nesters. Renters are attracted to apartments because they offer easy maintenance and convenience. Some apartment developments do offer a cheaper alternative to single detached houses, although some developments have been equivalently priced.

Renwick release area is anticipated to experience strong demand...

It is anticipated that the Renwick release area will experience strong demand and sales, as there is fairly consistent demand for family homes on medium sized blocks of land in Wingecarribee. If the development is priced effectively and marketed towards the right buyers, offering three and four bedroom houses priced at $450,000 to $550,000, Renwick will perform well. It is expected to attract young families and empty nesters, as well as those commuting to Sydney for work.

The market has been affected by local employment and financing...

The key issues affecting the market are the lack of local jobs in the area, slow capital growth and difficulty attaining finance for properties. These issues are seen as wider market issues which should correct as the south-west Sydney residential property market strengthens.

It was suggested that the high proportion of older buyers, who are no longer employed and have little disposable income, may have contributed to the slow economic growth in the area.

11.2 Sales history analysis

Single residential dwellings

The data shown in the following section is for 'single residential dwellings' as defined by RP Data. Table 38 shows single residential dwelling sales in the Wingecarribee LGA from 2000 to April 2011. Median prices have risen overall to 2010, increasing by 164.9 percent over the period. However, there have been a decreasing number of sales.

TABLE 38. SALES OF SINGLE RESIDENTIAL DWELLINGS, WINGECARRIBEE LGA, 2000-2011

Year	Median sales price	Number of sales
2000	$143,250	1030
2001	$190,000	1044
2002	$268,500	981
2003	$325,000	854
2004	$350,000	561
2005	$333,000	521
2006	$340,000	540
2007	$350,000	634
2008	$336,500	467
2009	$344,000	661
2010	$379,500	588
2011 (Jan-Apr)	$325,000	108

Source: RP Data, 2011

Table 39 shows that the suburbs of Bowral, Moss Vale and Mittagong had consistently higher numbers of single residential dwelling sales from 2000 to April 2011 compared to other suburbs in the LGA. Bowral, Moss Vale and Mittagong experienced a drop in sales between 2005 and 2008. However, all suburbs have recovered well with an increase in prices from 2009. The suburbs of Hill Top, East Bowral and Bundanoon also had strong sales from 2000 to 2004, with declining sales to 2011. The LGA's remaining suburbs have consistently had low levels of sales, which is likely to be due to limited stock.

TABLE 39. NUMBER OF SALES, BY SUBURB, 2000 TO APRIL 2011

Suburb	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Aylmerton	6	3	6	4	2	1	5	5	4	3	-	1
Balaclava	-	-	-	-	-	1	1	1	2	1	2	-
Balmoral	6	5	6	4	2	1	-	-	-	-	-	1
Berrima	7	8	8	7	4	4	2	3	2	5	6	-
Bong Bong	-	-	-	1	5	8	-	-	-	-	-	-
Bowral	227	252	278	203	140	99	125	176	124	154	244	24
Braemar	2	3	9	6	7	5	3	6	4	6	6	-
Bundanoon	85	64	58	47	24	33	37	47	37	42	37	3
Burradoo	12	15	13	7	11	9	5	5	6	6	8	-
Burrawang	2	13	8	8	6	2	4	2	3	8	13	-
Buxton	-	-	-	-	-	-	1	-	-	-	-	-
Canyonleigh	5	-	-	-	-	-	-	-	-	-	-	-
Colo Vale	31	25	44	31	18	10	16	23	16	25	21	4
East Bowral	107	55	33	33	27	18	24	30	20	34	33	4
Exeter	12	8	9	13	6	2	9	7	3	12	7	-
Fitzroy Falls	-	1	1	1	-	-	1	1	2	-	-	1
High Range	3	3	-	-	-	-	-	-	-	-	-	-
Hill Top	94	64	68	67	47	34	45	41	31	41	37	5
Medway	1	2	3	1	-	2	-	1	-	2	-	-
Mittagong	117	145	150	139	76	72	75	88	67	97	109	16
Moss Vale	178	187	158	150	102	129	114	124	78	122	136	16
New Berrima	19	23	18	24	14	19	10	4	10	17	6	2
Penrose	16	13	14	14	4	3	-	1	3	2	2	-
Robertson	31	36	32	38	23	21	26	19	20	38	17	-
Welby	11	11	17	12	11	12	9	15	6	8	9	1
Willow Vale	9	14	14	14	12	7	8	10	6	9	7	1
Wingello	4	6	5	7	1	3	6	4	4	5	2	-
Yerrinbool	25	33	25	21	19	23	13	18	18	21	19	-

Source: RP Data, 2011

Table 40 shows the median sales prices by suburb from 2000 to April 2011. The majority of suburbs have seen stable growth during this period. Median sales prices in Moss Vale have remained fairly constant since 2003 and Mittagong and Bowral have had consistent prices since 2004, with Mittagong experiencing a spike in prices in the first quarter of 2011.

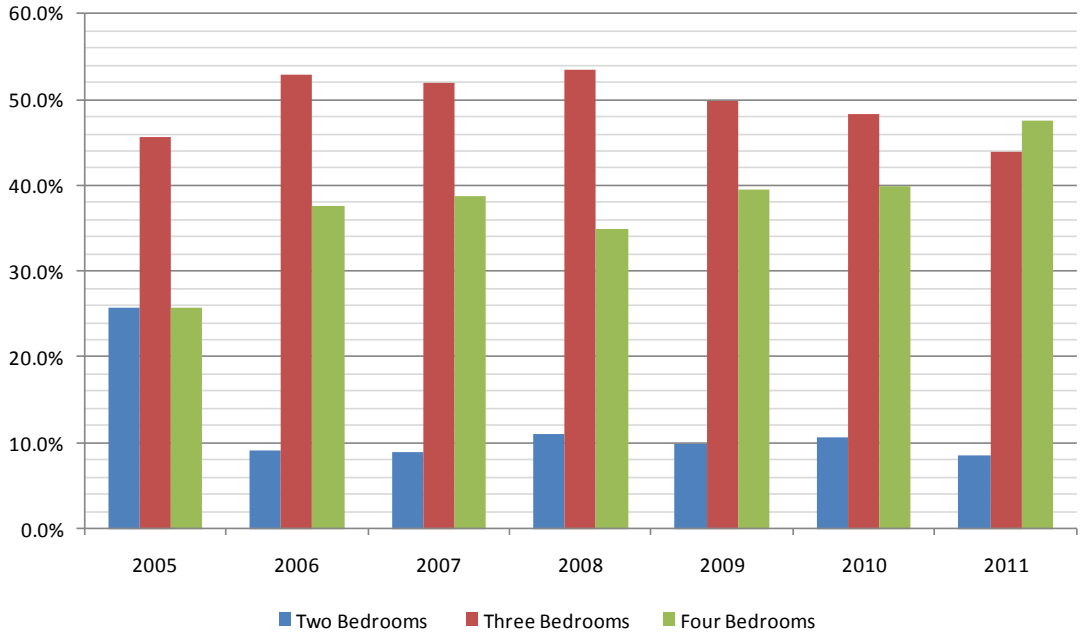
TABLE 40. MEDIAN SALES PRICES, BY SUBURB, 2000 TO APRIL 2011

Suburb	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Aylmerton	$110,000	$150,000	$202,500	$236,750	$285,000	$405,000	$282,000	$308,000	$326,000	$250,000	-	$635,000
Balaclava	-	-	-	-	-	$270,000	$245,000	$460,000	$317,500	$325,000	$330,500	-
Balmoral	$172,500	$170,000	$255,500	$191,250	$253,000	$365,000	-	-	-	-	-	$380,000
Berrima	$222,500	$244,750	$489,600	$308,000	$545,000	$562,500	$602,500	$550,000	$422,500	$440,000	$400,000	-
Bong Bong	-	-	-	$440,000	$360,000	$350,000	-	-	-	-	-	-
Bowral	$185,000	$275,000	$365,000	$445,000	$470,000	$475,000	$450,000	$463,500	$468,000	$463,500	$483,000	$482,500
Braemar	$137,500	$199,000	$252,500	$327,500	$300,000	$350,000	$330,000	$295,000	$393,500	$397,500	$371,500	-
Bundanoon	$110,000	$176,250	$260,000	$325,614	$312,500	$337,000	$350,000	$342,000	$303,000	$336,500	$350,000	$348,000
Burradoo	$355,000	$380,000	$520,000	$620,000	$683,000	$777,000	$780,000	$840,000	$802,500	$675,000	$827,500	-
Burrawang	$577,500	$322,000	$351,250	$472,500	$625,000	$695,000	$721,000	$573,750	$630,000	$393,000	$482,500	-
Buxton	-	-	-	-	-	-	$630,000	-	-	-	-	-
Canyonleigh	$84,695	-	-	-	-	-	-	-	-	-	-	-
Colo Vale	$149,450	$178,000	$235,000	$290,000	$326,000	$307,500	$315,250	$302,000	$325,000	$325,000	$301,650	$370,000
East Bowral	$86,000	$278,000	$339,000	$449,000	$435,000	$437,500	$385,000	$412,500	$433,500	$421,500	$475,000	$510,000
Exeter	$175,000	$209,000	$208,000	$335,000	$247,500	$564,000	$520,000	$345,000	$425,000	$392,500	$405,000	-
Fitzroy Falls		$172,500	$255,000	$245,000	-	-	$315,000	$333,000	$242,500	-	-	$465,000
High Range	$250,000	$240,000	-	-	-	-	-	-	-	-	-	-
Hill Top	$95,000	$142,500	$185,050	$250,000	$270,000	$265,000	$250,000	$280,000	$260,000	$275,000	$280,000	$292,500
Medway	$90,000	$187,500	$60,000	$265,000	-	$305,000	-	$150,000	-	$352,500	-	-
Mittagong	$175,000	$205,000	$275,000	$330,000	$360,000	$352,500	$345,000	$344,500	$337,000	$360,000	$362,000	$422,500
Moss Vale	$145,000	$173,000	$240,000	$292,500	$325,000	$300,000	$290,000	$304,000	$305,000	$307,750	$335,000	$329,250
New Berrima	$98,000	$140,000	$164,250	$215,000	$255,250	$230,000	$231,000	$236,500	$235,000	$250,000	$272,500	$247,500
Penrose	$150,250	$172,000	$220,000	$277,500	$322,500	$298,000	-	$190,000	$235,000	$250,000	$275,000	-
Robertson	$157,000	$178,000	$216,000	$304,750	$350,000	$290,000	$322,500	$350,000	$317,500	$315,000	$375,000	-
Welby	$155,000	$190,000	$235,000	$284,500	$310,000	$315,000	$280,000	$285,000	$228,500	$305,000	$280,000	$303,000
Willow Vale	$193,000	$218,750	$305,000	$360,000	$388,000	$410,000	$347,500	$353,500	$382,500	$320,000	$457,000	$495,000
Wingello	$155,000	$110,000	$140,000	$165,000	$90,000	$295,000	$138,500	$209,650	$159,000	$210,000	$300,000	-
Yerrinbool	$140,000	$165,000	$230,000	$275,000	$297,000	$287,000	$305,000	$276,500	$286,250	$269,000	$305,000	-

Source: RP Data, 2011

Figure 18 shows the number of sales of single residential dwellings from 2005 to April 2011 by bedroom type. There was limited data available for sales between 2000 and 2004. The majority of single residential sales have been of three bedroom dwellings, although there has been a proportional decline in sales numbers. This may suggest there is a limited availability of this type of stock. There was a proportional growth in sales of dwellings with four or more bedrooms from 2006 to 2011.

FIGURE 18. SINGLE RESIDENTIAL DWELLINGS SALES, BY BEDROOM, 2005 TO APRIL 2011



Source: RP Data, 2011

Table 41 shows the median sales prices for single residential dwellings by bedroom type from 2005 to April 2011. Median sales prices have seen some movement, especially in four or more bedroom dwellings, which could be due to the amount and quality of stock available between different years. There is typically a trend for increased median sales prices as the number of bedrooms also increases, which is as expected.

TABLE 41. SINGLE RESIDENTIAL DWELLING MEDIAN SALES PRICES, 2005 TO APRIL 2011

	Two bedrooms	Three bedrooms	Four + bedrooms
2005	$340,000	$362,500	$392,000
2006	$289,000	$310,000	$390,000
2007	$350,000	$320,500	$410,000
2008	$302,000	$315,000	$445,000
2009	$275,000	$320,000	$410,000
2010	$312,750	$347,000	$475,000
2011	$200,000	$314,750	$420,000

Source: RP Data, 2011

Residential strata units

The data shown in the following section is for 'Residential Strata Units', as defined by RP Data, and includes units and apartments.

Table 42 shows the sales records in the Wingecarribee LGA from 2001 to April 2011. Residential strata unit prices have fluctuated over the last ten years. This could be due to the quality and amount of stock available on the market in different years.

TABLE 42. APARTMENT SALES, 2000 TO APRIL 2011

Year	Median sales price	Number of sales
2001	$233,500	128
2002	$291,500	146
2003	$307,500	108
2004	$385,000	103
2005	$399,000	92
2006	$405,000	93
2007	$375,450	126
2008	$350,000	81
2009	$400,000	108
2010	$360,000	133
2011	$344,500	14

Source: RP Data, 2011

Table 43 shows the number of sales by suburb from 2001 to April 2011. The majority of residential strata units are located in Bowral, and to a lesser extent Moss Vale and Mittagong. Development of residential strata units is concentrated in these suburbs as they are the main centres within the LGA.

TABLE 43. APARTMENT SALES BY SUBURB, 2000 TO APRIL 2011

Suburb	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Balaclava	-	-	-	-	-	-	-	-	-	2	-
Berrima	-	-	1	-	2	-	-	-	1	1	-
Bowral	64	104	56	65	54	54	72	49	61	77	5
Braemar	-	-	-	-	-	2	2	1	-	-	-
Bundanoon	3	2	2	1	1	3	1	1	-	-	-
Burradoo	2	1	1	2	4	1	3	1	2	4	-
Colo Vale	-	-	-	-	-	-	-	2	-	-	-
East Bowral	5	2	-	-	2	3	2	1	5	3	-
Mittagong	8	12	18	18	16	14	16	9	20	15	1
Moss Vale	38	25	30	17	13	14	27	17	19	31	3
Penrose	1	-	-	-	-	-	-	-	-	-	-
Welby	-	-	-	-	-	1	3	-	-	-	-

Source: RP Data, 2011

Table 44 shows the median sales prices by suburb from 2001 to April 2011. Bowral and Mittagong have consistently higher median sales prices than Moss Vale. However, East Bowral has higher median sales prices for residential strata units, although it has not experienced high numbers of sales. In Bowral, Moss Vale and Mittagong there is no evident trend between relatively stable sales prices and a fluctuating number of sales.

