attachment 1

to

item 149

Draft Hawkesbury Employment Lands Strategy

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Hawkesbury City Council

DRAFT HAWKESBURY EMPLOYMENT LANDS STRATEGY

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PREPARED FOR HAWKESBURY CITY COUNCIL

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Executive summary

EXECUTIVE SUMMARY

Introduction

The Hawkesbury Local Government Area (LGA) is located in the outer north west of Greater Sydney, approximately 50 kilometres from the Sydney Central Business District (CBD). The LGA includes the Strategic Centre of Richmond-Windsor, as designated in the Western City District Plan.

Hawkesbury's employment lands are mostly located in the southern part of the LGA within the centres of Windsor, South Windsor, Richmond, North Richmond, Pitt Town, Bligh Park and Mulgrave. The rural areas of the LGA include small villages that provide population serving activities to meet the daily needs of the rural population.

Study objectives

Hawkesbury City Council (HCC) has commissioned SGS Economics & Planning to complete an employment lands strategy for the Hawkesbury LGA. The objectives of the study are to:

- Identify and review the existing employment lands in the LGA and allocate employment lands to be retained for future employment purposes.
- Identify and address challenges and opportunities for all employment lands, including tourism, business and industrial.
- Identify mechanisms to optimise constrained industrial precincts to transition to new uses.
- Investigate the opportunity for an agglomerated precinct at Clarendon.
- Prepare an Employment Lands Strategy as a guiding document for future land use planning, investment and management.

Planning policy overview

Strategic planning documents from the three tiers of government provide the context for future land use in the Hawkesbury LGA's employment lands. These plans anticipate increases in population and employment and provide guidance to stakeholders, including local councils, on where and how this growth should occur. Recommendations for the employment lands strategy should align and support the following key policy directives:

National government

- The *National Innovation and Science Agenda* supports the transformation of ideas into commercial realities; supports greater collaboration between research and industry sectors; supports more students in studying science, technology, engineering and mathematics (STEM) and attracting talent to Australia; and supports Government to find new ways of doing business.

- The Western Sydney City Deal is a partnership between the NSW State, Australian Federal Governments, and councils across the Western Parkland City including Hawkesbury.

  Hawkesbury City Council will collaborate with all levels of government, industry and the community to manage the competing needs of infrastructure. New infrastructure will leverage Hawkesbury's proximity and input to the Western Sydney Airport and Aerotropolis Precinct.

  The Western Sydney City Deal recognises that the Hawkesbury is the largest local government area in metropolitan Sydney. Further, that the Hawkesbury's landscape is defined by the Hawkesbury River and wild rivers, World Heritage areas, gorges and escarpments. The identified opportunities for the Hawkesbury is that it is positioned to leverage its unique heritage to grow opportunities in the defence, equine, agriculture, education and tourism sectors.

State government

- The *Greater Sydney Region Plan* includes a number of productivity objectives that aim to focus investment and business activity in centres; ensure centres provide a range of social and economic infrastructure to support communities; retain and manage industrial and urban services lands; and identifies industry sectors that facilitate business innovation, including RAAF Base Richmond and the Western Sydney Airport.

  Sustainability objectives recognise the Metropolitan Rural Area and its value to Greater Sydney. The objective states these areas have potential for more productive rural uses and that environmental, social and economic values must be protected and enhanced.
- The *Western City District Plan* informs local level strategic planning and gives effect to the *Great Sydney Region Plan*. Key planning priorities include growing investment, business opportunities and jobs in strategic centres; and better managing rural areas.

  Richmond-Windsor has been designated as a Strategic Centre for the Western City District. Specific actions for the Strategic Centre, to be delivered by Hawkesbury City Council in partnership with relevant government agencies, include:

  - **Action 65a.** Support complementary land uses around the agglomeration of education and defence uses in Richmond.
  - **Action 65b**. Support master planning processes for Richmond and Windsor that encourage new lifestyle and entertainment uses, employment opportunities, activate streets and places, grow the tourism economy and respect, and enhance, the significant heritage value and assets.
  - **Action 65c**. Facilitate the attraction of office/commercial floorspace and provide opportunities to allow commercial and retail activities to innovate, including smart work hubs.

  Job targets applied to the Strategic Centre are 12,000 jobs as a baseline by 2036, or 16,500 as a higher target by 2036. These job targets come from an estimated base of 10,300 jobs in the Strategic Centre in 2016.
- *Future Transport 2056* presents a long-term vision for the transport network in NSW. A key component of future transport planning is to support the '30-minute city' aspiration where more residents in Greater Sydney will live within 30 minutes of their work, education and services facilities.
- The *NSW Food and beverage manufacturing industry development strategy* aims to promote a number of industry related initiatives in NSW given recent demand for Australian food and beverage products, particularly to Asia. Initiatives that are support by the NSW Government include:
  - Collaborating for commercial advantage
  - Creating a fit-for-purpose workforce
  - Advocating for the industry and supporting its development
  - Accelerating small and medium enterprise growth in niche and emerging markets
  - Helping attract investment and boost access to international markets.

Local government

- The *Hawkesbury Community Strategic Plan* indicates that future planning needs to address the vibrancy and amenity of Richmond and Windsor; develop the tourism industry; build on the industry strengths of the Hawkesbury; and support the RAAF and its activities, as these are considered important by the community.
- The *Hawkesbury Destination Management Plan and Action Plan* indicates future development of the tourism industry should align with four product pillars: food-based products, heritage and cultural product, nature-based product, and supporting facilities.
- The *Hawkesbury Employment Lands Strategy (2008)* included recommendations that supported renewal and amenity improvements in key centres; considering industrial land expansion aligned with demand and boosting LGA speciality industries in agriculture,

defence and tourism.

- Hawkesbury City Council has also undertaken a Rural Lands Strategy as part of its suite of background studies (including this Strategy) to inform the Hawkesbury Local Strategic Planning Statement and identify potential amendments to planning provisions including the Hawkesbury Local Environmental Plan 2012 and Hawkesbury Development Control Plan. Whilst this Employment Lands Strategy identifies the significance of Agriculture to the Hawkesbury economy, the Hawkesbury Rural Lands Strategy provides a more in depth consideration of the environmental, social and economic values of the Hawkesbury's Rural Lands.

Hawkesbury profile

High-level employment structure

Hawkesbury's employment precincts contained approximately 20,900 jobs in 2016. Population-serving[1] jobs were the most significant, accounting for about 39% of total jobs and are well represented in most employment centres across the LGA. This was then followed by Health and Education (23%), Industrial (20%) and Knowledge Intensive (18%) jobs.

There has been a contraction of industrial employment in the LGA in the last Census period which reflects a broader trend in the Greater Sydney economy. Comparative proportional change in industrial employment for residents between 2006 and 2016 suggests a fall of approximately -5.5%. Knowledge Intensive employment for residents declined by approximately -1.5%, while Population Serving employment rose by just over 4% for the same period. The decline in industrial employment has implications for future land use profiles in traditional industrial areas.

The fall in knowledge related employment, against the background of strong performance in this sector in Greater Sydney, suggests a response is needed to improve the commercial land offering in Hawkesbury's centres. Much of this activity in the Hawkesbury will still be classed as 'population-serving commercial' activity (for example, local accountant and law firms). Population Serving industries throughout the LGA should continue to be nurtured to support the growing tourism industry and to provide for the changing resident profile (for example, provision of smaller health services in centres; and cafes and restaurants that link to tourism branding).

A significant number of residents live and work in the LGA. Across all broad industry categories (Knowledge Intensive, Health and Education, Population Serving and Industrial), more locals worked in the Hawkesbury LGA than any other LGA in Greater Sydney. Given a significant number of residents live and work within the LGA, strategy recommendations should support improved connectivity and amenity in town centres for local residents.

High level demographics

SGS Economics and Planning have also undertaken a Hawkesbury Demographics Study to inform the Local Strategic Planning Statement and background studies.

Hawkesbury LGA is a slowly growing community. Over the past ten years, the population has increased by an additional 4,034 people (compound average growth rate of 3.28%), lower than Greater Sydney's compound average annual rate of growth which is 8.47%.

Hawkesbury has an ageing population profile that is broadly in line with most of Greater Sydney. However, Hawkesbury has a larger proportion of Retirees and Mature Adults compared to Greater Sydney and the Western District and inter-Censual change indicates a more pronounced ageing trend. While still slightly lower, the LGA does have comparable proportions in the 'Youth' and 'Children' categories compared to Western Sydney.

With an ageing profile, recommendation should ensure town centre development supports mobility and access to social and essential services (access to food, health and administration services). Furthermore, recommendations that support the development of co-working spaces; support the building of STEM and agribusiness research; and curating industrial lands that are relevant to the needs of local workers will assist in retaining or attracting a younger population to live/work/study in the area.

Industry sectors and 'economic anchors'

- **Agriculture.** When compared to Greater Sydney, industry specialisation analysis (location quotient) highlights the strong specialisation of Agricultural, Forestry and Fishing for the LGA. The LGA's Agricultural activity is a defining feature of the area and one of the pillars of the local economy which should continue to be supported by strategic planning.

  Agriculture is a key industry for the Hawkesbury LGA economy with an estimated value of production of $158.7 million (2016). This equates to 19.7% of Sydney's peri-urban food bowl (second only to the Central Coast region) and 1.2% of the NSW value of production.

  The Metropolitan Rural Area (MRA) policy indicates that more productive uses of these land should be considered as long as environmental, social and economic values are maintained. The greatest challenge will be managing land use conflicts between agriculture and rural-residential uses in the region. Maintaining buffer areas will be key to avoid such conflicts.

  Opportunities to support the growth of the agribusiness industry; grow fresh food processing capabilities and develop tourism centred on agriculture/food/nature exist for the Hawkesbury LGA. These opportunities would be more sensitive to the MRA while being relevant to the economic, social and environmental values of the land.

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[1] Such as 'Accommodation Cafes & Food' and 'Retail Trade'

- **The freight network.** A liveable city is one that has an efficient freight system embedded within it. High domestic population growth rates, new technologies, global sourcing, increasing import substitution, and changing consumer habits and expectations are driving big changes in demand for freight in Australia and across the world.

  Access to transport infrastructure generates a range of benefits to the agriculture sector and related food manufacturing businesses in relation to exports of goods or products. Freight and logistics businesses value close proximity to motorways and major highways to lower transportation cost of goods across Australia.

  In the next few decades, major infrastructure projects will impact Greater Sydney and change the way freight moves in, around and out of the city. The following transport projects create an opportunity for Hawkesbury to efficiently move fresh food produce in and out of the LGA and to Western Sydney Airport for export:

  - Outer Sydney Orbital
  - 1951 corridor for the Bells Line of Road Castlereagh Connections
  - Western Sydney Airport and the Aerotropolis
  - Ports (Port Botany, Port Kembla and Port of Newcastle) and connection to Inland Rail.

  For the Hawkesbury LGA, this could result in growth of agricultural industries requiring good transport access and export access at WSA. This would support more jobs opportunities in the LGA.

  There will be potential for industrial land in the LGA to be used for logistics and storage of fresh food freight (local or regional). There may also be opportunities for a new industry focus for fresh agricultural food processing – preparing the produce for domestic and international consumption.

- **Education.** The Hawkesbury Campus of Western Sydney University (WSU) contributes significantly to the local economy. As of 2016, the tertiary education industry accounted for 547 jobs in the LGA. The Hawkesbury campus attracts approximately 2,610 students which was about 5.4% of the total student population in 2018.

  In the future, the WSU indicated they are seeking to develop Hawkesbury's position as a leading peri-urban centre in economic sustainable regional development and allow agricultural-related businesses to grow, creating new economic opportunities. Developing an agri-knowledge precinct and fostering strategic partnerships with local stakeholders in the Clarendon area are key aspirations.

  The TAFE has a focus in horticulture, agriculture, veterinary science, floristry, equine industry (certificate III in horse racing). The TAFE has a strong focus on community and community industry and creates a clear education pathway from the agricultural high school.

  The NSW Government has announced that it is investing in the development of agricultural education pathways for students. For Richmond High School it is anticipated that students will be able to apply for entry to an agricultural education speciality stream in 2021.

Education entities in Clarendon are focussed on developing clear career pathways for students into agriculture and agribusiness. Council can support this work and facilitate high-level collaboration to ensure co-ordination of strategies, ensure a flow of information and to provide clarity around the future direction of Clarendon.

- RAAF Base – Richmond. The Royal Australian Air Force (RAAF) Base Richmond is the centre for logistics support for the Australian Defence Force (ADF). The Base includes several units which support and provide education, training and defence services. Alongside RAAF defence personnel, there are other aerospace entities at the Base. As of 2016, the defence industry accounted for 601 jobs in the Hawkesbury LGA.

  The RAAF has a number of local linkages where local suppliers and trades people provide repairs on the Base and on defence housing when a national supplier is not required. Defence housing is scattered in a 25km radius around the Base. With the defence force living in the LGA, many interact with local business. The RAAF also runs a number of job experience days and school camps to encourage a career pathway in the Airforce with the youth.

  The RAAF is a unique presence in the Hawkesbury LGA that is aiming to support the growth of STEM capabilities in the LGA and develop a heritage museum on RAAF land. Future planning actions should support these ventures.

- Equine. There are three major thoroughbred training facilities in the Western Sydney region (Warwick Farm, Rosehill and Hawkesbury). Approximately 26% of all thoroughbred training activity for NSW is located at one of these three facilities. The value of the racing industry (thoroughbred, harness, greyhound) in Western Sydney is substantial at $454.9 million, a contribution of 13.5% of the NSW total.

  The equine industry in Hawkesbury is supported by a network of local infrastructure entities. Engaging and investigating the needs of this industry and how they can work with other stakeholders in the Clarendon precinct will be an area of work for Council as part of ongoing economic development activity.

- Tourism. Tourism plays an important role in the NSW economy. Greater Sydney welcomes approximately 3.75 million international visitors who spend $9.03 billion a year. In 2018, there were 722 tourist related businesses listed in the Hawkesbury LGA.

  Nature-based and food and wine tourism are strongly represented in the NSW tourism economy. Hawkesbury LGA has strengths in agriculture, fresh food production and benefits from its natural setting. With existing directives in strategic plans that support the development of tourism in the region, Hawkesbury also has an opportunity to also contribute to nature-based and food and wine tourism.

- Employment floorspace – gap analysis. Employment land uses (retail, commercial and industrial) are concentrated in the south-eastern portion of the Hawkesbury LGA. Most activity occurs throughout the Strategic Centre of Richmond-Windsor.

  Floorspace demand modelling suggests there is no projected capacity shortage for future provision of retail, commercial or industrial floorspace in Hawkesbury LGA under permissible or practical scenarios out to 2036. In light of these projections, recommendations in the Strategic Framework section focus on the monitoring of activity and planning for small additions (in the medium to long term) for additional floorspace.

  For retail floorspace, additions will also be dependent on changes or growth of the tourism industry. These will have the potential to accelerate floorspace demand and should be monitored. For industrial floorspace, any additions to floorspace will be dependent on growth of the agribusiness/food manufacturing industry that may create more demand.

Industry trends and emerging business opportunities

Retail and commercial

- **Online Retailing.** Online retailing has impacted the 'bricks and mortar' retail landscape. For Hawkesbury LGA, this is particularly relevant to the traditional high street retail centre of Richmond and Windsor. Strategies to draw 'foot traffic' and spending back to high streets and town centres is required. The challenge for these areas is to provide an experience for shoppers that is more compelling than the online shopping experience. Solutions may include the encouragement of service retail (such as cafes and restaurants), improved streetscape/urban design, greening and shade on the main pedestrian routes, and co-ordination of public events, etc.

- **Café culture and experience dining.** In 2018-19, the café industry was estimated to be worth $9.8 billion. While outdoor dining remains popular, the Property Council expects restaurants will need attract diners out of the comfort of their own homes with the rise of services such as UberEats and Deliveroo. Eating out will need to become a more complete experience, where the attraction is no longer just about the food but will also become a value-add opportunity for education, sustainability, growing, tasking, listening, learning, hands-on experiences, music and entertainment.

  Food destination precincts, farm-to-table businesses and 'experience dining' are an opportunity to generate activity in town centres as well as generating employment. The benefit for Hawkesbury is that a number of the key attributes already exist, i.e. access to fresh, local produce; a natural setting; and space for 'experience dining' style businesses.

  Development of these types of precincts can attract visitors, boost tourism expenditure and the night-time economy. Richmond and Windsor centres could offer particular opportunities.

  The Liveability Project seeks to rejuvenate the town centres of Windsor, Richmond and South Windsor via public domain works. Coupling urban design revitalisation alongside business development that celebrates local food and producers may assist in generating town centre activity and spending.

- **Fine grain retail experience spaces**[2]. A fine grain high street shopping experience offers a more unique retail experience for visitors with a mixture of small local businesses and boutiques with community facilities and public open space. The suburb of Springwood in the Blue Mountains is an example of a suburb that contains fine grain retail development.

  The high street of Richmond faces competition from Richmond Marketplace. The high street of Windsor suffers due to its length and sometimes low-quality presence. Coupled with these issues, is the pressure from high-end neighbouring retail centres outside of the LGA (current and forecast) and the growth in online retailing.

  Supporting fine-grain activity, alongside public domain improvements, may assist in drawing spending back to the high street in these centres. There is a real opportunity for retail activity in these centres to better reflect the character of the Hawkesbury LGA and its intrinsic assets for business activity – the natural environment, local growers and food production and the heritage character of Richmond and Windsor.

- **Co-working spaces**[3]. A co-working space in Hawkesbury LGA could offer solo business operators or 'footloose' operators who work from home a different and collaborative environment from which to operate their own businesses and work remotely. Council can work with local business owners or landlords to actively find vacant floorspace, particularly

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[2] Fine grain built-form involves shop fronts at a human scale, usually in the context of a main street or high street

3 Co-working spaces are generally shared workplaces that are used by professionals working in different knowledge related industries, often freelance and self-employed workers. Co-working spaces tend to include a variety of office space options that can be rented. Spaces can also be used to hold formal and informal events, such as talks, event evenings, yoga classes or creative purposes like photography and art studios. Co-working spaces are seen to foster collaboration (one of the key elements required to drive innovation in business practice) with people working across firms and spreading ideas

in centres with high vacancies, to locate co-working uses and support small work groups. Retail vacancies are an ideal location due to their good accessibility and likely provision of kitchenette facilities.

- **Tourism.** Arts and culture-based tourism, food and wine centred tourism and nature-based tourism are all strongly represented within the NSW visitor economy. For example:
  - ‘Art of Lunch’ is a short-term food and cultural event run the Blue Mountains which aims to showcase local talent and skills through food, artwork and music.
  - Byron Shire Council is currently developing a tourism strategy with a sustainability focus. There are a number of businesses in the Shire that promote the concept of sustainability, such as The Farm a restaurant that ‘grows, feeds, educates and gives back’.

  Hawkesbury LGA could develop similar tourism ventures, celebrating its distinct attributes, when growing its industry.

Industrial lands

- **Changes in freight transportation.** With the growth in online retailing and raised expectations for speedy delivery, ‘last mile’ logistics has become a priority. This places greater value on logistics, industrial services and dispatch land uses that are in the right areas on the transport network with respect to access to suppliers and customers
- **Creative uses.** In some parts of Greater Sydney, there has been a shift in the types of operators that are normally seen in traditional industrial areas. Smaller, creative operations have started moving in, often attracted by the cheaper rents. These businesses can include microbreweries, artists and bespoke craft operations. While these new creative businesses bring vitality to industrial land use zones, there can be associated risks, such as increasing land values driving out industrial uses; competition with traditional retail centres; and traffic congestion due to visitors to site.
- **Agribusiness[4] & sustainability.** There has been increased attention on agribusiness in recent years firstly, due to the rise of the middle-class in China that has increased demand for exports in food and fibre, and secondly, due to greater domestic consumer involvement, interest and attachment to food and its source of production.

  This presents an opportunity, not only for primary producers, but also for NSW’s food and beverage manufacturers to enhance production, improve food security and sustainability, add value and better connect with the global marketplace.

  With agriculture as a key industry for the LGA and future transport projects affording greater access and efficiency to Western Sydney Airport, there is an opportunity for Hawkesbury to ‘fill-the-space’ between growing produce and export to market, by developing fresh food processing capabilities within the LGA, particularly those with a sustainable intent given the current drive to reduce waste and plastics.

  Local businesses analysis indicates only a small number of these types of businesses exist, there could be potential for growth. Bringing local producers, innovative food processing companies and WSU together, Council could help facilitate research and development with stakeholders and help overcome the ‘fragmented’ industry approach.

  Hawkesbury City Council has also undertaken a Rural Lands Strategy as part of its suite of background studies (including this Strategy) to inform the Hawkesbury Local Strategic Planning Statement and identify potential amendments to planning provisions including the Hawkesbury Local Environmental Plan 2012 and Hawkesbury Development Control Plan. Whilst this Hawkesbury Employment Lands Strategy identifies the significance of Agriculture to the Hawkesbury economy, the Hawkesbury Rural Lands Strategy provides a more in depth consideration of the environmental, social and economic values of the Hawkesbury’s Rural Lands.

  The Western Sydney City Deal recognises that the Hawkesbury is the largest local government area in metropolitan Sydney. Further, that the Hawkesbury’s landscape is defined by the Hawkesbury River and wild rivers, World Heritage areas, gorges and escarpments. The identified opportunities for the Hawkesbury is that it is positioned to leverage its unique heritage to grow opportunities in the defence, equine, agriculture, education and tourism sectors.

- **Innovation precincts.** Research suggests there are key five elements required when developing an innovation precinct: a density of firms; research anchors; collaboration; amenity in the public domain; and infrastructure that supports connectivity and facilitates productivity.

  Innovation precincts in Greater Sydney tend to be clustered around the Central Business District and inner suburbs as opposed to outer areas such as Hawkesbury LGA.

  Clarendon does contain Western Sydney University – a research anchor - one of the key elements for an innovation precinct. As a long-term prospect only, Council could investigate whether an innovation precinct is feasible in the future. In the short term however, working to build collaboration between Clarendon entities in relation to agribusiness and STEM is recommended.

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[4] Agribusiness relates to all enterprises around agricultural production. It can include the business of agrichemicals, breeding, crop production, processing, storage, distribution and seed supply

Strategic framework

Vision

Richmond-Windsor will develop as the major Strategic Centre for Hawkesbury LGA and primary retail and commercial centre with high amenity built-form and streetscapes.

Smaller centres throughout the LGA will continue to support the day-to-day convenience retail of the local population and local service needs in their immediate catchment.

The **Clarendon agglomeration precinct** will continue to provide its unique education and public administration function and strengthen the agribusiness and STEM profile of the region.

The **industrial precincts** of the Hawkesbury LGA will offer a diversity of high-quality lot sizes to cater to the variety of industrial and urban service businesses wanting to locate in the local area.

Tourism will leverage the agricultural, local fresh produce and natural attributes of the Hawkesbury region. All centres in the LGA will support the unified tourism brand around local produce and developing related activities and business opportunities.

The Hawkesbury LGA is a unique place. It has a range of centres and villages that provide the daily retail and commercial needs of the resident population. The LGA has a wealth of agricultural and natural environmental assets but also a significant expanse of industrial lands which are important and valuable for the functioning of the LGA and indeed Greater Sydney more broadly.

The Hawkesbury has a distinct character and heritage that has, thus far, been retained. It is in close proximity to the Sydney metropolis core, and yet far enough away that its natural, rural setting remains a prominent attribute. The LGA contains the RAAF and WSU, two entities that bring distinct skills, talent and knowledge to the LGA - making it very different from most other LGAs in Greater Sydney.

When it comes to employment lands, Hawkesbury LGA has diversity and solid building blocks from which to grow and leverage further activity. But it also has a number of elements that need to be retained, nurtured and celebrated.

A key focus for the employment lands of Hawkesbury LGA is about addressing the quality of what already exists in employment centres; generating momentum in key industries (such as agri-business, fresh produce processing and sustainability, tourism, fine grain retail, smaller commercial operations); making better connections between existing ‘economic pillars’ (such as boosting food related tourism); leveraging the wealth of unique assets that currently exist; monitoring the need for additional floorspace – while also ensuring the changing needs of the local population are met by town centres and villages.

The Strategic Framework in section 5 of this report, builds on the implications and opportunities that have been discussed in this paper, and presents a number of planning principles and recommendations for the employment lands of Hawkesbury LGA.

The Liveability Project; Economic Development Strategy; tourism work progressed by the Hawkesbury Visitor Economy Advisory Committee; and the Rural Lands Strategy can also progress a number of these opportunities and recommendations.

Target industry sectors and employment targets

As part of the employment lands study, qualitative and quantitative analysis indicated that the following industry sectors should be targets to help grow employment in the LGA, and support the needs of local residents:

- **Agribusiness:** working with stakeholders in Clarendon to progress the agricultural strength of the LGA and developing new research, development, employment and career pathways for local residents and students, particularly in relation to sustainable fresh produce processing. The Hawkesbury Rural Lands Strategy provides further detail with respect to opportunities.
- **Supermarket, hospitality and bulky good floorspace:** as population projections and retail spending analysis indicates these types of commodity goods will be in the most demand in the future
- **Small scale healthcare providers:** to support the local population as it ages
- **Small scale commercial services:** such as local accounting and law firms, that provide a 'population serving commercial role' in centres
- **Light industry and urban services:** given the wealth of industrial lands in the LGA but the competition from other industrial lands in Western Sydney that are better connected, focus should be towards developing a diversity of lots and attracting smaller operators
- **Tourism:** given the existing strategic intent in planning documents to grow this industry and the wealth of assets (nature/fresh produce/heritage) that already exist in the LGA that can be leveraged.

Employment growth projections indicate an additional 5,166 jobs are expected in the LGA by 2036. This means the baseline job target in the Western City District Plan would be achieved (i.e. beyond the additional +1,700 jobs). To achieve the higher job target (+6,200), there would be a need for additional floorspace (+7,846 sqm), beyond the provision in current planning controls. To cater to additional floorspace needs, recommendations include consideration of shop top built form in retail and commercial centres, particularly along high streets with appropriate setbacks and maintenance of heritage features, and expansion of the B zone around Windsor Station. Expansion areas for industrial lands in Mulgrave have also been included for consideration.

Overarching planning principles

A number of overarching planning principles have been identified to guide future planning for the employment lands of the Hawkesbury LGA. These principles aim to protect and celebrate the unique attributes of centres in the Hawkesbury, as well as ensure good amenity and access to services for local residents and visitors:

- **PP1 Ensure public domain improvements are high quality:** permeability/connectivity of the urban form should be encouraged allowing for the ease of movement. Fine grain-built form should also be encouraged to help make centres more interesting and attractive places for people to spend time and shop.
- **PP2 Ensure the public domain is sensitive to the needs and mobility of local residents:** urban design features could include wide and flush pavements; appropriate lighting features; shaded areas with seating to rest; accessible and safe connections to modes of public transport; communal and green spaces to socialise and interact; and passive surveillance measures (for example, highly visible pathways, permeable fencing).
- **PP3 Encourage well-designed mixed use that protects the character and heritage of high streets:** encourage landowners and businesses to maintain and celebrate any heritage value in their properties and the built form. It is a valuable asset for the LGA that could attract visitors.
- **PP4 Support the 'greening' of the centres:** Increased 'greening' of the centre will have multiple positive impacts. It will help combat the effects of climate change and rising

temperatures, contribute to the Greater Sydney urban tree canopy, as well as improve the amenity of the town centre and may also help to attract local shoppers back to the high streets.

- **PP5 Retain and manage the industrial and urban services lands:** recognising the important role industrial and urban services land plays for Greater Sydney, the IN1 and IN2 zones should be safe-guarded. Consider expansion of industrial lands as appropriate to meet demand.
- **PP6 Reinforce the tourism brand/program in the character of the key centres:** build the tourism brand into the key centres of the Hawkesbury and leverage the economic development potential. For example, attractive features in the centres landscape could reflect the agricultural/food systems/nature theme, and linking business opportunities with the theme, such as farm-to-plate cafes and restaurants.
- **PP7 Any development around the tourism economy in the Hawkesbury should minimise impact on the natural setting of the Hawkesbury and rural lands***:* given its importance to the local community and State policy designation to protect and enhance Metropolitan Rural Area.

Place-based planning recommendations

Based on the analysis conducted as part of the employment lands study and the overarching planning principles for the LGA, the following twenty-five place-based recommendations have been formulated for key employment centres in the LGA, including Richmond, Windsor, South Windsor, Clarendon and Mulgrave.

Short term recommendations would be approximately 0-5 years; medium term 5-10 years; and long-term recommendations 10+ years.

		Timing	Greater Sydney Region Plan or Western City District Plan related action
Recommendations			
Richmond			
R1	Develop a social program that is inclusive of the whole community and visitors to the LGA	S	Supports GSRP objective 9 and WCDP action 65b
R2	Plan for a small increase in retail floorspace in the medium to long term	M-L	
R3	Plan for a small addition of commercial floorspace (relevant for a local centre) towards 2036.	M-L	Supports WCDP action 65c
R4	Encourage small scale health service provision in the centre	S-M-L	
R5	Investigate the applicability of an urban, forum space in the centre	S-M	Support WCDP action 65b
R6	Improve amenity, safety-by-design and connectivity to and around the rail station	S-M	Supports WCDP action 65b
Windsor			
R7	Investigate precinct planning to develop the Windsor Station area as a 'gateway' to the Hawkesbury region	S-M-L	Supports GSRP objective 24 (24.2) and WCDP action 65b
R8	Monitor activity between Windsor station and Hawkesbury Valley Way as the 'gateway' is developed. Investigate and consider up zoning the B1 zone around Windsor station to allow for more commercial activity. Consider expansion of the B1 zone to align with some of the current uses in the area. Consider carefully the timing of land release for B zones, so that it meets demand and generates momentum.	M-L	Supports WCDP action 65b and 65c
R9	Investigate and develop desired character areas	S-M	Supports WCDP action 65b
R10	Plan for a small addition of retail floorspace in the medium to long term	M-L	
R11	Plan for a small addition of commercial floorspace (relevant to the local centre) towards 2036, dependent on the outcomes of R8	M-L	Supports WCDP action 65c
R12	Support the establishment of a high quality co-working space and the allowance for pop-up businesses in vacancies	S-M	Supports WCDP action 65c
R13	Build the tourism industry in the Hawkesbury starting with Windsor as the primary hub	S-M	Supports GSRP objective 24 and WCDP action 65b

Clarendon			
R14	Support greater collaboration and dialogue between the Clarendon stakeholders and support industry linkages	S-M-L	Supports WCDP action 65a
R15	Support the development of the RAAF heritage museum	S-M-L	Supports WCDP action 65a and GSRP objective 24
R16	Leverage the activity in the Clarendon precinct surrounding agri-business and food systems and STEM and link it to tourism opportunities	S-M-L	Supports WCDP action 65a and GSRP objective 24
R17	Encourage and synergise land uses in the Clarendon precinct	S-M-L	Supports WCDP action 65a and 65c
Mulgrave			
R18	Monitor the performance of the industrial precinct over time and nominate an area as 'future industrial' for the expansion of the industrial precinct.	S-M	
R19	Facilitate and monitor the growth of food produce processing and align industrial land capacity as relevant	M-L	
R20	Maintain buffers between industrial and residential/commercial land uses	S-M-L	
R21	Consider industrial land operational need, not just employment generation	S-M-L	Supports GSCP objective 23
South Windsor			
R22	Improve retail activation and linkages	S-M	Supports WCDP action 65b
R23	Consider the additional of smaller lots in the precinct and update DCP to support	S	
R24	Consider industrial land operational need, not just employment generation	S-M-L	Supports GSRP objective 23
Smaller centres			
R25	Plan for small additions to retail and commercial floorspace relevant in the smaller centres in the medium to long term.	M-L	Supports WCDP action 65c

01
INTRODUCTION

1. INTRODUCTION

This section introduces Hawkesbury Local Government Area, study objectives and document structure.

1.1 Context

The Hawkesbury Local Government Area (LGA) is located in the outer north west of Greater Sydney, approximately 50 kilometres from the Sydney Central Business District (CBD). The LGA includes the Strategic Centre of Richmond-Windsor, as designated in the Western City District Plan.

