

Economic Opportunities and Infrastructure Review

Wingecarribee Local Government Area

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Prepared for
Illawarra First

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Executive Summary

Wingecarribee Shire Council local government area (LGA) covers the majority of what is known as the Southern Highlands of NSW. It benefits from significant natural and industrial advantages which position it ideally for economic growth in key sectors, and hence the growth of jobs. Yet at the same time it retains its prized rural characteristics which set it apart from the suburban reaches of south-western Sydney, which it borders.

Mindful of the importance of managing this balance, Illawarra First is interested to understand the role Council will play in the future in terms of economic output and the role of traditional industries like mining, manufacturing, forestry and agriculture. In particular, how can jobs in high-value sectors be grown so that qualified individuals can work locally, and which of the identified strengths of the LGA present as meaningful competitive advantages for economic growth of the region above others.

This report has assessed the LGA's economy and finds, at a high level it exhibits the following strengths:

- Growing construction, healthcare and social assistance and accommodation & food services sectors.
- Low unemployment at 3.8 percent.

The LGA's key advantages include:

- Road and rail access to Melbourne, Canberra and Sydney via the Hume Highway and the Main Southern Rail Line.
- Relative proximity to both Greater Sydney and Canberra.
- Ready supply of fertile and serviced rural lands.
- Connected and available industrial lands.
- Extractive and mineral resource deposits.

The key challenges facing the LGA are as follows:

- Declining manufacturing, wholesale trade and retail sectors, the latter particularly concerning as the LGA's highest value-added industry.
- A high resident commuter population that accesses employment outside the LGA (23 percent), representing a 'job deficit' (the gap between local jobs and employed residents) of 6,061 jobs, excluding a reported 1,330 workers who report 'no fixed place of work'.
- Interstate competition for industrial land development and a shift in the usage and

demand of industrial land in greater Sydney from manufacturing to warehousing and logistics.

- Low growth of Aggregate Real Taxable Income (ARTI) at 2.7 percent per annum over the ten years to 2015-16 compared against the state average at 5.1 percent.
- A 'trade deficit' of \$373 million, with \$987 million in imports, compared with \$614 million in exports.
- An ageing workforce, with a greater proportion over the age of 45 and a smaller in the 20 to 44 age group.

The three key recommendations flowing from this assessment are as follows, and if actioned will position the LGA well to leverage off the strengths and opportunities identified in this report:

- Focussed economic development activities.
- Planning and policy enhancements.
- Pursue enabling infrastructure.

At a high level, to best leverage the region's strengths and address these challenges, Council should pursue focussed economic development activities:

- Develop a clear plan to grow jobs in the region to reduce the jobs deficit.
- Develop sector-specific plans to grow high-value jobs to improve the region's productivity, chiefly advanced manufacturing, construction services, food and agribusiness and e-commerce.
- Establish an investment attraction function at a Council level to actively pursue and encourage the relocation of employers to the region.
- Proactively seek to attract younger people to relocate in order to access these jobs.
- Expediting the provision of infrastructure and the sequencing of development in the Moss Vale Enterprise Corridor to fast track investment and growth in this critical employment land precinct.
- Ensuring that Bowral is the focus for the majority of new employment land release and the hierarchy of other centres is maintained.
- Identifying and safeguarding appropriate and adequate land for employment purposes.
- Facilitating employment growth in nominated centres including home based employment.

- Establishing a framework to monitor the supply of employment lands and update annually.

State Government support is needed for key growth sectors to revitalise the Southern Highlands economy including value adding agribusiness, tourism, renewable energy, and small business.

This is further supported by NSW Industry Action Plans to be implemented to improve growth, resilience, productivity, global competitiveness and investment opportunities in tourism, manufacturing, professional services, digital economy and international education and research sectors.

Support should be given to the Southern Highlands manufacturer's cluster including activities such as the Southern Highlands Jobs Careers Expo, school-based apprenticeships and other projects to showcase the diversity and opportunities manufacturing can offer.

Critical to the growth and diversity of opportunity in the LGA will be Council's pursuit of enabling transport and freight infrastructure, which should include:

- Investigating and advocating for improved rail connectivity – electrification of the Sydney to Canberra rail line to Moss Vale, linkages to WSA and planned upgrades to the Southern Sydney Freight Line, to enable access to employment and sustain planned housing growth.
- Expediting local roads projects – Station Street upgrades (Bowral), Moss Vale Bypass, and Berrima Bypass.
- Pursuing consideration of local roads congestion with RMS – Bowral CBD, Bowral Road (Mittagong) and Argyle Street (Moss Vale), and Illawarra Highway safety improvements.

Successful implementation of these recommendations will require strong leadership by Council, sound collaboration with the private sector, further focussed studies and comprehensive stakeholder consultation to provide certainty, alignment and community engagement that will encourage the business community to invest within the LGA and create the jobs that are needed.

Situation analysis

The Wingecarribee LGA is a highly regarded rural locality due to its temperate climate, rich soils, proximity to Sydney and its reasonably reliable rainfall. Its main townships and villages are well serviced by major interstate freeways, highways, Sydney-Melbourne Railway Line and Moss Vale-Unanderra Railway Line. There are major industrial areas at Mittagong, Moss Vale and Berrima which are benefited by direct road and rail connections to major transport routes.

The LGA's GRP was \$2.86 billion EOFY19 which has grown modestly from \$2.25 billion in the time since 2006. Much of this is attributable to increased population size. It supports a well employed workforce predominantly in the Health Care and Social Assistance, Construction and Retail Trade sectors.

Wingecarribee is not unlike other regions on the edge of major cities which have a rising population, construction, house prices, health care and social assistance and services but declining manufacturing and primary industries.

Illawarra First has commissioned this high-level (strategic) assessment to:

- Appraise future demand and development opportunities for growing industry and commerce in Wingecarribee LGA.
- Consider constraints and opportunities for economic growth.
- Assess how planning regulations can be improved to favour economic development.
- Appraise current bottlenecks and planned upgrades to transport infrastructure.
- Identify measures to improve conditions for existing businesses and attract further investment.

The Wingecarribee LGA is not self-contained in terms of the demand and supply of employment lands and is affected by markets from adjoining regions.

It has 347 ha of existing zoned employment land, of which 212 ha is occupied by manufacturing, construction, electrical, agricultural, waste and service-based industries. There is around 135 ha of vacant zoned employment land largely situated at the Moss Vale Enterprise Corridor which provides the greatest opportunity for growth.

Wingecarribee is situated in the middle of the Sydney–Canberra Corridor - a key state and national corridor for transport, communication flows, goods and services. The volume and flow of goods, people and ideas represents a significant

economic advantage for the region. However, the current Sydney to Melbourne rail service is inefficient and slow for both passengers and freight.

The region also enjoys ready access to Wollongong, the Illawarra and South Coast and the south western NSW.

There are a number of planned road upgrades within the LGA including Station Street Bowral, Berrima Bypass and Moss Vale Bypass. There are also planned upgrades to the Southern Sydney Freight Line.

The regional economy would benefit from improved rail links, including electrification of the Sydney to Canberra rail line, with retention of a station in the Southern Highlands or investment to increase the efficiency of the existing Sydney to Canberra line. Corridor protection measures could be put in place for a Sydney to Canberra high speed rail corridor. Underutilised rail stations in the Wingecarribee region provide an opportunity for the creation of tourism assets.

Local road congestion is an issue and impacts the Bowral CBD, Bowral Road Mittagong and Argyle Street Moss Vale. These are RMS (Roads and Maritime Services) roads yet their upgrade is more of a local priority. Further work is required on the upgrade of Station Street Bowral and the Moss Vale Bypass. The Moss Vale Bypass would create a second major crossing of the Main Southern Railway Line to take industrial traffic away from Argyle Street. These upgrades are required to enhance traffic flow and management while improving visual amenity and providing a platform for economic growth. Parking in Mittagong, Bowral and Moss Vale is a problem on weekends with the influx of visitors.

Future coal and other freight trains will require gaps of about ten minutes between the existing timetabled northbound and southbound passenger and freight train paths on the Main Southern Rail Line at Moss Vale, to cross between the junctions with the Berrima Branch Line on the western side and the Unanderra Line on the eastern side. These train movements will only occur over a short (1.6 km) section of the Main Southern Rail Line. The Additional train 'cross over' movements will occur during slack periods in the existing timetable and will have a minimal effect on the overall Main Southern Rail Line capacity for longer distance passenger and freight train movements. Further, the Main Southern Rail Line consists of triple track for most of the cross over distance.

In considering the opportunities for future growth in Wingecarribee LGA it is important to consider the global influences that are changing the ways in which people live, use land and consume resources. While there is a natural delay in the flow of the impacts of these influences from

metropolitan, to peri-urban and then regional areas, recent history has shown that regional centres which are able to shift and capitalise on these mega trends in-line with Metropolitan areas are more likely to grow and thrive in an ever changing world than those who are late adopters and respond to change purely out of necessity.

For example, the pace of change in digital technology will provide opportunities to connect people across regions and countries and create new employment options locally as well as impact on changing and reducing employment in traditional roles that are now able to be automated or have been made redundant due to changes in technology.

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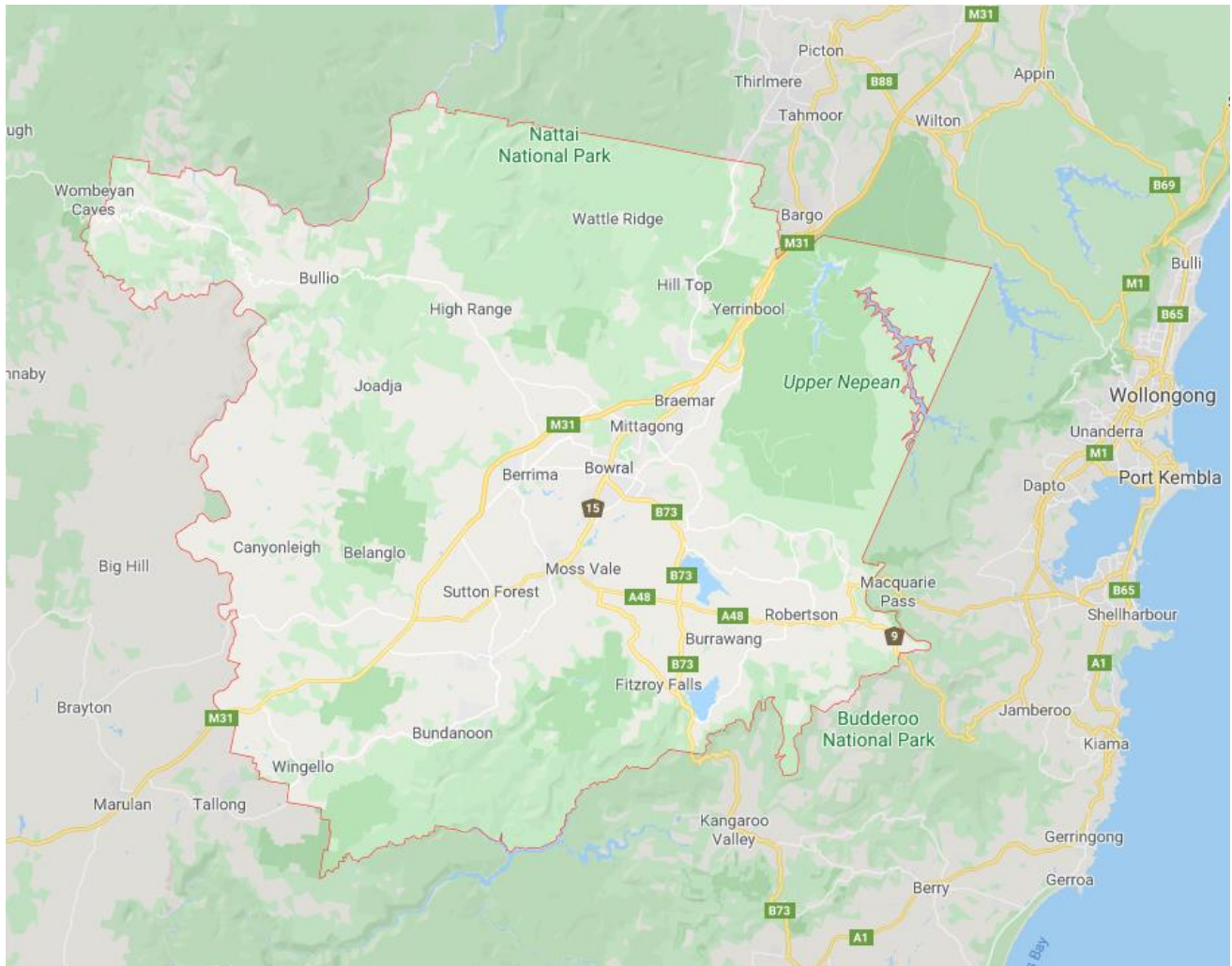
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1 Introduction

1.1 About Wingecarribee local government area

The Wingecarribee RMS is located approximately 75 km from the south western fringe of Sydney and 110 km from the Sydney CBD. The LGA is bounded by Wollondilly Shire in the north, Wollongong City, Shellharbour City and the Municipality of Kiama in the east, Shoalhaven City and the Goulburn Mulwaree Council area in the south, and Upper Lachlan Shire in the west (see Figure 1-7 below).

Figure 1-7 Wingecarribee Shire



Source (Google, 2020)

Wingecarribee LGA is largely rural, with urban areas in numerous towns and villages. The main townships are Bowral, Mittagong and Moss Vale, with many smaller villages and townships such as Berrima, Bundanoon, Kangaroo Valley and Robertson. The LGA has an estimated resident population (ERP) of 51,134 at 30 June 2019. That population has grown consistently between about 1 percent and 1.5 percent over the past decade, and in line with both state and national averages over the past 5 years (idcommunity, 2020).

The LGA encompasses a total land area of approximately 2,700 km² and benefits from a temperate climate, rich soils, proximity to Sydney and a reasonably reliable rainfall. In terms of the most common commercial land use in the LGA is beef cattle farming. The next most significant agricultural activities are horse farming, dairy cattle farming, mushroom growing and nursery production (outdoors) and vegetable growing (outdoors). There is a large number of smaller rural home sites and hobby farms.

The area is well serviced by major interstate freeways including the M32 (Hume Highway), A48 (Illawarra Highway), Sydney-Melbourne Railway Line and Moss Vale - Unanderra Railway Line. There are notable industrial areas at Mittagong, Moss Vale and Berrima.

The LGA's GRP was \$2,863 million as of the 30th June 2019. This GRP has grown by about 27 percent from \$2,250 million in 2006. Aggregate Real Taxable Income (ARTI), has only increased by an average of 2.7 percent per year in the ten years from 2006 to 2016. This relatively slow growth rate in GRP and ARTI correlates with the growth in population in the LGA, and with a steady unemployment rate of approximately 4 percent over same time period it suggests that economic growth in the LGA is primarily attributed to an increase in population size over this time period (.idcommunity, 2020) (Department of Industry, Innovation & Science, 2020).

An analysis of the jobs held by the resident population in Wingecarribee LGA in 2016 shows the three largest employing industry sectors were:

- Health Care and Social Assistance (2,582 people or 12.5 percent).
- Construction (2,061 people or 10 percent).
- Retail Trade (1,995 people or 9.7 percent).

In combination, these three industries employed 6,638 people in total or 32.1 percent of the total employed resident population, which is in line with the state averages for other regional areas. On average, regional NSW employs 14.4 percent in Health Care and Social Assistance; 8.7 percent in Construction; and 10.3 percent in Retail Trade.

The major differences between the jobs held by the population of Wingecarribee LGA and regional NSW were:

- More persons employed in professional, scientific and technical services (6.7 percent cf. 4.5 percent).
- Fewer persons employed in public administration and safety (4.4 percent cf. 7.2 percent).
- Fewer persons employed in agriculture, forestry and fishing (3.3 percent cf. 5.7 percent).
- Fewer persons employed in health care and social assistance (12.5 percent cf. 14.4 percent).

Between 2011 and 2016 the LGA experienced the following changes in employment:

- Manufacturing (-502 persons).
- Construction (+411 persons).
- Health Care and Social Assistance (+287 persons).
- Accommodation and Food Services (+266 persons).

These changes i.e. rising population, rising construction, rising house prices, rising health care and social assistance, rising services, declining manufacturing, declining primary industries are not uncommon in regional Australia, particularly on the periphery of our major cities (.idcommunity, 2020).

1.2 Current Scope of Works

The timing of this report is intended to inform Council's development of its Destination Development Strategy (in place of an Economic Development Strategy), which opened for public consultation in February 2020.

Illawarra First has called upon Council to use this process to deliver a unified vision for the future of the LGA in terms of the nature of development, the accepted scale and intensity of economic activity, required infrastructure, and roles and responsibilities of Council and other stakeholders. Council is also undertaking its own Employment Land Study and Local Strategic Planning Statement.

Whilst these processes are occurring, Illawarra First embarked on its own initial investigation of the LGA's economic potential and the role of infrastructure as an enabler. Illawarra First commissioned Cardno (NSW/ACT) PL to undertake a high-level (strategic) assessment of:

- Potential future demand and development opportunities for growing industry and commerce in Wingecarribee.

- Constraints and opportunities for economic growth.
- How planning regulations can be improved to favour economic development.
- Current bottlenecks and planned upgrades to supporting transport infrastructure.
- Prospective measures to improve conditions for existing businesses and attract further investment.

The agreed scope of works requires Cardno to investigate those matters listed in **Table 1.1** below.

Table 1-1 Agreed Scope of Works

Task	Where addressed in this Study?
Employment / industrial lands – existing and potential, and an assessment of their locations in relation to transport networks, including a consideration of the Moss Vale Enterprise Corridor and why it has not seen increased utilisation to date	Section 2
Overview and assess priority of planned road upgrades – Station Street (Bowral), Berrima Bypass, Moss Vale Bypass etc.	Section 4
High-level assessment of Southern Highlands transport connectivity: <ul style="list-style-type: none"> • Road networks – including but not limited to external (Hume Highway, Macquarie Pass and Picton Road) and internal (Illawarra Highway, Sheepwash Road, Nowra Road etc. • Rail networks – Main Southern Line, Moss Vale-Unanderra Line (freight-only), location and utility of stations etc. 	Section 4
High-level assessment of Southern Highlands transport constraints: <ul style="list-style-type: none"> • Passenger Rail – lack of electrification past MacArthur, experience of commuting to Greater Sydney etc. • Freight Rail – congestion issues on Main Southern Line, availability/impact of passing loops, utility of Moss Vale-Unanderra Line etc. • Congested internal roads – including Argyle Street at Moss Vale, Station Street at Bowral etc. 	Section 5
Industry location by sector, present and future – Where are industry sectors clustered now and what opportunities exist to encourage new industries and businesses to be in strategic locations?	Section 6
Investment attraction – How does this work and what are the opportunities for the Southern Highlands based on its competitive advantages/disadvantages. To include a discussion about Western Sydney Airport, Aerotropolis and the agribusiness precinct.	Section 6 Section 7
Planning opportunities and challenges – What can WSC and the NSW Government do, using planning controls, to improve business development for the region?	Section 9
Areas for further detailed investigation and assessment – based on the constraints and opportunities identified in this initial high level assessment, what areas require further in depth assessment in order to develop a detailed evidence base and comprehensive action plan to expand upon the preliminary findings from this study?	Section 9

2 Review of Employment Lands

2.1 Wingecarribee LGA

The rural landscapes of Wingecarribee LGA are an integral resource for a range of economic contributors to the region. Traditionally the rural landscapes have been and continue to be predominantly used for agriculture, though now also involve tourism, mining and quarrying, energy production through wind farms and rural lifestyle housing.