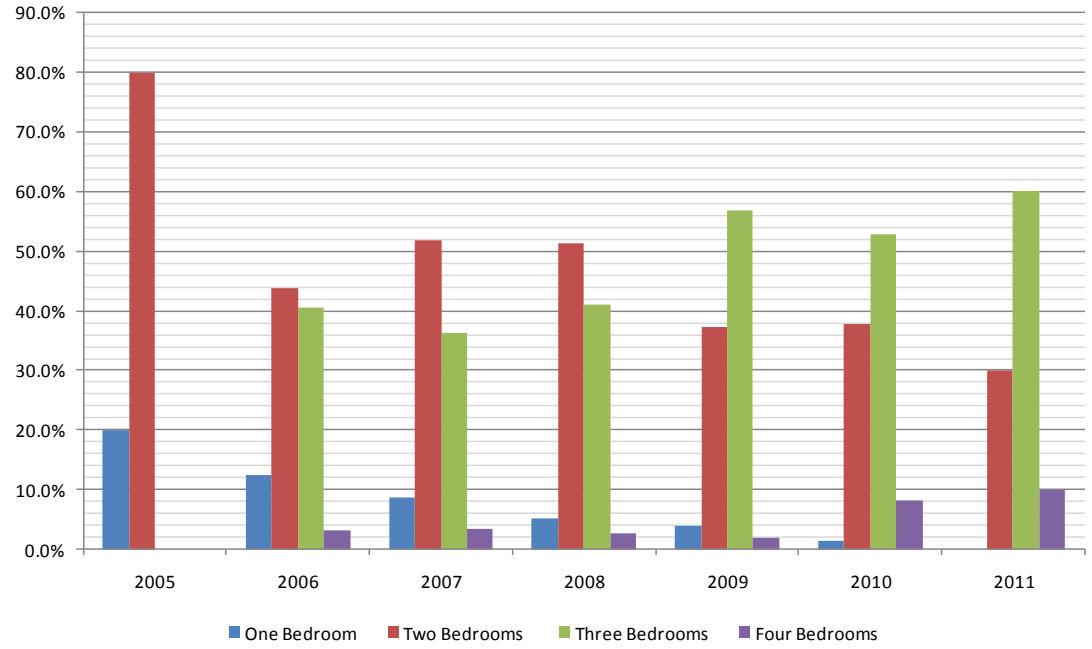
TABLE 44. MEDIAN APARTMENT SALES PRICES BY SUBURB, 2000 TO APRIL 2011

Suburb	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Balaclava	-	-	-	-	-	-	-	-	-	$330,500	-
Berrima	-	-	$500,000	-	$258,750	-	-	-	$500,000	$285,000	-
Bowral	$257,500	$310,000	$307,500	$340,000	$438,000	$428,500	$395,000	$398,000	$398,500	$385,000	$420,000
Braemar	-	-	-	-	-	$305,000	$286,500	$290,000	-	-	-
Bundanoon	$135,000	$111,000	$458,000	$270,000	$203,500	$325,000	$190,000	$265,000	-	-	-
Burradoo	$2,382,500	$530,000	$880,000	$805,000	$727,500	$915,000	$835,000	$2,100,000	$872,500	$862,500	-
Colo Vale	-	-	-	-	-	-	-	$370,000	-	-	-
East Bowral	$360,000	$508,750	-	-	$642,500	$650,000	$762,500	$790,000	$730,000	$480,000	-
Mittagong	$245,000	$300,000	$327,500	$395,000	$325,000	$448,000	$394,000	$313,500	$342,500	$410,000	$430,000
Moss Vale	$216,000	$188,000	$260,000	$375,000	$325,000	$297,500	$340,000	$270,000	$325,000	$320,000	$275,000
Penrose	$125,000	-	-	-	-	-	-	-	-	-	-
Welby	-	-	-	-	-	$410,000	$425,000	-	-	-	-

Source: RP Data, 2011

Figure 19 shows the number of sales of residential strata units from 2005 to April 2011 by bedroom type. From 2006 to 2011 there was an increase in the proportion of dwellings sold with more than three bedrooms, and a decline in the proportion of sales of one bedroom and two bedroom dwellings.

FIGURE 19. RESIDENTIAL STRATA UNITS NUMBER OF SALES, BY BEDROOM, 2005-2011



Source: RP Data, 2011

Table 45 shows the median sales prices for residential strata units by bedroom type between 2005 and April 2011. There was limited data available for sales between 2000 and 2004. There has been a decline over the period in median sales prices for two bedroom and four bedroom dwellings. Median sales prices of three bedroom and one bedroom dwellings have remained relatively constant.

TABLE 45. RESIDENTIAL STRATA UNITS MEDIAN SALES PRICES, 2005 TO APRIL 2011

	Two bedrooms	Three bedrooms	Four + bedrooms
2005	$207,500	$270,000	-
2006	$163,750	$286,000	$397,500
2007	$97,000	$227,500	$410,000
2008	$187,000	$240,000	$418,750
2009	$136,500	$255,000	$455,000
2010	$194,000	$286,750	$430,000
2011 (Jan-Apr)	-	$175,000	$365,000

Source: RP Data, 2011

11.3 On the market analysis

Detached houses

In April 2011, just over half of all detached houses listed for sale in Wingecarribee had four or more bedrooms. Bowral had the most listed houses on the market, with 67 properties. This was followed by Bundanoon (56 properties) and Moss Vale (53 properties)[36].

[36] Sourced from www.domain.com.au and www.realestate.com.au

The majority of properties on the market over the six month period prior to April 2011 were located in Bowral and Burradoo (268 and 127 respectively), with the highest median sales prices listed for Glenquarry and Burradoo at $1,350,000 and $1,195,000. These high prices are typically for dwellings on large rural lots.

In terms of rental properties over the six months prior to April 2011, Sutton Forest and Burradoo commanded the highest rental prices for single detached dwellings, which is likely to be because these areas contain many larger, up-market properties. Bowral, Moss Vale and Mittagong all had a significant number of rentals over the period, with 83, 68 and 53 properties respectively.

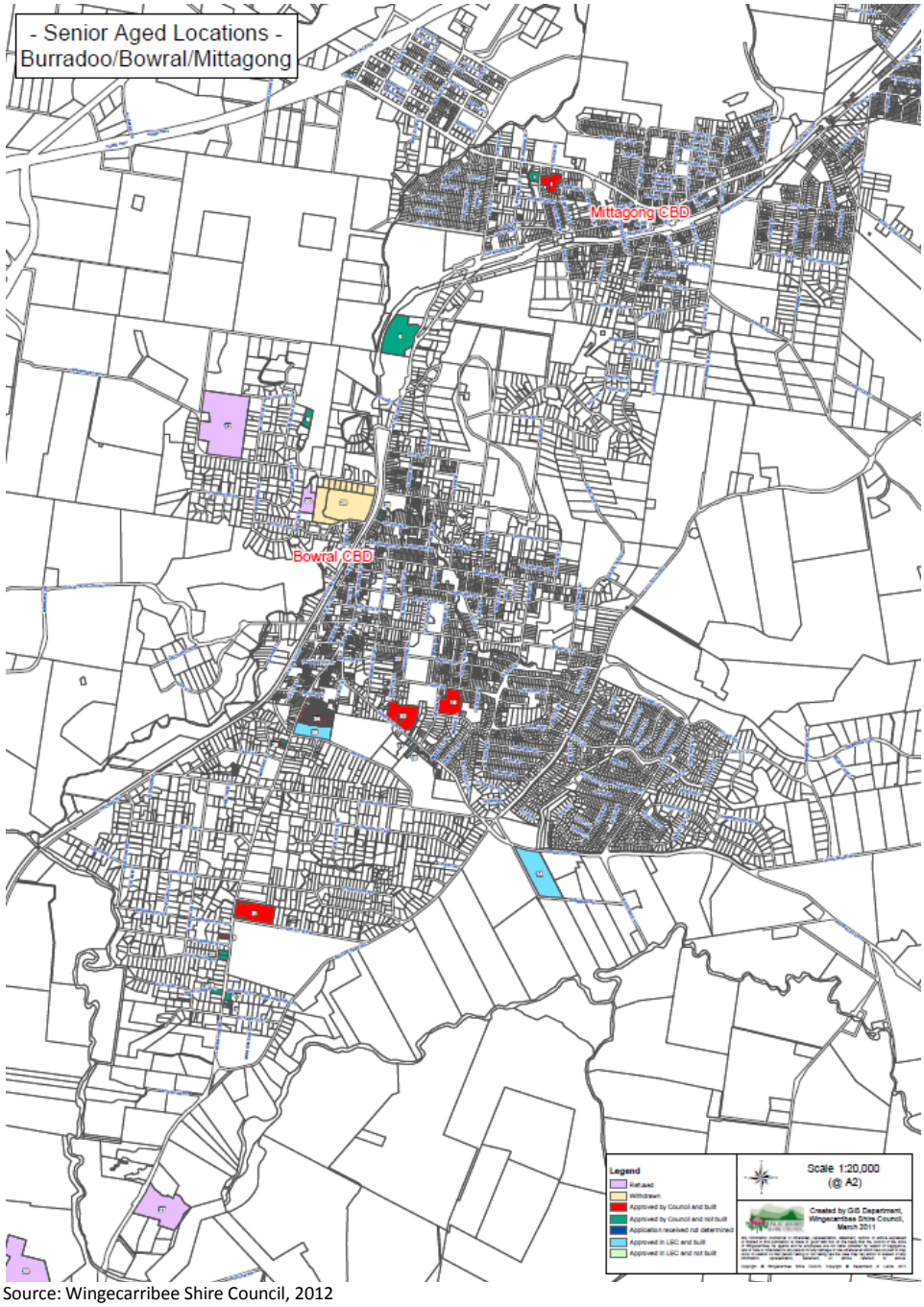
Apartments

The majority of listed apartments in April 2011 were in Bowral, where the median price of three or more bedroom apartments had been pushed up to $862,500 by the new Heritage Park developments at 9 Kangaloon Road. There was only one listing for apartments in Moss Vale and no listings in Mittagong.

Over the six months prior to April 2011, Bowral had the most listed apartments for sale (44) with a median sales price of $440,000 – higher than that suggested during consultation. The majority of listings for rental properties during the same period were for properties in Bowral and Mittagong. Bowral had the highest listed median rental price of $305 per week, which could be due to the quality and variety of stock in the town and access to a greater number of services.

12 APPENDIX F – AGED/ SENIORS LIVING DEVELOPMENTS

FIGURE 20. AGED CARE LOCATIONS IN BURRADOO, BOWRAL AND MITTAGONG



Source: Wingecarribee Shire Council, 2012

FIGURE 21. AGED CARE LOCATIONS IN MOSS VALE AND BUNDANOON

Source: Wingecarribee Shire Council, 2012

13 APPENDIX G – AGED CARE SUPPORT SERVICES

In Wingecarribee Shire, the following range of State home and community care (HACC) programs is available to support ageing in place in the family home at either no cost or nominal cost[37]:

- Respite Program – generally provided in the home of the older person or out in the community. Two respite programs are delivered, one is disability specific. Respite can be provided for people in the target group who are palliative.
- Respite Program for older adults who are carers – parent carers aged 60 years and over and Aboriginal parent carers aged 45 years and over, with respite services provided to younger members of the family with a disability.
- Active Ageing – day programs (delivered at the Bowral centre and community locations across the Shire) to assist people with moderate to very high support needs to achieve their goals and participate as active members of society.
- Leisure Link – a weekend and/ or evening program where people can spend time with their peers in creative, recreation and leisure activities.
- Peer Support Program – a recreational and social skills program for clients that also provides primary carers with respite. The program is primarily directed towards meeting the person's need for social contact and accompaniment in order to participate in community life.
- Neighbour Aid Program – providing social contact opportunities for older adults who live at home.

The above programs are delivered through Interchange Wingecarribee and are provided as either in-home or as centre-based activities delivered in Bowral. Additional HACC services are delivered through the following providers:

- Disability Services Australia, Moss Vale – delivers an Active Ageing program for those aged 54 to 65.
- BCS Care Centre, Bowral – delivers a respite program for older adults with dementia or palliative care needs.
- Wingecarribee Adult Day Care Centre, Bowral – delivers a diversional therapy program in a group setting aimed at retention of independence and skills.
- Anglican Retirement Villages Aged Care, Bowral – delivers community based aged care at home programs to support personal care.

[37] Macarthur Disability Service, 2010. Wingecarribee Aged and Disability Pack, 2010-2011. Accessed online, 19 October 2011 <www.shdivgp.com.au/images/stories/documents/aged%20care%20program/aged_and_disability_services_pack_wingecarribee_2010-2011.pdf>