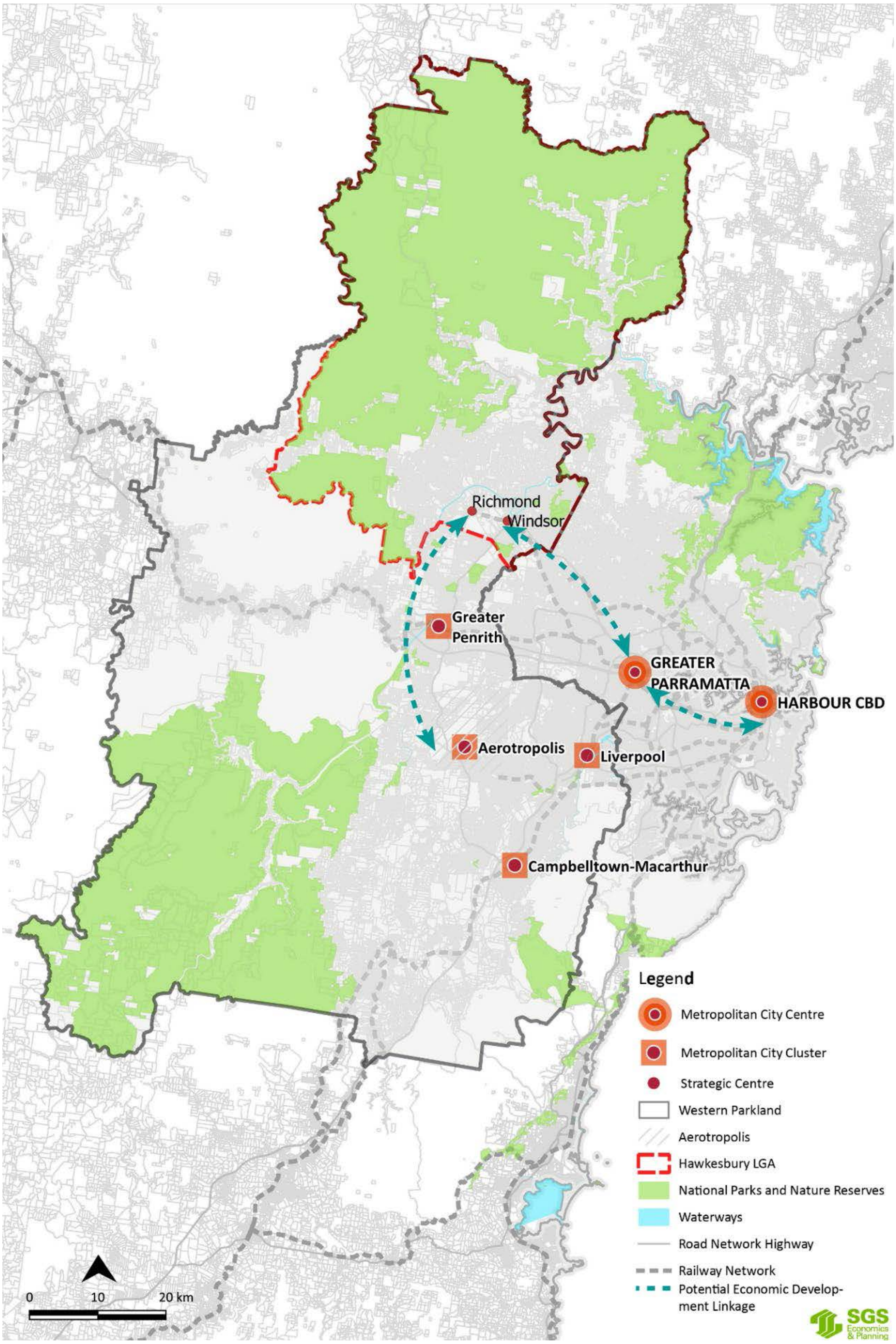
Currently, employment lands within the Hawkesbury LGA comprise 3.4 km^2 which are represented through the following Local Environmental Planning Zones:

- B1 Neighbourhood Centre (0.31 km^2)
- B2 Local Centre (0.47 km^2)
- B5 Business Development (0.32 km^2)
- B6 Enterprise Corridor (0.08 km^2)
- IN1 General Industrial (1.74 km^2)
- IN2 Light Industrial (0.53 km^2)[5].

Hawkesbury's employment lands are mostly located in the southern part of the LGA within the centres of Windsor, South Windsor, Richmond, North Richmond, Pitt Town, Bligh Park and Mulgrave. The rural areas of the LGA include small villages that provide population serving activities to meet the daily needs of the rural population.

[5] Hawkesbury Council data

FIGURE 1: HAWKESBURY LGA CONTEXT



Source: SGS, 2019

1.2 Study Objectives

Hawkesbury City Council (HCC) has commissioned SGS Economics & Planning to undertake an Employment Lands Strategy for the Hawkesbury LGA.

Objectives of the study are to:

- Identify and review the existing employment lands in the LGA and allocate employment lands to be retained for future employment purposes.
- Identify and address challenges and opportunities for all employment lands, including tourism, business and industrial.
- Identify mechanisms to optimise constrained industrial precincts to transition to new uses.
- Investigate the opportunity for an agglomerated precinct at Clarendon.
- Prepare an Employment Lands Strategy as a guiding document for future land use planning, investment and management.

1.3 Structure of the document

This document is structured as follows:

1. **Introduction**
2. **Planning & policy context** – a high-level overview of relevant national, state and local policy documents.
3. **Hawkesbury profile** – includes key socio-economic profile data and analysis of key industries in the LGA.
4. **Strategic considerations** – includes an overview of current employment land zonings, a summary of the employment floorspace gap analysis, and emerging business and industrial trends.
5. **Strategic framework** – includes vision, planning principles and place-based recommendations for Hawkesbury employment lands.

The appendices contain full versions of the qualitative and quantitative analysis completed as part of the employment lands study.

02
PLANNING & POLICY CONTEXT

2. PLANNING & POLICY CONTEXT

This section provides a high-level summary of the relevant national, state and local planning policy context.

2.1 Planning policy overview

Strategic planning documents from the three tiers of government provide the context for future land use in the economic centres of Hawkesbury LGA. These plans anticipate increases in population and employment and provide guidance on where this growth should occur.

Key planning strategies and polices that have influenced the development of the strategy are outlined below in Figure 2.

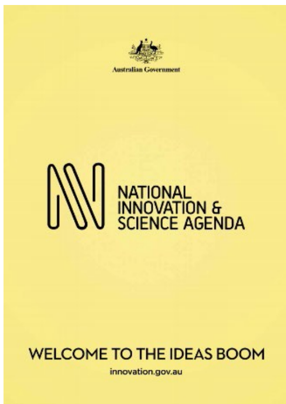
FIGURE 2: KEY STRATEGIC AND STATUTORY PLANNING DOCUMENTS ACROSS THREE TIERS OF GOVERNMENT

Commonwealth Framework	•National Innovation and Science Agenda Western Sydney City Deal 2018
State and Regional Plans	•Greater Sydney Region Plan - 'A Metropolis of Three Cities' •Western City District Plan •Western Sydney City Deal •Future Transport 2056
Hawkesbury LGA Plans and Policies	•Hawkesbury Community Strategic Plan 2017-2036 •Hawkesbury LEP 2012 •Hawkesbury Employment Lands Strategy 2008

Source: Hawkesbury City Council, 2020

2.2 National

National Innovation and Science Agenda (2015)



The Australian Government (Department of Industry, Innovation and Science) is focused on science, research and innovation as long-term drivers of economic prosperity, jobs and growth.

The Agenda will support the transformation of ideas into commercial realities; support greater collaboration between research and industry sectors; support more students in studying science, technology, engineering and mathematics (STEM) and attracting talent to Australia; and support Government to find new ways of doing business.

National policy has identified there is a need to improve productivity, competitiveness, employment and well-being, including the recognition of the critical role of local innovation ecosystems and an education and training system that is fit-for-purpose.

Implications for Hawkesbury LGA employment lands

Council can support the National Agenda by fostering the development of science, technology, engineering and mathematics (STEM) capabilities within Hawkesbury LGA, and assist collaboration between research and education institutions, government entities and the community.

Council has a particular opportunity to do this by working with key stakeholders in the Clarendon Precinct - the Royal Australian Air Force (RAAF) and Western Sydney University (WSU) who both support the development of STEM in the region.gggg

The Western Sydney City Deal is a partnership between the NSW State, Australian Federal Governments, and councils across the Western Parkland City including Hawkesbury.

The core objectives of the Western Sydney City Deal are:

- Realising the 30-minute city by delivering the Sydney Metro Greater West (formerly the North South Rail Link).
- Creating 200,000 jobs by supercharging the Aerotropolis and agribusiness precinct as catalysts.
- Skilling our residents in the region and initiating an Aerospace Institute.
- Respecting and building on local character through a $150 million Liveability Program.
- Coordination and innovation through a Planning Partnership.
- Getting on with delivering for the Western Parkland City with enduring tri-level governance.

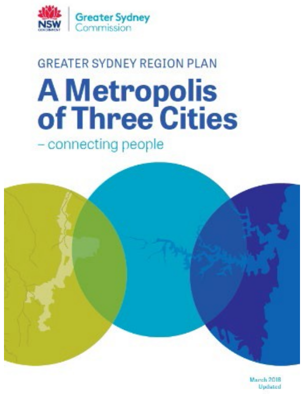
Hawkesbury City Council has been able to secure funding from the Western Sydney City Deal to undertake projects to improve the town centres of Windsor, Richmond and South Windsor.

Hawkesbury City Council will collaborate with all levels of government, industry and the community to manage the competing needs of infrastructure. New infrastructure will leverage Hawkesbury's proximity and input to the Western Sydney Airport and Aerotropolis Precinct.

The Western Sydney City Deal recognises that the Hawkesbury is the largest local government area in metropolitan Sydney. Further, that the Hawkesbury's landscape is defined by the Hawkesbury River and wild rivers, World Heritage areas, gorges and escarpments. The identified opportunities for the Hawkesbury is that it is positioned to leverage its unique heritage to grow opportunities in the defence, equine, agriculture, education and tourism sectors.

2.3 State

Greater Sydney Region Plan (2018)



The *Greater Sydney Region Plan* (GSRP) is a metropolitan strategy that responds to the current and future planning challenges of the Greater Sydney Region.

The aim of the GSRP is to transform Greater Sydney into a metropolis of three cities: The Western Parkland City, the Central River City and the Eastern Harbour City over the next 40-year period. This vision will be progressed via a series of objectives centred on infrastructure, collaboration, liveability, productivity and sustainability.

Hawkesbury City Council is in the Western City District. Directions for productivity include developing a well-connected city that supports shorter, localised connections to jobs, schools and services through integrated land use, transport and infrastructure planning; and enhancing productivity through strategic planning that enables jobs and skills growth and investment for Local Government Areas.

The GSRP contains a number of objectives that will impact employment in Hawkesbury LGA. These are summarised below:

Planning direction: productivity, jobs and skills for the city	
Objective 22: Investment and business activity in centres	The objective states centres play a role in delivering jobs close to home, facilitate an effective public transport system and provide a range of social and economic infrastructure to support local and metropolitan communities. Within this hierarchy, Strategic Centres should provide access to goods, services and jobs for a range of different communities.
Objective 23: Industrial and urban services land is planned, retained and managed	This objective recognises the value of industrial lands within a city, where it is not necessarily the number of jobs provided, but the operational role and function industrial lands play that is of importance. Industrial lands in the Hawkesbury area can support the economy of the LGA and the wider region. Industrial lands can include a range of

	activities from major freight and logistics, heavy manufacturing, light industry, to urban services and creative uses. The principles for managing industrial and urban services land across Greater Sydney, as identified in the GSRP, includes: ▪ *Retain and manage*: all existing industrial and urban services land should be safeguarded from competing pressures, particularly residential and mixed-use zones. ▪ *Review and manage*: review all industrial and urban services land under this approach to either confirm its retention or manage uses to allow sites to transition to higher-order employment activities and seek appropriate controls to maximise business and employment outcomes. ▪ *Plan and manage*: in land release areas identify additional industrial and urban service land.
Objective 24: Economic sectors are targeted for success	This objective identifies several industry sector strategies that will facilitate business innovation for Greater Sydney. The planning priority notes the RAAF Base Richmond will support Western Sydney Airport and associated activities.
Planning direction: sustainability – a city in its landscape	
Objective 29: Environmental, social and economic values in rural areas are protected and enhanced	This objective recognises the broad values that Metropolitan Rural Areas have for Greater Sydney. These lands are under pressure to be used for a variety of uses, including biodiversity protection, rural residential living, heritage conservation, tourism and recreation and growing fresh produce. The objective states Metropolitan Rural Areas are under-utilised and have 'potential to be used for more productive rural uses'. It also states that the distinct character of the towns and villages in the Metropolitan Rural Areas should be maintained and enhanced.

Implications for Hawkesbury LGA employment lands

Of relevance to the Hawksbury LGA is the designation of Richmond-Windsor as a Strategic Centre within the Western City District. This means any strategic planning recommendations for Richmond-Windsor should support greater access to goods and services. Strategic planning should also provide and develop a range of employment opportunities for the community.

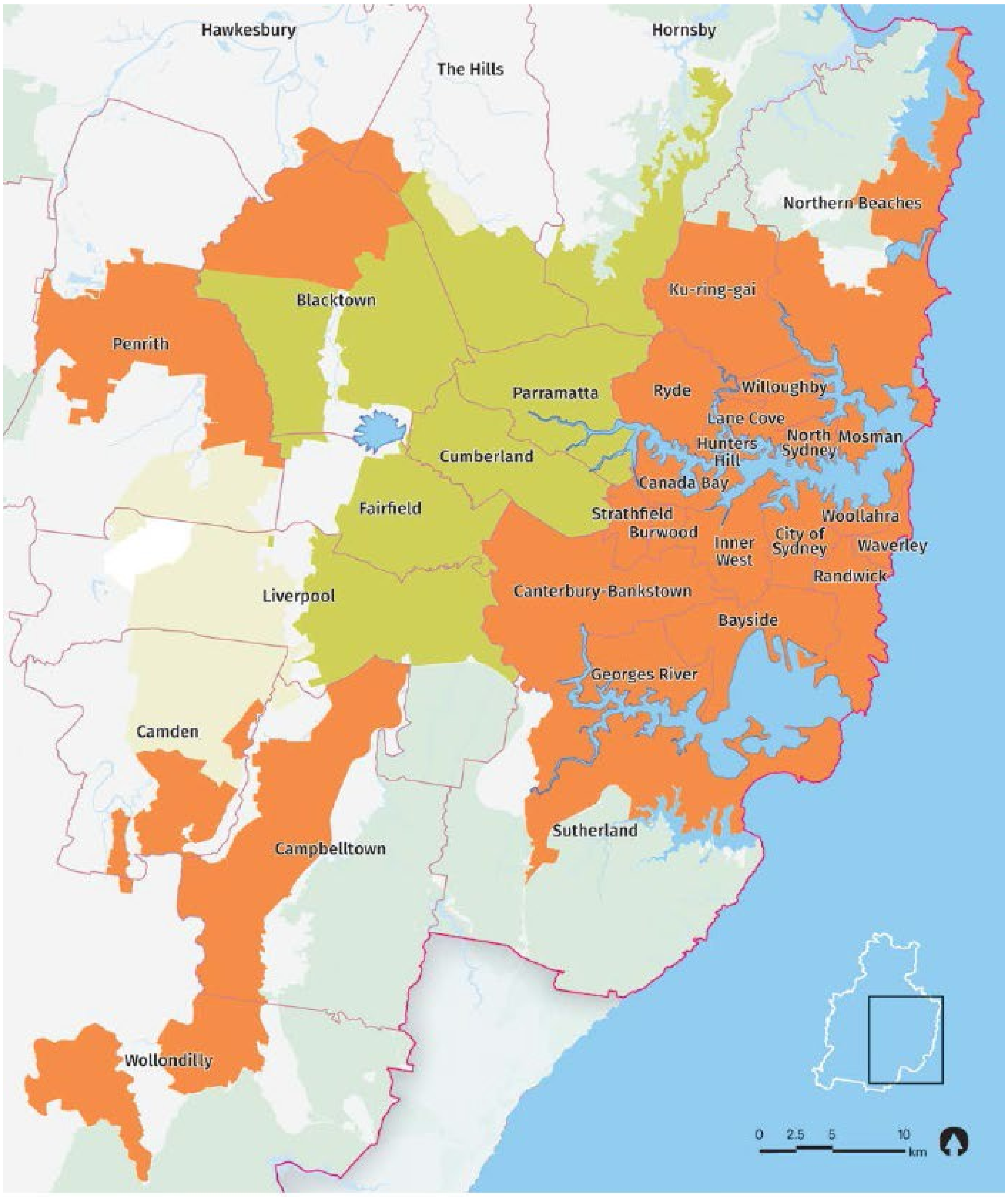
Industrial and urban services land in the lower north-east portion of Hawkesbury LGA has been designated 'retain and manage' as identified in Figure 3 and Figure 4. Future planning recommendations should nurture the development of industrial lands throughout the rest of the LGA given their value to Greater Sydney.

A future employment strategy would need to incorporate recommendations that support the education and defence industries. In particular, the strategy should help develop local specialisations and strengths in agriculture, STEM and relevant branches of engineering in the Hawkesbury LGA.

Recommendations should also seek to 'activate' local centres with the aim of attracting more commercial development and thus improving access to facilities, jobs and services for the LGA's residents, in alignment with Western City District Plan directives.

The intrinsic value of the Metropolitan Rural Area should be maintained by the recommendations of the employment strategy. Developing agribusiness and fresh produce processing capacities; associated freight and logistics requirements for these fresh foods; and agricultural/food/nature tourism ventures will assist in achieving a 'more productive' use of the Metropolitan Rural Area that is low impact and acknowledges the values of the land.

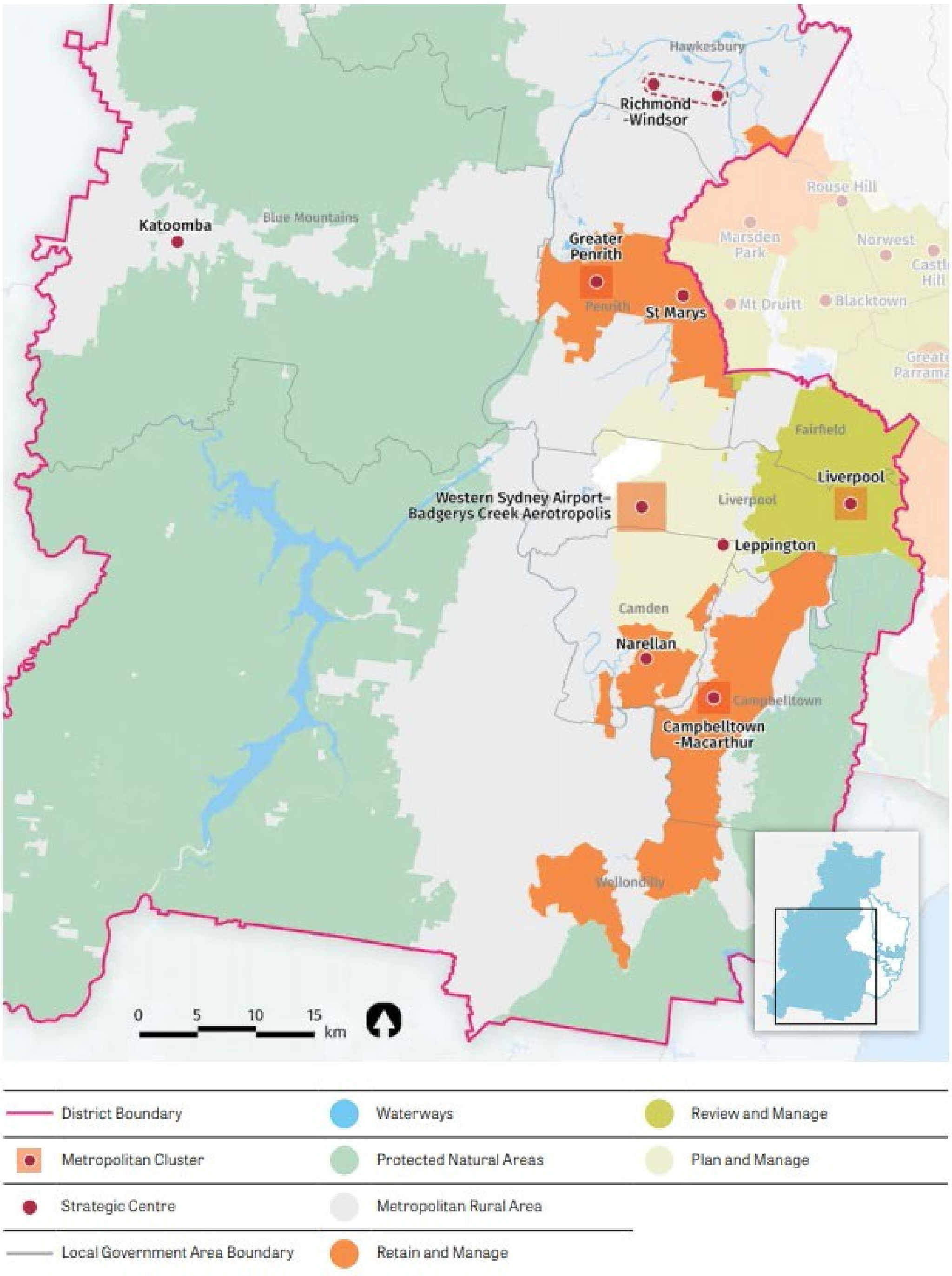
FIGURE 3: APPROACH TO PLANNING FOR INDUSTRIAL AND URBAN SERVICES LAND IN GREATER SYDNEY



Region Boundary	Protected Natural Area	Retain and Manage
Local Government Area Boundary	Metropolitan Rural Area	Review and Manage
Waterways		Plan and Manage

Source: Greater Sydney Region Plan, 2018

FIGURE 4: WESTERN CITY DISTRICT INDUSTRIAL AND URBAN SERVICES LAND APPROACHES

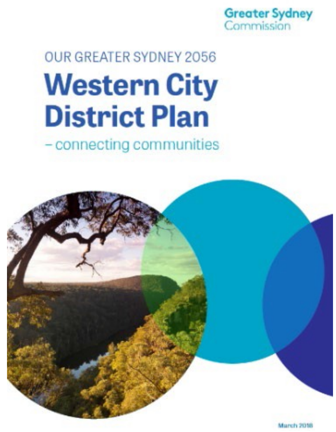


Source: Western City District Plan, 2018

Western City District Plan (2018)

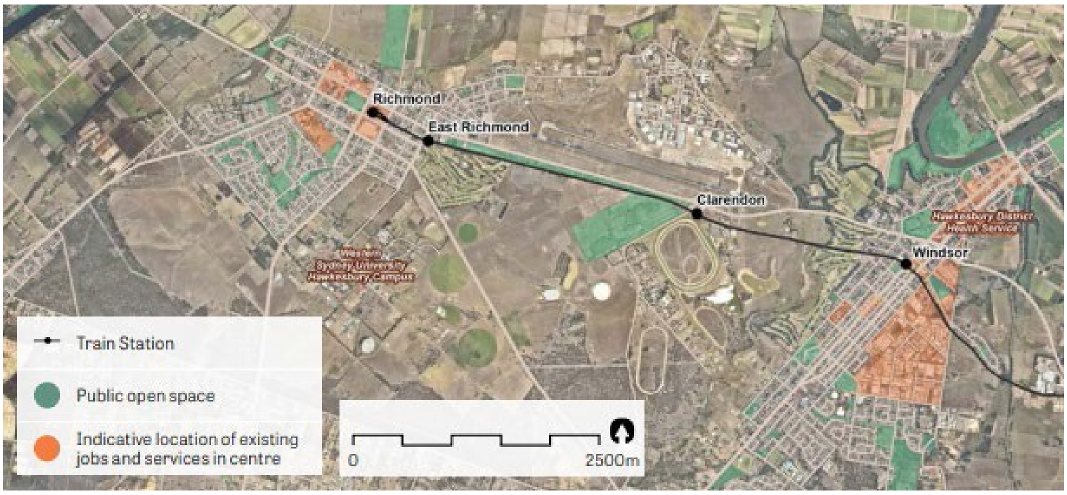
The *Western City District Plan* (WCDP) is a 20-year strategy, linked to the GSRP, that aims to manage growth in the District. The WCDP informs local level strategic planning, assessment of planning proposals and gives effect to the GSRP.

Key strategic centres have directives and priorities, identified below. The plan seeks to align job growth, services and transport to deliver a well-connected 30-minute city.



Planning Priority W11 – Growing investment, business opportunities and jobs in strategic centres	This planning priority identifies actions for the Western District Strategic Centres. Of relevance to the Hawksbury LGA are the actions for the Richmond-Windsor Strategic Centre, see Figure 5. Specific productivity actions to strengthen Richmond-Windsor to be delivered by Hawkesbury City Council in partnership with relevant government agencies include: ▪ **Action 65a.** Support complementary land uses around the agglomeration of education and defence uses in Richmond. ▪ **Action 65b.** Support master planning processes for Richmond and Windsor that encourage new lifestyle and entertainment uses, employment opportunities, activate streets and places, grow the tourism economy and respect, and enhance, the significant heritage value and assets. ▪ **Action 65c.** Facilitate the attraction of office/commercial floorspace and provide opportunities to allow commercial and retail activities to innovate, including smart work hubs. For 2016, the strategic centre of Richmond-Windsor was estimated to have 10,300 jobs. Job targets applied to the strategic centre are 12,000 jobs as a baseline by 2036, or 16,500 as a higher target by 2036.
Planning Priority W17 – Better managing rural areas	This planning priority recognises that the Western City District's rural areas contribute to biodiversity, productive agriculture, resource provision and support local towns and villages. Maintaining and enhancing the unique character of the towns and villages in these rural areas is a key priority. The Priority supports design-led, place-based planning in the Metropolitan Rural Area to ensure environmental, social and economic values are sustained.

FIGURE 5: RICHMOND – WINDSOR STRATEGIC CENTRE



Source: Greater Sydney Commission, 2018

Implications for Hawkesbury LGA employment lands

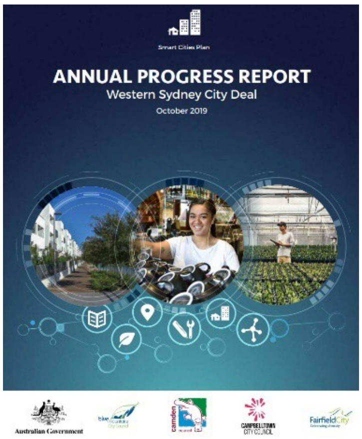
Employment land strategy recommendations should support the education and defence industries located in the LGA and, in particular, assist in developing local specialisations and strengths in agriculture, STEM and relevant branches of engineering.

Actions should also seek to activate local centres with the aim of attracting more commercial development, in alignment with Western City District Plan directives.

The value of the Metropolitan Rural Area should be recognised, and employment land actions should ensure environmental, social and economic values are maintained.

Western Sydney City Deal (2018)

The *Western Sydney City Deal* is an agreement between the Australian Government, the NSW Government and the eight councils of the Western City District, including Hawkesbury Council. It contains commitments from each level of government to facilitate the development of the Western Sydney Aerotropolis, as well as to improve connectivity, liveability, jobs, skills, education, the environment and governance in Western Sydney. The Western Sydney City Deal aims to provide over 200,000 jobs in a range of industries, with development focused around the Western Sydney Aerotropolis.



Implications for Hawkesbury LGA employment lands

Employment land strategy recommendations for Hawkesbury LGA should support industries that can leverage the Aerotropolis and associate economic activity. Thereby Hawkesbury Council would be fulfilling its role in facilitating the development of the Aerotropolis, as well as benefitting from it.

Future Transport 2056

Transport for NSW released *Future Transport 2056* as an overarching strategy to achieve a 40-year vision for the NSW transport system.

The long-term transport vision is built on six outcomes, including customer focus, successful places, a strong economy, safety and performance, accessible services and sustainability. Transport planning and infrastructure investment is focused around the three cities concept contained in the GSRP.

The *Greater Sydney Services and Infrastructure Plan* provides transport infrastructure priorities and aims to achieve the aspiration of a '30-minute city' set out in the GSRP.

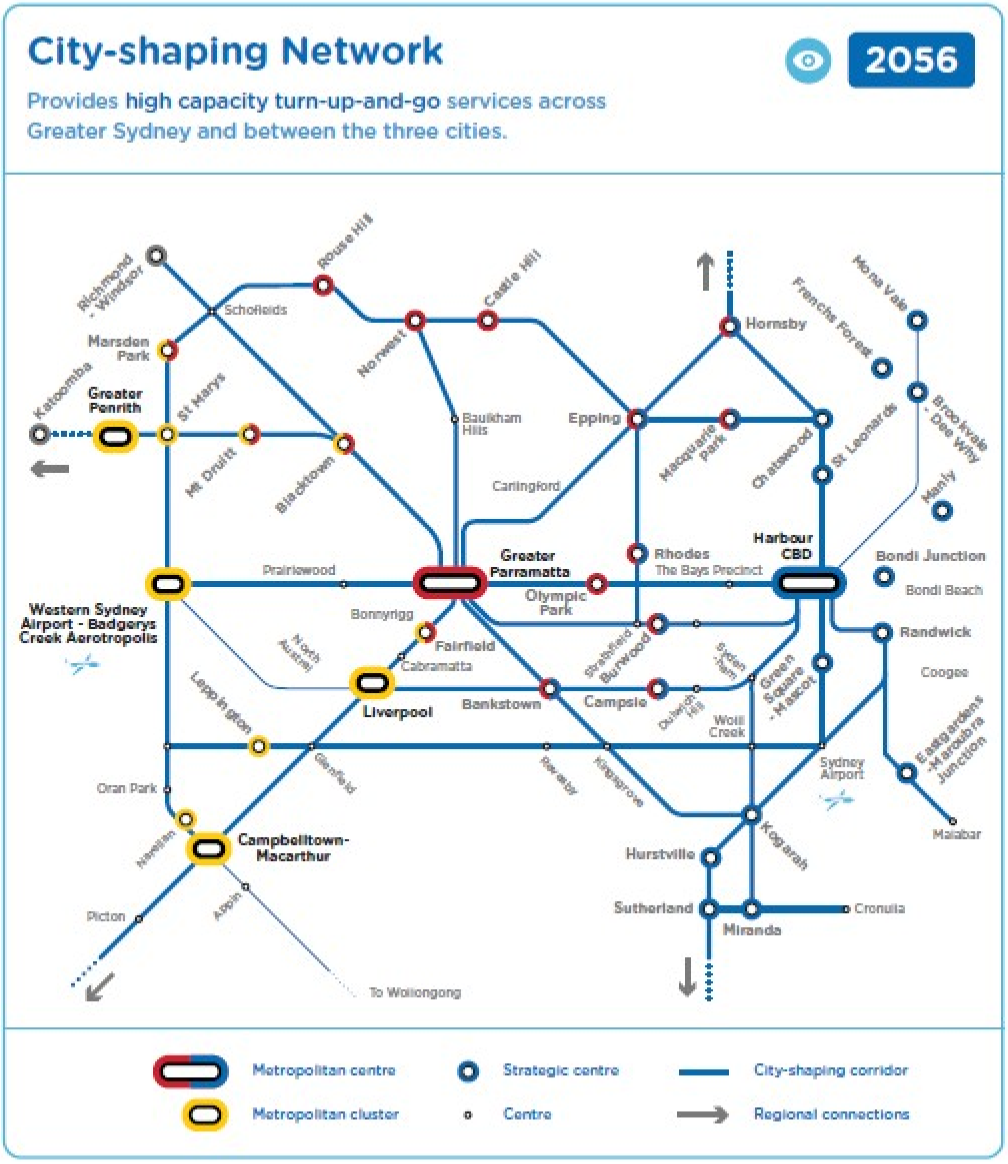
Towards 2056, Transport for NSW has identified transport developments along the city-shaping corridor from Greater Parramatta to Richmond-Windsor. This could provide high capacity turn-up-and-go services, see Figure 6. In the next ten years, one of the initiatives for investigation includes improved services on the Richmond Line.