The Wingecarribee LGA is not self-contained in terms of the demand and supply of employment lands and is affected by markets from adjoining regions. Currently there is 347 ha of existing zoned employment land in the subregion, of which 212 ha is occupied by manufacturing (glass and cement), construction (Rocla, Boral), electrical (Tyree Industries), agricultural industrial (e.g. feedstock), waste (recycling) and service-based industries (automotive, hardware, housing) and storage. This leaves about 135 ha of vacant zoned employment land mainly situated at the Moss Vale–Berrima Enterprise Corridor which provides the greatest opportunity for growth. Significant opportunities exist in the form of employment lands developments and the redevelopment and renewal of existing town centres to encourage new businesses to establish or existing businesses to relocate to the region.

Employment potential also exists in the commercial centres of the region, particularly in light of the strong potential for growth in the services, retail and tourism sectors. It will be important to focus growth in these centres so that they fulfil their potential within the broader centre's hierarchy.

The identified major regional centre in the Wingecarribee LGA is Bowral, although this centre functions with support from Mittagong and Moss Vale. These three centres function in a complementary fashion with Bowral providing higher order retail and commercial services; Mittagong is the local service centre with some capacity for more retail development and Moss Vale functions as the administrative and rural service centre.

The Moss Vale–Berrima Enterprise Corridor supports the complementary role of these three centres. There is a desire to see further economic development and economic self-reliance in the region. The supply of employment land within the Sydney–Canberra Corridor provides an opportunity to reduce the number of people who commute out of the Region for work. The proximity of the Sydney–Canberra Corridor to several other regions and the high-quality transport infrastructure give opportunities to further develop its economic base. (Department of Planning NSW Government, 2008)

Plans to expand the existing employment lands (both in their physical extent and range of land uses) may be curtailed by the natural physical constraints of topography (industry for example is typically best suited to grades lower than 5 percent) as well as natural hazards such as bushfire, stability and flooding.

2.2 The Moss Vale Enterprise Corridor

The major area of industrial zoned land in the Wingecarribee LGA is located to the immediate northwest of Moss Vale town centre. Described in strategic Council documents as the Moss Vale Enterprise Corridor (MVEC), the area comprises around 1,100 ha of industrial zoned land, most of it IN1 General Industry zoned land. Interestingly, industrial zoned land makes up around 10 percent of the total land area of the Moss Vale–Berrima SA2. (Judith Stubbs & Associates, 2017)

There is a competitive surplus of land to take advantage of given the location of the enterprise corridor and its strategic position in terms of regional infrastructure. This includes its proximity to the Hume Highway (which provides merge movements in both north and south directions) and being serviced by a natural gas main pipeline, an existing siding of the Main Southern Railway and a direct rail connection to Port Kembla.

A wide range of industrial uses are currently located within industrial zoned land more proximate to Moss Vale town centre. These include the following operations: Joy Mining, Dunsteel, Omya and Moss Vale Recycled Building Centre. Other industrial uses are located along Douglas Avenue and Berrima Road moving west from Moss Vale toward Berrima and include: Dux Hot Water, Cromford Pipe Manufacturers, the Resource Recovery Centre, the Southern Rural Livestock Saleyards and Ingham's Feed Mill. These are generally quite prominent from Berrima Road and/or Douglas Avenue.

Immediately to the south of New Berrima on Taylor Avenue is Boral's Berrima Cement Works located on IN3 Heavy Industrial zoned land. The Cement Works is a prominent feature visible within the Berrima locality including from Berrima Road and a range of surrounding rural properties. (Judith Stubbs & Associates, 2017)

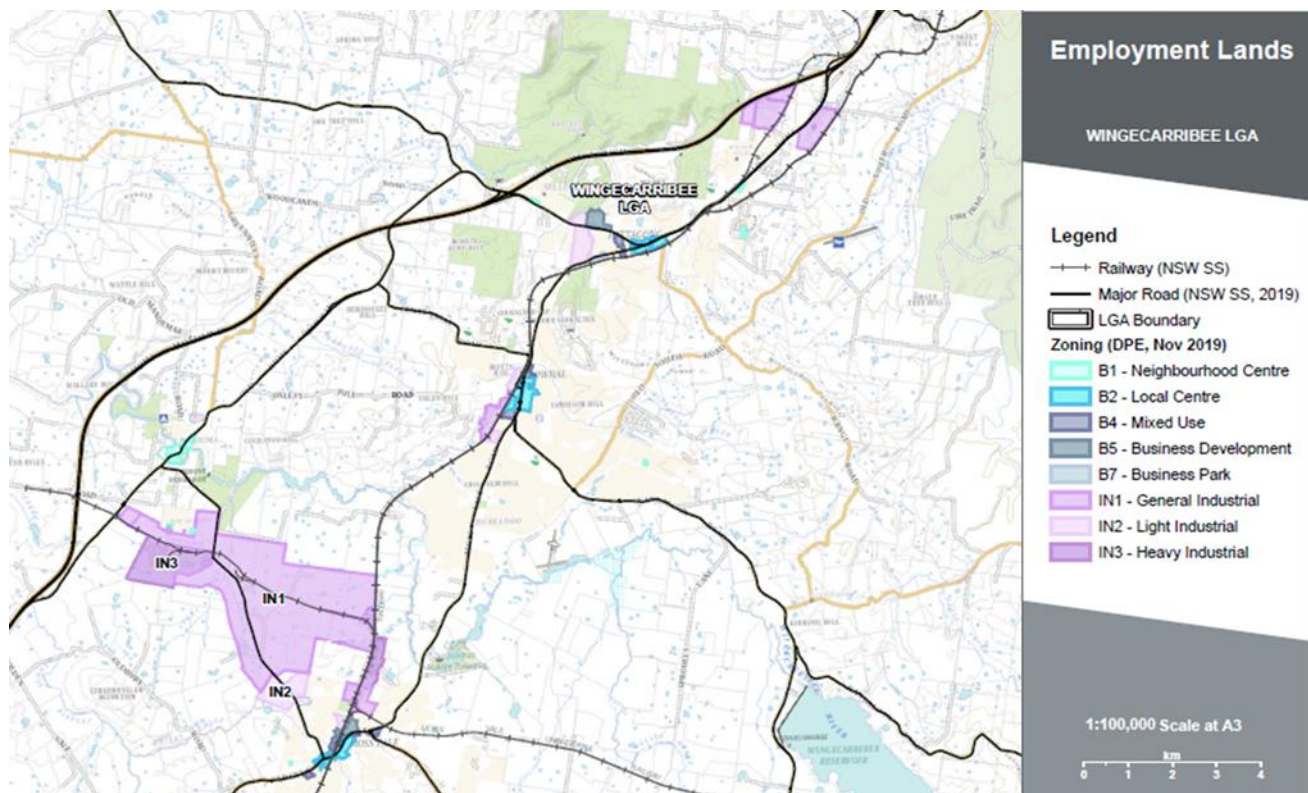


Figure 2-7 Employment lands and associated zoning in Wingecarribee Shire (refer Appendix A for full size map)

Wingecarribee Shire Council has included the Moss Vale Enterprise Corridor as an industrial area in its draft local environmental plan. The extent of the developable area is subject to detailed site and environmental assessments. This includes infrastructure funding, sequencing and staging arrangements.

Particular consideration needs to be given to the upgrading of the regional transport network, specifically road links to the Hume Highway and rail-siding access to the Main Southern Railway to ensure efficient and safe access to these major freight transport routes.

One of the greatest challenges facing the Moss Vale Enterprise Corridor is the flow on effect of high industrial land prices in Western Sydney and the relatively large distance from metropolitan areas and port facilities, versus equivalently priced industrial land in Melbourne's outer suburbs. Due to the high demand and price point for land in Sydney, undeveloped and serviced industrial land in Western Sydney, which is over 50 km from the nearest international seaport and airport facilities, has been selling at over \$600/m² as of the start of 2020. This strong demand has come on the back of higher levels of e-commerce and the associated logistics and warehouse facilities required in close proximity to customer bases for efficient supply chains. As a result of these record high prices in Sydney, it is over inflating industrial land prices in Sydney surrounds as developers seek to profit from these bullish local market conditions. However, demand for these land parcels on Sydney's periphery is low, despite the cost differential, due to the significant increase in distance from customer bases and the associated cost impost on supply chains.

In comparison however, undeveloped and serviced industrial land in Melbourne's outer suburbs, which is less than 35 km from international seaport and airport facilities, and in close proximity to growing customer bases was selling for less than \$300/m² as of the start of 2020. As a result of these significantly lower industrial land prices, closer proximity to global supply chains and lower costs of living, trends are emerging in industrial land development where new and existing manufacturing facilities are relocating to Melbourne from Sydney, and only retaining smaller distribution facilities in greater Sydney, as they seek to lower capital and operational costs for their businesses. (Property Council of Australia; Charter Hall, 2020)

This internal competition between Sydney and Melbourne markets puts significant pressure on industrial land areas on Sydney's fringes, such as the Moss Vale Economic Corridor, for the development of new manufacturing or distribution facilities.

That being said, opportunities do exist for relocation of existing manufacturing businesses from Greater Sydney within the Moss Vale Enterprise Corridor where there is a logistical advantage in the supply of raw materials that are sourced with and around the LGA, such as timber and quarry based materials. This would allow such businesses to take advantage of lower transport cost of raw materials and lower land and labour costs for manufacturing operations within the LGA, whilst still being able to readily service both Sydney and Canberra markets.

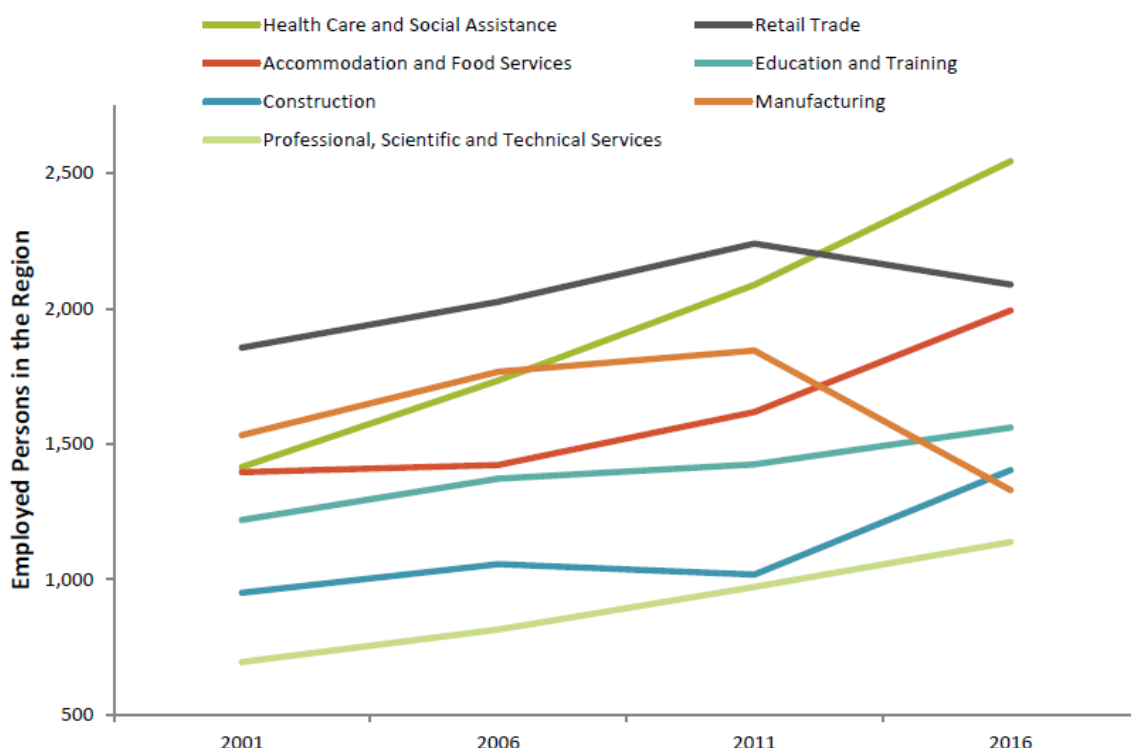
3 Review of Current Industry & Employment

3.1 Industry Sector Trends

Historically, the largest employing industries in Wingecarribee LGA have been retail trade and manufacturing. As shown in **Figure 3-7**, in 2016 the most significant employing sectors in the Wingecarribee LGA were health care and social assistance and retail trade. Since 2011 there has been a significant decline in employment in the manufacturing sector. There has also been a decline in the retail sector although it remains the second highest employing sector in the economy. All of the other top employing sectors in the economy have grown between 2001 and 2016.

The most rapidly growing sector has been health care and social assistance. Overall, employment in the region increased between 2011 and 2016 by 1,393 jobs. At the same time the number of the usual resident employed labour force increased by 1,387. This highlights the fact that the workforce commuting to outside the region did not grow during this period. (AgEconPlus, 2018) (.idcommunity, 2020)

Figure 3-7 Historical Employment in Wingecarribee LGA



3.2 Current Industry Sector Analysis

In 2016, over 50 percent of Wingecarribee's employment was concentrated in five sectors: health care and social assistance (13 percent), construction (10 percent), retail trade (10 percent), education and training (10 percent), accommodation and food services (9 percent).

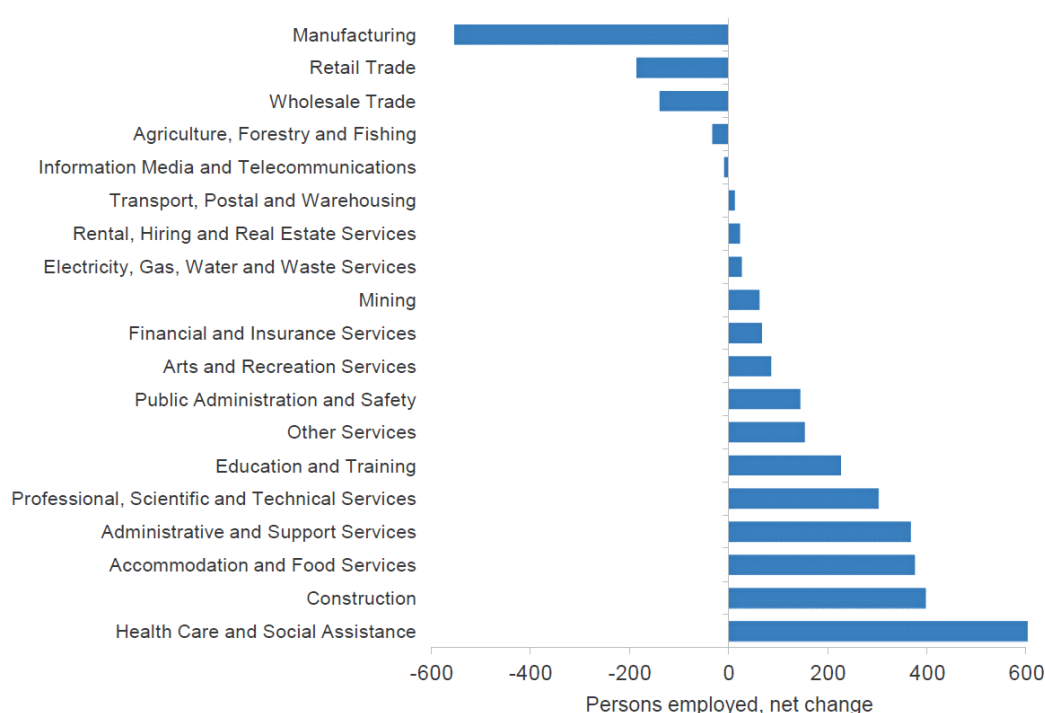
Further, 10.5 percent of employed residents in Wingecarribee worked in the top three knowledge-intensive industries in 2016: Around 7.0 percent in professional, scientific and technical services, 2.4 percent in financial and insurance services, and 1.2 percent in the information media and telecommunications sector.

Over the ten years to 2016, employment fell most strongly in the following sectors: manufacturing, by 554 workers (an average annual decline of 3.2 percent), retail trade, by 186 workers (0.9 percent), wholesale trade, by 139 workers (2.4 percent) (Department of Industry, Innovation & Science, 2020).

Table 3-1 Local employment by industry division, 2016

Industry	Total employed (persons)	Share of local employment (per cent)	Net change 2006-2016 (persons)
Health Care and Social Assistance	2,582	13.1	612
Construction	2,061	10.5	398
Retail Trade	1,995	10.1	-186
Education and Training	1,931	9.8	227
Accommodation and Food Services	1,852	9.4	376
Manufacturing	1,437	7.3	-554
Professional, Scientific and Technical Services	1,374	7.0	303
Public Administration and Safety	901	4.6	145
Transport, Postal and Warehousing	892	4.5	12
Other Services	842	4.3	154
Administrative and Support Services	813	4.1	368
Agriculture, Forestry and Fishing	680	3.4	-33
Wholesale Trade	513	2.6	-139
Financial and Insurance Services	466	2.4	67
Rental, Hiring and Real Estate Services	431	2.2	23
Arts and Recreation Services	310	1.6	86
Information Media and Telecommunications	230	1.2	-9
Mining	225	1.1	62
Electricity, Gas, Water and Waste Services	179	0.9	26

Figure 3-8 Structural change in employment by industry in Wingecarribee, 2006-2016



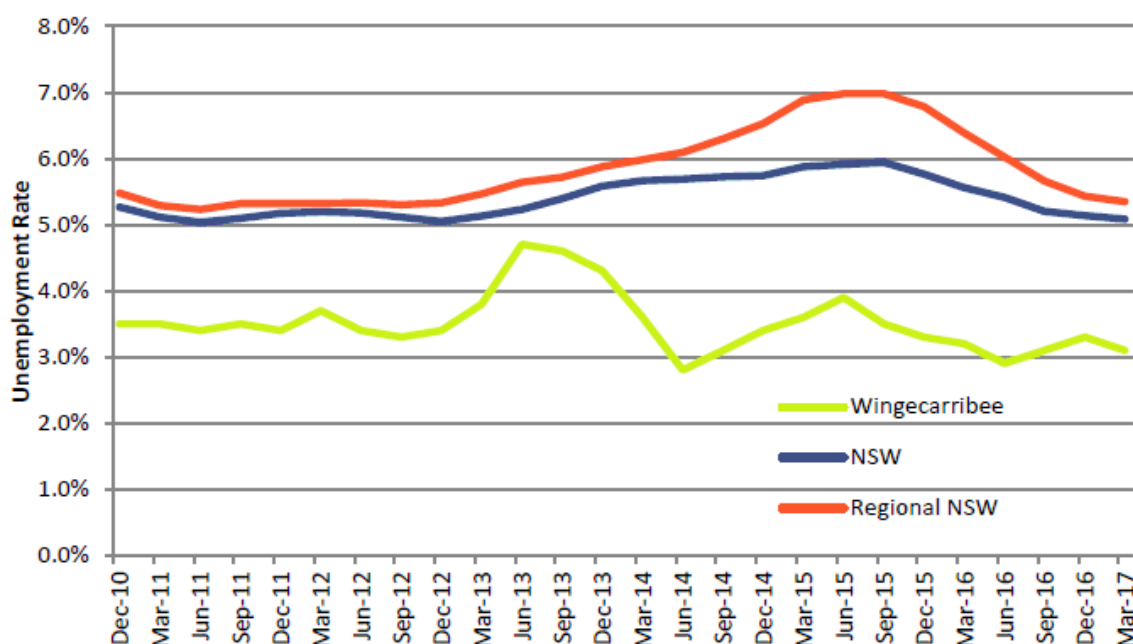
3.3 Labour Force Status

According to the 2016 Census, 20,644 people living in the Wingecarribee LGA were employed, at an unemployment rate of 3.8 percent, which was below the unemployment rates for Regional NSW (6.6 percent) and NSW (4.6 percent) as shown in **Figure 3-9**. The Department of Employment's Small Area Labour Markets publication has estimated that unemployment in the LGA has been consistently below that for NSW (which has been below that for Regional NSW), however with greater variability.