14 APPENDIX H – COUNT OF DWELLING POTENTIAL

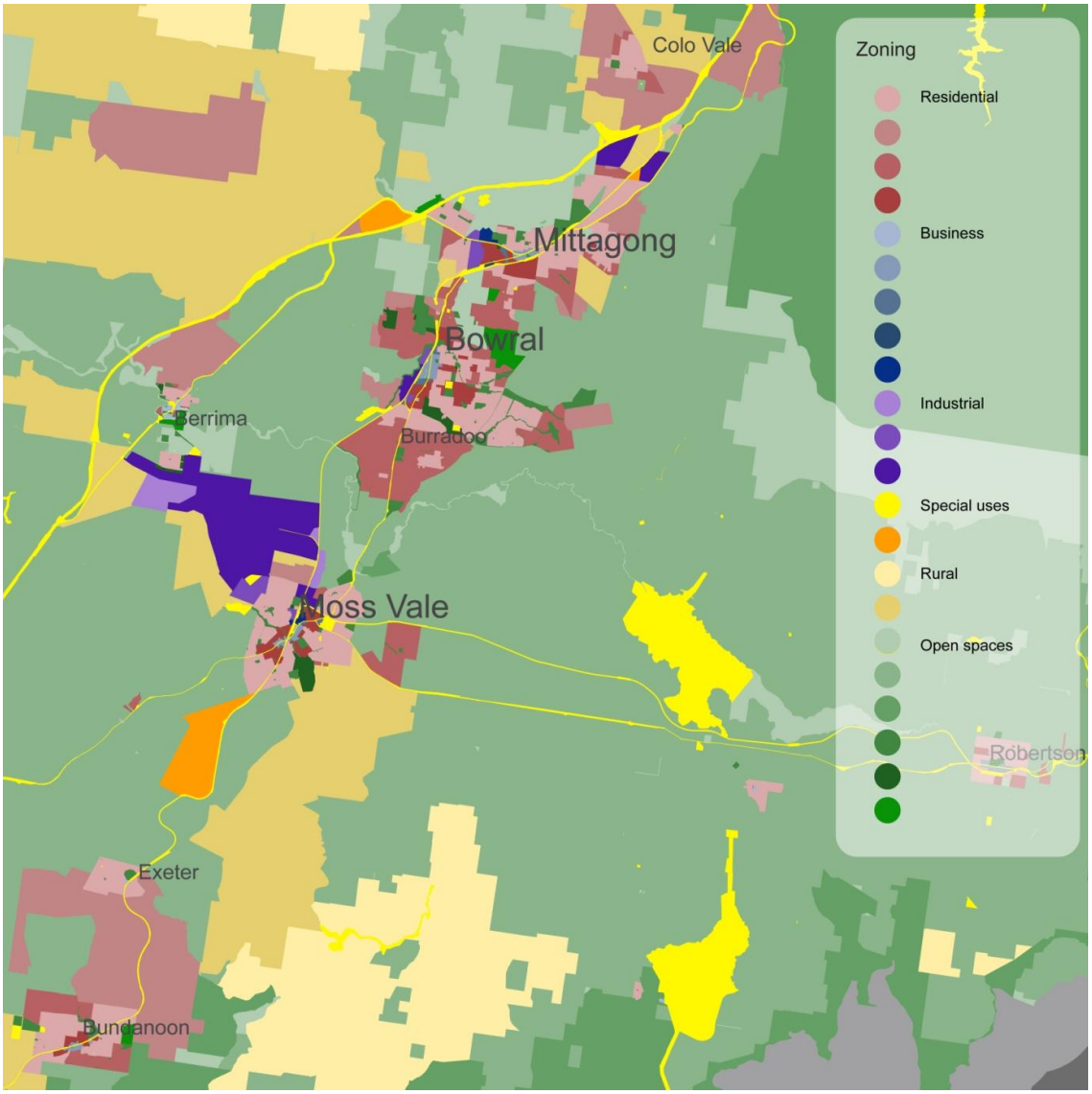
TABLE 46. EXISTING URBAN AND RURAL (RESIDENTIAL ZONED LAND) POTENTIAL COUNT

Location	Total potential	Existing dwellings	Potential + existing total
Urban			
Aylmerton	13	53	66
Balaclava	145	152	297
Balmoral	44	63	107
Berrima	7	119	126
Bowral	871	4,225	5,096
Braemar	456	119	575
Bundanoon	1,574	1,067	2,641
Burrawang	79	119	198
Colo Vale	166	382	548
Exeter	235	189	424
Fitzroy Falls	8	27	35
Hill Top	259	1,067	1,326
Mittagong	1,663	2,266	3,929
Medway	28	27	55
Moss Vale	2,180	2,988	5,168
New Berrima	32	226	258
Penrose	15	24	39
Robertson	187	474	661
Sutton Forest	10	17	27
Welby	153	296	449
Willow Vale	127	235	362
Wingello	607	180	787
Yerrinbool	100	311	411
Sub total	8,959	14,626	23,585
Rural (where available)			
Balaclava	5	33	38
Balmoral	6	22	28
Berrima	32	77	109
Bowral	26	72	98
Braemar	2	0	2
Buxton	59	28	87
Colo Vale	49	134	183
Exeter	112	163	275
Hill Top	24	117	141
Joadja	17	70	87
Mittagong	1	13	14
Moss Vale	11	16	27
Yerrinbool	11	112	123
Sub total	355	857	1,212

Source: Wingecarribee Shire Council, 2012

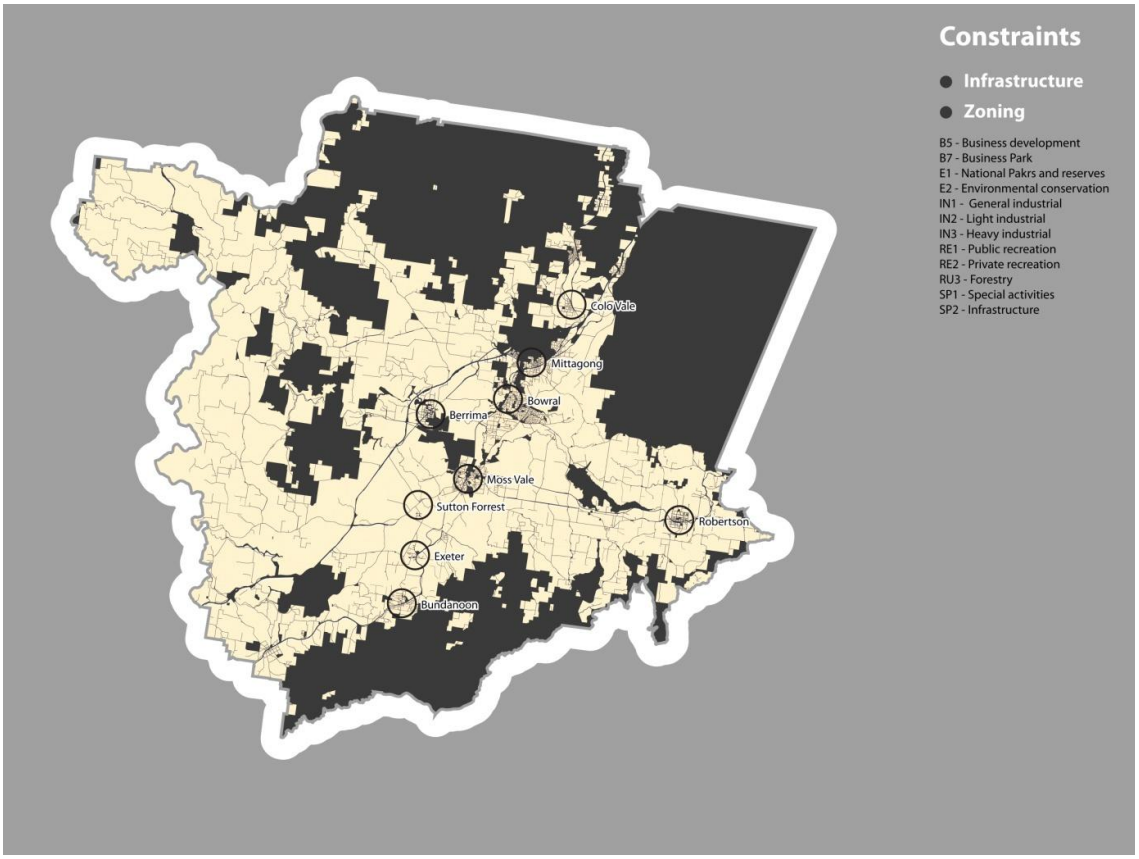
15 APPENDIX I – DEVELOPMENT CONSTRAINTS

FIGURE 22. CURRENT LAND ZONING



Source: Wingecarribee Shire Council; SGS, 2012

FIGURE 23. ZONING AND INFRASTRUCTURE CONSTRAINTS



Source: Wingecarribee Shire Council; SGS, 2012

16 APPENDIX J – POPULATION MODELLING

16.1 Base case assumptions

The change in population over time comprises of three components – births, deaths and net migration. The base year of the population forecast is 2006 as it is the latest census year. In the base case, the population in Wingecarribee has been forecast from 2006 to 2036 in five year intervals, based on the historical birth rate, death rate and observed migration trend. The assumptions and methods used to estimate each of these components over the forecast period are as follows.

Births

Data sources used to estimate the birth rates in Wingecarribee include:

- ABS, Assumed age-specific fertility rates for Australia 2007 to 2021
- ABS, Birth count by sex by age of mother, Wingecarribee, 2005 to 2009.

Firstly, a set of medium assumptions about age specific fertility rates (ASFRs) and total fertility rates (TFRs) for Australia are obtained from the ABS Population Projection from 2007 to 2101 (Table 47). Actual ASFRs and TFRs for Wingecarribee between 2005 and 2009 are then calculated using the birth count data purchased from ABS (Table 48). ABS findings show that women who live farthest away from large population centres tend to have the highest levels of fertility, while those in major cities tend to have the lowest[38]. It is therefore reasonable that Wingecarribee has higher fertility rates than the assumed national average in Table 47.

Secondly, the percentage change of Australia-wide assumed fertility rates are applied to the observed rates in Wingecarribee. In other words, the 2007 Australia wide rates are standardised to Wingecarribee's 2007 rates, while rates from 2008 onwards are adjusted to the new base rates in 2007 without losing the trending assumptions made by ABS. Lastly, given the approximate linearity of the ASFRs, linear trend forecasts are used to compute the ASFRs and TFRs from 2021 to 2036. The resulting five yearly ASFRs and TFRs used to forecast births in Wingecarribee are given in Table 49.

[38] ABS, Australian Social Trends: Using statistics to paint a picture of Australian society, December 2010.

TABLE 47. ABS ASSUMED MEDIUM AGE-SPECIFIC FERTILITY RATES (ASFRS) AND TOTAL FERTILITY RATES (TFRS) FOR AUSTRALIA

Year ended 30 June	Age-specific fertility rates (a) – medium rates							TFR(b)
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
2007	15.8	53.4	105.0	127.0	66.8	12.4	0.6	1.91
2008	15.4	52.2	103.3	126.5	67.5	12.6	0.6	1.89
2009	15.1	51.2	101.9	126.5	68.4	12.9	0.7	1.88
2010	14.7	50.3	100.6	126.5	69.3	13.2	0.7	1.88
2011	14.3	49.3	99.3	126.5	70.2	13.5	0.7	1.87
2012	14.0	48.4	98.0	126.5	71.1	13.8	0.7	1.86
2013	13.6	47.5	96.7	126.4	72.0	14.1	0.7	1.86
2014	13.3	46.5	95.4	126.4	72.9	14.4	0.8	1.85
2015	13.0	45.6	94.1	126.4	73.8	14.6	0.8	1.84
2016	12.6	44.7	92.9	126.4	74.6	14.9	0.8	1.83
2017	12.3	43.8	91.6	126.4	75.5	15.2	0.8	1.83
2018	11.9	42.9	90.4	126.4	76.3	15.5	0.8	1.82
2019	11.6	42.0	89.1	126.3	77.1	15.7	0.9	1.81
2020	11.3	41.1	87.9	126.3	78.0	16.0	0.9	1.81
2021	10.9	40.2	86.6	126.3	78.8	16.3	0.9	1.80

(a) Babies per 1000 women

(b) Babies per woman

Source: ABS, Population Projections for Australia 2007-2101

TABLE 48. CALCULATED ACTUAL AGE SPECIFIC FERTILITY RATES (ASFRS) AND TOTAL FERTILITY RATES (TFRS) FOR WINGECARRIBEE, 2005-2009

Year ended 30 June	Actual age-specific fertility rates (a)							TFR(b)
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
2009	16.79	56.74	111.56	134.93	70.97	13.17	0.64	2.02

(a) Babies per 1000 women

(b) Babies per woman

Source: ABS Births by age of mother by sex of child, Wingecarribee, 2005-2009; SGS Economics and Planning, 2012

TABLE 49. FIVE YEARLY AGE-SPECIFIC FERTILITY RATES (ASFRS) AND TOTAL FERTILITY RATES (TFRS) FORECAST FOR WINGECARRIBEE, 2007-2036

Period	Age-specific fertility rates (a) – medium rates						
	15-19	20-24	25-29	30-34	35-39	40-44	45-49
2007-11	75.30	256.40	510.10	633.00	342.20	64.60	3.30
2012-16	66.50	232.70	477.10	632.10	364.40	71.80	3.80
2017-21	58.00	210.00	445.60	631.70	385.70	78.70	4.30
2022-26	49.28	186.53	412.97	630.84	407.53	85.75	4.85
2027-31	40.62	163.28	380.66	630.12	429.24	92.78	5.38
2032-36	31.96	140.03	348.35	629.41	450.96	99.81	5.91

(a) Babies per 1000 women

Source: SGS Economics and Planning, 2012

Deaths

Data sources used to estimate the death rate include:

- ABS, Life Tables, New South Wales, 2007 to 2009
- ABS, Deaths by age of death by sex, Wingecarribee, 2005 to 2009
- ABS, Assumed life expectancy at birth for Australia, 2007 to 2021.

Firstly, single age mortality rates by sex are obtained using Life Tables for NSW. These rates represent the probability that a person will die before his or her next birthday. Next, the number of deaths between 2005 and

2009 are estimated by applying these age-specific mortality rates to the estimated resident population in Wingecarribee in 2004. The NSW Life Table rates are then adjusted so that the estimated death count is equal to the actual number of deaths observed in Wingecarribee from 2005 to 2009.

As shown in Table 50, the ABS assumes male and female life expectancy at birth[39] will increase by 0.30 and 0.25 per year respectively until 2011. Then life expectancy at birth will continue to increase but at decreasing rates. The assumed change in life expectancy over time is applied to the life expectancy estimate for Wingecarribee, because life expectancy is generally stable across Australia[40]. As a result, the life expectancy at birth for Wingecarribee is assumed to improve at the same rate as assumed in Table 50.

TABLE 50. ASSUMED LIFE EXPECTANCY AT BIRTH FOR AUSTRALIA

	Life expectancy at birth (years)		Increase per year (years)	
	Males	**Females**	**Males**	**Females**
2010–11	80.36	84.86	0.30	0.25
2015–16	81.36	85.61	0.20	0.15
2020–21	82.11	86.11	0.15	0.10
2025–26	82.61	86.51	0.10	0.08
2055–56	85.01	88.01	0.08	0.05

Source: ABS Population Projections, Australia, 2006 to 2101

Lastly, because Life Table values for NSW (and therefore Wingecarribee) are for each age and not for age cohorts, in calculating the mortality rates for an age cohort, the mortality rate for each age is weighted by its share of the total number of people in the age cohort. The resulting five yearly mortality rates are used to forecast the number of deaths in Wingecarribee for each age group. Five year male mortality rates are reported in Table 51, while Table 52 shows the female rates.

TABLE 51. FIVE YEARLY MALE MORTALITY RATE FORECAST FOR WINGECARRIBEE

Age group	2007-2011	2012-2016	2017-2021	2022-2026	2027-2031	2032-2036
0-4	0.001586	0.001473	0.001392	0.00134	0.001299	0.00126
5-9	0.000499	0.00043	0.000383	0.000354	0.000332	0.000311
10-14	0.000959	0.000828	0.000738	0.000682	0.000639	0.000598
15-19	0.002402	0.002108	0.001904	0.001775	0.001676	0.00158
20-24	0.003094	0.002795	0.002582	0.002445	0.002338	0.002233
25-29	0.003908	0.003626	0.00342	0.003285	0.003178	0.003073
30-34	0.005073	0.00479	0.00458	0.004441	0.00433	0.004219
35-39	0.006625	0.006303	0.006062	0.005901	0.005772	0.005643
40-44	0.009581	0.009031	0.008622	0.008352	0.008136	0.007922
45-49	0.014251	0.013103	0.01227	0.011729	0.011303	0.010884
50-54	0.020951	0.01863	0.016996	0.015956	0.015151	0.014371
55-59	0.031251	0.02711	0.024253	0.022463	0.021094	0.01978
60-64	0.049161	0.042487	0.037894	0.035021	0.032828	0.030724

Source: SGS Economics and Planning, 2012, based on ABS mortality data

[39] The life expectancy at birth is the expected number of years of life for a newborn baby. It can be derived from the single-age mortality rates.

[40] Excluding aboriginal communities, which have a lower life expectancy than the national average. See: ABS, The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples, Cat. No. 4704.0, Oct 2010.