Implications for Hawkesbury LGA employment lands

Transport developments in the Future Transport 2056 strategy could improve access for local residents to employment opportunities in Greater Sydney, particularly Blacktown, Parramatta and the Western Sydney Aerotropolis/Aerotropolis.

Furthermore, access to the Hawkesbury LGA could also be improved for visitors to the LGA. Therefore, strategies that support development of the tourism industry for Hawkesbury LGA would be beneficial in an employment lands strategy.

FIGURE 6: GREATER SYDNEY MASS TRANSIT/TRAIN NETWORK VISION



Source: Future Transport 2056.

NSW Food and beverage manufacturing industry development strategy (2019)

The NSW Department of Industry released the *NSW food and beverage manufacturing industry development strategy* in 2019. The industry is the largest agribusiness sector in the state.

With increased demand for food and beverage products from Australia to Asia and the desire from consumers to receive safe, high value-added goods from a quality source, the NSW Government is promoting a number of industry related initiatives:

- Collaborate for commercial advantage
- Create a fit-for-purpose workforce
- Advocate for the industry and support its development
- Accelerate small and medium enterprise (SME) growth in niche and emerging markets
- Help attract investment and boost access to international markets.

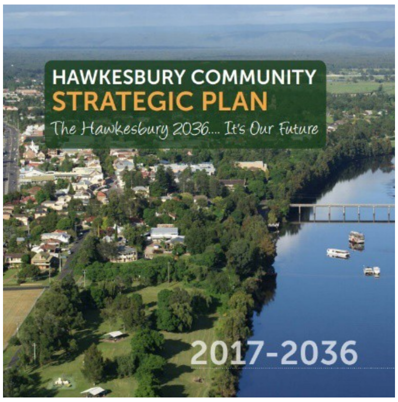
Implications for Hawkesbury LGA employment lands

Given the prominence of agriculture in the LGA, and potential freight network improvements to Western Sydney Airport and the Aerotropolis, Hawkesbury LGA is in a prime position to support the initiatives of the *NSW food and beverage manufacturing industry development strategy.*

Employment land strategy recommendations will support the monitoring of industrial land capacity to cater to any potential food manufacturing/fresh food processing expansion; support cross-industry networks in the LGA (i.e. agriculture, agribusiness, tourism and food manufacturing entities working together to achieve common goals for the LGA); and support Council bringing together Clarendon stakeholders to help progress education pathways that could lead to local food manufacturing employment opportunities and ensure a fit-for-purpose workforce.

2.4 Local

Hawkesbury Community Strategic Plan 2017-2036 (2017)



The *Hawkesbury Community Strategic Plan* has a vision for the Hawkesbury as a vibrant and collaborative community living in harmony with its history and environment and valuing its diversity, striving for innovation and a strong economy and retaining lifestyle and identity.

Implications for Hawkesbury LGA employment lands

Employment land strategy recommendations will need to address the vibrancy and amenity of Richmond and Windsor; develop the tourism industry; build on the industry strengths of the Hawkesbury; and support the RAAF and its activities, as these are considered important by the community.

Hawkesbury Destination Management Plan and Action Plan 2017-2021 (2017)

The *Destination Management Plan and Action Plan* was developed for Destination NSW to assist the Hawkesbury region (Hawkesbury State Electoral District) to develop a stronger and more sustainable visitor economy in line with the needs of the local community.

Primary objectives of the Plan were to grow overnight visitation and focus the tourism product that generates a solid commercial return.

Implications for Hawkesbury LGA employment lands

Four product pillars were identified for the region. Any strategy recommendations to develop the tourism industry should align with the product pillars of food-based product, heritage and cultural product, nature-based product, and supporting facilities.

Hawkesbury Tourism Strategy (2015)

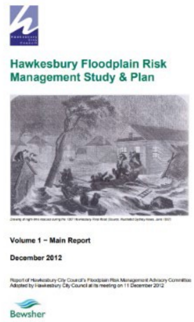
The *Hawkesbury Tourism Strategy* was prepared to guide future directions, identify trends in tourism for Hawkesbury LGA and to develop a management framework to guide Council activities in the short, medium and long term.

Implications for Hawkesbury LGA employment lands

Any employment strategy recommendations to develop the tourism industry should link to the opportunities raised in the Tourism Strategy. Relevant opportunities identified in the Strategy include:

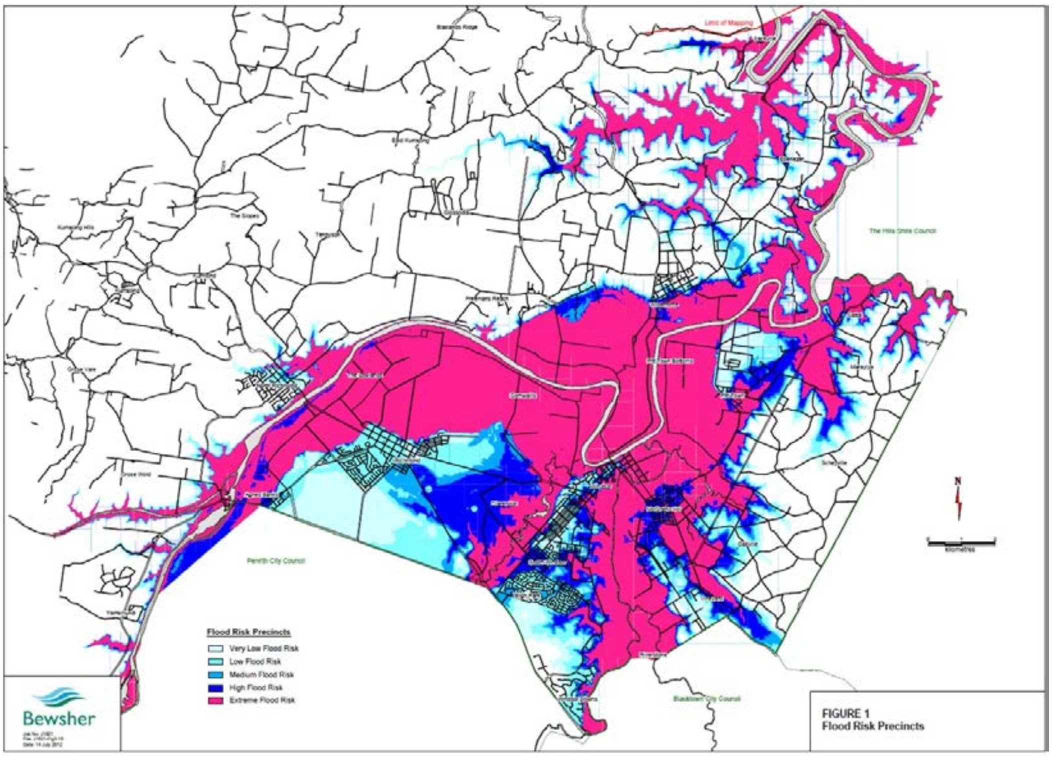
- Develop a tourism working group between Council and the tourism industry to drive a strategic direction for tourism in the LGA.
- Develop branding around 'Hawkesbury Experiences' that builds on the arts and heritage themes (music festival, heritage sound and light show, art and sculpture trail), equine experiences, outdoor recreation (particularly in the national parks) and the attractiveness of some of the small towns in the LGA that can provide the LGA's character and can link to boutique events and festivals.
- Develop Richmond, Windsor and Kurrajong as notable tourism hubs in the first instance. Windsor could be the primary hub. Each town and village would need to offer a point of difference.
- Develop new experiences, attractions and events, particularly that encourage visitors to stay overnight rather than just visit for a day.
- Grow the equine industry by offering education and school-based programs, as well as major tourism events.
- Packaging of products to include accommodation, transport, tours and food and wine experiences.
- Develop a major new visitor experience.

Hawkesbury Floodplain Risk Management Study & Plan. Vol. 1, 2 and 3 (2012)



The Hawkesbury-Nepean Valley has one of the most significant flood risk exposures within Australia, see Figure 7. Flooding events can be a risk to life and be a risk to property and cause loss of employment.

FIGURE 7: FLOOD RISK PRECINCTS



Source: Hawkesbury Floodplain Risk Management Study, Vol. 1, 2012, p. 14

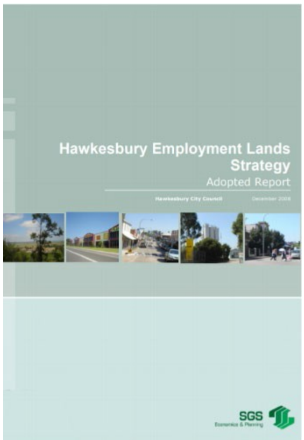
Implications for Hawkesbury LGA employment lands

Given the high risk of flooding in some areas, future employment land development should be sensitive to flooding issues.

Some industries and/or types of development are more tolerant of flooding events, for example: peri-urban greenhouses and farm-use buildings. The development of industries that use these types of buildings should be supported by the employment land strategy.

Hawkesbury Employment Lands Strategy: Adopted Report (2008)

The Employment Lands Strategy analysed the local context, socio-economic profile and floorspace capacity. It identified future strategies for the employment lands of the LGA.



Implications for Hawkesbury LGA employment lands

Future recommendations for employment lands should build on the strategic direction established in the 2008 report, where appropriate, given current economic and policy settings. In particular:

- Facilitate renewal and amenity improvements in key centres in the LGA
- Consider industrial land expansion that is aligned with demand for floorspace and consider how greater use/relevance of these lands can be achieved.
- Consider actions to boost the specialities of the LGA – agriculture, defence activities and tourism potential
- Consider actions that will assist in promoting greater public transport use and may support future transport improvements and servicing changes.

2.5 Statutory Planning Context

Hawkesbury Local Environmental Plan (2012)

The Hawkesbury Local Environmental Plan (LEP) establishes statutory requirements for development. Land use controls identify what types of development are permissible.

Aims of the LEP are to:

- Provide the mechanism for the management, orderly and economic development and conservation of land in the Hawkesbury.
- Provide appropriate land in area, location, and quality of living, working and recreational activities and agricultural production.
- Protect attractive landscapes and preserve places of natural beauty, including wetlands and waterways.
- Protect and enhance the natural environment in Hawkesbury and encourage ecologically sustainable development.
- Conserve and enhance buildings, structures and sites of recognised significance that are part of the heritage of Hawkesbury for future generations.
- Provide opportunities for the provision of secure, appropriate and affordable housing in a variety of types and tenures for all income groups in Hawkesbury.
- Encourage tourism-related development that will not have significant adverse environmental effects or conflicts with other land uses in the locality.

Implications for Hawkesbury LGA employment lands

Future economic development in Hawkesbury LGA should be balanced with the need to protect and enhance the natural environment and heritage. Tourism is highlighted as an area of focus for the LGA. Future employment land actions should align with the aims of the LEP.

Hawkesbury Development Control Plan (2002)

The Hawkesbury Development Control Plan (DCP) complements the statutory provisions in the LEP. Some of the objectives of the DCP include:

- Promote economically, socially and environmentally sustainable development within the LGA.
- Enable aesthetically pleasing and functional development that sympathetically relates to adjoining and nearby development.
- Maintain and enhance the environmental and cultural heritage of the LGA.
- Ensure development responds to its context and is not detrimental to surrounding development.

Economic development and the creation of local employment opportunities is needed to reduce commuting distances for local resident workers. Good design should be encouraged in industrial area development. This should respond to the needs of industry (existing and targeted) as well as being sympathetic to site and location attributes and broader strategic objectives

Implications for Hawkesbury LGA employment lands

Future employment land strategy actions should not conflict with the overarching DCP objectives.

03

HAWKESBURY PROFILE

3. HAWKESBURY PROFILE

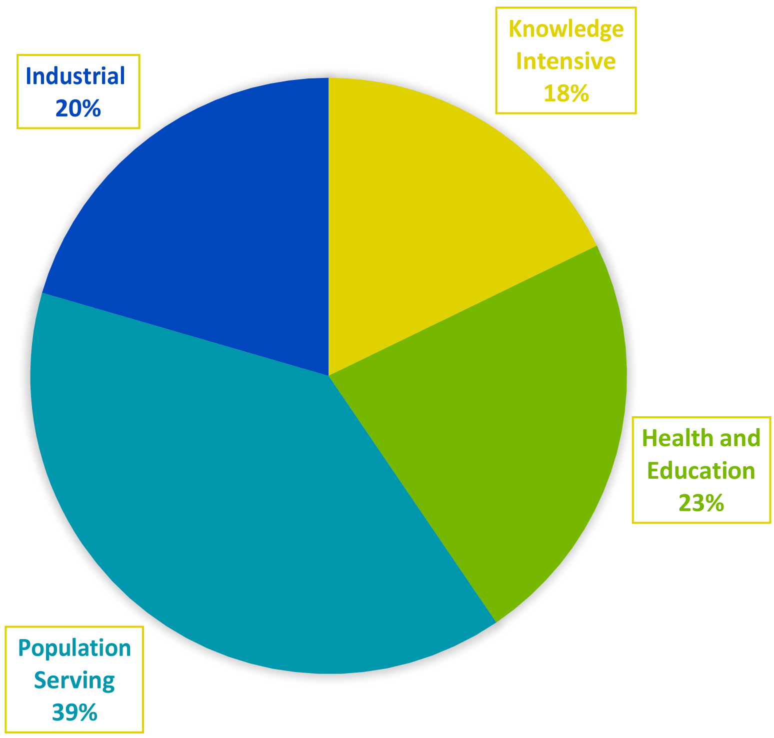
This section is an overview of the Hawkesbury LGA and includes a summary of socio-economic data and key industries[6]. SGS Economics and Planning have also undertaken a Hawkesbury Demographics Study to inform the Local Strategic Planning Statement and background studies.

3.1 Employment Structure

Employment

Hawkesbury's employment precincts contained approximately 20,900 jobs in 2016. Population-serving jobs were the most significant in the LGA, accounting for about 39% of total jobs. This was then followed by Health and Education (23%), Industrial (20%) and Knowledge Intensive (18%) jobs. For a breakdown of employment types under these four broad industry categories, see Appendix F.

FIGURE 8: JOBS BY BROAD INDUSTRY CATEGORY (2016)



Source: TZP2016 v1.51 (TPA)

[6] Data and projections used in this section includes Transport for NSW's Transport Performance Analytics (TPA) travel zones. Travel zones are spatial units of geography. They are based on best available data, trends and policy changes. There can be limitations to forecasts at the small area level.

Employment clusters by industry and centre

Employment data analysis indicates there is a wide spread of Population-Serving employment across the different centres in the LGA. The highest concentrations of these jobs are within the Mulgrave, Pitt Town and Richmond precincts. The Health and Education employment cluster is concentrated around Clarendon, while Knowledge Intensive employment is focused around the Richmond RAAF Base. Industrial employment clusters are focused around South Windsor and Glossodia.

TABLE 1: HAWKESBURY LGA LOCAL EMPLOYMENT CLUSTERS, 2016 (POW)

BIC	Knowledge Intensive	Health and Education	Population Serving	Industrial	*Total*
Bligh Park	11.9%	39.3%	45.7%	3.0%	*562*
Clarendon	4.8%	75.0%	16.6%	3.6%	*1,109*
Glossodia	9.1%	19.7%	29.1%	42.0%	*635*
McGrath Hill	11.3%	18.9%	45.0%	24.8%	*549*
Mulgrave	8.1%	2.0%	57.2%	32.8%	*2,964*
Pitt Town	14.3%	11.5%	55.6%	18.5%	*426*
Richmond	17.5%	23.9%	55.5%	3.1%	*2,645*
Richmond RAAF Base	61.4%	6.0%	11.2%	21.3%	*2,661*
South Windsor	8.7%	4.6%	38.1%	48.7%	*2,935*
Wilberforce	17.7%	18.3%	44.0%	20.0%	*536*
Windsor	22.2%	34.0%	35.1%	8.7%	*3,688*
North Richmond	23.6%	23.6%	33.3%	19.5%	*1,897*
Kurrajong	20.2%	17.8%	41.1%	20.9%	*287*
Average	17.8%	22.7%	39.0%	20.5%	20,894

Source: TZP2016 v1.51 (TPA)

By 2036, employment projections suggest there will be little change in the employment clusters in the LGA, see Table 2. Clarendon will remain the Health and Education employment hub; and Richmond RAAF Base will remain the focus for Knowledge Intensive employment. South Windsor will remain a strong industrial employment cluster, while industrial employment in Glossodia will reduce by about 8%. Mulgrave, Pitt Town and Richmond will remain strong Population-Serving employment clusters. South Windsor will grow slightly as a Population-Serving employment cluster (+2.8%), while McGraths Hill is expected to reduce (-5.4%).

TABLE 2: HAWKESBURY LGA PROJECTED EMPLOYMENT CLUSTERS, 2036 (POW)

BIC	Knowledge Intensive	Health and Education	Population Serving	Industrial	*Total*
Bligh Park	13.2%	42.4%	41.9%	2.5%	*682*
Clarendon	5.0%	76.7%	15.4%	2.9%	*1,450*
Glossodia	11.9%	24.4%	30.1%	33.6%	*758*
McGrath Hill	18.3%	27.1%	39.6%	15.1%	*1,089*
Mulgrave	13.0%	2.6%	56.5%	27.9%	*5,213*
Pitt Town	19.7%	16.9%	51.9%	11.4%	*821*
Richmond	19.9%	25.9%	52.3%	1.8%	*3,099*
Richmond RAAF Base	67.6%	5.9%	9.9%	16.5%	*3,538*
South Windsor	10.9%	5.5%	40.9%	42.7%	*3,186*
Wilberforce	20.6%	21.5%	42.5%	15.4%	*683*
Windsor	25.9%	35.1%	32.1%	6.8%	*4,499*
North Richmond	23.4%	26.9%	33.1%	16.6%	*2,142*
Kurrajong	24.0%	20.3%	38.3%	17.4%	*379*
Average	21.0%	25.5%	37.3%	16.2%	27,539

Source: TZP2016 v1.51 (TPA)

Employment (place of usual residence)

Employment (place of usual residence) data reports the profile of jobs that local residents have regardless of whether these are within the LGA or not.

Compared to Western City District and Greater Sydney, the Hawkesbury LGA has a larger proportion of residents working in the Population-Serving group of industry sectors. Notably, there is a relatively small proportion of residents in the Knowledge Intensive industry group compared with Greater Sydney and the Western City District, see Figure 9.

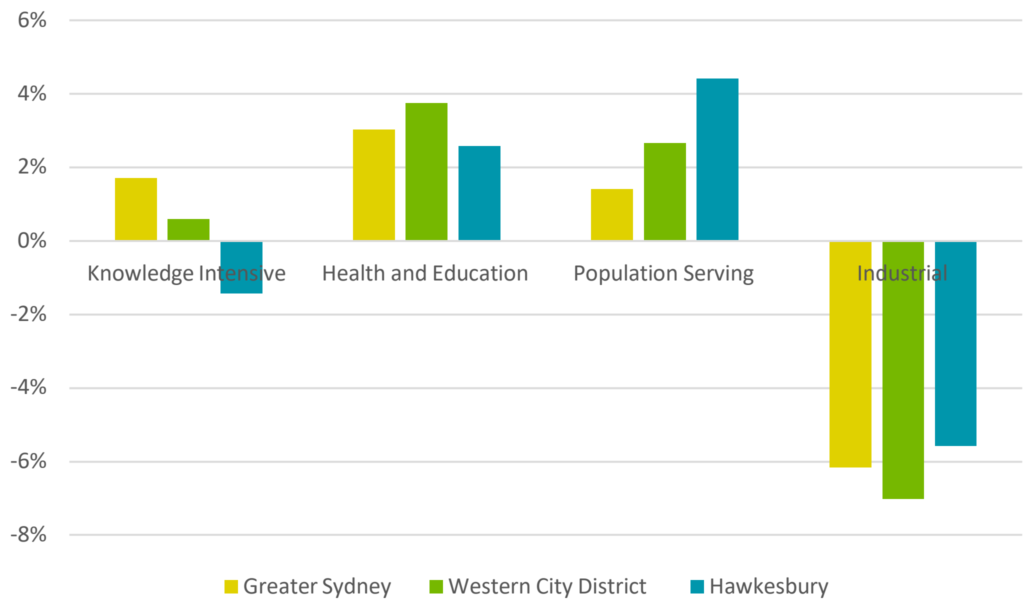
FIGURE 9: INDUSTRY OF EMPLOYMENT, CATEGORY COMPARISON, (PUR) 2016

Source: ABS Census 2016 (TableBuilder Pro)

There was a fall in the proportion of residents employed in Knowledge Intensive jobs in Hawksbury LGA from 2006 to 2016, whereas both Greater Sydney and the Western City District have experienced an increase. The proportion of residents employed in Industrial jobs shows the greatest reduction, this trend is seen in Greater Sydney, Western City District and

Hawkesbury LGA. The proportion of residents employed in Health and Education jobs has increased in Greater Sydney, Western City District and Hawkesbury LGA, with Western City District experiencing the greatest growth. The proportion of residents employed in Population-Serving jobs between 2006 and 2016 has increased in the LGA, with percentage growth well above levels seen in Greater Sydney and the Western City District, see Figure 10.

FIGURE 10: COMPARATIVE PROPORTION OF CHANGE IN INDUSTRY OF EMPLOYMENT (PUR) STRUCTURE (2006 TO 2016)



Source: ABS Census 2006 and 2016 (TableBuilder Pro)

Employment (place of work)

Employment (place of work) data reports the profile of jobs that are located within the Hawkesbury LGA, regardless of whether they are filled by residents or people from outside the LGA.

Compared to the Western District and Greater Sydney, Hawkesbury has a larger proportion of *Population-Serving* jobs and a smaller ratio of *Knowledge Intensive* jobs. *Health and Education* is at a similar level to Greater Sydney, and a slightly lower level than the Western City District.

FIGURE 11: INDUSTRY OF EMPLOYMENT (POW), CATEGORY COMPARISON (2016)

Source: ABS Census 2016 (TableBuilder Pro)

Hawkesbury has seen a stronger increase in the number of *Health and Education* and *Population Serving* jobs than the benchmark areas. There is a declining proportion of *Knowledge Intensive Jobs* compared with Greater Sydney which has seen a positive increase. In line with broader trends, the number of *Industrial* jobs has also declined, see Figure 12.

FIGURE 12: COMPARATIVE PROPORTIONAL CHANGE IN INDUSTRY OF EMPLOYMENT (POW) STRUCTURE (2006-2016)

Source: ABS Census 2006, 2011 and 2016 (TableBuilder Pro)

Occupation

Historically, there have been large increases in the numbers of *Community and Personal Service Workers, Professionals* and *Machinery Operators and Drivers*. Aside from *Labourers*, which has seen a decline, all occupations have remained relatively stable or seen marginal levels of growth.

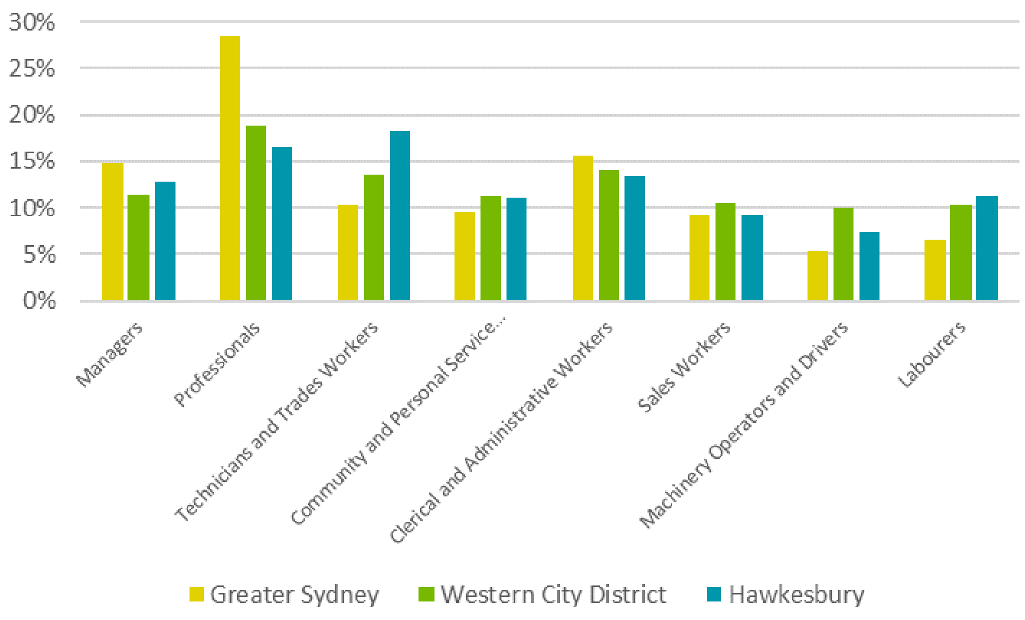
TABLE 3: LOCAL OCCUPATION (POW) TOTALS AND GROWTH RATES (2006-2016)

Year	Managers	Professionals	Technicians and Trades Workers	Community and Personal Service Workers	Clerical and Administrative Workers	Sales Workers	Machinery Operators and Drivers	Labourers
2016	2,825	3,617	3,995	2,450	2,962	2,035	1,603	2,476
2011	2,713	3,544	3,913	2,281	3,045	1,986	1,499	2,355
2006	2,797	3,384	3,834	2,024	2,937	1,956	1,373	2,486
Growth (Total)	28	233	161	426	25	79	230	(10)
CAGR (5-YR %)	0.50%	3.39%	2.08%	10.02%	0.42%	2.00%	8.05%	-0.20%

Source: ABS Census 2016 (Table Builder Pro)

Broadly, Hawkesbury has a similar occupation structure to the District and Greater Sydney, however, it has a notably lower proportion of *Professionals* and correspondingly higher levels of *Technicians and Trade Workers* and *Labourers.*

FIGURE 13: COMPARATIVE OCCUPATION (POW) STRUCTURE (2016)



Source: ABS Census 2016 (TableBuilder Pro)

Proportional growth in *Professionals* and *Managers* has been significantly lower in Hawkesbury than in Greater Sydney. There have been higher rates in *Community and Personal Services* and *Machinery Operators* and *Drivers*, see Figure 14.

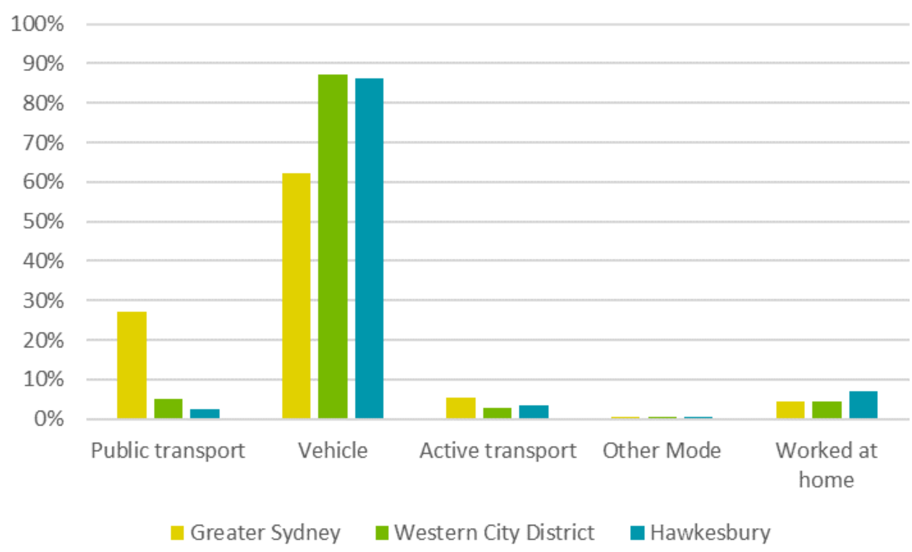
FIGURE 14: COMPARATIVE PROPORTIONAL CHANGE IN OCCUPATION (POW) STRUCTURE (2006-2016)

Source: ABS Census 2006, 2011 and 2016 (TableBuilder Pro)

Method of travel to work

Compared with Greater Sydney, the number of commuters using *Public Transport* is significantly lower in the Hawkesbury LGA, with higher proportions of *Vehicle* use. There is also a slightly higher proportion of people in Hawkesbury *Working at Home* when compared to Greater Sydney and the Western City District.

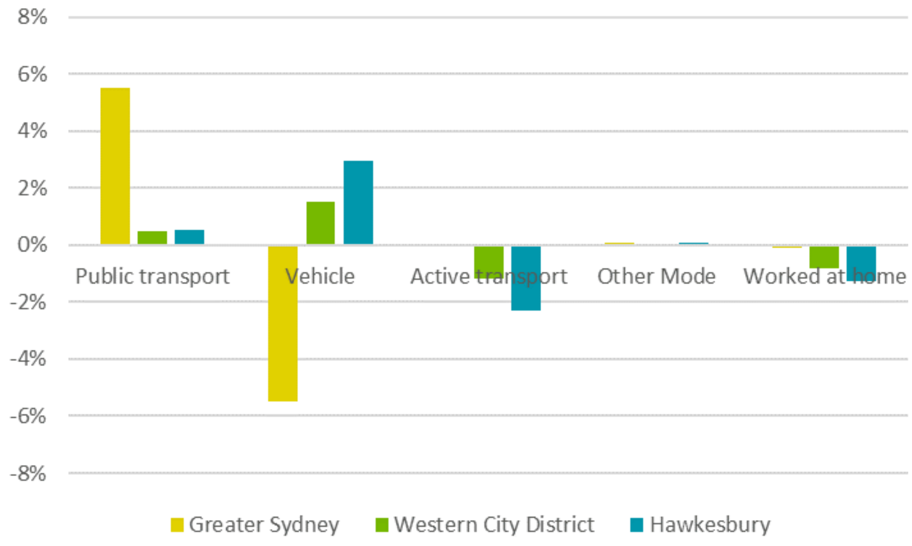
FIGURE 15: COMPARATIVE METHOD OF TRAVEL TO WORK (POW) STRUCTURE (2016)



Source: ABS Census 2016 (TableBuilder Pro)

Compared with Greater Sydney, the proportional change of commuters using *Public Transport* is lower. Hawkesbury has not followed the Greater Sydney trend of falling use of *Vehicles* for travel to work and has instead seen an *increase.* The number of people who *Worked at Home* has also declined, as has the use of *Active Transport*.

FIGURE 16: COMPARATIVE PROPORTIONAL CHANGE IN METHOD OF TRAVEL TO WORK (POW) STRUCTURE (2006-2016)



Source: ABS Census 2006, 2011 and 2016 (TableBuilder Pro)

Employment and industry specialisation (location quotient)

Location quotient (LQ) analysis is a measure of the relative industrial specialisation of a local economy compared with a larger area. In this case, this analysis measures the Hawkesbury industry profile against Greater Sydney. For example, an LQ of 2 means that the Hawkesbury has percentage employment in that sector at twice the levels observed in Greater Sydney, an LQ of 0.5 would illustrate that percentage employment in that sector is half the value observed in Greater Sydney.

Figure 17 shows the employment specialisation of the Hawkesbury LGA against Greater Sydney (note: some outlying industries may have been excluded). The top right quadrant shows industries that are both specialised and growing while the bottom right shows specialised industries that are contracting. Some emerging points are as follows:

- Agriculture, Forestry and Fishing is a significant specialisation of the LGA when compared with Greater Sydney with an LQ of approximately 12.
- Health and Social Assistance employs large numbers of people in the LGA. This sector has been growing, though when compared with Greater Sydney the LGA still has a lower relative specialisation.
- Education and Training, and Accommodation and Food industries are significant employers and are growing (particularly Education & Training). The LGA has a relative specialisation in both when compared to Greater Sydney.
- There is contraction of established industries that have been traditionally associated with industrial precincts, such as Manufacturing (excluding Transport, Postal and Warehousing).
- There is also a contraction in the specialised and established industries of Public Administration and Safety.
- While Knowledge Intensive industries are emerging (Professional, Scientific and Technical Services, Admin and Support Services) they are not as specialised as other industries in the LGA, as seen in the top right quadrant.
- Administration and Support Services, Arts and Recreation Services are emerging and growing industries in Hawkesbury but do not exhibit strong signs of specialisation when compared to Greater Sydney.