Analysis of the labour force participation rate of the population in Wingecarribee Shire in 2016 shows that there was a similar proportion in the labour force (54.3 percent) compared with Regional NSW (54.8 percent) (.id, 2016).

There is a high resident commuter population that accesses employment outside the LGA (23 percent), representing a 'job deficit' (the gap between local jobs and employed residents) of 6,061 jobs, excluding a reported 1,330 workers who report 'no fixed place of work'.

Figure 3-9 Small Area Labour Markets Estimate of the Wingecarribee, Regional NSW and NSW unemployment rate



3.4 Labour Force Demographics

According to the 2016 Census of Population and Housing, the median age in the Wingecarribee LGA was 47 while the median age of the NSW population was 38 years. **Figure 3-10** on the following page compares the age distribution of the LGA with NSW. When compared to NSW as a whole, Wingecarribee LGA follows a similar pattern as Regional NSW, with a greater proportion of its population over the age of 45 and a smaller proportion of its population in the 20 to 44 age group – a 'hollowing-out' of the younger work-force population common across regional Australia.

To take account of this systemic difference between regional NSW and NSW, the age profile of Wingecarribee LGA has also been compared to the age profile of Regional NSW, as shown in **Figure 3-11** on the following page. This indicates that there is a higher proportion of people in the 10 to 19 age group, 45 to 54 age group and 60+ age groups and a lower proportion of people in the 0 to 9 age group, 20 to 44 age group and 50 to 54 age group.

Figure 3-10 Wingecarribee LGA Population Age Distribution vs NSW

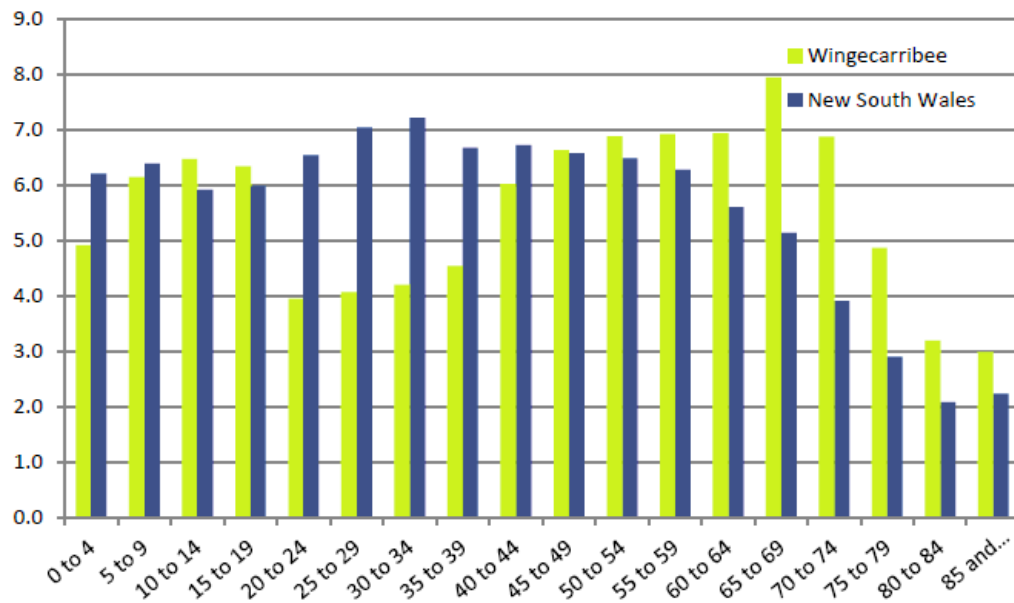
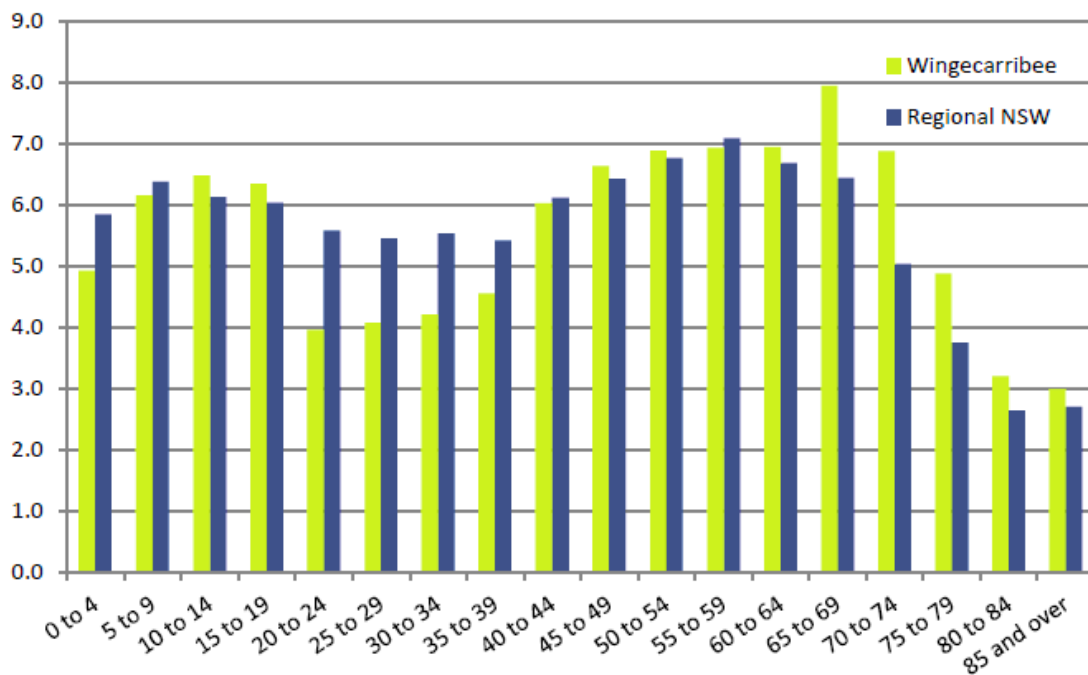
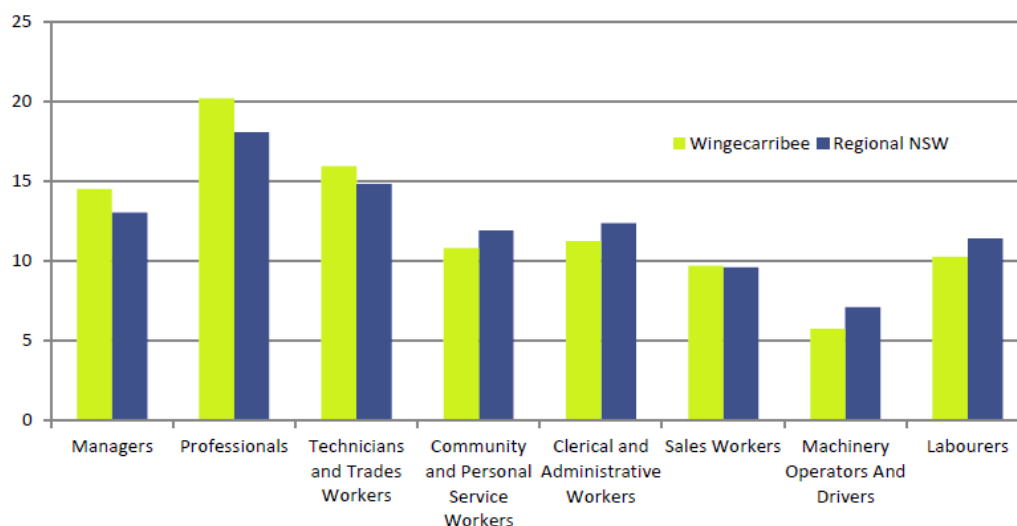


Figure 3-11 Wingecarribee LGA Population Age Distribution vs Regional NSW



The 2016 Census of Population and Housing showed Wingecarribee LGA had a relatively higher proportion of its workers employed as professionals, managers and 'technicians and trades' compared to Regional NSW. It had a lower proportion of its workers employed in 'community and personal service', 'clerical and administrative', 'machinery operators and drivers and labourers' (Figure 10). (AgEconPlus, 2018).

Figure 3-12 Proportion of Wingecarribee LGA Population by Occupation vs Regional NSW



Source: ABS, 2016 Census of Population and Housing (Usual Resident Profile)

In 2016, 81 percent of the workers employed in the Wingecarribee LGA also resided in the LGA. The almost one-fifth who commuted from outside the LGA were predominantly from Wollondilly (5.9 percent), Sydney (4 percent), Wollongong (2.3 percent), Goulburn Mulwaree (2.2 percent) and Shellharbour (1.3 percent). In 2016, the labour force residing in the Wingecarribee LGA exceeded the number of jobs in the LGA. Hence 23 percent of the employed labour force residing in the Wingecarribee LGA commuted to a work location outside the LGA, which is high. For an additional 6 percent, there was no fixed place of work. The main location of work for those commuting outside the region (where the location is known) was Sydney (13.5 percent), Wollondilly (2.4 percent), Wollongong (1.8 percent), Camden (1.5 percent) and Goulburn Mulwaree (1.4 percent).

Table 3-2 Residential Location of Workers Employed in Wingecarribee LGA

Category	No. of Workers	Percentage of Workforce
Live and work in the area	14,538	81%
Work in the area, but live outside	3,334	19%
Total workers employed in Wingecarribee LGA	17,872	100%

Table 3-3 Work Location of Employed Labour Force Residing in Wingecarribee LGA

Category	No. of Workers	Percentage of Workforce
Live and work in the area	14,538	71%
Live in the area, but work outside	4,731	23%
No fixed place of work	1,330	6%
Total workers living in Wingecarribee LGA	20,599	100%

3.5 Gross Regional Product

An input-output analysis for the region shows that the GRP of the Wingecarribee LGA was approximately \$2,421 million for 2015-16. This represents approximately 0.4 percent of NSW Gross State Product (GSP) and \$50,566 GRP per Capita. The highest value-added industries in the Wingecarribee LGA in 2015-16 (based on the Input-Output industry classifications) were:

- Retail Trade (\$160 million).
- Education (\$132 million).
- Accommodation and Restaurants (\$122 million).
- Professional/Scientific/Technical Services (\$119 million).
- Finance (\$114 million).

The Wingecarribee LGA is a net importer, with exports out of the region of \$614 million and imports into the region of \$987 million. Based on the input-output industry classifications, the largest exporting industries by value are:

- Sheep, grain and beef (\$82.5 million).
- Equipment manufacturing (\$71.4 million).
- Accommodation and restaurants (\$51.8 million), indicating a contribution to more than just the local residents i.e. tourism.
- Coal mining (\$45.2 million from the Berrima Colliery, which ceased underground work in September 2015); and
- Wholesale trade (\$39 million).

In addition, the Wingecarribee LGA is increasingly becoming a commuting location for Sydney and other areas, and hence the region is essentially exporting labour.

Conversely, the largest importing industries in the region are:

- Equipment manufacturing (\$61.9 million).
- Accommodation and restaurants (\$37.1 million).
- Professional/scientific/technical services (\$29.3 million).
- Mineral manufacturing (\$28.3 million).
- Metal manufacturing (\$27.3 million).

The retail trade and education sectors had the highest value added of all the input output industry classifications. Combined, it was equal to approximately 13 percent of Wingecarribee regional economy (AgEconPlus, 2018).

Table 3-4 Sydney Peri-urban areas Gross Regional Product (2015)

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

Source: (.id The Population Experts, 2015), (REMPLAN, 2015)

Note: Lake Macquarie was not profiled by .id and so the data has been sourced from REMPLAN.

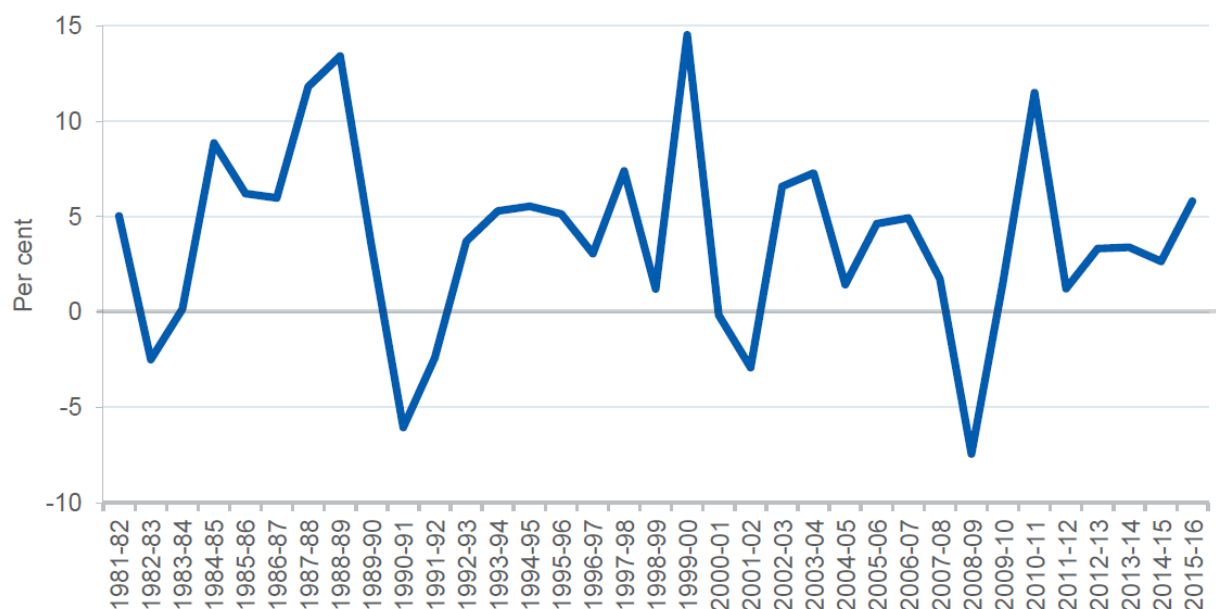
(Edge land Planning, 2015)

3.6 Aggregate Real Taxable Income

ARTI, shows the returns from the factors of production – labour and capital – owned by the residents of a region, before taxes and transfers, and is useful for consideration in conjunction with GRP figures. ARTI levels reflect changes in population (number of taxpayers) as well as changes to the income received by individuals.

Wingecarribee's ARTI has increased by an average of 2.7 percent per year in the ten years to 2015-16, much slower than the 5.1 percent recorded in the rest of New South Wales over the same period. (Department of Industry, Innovation & Science , 2020)

Figure 3-13 ARTI growth in Wingecarribee, 1981-82 to 2015-16



Notes: Wingecarribee defined as the postcodes 2575, 2576, 2577 and 2578

Source: Office the Chief Economist's Taxable Income Database

4 Current Transport Connectivity & Planned Upgrades

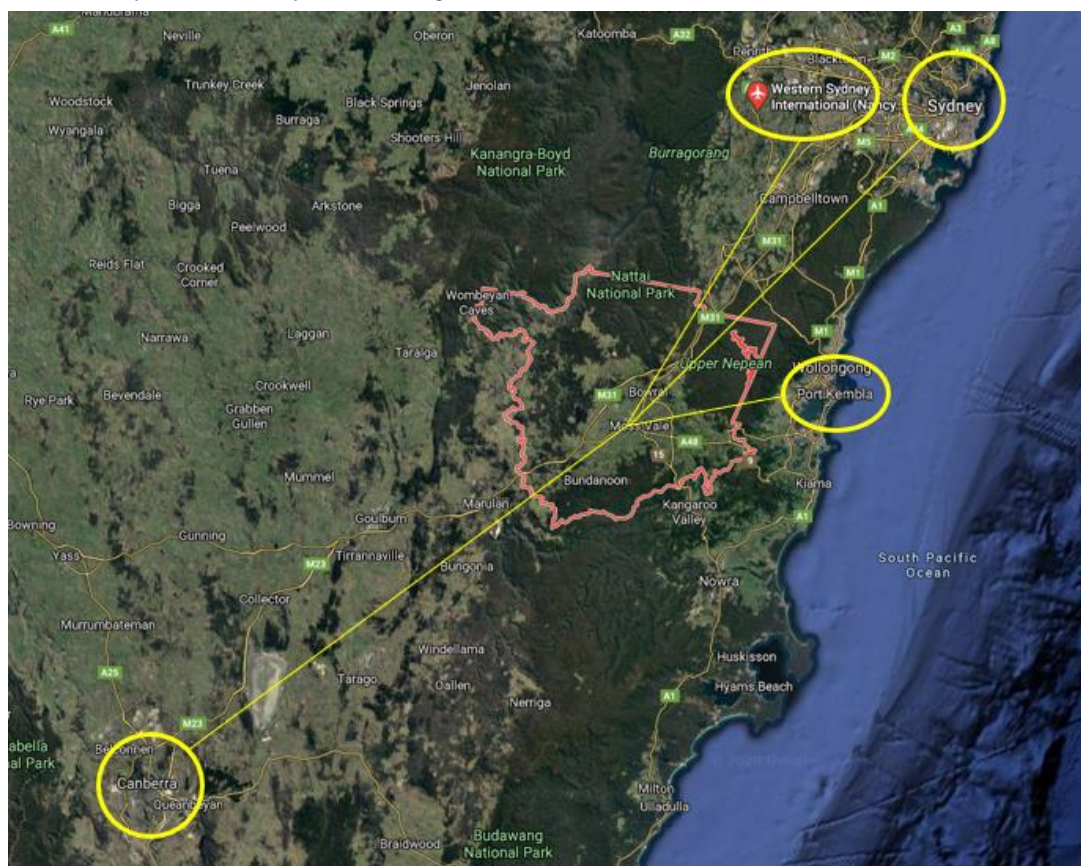
4.1 Hume Highway

The Hume Highway provides a continuous 873 km high standard connection between Sydney and Melbourne. It is suitable for use by most vehicle types up to and including the largest B-double trucks but excluding other larger road train-type vehicles. In the Berrima locality the highway has a continuous four-lane dual carriageway cross-section; its typical lane width is 3.5 m with a sealed shoulder of 3 m.