TABLE 52. FIVE YEARLY FEMALE MORTALITY RATE FORECAST FOR WINGECARRIBEE

Age group	2007-2011	2012-2016	2017-2021	2022-2026	2027-2031	2032-2036
0-4	0.001291	0.0012	0.001141	0.001096	0.001068	0.001041
5-9	0.000314	0.00027	0.000243	0.000223	0.000211	0.000199
10-14	0.000613	0.000536	0.000488	0.000452	0.00043	0.000409
15-19	0.001103	0.000984	0.000909	0.000852	0.000818	0.000784
20-24	0.001286	0.001174	0.001101	0.001045	0.001011	0.000977
25-29	0.001674	0.00155	0.00147	0.001407	0.001368	0.001329
30-34	0.002252	0.002124	0.002039	0.001972	0.00193	0.001888
35-39	0.003289	0.003131	0.003026	0.002942	0.00289	0.002838
40-44	0.005202	0.004899	0.004699	0.004542	0.004444	0.004346
45-49	0.007916	0.007285	0.006877	0.006559	0.006364	0.006171
50-54	0.011408	0.010267	0.009544	0.008988	0.008649	0.008319
55-59	0.017751	0.015761	0.014514	0.013561	0.012985	0.012425
60-64	0.027903	0.02471	0.022713	0.02119	0.020271	0.019377

Source: SGS Economics and Planning, 2012, based on ABS mortality data

Net migration

Data sources used to estimate the net migration include:

- ABS, 2001 and 2006 Census of Population and Housing
- ABS, 2005 and 2009 Estimated Resident Population (ERP).

In-migration to Wingecarribee is defined as the number of people who lived elsewhere one year ago and five years ago, but presently live in Wingecarribee. Out-migration is defined as people who lived in Wingecarribee one year and five years ago, but presently live elsewhere in Australia. These numbers were obtained from the 2001 and 2006 ABS census data. The difference between total in-migration and out-migration is defined as total net migration. In order to increase the number of observations in the data set, the difference between ERPs of 2005 and 2009 is also used to calculate the net migration during that period.

ABS census data provides two sets of numbers: in-migration (and out-migration) one year ago and five years ago. Taking the difference between the two years provides values of migration over the four years in between. The average of the difference over the four years is taken to increase the number of observations (and thereby increase the statistical efficiency of the regression estimates). This could be generalised as follows:

$$\text{Total migration}_{t-i} = (\text{Total migration}_{t-5} - \text{Total migration}_{t-1}) / 4$$[41]

Using the above approach, Table 53 shows the calculated total net migration by gender.

[41] where i=1, 2, 3, 4 and 't' denotes a given year

TABLE 53. TOTAL NET MIGRATION BY GENDER

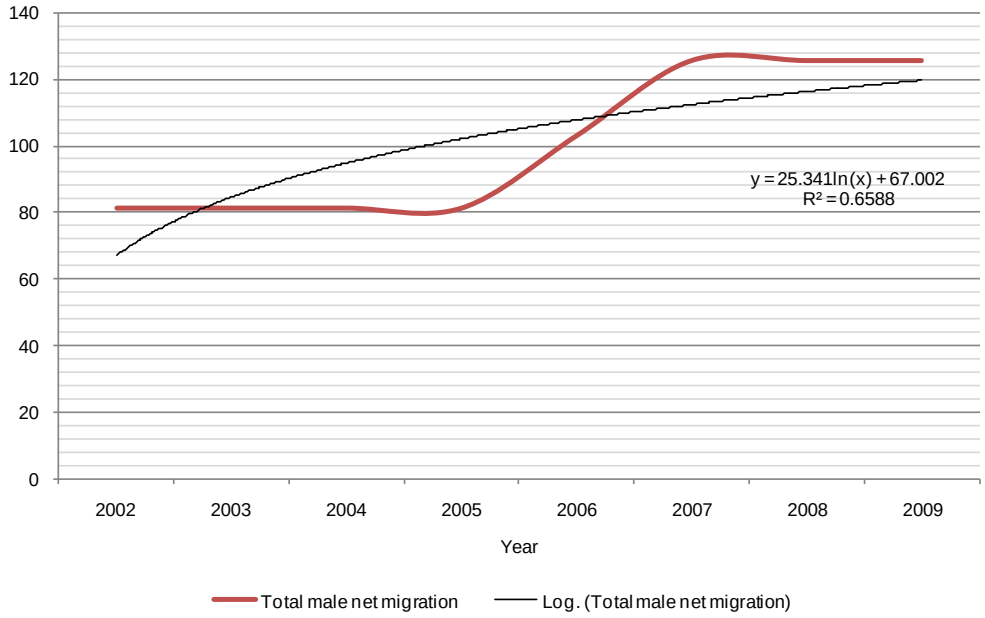
	Male	Female
1997	288	290
1998	288	290
1999	288	290
2000	288	290
2001	433	462
2002	81	138
2003	81	138
2004	81	138
2005	81	138
2006	103	277
2007	126	213
2008	126	213
2009	126	213

Source: SGS Economics and Planning, 2012; using ABS census data (2001 and 2006) and ERP data (2005, 2009)

A large drop in total net migration from 2001 to 2002 is shown in Table 53. This appears to be a one-off increase in net migration and for the purpose of migration forecasting it is considered an outlier. As a result, the sample is restricted to 2002 to 2009. Including the observations prior to 2002 skews the regression results causing a steeply declining trend, which is contrary to the most recent net migration observations.

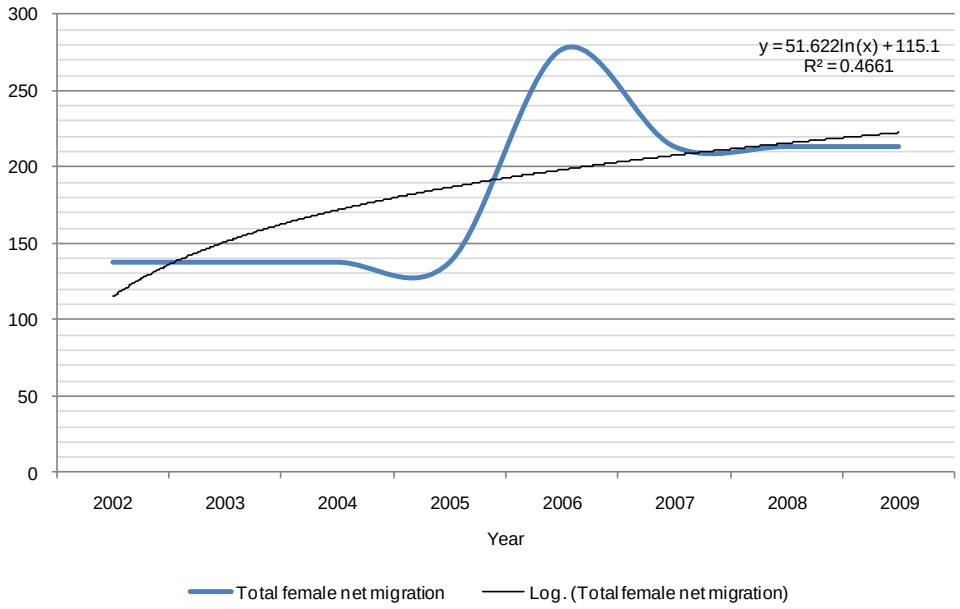
The next step is to decide an appropriate functional form to fit a line through the total net migration data points for the period from 2002 to 2009. Given that the forecast horizon is 26 years, using a linear function would imply a proportional increase of net migration every year. This is not a reasonable assumption for a 26 year forecast as it produces very high levels of net migration. A natural logarithm function has been chosen to fit a line through the data points, which assumes that net migration will increase at a decreasing rate over long periods. The log functions used and the lines through the data points are reported in Figure 24 and Figure 25. Even though the R square values are not high, the decreasing rate of growth in logarithm functions makes the functional form a prudent choice.

FIGURE 24. NATURAL LOGARITHM FUNCTION FOR MALE NET MIGRATION DATA



Source: SGS Economics and Planning, 2012

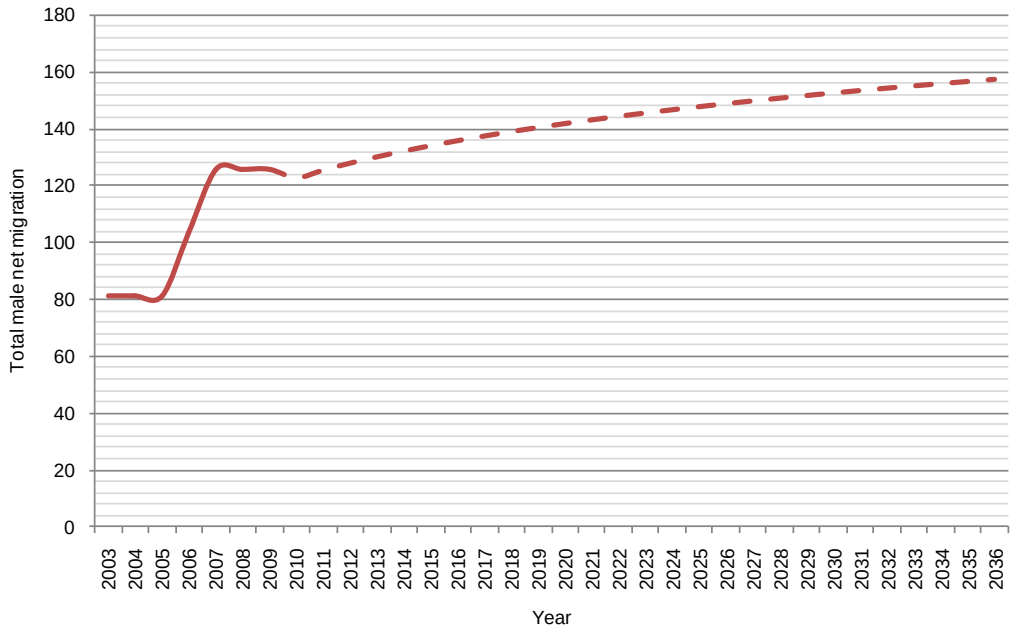
FIGURE 25. NATURAL LOGARITHM FUNCTION FOR FEMALE NET MIGRATION DATA



Source: SGS Economics and Planning, 2012

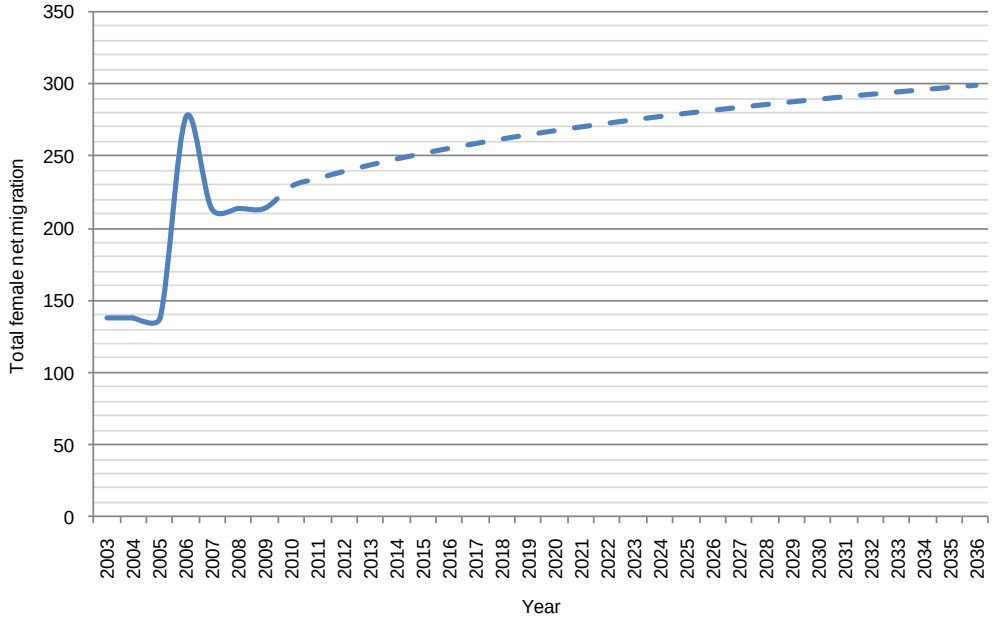
Figure 26 and Figure 27 show the historical and forecast total net migration by gender from 2009 to 2036. The dashed lines are forecasts using the respective logarithm functions described above, while the solid lines are historical data.

FIGURE 26. TOTAL MALE NET MIGRATION: ANNUAL FORECAST



Source: SGS Economics and Planning, 2012

FIGURE 27. TOTAL FEMALE NET MIGRATION: ANNUAL FORECAST



Source: SGS Economics and Planning, 2012

To derive the age profile of net migrants, we calculate the average of each age cohort's share of total net migration across both census years. The 20 to 24 year age group for both genders has large negative shares due to many people of this age leaving the LGA. As this would result in a negative total population forecasts, all age group shares were adjusted to accommodate more realistic shares for the 20 to 24 year age group (see Table 54).

Each age cohort's share of total net migration is assumed to remain constant and the forecast total net migration is broken down by the constant share assigned to each age group. This forms the basis for age specific net migration forecasts from 2009 onwards. The annual forecasts are summed to form five yearly net migration forecasts by age and by gender, assuming the age distribution of net migrants remains unchanged over time and that the historical shares continue into the future. Forecasting net migration for each age group separately is not possible due to volatility and insufficiency of observations[42].

TABLE 54. AVERAGE OF EACH AGE COHORT'S SHARE OF TOTAL NET MIGRATION

	Share of total net migration		Adjusted share of total net migration	
	Male	**Female**	**Male**	**Female**
0-4 years	0.00	0.00	0.00	0.00
5-9 years	0.15	0.14	0.12	0.12
10-14 years	-0.02	0.11	-0.02	0.10
15-19 years	-0.04	0.02	-0.04	0.02
20-24 years	-0.43	-0.38	-0.16	-0.17
25-29 years	-0.05	0.07	-0.04	0.06
30-34 years	0.16	0.13	0.13	0.11
35-39 years	0.15	0.15	0.13	0.13
40-44 years	0.12	0.12	0.10	0.10
45-49 years	0.08	0.03	0.06	0.03
50-54 years	0.07	0.06	0.06	0.05
55-59 years	0.17	0.16	0.14	0.14
60-64 years	0.29	0.19	0.24	0.16
65+ years	0.35	0.19	0.28	0.16
Total	1.00	1.00	1.00	1.00

Source: SGS Economics and Planning, 2012; using ABS census data (2001 and 2006) and ERP data (2005, 2009)

[42] Taking the averages between one year and five year net migration is unviable as the values become very small and are volatile.