FIGURE 17: HAWKESBURY EMPLOYMENT SPECIALISATION (LOCATION QUOTIENT) 2011-2016

Source: SGS, 2019

Shift share analysis

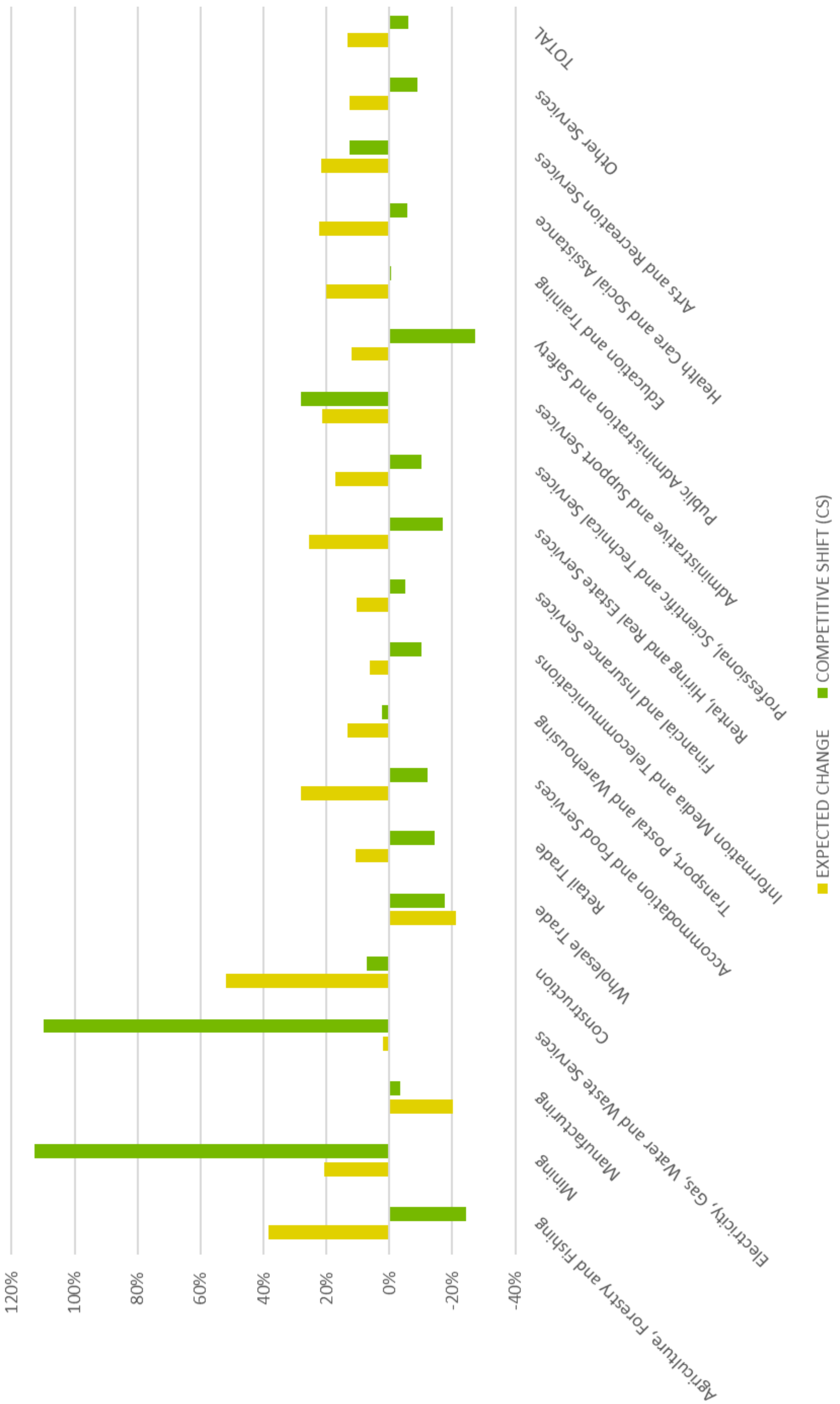
Shift-share analysis paints a picture of how much of the LGAs employment growth (or decline) can be attributed to local (versus exogenous) factors. It does this by systematically removing the effects of overall growth in the economy and high-level industrial change. The aim is to isolate industries that benefit from local competitive advantages and those suffering from local growth impediments. Once isolated, the local effect or 'competitive shift' can be expressed in terms of employment change by sector.

A shift-share analysis comparing Hawkesbury against Greater Sydney is summarised in Figure 18. The analysis depicts a negative picture for Hawkesbury in the five years to 2016. Although, notable growth is observed in the Mining (112 per cent) and Electricity, Gas, Water and Waste Services (110 per cent), which has grown at a significantly higher rate than Greater Sydney.

However, there has been slower than expected growth rate across several industries. Primarily, the most significant were in the Agriculture, Forestry and Fishing (-24.5 per cent) and Public Administration and Safety (-27.1 per cent) classifications. Retail Trade, Accommodation and Food Services, Information Media and Telecommunications, Financial and Insurance Services, Rental, Hiring and Real Estate Services and Professional, Scientific and Technical Services all trended negatively, resulting in an overall negative competitive shift in Hawkesbury.

Of Hawkesbury's five key industries: the Construction industry shows slight competitive growth (7.2 percent), while Retail (-14.5 per cent), Health Care and Social Assistance (-5.6 per cent), Education and Training (-0.6 per cent) and Public administration all declined.

FIGURE 18: HAWKESBURY SHIFT SHARE (2011-2016), BENCHMARKED AGAINST GREATER SYDNEY)



Source: SGS Economics and Planning 2018; data from the 2016 and 2011 Census via ABS TableBuilder

Skill leakage

This section examines employment origin and destination pairs to illustrate the outward and inward migration of workers. Some of the key points to note are:

- A significant proportion of Hawkesbury's labour force is self-contained. This is especially apparent in the Population-Serving sectors.
- Blacktown (3560), Penrith (2829) and the Hills Shire (2331) account for the largest shares of outward migration.
- There is strong internal migration of workers within Hawkesbury across all industries.

Outward migration of workers

Table 4 details the outward migration of Hawkesbury's working residents by industry type. One of the notable features of the LGAs worker migration profile is that a significant number of residents live and work within the LGA. The majority of Hawkesbury's migration is self-contained, with Population-Serving being the most significant industry grouping at more than double the level of Knowledge Intensive, Health and Education and Industrial industry groups. Outside of the Hawkesbury LGA, Blacktown received significant employment numbers in Population Serving and Industrial industries. This is closely followed by the Hills Shire.

TABLE 4: OUTWARD MIGRATION OF HAWKESBURY'S WORKING RESIDENT'S BASED ON INDUSTRY TYPE (2016)

Geography	Knowledge Intensive	Health and Education	Population Serving	Industrial
Hawkesbury (C)	2581	2638	5573	2676
Blacktown (C)	513	769	1182	1096
Penrith (C)	610	787	846	586
The Hills Shire (A)	458	490	1058	325
No Fixed Address (NSW)	278	141	1310	225
Parramatta (C)	536	362	338	239
Sydney (C)	586	122	227	90
Cumberland (A)	76	63	134	234
Hornsby (A)	50	124	197	126
Fairfield (C)	62	36	99	160

Source: ABS Census 2016 (TableBuilder Pro)

Inward migration of workers

Table 5 details the inward migration of workers commuting to the Hawkesbury LGA from elsewhere (in addition to Hawkesbury's working residents that commute locally within the LGA by industry type).

For all industry groups, Hawkesbury LGA is the source of significantly more workers than the remaining geographies. The Population-Serving industry group has the largest number of workers (5573), followed by Industrial (2676), Health and Education (2638) and Knowledge Intensive (2581) industry groups.

Excluding Hawkesbury, Penrith LGA contributes the most workers to local Health and Education (633), Population-Serving (834) and Knowledge Intensive (535) industry groups.

TABLE 5: INBOUND MIGRATION OF WORKERS BASED ON INDUSTRY TYPE (2016)

Geography	Knowledge Intensive	Health and Education	Population Serving	Industrial
Hawkesbury (C)	2581	2638	5573	2676
Penrith (C)	535	633	834	521
Blacktown (C)	477	525	775	660
The Hills Shire (A)	362	296	355	227
Blue Mountains (C)	143	315	123	107
Parramatta (C)	64	86	96	83
Hornsby (C)	44	74	46	49
Cumberland (A)	31	53	83	55
Fairfield(C)	19	11	68	44
Liverpool (C)	34	27	64	41

Source: ABS Census 2016 (TableBuilder Pro)

Implications for Hawkesbury LGA employment lands

The contraction of industrial employment in the Hawkesbury LGA reflects a broader trend in the Greater Sydney economy. This decline will require a strategic planning response for the Hawkesbury LGA that better aligns industrial land use with the skills of resident workers to improve industry retention or attraction.

The fall in knowledge related employment, against the background of strong performance in this sector in Greater Sydney, suggests a response is needed to improve the commercial land offering in Hawkesbury's centres. Much of this activity in the Hawkesbury will still be classed as 'population-serving commercial' activity (for example, local accountant and law firms).

Growth of health and education employment in recent years is an opportunity area. Strategic planning activity should continue support and boost this profile for the LGA, particularly around the education specialisation of agriculture and STEM.

Similarly, the prominence of Population Serving industries throughout the LGA should continue to be nurtured, to support growth of tourism and to provide for the changing profile of the local population (for example, provision of smaller health services in centres; and cafes and restaurants that link to tourism branding).

Given a significant number of residents live and work within the LGA, strategy recommendations should support improved connectivity and amenity in town centres for local residents.

3.2 Demographics

Hawkesbury is a slowly growing community. Over the past ten years, the population has increased by an additional 4,034 people (compound average growth rate of 3.28%), lower than Greater Sydney's compound average annual rate of growth which is 8.47%. In the period from 2016 to 2036 Hawkesbury LGA's, population growth rate is expected to increase to 5.8% but this remains lower than the Greater Sydney average at 8.62% and much lower than the rate for Western Sydney at 10.19%.

TABLE 6: POPULATION TOTALS AND GROWTH RATES (2006-2016)

Geography	2006	2011	2016	Growth	CAGR (10-yr %)
Greater Sydney	3,821,233	4,079,432	4,496,184	674,951	8.47%
Western City District	884,319	930,615	1,024,450	140,131	7.63%
Hawkesbury	60,557	62,353	64,591	4,034	3.28%

Source: ABS Census 2011 and 2016 (TableBuilder Pro)

Population density[7] has increased (from 2,521 to 2,675 people per sqm) between the 2011 – 2016 census periods, representing a +6 per cent increase. This is significantly higher than the Greater Sydney average (2.4 per cent) and the Western City District (-6.28 per cent).

[7] Density (per km^2) is calculated by dividing population with area. Area is calculated by using built form only, as defined in ABS Meshblocks (excluding national parks, agriculture land etc.). This encompasses the following Meshblock categories: Residential, Commercial, Education, Hospital/Medical and Industrial.

TABLE 7: BROADER CATCHMENTS POPULATION DENSITY (PER KM²) TOTALS AND GROWTH RATES (2011-2016)

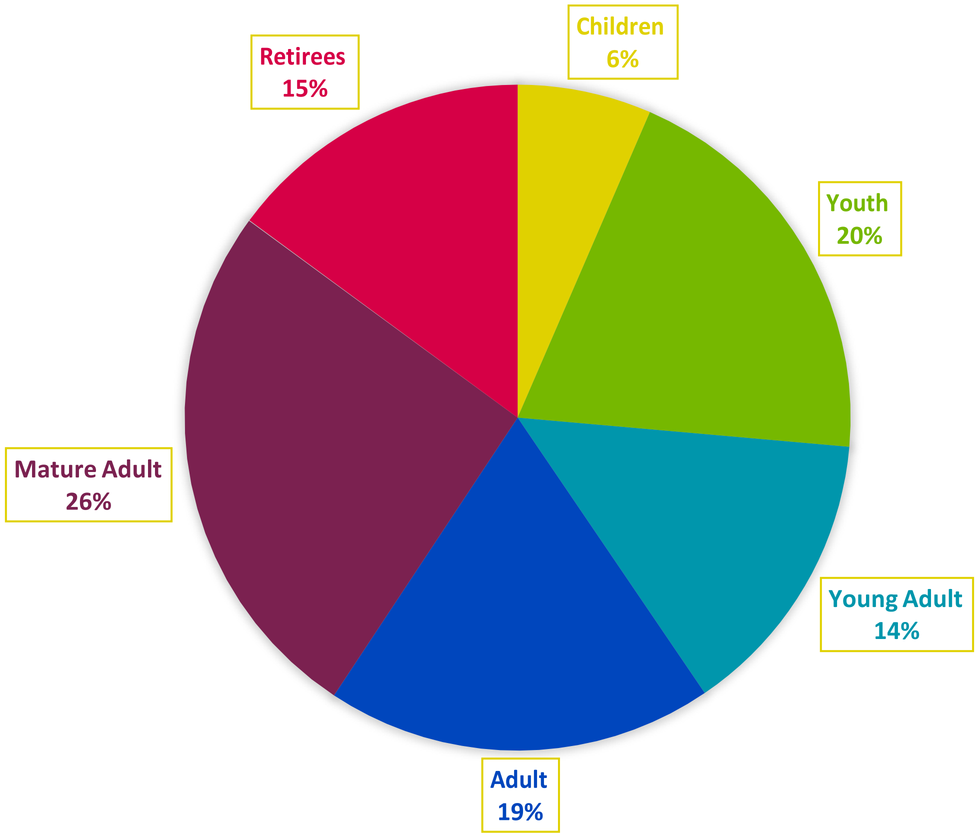
Geography	2006	2011	2016	Growth (%)
Greater Sydney	n/a	2,560	2,623	2.49%
Western City District	n/a	1,490	1,397	-6.28%
Hawkesbury	n/a	2,521	2,675	6.09%

Source: ABS Census 2011 and 2016 (TableBuilder Pro)

Age profile[8]

Hawkesbury had a high number of Mature Adults and Youth in 2016. Strong growth trends have been particularly present in the Retiree, Mature Adult and Young Adult cohorts. Compared to figures for Western Sydney and Greater Sydney, the growth in the Retiree age group is particularly strong for the Hawkesbury LGA with this group expected to account for almost 20% of the resident population by 2036.

FIGURE 19: Age profile (2016)



Source: TZP2016 v1.51 (TPA)

Hawkesbury has an ageing population profile, in line with most of Greater Sydney. Hawkesbury has a larger proportion of Retirees and Mature Adults compared to Greater Sydney and the Western District. This indicates a more pronounced ageing population trend (combined with distinctly lower proportions of Adults and Young Adults). While still slightly lower, the LGA has a comparable number in the 'Youth' and 'Children' categories compared to Western Sydney.

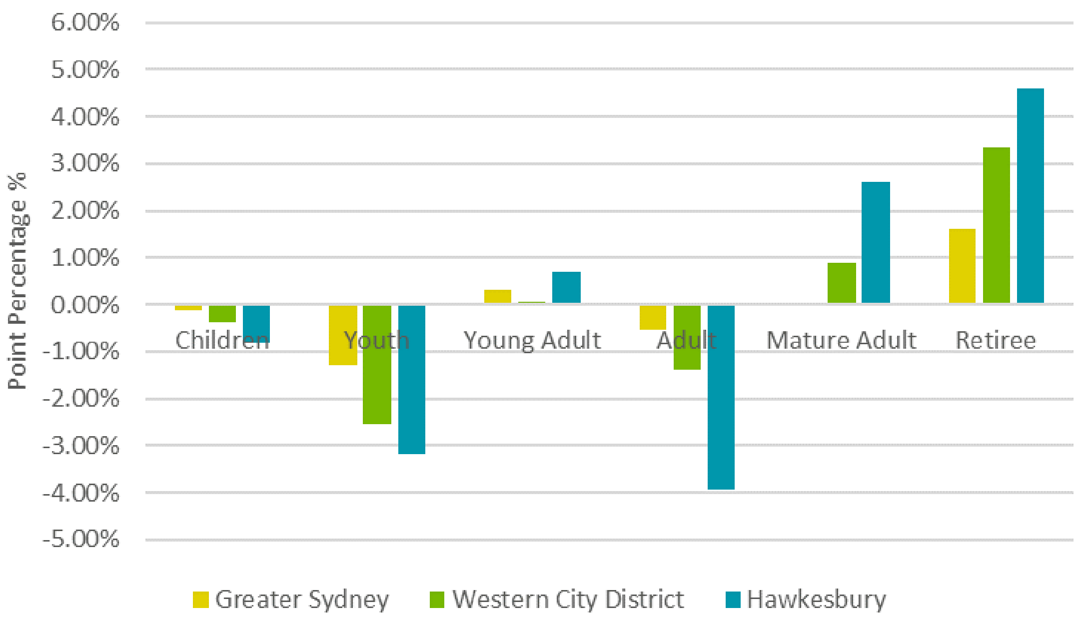
[8] Age cohorts are defined at Appendix A

FIGURE 20: OVERALL AGE PROFILE STRUCTURE (2016)

Source: ABS Census 2016 (TableBuilder Pro)

Inter-censual data shows a distinct fall in the proportion of Adults and Youth in Hawkesbury compared to Greater Sydney and the Western District over the past 10 years. There has been more growth for Young Adults, Mature Adults and Retirees in particular.

FIGURE 21: CHANGE IN POPULATION AGE STRUCTURE (2006-2016)



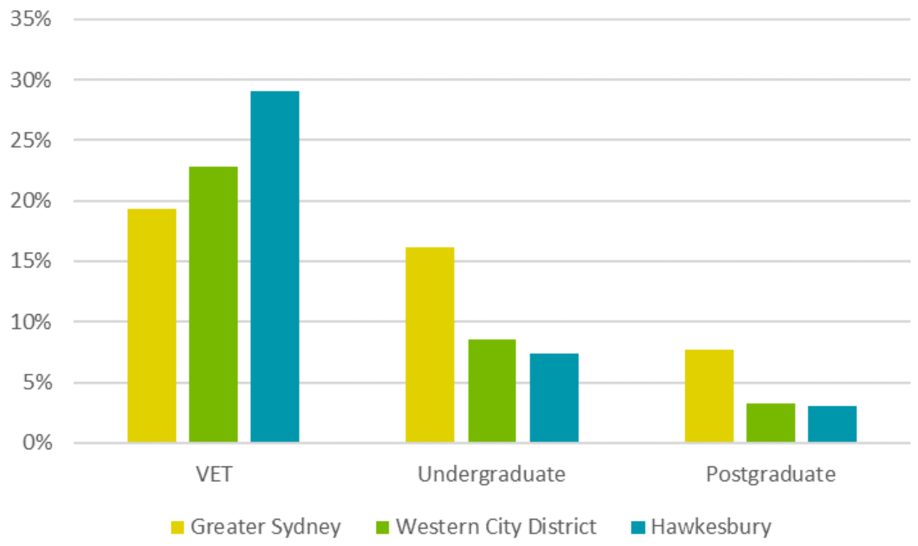
Source: ABS Census 2016 (Table Builder Pro)

Education

Due to the way ABS has captured data, historical comparison between *Secondary Education* and other educational attainments is not possible. Hence *Secondary Education* has been excluded from the analysis.

Hawkesbury has a higher proportion of people with Vocational Education and Training (*VET)* qualifications, than Greater Sydney and the Western City District, and lower levels of people with *Undergraduate* qualifications. The proportion of people with postgraduate qualifications is comparable to the Western City District but lower than Greater Sydney.

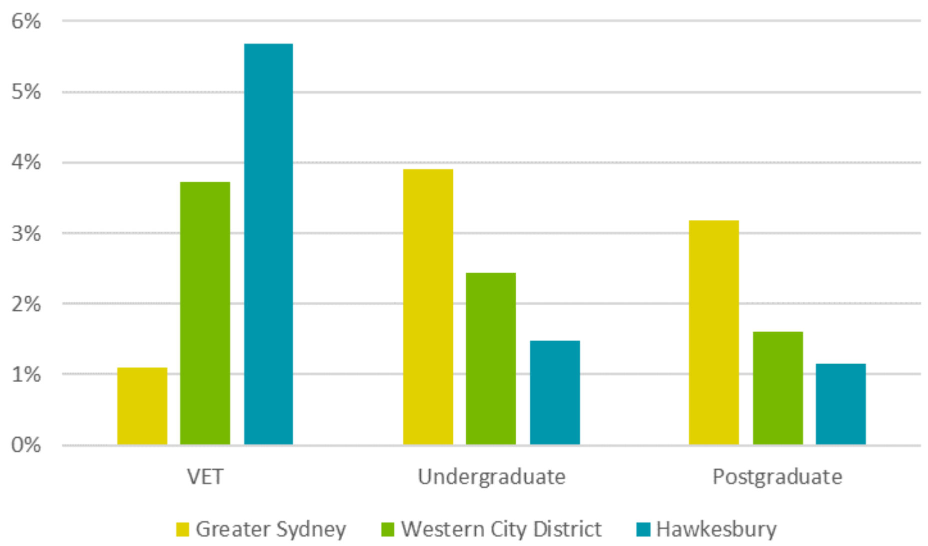
FIGURE 22: COMPARATIVE EDUCATION PROFILE STRUCTURE (2016)



Source: ABS Census 2016 (TableBuilder Pro)

Hawkesbury has seen the greatest increase in the number of persons with *VET* qualifications between 2006 and 2016, particularly when compared to the Western District and Greater Sydney. There has been less of an increase in *Undergraduate* and *Postgraduate* qualifications.

FIGURE 23: STRUCTURAL CHANGE POINT PERCENTAGE (2006 – 2016)



Source: As proportion of total population.

Implications for Hawkesbury LGA employment lands

The ageing profile of the LGA suggests employment strategy recommendations are needed that ensure town centre development supports the population's mobility, social and essential service needs (access to food, health and administration services).

Furthermore, strategy recommendations that support the development of co-working spaces; support the building of STEM and agribusiness research; and curating industrial lands that are relevant to the needs of local workers may also assist in retaining or attracting a younger population to live/work/study in the region.

Given a significant proportion of people have VET qualifications in the LGA, recommendations should support the expansion and/or attraction of relevant industries and the provision of appropriate floorspace to cater to these business types - for example, by improving the industrial lands offer for local 'tradies' or supporting retail and 'population-serving' commercial spaces for locals working in hairdressing or accountancy.

3.3 Agriculture

Australia has a rich history in agriculture and food production and has an opportunity to export high quality products that meet the growing needs of informed and discerning customers both here and abroad. With the growing Asian middle class, Australia is also in a prime position to take advantage of these export opportunities.

Agriculture is a key industry for the Hawkesbury LGA economy with an estimated production value of $158.7 million (2016). This equates to 19.7% of Sydney's peri-urban food bowl (second only to the Central Coast region) and 1.2% of the NSW value of production[9].

Crops make up 74.9% of the total LGA value of agricultural production, followed by turf (30.6%). The top five commodities produced in the Hawkesbury LGA are vegetables, turf, poultry meat, eggs and nurseries. The agriculture uses in the LGA can be further summarised as follows:

- **Irrigated plants:** vegetables, grown in market gardens and protected cropping structures; nurseries, and turf.
- **Intensive animals:** poultry meat and egg production.
- **Grazing animals:** cattle; horse studs and horses associated with rural residential use.
- **Rural tourism:** farm gate sales; horse riding, and farm stay accommodation.

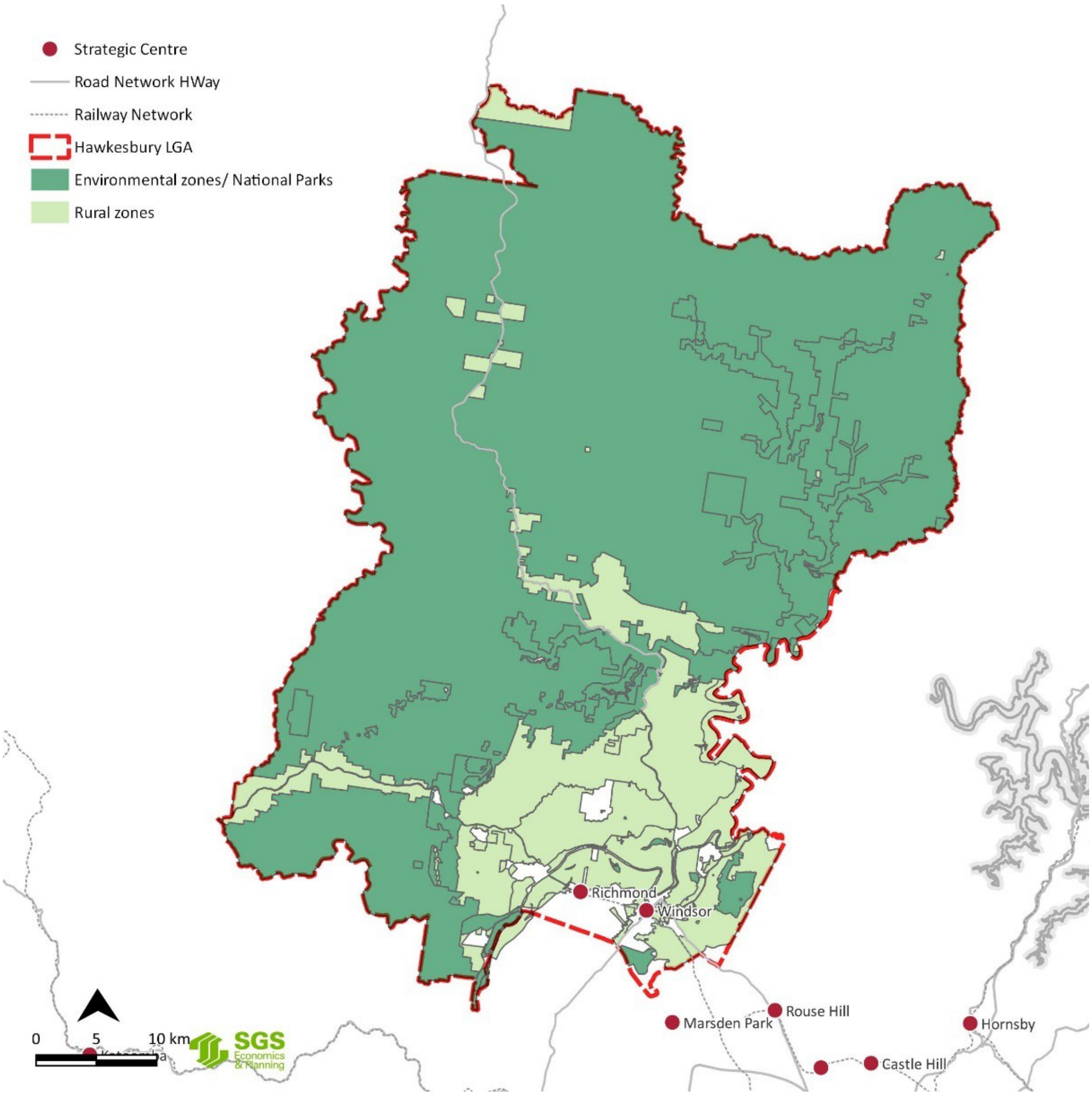
The *Kurrajong Heights-Ebenezer* zone has the highest value of production with $70,750,654 (turf, vegetables, eggs and poultry meat). This is followed by *Pitt Town-McGraths Hill* (vegetables, turf, eggs and poultry meat), *Richmond-Clarendon* (turf & vegetables), *Windsor-Bligh Park* (poultry meat, turf and vegetables), and *Bilpin-Colo-St Albans* (poultry meat and nurseries).

As of 2016, the agricultural industry accounted for 901 jobs in the Hawkesbury LGA. Agriculture is a subset of the Agricultural and Mining employment category which had a total of 931 jobs out of 30,581 in 2016.

Figure 24 and Figure 25 highlight the substantial size of productive rural land in the LGA. Agricultural lands such as these, in close proximity to Sydney's population are highly valuable but also face pressure from urban development.

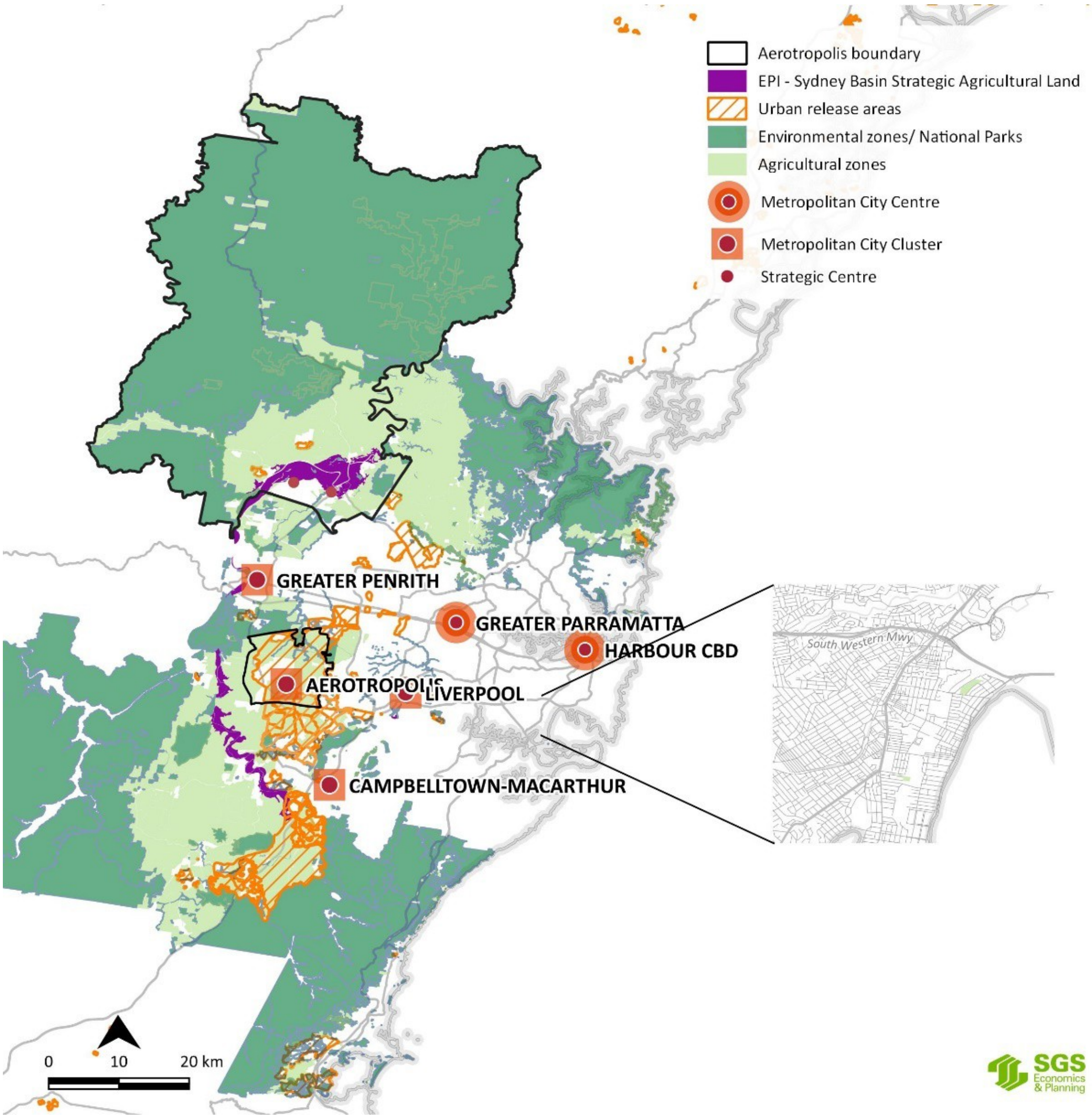
[9] Hawkesbury Rural Lands Study, 2020

FIGURE 24: ENVIRONMENTAL, NATIONAL PARKS AND RURAL ZONES OF HAWKESBURY LGA



Source: SGS, 2019

FIGURE 25: SYDNEYS AGRICULTURAL LANDS



Source: SGS, 2019

Implications for Hawkesbury LGA employment lands

Agriculture is a significant industry for Hawkesbury LGA and the fresh food produced is of great value to the Greater Sydney population. The greatest challenge will be managing land use conflicts between agriculture and rural-residential uses in the region. Maintaining buffer areas will be key to avoid land use conflicts.