Around 17.5 percent of traffic on the highway is heavy vehicles. The highway was built to motorway standard (with no surface access intersections) to the north of the Old Hume Highway (Mereworth Road) interchange, where the dual carriageway road was originally built as the Hume Highway bypass of Berrima. Additional slow vehicle lanes are provided on some steeper sections of the highway between Berrima and Mittagong, providing six lanes of traffic capacity at these locations. The road surface along all sections of the highway is maintained to a high standard to provide for safe and comfortable travel conditions for nearly all types of vehicles. (EMM, 2017)

The Hume Highway is the 'life blood' of the region providing quick access to Sydney for regional exports, the opportunity to commute for work or for visiting the region. With its link to the Federal Highway, the Hume also provides valuable fast access to Canberra and its international freight and passenger airport. Improved access to the Hume Highway at Welby south of Mittagong has been suggested as a catalyst for further economic development. (AgEconPlus, 2018).

Figure 4-1 Proximity and connectivity between Wingecarribee Shire and surrounds



4.2 Picton Road

Picton Road runs 27 kms from just north of Mount Ousley to the Hume Highway and continues westwards a further 10 kms to Picton. Picton Road is an important connection for regional freight and commuter trips. It is the primary connection from Port Kembla and Wollongong to Western Sydney and the emerging growth areas in the south west of Sydney. It is also the preferred heavy vehicle route from the Illawarra to the Sydney CBD and surrounds. Most of the length of Picton Road is single lane, with some 8 kms of passing lanes in both directions at intervals.

Traffic counts, published by RMS, at key locations shows that the heavy vehicle content of traffic on Picton Road is high at around 25 percent. In each of the last two years, heavy vehicle volumes have grown at an average of 7 percent on Picton Road.

Illawarra First/NRMA analysis established that it is critical that Picton Road be upgraded to motorway standard (i.e. two lanes in each direction, separated) in the immediate future, with a provision to upgrade to six lanes in the future. It was recommended that the project be completed by 2025, given that the road will reach its anticipated peak hour capacity in 2022 and daily capacity in 2025 (Illawarra First/NRMA, 2018).

4.3 Illawarra Highway

The Illawarra Highway provides the main arterial road connection between the Illawarra and Southern Highlands. It has generally been designed and constructed as a high standard, two-lane rural highway with generous traffic lane and sealed shoulder widths for most of its length. However, it has limited overtaking opportunities in the Moss Vale and Sutton Forest areas. The road is suitable for most types of larger trucks but only permits B-double vehicles to travel as far as Robertson. Trucks larger than semi-trailers are not allowed to use the Macquarie Pass section east of Robertson, which connects to Wollongong and the coastal Illawarra region.

Within urban areas, where the road passes through the townships of Sutton Forest, Moss Vale and Robertson, it uses a range of urban type road cross-sections and lower speed limits generally apply, including 40 km/hr school zone limits. The road surface is generally maintained in good condition with few visible surface defects. There is one railway level crossing just west of Robertson. Through Moss Vale, the Illawarra Highway is known as Argyle Street, and has urban intersections with major local roads, including Berrima Road, which is known as Waite Street in Moss Vale. (EMM, 2017)

There are no plans to improve the alignment of Macquarie Pass or to provide an alternative route across the escarpment. The location of Macquarie Pass in a national park, the complex geology and topography and the relatively low level of demand for the road are all negative influences for the need to improve the road. Travel time between Wollongong and Moss Vale (connection to Hume Highway) is around 70 minutes. This is approximately the same in terms of travel time for the journey from Wollongong to Moss Vale via Picton Road and the Hume Highway. (Illawarra First/NRMA, 2018).

4.4 Main Southern Line

The Main Southern Line, which is operated by the ARTC, currently operates through Moss Vale. The rail line continues north to Mittagong and south-west to Goulburn. At Moss Vale Junction, a rail line branches to the east to Wollongong and Port Kembla. (EMM, 2017).

4.5 Moss Vale-Unanderra Line

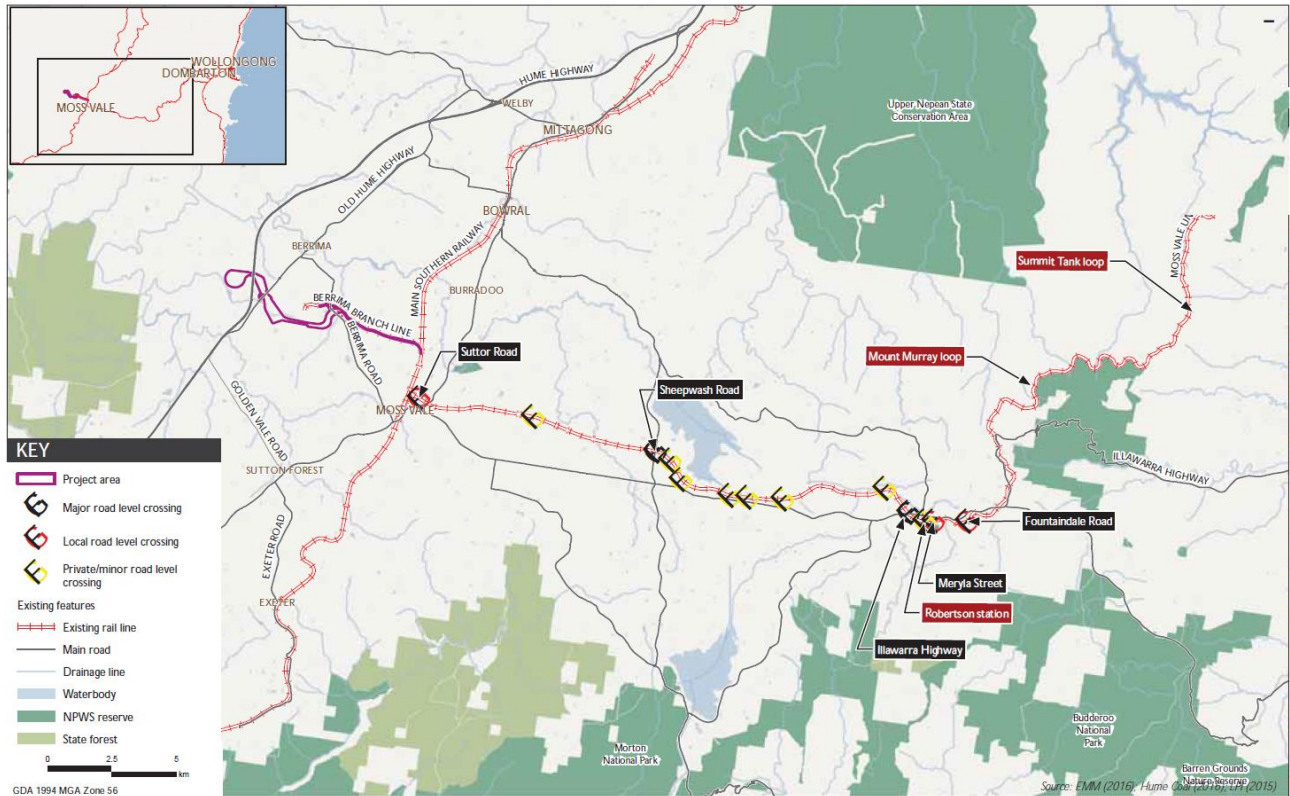
The Moss Vale-Unanderra Line connects Port Kembla to the Sydney Trains Network via Moss Vale (which is on the Main South Line) and Unanderra (near Port Kembla). Connecting Port Kembla to Sydney, the Moss Vale-Unanderra Line is an alternative to the South Coast Line for freight. While the Moss Vale-Unanderra Line currently has spare capacity and can accommodate additional freight movements, the steep gradient of the line deters further upgrades to expand capacity.

The maximum daily usage of the Moss Vale to Unanderra Line by existing freight trains and the occasional heritage passenger train is between 11 and 12 daily train movements in each direction, which are usually:

- Grain and other country freight trains.
- Four Tahmoor mine coal trains.
- One train from Medway Quarry carrying limestone.
- Up to one heritage passenger train.

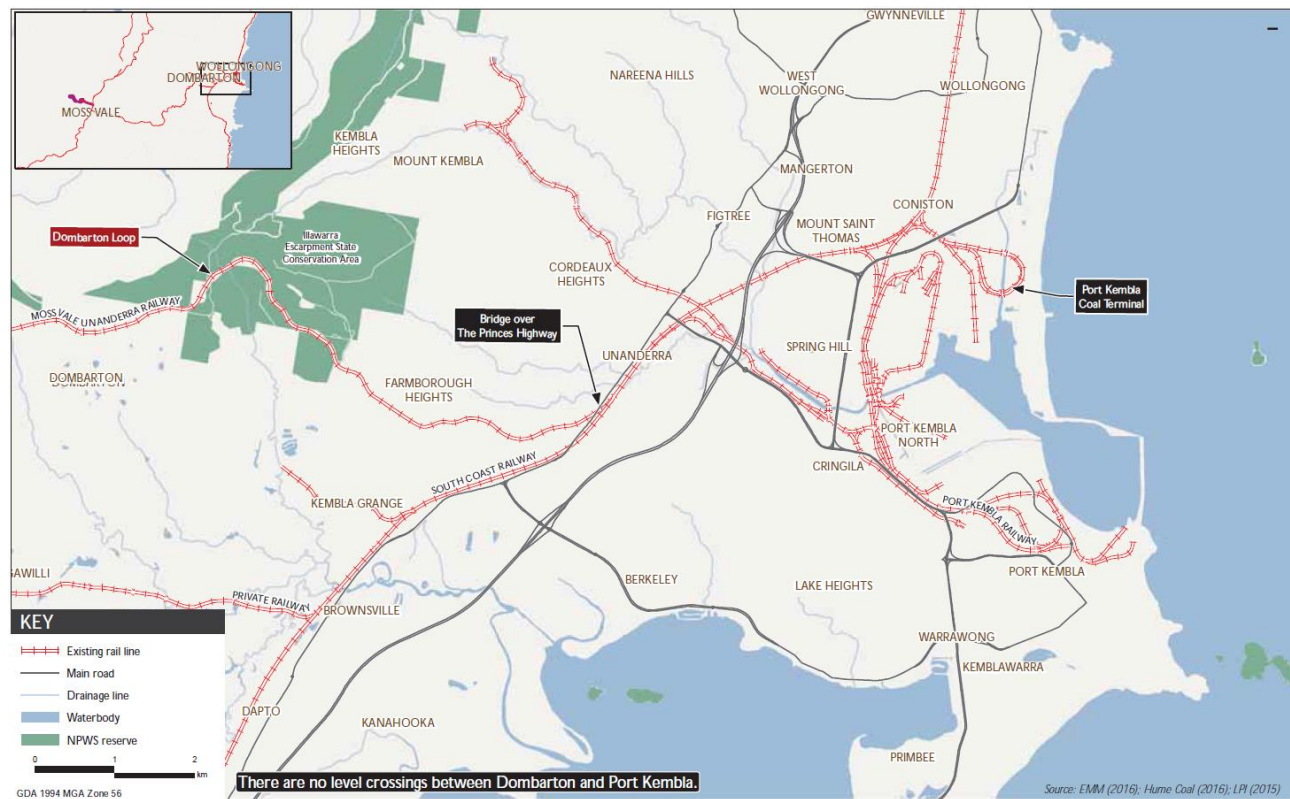
These existing daily train movements represent about 50 percent of the line's current maximum operating capacity, without lengthening any of the passing loops. However, due to the steep gradients of the line, train sizes are limited in capacity increasing the cost of transporting goods via rail along this route (EMM, 2017)

Figure 4-2 Route of the Moss Vale to Unanderra Line to Dombarton



Source (EMM, 2017)

Figure 4-3 The Illawarra Rail Line between Dombarton and Port Kembla



Source (EMM, 2017)

4.6 Strategic Location of Wingecarribee LGA for Freight

Wingecarribee LGA is situated in the middle of the Sydney–Canberra Corridor and so a region with significant potential. Linking Sydney and Canberra, the region is a key State and National corridor for transport, communication flows, goods and services. The volume and flow of goods, people and ideas represents a significant economic advantage for the region. As well as its links to Sydney and Canberra, the region enjoys ready access to Wollongong, the Illawarra and South Coast, and the south western slopes of NSW.

The Sydney–Melbourne corridor is vital to the Australian economy, as it is the busiest inter-capital road corridor. The rail corridor provides a critical standard gauge inter-capital freight link between Sydney and Melbourne. Interstate freight between Sydney and Melbourne is forecast to increase by nearly 70 percent (average growth around 2.6 percent per year) from 2,900 to 3,500 heavy trucks per day to between 5,000 and 6,000 heavy trucks per day over the next 20 years (Department of Planning NSW Government, 2008).

4.7 Connection to Port Kembla

Port Kembla is the main port for motor vehicle imports in NSW (and Australia), the leading port for steel and is a main export port for minerals and grain. Currently, approximately 400,000 vehicles are imported through Port Kembla. Volumes of vehicle imports are forecast to grow to between 540,000 and 850,000 vehicles per year by 2045. These vehicles are transported by trucks to avoid the costs of double handling (to get cars to car yards in Sydney). The end of car manufacturing in Australia in 2017 is expected to drive an increase in car imports through Port Kembla.

Grain exported via Port Kembla comes from regional NSW. Currently, the grain export through Port Kembla is at around 1.0-1.5 Mtpa in a typical year, and is forecast to at least remain equivalent with the long-term historic yearly average of 1.3 Mtpa. Grain is mostly transferred to Port Kembla through the Moss Vale-Unanderra Line. Due to the port facilities and the convenience of the Moss Vale-Unanderra line, the grain industry considers Port Kembla an efficient grain exporting port. (Illawarra Business Chamber, 2017)

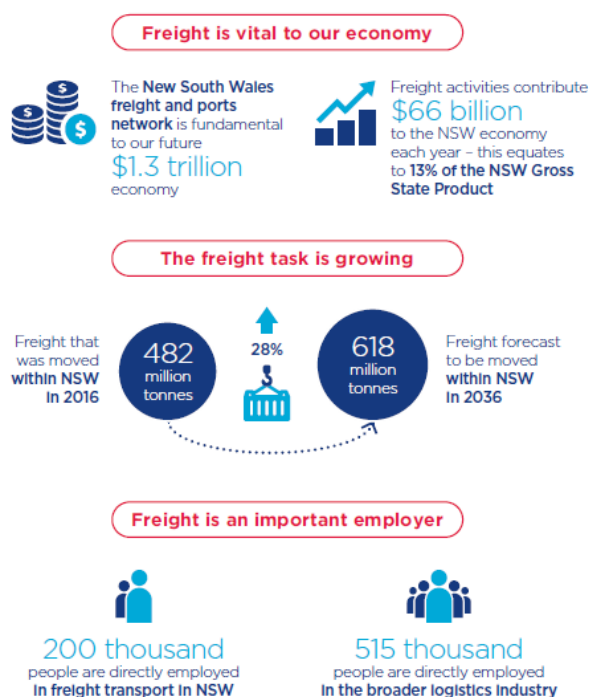


Figure 4-4 The value of freight in NSW (Source TfNSW, 2018)

Freight volumes that move within NSW are set to grow from 482 million tonnes in 2016 to 618 million tonnes in 2036. Port Kembla's major freight markets, grain and coal, are projected to experience 26.2 percent and 11.1 percent growth by 2036 respectively. (Figure 4-5) Having a direct link to Port Kembla gives the Wingecarribee LGA area a significant advantage moving forward (Transport for NSW, 2018).

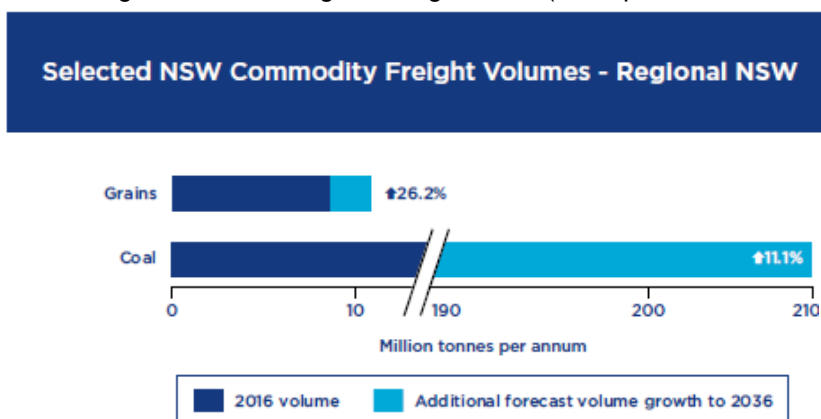


Figure 4-5 Port Kembla grain vs. coal freight movements (Source TfNSW, 2018)

4.8 Station Street upgrade

Following extensive community consultation, in 2012 Council adopted the Bowral Parking, Traffic and Transport Strategy which outlined a major upgrade of Station Street to address the long term issue of traffic congestion within the town centre.

Some of the main points in the concept design that were identified to reduce congestion included:

- One-way, low speed service road from Banyette Street to Bowral Street, providing 44 parking spaces.
- Two traffic lanes provided north and south bound.
- Upgraded car park (39 spaces) provided on western side of Station Street with new turning lane and exit.
- Traffic signals to replace roundabout and provide pedestrian links.
- Two travel lanes provided north and south bound.
- Merrigang Street converted to a carpark (28 spaces) between Bong Bong and Station Streets. Access to Station Street via Merrigang Street closed. Entry at Merrigang Street traffic signals, one way through to exit at the southern end onto Bong Bong Street.
- Two lane roundabout to replace traffic signals and improve access at Bundaroo Street with re-establishment of the right turn.

(Wingecarribee Shire Council, 2017)

Wingecarribee Shire Council initially estimated the cost to upgrade Station Street to be \$9.5 million. This estimate was undertaken in 2013 and included road works, kerb and guttering, underground service relocation including stormwater drainage, streetscaping, traffic light technology and sidewalk replacement plus lighting, footpath and carparking in Kirkham Road.

Costs associated with these features of the upgrade have all increased since the initial funding application was lodged in September 2013. Upon completion of detailed designs, a number of other aspects were identified for inclusion such as the relocation of power and extensive streetscaping (including planting approximately 100 advanced trees) which Council will now undertake.

The complete upgrade of Station Street is now estimated to cost \$16.3 million. This has been updated as part of the 2019/20 Budget to include an increase of \$1.26 million. The budget increase has been included to ensure that the estimated cost of the project reflects price movements in materials and labour which will ultimately be factored into any future works contract.