17 APPENDIX K – POPULATION PROJECTIONS

TABLE 55. POPULATION PROJECTIONS BY FIVE YEAR PERIODS BY AGE GROUPING

Age group	2006	2011	2016	2021	2026	2031	2036
0-4	2,531	2,062	1,999	2,173	2,497	2,709	2,699
5-9	2,987	2,737	2,289	2,243	2,428	2,761	2,981
10-14	3,253	3,083	2,846	2,406	2,364	2,555	2,892
15-19	2,975	3,247	3,078	2,842	2,402	2,361	2,551
20-24	1,659	2,680	2,924	2,735	2,483	2,032	1,980
25-29	1,556	1,690	2,716	2,963	2,777	2,528	2,078
30-34	2,120	1,757	1,911	2,949	3,207	3,031	2,790
35-39	2,682	2,330	1,990	2,159	3,206	3,473	3,306
40-44	3,101	2,840	2,507	2,181	2,360	3,411	3,683
45-49	3,159	3,149	2,897	2,573	2,254	2,434	3,482
50-54	2,767	3,213	3,216	2,976	2,661	2,350	2,533
55-59	3,045	2,958	3,428	3,454	3,234	2,935	2,637
60-64	2,845	3,294	3,254	3,747	3,798	3,600	3,319
65+	7,593	9,164	11,090	12,804	14,846	16,722	18,204
Total	42,273	44,203	46,144	48,205	50,518	52,901	55,136

Source: SGS Economics and Planning, 2012

18 APPENDIX L – NET MIGRATION SCENARIOS

18.1 Seniors living

ABS population projections[43] are based on a combination of assumptions about fertility, life expectancy and net overseas migration. SGS compared ABS Australia-wide population projections (every five years from 2011 to 2036) that used two sets of assumptions:

- *medium* fertility, life expectancy and net overseas migration assumptions
- *medium* fertility and net overseas migration, and *high* life expectancy[44] assumptions.

The percentage differences in the 55+ age group resulting from an assumption of high life expectancy are shown below by year.

TABLE 56. PERCENTAGE DIFFERENCES FROM HIGH LIFE EXPECTANCY BY YEAR

	2011	2016	2021	2026	2031	2036
Percentage difference	0.00	0.27	0.99	2.20	3.97	6.23

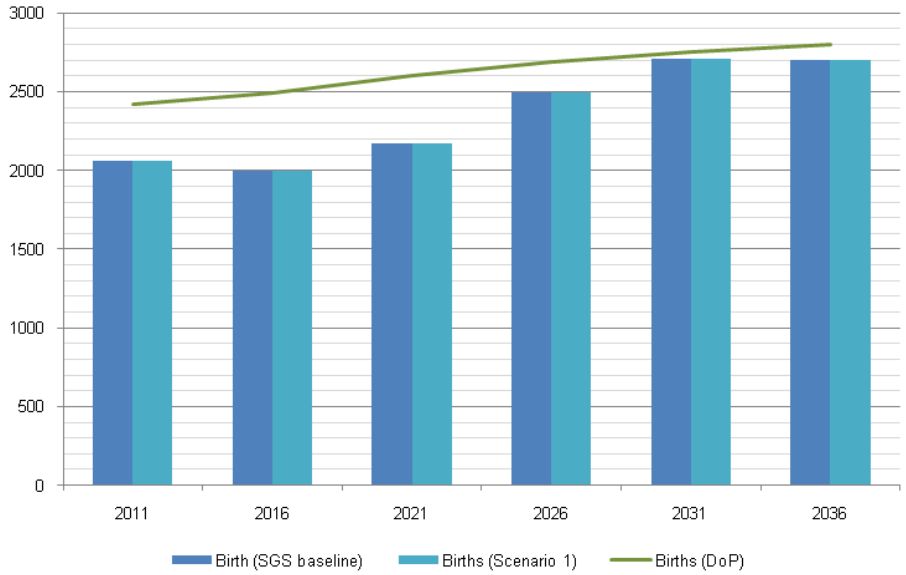
Source: ABS, 2011 and SGS Economics and Planning, 2012

These percentages reflect the amount by which Australia's population aged over 55 years is expected to increase in the event of improvements to life expectancy. In such a case, it is reasonable to assume that there would be increased demand for Wingecarribee as a seniors living location given its existing position in the retirement market. This would result in an increase in people aged over 55 moving into Wingecarribee in proportion to a larger than anticipated population of this age group across Australia.

It is assumed for this scenario that Wingecarribee's net migrant population aged over 55 increases due to increased life expectancy nationally. This is implemented by increasing five yearly SGS baseline net migration forecasts by percentages that reflect the difference between medium and high life expectancy ABS population projections. As such, the baseline net migration levels in 2036 will be increased by 6.23 percent to reflect the higher than expected numbers of over 55s in Australia due to high life expectancy in line with ABS assumptions. Similarly, net migrants every five years (2011 to 2036) will be increased by the percentages outlined above. Furthermore, to maintain consistency with this approach, mortality rates for Wingecarribee's non net-migrant population have been adjusted to align with the ABS high life expectancy assumptions used for net migrants. The following graphs compare projected births, death, net migration and total population of this scenario (labelled as scenario 1), to SGS baseline and Department of Planning and Infrastructure forecasts for Wingecarribee.

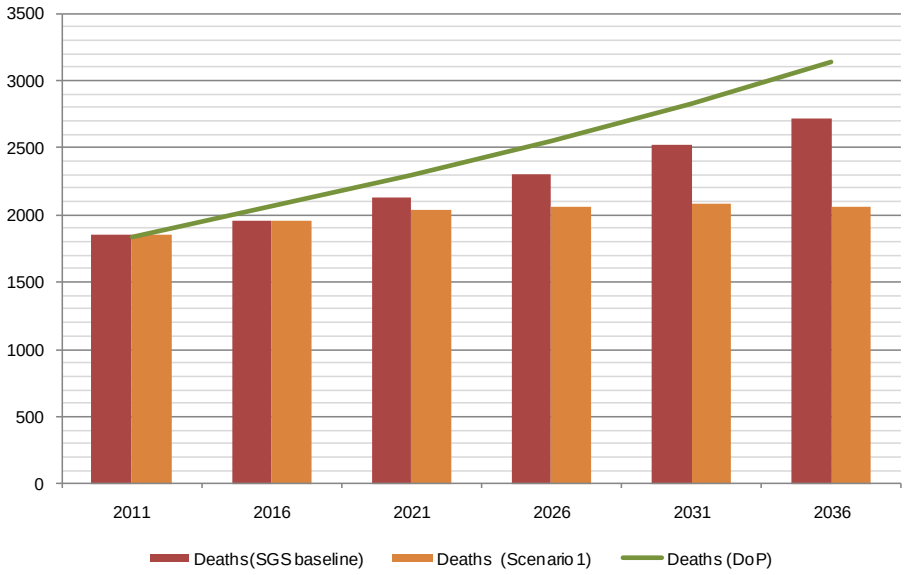
[43] Australian Bureau of Statistics, Population Projections, Australia 2006 to 2101, Cat. No. 3222.0, September 2008.
[44] The former refers to Series 29 and the latter to Series 26 in Australian Bureau of Statistics, Population Projections, Australia 2006 to 2101, Cat. No. 3222.0, September 2008.

FIGURE 28. PROJECTED BIRTHS



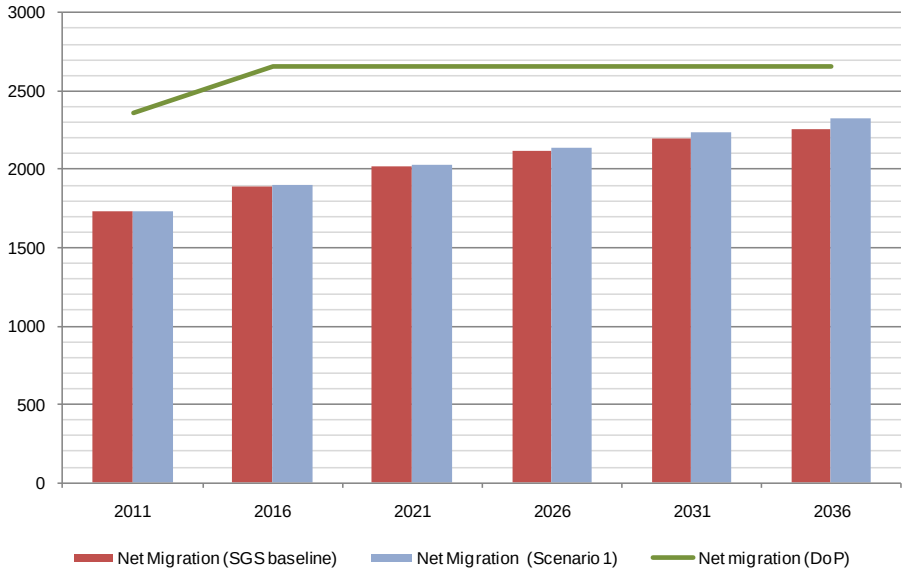
Source: Department of Planning and Infrastructure, 2009 and SGS Economics and Planning, 2012

FIGURE 29. PROJECTED DEATHS



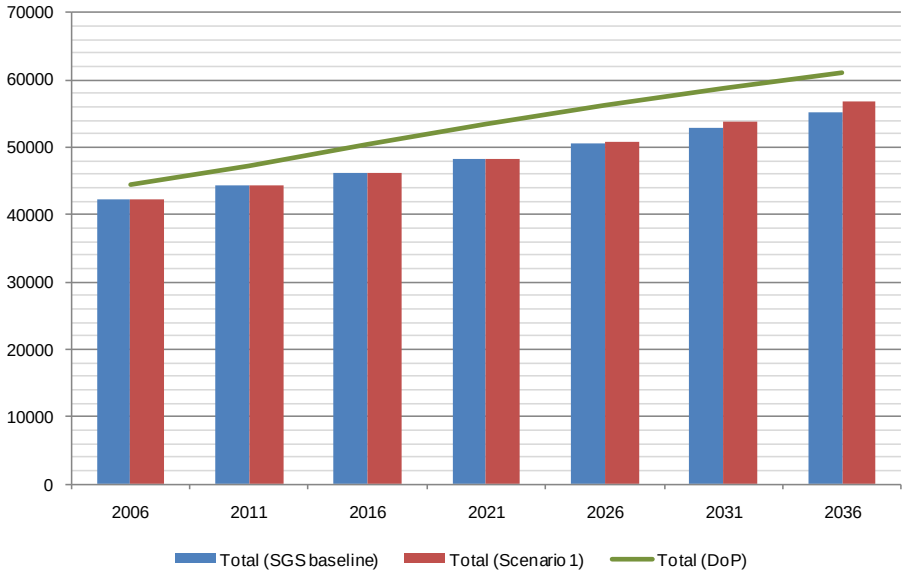
Source: Department of Planning and Infrastructure, 2009 and SGS Economics and Planning, 2012

FIGURE 30. PROJECTED NET MIGRATION



Source: Department of Planning and Infrastructure, 2009 and SGS Economics and Planning, 2012

FIGURE 31. PROJECTED TOTAL POPULATION



Source: Department of Planning and Infrastructure, 2009 and SGS Economics and Planning, 2012

18.2 Amenity, lifestyle and services

Many coastal areas affected by the sea change phenomenon have now reached critical mass. As a result, people are starting to look for alternative lifestyle locations not necessarily located on the coast[45]. In NSW, inland areas experiencing increased numbers of rural residential developments include Gundagai and Mudgee[46].

Previous research by SGS indicates that socio-demographic phenomena such as sea change, tree change and exurbanisation impact both those nearing retirement and young workers who seek a better environment to raise a family and escape the urban lifestyle. Therefore it is assumed that people aged 30 to 54 years will be impacted in

[45] B Salt, The Big Shift, Who we are and where we are headed, 3rd Edition, Hardie Grant Books, South Yarra, Australia, 2004.
[46] I Burnley, 'Sea Change, Social Change? Population Turnaround in New South Wales', Academy of Social Sciences, Volume 24, 2005.

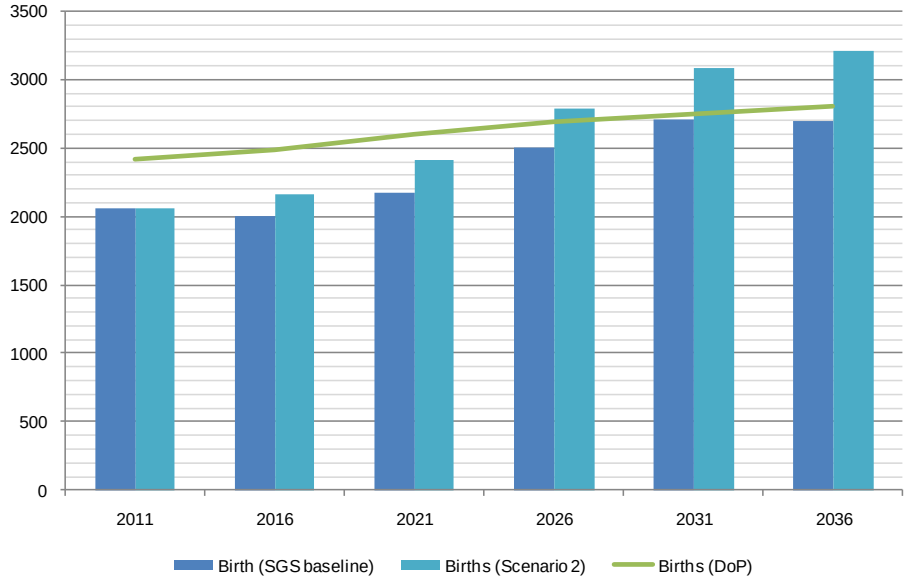
this scenario[47]. In addition, the 5 to 14 year age group is also included because children are likely to move with their parents (that is, the two age groups are highly correlated)[48]. Other age groups will not be changed for this scenario.

Proximity to Sydney, vineyards, culture, tourism, economic development and relative affordability are key reasons identified in the literature for people moving to tree-change locations such as the Mudgee region[49] (located in Mid-Western Regional Part A). Here, the 5 to 14 and 30 to 54 age ranges together account for a 2 percent higher proportion of the total population than is currently the case in Wingecarribee. Similar factors and coastal amenities influence migration to Tweed Heads, which has a 6 percent higher proportion of people in the 5 to 14 and 30 to 54 age ranges compared to Wingecarribee.

Firstly, assuming the sea change trend continues strongly, it is likely that greater demand for such locations will put upward pressure on property prices in coastal locations and result in more sea changers seeking tree change locations as an alternative. Secondly, assuming that the tree change trend continues strongly, Wingecarribee will attract more migrants due to an ageing and growing Australian population. Increased net migration of people aged 5 to 14 and 30 to 54 is likely to result in these age groups comprising a higher proportion of the total population. It is assumed for this scenario that the proportion of Wingecarribee's total population in the 5 to 14 and 30 to 54 age groups will be 2 percent higher than the baseline SGS forecast for 2036. This is implemented by increasing net migration in the 5 to 14 and 30 to 54 age groups every five years to achieve an age profile in these groups that is 2 percent higher than the baseline SGS forecast for 2036.

The following graphs compare projected births, death, net migration and total population of this scenario (labelled as scenario 2), to SGS baseline and Department of Planning and Infrastructure forecasts for Wingecarribee.