The Metropolitan Rural Area (MRA) policy indicates more productive uses of these land should be considered as long as environmental, social and economic values are maintained.

The employment lands strategy will support the development of the agri-business industry in the Hawkesbury LGA. This may demand more peri-urban greenhouses and farm-use buildings to be located in the LGA. These developments would be suitable in many parts of the MRA, as they would be sensitive to the local environment and more tolerant to the risk of flooding.

The employment lands strategy also identifies the processing and manufacture of fresh agricultural products as an opportunity for Hawkesbury LGA. This is due to the significant amount of fresh produce grown in the LGA, and the potential for future transport links to Western Sydney Airport to increase efficiency in freight movements. If this industry were to develop, then the MRA lands could also provide a storage and logistics function, prior to the fresh produce being exported.

Tourism ventures based around agriculture/food/nature will also be supported by the employment lands strategy, as a low impact use of the MRA that also acknowledges the values of the land.

3.4 The freight network

Fresh produce and freight

A liveable city is one that has an efficient freight system embedded within it. High domestic population growth rates, new technologies, global sourcing, increasing import substitution, and changing consumer habits and expectations are driving big changes in demand for freight in Australia and across the world.

Access to transport infrastructure generates a range of benefits to the agriculture sector and related food manufacturing businesses in relation to exports of goods or products. Freight and logistics businesses value close proximity to motorways and major highways to lower transportation cost of goods across Australia.

A 2018 study[10] by the Australasian Agricultural and Resource Economic Society showed that a one per cent reduction in the cost of transportation between farms and ports leads to a 0.33% increase in land prices. This reflects the increased attractiveness and competitiveness of farmlands located in close proximity to improved rail or road infrastructure. The types of produce that would benefit from being close to the airport are the high value, time critical commodities, such as leafy vegetables and mushrooms, as well as some ornamental flowers and poultry eggs.

A 2016 study[11] into agricultural development in India sought to understand the impact of road infrastructure on agriculture, particularly rural road infrastructure. It provides an indication of the potential benefits the Hawkesbury LGA could experience with the improved freight connections through the Outer Sydney Orbital and Bells Line of Road-Castlereagh

[10] https://onlinelibrary.wiley.com/doi/abs/10.1111/1467-8489.12243
[11] http://www.ijhssi.org/papers/v5(11)/version-2/A0511020107.pdf

Connection, particularly for its agriculture and potential food manufacturing-related businesses which benefit from export sales. Some of those benefits include:

- **Changes in cropping pattern.** Improved road infrastructure leads to changes in cropping pattern towards cash crops[12].
- **Increase in yield.** Improved road infrastructure can allow for more export opportunities, which can increase the use of fertilisers and seed types for higher yields.
- **Saving of wastage.** Improved road infrastructure reduces the wastage due to reductions in transport distance and time for agricultural produce especially for perishable crops like vegetables.
- **Impact on vehicle operating cost-direct benefits.** The immediate benefits of road infrastructure improvement result from savings in vehicle operating costs.
- **Introduction of new activities.** Roads open opportunities for new activities allied to agriculture and in the non-farming sectors. These activities may include purchasing tractors, passenger and transport vehicles by farmers, and the opening of general shops on roadside.

There is a significant amount of produce exported from regional NSW to international markets. Key agricultural commodities for regional NSW include timber, horticulture, cotton, oil seed, dairy products and wine[13]. Horticultural exports from NSW (2018-19) were estimated at $458 million. Asia is the major receiver of produce where exports to China have an estimated value of $102 million, Japan $57 million and Singapore $22 million. All exports had grown in value from between 29 per cent to 56 per cent.

The NSW Farmers Association states there is potential to grow the NSW food economy, particularly by working on the linkages between the Central West region to Western Sydney with the establishment of WSA[14]. Improved linkages would include optimisation of transport corridors (Bells Line of Road is noted), digital connectivity, and social infrastructure improvements in towns.

Produce flows and the Hawkesbury LGA

The agriculture sector in the Hawkesbury LGA has an export value of $409.6m which is 11.2% of the total and number four behind Manufacturing ($1,421.2m), Public Administration & Safety ($771.8m) and Construction ($1,421.2m).

In 2013, Western Sydney University and the Urban Research Centre conducted a study to trace the supply chain of fresh fruit and vegetables from its agricultural origins to its buyer destinations. Sydney Markets is Sydney's premier distribution centre for fresh produce and flowers, servicing the needs of almost one third of Australia's population. It is also the largest produce market in the southern hemisphere. Hence, it acts as a sample indication for the various origins of produce shipped out across Sydney, NSW and Australia more widely based on type to markets.

Some of the produce shipped from the Hawkesbury LGA include:

- Mushrooms and truffles: 50% of the quantity at the Sydney Markets comes from the areas in and around the Riverstone, Vineyard and Windsor in north west Sydney. This equates to approximately 6,760 tonnes.

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[12] A crop produced for its commercial value.
[13] TfNSW, Freight and Ports Strategy 2018-2023
[14] NSW Farmers Association, https://www.nswfarmers.org.au/UploadedFiles/NSWFA/Poilcy%20Industry/NSWFAFoodEconomy.pdf

- Stimulants, spices and aromatics: this includes coffee, tea, mate, cocoa, pepper, dry chillies and other spices. 19.9% of the quantity at the Sydney Markets comes from the Windsor area on the Hawkesbury River. This would equate to 248 tonnes.
- Citrus: this includes oranges, mandarins, lemons and grapefruit. 2.4% of the quantity at the Sydney Markets comes from the Somersby area on the Hawkesbury plateau north of Sydney. This would equate to 3,276 tonnes.
- Leafy or stem vegetables: this includes asparagus, cabbages, cauliflowers, broccoli, lettuce, spinach and artichokes. 0.8% of the quantity at the Sydney Markets comes from the Richmond-Hawkesbury market gardening district. This would equate to 898 tonnes[15].

Future transport infrastructure and the movement of freight

In the next few decades, a number of major infrastructure projects will impact Greater Sydney and change the way freight moves in, around and out of the city. The following transport projects create an opportunity for Hawkesbury to efficiently move produce in and out of the LGA and also creates a potential opportunity to expand fresh agricultural food processing and manufacturing capabilities.

- Outer Sydney Orbital

As part of its transport plans to improve connections in Western Sydney, Transport for NSW is investigating the development of the Outer Sydney Orbital – a motorway and freight rail line. The transport corridor would provide a connection between Box Hill in the north and the Hume motorway, near Menangle, in the south via the Western Sydney Airport. In the future, there may be further connections made to the Illawarra and Central Coast regions.

- 1951 corridor for the Bells Line of Road Castlereagh Connection

The indicative road connection would sweep through Castlereagh in a south easterly direction towards the M7 south of Marsden Park. Project objectives are to improve road connectivity and transport efficiency within Western Sydney to regional areas west of Sydney. Consultation on the recommended corridor was conducted in 2018.

[15] Source: https://www.uws.edu.au/__data/assets/pdf_file/0010/482518/Sydney_Markets_Report.pdf

Figure 26 highlights the indicative corridors for the above two projects running through the LGA and in close proximity to Richmond-Windsor.

- **Western Sydney Airport and the Aerotropolis**

The Federal Government expects the WSA to open in 2026 and to provide significant opportunities for local business creation. It is projected the airport will result in approximately 28,000 direct and indirect jobs by 2031[16]. WSA will be operational 24-hours a day with passenger forecasts of 5 million by 2026, 10 million by 2031 and 82 million by 2063[17]. The Aerotropolis is expected to create 200,000 jobs in aerospace and defence, food and agribusiness, health, research and advanced manufacturing, and freight and logistics.

Implication for employment lands in Hawkesbury LGA

Given the indicative Outer Sydney Orbital and the Bells Line of Road-Castlereagh Connection run through the LGA and connect south towards the Western Sydney Aerotropolis, Hawkesbury is potentially well-positioned to benefit from increased accessibility to the new WSA and Aerotropolis for its agricultural exports.

For the Hawkesbury LGA, this could result in growth of agricultural industries requiring good transport access and export access at WSA. This would support more jobs opportunities in the LGA.

There could also be potential for industrial land in the LGA to be used for logistics and storage of fresh food freight (local or regional). There may also be opportunity for a new industry focus for fresh agricultural food processing – preparing the produce for domestic and international consumption.

In response, employment land strategy recommendations include supporting the development to agribusiness in the Clarendon precinct; investigating the growth potential for fresh food processing industries in the LGA; and monitoring the need to expand industrial land in the Mulgrave precinct as relevant.

[16] Australian Government, Department of Infrastructure, Regional Development and Cities, 2018, https://westernsydneyairport.gov.au/

[17] Australian Government and NSW Government, 2018, Western Sydney Aerotropolis: Investor Guide, p. 6

FIGURE 26: OUTER SYDNEY ORBITAL AND BELLS LINE OF ROAD – CASTLEREACH CONNECTION (INDICATIVE)

Source: TfNSW, Outer Sydney Orbital corridor identification, 2018

3.5 Education

Western Sydney University

The Hawkesbury Campus of Western Sydney University (WSU) contributes significantly to the local economy. As of 2016, the tertiary education industry accounted for 547 jobs in the Hawkesbury LGA.

The Hawkesbury campus attracts approximately 2,610 students which was about 5.4% of the total student population in 2018. This was a slight decrease from earlier years at 6.2%[18].

Consultation[19] indicated WSU has a number of existing functional linkages with the local area:

- There are facilities on-site that are open to the general public.
- A number of research projects align with businesses (although currently these are not local businesses).
- Local workers (such as tradesmen) are used by the University for planning and maintenance works.
- Regular discussion occurs with the RAAF.
- Some staff go off-site during the day to Richmond and Windsor.
- Some professional staff do live locally.

In the future, WSU is seeking to:

- Develop Hawkesbury's position as a leading peri-urban centre in economic and sustainable regional development: allow agricultural-related businesses to grow and create new economic opportunities.
- Co-locate emerging industries close to the WSU: develop an agri-knowledge precinct that can leverage from existing and emerging specialisations in agricultural technology and related businesses.
- Foster strategic partnerships and strong effective governance: continue to collaborate and build partnerships with Council, RAAF, TAFE, and other stakeholders to develop educational pathways and business synergies that leverages opportunities from Western Sydney Airport and the Aerotropolis new global markets.

TAFE

The TAFE has a focus in horticulture, agriculture, veterinary science, floristry, equine industry (certificate III in horse racing). The TAFE has a strong focus on community and community industry and creates a clear education pathway from the agricultural high school.

Richmond High School

The NSW Government has announced it is investing in the development of agricultural education pathways for students. For Richmond High School it is anticipated that students will be able to apply for entry to an agricultural education speciality stream in 2021[20].

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[18] Western Sydney University, 2019, https://www.westernsydney.edu.au/future/why-western/global-rankings.html, date accessed: 09/10/2019.
[19] See Appendix D for consultation findings
[20] Richmond High School, https://richmond-h.schools.nsw.gov.au/about-our-school/enrolment.html; NSW Government, https://education.nsw.gov.au/news/media-releases/government-invests-in-the-future-of-agricultural-education

Implication for employment lands in Hawkesbury LGA

A strength of the Hawkesbury region is its contribution to agricultural and fresh food production. Stakeholders in Clarendon are aiming to raise this profile by strengthening the educational pathway into agriculture and related industries for students. They have expressed interest in collaborating with other Clarendon stakeholders.

Recommendations will support Council facilitating a high-level working group between these stakeholders to ensure co-ordination of strategies, ensure a flow of information and to provide clarity around the future direction of the LGA.

3.6 RAAF Base – Richmond

The Royal Australian Air Force (RAAF) Base Richmond is the centre for logistics support for the Australian Defence Force (ADF). The Base includes several units which support and provide education, training and defence services. Alongside RAAF defence personnel, there are other aerospace entities at the Base.

As identified in the Greater Sydney Region Plan, the RAAF Base Richmond will support Western Sydney Airport and associated activities.

As of 2016, the defence industry accounted for 601 jobs in the Hawkesbury LGA. Defence jobs are a subset of the Public Administration and Safety employment category which accounted for 2,301 jobs out of a total of 30,581 jobs in the LGA.

Consultation[21] revealed a number of local linkages:

- The Airforce uses national suppliers for garrison related services such as meals, laundry and accommodation. They also use a number of local suppliers and contractors to support the RAAF and its personnel. They are usually local trades people that provide minor telecommunication repairs, or repairs on the Base, or on defence housing that is leased in the area. They supply services where a large national supplier is not required.
- Defence housing is scattered in a 25km radius around the Base. This housing requires repairs and local subcontractors will be engaged.
- As Airforce personnel live in defence housing in the LGA, they would interact with local business and local centres frequently.
- The RAAF often engages with the local community looking for local contractors.
- The Base is conveniently placed for Federal ministers to fly into and then visit their constituent areas in Western Sydney, avoiding the congestion of Kingsford Smith Airport.

Consultation indicated the following future considerations for the RAAF:

- The RAAF interacts with the Air Ambulance, Rural Fire Service and the Royal Flying Doctor Service. For these three first response groups, there will be growth in their service areas in the future and they need accommodation which the Base cannot provide.
- There is a lot of growth potential in the Airforce and Army cadet programs. Cadets are aged between 12-18 years of age (year 7-12 school). The RAAF runs school camp programs to allow them to experience life at the Base and highlights future career opportunities. The Army also needs pilots and is looking to use Richmond in the future. The school camps run for a couple of weeks throughout the year.

[21] See Appendix D for consultation findings

- The RAAF also runs job experience days (Green Light Days) where students from the TAFE or school (year 10 and above) can come and experience the Base and learn about the career pathway into the Airforce.
- There are no plans for expansion that would require additional land areas.

- Personnel numbers are likely to remain the same. There may be some growth in the use of contractors.
- The RAAF is supporting the growth of STEM. The RAAF aims to create stronger links with WSU via engineering areas to progress research and development in robotics, artificial intelligence and where there are commonalities in aeronautical. This also extends to the TAFE. TAFE wants to expand its Richmond campus and they are looking at strengthening the linkages/opportunities for students with the Base, for example mechanics.
- A heritage museum is being developed outside the front gate of the Base on Percival Street on RAAF land. It will be couple of hangars in size and is expected to showcase historical and STEM related exhibits.

Implication for employment lands in Hawkesbury LGA

The RAAF is a unique and valuable presence in the Hawkesbury LGA that uses a number of local providers, particularly for repair work that is not completed by national providers. The RAAF has indicated that it intends to support the growth of STEM capabilities in the LGA and develop a heritage museum.

Recommendations will ensure this is supported and that Council facilitates collaboration between relevant stakeholders in the Clarendon area to help progress the RAAF's work. This will support Western City District Plan action 65a.

3.7 Equine Industry

The equine industry in Hawkesbury is supported by a network of local infrastructure entities. The Hawkesbury Race Club have key services that supports its function, including stables, horse trainers and veterinary centres. In addition to this, TAFE runs a number of certificates and vocational courses in the equine field[22]. These businesses are agglomerated around the Richmond racetrack.

There are three major thoroughbred training facilities in the Western Sydney region (Warwick Farm, Rosehill and Hawkesbury). Approximately 26% of all thoroughbred training activity for NSW is located at one of these three facilities. The value of the racing industry (thoroughbred, harness, greyhound) in Western Sydney is substantial at $454.9 million, a contribution of 13.5% of the NSW total[23].

As of 2016, the horse and dog racing industry accounted for 105 jobs in the Hawkesbury LGA. Horse and dog racing activities are a subset of the Arts and Recreation services employment category which had a total of 566 jobs in 2016.

Implication for employment lands in Hawkesbury LGA

Engaging and investigating the needs of this industry and how they can work with other stakeholders in the Clarendon precinct will be an area of work for Council as part of ongoing economic development activity.

[22] Hawkesbury Showground, 2019, *The showground*, http://www.hawkesburyshowground.com.au/about/association, date accessed 12/8/2019

[23] NSW Government, 2014, Size and Scope of the NSW Racing Industry

3.8 Tourism

In 2018, there were 722 tourist related businesses listed in the Hawkesbury LGA.

Tourism plays an important role in the Australian economy. The tourism economy accounts for 4.7 per cent of Australia's GDP. Greater Sydney welcomes approximately 3.75 million international visitors who spend $9.03 billion a year[24].

International tourism

Research by Tourism Research Australia suggests that international visitors totalled 8,000 for the Hawkesbury LGA in 2017, staying approximately 138,000 nights with an average stay of 17 nights. They spent approximately $9 million with an average spend per trip of $1,112. Key reasons for visiting were visiting family and friends or a holiday[25].

Australian domestic tourism

Domestic overnight tourism for reasons of holiday, visiting friends and relatives and business have generally increased in recent years. For the Hawkesbury LGA, domestic overnight visitors totalled 138,000 in 2017. They stayed an average of 518,000 nights over this period, for generally three nights in total. They spent approximately $63 million, with an average spend of $322 per trip. Visitors were a mixture of unaccompanied, couple, family group and friends/relatives travelling together. Most visitors stayed in the home of a friend or relatives rather than in hotel accommodation. Domestic day trippers were the most significant group to visit the Hawkesbury LGA in 2017 period. The number of visitors was 753,000 which was 79% of the total number of visitors to the LGA.

Nature-Based and Food and Wine Tourism

Nature-based tourism is leisure travel undertaken largely or solely for the purpose of enjoying natural attractions and engaging in a variety of nature-based activities. In 2015, there was a 13% rise in international visitors who visited State and National Parks. In 2016, 68% of all international visitors engaged in nature-based activity. Statistics indicate that nature-based tourism and Australia's nature-based assets are key attractors for national and international visitors. Council can seek to develop partnership with national parks to encourage tourism activity within the National Parks area.

Arts and culture-based tourism; food and wine centred tourism; and nature-based tourism are all strongly represented within the NSW visitor economy. There is potential for these areas to be capitalised upon further in NSW.

As indicated in the Hawkesbury Community Strategic Plan (2017), tourism is to be enhanced and strengthened. Hawkesbury's tourism industry is also supported by the Destination Management Plan. This Plan was developed to build a more sustainable visitor economy in line with the needs of the community. Likewise, the Hawkesbury Tourism Strategy (2015) states it will develop Richmond, Windsor and Kurrajong as notable tourism hubs in the first instance. Windsor could be the primary hub.

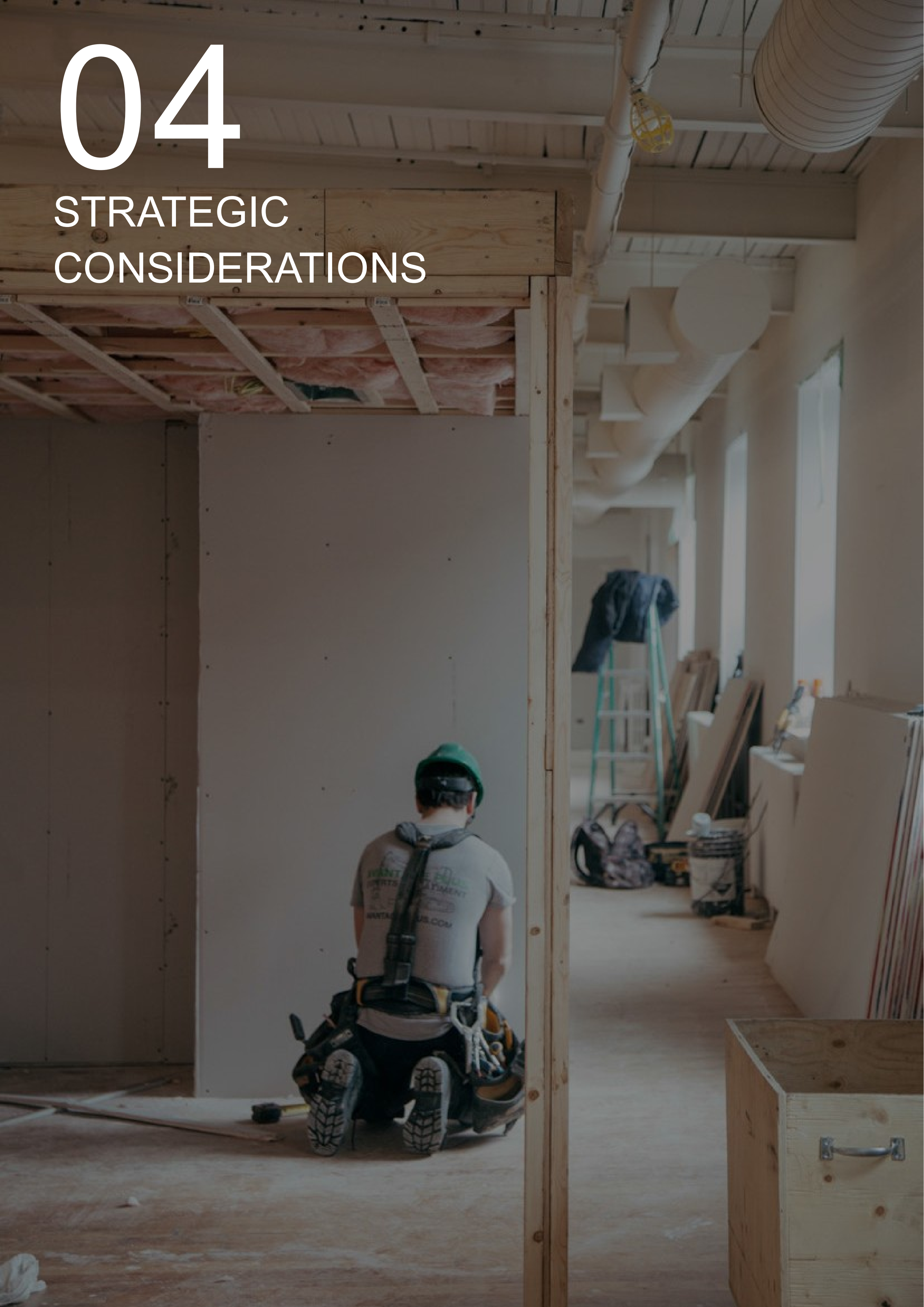
[24]Greater Sydney Commission, 2018, https://greater.sydney/metropolis-of-three-cities/productivity/jobs-and-skills-city/economic-sectors-are-targeted-success, date accessed: 25/05/2019
[25] Tourism Research Australia, https://www.tra.gov.au/search.aspx?ModuleID=518&keywords=hawkesbury&multiSite=False, date accessed: 25/05/2019

Implication for employment lands in Hawkesbury LGA

It has been established that the LGA has strengths in agriculture, fresh food production and benefits from its natural setting. It has also been established that there are directives in existing strategic plans that support the development of tourism in the region.

Therefore, the employment study recommendations will support the development of a tourism brand that is centred around food concepts and nature-based tourism. Recommendations will also support integration of this brand into the local streetscape, as well as celebrating the heritage of the town centres, and minimising any impact of tourism activities on the natural environment.

04
STRATEGIC CONSIDERATIONS



4. STRATEGIC CONSIDERATIONS

This section presents current employment land use in the LGA, highlights employment floorspace gap analysis and presents emerging economic trends and opportunities that may impact the LGA.

4.1 Employment lands

Current land use

Employment land uses (retail, commercial and industrial) are concentrated in the south-eastern portion of the Hawkesbury LGA, as indicated in Figure 27. Most activity occurs throughout the Strategic Centre of Richmond-Windsor, see Figure 28.

The Richmond centre is predominantly business land uses and zoned B2 Local Centre. There are small areas of IN2 Light Industrial. The town centre is mostly surrounded by residential uses, see Figure 29.

The Windsor centre has predominantly B2 Local Centre zoning with a small area zoned B1 Neighbourhood Centre surrounding the rail station. Like Richmond, it is also surrounded by residential uses. Generally, south of the T1 and T5 Richmond rail line there is a large expanse of IN1 and IN2 General and Light Industrial land uses, known as South Windsor. South Windsor also contains a small area that has a B1 Neighbourhood Centre zone, see Figure 30.

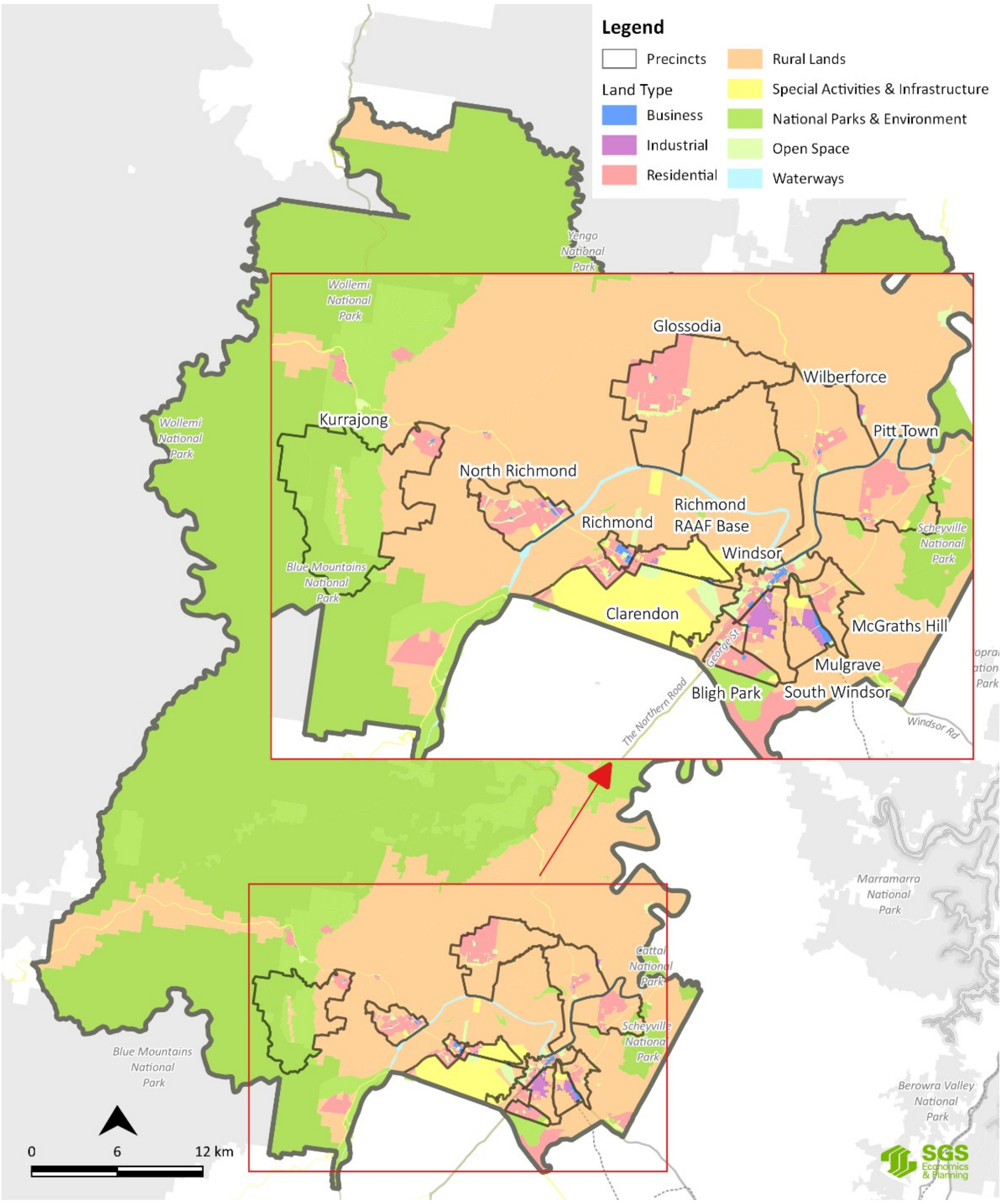
The Richmond-Windsor Strategic Centre encompasses the special activity area of Clarendon. This area contains a number of unique entities, including the RAAF Base, Western Sydney University, TAFE and agricultural and equine industry businesses and land uses.

Mulgrave, to the east of Windsor centre, includes B5 Business Development, B6 Enterprise Corridor, IN1 General Industrial and IN2 Light Industrial land use zonings, see Figure 31. The centre is generally surrounded by rural, some residential and infrastructure land uses.

Socio-economic profiling identified that a high number of a local residents live and work within the LGA. Figure 15 has identified there is approximately 8% of people who identify as working from home.

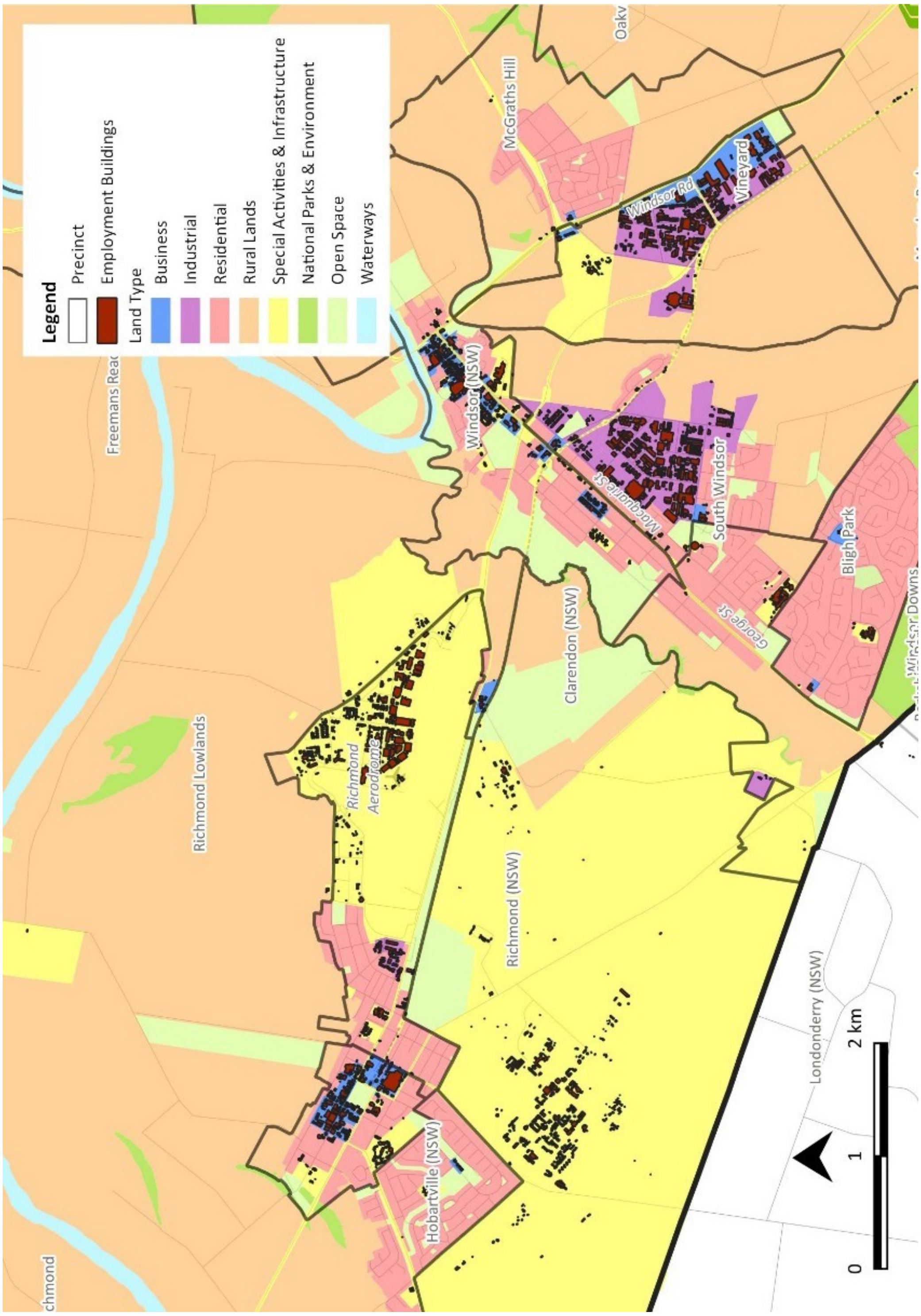
For further information about land uses and employment profiles of smaller precincts in the Hawkesbury LGA, see Appendix B.