Council's current funding strategy for the project is as follows:

- \$7.5 million – NSW Government grant.
- \$2 million – Developer contributions.
- \$3.89 million – Loan borrowings.
- \$2.8 million – General Fund Capital Works allocation.
- \$0.15 million – Capital projects reserve.

(Wingecarribee Shire Council , 2019)

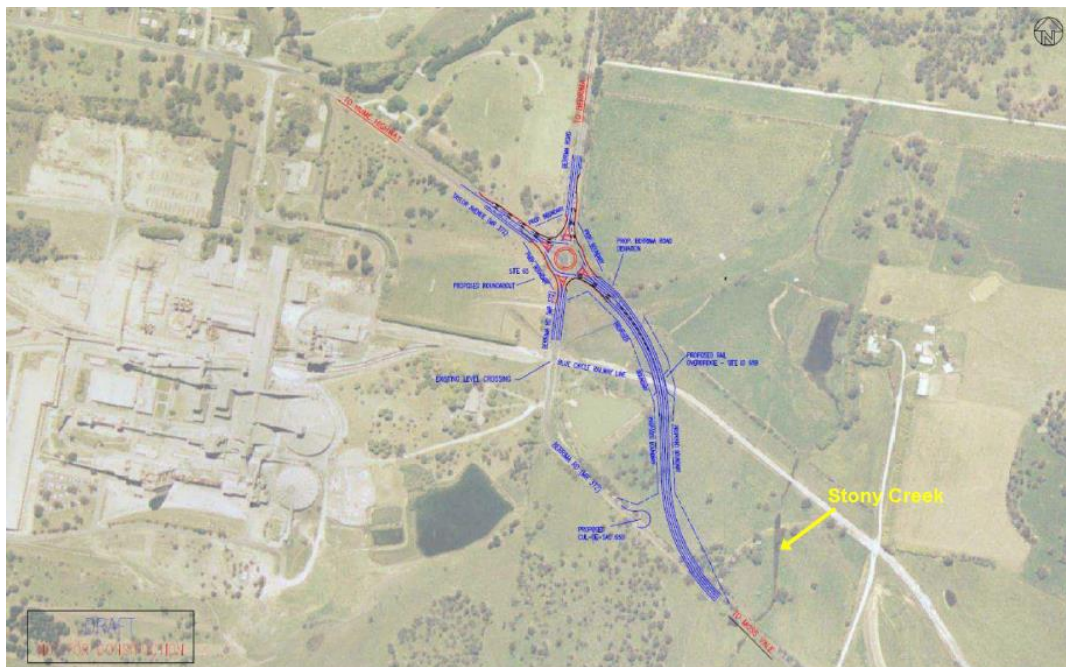
4.9 Berrima Bypass

Berrima Road (MR 372) provides a direct link between Moss Vale and the Hume Motorway (M31) via New Berrima. The project is the next stage of development for an improved link to the Moss Vale Enterprise Corridor, which is a large area of industrial zoned land that links to the Hume Motorway via Berrima Road.

Council is proposing to realign Berrima Road at New Berrima to eliminate the existing rail level crossing on the private rail line servicing the Boral's Cement Works and replace it with a rail overbridge. As part of the road realignment, the existing intersection of Berrima Road and Taylor Avenue would be replaced with a roundabout. This new arrangement would improve freight traffic flow along the road link to the Moss Vale

Wingecarribee Shire Council has received funding from the Federal Government's National Stronger Regions Fund for development of design and construction of the Berrima Road deviation. One of the key project objectives is to provide a road that will continue to be viable as a main road (RMS network) (OPUS, 2017).

Figure 4-6 Proposed Berrima bypass realignment location



The project has experienced several delays mainly due to obtaining the necessary approvals for the relocation of high voltage power lines and in completing the full detailed design for the project. At June of 2019, Council had spent \$2.2 million on the project, which primarily relates to detailed design and bulk earthworks which have been completed on the southern road embankment. In December 2018, revised project estimates were provided based on the full detailed design of the project. This identified an increase in the original project estimate of \$9.2 million (prepared in November 2014) to \$15.15 million.

Two significant factors have contributed to these project cost increases; firstly, the project scope for the relocation of the high voltage electricity services across the site has significantly altered. The original estimates from 2010 were based on a rate to place the services underground at an estimated cost of \$160,000.

Following development of the detailed design for the works in 2017, and in consultation with Endeavour Energy, these works are currently estimated at \$1.26 million (including 30 percent contingency), with a reinstatement of overhead high voltage power lines.

Other costs are due to escalation over the years since the funding application was submitted. Based on a construction cost escalation factor of 6 percent, a \$9.205 million project costing from 2014 would require cost escalation increases to \$13.06 million, or an additional \$3.85 million, for the project to be delivered during 2020.

As a result of the identified increase in project estimates and delays in project delivery; Council formally resolved to:

- Advise the Department of Infrastructure, Regional Development and Cities that due to a significant number of issues in relation to the delivery of this project, Council would not be able to complete the approved works by the 31 March 2020 deadline and would therefore have to let the funding agreement lapse.

- Undertake the necessary works to make the project “shovel ready” for future grant applications. This will include finalising the relocation of existing services, property acquisitions and topsoil and seed the constructed road embankment with an estimated total cost \$4.4 million for the revised project scope.

Current expenditure for the project to date is \$2.2 million. Based on current estimates additional works to make the project ‘shovel ready’ will cost approximately a further \$2.2 million which would bring the total cost to \$4.4 million. Council’s original budget contribution towards the project was \$4.603 million (Wingecarribee Shire Council , 2019).

4.10 Moss Vale Bypass

Whilst the proposed road has long been termed a “Bypass”, the road actually performs the function of access for the Moss Vale Enterprise Corridor (MVEC) and as a distributor road for the MVEC itself. Stage 2 addresses a number of issues as outlined below. It is anticipated that the first stage of the bypass road will be the construction of the Main Southern Rail overpass bridge linking Suttor Road (east of line) to Lackey and Beaconsfield Roads (west of line). This stage is critical for capacity reasons. Essentially, without this stage, Argyle Street through Moss Vale does not have the future capacity to cope with additional traffic volumes from the MVEC on top of predicted traffic growth from local and regional developments. Stage 2 will encompass bypassing Suttor Road connecting the over-bridge to Moss Vale Road with a large roundabout. Suttor Road will become a local access Road. This stage has specifically been designed for three reasons:

- Safety: by removing traffic conflicts between residents on Suttor Road and through traffic.
- Efficiency: by removing traffic conflicts between residents on Suttor Road and through traffic.
- Amenity: by significantly reducing unacceptable amenity impacts upon the residents fronting Suttor Road.

Stage 3 will be the connection of Stage 1 to Berrima Road including intersections (roundabouts) to connecting roads within the MVEC. This link is essentially to enable access to the MVEC as land is released and a more direct link to the ‘Stage 1’ rail overbridge from Berrima Road (Wingecarribee Shire Council , 2013).

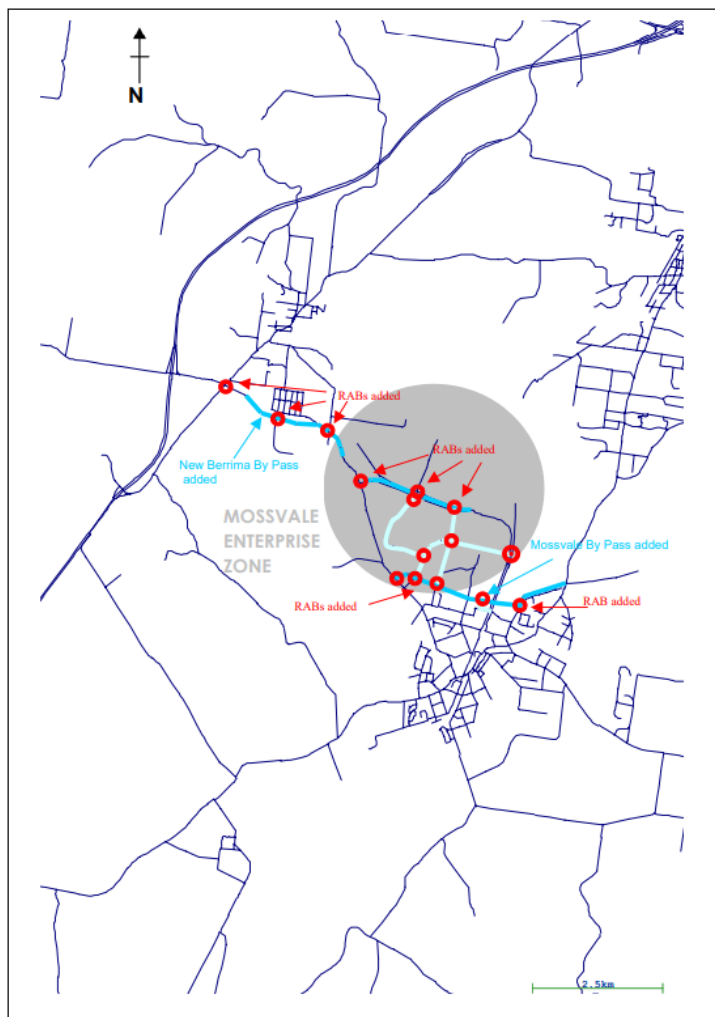


Figure 4-7 Moss Vale Bypass

4.11 Planned Upgrade of Southern Sydney Freight Line

The forecast growth in interstate, intrastate and import/export freight, particularly with the development of the Moorebank Intermodal Terminal (MIT), will place significant pressure on Sydney's rail freight network and the Southern Sydney Freight Line (SSFL) in particular. The SSFL forms a key connection between the proposed MIT and other logistics hubs. Without additional capacity when the MIT is fully operational, the SSFL could become increasingly unreliable and face capacity constraints.

The SSFL is a 36 km single line from Macarthur to Sefton. The proposed initiative involves track duplications and additional passing loops on the line. The initiative aims to support the movement of freight by rail through the city, particularly between Port Botany and the Moorebank Intermodal Precinct and a future Western Sydney Freight Line. It forms part of a broader strategy designed to sustain and drive growth in rail mode share (Infrastructure Australia, 2019).



Figure 4-8 Planned upgrade of SSFL

4.12 Western Sydney Airport

As one of Australia's only greenfield metropolitan airports in the last 50 years, the \$5.3 billion Western Sydney Airport (WSA) is a transformational project for NSW, and for the Wingecarribee LGA which is within one hour's travel by road.

Under the Western Sydney City Deal, a planned North-South Rail Line (NSRL) will link WSA through to St Marys in the north and south to Macarthur, and therefore to the Main South rail line. This ensures the railway stations within the Wingecarribee LGA will be provided a rail connection through to the airport. Travel times are unavailable for the NSRL, and currently the trip from Bowral to Macarthur takes just over one hour.

As a new international gateway to the nation, WSA will provide Wingecarribee LGA-based businesses a catalyst for economic growth and will streamline access to overseas markets, including overnight access to Asia. (KPMG, 2019).

The development of an Aerotropolis will be guided by a number of designated industry precincts, three of which are already in planning. These will support the development of key industries including aerospace and defence industries; food and agribusiness; health, research and advanced manufacturing; and freight and logistics. These will be serviced by a network of public transport and road infrastructure, with convenient access to the airport and businesses in complementary industries.

Freight and logistics connectivity will be enabled through dedicated space within the Aerotropolis, connected to key freight and logistics precincts throughout Greater Sydney. For example, the Moorebank Intermodal Company is building its intermodal terminal situated between the existing Sydney Airport and the Aerotropolis. The terminal will deliver facilities such as:

- An import-export terminal with a capacity to handle up to 1.05 million twenty-foot equivalent units (TEU) per year of international containerised freight.
- An interstate terminal with a capacity to handle up to 500,000 TEU of interstate and regional freight per year.
- Up to 850,000 m² of high-specification warehousing, where containers can be unpacked before delivery of their contents to its final destination. (Australian Government, 2018)

5 Review of Constraints

5.1 Congested Internal Roads

Local road congestion is a cause of delay to economic activity in Wingecarribee LGA. Congestion impacts the Bowral CBD, Bowral Road Mittagong and Argyle Street Moss Vale. Upgrades are made more complex by RMS ownership of roads that are a local upgrade priority. Further work is required on the upgrade of Station Street Bowral and the Moss Vale Bypass. The Moss Vale Bypass would create a second major crossing of the Main Southern Railway Line to take industrial traffic away from Argyle Street. These upgrades are required to enhance traffic flow and management while improving visual amenity and providing a platform for economic growth. Parking in Mittagong, Bowral and Moss Vale is a problem on weekends with the influx of visitors. (AgEconPlus, 2018)

Table 5-1 Level of service for rural roads definitions (RTA 2002)

Level of Service	Description
A	<ul style="list-style-type: none"> Free-flow condition in which individual drivers are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to manoeuvre within the traffic stream is extremely high. General level of comfort and convenience provided to traffic is excellent.
B	<ul style="list-style-type: none"> Stable flow in which drivers still have reasonable freedom to select their desired speed and to manoeuvre within the traffic stream. General level of comfort and convenience for traffic is a little less than that of LoS A.
C	<ul style="list-style-type: none"> Stable flow zone, but most drivers are restricted to some extent in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience for traffic declines noticeably at this level.
D	<ul style="list-style-type: none"> This level is close to the limit of stable flow, approaching unstable flow. All drivers are severely restricted in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is poor and small increases in traffic flow will generally cause operational problems.
E	<ul style="list-style-type: none"> This level occurs when traffic volumes are at or close to capacity and there is virtually no freedom to select desired speeds or to manoeuvre within the traffic stream. Flow is unstable and minor disturbances within the traffic stream will cause a traffic-jam.
F	<ul style="list-style-type: none"> This level is termed forced flow where the amount of traffic approaching the point under consideration exceeds that which can pass it. Flow breakdown occurs and queuing and delays result.

Road	Level of service	Comment
Hume Highway	A	The surveyed peak hourly directional volumes on the highway near the project area are up to 750 vehicles per hour. This volume is within the range for LoS A. Traffic is free flowing and drivers have a high degree of freedom to travel at their desired speed, subject to the speed limit.
Argyle St in Moss Vale	D-E	Surveyed peak hourly directional traffic volumes are up to 905 vehicles per hour, corresponding to the transition stage between LoS D to E, where the traffic flow is highly constrained, all drivers are generally restricted in their ability to travel at their desired speed and the traffic flow is subject to frequent interruptions.

The intersections along the Berrima Road and Argyle Street routes towards and through Moss Vale become progressively more congested towards the centre of Moss Vale. The two intersections assessed in Moss Vale (Argyle Street/Waite Street and Argyle Street/Lackey Road) are now operating with significantly congested traffic conditions during both the morning and afternoon peak hours. The Argyle Street/Waite Street intersection in Moss Vale is operating at level of service (LoS) C or D during peak hours and between 45 percent and 48 percent of its maximum capacity, with typical traffic queues of 19-27 m long. The Argyle Street/Lackey Road intersection is further congested during peak hours, operating at a LoS F, at up to 54 percent of its maximum capacity and traffic queues between 39-55 m long. (EMM, 2017)

5.2 Rail Constraints

Wingecarribee LGA is serviced by the Main Southern Line linking Sydney and Melbourne. The current service is inefficient and slow for both passengers and freight. The regional economy would benefit from improved rail links, possibly including electrification of the Sydney to Canberra rail line, with retention of a station in the Southern Highlands or investment to increase the efficiency of the existing Sydney to Canberra line. It has been suggested that policy measures should be put in place to protect a Sydney to Canberra high speed rail corridor, and current studies are underway by the state government assessing such high speed rail options. Underutilised rail stations in the Wingecarribee region provide opportunity for the creation of tourism assets. (AgEconPlus, 2018)

5.3 Moss Vale-Unanderra Line

The addition of up to four loaded and four empty daily coal train movements would increase the use to between 15 and 16 daily train movements in each direction, which will then represent about 70 percent of the line's maximum operating capacity. However, this usage level is unlikely to be reached in practice as the Tahmoor mine coal trains are likely to cease operating between 2018 and 2021, which is before the Hume Coal trains would commence their operations if the project is approved. (EMM, 2017).

5.4 Main Southern Line

Future coal and other freight trains will require gaps of about ten minutes between the existing timetabled northbound and southbound passenger and freight train paths on the Main Southern Rail Line at Moss Vale, to cross between the junctions with the Berrima Branch Line on the western side and the Unanderra Line on the eastern side. These train movements will only occur over a short (1.6 km) section of the Main Southern Rail Line. The additional train 'cross over' movements will occur during slack periods in the existing timetable and will have a minimal effect on the overall Main Southern Rail Line capacity for longer distance passenger and freight train movements. Further, the Main Southern Rail Line consists of triple track for most of the cross over distance. (EMM, 2017).

6 Positioning of Wingecarribee

6.1 Strengths

6.1.1 Proximity

Located approximately 75 km from the south western fringe of Sydney, 110 km from the Sydney CBD and International Airport, and 80 km from Port Kembla, Wingecarribee LGA is near both major demand centres and import / export hubs.

6.1.2 Transport Connectivity

Wingecarribee LGA is located on both major road and rail routes between Sydney and Canberra, with the Hume Highway and Main Southern Railway passing through it. It is also within proximity to Picton Road, the major road route to the Illawarra and Port Kembla.

6.1.3 Broad Economic Base

The LGA's economic base is dispersed across a relatively wide range of market sectors. This is a positive feature, in that the local workforce is characterised by having a range of skills appropriate to different types of industry employment needs. This strength helps to establish a buffer to structural change in the local economy where there is no specific sensitivity to the viability of one or two more market sectors.

The LGA's proximity to Sydney, Canberra and Wollongong provides a strong base for economic development. The main contributors to employment currently include tourism, manufacturing, rural activities, education, health, retail, construction and business. Existing education opportunities in the form of the University of Wollongong Outreach Centre, Innovation Campus, TAFE and a strong secondary sector can provide further opportunity for lifelong learning, contributing to the economic base of the LGA.

The LGA's main transport links are via highways and railways to the Sydney Metropolitan area in the north, Canberra and beyond to the south and Wollongong to the east. This infrastructure provides high level linkages to main markets.

The major retail centres of Bowral, Mittagong and Moss Vale service local, LGA and out of Shire visitors. Berrima has a high proportion of tourist type retailing. The remaining commercial areas within the towns and villages have more localised retailing outlets. (Wingecarribee Shire Council, 2016).