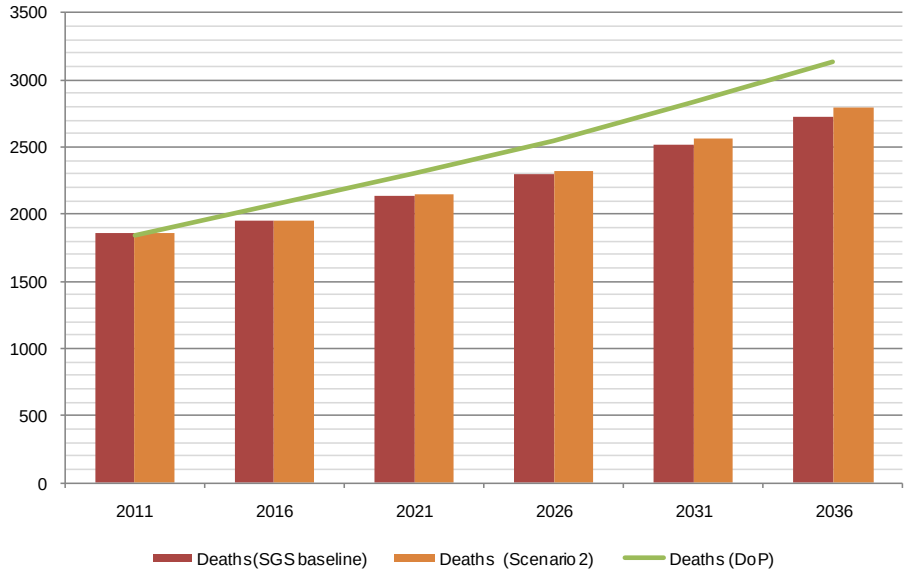
FIGURE 32. PROJECTED BIRTHS



Source: Department of Planning and Infrastructure, 2009 and SGS Economics and Planning, 2012

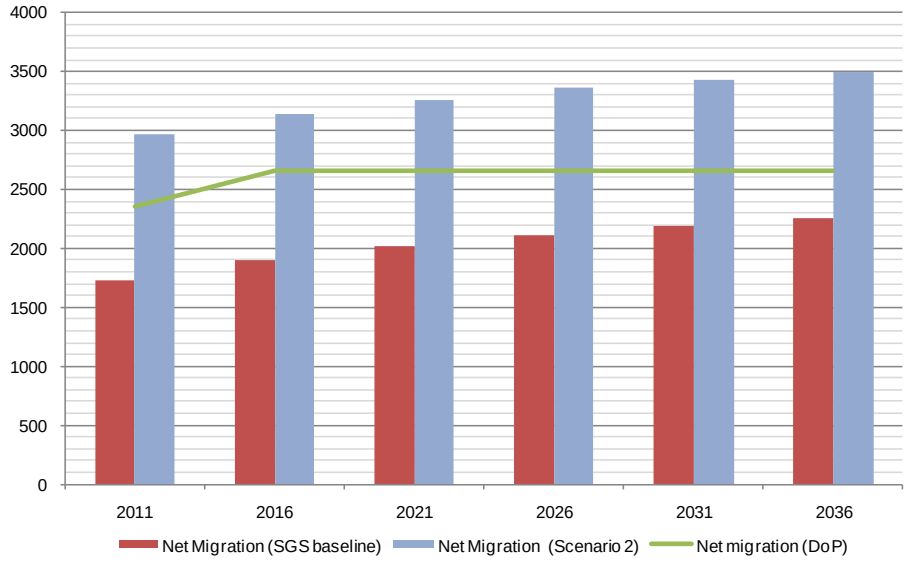
[47] The 55+ age group is excluded because it is captured by the seniors living net migration driver.
[48] The correlation between the two age groups is also revealed by the age structure of net migration in the LGA.
[49] C Elliot, 'Tree change: the impacts of lifestyle living on rural lands in the Mudgee region', Bachelor of Planning thesis, University of New South Wales, 2007.

FIGURE 33. PROJECTED DEATHS



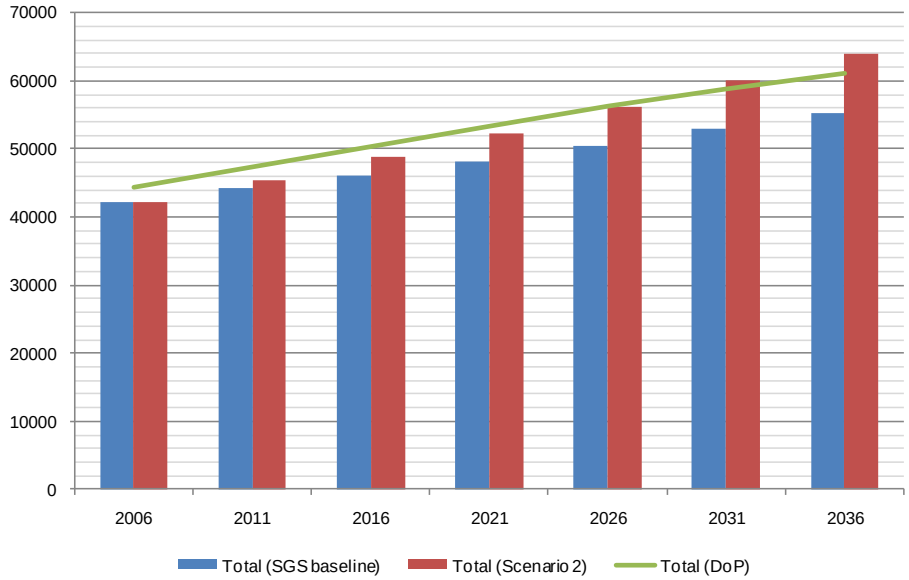
Source: Department of Planning and Infrastructure, 2009 and SGS Economics and Planning, 2012

FIGURE 34. PROJECTED NET MIGRATION



Source: Department of Planning and Infrastructure, 2009 and SGS Economics and Planning, 2012

FIGURE 35. PROJECTED TOTAL POPULATION



Source: Department of Planning and Infrastructure, 2009 and SGS Economics and Planning, 2012

18.3 Employment scenario

The Council economic development strategy[50] outlines that the key objective of the 'Investment Shire' strategy is to promote investment in the Wingecarribee Shire economy, with a focus on self containment in services and on the attraction of new key industries. The document also indicates that the purpose of this is to create and maintain an environment that results in investment and employment growth. Natural population growth will result in job creation in population-servicing industries. This aspect of job creation is implicitly captured in the SGS baseline population forecast. Therefore, this migration scenario simulates non-population driven exogenous job generation on employment lands in Wingecarribee. It is assumed that only the working age population of 15 to 64 years[51] will be impacted.

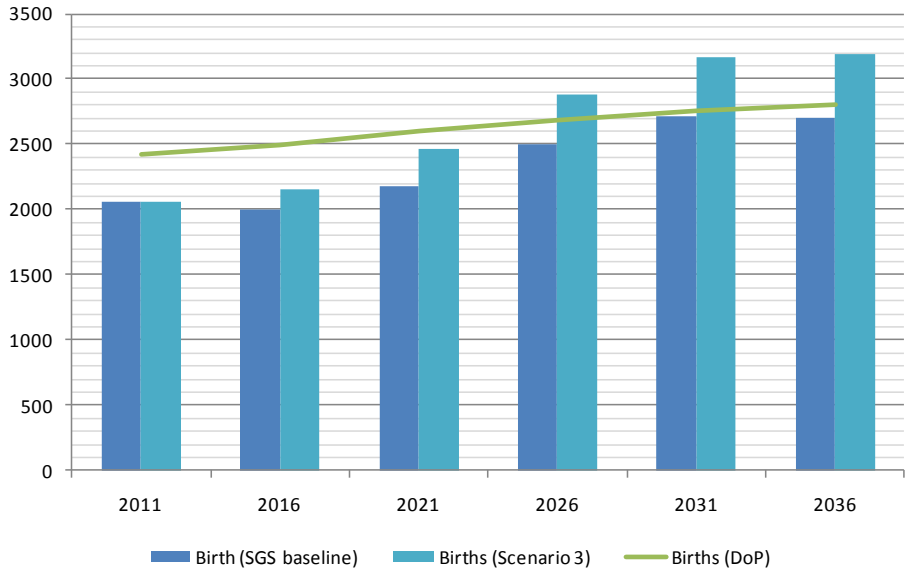
A recent employment lands update[52] by the Department of Planning and Infrastructure reveals that there is a total of 664 hectares of vacant zoned employment land in the Wingecarribee region. Based on historical business activity growth[53] (2001 to 2005) and forecast growth in employment[54] (2006 to 2026) for key industries in the LGA, it is assumed that 10 percent of the vacant zoned employment land will be taken up by 2026. This amounts to 66.4 hectares. Previous studies[55] for the Council suggest additional demand for employment land of similar order of magnitude.

This implies, on average, additional demand for 16.6 hectares of employment land every five years from 2011 onwards. Additional demand every five years is expected to result in migrants moving into the LGA for employment. Assuming a floor space to site ratio of 50 percent and 108 square meters of floor space for one industrial job, demand for 16.6 hectares generates 769 jobs every five years. It is also assumed that each in-migrant will be accompanied by one other person. Therefore, employment land related job creation is expected to result in 1537 people (aged 15 to 64 years) moving into the LGA every five years from 2011 onwards. These additional in-migrants are assumed to have an age profile similar to the average historical profile of Wingecarribee in-migrants aged 15 to 64. This scenario is implemented by increasing SGS baseline net migration by 1537 people every five years.

[50] Wingecarribee Shire Council, Economic development, Strategic Plan 2008 – 2016, 2006
[51] Australian Bureau of Statistics, Population by Age and Sex, Australian States and Territories, Cat. No. 3201.0, Jun 2010.
[52] NSW Department of Planning and Infrastructure, Illawarra and South Coast employment lands update, 2009.
[53] Southern Highlands Business Chamber, accessed 17 August 2011 at <http://southernhighlandsbusiness.com/PDF_Files/SoHi%20Local%20Area%20Summary.pdf>
[54] Bureau of Transport and Statistics, Employment forecasts by Statistical Local Area (SLA) by Industry, 2010.
[55] Wingecarribee Shire Council, Feasibility study for Wingecarribee enterprise zone, 2006 and Gibbs, D., Illawarra and South Coast employment lands strategy, May 2005.

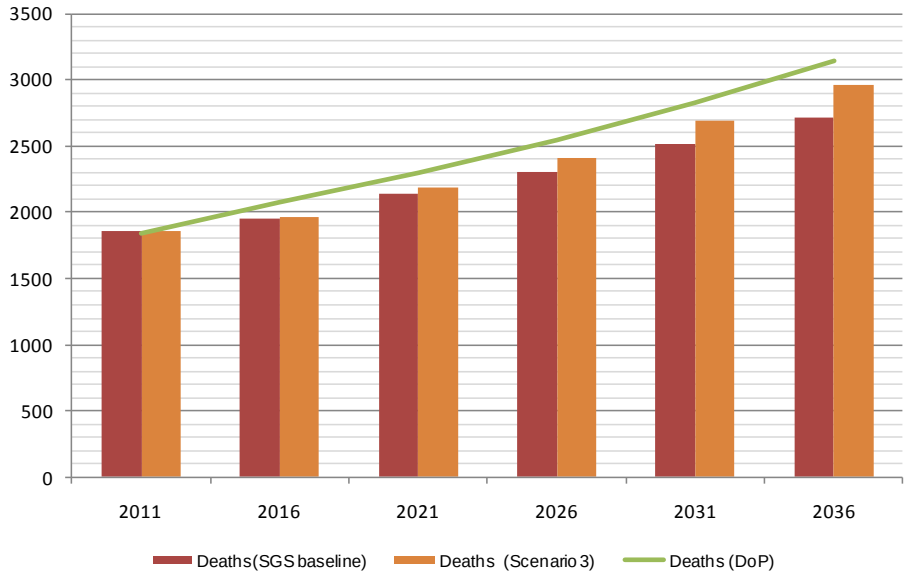
The following graphs compare projected births, death, net migration and total population of this scenario (labelled as scenario 3), to SGS baseline and Department of Planning and Infrastructure forecasts for Wingecarribee.

FIGURE 36. PROJECTED BIRTHS



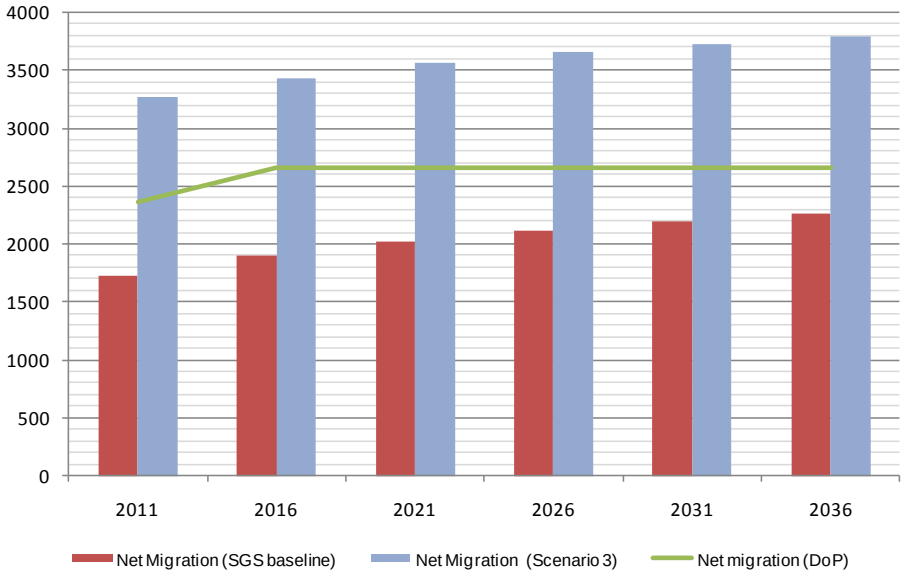
Source: Department of Planning and Infrastructure, 2009 and SGS Economics and Planning, 2012

FIGURE 37. PROJECTED DEATHS



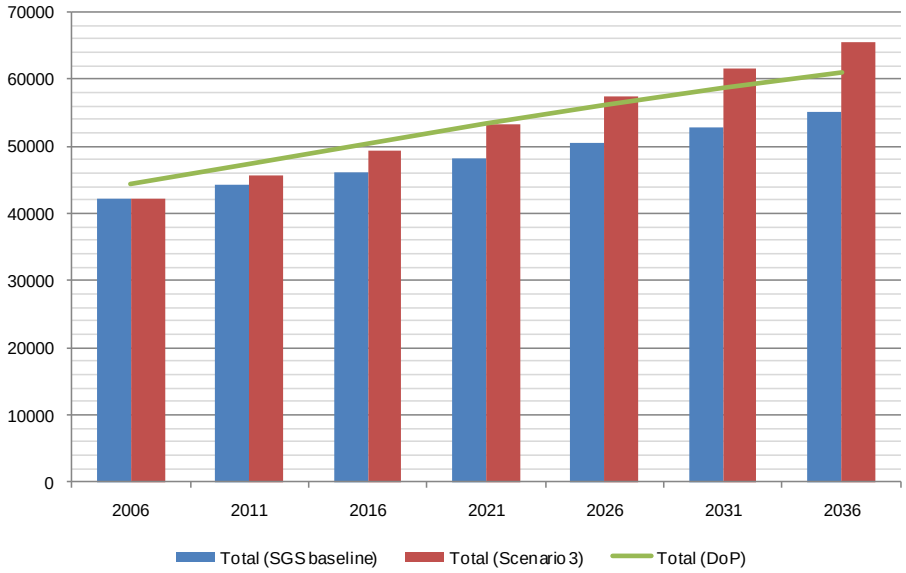
Source: Department of Planning and Infrastructure, 2009 and SGS Economics and Planning, 2012