FIGURE 27: HAWKESBURY LGA LAND USE OVERVIEW



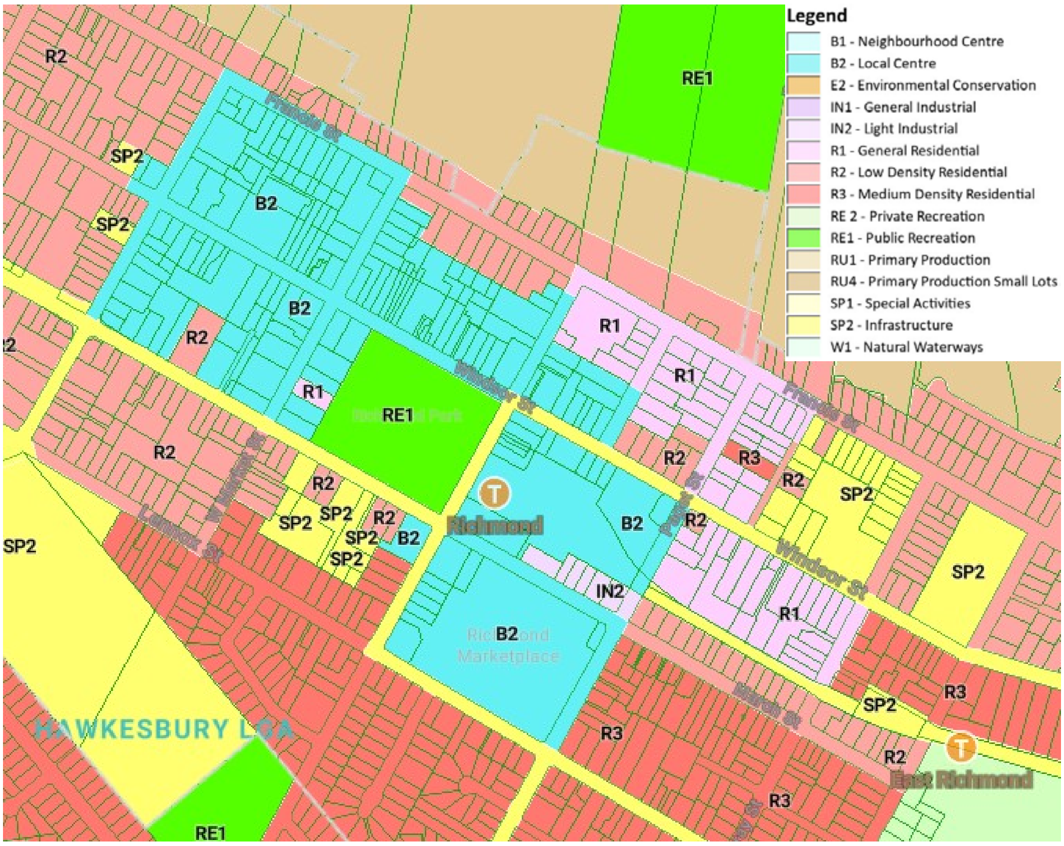
Source: SGS, 2019

FIGURE 28: LAND USE OVERVIEW – RICHMOND-WINDSOR STRATEGIC CENTRE



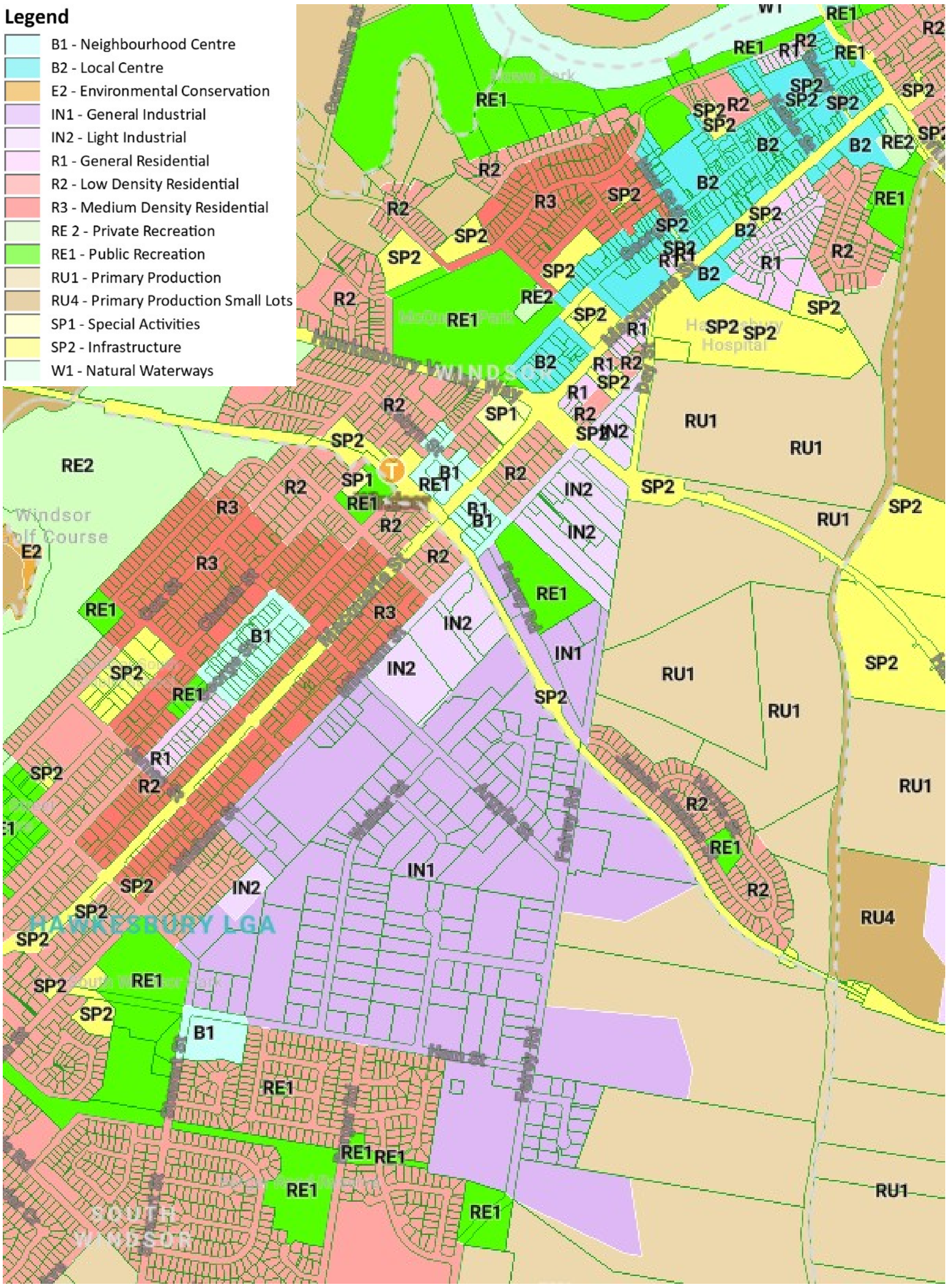
Source: SGS, 2019

FIGURE 29: LAND USE ZONES - RICHMOND TOWN CENTRE



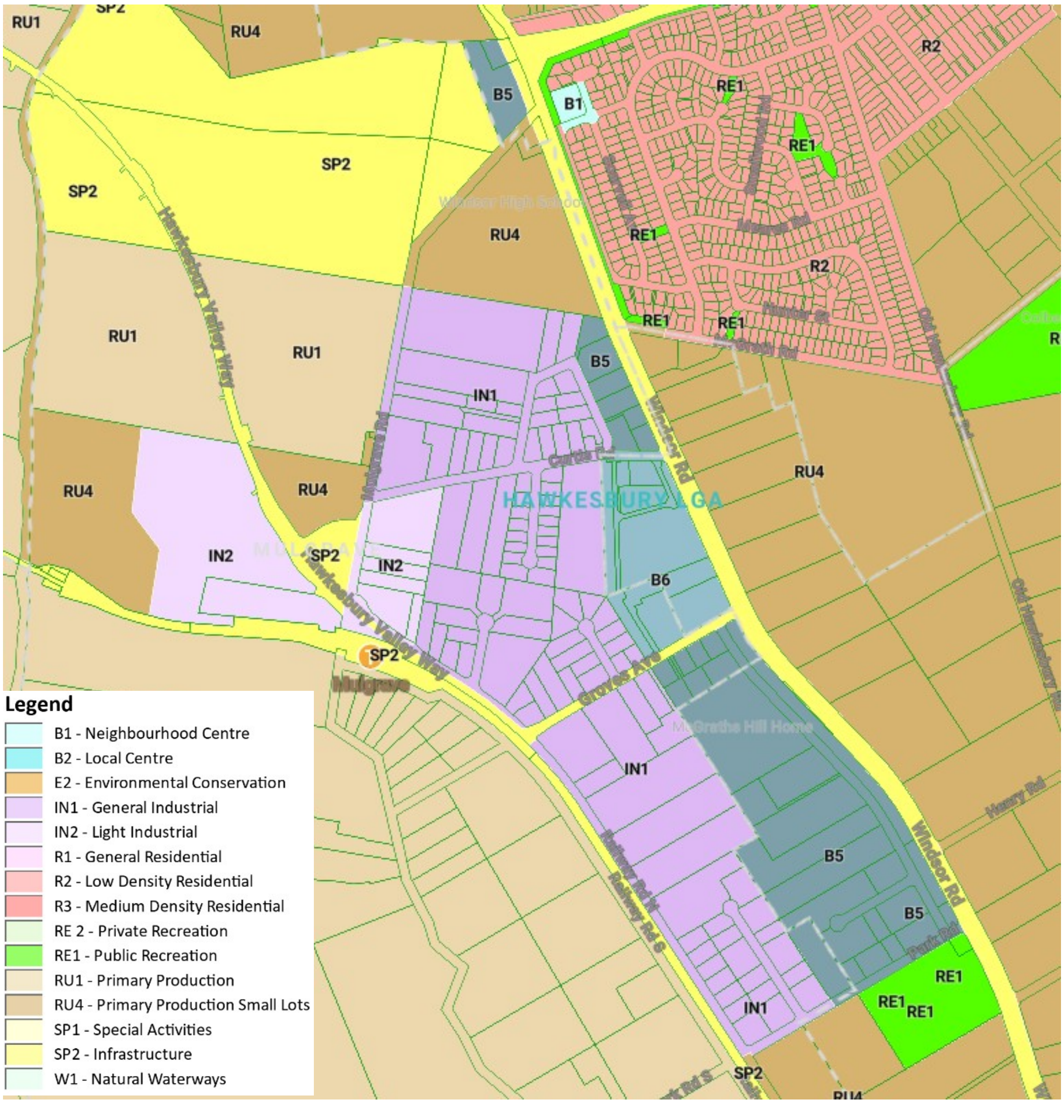
Source: Mecone Mosaic, 2020

FIGURE 30: LAND USE ZONES - WINDSOR AND SOUTH WINDSOR



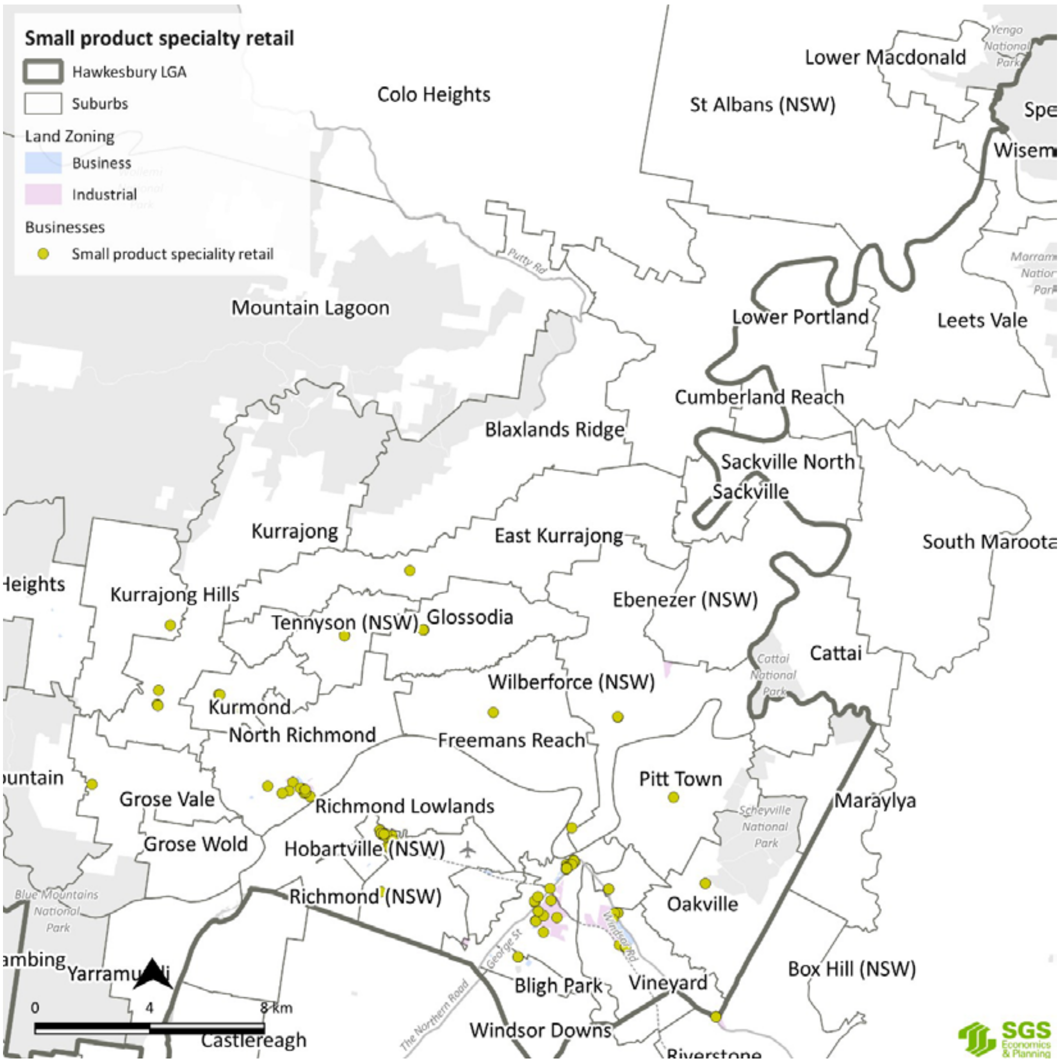
Source: Mecone Mosaic, 2020

FIGURE 31: LAND USE ZONES - MULGRAVE



Source: Mecone Mosaic, 2020

FIGURE 32: LOCATION OF SMALL PRODUCT SPECIALITY BUSINESSES

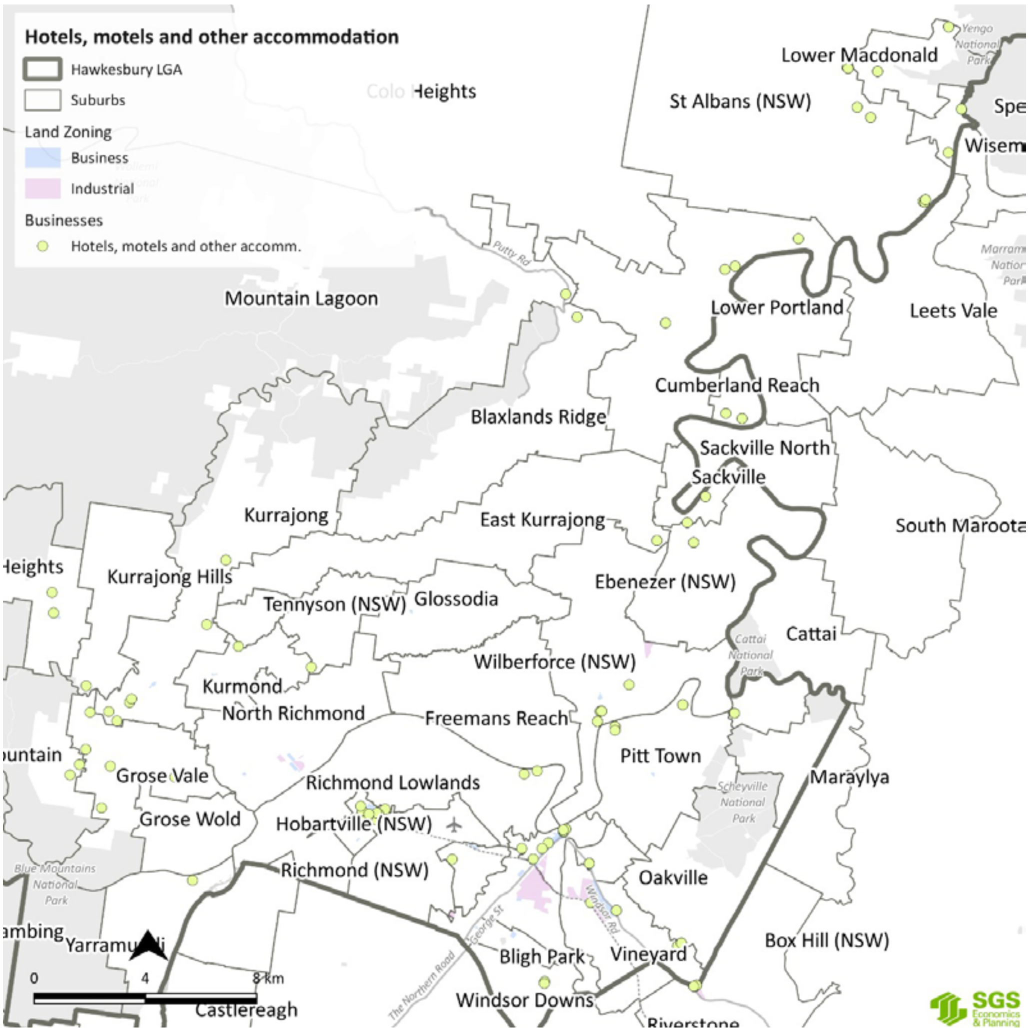


Source: SGS, 2020; Google API

Figure 32 identifies the location of small product businesses in the LGA[26]. These businesses could be retail or industrial in nature and they tend to centre around the industrial lands of South Windsor and the town centres of Richmond, Windsor, and North Richmond. Supporting smaller retailers in town centres (fine-grain retail) and supporting smaller industrial operators are two opportunity areas for the LGA that should form part of ongoing strategic planning and economic development activity.

[26] This is based on information available from the Google Application Programming Interface (API) dataset

FIGURE 33: LOCATION OF VISITOR ACCOMODATION

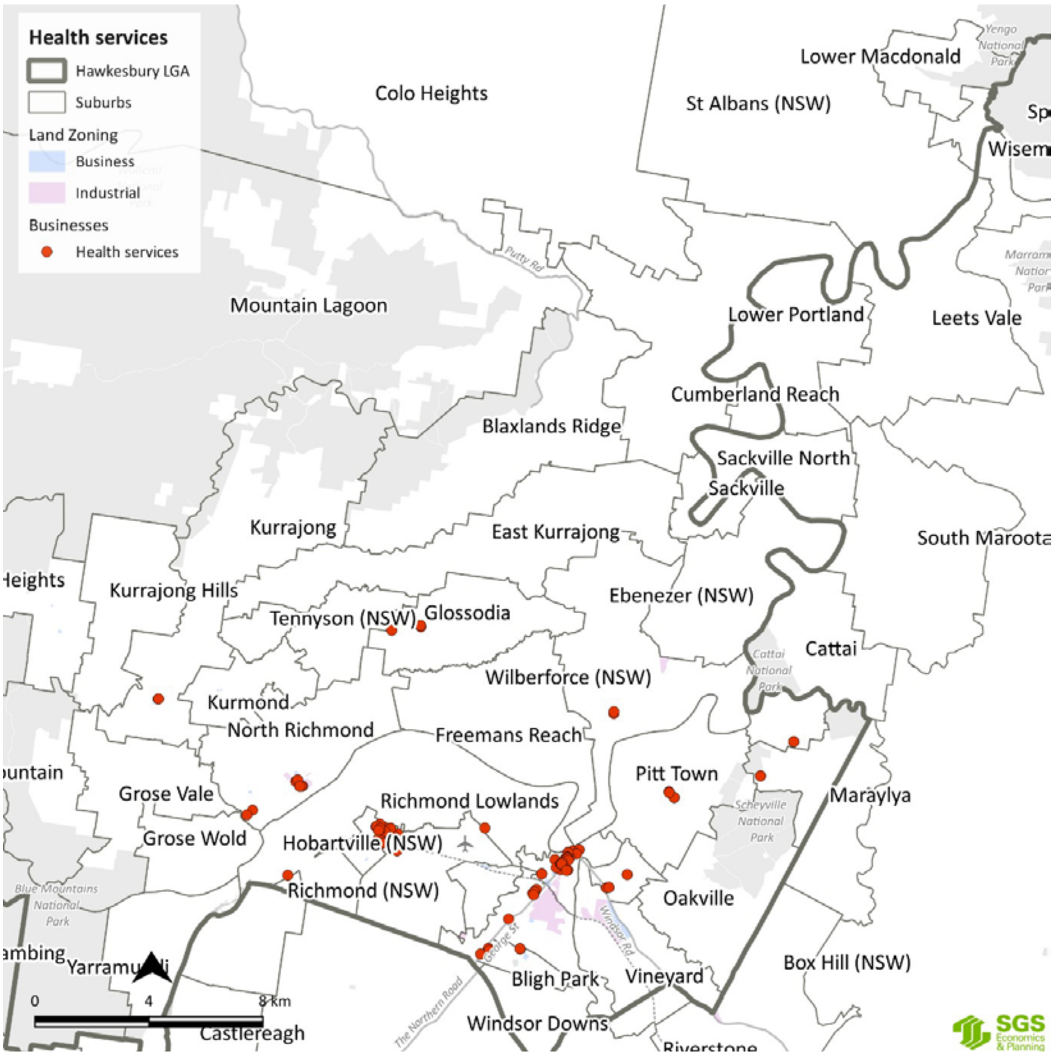


Source: SGS, 2020; Google API

Figure 33 highlights the location of visitor accommodation throughout the LGA[27] which is centred around Windsor, Richmond and Grose Valley/Kurrajong. The employment strategy will support the existing tourism industry and help to further develop the industry in areas that align with agricultural/local food production and the rural character/nature-based attributes of the LGA. Appropriate coordination and development of associated infrastructure (i.e. accommodation) should be considered as required.

[27] This is based on information available from the Google Application Programming Interface (API) dataset.

FIGURE 34: LOCATION OF HEALTH SERVICES



Source: SGS, 2020; Google API

Figure 34 highlights the location of health services in the LGA[28]. These are highly concentrated around Richmond and Windsor town centres. The NSW Ageing Strategy 2016-2020 states that the most common issues for older people are:

- Living in an isolated area
- Getting to and into transport
- Navigating the built environment (scarce or poor-quality footpaths and lack of accessible parking are specific challenges)[29].

Maintaining the health service clusters in Richmond and Windsor will be important as the population ages, as well as supporting access to these services and encouraging smaller health services to locate in other parts of the LGA.

[28] This is based on information available from the Google Application Programming Interface (API) dataset.
[29] NSW Government, NSW Ageing Strategy 2016-2020, p. 30

4.2 Employment floorspace – gap analysis

Retail floorspace

As part of the employment lands study, employment floorspace (retail, commercial and industrial) was assessed to determine current supply and future demand and in turn, the need for additional floorspace in the future (i.e. the forecast supply-demand gap). A full description of floorspace demand modelling is provided in Appendix C.

Retail floorspace supply and demand has been assessed via a retail gravity model[30]. The gravity model simulates where people will spend their money when given the choice of different retail destinations. It also considers additional variables, such as spending by retail commodity type, the distance shoppers have to travel to a retail centre and the attractiveness of the centre. Using the retail gravity model to determine future demand of floorspace and applying these outputs against the current floorspace supply and current floorspace planning controls (capacity analysis), the floorspace 'gap' can be determined, i.e. whether or not there will be a need for additional floorspace in the future to cater to demand.

Floorspace gap analysis suggests a need for approximately 1,857 sqm of retail floorspace by 2026. This could increase to 20,237 sqm by 2036, see Table 8. The need for additional retail floorspace would be largely split between McGraths Hill, Richmond Town Centre and Windsor Town Centre at approximately 5,400 sqm for each centre, see Table 9.

The retail commodity types with the most floorspace demand would be Department Store for McGraths Hill (-1,796sqm); Supermarket and Department Store for Richmond (-2,203 and -1,026 sqm respectively); and Supermarket and Hospitality for Windsor (-1,946 and -1,727 sqm respectively).

TABLE 8: FLOORSPACE RETAIL GAP, HAWKESBURY LGA (SQM)

	2016	2021	2026	2031	2036
Supply	116,975	121,118	121,118	121,118	121,118
Demand	116,975	117,713	122,975	135,168	141,355
Gap (sqm)	0	3,405	-1,857	-14,050	-20,237
Gap (hectares)	0.00	0.34	-0.19	-1.40	-2.02

Source: SGS, 2019

[30] See Appendix C the detailed floorspace analysis and retail gravity modelling outputs.

TABLE 9: RETAIL GAP BY COMMODITY TO 2036, HAWKESBURY LGA

Precinct	Supermarket	Other Food	Hospitality	Clothing & Soft Goods	House. Goods	Other Retail	Dep. Stores	Total
McGraths Hill	-674	-708	-878	-318	-827	-368	-1,796	-5,568
Richmond TC	-2,203	-501	-536	-937	302	-567	-1,026	-5,468
Windsor TC	-1,946	-262	-1,727	-450	144	-772	-290	-5,303
North Richmond	-352	-163	-702	-102	-308	-332	-178	-2,137
Pitt Town	-	-361	-405	-	-	-154	-	-921
Kurrajong	-	-91	-106	-31	4	-31	-	-255
Glossodia	-81	-58	-78	-	-	-15	-	-232
Wilberforce	-	-103	-33	-	-	-40	-42	-217
Hobartville NC	-60	-	-30	-	-	-	-	-90
Kurmond	-	-38	-19	-	-	-9	-	-66
Freemans Reach	-	-	-	-	8	2	-	10
Total	-5,316	-2,285	-4,515	-1,838	-676	-2,287	-3,332	-20,249

Source: SGS, 2019

When factoring in tourism spending, floorspace demand is increased and the need for additional floorspace is seen earlier in 2021, where it is projected there would be a deficiency of about 6,813 sqm[31]. This is projected to increase to 35,556 sqm by 2036, see Table 10.

Retail gravity modelling suggests that by 2036 Windsor Town Centre would require an additional 14,737 sqm retail floorspace in total. Within this total, the most significant projected demands are in Hospitality (-8,757 sqm) and Supermarket (-2,332 sqm) commodity floorspace categories, Table 11.

TABLE 10: BLEND OF RESIDENT + TOURISM GAP, HAWKESBURY LGA

	2016	2021	2026	2031	2036
Supply	116,975	121,118	121,118	121,118	121,118
Demand	116,975	117,713	122,975	135,168	141,355
+Tourism	*8,465*	*10,219*	*11,967*	*13,624*	*15,319*
Combined	*125,440*	*127,932*	*134,942*	*148,792*	*156,674*
Gap (sqm)	*-8,465*	-6,813	-13,823	-27,674	-35,556
Gap Adjusted	*0*	-6,813	-13,823	-27,674	-35,556
Gap (hectares)	*-0.85*	-0.68	-1.38	-2.77	-3.56

Source: SGS, 2019

[31] The retail gravity model assumes that there is a market equilibrium in the base year. As such, there is a floorspace gap of around 6,813 starting in 2021, continuing out to a gap of 35,556 in 2036.

TABLE 11: 2036 RESIDENT + TOURISM GAP, HAWKESBURY LGA

	Supermarket	Other Food	Hospitality	Clothing & Soft Goods	House. Goods	Other Retail	Dep. Stores	Total
Windsor TC	-2,332	-698	-8,757	-842	-111	-1,271	-725	-14,737
Richmond TC	-2,303	-642	-2,312	-1,023	239	-690	-1,127	-7,857
McGraths Hill	-674	-708	-878	-318	-827	-368	-1,796	-5,568
North Richmond	-514	-322	-3,076	-211	-379	-481	-296	-5,279
Pitt Town	-	-361	-405	-	-	-154	-	-921
Glossodia	-208	-189	-78	-	-	-81	-	-556
Kurrajong	-	-91	-106	-31	4	-31	-	-255
Wilberforce	-	-103	-33	-	-	-40	-42	-217
Hobartville NC	-91	-	-30	-	-	-	-	-121
Kurmond	-	-38	-19	-	-	-9	-	-66
Freemans Reach	-	-	-	-	8	2	-	10
Total	-6,122	-3,152	-15,694	-2,426	-1,066	-3,124	-3,985	-35,568

Source: SGS, 2019

Centres and industrial floorspace

Industrial and commercial floorspace requirements have been assessed against capacity within the existing planning framework for three scenarios. Scenario 2 is considered the most likely. Analysis suggests there is sufficient floorspace capacity under current planning controls to cater for future demand for commercial/retail in centres and industrial precincts out to 2036 with a surplus of 65,203 sqm for 'population serving' commercial/retail redevelopment and 29,766 sqm for industrial redevelopment based on forecast employment growth.

TABLE 12: PROJECTED 2036 CAPACITY-DEMAND GAP (SQM) – CENTRES AND INDUSTRIAL

	Centres (commercial + retail)			Industrial		
Capacity Scenario (sqm)	Scenario 1 Permissible	Scenario 2 Practical	Scenario 3 Conservative	Scenario 1 Permissible	Scenario 2 Practical	Scenario 3 Conservativ e
	803,746	132,634	41,166	725,939	211,404	211,404
Demand projection 2016-2036 (sqm)	67,431 (approximately 3,372 sqm per year)			181,638 (approximately 9,082 sqm per year)		
Projected gap* (sqm)	736,315	65,203	-26,265	544,301	29,766	29,766

*Positive numbers indicate a surplus, negative numbers indicate a shortage

Based on the projections, industrial floorspace demand is expected to grow at around 9,082 sqm per year, and commercial/retail floorspace demand in centres at approximately 3,372 sqm per year. Therefore, this would amount to approximately an additional 3 years of capacity in the system for industrial floorspace and 19 years for commercial/retail.

A margin of error can exist with demand projections and floorspace modelling. Demand and the generation of activity in centres needs to be monitored to ensure the supply of floorspace, expansion or release of land or changes to the built form are aligned.

Scenario 2 - Practical floorspace capacity - permissible and likely land use capacity

The practical capacity assessment makes use of several data sources for each property:

- Environmental Planning Instruments (EPIs) gazetted under Local Environmental Plans, namely terrestrial biodiversity, wetlands, flooding, and heritage
- Strata titles recorded by PSMA Australia (a data company that provides national location data)
- Community uses and infrastructure recorded by Spatial Services, NSW Department of Finance, Services and Innovation
- Existing built form, as identified in the building use assessment.

The scenario includes the following aspects:

1. By site – only certain sites are assessed to be practicably re-developable, namely:

- Those without the application of biodiversity, wetland, flooding and heritage EPIs
- Those which do not host active community uses or infrastructure
- Those in industrial zones or vacant sites
- Those in business zones, sites with less than one half of the permissible building envelope already developed
- Those in mixed-use zones and in residential zones, sites with less than five strata titles.

2. By floorspace – where land use permissions are broad, only certain types and quanta of floorspace area assessed to be practicably developable.

This scenario assumes that development is built to full planning control limits, but it is only applied to lots that do not have a serious constraint such as biodiversity, wetlands, flooding, heritage, any identified community uses, any buildings with more than five strata units identified (in mixed use zones).

It also only considers those with significant potential for development uplift under current controls, with less than 50 per cent of total developable area considered. It also applied a limit to the development of commercial floorspace in mixed use zones to account for the competition it would face with residential. It also assumes that in industrial precincts, if there is any development on site, then the site would not be considered.

Implication for employment lands in Hawkesbury LGA

Floorspace demand modelling suggests floorspace capacity is adequately served for retail, commercial and industrial purposes under permissible or practical scenarios out to 2036. Planning for industrial expansion may be required in shortly after 2036. In light of these projections, recommendations in the Strategic Framework section of this report focus on the monitoring of activity and planning for small additions (in the medium to long term) for additional floorspace.