6.1.4 Water Supply

Wingecarribee LGA sits on a major catchment divide, with the south east of the LGA in the Kangaroo River catchment, the north-east of the LGA in the Upper Nepean River catchment and the more populated middle and western areas of the LGA in the Warragamba catchment. Within these major catchments lie the sub-catchments for three of the LGA's main water supplies; the Wingecarribee Reservoir (24.13GL), the Bundanoon Creek Dam (2,000 ML) and the Medway Dam (1,300 ML). (Fernandes, 2018). Mittagong, Bowral and Moss Vale are appropriately supplied with reticulated water for domestic use. Water supply is regarded as one of the region's endowments. (AgEconPlus, 2018)

6.1.5 Manufacturing

Relative to the rest of NSW, Wingecarribee LGA retains a specialisation in several manufacturing sub-sectors, including the manufacture of mining and construction equipment, lime and cement products. The region's proximity to Sydney presents opportunities for relocation of other manufacturing industries. (AgEconPlus, 2018)

6.1.6 Extractive and Mineral Resources (Sydney-Canberra Corridor)

Extractive resources, primarily hard rock quarries in Wingecarribee and Goulburn-Mulwaree, contribute significantly to the economy of the region. The major resource deposits of sand and hard rock in the northern and central subregions have the potential to supply Sydney with construction material for up to 50 years. As these resources are estimated to be in excess of 1 billion tonnes, there is significant potential to expand the present level of supply of the friable fine-medium sandstone. The location of many of these resources, near rail and freeway access and close to Australia's biggest construction materials market in Sydney, makes them particularly significant from a State perspective.

Within the region, there are a several large potential resources of hard rock. Quarry operations in the Southern Highlands currently supply approximately 8.0 percent of Sydney's construction sand and almost 10

percent of aggregate. There is potential for this supply to rise significantly with resources being depleted from deposits located within the Greater Metropolitan Region. (Department of Planning NSW Government, 2008)

The LGA also poses high-quality coking and industrial coal in the Wongawilli seam 70 m to 180 m below the area surrounding Berrima, extending from the Illawarra Highway in the south to the Belanglo State Forest in the west that is proposed to be extracted via the Hume Coal Project. The project is currently awaiting a determination from the Independent Planning Commission, which has sought further information following the release of its interim assessment report which was inconclusive on the future of the project. Up to 3 Mtpa of coal are forecast to be produced by the project if approved, which would be transported by rail to market. (EMM, 2017).

6.1.7 Rural Lands

Particularly significant landscapes include the Illawarra Escarpment, major national parks, including several significant waterfalls, picturesque farm landscapes and Mt Gibraltar in Bowral. The region's scenic landscapes are an important contributor to the character of the region, and an economic resource for the tourism industry. The strategy does not aim to lock up the rural landscape from development but to strike a balance between allowing development and change in rural areas, particularly to facilitate agricultural production, whilst maintaining the scenic qualities that are important to the Region (Department of Planning NSW Government, 2008).

6.1.8 Industrial Lands

As noted above, there are 135 ha of vacant zoned employment land mainly situated at the Moss Vale – Berrima Enterprise Corridor which provides the greatest opportunity for growth. This is well positioned near the Hume Freeway and surrounded by similar land uses. There are large parcels with favourable grades clear of any vegetation. There is also vacant land at Mittagong at both the Braemers Road and Tyree Place industrial estates. Significant opportunities exist in the form of employment lands developments and the redevelopment and renewal of existing town centres to encourage new businesses to establish or existing businesses to relocate to the region.

6.2 Weaknesses

6.2.1 Logistics

To keep manufacturing competitive in the region ongoing improvement in the road network linking Wingecarribee LGA to input supplies and markets needs to be made. Improved access to the Hume Highway at Welby south of Mittagong has been suggested as a catalyst for further economic development in the region. Furthermore, the Illawarra Highway that connects Wollongong, Port Kembla and the Illawarra's industrial base to the Wingecarribee Region requires upgrade. Accident 'black spots' between Albion Park and Moss Vale require urgent attention to support safe and cost-effective freight movement. (AgEconPlus, 2018). The roundabout upgrade at the Sheepwash Road intersection delivered by RMS in 2019 is a major step towards this being addressed.

6.2.2 Water Supply and Quality

The Wingecarribee LGA is a major source of Sydney's drinking water and has assets serviced by WaterNSW which supplies bulk water to the retailer Sydney Water. (AgEconPlus, 2018). Wingecarribee Reservoir is about 10 km south-east of Bowral on the Wingecarribee River (direct catchment 41 km²). The reservoir supplies the majority of the water used by Wingecarribee LGA, and is part of the Shoalhaven Scheme which during drought also tops up water supplies for Sydney and Goulburn. (Fernandes, 2018).

Increasing demand on water supplies as a result of urban growth in the Sydney basin will place major limits on the growth of industry, agriculture and population. Of particular significance to Wingecarribee is the fact that of the five major drinking water catchments servicing Sydney, three of them – Warragamba, Shoalhaven and Upper Nepean – incorporate areas of Wingecarribee Shire. In fact, there is no part of the LGA not located within one of these three drinking water catchments. In addition to these catchments, two areas designated as special areas by WaterNSW are also located within the Wingecarribee Shire – the

Wingecarribee Special Area, based on the Wingecarribee Reservoir, and the Fitzroy Falls Special Area, based on the Fitzroy Falls Reservoir. (Wingecarribee Shire Council, 2016)

6.2.3 Land Use Management

Referred to as peri-urban areas, they are those areas generally close to or on the perimeter of major urban areas. The viability of farming in these areas can be constrained by increased land costs which prices out new or expanding farmers, and can lead to an increase in land speculation driven by the demand for lifestyle lots in those areas of the region accessible to major cities.

The fragmentation of land adjacent to existing towns into rural residential lots and subsequent multiple future ownership can also potentially limit options for the expansion of towns and the provision of infrastructure. Devising planning responses to these issues is one of the greatest challenges for rural lands planning. A clearer understanding of the economic and housing demands driving land uses in these areas is critical. (Department of Planning NSW Government, 2008)

The relationship between the rural and residential zones is important in ensuring that rural residential conflicts are minimised. The 'twenty-four-seven' nature of agricultural life is not always immediately appreciated by new residents keen to enjoy a rural outlook. Unfamiliar noises, such as all-night sounds when calves are weaned, or tractors working all weekend during silage season, and unfamiliar odours such as fertilisers and cow pats, can cause annoyance to residents if inadequate buffers are provided between these land uses (Wingecarribee Shire Council, 2016).

6.3 Opportunities for economic growth

6.3.1 Advanced manufacturing

A stronger import market and rapidly evolving technology is driving greater need for innovation and adoption of new technology, which in turn is driving demand for advanced manufacturing across Sydney and in the Illawarra region, including the Southern Highlands. This growth will attract more knowledge based workers to the region. (Urbis, 2019).

Key opportunities for growth in the advanced manufacturing sectors servicing the greater Sydney market includes customised parts and componentry, circular manufacturing from waste materials, and data driven support services linked to real time monitoring of remote plant and equipment.



Figure 6-7 Key opportunities for advanced manufacturing servicing Greater Sydney (source Urbis 2019)

Australia has a cost advantage when it comes to complex and high value solutions that require innovation and advanced skills – around 40 percent cheaper than the US in aerospace and medical technology manufacturing. Further, customisation decreases the importance of scale economies, helping to address the limitations of Australia's small domestic market. Manufacturing industries have the potential to become a driving force for realising a sustainable society, particularly as virgin materials pricing escalate due to limited resources and increasing production and transport costs. Opportunities existing for manufacturers to tap into

recycled and recovered waste materials to diversify and reduce their total production costs, enhancing sustainability and circularity of product life cycles. A global study cited by the CSIRO in 2016 identified that 59 percent of executives believe that sustainability initiatives are improving their growth and profits, which reflects the growing market for investment into sustainable business practices.

As a result of the higher level of innovation required to develop sustainable manufacturing processes, additional opportunities exist to identify non-traditional selling and business practices, and new market segments, to further enhance the commercial benefits from sustainable manufacturing.

A further opportunity for advanced manufacturing is the connection with global value chain. The CSIRO have identified that Australian manufacturing is typically not well linked into global value chains, ranking below the OECD median in the OECD's global value chain participation index. (CSIRO, 2016).

With a shift to offshore manufacturing and global supply chains, there still remains an opportunity for Australian manufacturers to participate in global production processes, particularly for high value, small volume and long lead time specialist componentry. This allows for complex critical parts to be "made to order" reducing the need for costly inventory holdings or significant delays in sourcing from overseas suppliers. By integrating this capacity with global supply chains it also provides local agile advanced manufacturers access to R&D and skills development collaboration, sophisticated management, financing and technology systems, productivity premiums, new technologies, processes and skills from the major manufacturers that they partner with.

6.3.2 Construction Services

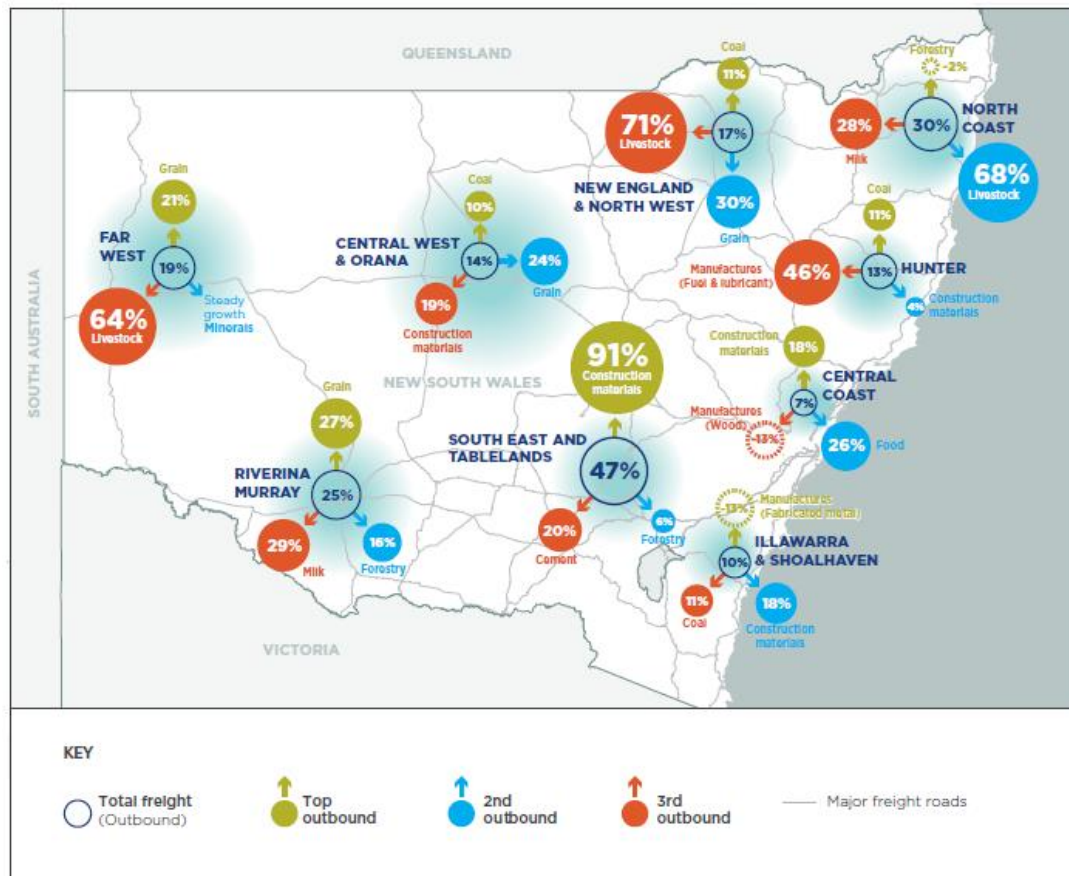
High rents in some inner to middle ring Metropolitan locations coupled with the prospect of living in a lifestyle location has made relocating to the Southern Highlands a desirable proposition. Ongoing renewal of inner-Sydney areas as a result of population growth has resulted in displacement of industrial businesses to outer areas of Sydney and to the Southern Highlands. This has been particularly relevant in the construction materials sector, where there is a distinct lack of supply in inner metropolitan Sydney areas.

Population growth itself will support a greater employment base particularly in the important service-based sector where Wingecarribee finds itself situated. The general rule of thumb for employment is that growth in housing and housing related construction alone generates 30 percent of the total employment requirement and more than half the financial economic activity. This means that the continued increase in the residential population of Wingecarribee Shire and nearby South Western Sydney will require the provision of additional local service-related jobs.

To ensure a strong and resilient economy, the LGA needs to find employment self-sufficiency in range of sectors that plays to the strengths of the local area, and needs to attract income and expenditure from outside its boundaries and also develop industries and services that serve the broader metropolitan and Asian markets.

A consistent theme of the existing industries in the region is building and/or construction. Industries include cement, concrete products, glass, brickworks, framing, and hardware, plumbing and electrical. These provide a good base of a clustering of related building products which can service the expanding residential markets in Western and South Western Sydney, Canberra, Wollondilly and the Highlands itself. Opportunities for prefabricated housing and/or modular construction could be developed in the region to take advantage of the apparent availability of raw materials such as timber (softwood), concrete and cement. This would present the opportunity of avoiding raw materials having to be transported all the way into Sydney for manufacturing (e.g. timber for house frames) – rather, just finished goods go into Sydney market.

Figure 6-8 Forecast growth in three highest outbound freight commodities to 2036



Source: Transport Performance and Analytics, TfNSW.

6.3.3 Global Trade of High-Quality Food

The world's biggest trade deal, the Regional Comprehensive Economic Partnership (RCEP), is expected to be agreed in 2019. This agreement includes the 10 members of the Association of Southeast Asian Nations (ASEAN), Australia, India, Japan, South Korea, New Zealand and the world's second largest economy, China. In doing these huge deals, the leaders of the EU, Japan, China, Australia, and Russia have recently reconfirmed their commitment to free trade and globalisation. (Hammond, 2019).

Sustainably feeding a global population of over 10 billion people by 2050 is considered one of the key challenges of our time, with predictions that more food will be required in the next four decades than all farmers in history have harvested over the past 8,000 years. Significant opportunities exist for Australia to support and capture the economic benefits from this growing demand, particularly in Asia and the Middle East. Demand is predicted to increase between 59 percent and 98 percent by 2050 in these regions respectively. (KPMG, 2019).

In addition, rising levels of income per person are anticipated to translate into increasing demand for food, both in absolute terms and on a quality- substitution basis.

Australia's food production sector has benefitted from this rise in global incomes – especially income growth in Asian economies – and pull-through demand for basic and value-added agricultural products in Asia. Over the past decade demand for Australia's farm exports has been strongest from:

- China.
- India.
- Indonesia.
- Philippines.
- South Korea.
- Vietnam.

The Asian market is expected to grow by over 750 million people by 2050. In 2017, Australia and China's two-way trade represented almost a quarter of our country's national trade, valued at \$183.4 billion. In 2017, Australia's trade with the ASEAN region grew by nearly 10 percent from 2016, reaching more than \$100 billion; this trade increase is creating demand for nutritious, protein rich, bespoke and health food products. (KPMG, 2019)

Wingecarribee LGA is particularly well placed to scale up and export its high quality foods and artisan products to these markets, where Australian specialist goods are in particularly high demand, including vitamins and sophisticated manufactured niche goods such as medical devices. Innovation in these products and processes will continue to drive demand for these exports. (Urbis, 2019)

Western Sydney Airport has been designated as a key gateway for air freight of high-value food items, e.g. oysters, truffles, honey. Increased bulk goods exports through Port Kembla will be facilitated by the planned development of a container terminal in 2040.

6.3.4 Agribusiness

The new Western Sydney Airport will offer an efficient way to get extra volumes to existing and new international markets. Together with the productive agricultural lands available in the region and Australia's reputation as a safe and reliable source of quality produce and premium products, the airport will provide the ultimate gateway to build export volumes and meet future demand. (Australian Government, 2018)

The Wingecarribee LGA's agriculture sector is a regional strength and existing specialisation producing high quality fresh horticultural produce and beef cattle. There is a growing opportunity to service and value add this produce locally, such as;

- Wine production.
- Distilling and brewing.
- Artisanal products, for example pickles, chutneys, jams, etc.
- Niche high-value produce, for example truffles, honey, olive oil.

Agricultural lands in the region should not just be seen in terms of their current values, as the region is strategically placed for long term food production. The region's capacity for the sustainable production of food and fibre, and ease of access to markets present opportunities for primary industries seeking to relocate from the Sydney metropolitan fringe. (Department of Planning NSW Government, 2008)

Beyond production there is inevitably enormous potential for value adding facilities to be included that go above and beyond any local production. This would include opportunities such as consumer ready meals, pre-packed salads, and healthy snack options just to name a few. By furthering vertical integration into the value-added category producers would likely be able to generate significant returns beyond the 'farm gate' and enable better economic yields. This will be particularly important when we consider export opportunities where verified food provenance is needed (such as targeting higher price points in markets like China). More detailed work is required in this space and should be included in future planning considerations for the development of the Precinct beyond production possibilities. (Agrology, 2018)

6.3.5 Protected cropping

Cropping carried out in controlled environments is less dependent on weather conditions and seasonal changes than field-grown production systems. Controlled environments have allowed producers to greatly increase yields, whilst reducing risk of crop failure and ensuring consistent product quality. Accordingly, these producers have become a preferential supplier of retailers. As a result, the Australian protected cropping vegetable industry has thrived, particularly in the last 10 years where the industry has seen significant investment from both corporate and medium-large private entities alike. It is not an increase in the number of growers or entities, but rather significant increase in the size of operations and the technology incorporated

There are four main vegetable species in the protected cropping sector, which are spread across all technology fronts:

1. Tomatoes: Range from low-tech tunnel to ultra-modern semi-closed glasshouse production.
2. Cucumber: Typically, low-tech poly tunnels and medium tech structures. There is an emerging presence of high-tech structures producing cucumbers, though still a small representation of the high-tech category.

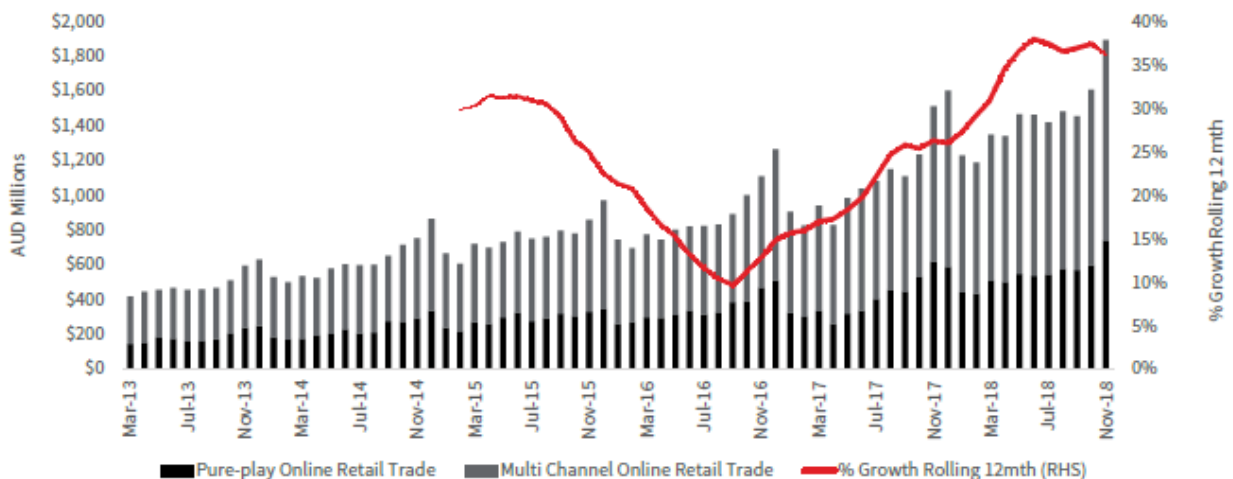
3. Capsicum: Typically, low-tech poly tunnel, a multitude of smaller growers with dominant production out of SA and Victoria. High-tech facilities exist but are generally limited to a select few growers in Tasmania and Victoria.
4. Leafy Greens (lettuce and herbs): A mixture of production systems. A lot of low tech with a few small to medium high-tech facilities. (Agrology, 2018)

The benefits of protected cropping is low water and pesticide usage, consistent produce quality and quantities, and premium pricing. It is also well suited to be collocated with renewable energy and data centre facilities that produce low grade waste heat that can be used for heating the growing atmosphere.