FIGURE 38. PROJECTED NET MIGRATION



Source: Department of Planning and Infrastructure, 2009 and SGS Economics and Planning, 2012

FIGURE 39. PROJECTED TOTAL POPULATION



Source: Department of Planning and Infrastructure, 2009 and SGS Economics and Planning, 2012

18.4 Housing demand forecasts

TABLE 57. SENIORS LIVING: PROJECTED FAMILY COMPOSITION AND DWELLING DEMAND

Family composition	2006	2011	2016	2021	2026	2031	2006-31 change	AAGR 2006-31
Persons living in								
Couple family with children	18,840	18,540	18,047	17,780	18,077	18,702	-138	-0.03%
Couple family with no children	10,106	11,268	12,724	14,262	15,620	16,829	6,723	2.06%
One parent family	4,301	4,550	4,684	4,801	4,993	5,282	981	0.83%
Other family	415	402	371	332	308	293	-122	-1.38%
Group household	686	748	815	872	891	904	218	1.11%
Lone person household	3,906	4,374	4,928	5,461	5,984	6,491	2,586	2.05%
Other	4,019	4,322	4,578	4,803	5,014	5,246	1,227	1.07%
Total persons	42,273	44,203	46,147	48,311	50,887	53,747	11,474	0.97%

Dwelling demand	2006	2011	2016	2021	2026	2031	2006-31 change	AAGR 2006-31
Number of private dwellings								
Separate house	14,668	15,559	16,620	17,754	18,864	19,929	5,261	1.23%
Semi-detached/ row/ terrace/ townhouse	1,066	1,267	1,526	1,800	2,083	2,376	1,310	3.26%
Flat/ unit/ apartment	512	508	558	609	659	708	196	1.31%
Other	169	94	91	97	102	107	-62	-1.82%
Total private dwellings	16,415	17,427	18,794	20,259	21,708	23,120	6,705	1.38%

Source: SGS Economics and Planning, 2012

TABLE 58. AMENITY: PROJECTED FAMILY COMPOSITION AND DWELLING DEMAND

Family composition	2006	2011	2016	2021	2026	2031	2006-31 change	AAGR 2006-31
Persons living in								
Couple family with children	18,840	19,313	19,651	20,158	21,138	22,315	3,475	0.68%
Couple family with no children	10,106	11,391	13,006	14,692	16,192	17,568	7,462	2.24%
One parent family	4,301	4,714	5,040	5,373	5,783	6,271	1,970	1.52%
Other family	415	411	389	361	347	342	-73	-0.77%
Group household	686	764	848	927	967	1,003	317	1.53%
Lone person household	3,906	4,432	5,061	5,666	6,261	6,821	2,915	2.26%
Other	4,019	4,419	4,787	5,135	5,451	5,772	1,753	1.46%
Total persons	42,273	45,443	48,782	52,312	56,139	60,091	17,818	1.42%

Dwelling demand	2006	2011	2016	2021	2026	2031	2006-31 change	AAGR 2006-31
Number of private dwellings								
Separate house	14,668	15,968	17,465	19,002	20,474	21,869	7,202	1.61%
Semi-detached/ row/ terrace/ townhouse	1,066	1,291	1,586	1,902	2,231	2,571	1,504	3.58%
Flat/ unit/ apartment	512	524	579	634	687	735	223	1.46%
Other	169	96	96	103	110	117	-52	-1.46%
Total private dwellings	16,415	17,879	19,726	21,641	23,502	25,292	8,877	1.74%

Source: SGS Economics and Planning, 2012

TABLE 59. EMPLOYMENT: PROJECTED FAMILY COMPOSITION AND DWELLING DEMAND

Family composition	2006	2011	2016	2021	2026	2031	2006-31 change	AAGR 2006-31
Persons living in								
Couple family with children	18,840	19,251	19,520	20,014	21,035	22,305	3,465	0.68%
Couple family with no children	10,106	11,621	13,475	15,398	17,085	18,546	8,440	2.46%
One parent family	4,301	4,704	5,010	5,316	5,716	6,214	1,913	1.48%
Other family	415	420	403	374	357	347	-68	-0.72%
Group household	686	781	879	963	1,004	1,036	350	1.66%
Lone person household	3,906	4,495	5,201	5,891	6,553	7,168	3,262	2.46%
Other	4,019	4,468	4,875	5,240	5,576	5,917	1,898	1.56%
Total persons	42,273	45,740	49,362	53,195	57,325	61,533	19,260	1.51%

Dwelling demand	2006	2011	2016	2021	2026	2031	2006-31 change	AAGR 2006-31
Number of private dwellings								
Separate house	14,668	16,199	17,932	19,719	21,380	22,879	8,211	1.79%
Semi-detached/ row/ terrace/ townhouse	1,066	1,310	1,630	1,976	2,332	2,693	1,627	3.78%
Flat/ unit/ apartment	512	532	595	659	718	770	259	1.65%
Other	169	97	98	107	115	123	-47	-1.28%
Total private dwellings	16,415	18,139	20,255	22,461	24,545	26,465	10,050	1.93%

Source: SGS Economics and Planning, 2012

18.5 Comparison of scenarios to the baseline

The dwelling profiles by scenario are reported in Table 60. Even though the number of dwellings demanded varies (due to different underlying population forecasts) the dwelling profiles of the three scenarios[56] are largely similar to the baseline[57]. Separate dwellings are expected to be the main dwelling type demanded under all scenarios.

Graphs comparing the level of projected demand for separate dwellings (Figure 40), semi-detached dwellings (

[56] Seniors living scenario, amenity scenario and employment scenario.
[57] As previously noted this is due to the use of homogenous family type and dwelling type propensities.

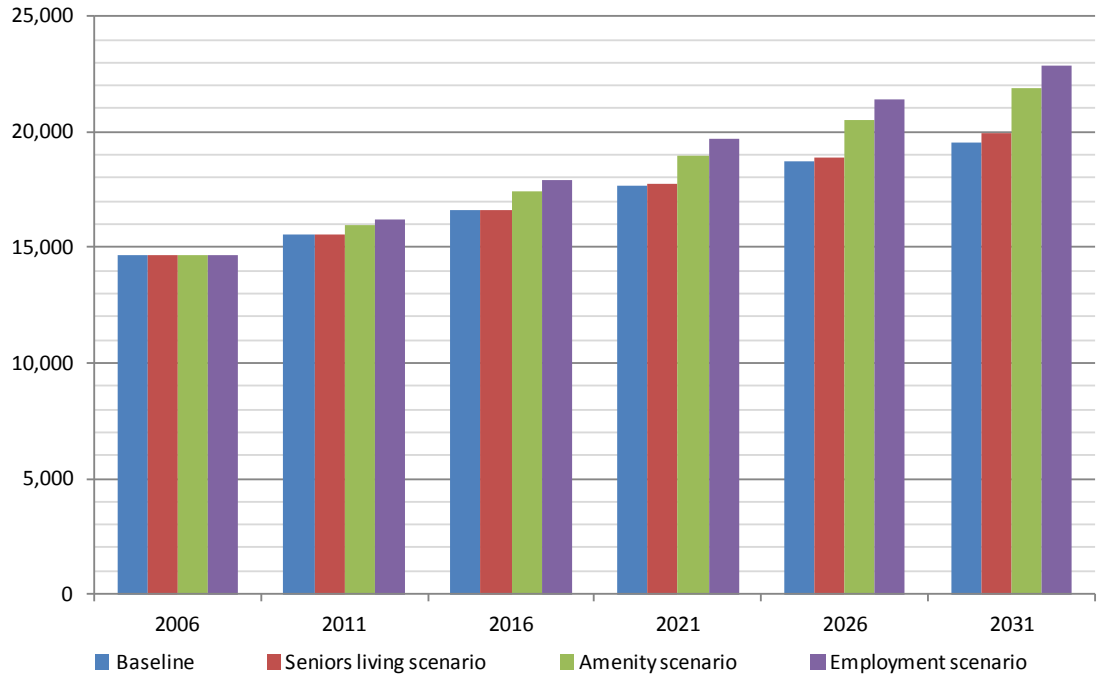
Figure 41) and flats (Figure 42) in each scenario are reported below. These graphs show that higher populations will require higher number of dwellings consistent with the dwelling profile in Table 60. Differences in the projected dwelling numbers are simply a result of variations in the underlying population projections.

TABLE 60. DWELLING PROFILE BY SCENARIO 2006-2031

	2006	2011	2016	2021	2026	2031
Baseline						
Separate house	90.3%	89.7%	88.8%	88.1%	87.4%	86.7%
Semi-detached	6.6%	7.3%	8.2%	8.9%	9.6%	10.3%
Flats	3.1%	3.0%	3.0%	3.0%	3.0%	3.0%
Seniors living scenario						
Separate house	90.3%	89.8%	88.9%	88.1%	87.3%	86.6%
Semi-detached	6.6%	7.3%	8.2%	8.9%	9.6%	10.3%
Flats	3.1%	2.9%	3.0%	3.0%	3.1%	3.1%
Amenity scenario						
Separate house	90.3%	89.8%	89.0%	88.2%	87.5%	86.9%
Semi-detached	6.6%	7.3%	8.1%	8.8%	9.5%	10.2%
Flats	3.1%	2.9%	2.9%	2.9%	2.9%	2.9%
Employment scenario						
Separate house	90.3%	89.8%	89.0%	88.2%	87.5%	86.9%
Semi-detached	6.6%	7.3%	8.1%	8.8%	9.5%	10.2%
Flats	3.1%	2.9%	3.0%	2.9%	2.9%	2.9%

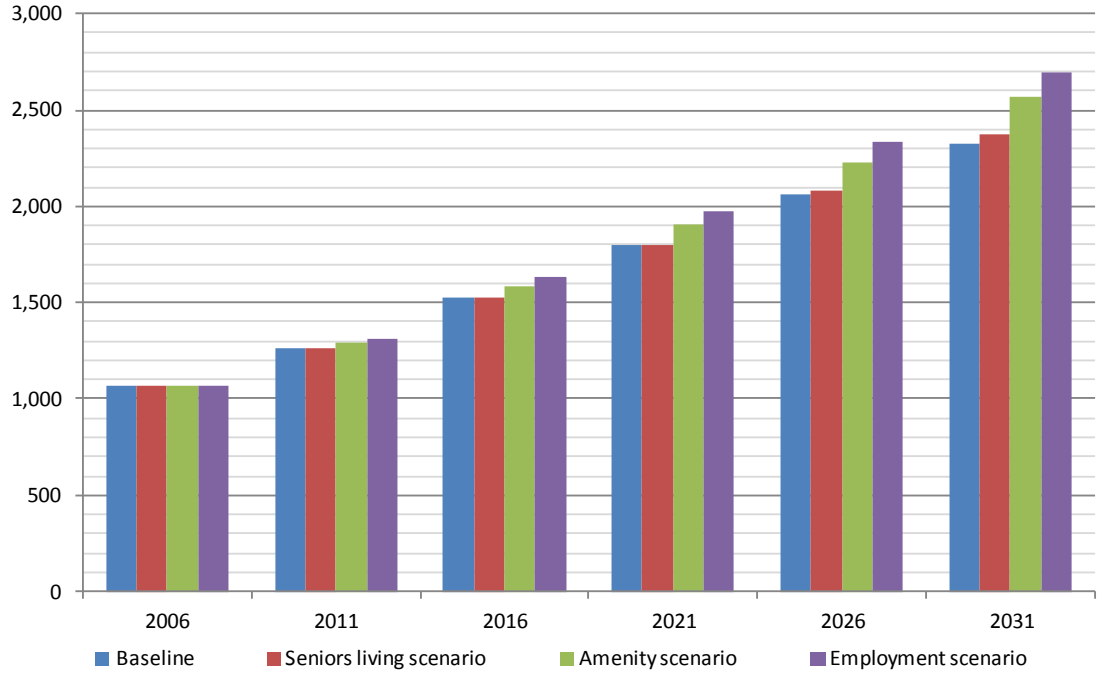
Source: SGS Economics and Planning, 2012

FIGURE 40. COMPARISON OF PROJECTED DEMAND FOR SEPARATE DWELLINGS



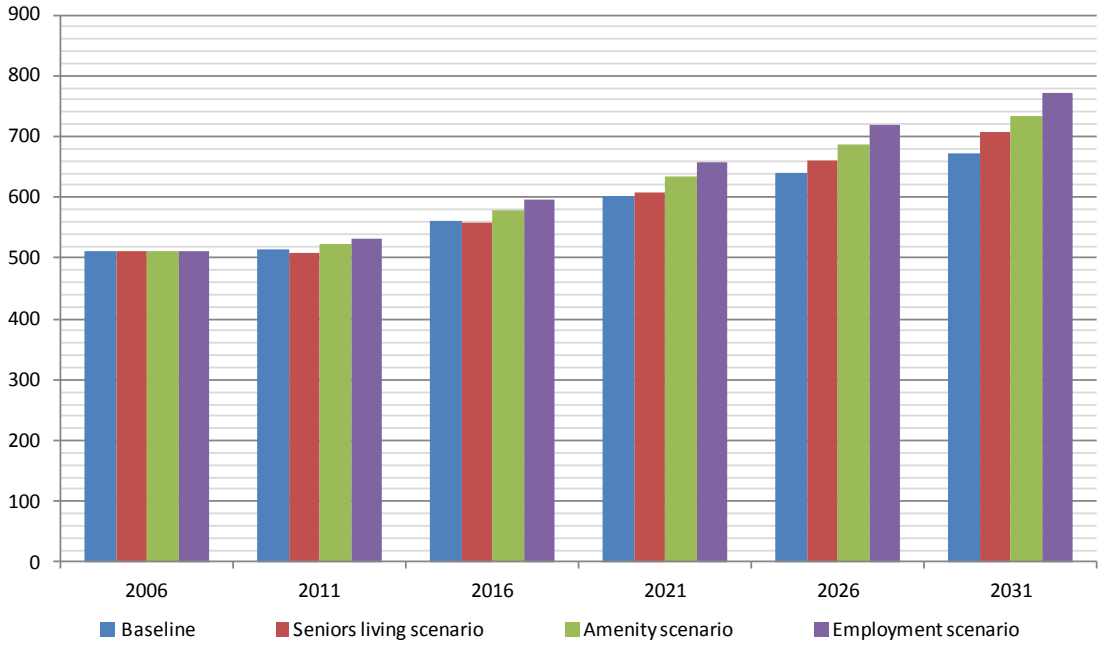
Source: SGS Economics and Planning, 2012