For retail floorspace, additions will also be dependent on changes or growth of the tourism industry. These will have the potential to accelerate floorspace demand and should be monitored. For industrial/commercial floorspace, any additions to floorspace will be dependent on growth of the agribusiness/food manufacturing industry that may create more demand.

4.3 Emerging business and industrial trends

Economic trends that may affect the employment structure and employment lands of the Hawkesbury LGA in the future are discussed below.

Retail and Commercial

Online Retailing

Since 2013, it is estimated online retail turnover has grown 142 per cent[32]. National Australia Bank (NAB) estimated in the 12 months leading up to January 2019, Australians spent approximately $28.88 billion on online retail which was the equivalent of about nine per cent of retail in the traditional 'brick and mortar' retail sector[33].

Reasons individuals choose to shop online include the reduced amount of time it takes to complete purchases; easier price comparisons; and online shopping provides the flexibility to shop at convenient times[34].

Online retailing has impacted the 'bricks and mortar' retail landscape. Therefore, new strategies to draw 'foot traffic' and spending back to high streets and town centres is required, as discussed below.

Implication for employment lands in Hawkesbury LGA

Online retail is a threat to traditional high street retail in Hawkesbury's centres. The challenge for these areas, particularly Windsor and Richmond, is to provide an experience for shoppers that is more compelling than the online shopping experience. This may include the encouragement of service retail (such as cafes and restaurants), improved streetscape/urban design, greening and shade on the main pedestrian routes, and co-ordination of public events, etc.

Emergence of Café Culture, Food Centres and Experience Dining

Fuelled by Australia's strong coffee culture, the café and coffee shop industry has experienced moderate growth in the last five years. In 2018-19, the industry was estimated to be worth $9.8 billion where a growing number of speciality cafes and coffee shops have opened for business and have led to high industry competition, pushing down profitability[35].

Industry revenue is forecast to increase at an annualised 1.9 per cent over five years through to 2023-24 at a worth of $10.7 billion[36].

The National Australia Bank (NAB) notes that food retailing has been one of the better performers in the retail sector, largely driven by a boom in breakfast and lunches at cafes and online ordering of take-away for dinner[37]. Artisan bakeries and patisseries have increasingly sought to re-position themselves as cafés, encouraged by the strong growth in recent times. It

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[32] Department of Industry, Innovation and Science, 2017, Inquiry into impacts on local businesses in Australia from global internet-based competition: Department of Industry, Innovation and Science submission, industry.gov.au, p. 9
[33] NAB, 2019, 'NAB Online Retail Sales Index, Monthly Update – January 2019, https://business.nab.com.au/nab-online-retail-sales-index-monthly-update-january-2019-33762/, date accessed: 28/03/2019
[34] CBRE, 2015, Asia Pacific Consumer Market: How we like to shop online, https://www.cbre.com/research-and-reports/apac-consumer-survey-how-we-like-to-shop-online.
[35] IBISWorld, 2018, 'Cafes and coffee shops in Australia', www.ibisworld.com.au, p. 4
[36] IBISWorld, 2018, 'Cafes and coffee shops in Australia', www.ibisworld.com.au, p. 7
[37] NAB, 2017, The Future of Retail: the trends reshaping retail and the future implications for the Australian marketplace', https://business.nab.com.au/wp-content/uploads/2017/09/The-future-of-retail-September-2017.pdf, date accessed: 09/04/2019

is anticipated restaurants will expand café-style operations as they compete with cafes for customers[38].

Outdoor dining in Sydney remains popular, particularly given the conducive climate. As a consequence, there are many local high street outdoor eating options seen across Sydney, such as Church Street, Parramatta; Willoughby Road, Crows Nest; Crown Street, Surry Hills; and Haldon Street, Lakemba.

Colliers notes two popular design principles incorporated in dining areas is outdoor/alfresco and 'green'. Both of these concepts can be leveraged in the Hawkesbury.

The Property Council also expects restaurants will have to start attracting diners back out of the comfort of their own homes with the rise of UberEats and Deliveroo. Eating out will become more of an experience, where the attraction is no longer just about the food but will also become a value-add opportunity for education, sustainability, growing, tasking, listening, learning, hands-on experiences, music and entertainment. As a result, they expect some tenancies will have larger and more expensive fit outs[39].

FIGURE 35: THE GROUNDS OF ALEXANDRIA – CAFÉ AND OUTDOOR DINING AND EVENTS

Source: Google Image

The Grounds of Alexandria is an example of a successful 'experience dining' café with a variety of activities on the site. The Grounds offers a café, bakery, retailing and garden located in a converted pie factory in inner Sydney. The site accommodates corporate functions, weddings, and themed weekend activities. Established in 2012, the business has remained popular with Sydneysiders and has expanded to a city centre operation.

[38] IBISWorld, 2018, 'Cafes and coffee shops in Australia', www.ibisworld.com.au, p. 4
[39] Property Council of Australia, 2017, 'Top five food retailing trends in 2018, https://www.propertycouncil.com.au/Web/Content/News/National/2017/Top_five_food_retailing_trends_in_2018.aspx, date accessed: 09/04/2019

Koskela in Rosebery is another example of an expanded café experience. The Koskela complex offers designer retailing, education and workshop classes and an art gallery space in a repurposed industrial warehouse site.

FIGURE 36: KOSKELA, ROSEBERY

Source: Google Image

Acre Eatery is located in the inner-city suburb of Camperdown. It is a farm-to-table restaurant and a community initiative on the site of the former Camperdown Bowling Club.

The goal of the operator is to teach the community about the effects of everyday food choices and support a sustainable menu of food that is transparent, seasonal and traceable. Partnering with local farmers and producers, Acre Eatery uses only ethically reared proteins and in-season Australian fruit and vegetables. They aim to serve food that hasn't travelled far and is fresh and delicious.

The old bowling green has been transformed into a pocket city farm garden. The site includes a variety of spaces including a pavilion for functions, the eatery restaurant, spritz bar, upper and lower terraces, kids library and play area and lawn. Recent on-site events that engage the community include winter market stalls, acoustic live music, locals wine and cheese evening, family movie nights on the lawn and kitchen battles where chefs use their creativity and innovation in the kitchen.

The operator is going to expand into the Brickworks redevelopment in Melbourne that will feature a sustainable roof retail outlet of 2000 square metres of urban farm and dining precinct. The Brickworks farm will have a beehive, chicken coop and vertical planting greenhouses. The operator has stated they are still interested in expanding their Sydney market and are looking at locations in the north of Sydney.

FIGURE 37: ACRE EATERY, CAMPERDOWN

Source: Google Image

Implication for employment lands in Hawkesbury LGA

Food destination precincts, farm-to-table businesses and 'experience dining' are an opportunity to generate activity in town centres, as well as generate employment.

The benefit for Hawkesbury is that a number of the key attributes (that other areas and businesses in Sydney create), already exist: access to fresh, local produce; a natural setting; and space for 'experience dining' style businesses.

Development of these type of precincts or businesses could assist in attracting visitors and revitalising the tourism and night-time economy in Hawkesbury LGA. Richmond and Windsor centres could offer opportunities to progress this, as well as some of the smaller village centres.

The heritage and character of Richmond and Windsor, together with local growers and food producers are important intrinsic assets that should be considered as part of any ongoing urban design, strategic planning or industry attraction activity for the LGAs centres. These connections can be leveraged for experience dining and tourism activities.

The Liveability Project seeks to rejuvenate the town centres of Windsor, Richmond and South Windsor via public domain works. Coupling urban design revitalisation alongside business development that celebrates local food and producers may assist in generating town centre activity and spending.

Fine Grain Retail Spaces

'Fine grain' is a term used to describe small-scale spaces that provide a diverse and specialised layer of activities (often with low-cost spaces) in a place[40]. Fine grain spaces can encourage greater community interaction, cultural and creative expression and promote more walkability and sociability in activities through the fabric of the built environment[41].

In terms of retail activity, fine grain built-form involves shop fronts at a human scale, usually in the context of a main street or high street. A fine grain high street shopping experience offers a more unique retail experience for visitors with a mixture of small local businesses and boutiques with community facilities and public open space.

It is an effective way for traditional centres to compete with online stores and out of centre retail centres. Examples can be seen in villages in the Blue Mountains, such as Leura or Blackheath, or in the Southern Highlands, for example Bowral, both key visitor destinations.

The suburb of Springwood in the Blue Mountains is an example of a suburb that contains fine grain retail development. The built form includes a range of different elements such as:

- A balanced mix of open space and built form elements
- A mix of uses including art galleries, cafes, restaurants and public spaces
- Smaller lot sizes which encourage a human scale streetscape
- Residential uses are setback from the core retail area which encourages active street frontages and retains a commercial mix.

FIGURE 38: SPRINGWOOD, BLUE MOUNTAINS

Source: Google Image

High street retailing has faced significant challenges in recent years. This is attributed to the rise of regional shopping centres, changes in consumer habits and online retailing. High street retail has often struggled to adapt to combat these changes but we have observed the nature of many high streets changing from having a convenience shopping role to become 'destinations' in their own right - offering visitors a more fulfilling experience. This is evident in the rise of cafés and cultural uses, such as art galleries and performance spaces, that are not easily replicated in shopping centres and are not available online.

Principles to successfully promote fine grain activities include:

- Having a variety of scales with small and large activities
- Permeability and engagement with the street (active street frontages)
- Architectural diversity

[40] City of Sydney, 2015, George Street 2020 – A public domain activation strategy, part 3, https://www.cityofsydney.nsw.gov.au/__data/assets/pdf_file/0010/308827/George-Street-2020-A-Public-Domain-_Activation-Strategy_Part3.pdf, date accessed: 09/04/2019

[41] Greater Sydney Commission, 2017, Fine Grain People Places, https://issuu.com/roberts-day-global/docs/gsc_fin_-_fine_grain_people_places_, date accessed: 10/04/2019, p. 4

- Preserving existing heritage, character and identity
- Having spaces that are multifunctional and encourage shared use anytime of the day.

City of Sydney's Development Control Plan includes clauses that encourage fine grain development. Clauses indicate:

- For large sites 5000 sqm and above an appropriate street pattern will ensure a fine grain to urban structure.
- Provision of fine grain tenancy frontages at ground level to the street.
- Design excellence where architectural design and character should provide a fine grain that enlivens the public realm.

Implication for employment lands in Hawkesbury LGA

The high street of Richmond faces competition from Richmond Marketplace. Windsor high street suffers due to its length and sometimes low-quality presence. Coupled with these issues, is the pressure from high-end neighbouring retail centres outside of the LGA (current and forecast) and the growth in online retailing.

Supporting fine-grain activity, alongside public domain improvements, may assist in drawing spending back to the high street in these centres. There is a real opportunity for retail activity in these centres to better reflect the character of the Hawkesbury LGA and its intrinsic assets for business activity – the natural environment, local growers and food production and the heritage character of Richmond and Windsor.

Co-working spaces

The phenomenon of co-working originated in 2005, in San Francisco, representing a 'third way' of working between the traditional format of an office workplace/community environment and the freelance/independent mode of work that tended to be home-based.

In recent years, there has been an increase in the number of co-working spaces in Australia. In 2017, a total of 300 co-working spaces were counted, this was up from 60 spaces in 2013.

Co-working spaces are generally shared workplaces that are used by professionals working in different knowledge related industries, often freelance and self-employed workers. Co-working spaces tend to be rented office facilities that can include a desk, wifi connection, common areas, as well as amenities like printers, private phone booths, 24/7 access, front desk services, mail and package handling and spaces for professional and social events. Rental options vary and can include a standalone office for a team, a hot desk in an open space or a permanent desk in a shared office.

Spaces can be used to hold formal and informal events, such as talks, event evenings, yoga classes or creative purposes like photography and art studios.

Co-working spaces are seen to foster collaboration (one of the key elements required to drive innovation in business practice) with people working across firms and spreading ideas.

Council can work with local business owners or landlords to actively find vacant floorspace, particularly in centres with high vacancies, to locate co-working uses and support small work groups. Retail vacancies are an ideal location due to their good accessibility and likely provision of kitchenette facilities.

Byron Shire Council actively supports co-working in the LGA. Co-working companies are invited to contact Council's Economic and Sustainability Department which publishes information about them on the website. This provides co-working companies a platform of communication with Council, as well as an additional place to advertise.

Byron Shire Council has a business strategy that aims to promote 'attractive investment environments with people friendly business centres'. To achieve this, Council has developed co-working and innovation hubs criteria which enable co-working hubs to be located in business areas. Criteria includes:

- Consideration of social, economic and environmental impacts if the hub proponent wants to locate outside a business or industrial area
- The ability of the business to engage a wide range of participants
- Inclusion of dedicated spaces for students, researchers and industry to collaborate and create
- Well located to access market distribution[42].

FIGURE 39: SUSTAINABLE VALLEY CO-WORKING SPACE

Source: Sustainable Valley, https://sustainablevalley.co/, 2019

Located close to the beach and within an Arts & Industrial Estate is Sustainable Valley, Byron Bay, a regional co-working space centred around the philosophy that sustainability applies to every part of life.

The company provides co-working facilities but also aims to be more than just a serviced office space by supporting collaborative working between individuals, innovators, entrepreneurs, freelancers, start-ups and companies and support more sustainable and ethical modes of operation.

Facilities include 24-hour access, private phone booths, mail service, modern design, fast internet, high definition conference screen, conference room, as well as brand strategy advice, design and production advice, workshops, speaker events, mindfulness and leadership coaching for members. Yoga, qi gong and meditation classes are also offered during the week in the facility.

Pricing ranges from a day pass at $29/9am-5pm for basic office facility use, to part-time membership of $299/12 days per month that includes basic office facility use and outdoor and meeting room use, to 3-week immersion passes at $1499/18 days of co-working inclusive of development and leadership coaching.

[42] Byron Shire Council, 2019, 'Byron Shire Business and Industrial Lands Strategy',p.95 ,

FIGURE 40: THE AVENUE – CO-WORKING SPACE IN YACKANDANDAH, REGIONAL VICTORIA

Source: https://avenuework.space/, date accessed: 01/12/2019

The Avenue, Yackandandah in Victoria is another example of a co-working space in a regional context. The space offers communal desks and workspaces, services and facilities for per day ($40) and per month ($220) charges. Regular events, workshops and networking opportunities are also held on-site.

Implication for employment lands in Hawkesbury LGA

A co-working space in Hawkesbury LGA could offer solo business operators or 'footloose' operators who work from home a different and collaborative environment from which to operate their own businesses and work remotely. Spaces within the facility could also be used for creative business purposes or social gatherings.

Alongside more traditional industry attraction activity, the encouragement of co-working space should form part of ongoing economic development activity. This should form part of a broader strategy to maximise opportunities for local resident workers to work within the Hawkesbury LGA – particularly where those workers are in Knowledge Intensive industries, as this grouping has had relatively poor representation locally.

The Western City District Plan includes action 65c to 'facilitate the attraction of office/commercial floorspace and provide opportunities to allow commercial and retail activities to innovative, including smart work hubs'. The development of co-working spaces, particularly in Windsor, will support this action.

Industrial lands

Industrial lands support and enable a city to develop and businesses to grow. Industrial lands can include a range of activities from major freight and logistics, heavy manufacturing, light industry, to urban services and creative uses.

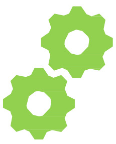
Changes in Freight Transportation

Part of the online retailing experience is the expectation goods will be rapidly delivered to customers. A study by McKinsey & Company found approximately one quarter of consumers would pay a premium for same-day delivery[43].

With the growth in online retailing and e-commerce and raised expectations for speedy delivery, 'last mile' logistics has become a priority. In terms of land, this places an even greater value on logistics, industrial services and dispatch land uses that are in the right areas on the transport network with respect to suppliers and customers.

'Last mile' delivery is the final part of a product journey from warehouse to the customer doorstep and is often the most expensive and time-consuming part of the shipping process. In urban areas, traffic congestion is often one of the key issues affecting 'last mile' delivery. 'Last mile' delivery costs are about 53 per cent of the total cost of shipping. Additionally, customers have become less willing to pay delivery fees with the presence of some 'free shipping' options.

As a result, retailers and logistics companies are seeking new, technological solutions to improve the last leg of this process, and overcome geographical challenges, such as drones or crowdsourcing local delivery sources[44]. However, in the interim, logistics functions and dispatch centres that are close to urban areas remain highly valuable for speed of delivery – particularly in inner city areas where land use is highly contested and land prices are high.



Creative Uses

In some parts of Greater Sydney, there has been a small shift in the types of operators that are normally seen in traditional industrial areas. Smaller, creative operations have started moving in. These operators tend to be artists, 'makers and creators' – not professional services creatives, such as graphic designers – but those that are creating a product and need space to create and are therefore, attracted to the cheaper rents associated with industrial areas.

For example, One Drop Brewing Co is South Sydney's first microbrewery, established in 2019 in an industrial lands area. Aside from producing beer, the Brewery is open to the public five days a week 12pm to 8pm/10pm. The philosophy behind One Drop Brewing Co is to support community, humanity, one love, free thinking and unique creative self-expression, all of which inspires the beer, the food, the tunes and atmosphere of the Brewery. Food trucks come to the site every day of the week.

While these shifts bring a creativity and new vibrancy to industrial lands, one of the downsides is that retail and 'factory door sales' can become incorporated in the operation which can push land values up and it also can compete (and detract) from similar retail functions in town centres.

[43] McKinsey & Company, 2016, 'How customer demands are reshaping last-mile delivery', https://www.mckinsey.com/industries/travel-transport-and-logistics/our-insights/how-customer-demands-are-reshaping-last-mile-delivery, date accessed: 28/03/2019

[44] Business Insider, 2018, 'The Challenges of Last Mile Logistics & Delivery Technology Solutions', https://www.businessinsider.com/last-mile-delivery-shipping-explained/?r=AU&IR=T, date accessed: 28/03/2019; Strategy + Business, 2018, 'Convenience is key in last-mile delivery around the world', https://www.strategy-business.com/article/Convenience-Is-Key-in-Last-Mile-Delivery-around-the-World?gko=bef84, dated accessed: 28/03/2019

FIGURE 41: ONE DROP BREWING CO, SOUTH SYDNEY

Source: Google Image

Byron Bay is developing its brand as a centre for high quality artisan goods[45]. Alongside its tourism campaigns advertising this, one particular planning control that supports this venture is the IN2 zone objective.

IN2 zone objectives for Hawkesbury LEP and Byron LEP are fairly similar. The Byron LEP, however, includes this one particular objective: 'To provide for creative industrial uses such as artisan and cultural industries' which would support industrial land transitions like the Byron Bay Arts & Industrial Estate.

The Byron Bay Arts & Industrial Estate has transitioned in the last 10 years from a local centre. It is largely an IN2 zone alongside B7, B4, R2 and R3. The Estate includes typical industrial land operators such as Bunnings and Byron Bay Building Materials. But also houses an 'eclectic mix of businesses' including artists, filmmakers, breweries, and bespoke tile makers, alongside retailers, wellness centres and eateries.

It is noted that Byron Council is currently preparing a precinct plan for the Estate as its popularity has resulted in a number of issues for the area, in particular traffic congestion and accessibility[46].

Other planning controls to consider in relation to creative uses in industrial zones includes:

- Flexible floorplate sizes to support a range of non-traditional retail, creative and local service uses
- Flexible open plan double height units for small scale manufacturing and other creative uses
- Opportunity for B7, IN1, IN2 zones to take on some sort of creative industries role as part of future flexible floorspace development.

[45] https://destinationbyronbay.com.au/things-to-do/byron-bay-artisan-market/
[46] https://www.byron.nsw.gov.au/Community/Place-planning/Byron-Arts-Industry-Estate

Implication for employment lands in Hawkesbury LGA

The rise of online retailing will drive demand for warehousing and logistics functions. These lands in the Hawkesbury are valuable as they are relatively close to urban population in Sydney. This means industrial lands within the Hawkesbury LGA should be retained and managed, as per policy directives in the Greater Sydney Region Plan, as they play in important role in the functioning of the city. Investigation into the expansion of industrial lands should be considered.

In some industrial precincts of Greater Sydney, a new type of tenant is emerging. These businesses tend to be a more artistic and creative, drawn to industrial precincts due to cheaper rents. While these new creative businesses bring vitality to industrial land use zones, there can be associated issues, such as increasing land value; competition with traditional retail centres if retailing uses are part of the creative use; congestion due to visitors to site.

Agribusiness & sustainability

Agribusiness relates to all enterprises around agricultural production. It can include the business of agrichemicals, breeding, crop production, processing, storage, distribution and seed supply.

Agribusiness has, and will continue, to be an important contributor to the Australian economy. PricewaterhouseCoopers (PwC) describes agribusiness as a cornerstone of Australian industry where food is an iconic component of the Australian identity[47].

The Australian Government states it is involved in addressing global trends and challenges in agtech and foodtech and that Australian farmers are active in adopting new technologies. The Australian agtech and foodtech sector is diverse and includes farmers, over 300 startups, scaleups and enterprises and leading industry groups and research institutions[48].

Agribusiness Australia argues there is currently a fragmented approach to agriculture and agribusiness opportunities and that there is a need to prevent this - as it can lead to financial, cultural and emotional loss[49]. Furthermore, in light of growing concern over climate change and the UN Climate Conference of Parties, there is a growing focus on developing climate-smart agriculture and climate-smart agricultural policies, increasing transparency and providing accurate information to consumers about food sources, and aligning production and supply with sustainability goals[50].

Fresh food packaging

There has been increased attention on agribusiness in recent years firstly, due to the rise of the middle-class in China that has increased demand for exports in food and fibre, and secondly, due to greater domestic consumer involvement, interest and attachment to food and its source of production.

This presents an opportunity, not only for primary producers, but also for NSW's food and beverage manufacturers to enhance production, improve food security and sustainability, add value and better connect with the global marketplace.

As part of the evolving industry, the NSW Government has committed to a number of strategic themes and initiatives in order to support its growth. These include a commitment

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[47] PwC, https://www.pwc.com.au/agribusiness.html
[48] Australian Government, 2019, https://www.austrade.gov.au/agriculture40/why-australia, date accessed 19/12/2019
[49] Agribusiness Australia, 2019, https://www.agribusiness.asn.au/about-us/overview, dated accessed: 19/12/2019
[50] Kallenbach, C, 2019, https://www.nrel.colostate.edu/is-agribusiness-getting-serious-about-sustainability/, date accessed: 19/12/2019

to improve access to export markets and expanding the capability of these businesses and their workers[51].

Some of the relevant strategic themes and initiatives that could be supported by Hawkesbury LGA include:

1. Collaborating for commercial advantage
    a. Capitalise upon collaborative networks
    b. Facilitate collaboration with complementary industries.

2. Creating a fit-for-purpose workforce
    a. Promote food and beverage manufacturing as a career
    b. Facilitate worker attraction and retention
    c. Enhance collaboration and exchange between industry, vocational training providers and universities.

3. Advocate for the industry and support its development
    a. Create a supportive business environment.

4. Accelerate small to medium enterprise (SME) growth in niche and emerging markets.

The food and beverage manufacturing jobs of the future will require deep technical knowledge, an understanding of supply chains, relationship management skills and digital literacy.

It is expected that fresh produce packaging will come under increasing scrutiny with the global focus on sustainability and improved waste management practices. The various fruits and vegetables that are expected to have an evolving relationship with packaging include apples, bananas, cucumber, lettuce, mushrooms, pears and strawberries.

If fresh produce packaging/manufacturing were to grow in the Hawkesbury region, businesses and related research institutions would need to consider the following implications:

- Increased measurements of food waste
- Optimising cold supply chains
- Leveraging supply chain partners to improve packaging
- Educating consumers on why packaging is specific
- Leveraging the circular economy
- Understanding the role packaging plays in consumer waste
- Investigating packaging to maintain food safety needs
- Researching the sensory issues for packaging further[52].

The circular economy concept has gained traction in recent years and could potentially have a large impact on food packing in the future. Five principles which underpin the waste management approach towards a new, circular economy include:

- Avoiding waste
- Improving resource recovery
- Increasing use of recycled material and building demand and markets for recycled products
- Better management of material flows to benefit human health, the environment and the economy
- Improving information to support innovation, guide investment and enable informed consumer decisions.

There are approximately five businesses in the Hawkesbury LGA that can be identified as food and beverage-related manufacturing businesses. These are concentrated in the South

[51] Department of Industry, 2019, NSW food and beverage manufacturing industry development strategy,
[52] Australian Fresh Produce Alliance, 2019, The role of packaging in Australian fresh produce

Windsor-Mulgrave industrial area, see Figure 43. Expanding food related processing industries in the LGA, particularly those with a sustainability focus could be an opportunity area.

Brookfarm is a family owned macadamia farm in the Byron Bay hinterland. As one of Australia's leading producers of macadamia products, they have over 4,000 macadamia trees planted across 30 acres of subtropical rainforest and eucalypt forest. The family first sold their products in 2000 at a local market and now stock their products across Asia-Pacific, and the Middle East.

Sustainability is a key driver for the business. They have regenerated the rainforest on their land and use natural farming practices. However, in terms of perishable food packaging, the family acknowledges it is a challenge to ensure freshness and have sustainable packaging options. They continue to work with packaging partners to develop food-safe compositable packaging technology and end-of-life repurposed packaging[53].

FIGURE 42: BROOKFARM, BYRON BAY

Source: Google Image

[53] Brookfarm, 2020, https://brookfarm.com.au/

Implication for employment lands in Hawkesbury LGA

Agriculture is an important industry for the Hawkesbury LGA's economy and a strong element of Hawkesbury's brand. The LGA is also well-positioned to potentially benefit from future transport infrastructure links to Western Sydney Airport. Therefore, is an opportunity for Hawkesbury to 'fill-the-space' between growing produce and export to market, by developing fresh food processing capabilities within the LGA, particularly those with a sustainable intent given the current drive to reduce waste and plastics.

Local businesses analysis indicates only a small number of these types of businesses exist, there could be potential for growth. Bringing local producers, innovative food processing companies and WSU together, Council could help facilitate research and development with stakeholders and help overcome the 'fragmented' industry approach.

FIGURE 43: FOOD AND BEVERAGE MANUFACTURING BUSINESSES

Source: SGS 2020, Google API data

Tourism

Visitor Economy

Tourism plays an important role in the Australian economy. The tourism economy accounts for 4.7 per cent of Australia's GDP and provides significant benefits and advantages to business. Greater Sydney welcomes 3.75 million international visitors who spend $9.03 billion a year.

In 2018, the NSW Government released its *NSW Food and Wine Tourism Strategy and Action Plan 2018-2022* that recognises the trend of eating and drinking local produce in a unique location or venue is an integral part of the travel experience and is a notable way to connect travellers with local customs and culture. The Strategy states NSW, with its world-class food and wine offering, is well placed to capitalise on this trend. The Strategy recognises the Hawkesbury region as having a strong and lengthy history of growing food and suggests this should be leveraged.

The following four examples (Art of Lunch, Blue Mountains; Seville in Spain; Byron Shire Council; and The Farm, Byron) highlight how other places, that share similar attributes to the Hawkesbury LGA, celebrate their local assets through tourism.

The Art of Lunch is an example of a food-based and cultural tourism product from the Blue Mountains. The event takes place on the last Sunday of each month for two-hours (May until October each year) at selected venues.

High profile artists from the Greater Blue Mountains region showcase their artworks; local chefs prepare creative dishes; and local musicians help end the event with music and songs – all of which is related to a particular theme.

Art of Lunch is an example of a short-term event centred on showcasing local talent and skills in a popular tourist setting. Tickets range from about $85 to $135.

FIGURE 44: ART OF LUNCH – BLUE MOUNTAINS

Source: Art of Lunch, http://artoflunch.com.au/

In Seville, Spain, more than 14,000 mature Seville oranges trees exist along the city streets. Iconic to the city, they are appreciated by tourists, relate to the Moorish history of Spain, provide shade on streets, and are linked to a number of business products such as jams, wine and perfume.

The trees are a subtle and attractive way to enhance the character of the city, while functioning as part of a tourism/brand strategy. Hawkesbury LGA could consider similar strategies that link to local agriculture, help build a tourism brand, and contribute to the Green Grid of Greater Sydney.

FIGURE 45: SEVILLE ORANGE TREES, SEVILLE, SPAIN

Source: Google Image

Byron Shire Council is currently developing a tourism strategy with a sustainability focus. The draft Sustainable Visitation Strategy will help to facilitate sustainable tourism and use extensive community consultation to guide its implementation. The draft vision is: "Byron Shire supports a visitor economy that cares for and respects our residents, protects our natural environment, celebrates our cultural diversity and shares our social values". Having a sustainability focus for tourism in the Hawkesbury would be another potential and relevant angle.

FIGURE 46: VISITATION STRATEGY DEVELOPMENT – BYRON SHIRE

Source: https://www.yoursaybyronshire.com.au/talking-future-tourism

The Farm, Byron Bay celebrates local food production. The objective of the farm is to “grow, feed, educate and give back”. The restaurant celebrates its own working farm produce and local produce such as local seafood and Byron Bay burrata. The farm also houses a number of its local micro businesses including the Garden Shed and the Bread Social. Access to the open working farm is free and provides the community and tourists with the opportunity to learn how food is produced and grown.

FIGURE 47: THE FARM, BYRON BAY

Source: https://thefarm.com.au/

Implication for employment lands in Hawkesbury LGA

Arts and culture-based tourism, food and wine centred tourism and nature-based tourism are all strongly represented within the NSW visitor economy. There is potential for these areas to be capitalised on, through unique ventures such as those discussed in the four examples above, in the Hawkesbury LGA when growing the tourism industry.

Innovation precincts

Innovation is the implementation of a new or significantly improved product (good or service) or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations. It can be thought of as improvements to a firm's products, process, organisation and marketing. Therefore, innovation is a key driver to business productivity growth which translates into economic growth.

Research suggests that innovation generally requires key five elements to be successfully implemented into precincts:

- **Firms** – innovation is influenced by the density of firms where the organisational ecosystem often includes 'tent pole tenants' that support firms and the ecosystem.
- **Research anchors** - research anchors, namely universities and hospitals facilitate innovation. They provide the capital that is needed to encourage research and innovation.
- **Collaboration** - innovation is supported by people working across firms and spreading ideas. Co-working spaces provide a physical platform to facilitate collaboration, foster creativity and community.
- **Amenity** - activation, walkability and urban design in the public domain are central to improving amenity in the public realm.
- **Infrastructure** – that supports connectivity and facilitates productivity.

Alongside the above five elements for innovation, there is a level of fostering and support required to maintain and development the innovation precinct.

An innovation ecosystem refers to the individuals and organisations that are engaged in innovation within a defined geographic region and includes the complex set of forces that act on and between the participants and affect their ability to succeed.

Components of the innovation ecosystem include:

- Founders and employees of start-ups (emerging high-growth firms) and scaleups (more mature high-growth firms)
- Incubators, accelerators and co-working spaces that provide expertise and guidance, usually to first-time founders
- Customers, in particular early adopters
- Universities who produce graduates who contribute skills to the pipeline production
- Advisors and service providers who provide specialised expertise to start-ups and scale-ups as they grow.

Implication for employment lands in Hawkesbury LGA

Innovation precincts in Greater Sydney tend to be clustered around the Central Business District and inner suburbs as opposed to outer areas such as Hawkesbury LGA.

Clarendon does contain Western Sydney University – a research anchor - one of the key elements for an innovation precinct.

As a long-term prospect only, Council could investigate whether an innovation precinct is feasible in the future. In the immediate future however, working to build collaboration between Clarendon entities in relation to agribusiness and STEM is preferable.

4.4 Opportunities

The Hawkesbury LGA is a unique place. It has a range of centres and villages that provide the daily retail and commercial needs of the resident population. The LGA has a wealth of agricultural and natural assets but also a significant expanse of industrial lands which are important and valuable for the functioning of Greater Sydney.

The Hawkesbury has a distinct character and heritage that has, thus far, been retained. It is in close proximity to the Sydney metropolis core, and yet far enough away that its natural, rural setting remains a prominent attribute. The LGA contains the RAAF and WSU, two entities that bring distinct skills, talent and knowledge to the LGA - making it very different from most other LGAs in Greater Sydney.