6.3.6 E-commerce growth

E-commerce growth continues apace with the annual growth rate of online retail at 6 percent in Australia. This has direct implications for the growth in demand for warehousing and logistics and thus driving up demand for well-located industrial land. (Urbis, 2019). According to the latest Australia Bureau of Statistics (ABS) release, there has been record growth in the online retail trade sector over 2018. The current year-on-year growth rate is just above 35 percent - the highest rate ever achieved in Australia. This has raised the share of online retail sales to total retail trade to 5.5 percent (or \$17 billion). (JLL, 2019)

Figure 6-9 Australia Total Online Retail Trade



Source: ABS, JLL Research

6.3.7 Tourism

The Wingecarribee Shire visitor economy is a mature and well understood opportunity that is supported strongly by Council's Destination team and local stakeholders, and has the potential for future growth. It includes, but is not limited to, day trips, short stays, corporate conferences and private events such as weddings. Growth in all these sectors is possible. Access to airports provides an opportunity to attract international visitors. Prestige private boarding schools provide an introduction to the area for the parents of students and there is opportunity to lengthen their visits to the region. Partnerships between schools and food, wine and accommodation providers may be possible. Wingecarribee Shire is an attractive area for equestrian events. With appropriate infrastructure, the LGA could be part of the equestrian circuit which would further strengthen the regional visitor economy. Underutilised assets such as rail stations have scope for redevelopment as tourism assets. (AgEconPlus, 2018)

6.3.8 Renewable energy

The value of rural lands in the LGA extends beyond primary production to include cultural, scenic and environmental qualities. Farmers need to be able to pursue new markets and forms of production without unreasonable restrictions on land use. More recently the region has become attractive for wind farming. This presents a challenge of balancing scenic and cultural landscape values with the potential economic benefits for rural areas and the much wider reaching environmental benefits. Wind farms add a new source of

economic activity that help to offset and improve the productivity of traditional farming activities (Department of Planning NSW Government, 2008).

With its consistent high wind levels and good access to high voltage distribution networks, the rural lands of the Region also provide significant opportunities for the establishment of wind farms. The State Plan priority E2 – ‘A reliable electricity supply with increased use of renewable energy’ has a target of 15 percent renewable energy use across the State by 2020. Protecting the capacity of the rural lands of the region to develop wind farms will be important to meeting this target (Department of Planning NSW Government, 2008).

6.4 Threats

6.4.1 Climate Change

Climate change is not only an environmental challenge, but a social and economic challenge for the region as well. Apart from the hazards associated with a more variable climate, such as droughts, bushfires and flooding and erosion from increased rainfall intensity, climate change has the potential to alter the natural ecosystems of the region. Long term planning decisions must place a high value on development options that make more sustainable use of land and resources and respond to risks associated with climate change. (Department of Planning NSW Government, 2008).

6.4.2 Globalisation and Resistance to Change

As a well-established regional community, Wingecarribee Shire rightfully prides itself on its character and history. However, in an ever changing world it risks losing relevance like so many other regional areas if it fails to adapt to global trends and playing to its unique strengths. This in turn will require change that may impact upon both the character and things that the population has traditionally valued highly, creating community unrest and fear. To successfully navigate through this the LGA will require a sound understanding of the changing global landscape, strong leadership and community engagement in order to preserve the unique heritage and culture of the area whilst embracing change in a controlled and strategic manner.

In considering future growth in Wingecarribee Shire it is important to consider the global influences that are changing the ways in which people live, use land and consume resources (Hajkowicz, Cook, & Littleboy, 2012). While there is a natural delay in the flow of the impacts of these influences from metropolitan, to peri-urban and then regional areas, recent history has shown that regional centres which are able to shift and capitalise on these mega trends in-line with Metropolitan areas are more likely to grow and thrive in an ever changing world than those who are late adopters and respond to change purely out of necessity.

- > **More for less** - The earth has limited supplies of natural mineral, energy, water and food resources for human survival and maintain lifestyles. There will be a continued shift towards sustainability and innovative solutions to address resource depletion. The LGA still has a significant portion of GRP generated from activities related to natural resources and primary production. This highlights the need to strengthen and diversify the local economy to build on current capacity and develop a resilient Wingecarribee Shire employment dynamic into the future.
- > **Going, going...gone?** - Many of the world's natural habitats, plant species and animal species are in decline or at risk of extinction. The natural environment is a significant asset for Wingecarribee Shire with its unique tablelands, rural landscape, and natural bushlands. These natural assets provide eco-tourism, recreation, health and well-being opportunities into the future. Eco and food tourism provides an opportunity to actively conserve much of the scenic and environmental beauty inherent in the LGA. The need to protect natural assets needs to be considered within the context of the nature of future urban growth and change.
- > **The Silk Highway** - Coming decades will see the world economy shift from west to east and north to south. To capitalise on these opportunities, Australia generally and Wingecarribee specifically, need to focus on enhancing food production to service a growing Asian market and strengthening education to support an expanded professional workforce. Non-specialist manufacturing operations within the LGA will face stronger competition from overseas. The special dynamic context and setting of Wingecarribee Shire needs to be identified and facilitated as the connections and means of doing business change more rapidly into the future.
- > **Forever Young** - The ageing population is an asset. Australia, and many other countries that make up the Organisation for Economic Cooperation and Development (OECD) have an ageing population. The

provision of lifestyle accommodation, and later in life, assisted living and care, provides a significant opportunity for the LGA. In addition to the provision of further retirement homes and similar facilities, there is a need to diversify housing types to ensure that older residents can age in place and continue to contribute to the community.

- > **Virtually Here** - Individuals, communities, governments and businesses are increasingly connected in the virtual world – accelerated by new responses to health and safety risks. This will facilitate virtual workplaces, be it at home or shared space. This new way to do business will put pressure on Wingecarribee Shire to be better connected, but being located on the main communications route between Sydney and Canberra provides a strategic location to support and tap into improving connectivity between these two capital cities. The challenge for Wingecarribee here is the ability to roll out and maintain high speed, reliable and sustainable connections throughout the LGA.
- > **Great Expectations** - There is a consumer, societal, demographic and cultural upheaval. There will be rising demand for experiences and importance of social relationships and place-based experiences over products. The opportunities for the Wingecarribee Shire to include development of experience based interactions, be they arts, food, craft industries, entertainment festivals or public places and leveraging off that to create aspirational products and events.

6.4.3 Digital Disruption

Another major change underway that will impact on the future of work and employment in the Wingecarribee Shire is pace of change in digital technology. Whilst providing significant opportunities to connect people across regions and countries and create new employment options locally, it also has the impact on changing and reducing employment in traditional roles that are now able to be automated or have been made redundant due to changes in technology.

The CSIRO's Data 61 Unit's "Tomorrow's Digitally Enabled Workforce" report which suggests that the rate of jobs lost to automaton in the decade to 2035 will be second only to the tumult of the GFC - but last 10 times as long. The report finds technology and automation will significantly change 73 per cent of roles (Hajkowicz, et al., 2016).

The report provides deep insight into the megatrends set to develop over the next two decades which will shape the workplace of the future. Each addresses a separate but important development.

- > Modern computing speeds mean devices can perform many tasks quicker and safer than ever before, surpassing humans in efficiency and transforming supply chains and redefining jobs.
- > Jobs of the future will be more flexible, agile and connected as technology changes employment markets. Freelancing is a large and growing model around the world and the Australian market will inevitably fall in line.
- > By 2035 workers will need to create their own roles, requiring entrepreneurial skills that will be increasingly important for everyone from small business operators to large companies.
- > The retirement age in Australia is likely to expand as population and life expectancy grow, the report says. Workplaces will be home to increasingly diverse age groups and cultural backgrounds likely requiring updated human-resource strategies.
- > Entry-level positions will require increasing amounts of skill, resulting in great demand for education and competition for labour. Australia's workforce is competing on a global scale, so the country's skills development approach also needs to compete at a global level.
- > Real job growth is likely to be in services, the report says, as the knowledge economy heats up. Besides the often quoted STEM (science, technology, engineering, mathematics) skills, social skills and emotional intelligence will become increasingly valued in workplaces, including a broad understanding of ethical issues and communication styles.

Employment areas that may experience significant digital disruption within the LGA include:

- > Health care, with increasing levels of remote and artificial intelligence based care systems
- > Aged care, with increasing levels of robotic assistance and in home care automation systems
- > Management and knowledge based workers who commute to Sydney, as remote working solutions open up global talent pools to service Australian businesses
- > Clerical and professional staff, with increasing levels of automation for routine administrative functions

- > Retail workers, as the level of online sales increase and local supply chains improve to increase the range and reduce the cost of online products available in the LGA

7 Case Studies

The following is a small set of case studies that show how industry has embraced opportunities to transform the region they operate in. These present as opportunities that could be pursued for the Wingecarribee LGA.

7.1 Sundrop Farms (Protected Cropping)

In 2016 Sundrop Farms opened a world first facility at Port Augusta in South Australia utilising sunlight and seawater to grow tomatoes. The facility uses more than 23,000 mirrors to capture sunlight and direct it to a central receiver at the top of a 127m "power" tower that drives a thermal desalination unit fed from the Spencer Gulf to irrigate hydroponically grown tomatoes.

At its peak it produces 39 MW of thermal energy, which is used for electricity, heating and making water. The combination of solar power, thermal desalination and hydroponics allows for the optimal growth of tomatoes in land that is otherwise unsuited for such crops. The use of world class greenhouse technology also dramatically reduces the amount of fertilisers and pesticides, enhancing both the sustainability of the operations and the quality of the produce. The facility produces about 17,000 t of truss tomatoes a year and holds a 10-year supply contract with Coles Australia.

The commercial facility cost about \$200 million to build, with private equity firm Kohlberg, Kravis and Roberts (KKR) investing \$100 million. (Martin, 2019)



7.2 Agriport A7 – Noord, Netherlands

Agriport A7 is the Netherlands' largest Greenhouse Horticulture Region, consisting of 850ha of land zoned for protected cropping and supporting operations. The area consists of a major greenhouse park including large scale glasshouses and open field areas to produce fresh vegetables, as well as processing and logistics entities, and 450 ha of the region has been developed to date). This area also includes 100 ha of business park, and was officially opened in November 2008. (KPMG, 2019)

The vast and affordable lands of Agriport A7 in close proximity to Amsterdam presented a unique opportunity for a collaboration between greenhouses, sustainable electricity production from solar and wind, logistical service providers and data centres. The site utilises cogeneration to heat the green houses and generate electricity that is supplied back into the national grid and is also used to power collocated data centres. This electrical power production is equal to the power consumption of more than 200,000 households.

In addition to this, almost a quarter of the total energy demand for heating of the greenhouses is supplied by sustainable geothermal heat installations, and there is a district heating system of insulated piping available in the service strip alongside the main roads that is used for heating of industrial buildings in the area. The sustainability of the precinct is further enhanced via rainwater collection from the roofs of industrial buildings which is used for irrigation in the greenhouses (Grove, 2018).



7.3 Orora Packaging (Advanced Manufacturing)

Orora proves is a global packaging manufacturer, making packaging of all types and forms, from cement bags to wine bottles and kiwifruit boxes. The company is one of Australia's most advanced manufacturers, which has seen it included in the Most Innovative Companies list of The Australian Financial Review. Orora invests heavily in smart new machinery and factories across its global operating footprint in seven different countries. Half of its revenue comes from its Australasia operations and the other half in North America.



To counter rising input costs and modest global economic growth, Orora continues to make in its \$45 million Global Innovation Initiative, particularly in new technologies to produce highly individualised packaging. As an example, its glass bottle sleeving facility in South Australia can create customised bottles in any form, size, colour or design. This allows companies to transform their bottles into a powerful marketing tool, and is also a cost reductions for Orora as it allows the use of off-coloured glass which would otherwise need to be re-melted. Other recent improvements include a new dairy-bag production line in Victoria that can digitally glue and seal bags, and a robotic kiwifruit boxes assembly line in New Zealand. (AMGC Ltd , 2019)

7.4 Lowes TC (Agribusiness)

Lowes TC is an Australian owned expert agri-science business, and global industry leader in plant tissue culture propagation. The company is situated on the NSW Central Coast and produces new plant varieties for use in a range of industries from landscaping, food production and home gardening to bio energies, land restoration and pharmaceuticals.

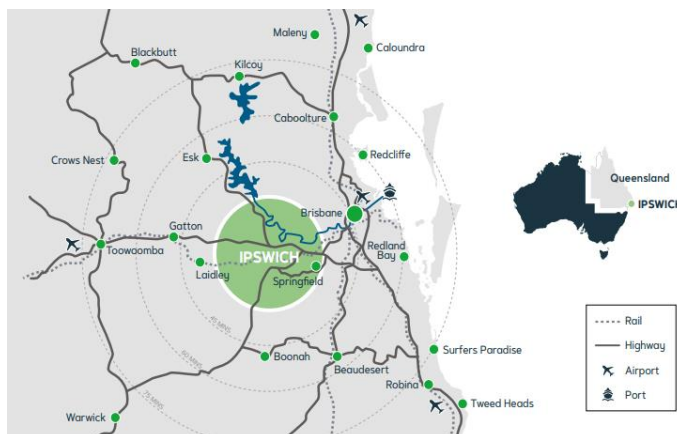
Lowes TC uses facilities based in Australia and Asia to ensure quality products are supplied to clients around the world. Lowes TC supplies over 5 million live plants every year internationally. Central Coast transportation companies and its transport infrastructure ensure that Lowes TC can successfully transport plants to both its international and domestic customer bases. The business will continue to run from the Central Coast, capitalising on the convenient location 1.5 hrs from Sydney with a skilled local workforce. Being situated in Tumby Umbi has provided an affordable business location as well as a comfortable lifestyle choice.

7.5 Ipswich (Agribusiness)

Once it was mining, farming, rail transport, manufacturing and heavy industry that fed the region's economy and employed locals. Over many decades those industries have continued to evolve and provide Ipswich with an experienced and skilled workforce. Today, traditional industries are in advanced transition as digital technology, dynamic markets and sustainable practices push innovation and improvement.

Ipswich businesses are leading this progress across many sectors including Defence, Biofutures, Advanced Manufacturing, Food Production, Transport and Logistics, Construction and Health. At the same time, Ipswich is attracting unprecedented population growth accelerated by some of the largest master planned Greenfield residential developments in the Southern Hemisphere. Rarely has an Australian city with such strong heritage and history experienced a social and economic evolution as rapid or profound as this. It is redefining the way the region operates, how the community is connected and how the city is positioned nationally.

Ipswich has one of Queensland's most sustained Manufacturing industries, yielding more than \$4.4 billion in exports and 10,000 jobs in 2016/17. Traditional manufacturing capabilities are being transitioned as technology and processes evolve towards more advanced manufacturing methods. Factors of an established industry, a skilled workforce and more suitable industrial zoned land than anywhere else in South East Queensland set Ipswich in a competitive position to increase economic and workforce outcomes in the Advanced Manufacturing industry.



Ipswich is positioned to become a Bio futures (industrial biotechnology and bio products sector) and Resource Recovery hub owing to its ideal central location within the South East Queensland region, access to transport corridors and available industrial land. The advantage Ipswich's existing energy infrastructure provides in enabling new investment in these emerging industries delivers more easily and readily activated opportunities. All of these strategic advantages and attributes that Ipswich has to offer can facilitate the creation of new businesses designed to meet the changing needs and available opportunities for waste management in the region.

Ipswich is a major food production and distribution centre for meat, poultry, fine foods, beverages. Food and Agribusiness Value Added and Export Value show these sectors have recorded steady growth over the past five years. In 2015/16 the combined Food and Agribusiness industry in Ipswich employed 4,500 people and yielded over \$1.1 billion in exports, up \$200 million over the past five years. Factors of location and accessibility set Ipswich in a competitive position to increase economic and workforce outcomes in the Food and Agribusiness industry.

In 2015/16 the combined Property and Construction industry was Ipswich's leading industry by Value Added total at \$1.6 billion per annum and the city's third fastest growing industry by Employment adding 701 new jobs over the past five years to 6,940 total. With population growth double the state and national averages Ipswich needs to accommodate an additional 319,000 people and 111,700 dwellings over the next 20 years. This high market demand, unmatched quantity of available zoned land and the continued delivery of priority regional infrastructure set Ipswich in a competitive position to increase economic and workforce outcomes in the Property and Construction industry.

Ipswich is recognised as a major warehousing logistics hub for product distribution across Australia and internationally due to its location and easy access to the western food bowl, the Port of Brisbane and Brisbane Airport. In 2016/17 the Transport and Logistics industry tracked steady growth yielding 3,500 jobs and over \$807 million in exports making it Ipswich's third largest export industry. Factors of location and accessibility, an established industry, a skilled workforce and more suitable industrial zoned land than anywhere else in South East Queensland set Ipswich in a competitive position to increase economic and workforce outcomes in the Transport and Logistics industry (Ipswich City Council , 2019).

Table 7-1 Actual and Future Estimated Economic Statistics for the Ipswich City Region

2016 / 2021 / 2026			
	2016	2021	2026
Gross Regional Product	\$8.84b	\$10.56b	\$12.24b
Exports	\$8.9b	\$10.63b	\$12.32b
Local Employment (Total)	73,078	87,258	101,157
Local Employment Containment Rate	47.1%	56.3%	65.2%
Local Workers Qualifications	36.1%	43.1%	49.9%
Visitor Arrivals (Total)	2.18m	2.6m	3.02m

Source: Id Consulting Pty Ltd

8 Conclusions

This high-level (strategic) assessment of Wingecarribee has:

- Appraised future demand and development opportunities for growing industry and commerce in Wingecarribee.
- Considered constraints and opportunities for economic growth.
- Assessed how planning regulations can be improved to favour economic development.
- Appraised current bottlenecks and planned upgrades to supporting transport infrastructure.
- Identified measures to improve conditions for existing businesses and attract further investment.