FIGURE 41. COMPARISON OF PROJECTED DEMAND FOR SEMI-DETACHED DWELLINGS



Source: SGS Economics and Planning, 2012

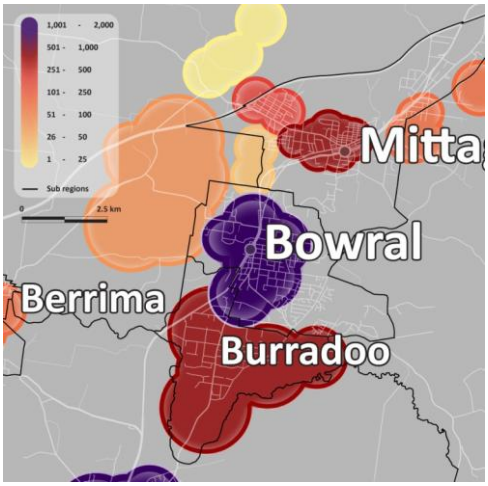
FIGURE 42. COMPARISON OF PROJECTED DEMAND FOR APARTMENTS



Source: SGS Economics and Planning, 2012

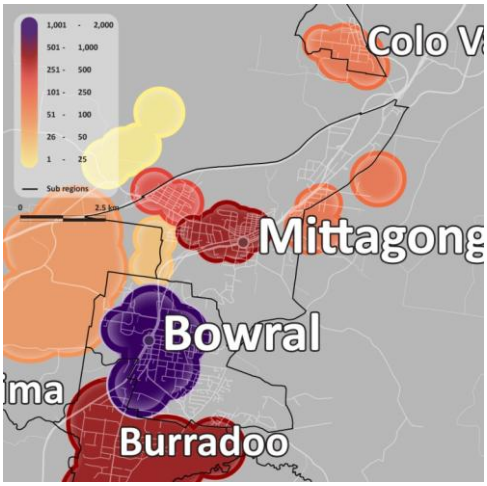
19 APPENDIX M – DEMAND ALLOCATION BY AREA

FIGURE 43. BOWRAL TO 2031



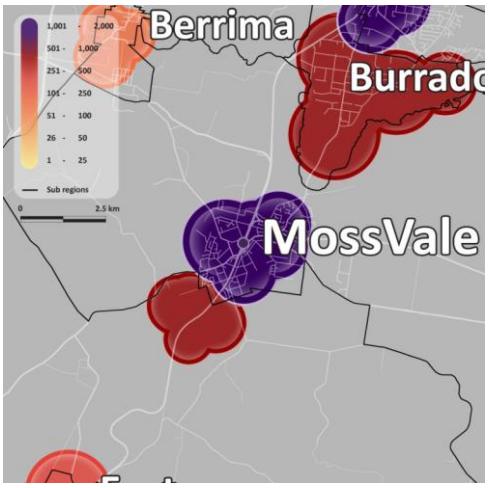
Source: SGS Economics and Planning, 2012

FIGURE 44. MITTAGONG TO 2031



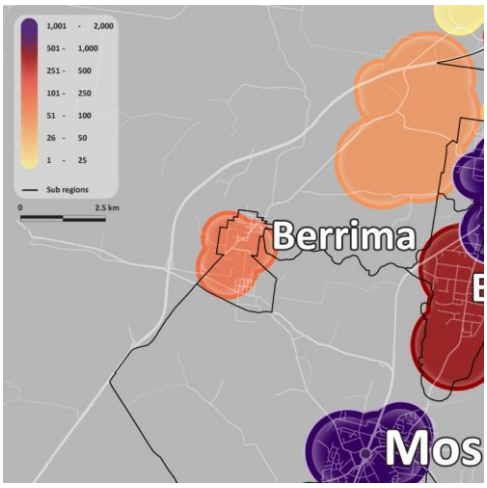
Source: SGS Economics and Planning, 2012

FIGURE 45. MOSS VALE TO 2031



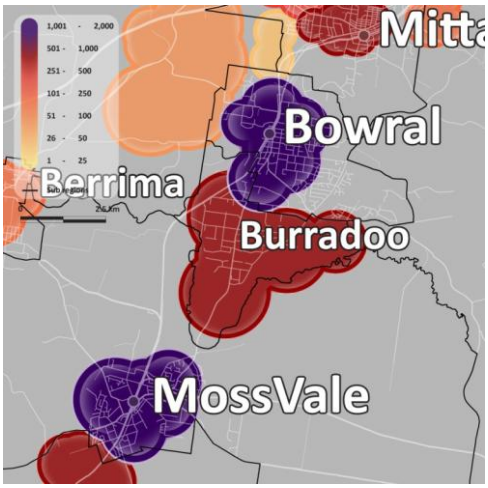
Source: SGS Economics and Planning, 2012

FIGURE 46. BERRIMA TO 2031



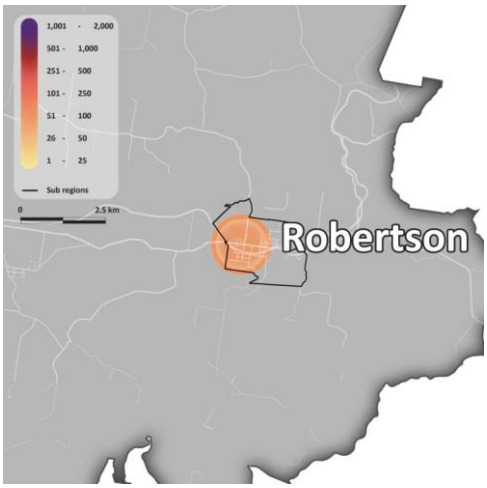
Source: SGS Economics and Planning, 2012

FIGURE 47. BURRADOO TO 2031



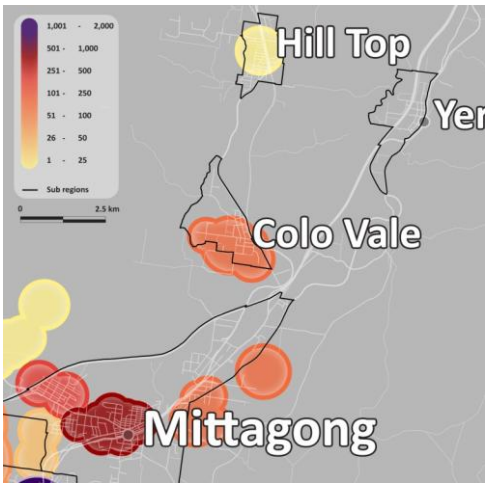
Source: SGS Economics and Planning, 2012

FIGURE 48. ROBERTSON TO 2031



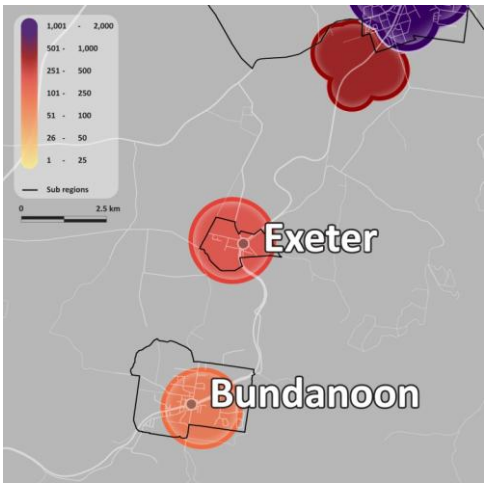
Source: SGS Economics and Planning, 2012

FIGURE 49. COLO VALE TO 2031



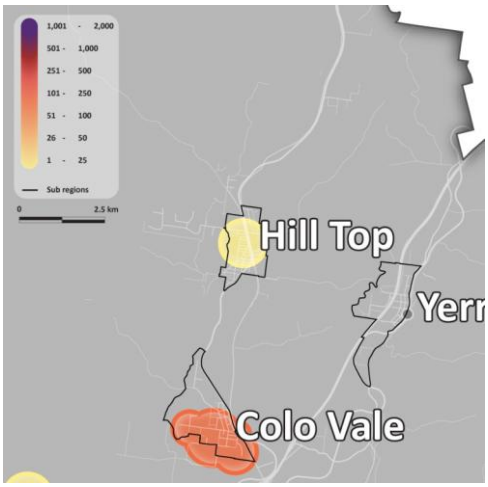
Source: SGS Economics and Planning, 2012

FIGURE 50. EXETER TO 2031



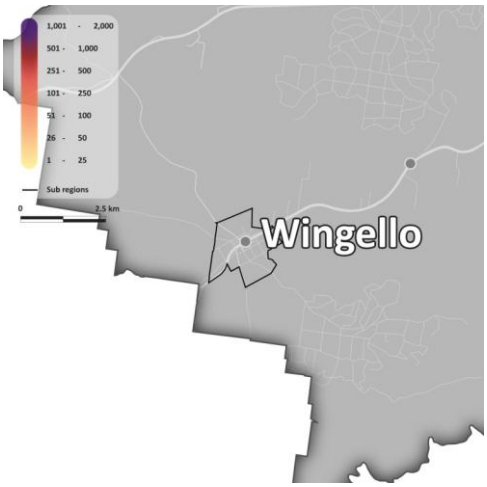
Source: SGS Economics and Planning, 2012

FIGURE 51. HILL TOP TO 2031



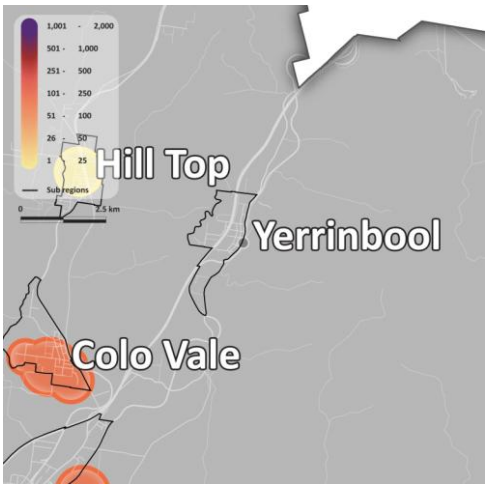
Source: SGS Economics and Planning, 2012

FIGURE 52. WINGELLO TO 2031



Source: SGS Economics and Planning, 2012

FIGURE 53. YERRINBOOL TO 2031



Source: SGS Economics and Planning, 2012

20 APPENDIX N – MIGRANT PROFILES

20.1 Age profile

Table 61 shows the distribution of in-migrants by age group in the centres of Wingecarribee for the five years preceding each of the 2001 and 2006 censuses (in other words, from 1996 to 2006). There was little change in the age profile of in-migrants in this period. More than half of migrants in all age groups moved to the major centres, with Bowral the most popular. There does not appear to be a centre with a high concentration of migrants belonging to a particular age group.

TABLE 61. DISTRIBUTION OF IN-MIGRANTS BY AGE GROUP

	2006				2001			
	0 to 15	**15 to 55**	**55 +**	**Total**	**0 to 15**	**15 to 55**	**55 +**	**Total**
Berrima	1%	1%	1%	1%	1%	1%	1%	1%
Bowral	25%	24%	29%	26%	25%	25%	29%	26%
Bundanoon	4%	5%	9%	6%	5%	5%	7%	5%
Burradoo	6%	5%	8%	6%	5%	5%	9%	6%
Colo Vale	3%	3%	1%	3%	3%	3%	2%	2%
Exeter	1%	1%	1%	1%	1%	1%	2%	1%
Hill Top	8%	7%	1%	6%	7%	6%	3%	6%
Mittagong	13%	14%	14%	14%	15%	15%	14%	15%
Moss Vale	13%	13%	14%	13%	14%	14%	15%	14%
Robertson	4%	4%	2%	4%	3%	3%	2%	3%
Wingello	1%	1%	1%	1%	1%	1%	1%	1%
Yerrinbool	5%	4%	2%	4%	4%	4%	2%	3%
Remainder	16%	18%	16%	17%	16%	18%	14%	16%
Total	100%	100%	100%	100%	100%	100%	100%	100%

Source: SGS Economics and Planning, 2012; using ABS census data from 2001 and 2006

20.2 Income

Table 62 shows the distribution of in-migrants by income by destination in Wingecarribee for 2001 and 2006. For this analysis, low income is defined as gross weekly income between $0 and $999, while high income is defined as $1000 and above. There does not appear to be a centre which has a high concentration of migrants belonging to a particular income group.

TABLE 62. DISTRIBUTION OF IN-MIGRANTS BY INCOME

	2006		2001	
	Low	**High**	**Low**	**High**
Berrima	1%	1%	1%	1%
Bowral	26%	28%	25%	31%
Bundanoon	7%	5%	6%	3%
Burradoo	5%	10%	5%	10%
Colo Vale	3%	2%	2%	2%
Exeter	1%	1%	1%	1%
Hill Top	6%	3%	6%	2%
Mittagong	14%	13%	15%	15%
Moss Vale	14%	11%	15%	11%
Robertson	4%	4%	3%	3%
Wingello	1%	0%	1%	0%
Yerrinbool	3%	3%	3%	3%
Remainder	16%	19%	16%	19%
Total	100%	100%	100%	100%

Source: SGS Economics and Planning, 2012; using ABS census data from 2001 and 2006

20.3 Family type

Table 63 shows the family type profile of in-migrants by their destination. Bowral was the most popular destination for all family types. Aside from Bowral, one parent families located principally in Moss Vale and Mittagong, while couples with children were more likely to move to the rural areas.

TABLE 63. DISTRIBUTION OF IN-MIGRANTS BY FAMILY TYPE (WITH DEPENDENTS)

	2006		2001	
	Couple	**One parent**	**Couple**	**One parent**
Berrima	1%	2%	1%	3%
Bowral	25%	25%	26%	24%
Bundanoon	4%	5%	4%	7%
Burradoo	7%	3%	6%	3%
Colo Vale	3%	3%	3%	3%
Exeter	1%	0%	1%	1%
Hill Top	7%	7%	7%	7%
Mittagong	13%	14%	13%	19%
Moss Vale	11%	21%	14%	15%
Robertson	4%	3%	3%	4%
Wingello	1%	1%	1%	0%
Yerrinbool	4%	6%	4%	5%
Remainder	20%	10%	18%	9%
Total	100%	100%	100%	100%

Source: SGS Economics and Planning, 2012; using ABS census data from 2001 and 2006

20.4 Employment

Table 64 shows the employment type of in-migrants by destination. Migrants working both full time and part time migrate mainly to Bowral, followed by the rural areas, and then Mittagong and Moss Vale.

TABLE 64. EMPLOYMENT TYPE OF IN-MIGRANTS

	2006		2001	
	Full time	**Part time**	**Full time**	**Part time**
Berrima	2%	1%	1%	1%
Bowral	24%	24%	27%	25%
Bundanoon	4%	6%	4%	6%
Burradoo	5%	5%	5%	8%
Colo Vale	3%	2%	3%	2%
Exeter	1%	1%	1%	1%
Hill Top	7%	5%	5%	4%
Mittagong	15%	14%	15%	15%
Moss Vale	12%	15%	14%	12%
Robertson	4%	4%	3%	4%
Wingello	1%	1%	1%	0%
Yerrinbool	4%	3%	3%	3%
Remainder	18%	19%	19%	18%
Total	100%	100%	100%	100%

Source: SGS Economics and Planning, 2012; using ABS census data from 2001 and 2006

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