The Wingecarribee LGA is not self-contained in terms of the demand and supply of employment lands and is affected by markets from adjoining regions. It has 347 ha of existing zoned employment land, of which 212 ha is occupied by manufacturing, construction, electrical, agricultural, waste and service-based industries. About 135 ha is vacant primarily located around the Moss Vale–Berrima Enterprise Corridor, which provides the greatest opportunity for economic self-reliance in the region.

It is situated in the middle of the Sydney–Canberra Corridor which is a key state and national corridor for transport, communication flows, goods and services. The volume and flow of goods, people and ideas represents a significant economic advantage for the region. The region also enjoys ready access to Wollongong, the Illawarra and South Coast and the south western NSW.

There are several planned road upgrades including Station Street Bowral, Berrima Bypass and Moss Vale Bypass as well as the Southern Sydney Freight Line upgrade which will only help the movements of goods to and from the LGA. The regional economy would benefit from improved rail links, possibly including electrification of the Sydney to Canberra rail line, with retention of a station in the Southern Highlands or investment to increase the efficiency of the existing Sydney to Canberra line. Policy measures could be put in place to protect a Sydney to Canberra high speed rail corridor. Underutilised rail stations in the Wingecarribee region provide opportunity for the creation of tourism assets.

Upgrades of local roads will reduce congestion in the Bowral CBD, Bowral Road Mittagong and Argyle Street Moss Vale. Further work is required on the upgrade of Station Street Bowral and the Moss Vale Bypass. The Moss Vale Bypass would create a second major crossing of the Main Southern Railway Line to take industrial traffic away from Argyle Street. These upgrades are required to enhance traffic flow and management while improving visual amenity and providing a platform for economic growth. Parking in Mittagong, Bowral and Moss Vale is an ongoing problem on weekends with the influx of visitors.

A small number of case studies have been presented in which industry has embraced opportunities to transform the nature of work in the regions they operate in. Ipswich is by far the best and most relevant example with its base industries of mining, farming, rail transport, manufacturing and heavy industry evolving into digital technology, dynamic markets and sustainable practices push innovation and improvement. Ipswich businesses are leading this progress across many sectors including Defence, Biofutures, Advanced Manufacturing, Food Production, Transport and Logistics, Construction and Health.

9 Recommendations

The findings of this high-level (strategic) assessment of Wingecarribee provide a sound basis for continued growth and innovation in industry within the Southern Highlands. The recommendations flowing from this assessment are three fold, and if actioned will position the LGA well to leverage off the strengths and opportunities identified in this report.

- Focussed economic development activities.
- Planning and policy enhancements.
- Pursue enabling transport and freight infrastructure.

Successful implementation of these recommendations will require strong leadership by Council and comprehensive stakeholder consultation to provide certainty, alignment and community engagement that will allow the business community to invest within the LGA.

9.1 Focussed Economic Development Activities

9.1.1 A clear plan to grow jobs

To enhance the LGA's success in growing local employment opportunities, a clear plan to attract, nurture, support and grow business within the area is of paramount importance. Wollongong City Council undertook such an approach with its Economic Development Strategy first implemented in 2013, and recently updated in 2019. This strategy focuses on three key areas to deliver targeted and sustained job growth:

- **Strategic context** – understanding performance to date, the local region and its relationship with broader markets, key areas for change and growth, and establishing strategic objectives.
- **Achieving the objectives** – identifying major initiatives and opportunities that will prioritise job growth and economic development, and the supporting policies and role that Council can play in facilitating those opportunities.
- **Action plan** – a clear and defined set of actions to be undertaken by Council and key stakeholders to deliver on the strategy, with associated accountabilities and reporting to ensure that they are being progressed.

Without such a clear and defined plan that is led by Council, it is difficult to create the certainty, alignment and community engagement that is required to deliver substantial improvements in economic development opportunities for the LGA.

9.1.2 Improve the region's productivity

Whilst the LGA is strategically positioned between the two largest markets in NSW and enjoys ready connectivity to major transport infrastructure, sector-specific plans are required to identify industry specific bottlenecks and constraints, and grow high-value jobs to improve the region's productivity.

Such plans should also focus on industry specialisation in key opportunity areas, including advanced manufacturing, construction services, food and agribusiness and e-commerce, to ensure that they can be developed in an efficient and cost competitive manner.

9.1.3 Attract younger people to relocate to the region

As outlined in **Section 3.4** the LGA, like most of regional NSW, suffers from a lack of residents in the 20 to 44 age group. The proximity to greater Sydney, Canberra and the Illawarra combined with the lifestyle benefits provided by the LGA offer a unique opportunity for younger people to establish themselves within a short distance from the services, entertainment and additional lifestyle benefits offered by those surrounding areas, but with the space to grow and lower living costs.

To achieve this, however, the LGA needs to provide a greater amount of affordable housing options targeted at younger people, as well as the supporting facilities and services for families and young adults. As well providing a greater workforce to stimulate and support increased economic development in the LGA, an increased younger population will also bring the benefits associated with greater diversity and support for community initiatives and volunteer groups.

9.1.4 Investment attraction

Councils have an important role in promoting their local government area outside the region as a desirable place to live, work, play – and invest.

Many councils in regions that receive significant tourism visitation fund a destination marketing unit. Wingecarribee Shire Council funds and operates Destination Southern Highlands; an effective and decorated promotional team that is responsible for the highly-successful Pie Time and Tulip Time festivals.

However the promotion of a region as a place to invest or relocate a business requires a separate approach to that of destination marketing. Investment - or business – attraction involves a methodical approach to identifying opportunities, a sector-by-sector marketing strategy and a concierge-type service to secure investment.

Many councils with ambitions for the growth of their economy and the growth of jobs establish an internal team dedicated to attracting new businesses by promoting their LGA as a superior business location to investors (domestic and often international) through highlighting competitive advantages, targeting key growth sectors and in some cases offering incentives. In many cases investment attraction requires the establishment of a new narrative for a region in order to overcome invalid perceptions that may exist among investors or to spell out emerging opportunities.

An investment attraction capability should be underpinned by an economic development strategy with clear targets for growth. It should take a long-term, strategic approach to growing the economy and creating sustainable new jobs, leveraging the region's strengths which have been identified in this report **Section 6.1** as:

- Proximity to Sydney and Canberra.
- Strong transport connectivity to major rail and road networks and the planned Western Sydney Airport.
- Good water supply.
- Extractive and Mineral Resources.
- Extensive rural lands.
- Available and connected industrial lands.

Through active pursuit of opportunities outside the region and actively supporting interested investors through Council (and other regulatory) processes, an investment attraction function should be the focal point for investment in the region – in close consultation with the established private sector. It should also produce a range of promotional resources and activities, aligned to key target sectors.

The Southern Highlands' key growth sectors have been identified in this report at **Section 6.3** for Economic Growth, and include:

- Advanced manufacturing.
- Construction services.
- Global trade of high-quality food and beverages.
- Agribusiness.

9.2 Planning and Policy Enhancements

It is recommended that Wingecarribee Shire Council create and resource an investment attraction function, and if necessary explore opportunities to do so in partnership with the NSW Government and other major stakeholders.

9.2.1 Case study: Invest Wollongong

Invest Wollongong is a partnership between Wollongong City Council, University of Wollongong and the NSW Government. The partnership has a long term, strategic approach to creating sustainable new jobs and productive investment for Wollongong achieved through the facilitation of significant new business investment projects.

Invest Wollongong has been promoting Wollongong as a superior business location since 2009. It is recognised as a best practice approach to business and investment attraction and has generated significant momentum over the past decade. Invest Wollongong focusses on changing perceptions of Wollongong and attracting new businesses.

A major win for Invest Wollongong was the decision by global IT giant NEC choosing to set up their new corporate headquarters in Wollongong (see case study on page 63). Wollongong has several key advantages that make it a superior business location.

There are a number of policy levers that the NSW Government and local Council can implement to improve business development for the region. A number of recommendations are noted in the Illawarra Regional Strategy for Wingecarribee LGA including:

- Ensure that Bowral (major regional centre) is the focus for the majority of new employment land release.
- Identify and safeguard appropriate and adequate land for employment purposes consistent with projected supply estimates (75 hectares for Wingecarribee).
- Facilitate employment growth in nominated centres (including Bowral, Mittagong, Moss Vale, Robertson and Berrima) including home based employment.
- Maintain the hierarchy of Major Regional Centre (Bowral), Major Town (Mittagong & Moss Vale), Town (e.g. Robertson) and Village (e.g. Berrima) within the subregion.
- Continue to plan for the provision of infrastructure and sequencing of development in the Moss Vale Enterprise Corridor.
- Establish a framework to monitor the supply of employment lands and update annually.

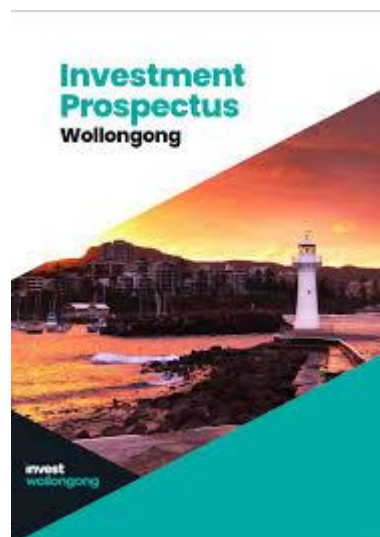
In summary, these actions comprise three principal requirements:

- Council is to maintain and support the current employment lands hierarchy and encourage employment within those centres. We note that Council has undertaken this through the appropriate zoning of land under WLEP 2010 to reflect the employment lands hierarchy and by maintaining appropriate zonings within defined locations this also facilitates employment growth in those centres. The Height of Building and Floor Space Ratio controls for each of the town centres and villages under WLEP 2010 also reinforce this hierarchy and encourage redevelopment to achieve a higher employment generation per area.
- Continue to plan for the provision of infrastructure to the Moss Vale Enterprise Corridor. We note here that Council has completed the widening of Douglas Road and installed reticulated sewer services into that area of Douglas Road east of the 'Cromford Pipe' business site.
- Establish an employment lands supply monitor. Council has not yet established an employment lands supply monitor. Such a monitor should also measure the take up, or demand, of not just traditional 'employment lands' but other forms of employment generating land, and resulting employment generated. (Wingecarribee Shire Council, 2016)

The NSW Government will support key growth sectors to revitalise the Southern Highlands and Tablelands economy including value adding agribusiness, tourism, renewable energy, and small business. NSW Industry Action Plans will be implemented to improve growth, resilience, productivity, global competitiveness and investment opportunities in tourism, manufacturing, professional services, digital economy and international education and research sectors.

The NSW Government will work with councils and the community to grow new and existing industries and create employment opportunities in the Southern Highlands and Tablelands by:

- Progressing the Moss Vale Enterprise Corridor in partnership with Wingecarribee Shire Council by identifying appropriate marketing activities to attract new business investment.
- Supporting the Southern Highlands Manufacturers Cluster including activities such as the Southern Highlands Jobs Careers Expo, school based apprenticeships and other projects to showcase the diversity and opportunities manufacturing can offer.
- Aim to address skill shortages by encouraging youth to consider manufacturing as a career choice. (Department of Premier and Cabinet, 2012).



9.3 Enabling Transport and Freight Infrastructure

Critical to the growth and diversity of opportunity in the LGA will be Council's pursuit of enabling transport and freight infrastructure, which should include:

- Investigate and advocate for improved rail connectivity – electrification of the Sydney to Canberra rail line to Moss Vale, linkages to WSA and planned upgrades to the Southern Sydney Freight Line, to enable access to employment and sustain planned housing growth.
- Expedite local roads projects – Station Street upgrades (Bowral), Moss Vale Bypass, and Berrima Bypass.
- Pursue consideration of local roads congestion with RMS – Bowral CBD, Bowral Road (Mittagong) and Argyle Street (Moss Vale), and Illawarra Highway safety improvements.

9.4 Further Focussed Study and Stakeholder Engagement

Following on from this initial situational analysis and background report, it is recommended that a further focussed study be undertaken to appraise how the LGA can leverage off the opportunities for economic development highlighted in this study, and to develop a road map for implementation in consultation with key regional stakeholders. The proposed scope for this future body of work includes:

Future Supply Analysis examining:

- How can the existing industry and commerce meet the forecast demand?
- How does the unique attributes of Wingecarribee Shire align with other future demand opportunities / trends?
- What new development can be undertaken to meet future demand opportunities?
- What are the opportunities and threats to Wingecarribee Shire in meeting future demand?
- What infrastructure upgrades / changes are required to support future growth in Wingecarribee Shire?
- What changes to policy, initiatives and planning framework are needed to enable future growth in Wingecarribee Shire

Focused Stakeholder Engagement with the following key regional stakeholders:

- Wingecarribee Shire Council.
- Department of Industry.
- Australian Industry.
- Key local businesses such as Boral, Joy Mining.
- Key industry sectors such as mining, freight and logistics, agriculture and viticulture.
- Regional and local business chambers.

Development of an Implementation Road Map which would include:

- Proposed implementation strategy.
- Prioritised list of proposed actions with associated budget costings.

10 References

- .id. (2016). *Profile id Wingecarribee employment status*. Retrieved from Profile id: <https://profile.id.com.au/wingecarribee/employment-status>
- .idcommunity. (2020). *Community Profile*. Retrieved from Wingecarribee Shire: <https://profile.id.com.au/wingecarribee>
- .idcommunity. (2020). *Economic Profile*. Retrieved from Wingecarribee Shire: <http://economy.id.com.au/wingecarribee>
- AgEconPlus. (2018). *Wingecarribee regional economic development strategy: Supporting analysis*.
- Agrology. (2018). *Production Possibilities WSA Aribusiness Precint*.
- AMGC Ltd. (2019). *Advanced Manufacturing a new definition for a new era*.
- Australian Government. (2018). *Western Sydney Aerotropolis Investor Guide*.
- CSIRO. (2016). *Advanced Manufacturing - A Roadmap for unlocking future growth opportunities for Australia*.
- Department of Industry, Innovation & Science. (2020). *Wingecarribee Shire Council - Economic Facts*. Australian Government.
- Department of Planning NSW Government. (2008). *Sydney Canberra Corridor Regional Strategy 2006-31*.
- Department of Premier and Cabinet. (2012). *Southern Highlands & Tablelands Regionable Action Plan NSW 2021*.
- Edge land Planning. (2015). *Sydney Peri-Urban Network Issues Paper*.
- Elio Jovicich, A. C. (2016). *Gap analysis and economic assessment for protected cropping vegetables in Australia*. Hort Innovation.
- EMM. (2017). *Hume Coal Project Environmental Impact Statement*. Hume Coal Pty Limited.
- Fernandes, G. (2018). *Wingecarribee Shire Council Integrated Water Cycle Management Strategy*. Wingecarribee Shire Council.
- Google. (2020). *Google Maps*. Retrieved from <https://www.google.com/maps/place/Wingecarribee>
- Grove, S. (2018). *North Amsterdam Data Center Campus Economic Impact Study*. Digital Gateway to Europe.
- Guab, F. (2019). *Global Trends to 2030 Challenges and Choices for Europe*. European Strategy and Policy Analysis System.
- Hajkowicz, S., Cook, H., & Littleboy, A. (2012). *Our Future World: Global megatrends that will change the way we live*. Brisbane: CSIRO.
- Hajkowicz, S., Reeson, A., Rudd, L., Bratanova, A., Hodgers, L., Mason, C., & Boughen, N. (2016). *Tomorrow's Digitally Enabled Workforce*. Brisbane: CSIRO.
- Hammond, R. (2019). *Megatrends of the 21st Century*. Allianz Partners.
- Illawarra Business Chamber, U. o. (2017). *Upgrading rail connectivity between Illawarra and Sydney*.
- Illawarra First/NRMA, V. L. (2018). *Upgrading road connectivity between the Illawarra and Greater Sydney*. Wollongong: Illawarra First.
- Infrastructure Australia. (2019). *Infrastructure Priority List*. Australian Government.
- Ipswich City Council. (2019). *Economic and Workforce Development Plan 2018-2019*. Office of Economic Development Ipswich.
- JLL. (2019). *Australian Industrial Investment Review and Outlook*.
- Judith Stubbs & Associates. (2017). *Hume Coal Project: Responses to Community Concerns regarding impacts on tourism*.
- KPMG. (2019). *World-class intensive integrated production hub in the Western Sydney Aerotropolis*. NSW Government.

- Martin, P. (2019, May 15). *Rural News*. Retrieved from ABC News: <https://www.abc.net.au/news/rural/2019-05-15/port-augusta-sundrop-farms-sold-to-investment-fund-morrison-co/11108046>
- NSW Department of Planning, Industry and Environment. (2019). *Employment Lands Summary Report*. NSW Government .
- OPUS. (2017). *Berrima Road Deviation* .
- Property Council of Australia; Charter Hall. (2020). *Industrial Outlook 2020*. Sydney, NSW.
- Reserve Bank of Australia. (2020, April 15). *Inflation Calculator*. Retrieved from Reserve Bank of Australia: <https://www.rba.gov.au/calculator/annualDecimal.html>
- Ryan, K. J. (2017). *The Future of Farming May Not Involve Dirt or Sun*. Inc.
- Transport for NSW. (2018). *NSW Freight and Ports Plan 2018-2023*.
- Urbis. (2019). *Industrial Land in the Illawarra Region* . Property Council of Australia Illawarra Chapter .
- Wingecarribee Shire Council . (2013). *Section 94 Developer Contributions Plan for The Moss Vale Enterprise Corridor 2013 - 2050*.
- Wingecarribee Shire Council . (2019). *Berrima Road Deviation Project - Status Update*. Retrieved from Wingecarribee Shire Council : <https://www.wsc.nsw.gov.au/future/berrima-road-deviation-project-status-update>
- Wingecarribee Shire Council . (2019). *Station Street Project - Status Update*. Retrieved from Wingecarribee Shire Council: <https://www.wsc.nsw.gov.au/future/station-street-project-status-update>
- Wingecarribee Shire Council. (2016). *Wingecarribee Local Planning Strategy 2015-2031*.
- Wingecarribee Shire Council. (2017, August). *Station Street Upgrade*. Retrieved from Your Say Wingecarribee: <https://www.yoursaywingecarribee.com.au/5122/documents/61070>

APPENDIX

A

EMPLOYMENT LAND MAPS

Employment Lands

WINGECARRIBEE LGA

Legend

-  Railway (NSW SS)
-  Major Road (NSW SS, 2019)
-  LGA Boundary
- Zoning (DPE, Nov 2019)**
-  B1 - Neighbourhood Centre
-  B2 - Local Centre
-  B4 - Mixed Use
-  B5 - Business Development
-  B7 - Business Park
-  IN1 - General Industrial
-  IN2 - Light Industrial
-  IN3 - Heavy Industrial

1:100,000 Scale at A3



 Cardno

Map Produced by Cardno NSW/ACT Pty Ltd (WOL)
 Date: 2020-02-07 | Project: 489820200173
 Coordinate System: GDA 1994 MGA Zone 56
 Map: 48982020-0173-GS-001_EmploymentLands.mxd 01
 Base map supplied by DFSI, 2018