When it comes to employment lands, Hawkesbury LGA has diversity and solid building blocks from which to grow and leverage. But it also has a number of distinct characteristics that need to be retained, nurtured and celebrated.

Ever popular with local residents and visitors, Byron Shire is an example of an LGA that has successfully integrated local business, concepts of sustainability and nature, alongside a thriving tourism industry – as demonstrated by a number of the examples in Section 4 of this report.

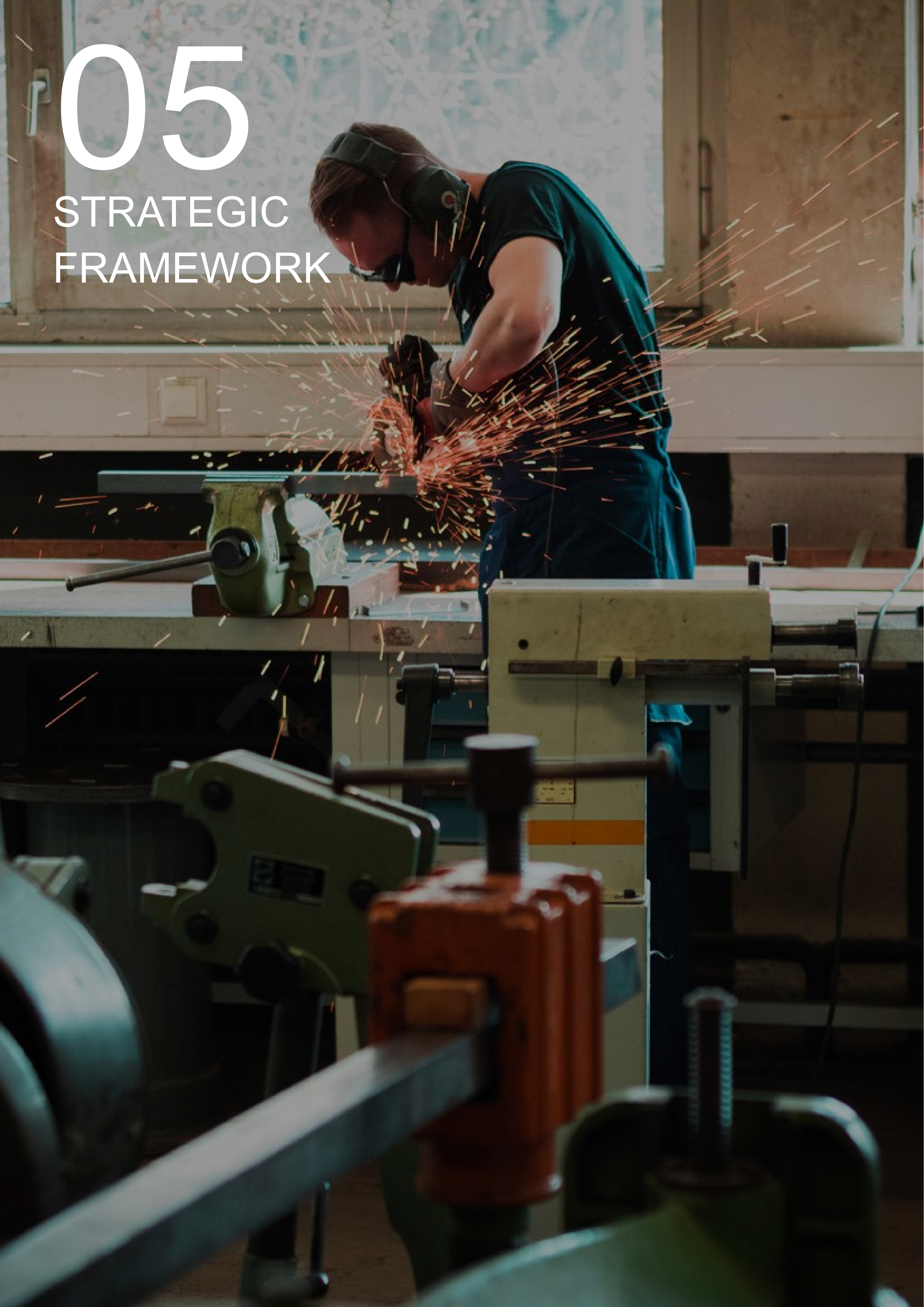
Hawkesbury LGA has many similar attributes to Byron Shire. However, it also has the advantage of relatively close proximity to the Sydney population and associated assets (such as the Western Sydney Airport and Aerotropolis), unique local stakeholders in the RAAF and WSU, diversity in its industrial lands, and a strong local agriculture sector.

As detailed in section 4.2, a key focus of the employment lands strategy for Hawkesbury LGA is about addressing the quality of what already exists in employment centres; generating momentum in key industries (such as agri-business, fresh produce processing and sustainability, tourism, fine grain retail, smaller commercial operations); making better connections between existing 'economic pillars' (such as boosting food related tourism); leveraging the wealth of unique assets in the LGA – while also ensuring the changing needs of the local population are met by town centres and villages.

The following Strategic Framework, in section 5, builds on the implications and opportunities that have been discussed in this paper so far, and presents a number of planning principles and recommendations for the employment lands of Hawkesbury LGA.

The Liveability Project; Economic Development Strategy; tourism work progressed by the Hawkesbury Visitor Economy Advisory Committee; and the Rural Lands Strategy can also progress a number of these opportunities and recommendations.

05
STRATEGIC FRAMEWORK



5. STRATEGIC FRAMEWORK

This section outlines a strategic framework for the future of the employment lands in Hawkesbury LGA.

Based on the analysis conducted as part of the employment lands study[54], a strategic framework has been developed for the Hawkesbury LGA. It includes an overarching vision, target industry sectors, general planning principles, and place-based planning recommendations for the key employment centres in the LGA. Recommendations build on the issues and opportunities identified through the study.

Vision

Richmond-Windsor will develop as the Strategic Centre for Hawkesbury LGA, as identified in the Western City District Plan. It will be the primary retail and commercial hub within the LGA and will have high amenity with high quality built-form and streetscapes.

Smaller centres throughout the LGA, will continue to support the day-to-day convenience retail and local service needs of the local population in their immediate catchment. This includes catering to the needs of an ageing population with sensitive urban design (for example flush pavements and providing 'places to rest' in public areas) and raised awareness among local businesses of the requirements and benefits of becoming more age-friendly and accessible (see planning principle PP2).

The **Clarendon agglomeration precinct** will continue to provide its unique education and public administration functions but will develop to further strengthen the agribusiness and STEM profile of the region. Clarendon will function as a collaborative hub of local producers, educators, industry, research and development, vocational training and innovative agribusiness ventures – progressing sustainable farm-to-plate solutions and food processing concepts; promoting clear pathways for students into agricultural, agribusiness and STEM related careers; and creating a fit-for-purpose workforce.

The **industrial precincts** of the Hawkesbury LGA will offer a diversity of lot sizes to cater to the variety of industrial and urban service businesses wanting to locate in the local area, including smaller operators (such as local car repair and panel beaters) as well as waste recycling, construction depots and utilities. A shifting pattern in traditional industrial land users presents opportunities for new industrial development typologies. In particular, smaller scale operations aimed at servicing local residents and businesses, creative industries/small scale craft production, and warehousing/ logistics functions for sub-regional economic anchors (such as local growers and food producers) all have the potential to have an expanded presence in the industrial precincts[55].

Tourism will leverage the agricultural, local fresh food production and environmental attributes of the Hawkesbury region. All centres in the LGA will support a unified tourism brand around local produce and developing related activities and business opportunities.

Figure 48 presents concepts spatially.

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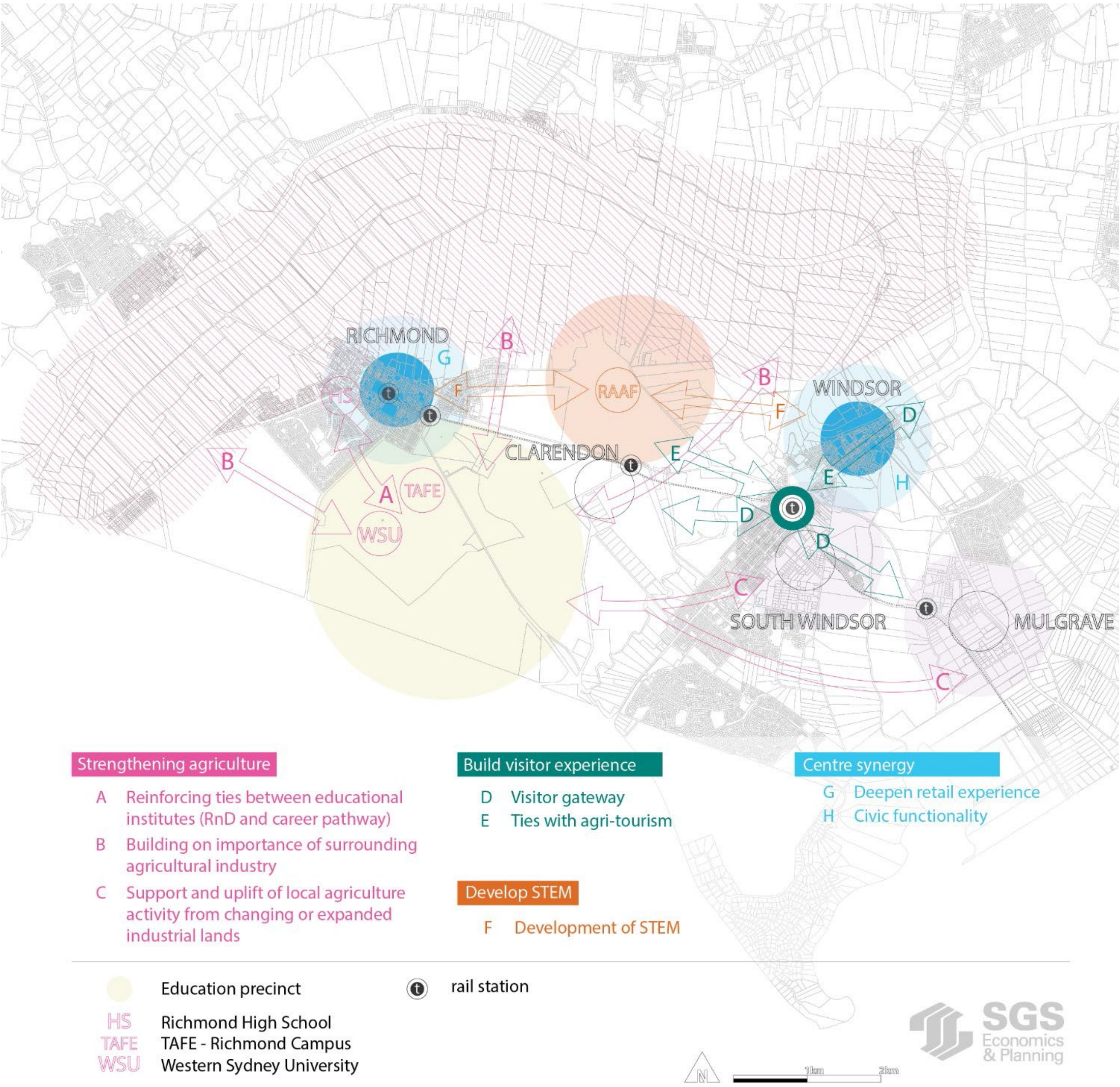
[54] See chapters 1-4 and appendices

[55] Strategies to attract these types of businesses to the LGA would be developed as part of an economic development strategy.

FIGURE 48: HAWKESBURY LGA – STRATEGIC FRAMEWORK OVERVIEW



Source: SGS, 2020

5.2 Target industry sectors and employment targets

Qualitative and quantitative analysis[56] conducted as part of the employment lands study has highlighted a number of target industry sectors for further investigation through economic development strategy:

Agribusiness: Is estimated to be worth $256 billion for Australia[57]. For NSW, food processing (primary processor) is valued at $10.3 billion, agri-tourism is valued at $2.3 billion, and agricultural R&D is valued at $0.05 billion[58]. Development of the Western Sydney Airport and Aerotropolis will promote growth of this industry in Greater Sydney. Consultation indicated there is momentum building between anchors in the Clarendon precinct to develop strengths in STEM; agri-business and related research and development; industry partnerships; as well as strengthening career pathways for students in these fields. This momentum should be leveraged. Fresh produce processing is in an industry area with growth potential for the Hawkesbury given the significant level of agricultural production in the LGA, and the potential future development of Outer Sydney Orbital to the Western Sydney Airport allowing for efficient movement of goods for export.

Supermarket, Hospitality and Bulky Good Floorspace: Retail floorspace analysis indicates there will be a demand for Supermarket floorspace in Richmond (+2,203 sqm) and Windsor (+1,946 sqm) towards 2036; Hospitality floorspace in Windsor (+1,728 sqm); Department Store floorspace in Richmond (+1,031 sqm); and Household Goods in McGraths Hill (+2,939 sqm). Encouraging the development of these types of businesses and floorspace into the future would be beneficial[59].

Small scale healthcare providers: Population projections indicate there will be an increase in the Retirees age cohort from +14.9% to 20.7% in the Hawkesbury LGA. The NSW Ageing Strategy 2016-2020 highlights the need for a-whole-of-community response to the ageing population phenomenon, where change and preparation is required throughout government, the private sector, non-for-profit organisations, communities and individuals. Encouraging small scale healthcare providers (such as general practitioners, physiotherapists, occupational therapists) to locate in the centres of Hawkesbury LGA will assist and support the ageing population into the future[60].

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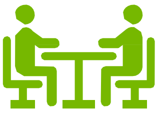
[56] See chapters 1-4 and appendices.

[57] PwC, https://www.pwc.com.au/agribusiness.html

[58] NSW Department of Primary Industries, 2016, https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0009/691191/Positioned-for-prosperity_final.pdf

[59] These figures are related to floorspace analysis presented in section 4.2 and Appendix C. These figures are the projected demand for commodity groups based on resident spending only, see Table 61.

[60] Strategies to attract these types of businesses to the LGA would be developed as part of an economic development strategy; Health consulting rooms are permitted with consent in R2 Low Density Residential zones in the Hawkesbury LEP; Health consulting rooms are permitted with consent in IN1 General Industrial and IN2 Light Industrial zones in the Hawkesbury LEP. R1 General Residential and R3 Medium Density Residential prohibit health consulting rooms under the Hawkesbury LEP – consideration could be given to including this activity as permitted with consent.



Small-scale commercial services: When considering employment growth, projected demand in floorspace to 2036 for commercial/retail centres floorspace amounts to 7,559 sqm for Windsor[61]. Given the profile of the LGA, this could include small-scale commercial businesses such as real estate agents, small legal or accounting firms that tend to require smaller mixed use/ground floor office floorspace. Encouraging the development and location of these types of businesses and floorspace into the future would be beneficial.

Light industry and urban services: There has been a declining proportion of industrial related employment in the LGA[62]. Consultation indicated that businesses seeking larger lots are attracted to other parts of Western Sydney and that the Hawkesbury industrial market tends to attract small occupiers. Real estate agents stated smaller lots (less than 2000 sqm) are popular. State policy values the role industrial and urban services lands play in the functioning of the city. Together, these factors suggest there could be value in reconfiguring some of the industrial lots of South Windsor and offering smaller lots that could meet demand of local light industry and urban services. This would create diversity in the industrial precincts of Hawkesbury.

Tourism: Tourism plays an important role in the Australian economy. The tourism economy accounts for 4.7 per cent of Australia's GDP and provides significant benefits and advantages to business. In 2018, the NSW Government released its *NSW Food and Wine Tourism Strategy and Action Plan 2018-2022* that recognises the trend of eating and drinking local produce in a unique location or venue is an integral part of the travel experience and is a notable way to connect travellers with local customs and culture. Consultation conducted for the study indicated there is strong potential to build on the tourism assets of the LGA, however coordination and associated infrastructure (such as accommodation) is required.

[61] See Table 70
[62] See Figure 10

TABLE 13: FUTURE PRECINCTS IN THE HAWKESBURY LGA AND TARGET INDUSTRY SECTORS

Target Precincts	Strategic Focus	Target Industry Sectors
Station Precinct (Windsor)	To act as the tourism 'gateway' to the Hawkesbury region with potential growth in local commercial operators.	Tourism 'Population serving' commercial
Civic Precinct (Windsor)	Continue existing civic functions in this area.	Continue existing civic functions in this area
Retail and Leisure Precinct (Windsor)	To ensure retail meets the essential needs and services of the changing local population.	Retail: population serving outlets such as food outlets, cafes and restaurants, boutique shops. Small scale healthcare providers
Special Activity Precinct (Clarendon) • Education precinct • Equine precinct • RAAF base	Entities in the Clarendon site (RAAF, WSU, TAFE, high school, equine and agricultural businesses) to progress the agribusiness and STEM specialisation of the region – facilitating career pathways for students and building research and development opportunities. These entities tend to operate distinctly but there are overlaps in functions.	Agri-business STEM Warehouse, logistics
Retail and Leisure Precinct (Richmond)	To ensure retail meets the essential needs and services of the changing local population. Retain the heritage in the centre as a tourism attractor.	Retail Small scale healthcare providers Some 'population serving' commercial Tourism
Industrial Precinct (South Windsor)	To cater to the demand of local industrial operators with some smaller lot offerings.	Light industry and urban services
Industrial Precinct (Mulgrave)	To continue to provide high quality industrial space to operators.	Light and general industry Freight and logistics
Bulky goods (McGraths Hill)	To continue hosting large format/ bulky goods retail	Bulky goods retail Freight and logistics

Source: SGS, 2019

Employment targets

The Western City District Plan estimated in 2016 there were 10,300 jobs. A 2036 baseline target of 12,000 jobs (additional 1,700 jobs) has been set and a 2036 higher target of 16,500 jobs (additional 6,200 jobs).

Employment growth projections indicate an additional 5,166 jobs would locate in the LGA to 2036[63]. This means the baseline job target in the Western City District Plan would be achieved (i.e. beyond the additional +1,700 jobs). To achieve the higher job target (+6,200), there would be a need for additional floorspace (+7,846 sqm), beyond the provision within current

[63] Table 68

planning controls[64]. This is considered a small gap and at 2% it is within a reasonable margin of error for the forecast. Activity in centres and associated demand should continue to be monitored. To cater for additional floorspace needs, recommendations include consideration of shop top built form in retail and commercial centres, particularly along high streets with appropriate setbacks and maintenance of heritage features, and expansion of the B zone around Windsor Station. Expansion areas for industrial lands in Mulgrave have also been included for consideration.

As discussed in section 4.2, floorspace demand modelling suggests floorspace capacity is adequately served for retail, commercial and industrial purposes out to 2036. A key focus for Hawkesbury LGA is addressing the character of the employment lands to help generate more activity in town centres, which in turn will help to facilitate jobs growth. In light of these projections, recommendations in the Strategic Framework section of this report focus on the monitoring of activity and planning for small additions (in the medium to long term) for additional floorspace.

[64] Under TPA employment projections between 2016 and 2036, is it estimated that a total floorspace change of 292,946 sqm would be needed for a projected increase of 5,166 jobs, amounting to approximately 57 sqm per job. The gap in jobs to achieve the higher target is 1,034. To cater these 1,034 jobs, an additional 58,938 sqm would be required. Combining this additional floorspace and the projected amount means 351,884 sqm would be required overall to reach the higher target. Subtracting floorspace capacity under scenario 2 to this projected floorspace requirement (351,884 sqm – 132,634 sqm and 221, 404 sqm, related to Table 77) results in 7,846 sqm beyond the capacity implied by current controls. This is small enough (2%) to be considered within a margin of error for the forecast and could easily be absorbed average floorspace usage intensifies a little. Activity in centres and the nature of demand should continue to be monitored to ensure the supply of floorspace, expansion or release of land or changes to the built form are aligned.

5.3 Overarching Planning Principles

PP1 Ensure public domain improvements are high quality. This planning principle would support activation of streets and places, as well as supporting the essential needs of the local community. Permeability/connectivity of the urban form should be encouraged allowing for the ease of movement. Fine grain-built form should also be encouraged to help make centres more interesting and attractive places for people to spend time and shop. This principle supports Western Sydney District Plan action 65b.

PP2 Ensure the public domain is sensitive to the needs and mobility of local residents. The ageing population profile in and around the strategic centres is significant. Urban design features that cater to their needs (as well as other members of the community) and improve their experience and time spent in the centres could include wide and flush pavements; appropriate lighting features; shaded areas with seating to rest; accessible and safe connections to modes of public transport; communal and green spaces to socialise and interact; and passive surveillance measures (such as appropriate lighting, highly visible pathways, permeable fencing, foliage management).

PP3 Encourage well-designed mixed use that protects the character and heritage of high streets. Encourage landowners and businesses to maintain and celebrate any heritage value in their properties and the built form. It is a valuable asset for the LGA that could attract visitors. This planning principle would support activation of streets and places and enhance the heritage value. This principle supports Western Sydney District Plan action 65b.

PP4 Support the 'greening' of the centres. Increased 'greening' of the centres will have multiple positive impacts. It will help combat the effects of climate change and rising temperatures, contribute to the Greater Sydney urban tree canopy, as well as improve the amenity of the town centre and may also help to attract local shoppers back to the high streets. Funding mechanisms for public domain works could include developer contributions, VPAs, and State government programs (such as the Office of Space and Parklands - Five Million Trees for Greater Sydney Grant, and Everyone Can Play Grant, or NSW Government Community Building Partnership Program). This principles links to the Greater Sydney Region Plan aim to increase the Green Grid and tree canopy across Greater Sydney.

PP5 Retain and manage the industrial and urban services lands. Recognising the important role industrial and urban services land plays for Greater Sydney, the IN1 and IN2 zones should be safe-guarded. Consider expansion of industrial lands as appropriate to meet demand. This principle supports Greater Sydney Region Plan policy for industrial lands.

PP6 Reinforce the tourism brand/program in the character of the key centres. Build the tourism brand into the key centres of the Hawkesbury and leverage the economic development potential. For example, attractive features in the centres landscape could reflect the agricultural/food systems/nature theme, and linking business opportunities with the theme, such as farm-to-plate cafes and restaurants; incorporate appropriate wayfinding for visitors that links the rail station to town centres and the river and trails. Consider relocation of the visitor centre to Windsor as appropriate. Monitor growth of the tourism industry to ensure local accommodation capacity aligns. This principle supports Western Sydney District Plan action 65b.

PP7 Any development around the tourism economy in the Hawkesbury should minimise impact on the natural setting of the Hawkesbury and rural lands. Given its importance to the local community and State policy designation to protect and enhance Metropolitan Rural Area.

PP8 Improve Pedestrian Amenity and Walkability

Improved pedestrian amenity and walkability within centres will have multiple positive impacts. It will provide greater opportunity for socialisation within the public realm, and facilitate a ‘Main Street’ approach.

5.4 Place based planning recommendations and implementation

Based on the analysis[65] conducted as part of the employment lands study and the overarching planning principles for the LGA in section 5.3, the following twenty-five place-based recommendations have been formulated for key employment centres in the LGA, including Richmond, Windsor, South Windsor, Clarendon and Mulgrave.

Short term recommendations would be approximately 0-5 years; medium term 5-10 years; and long-term recommendations 10+ years.

[65] Analysis contained in section 1 – 4 of this report and the appendices

Richmond

Richmond operates as a provider of essential services to the local population and a key hub of the LGA as part of the Richmond-Windsor Strategic Centre. Richmond should continue to strengthen this role in line with Western City District Plan directives. The role of Richmond, as the primary provider of essential services, will become even more important as the needs of the local population change and as the population ages.

Planning recommendations	Rationale
R1 Develop a social program that is inclusive of the whole community and visitors to the LGA.	There is a diversity of age groups in the LGA. Population projections suggest that the retirees age cohort will have the largest percentage increase out to 2036. A diverse social program of events will ensure everyone in the community is engaged and included. Over time, the social program should also respond to the tourism market, as it develops, so that activity reinforces tourism and economic development intentions. This principle responds to the Western City District Plan action 65b.
R2 Plan for a small increase in retail floorspace in the medium to long term.	For Richmond centre, floorspace gap analysis suggests by 2036 there will be a need for an additional 5,468sqm of retail floorspace. Appropriate growth in Supermarket floorspace should be encouraged (an additional 2,2,03 sqm); as well as Department Stores (1,026 sqm); Clothing & Soft Goods (937 sqm); and Hospitality (536 sqm), see Table 9 . If the tourism industry were to develop, retail spending may increase and therefore, floorspace demand would increase. Modelling suggests Richmond may require 7,857 sqm of retail floorspace by this time. Key commodity groups include Hospitality (2,312 sqm); Supermarket (2,303 sqm) and Department Stores (1,127 sqm), see Table 11. Should additional capacity be required in the centres due to high jobs growth, consider the applicability of shop-top redevelopment in centres, particularly along high streets with appropriate setbacks and maintenance of heritage features.
R3 Plan for a small addition of commercial floorspace (relevant for a local centre) towards 2036.	Projected demand for commercial (office) floorspace for Richmond out to 2036 is 8,592 sqm, see Table 70. Given the profile of the Richmond commercial market, this would include office activity that is focussed on providing for local needs such as real estate agents, small legal or accounting firms that tend to require smaller mixed use/ground floor office floorspace. Should additional capacity be required in the centres due to high jobs growth, consider the applicability of shop-top redevelopment in centres, particularly along high streets with appropriate setbacks and maintenance of heritage features.
R4 Encourage small scale health service provision in the centre.	Supporting the development of small-scale health services, such as general practitioners, physiotherapists, occupational therapists, in Richmond centre will help to support the centre's viability as well as providing for the needs of the projected population as its age profile changes.
R5 Investigate the applicability of an urban, forum space in the centre.	Richmond is a self-contained centre with a lengthy retail high street. The Richmond Marketplace acts as a hub of activity away from the high street and the centre is severed by Richmond Park and the rail station. A stronger centre of gravity and a social focal point, outside of the shopping centre, could be incorporated. Potentially, this could locate at the north or north-east points of Richmond Park to better connect the rail station, Marketplace and community centre to the high street, Figure 50. This physical space could be used within the social program of events, and as a space for the local community to interact and socialise. This recommendation aligns with Western City District Plan action 65b.

R6 Improve amenity, safety-by-design and connectivity to and around the rail station	Given that the rail station is set back from the high street, ensuring good amenity, safety-by-design and good access by active transport modes to the station on Council owned land is important. Ease of access may encourage patronage on rail services, which would then help build a case for any future transport infrastructure works or servicing changes.

Figure 50 depicts two potential areas in Richmond town centre where an urban forum space could be considered. The aim of the urban forum centre would be to create a centre of gravity for the community that exists outside of Richmond Marketplace. The locations have been selected as they are close to the high street, community centre, library, park and rail station. They are also centrally located between the two supermarket sites, therefore, could act as a space to tie the town centre together. This concept relates to Recommendation 5 (R5) in the table above.

Well-designed urban forum spaces or town squares offer a number of social and economic benefits (personal and community health, as well as encouraging economic investment in the centre).

These spaces can enhance social interaction, community development and support increased physical activity, particularly if cultural and social activities are also offered in the space. These spaces will be more likely to be used if other people are also using that space.

The success of urban spaces depends on ease of access to the space, and the safety and comfort the space can provide. Well-designed spaces should allow users to recognise each other from one side of the space to the other.

Best practice in design includes:

- Locating the space at active transport nodes
- Having a strong connection between the space and the ground floor of surrounding buildings, for example with through verandahs, bi-folding doors, windows and direct doorways
- Having active day and night uses around or adjacent to the space to maximise usage
- Formal and informal seating and lighting to contribute to character
- Greening of the space with seasonal varieties to provide shade and character
- Streets running alongside the space offer ease of access and passive surveillance.
- Seating should optimise the view and not back directly onto roads
- Social activities and events can occur in the space to help support social capital and increase activity levels[66].

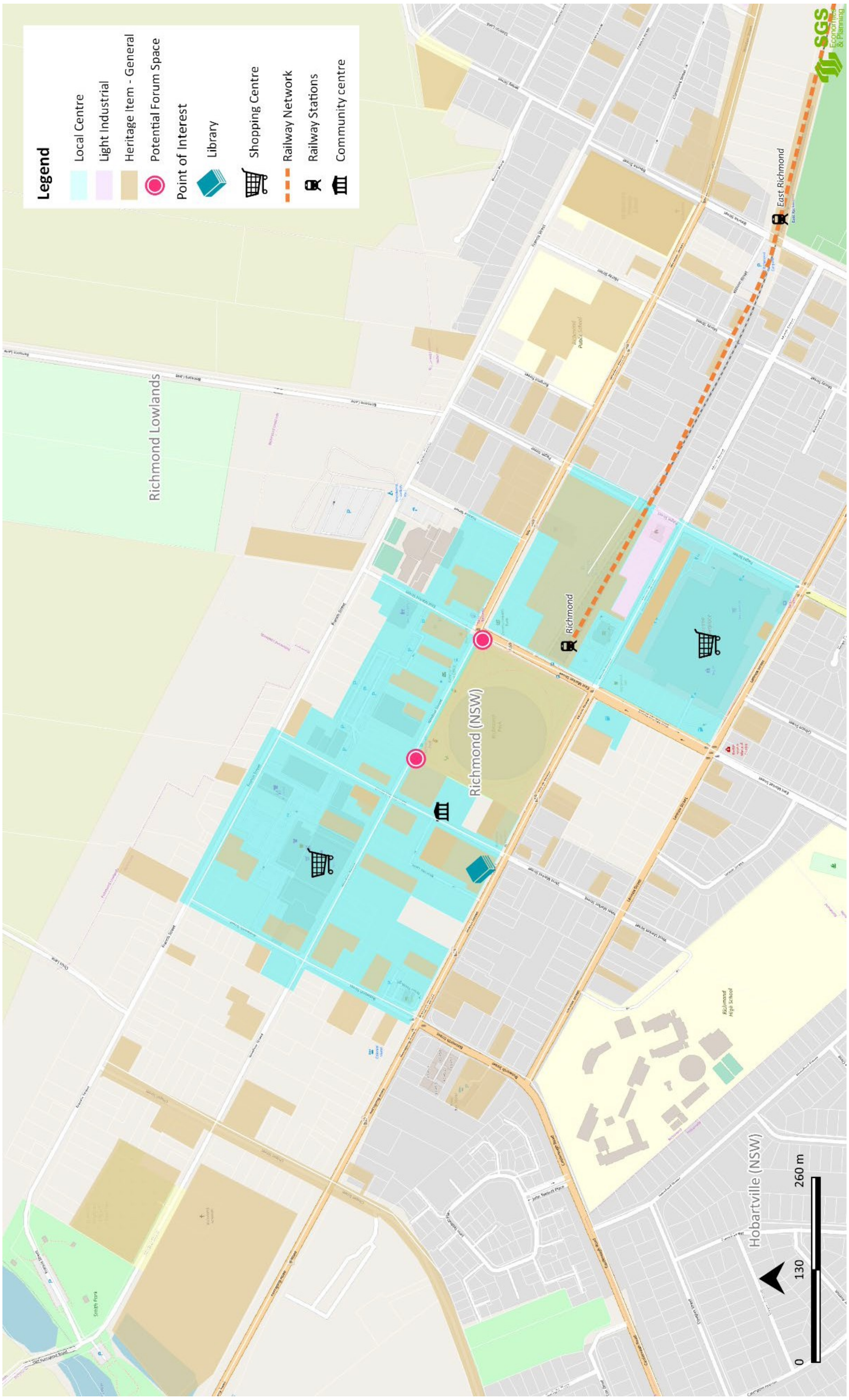
A forum space that aligns with these design principles could be considered at the edges of Richmond Park to help tie the high street to the activity of Richmond Station and Richmond Marketplace.

FIGURE 49: EXAMPLE FORUM SPACES – GIANT CHESS BOARDS BURWOOD PARK, BURWOOD AND HYDE PARK, CBD

Source: Google Image

[66] Healthy Spaces & Places, http://www.healthyplaces.org.au/site/urban_squares_full_text.php, date accessed: 04/12/2019

FIGURE 50: POTENTIAL URBAN FORUM SPACE (RECOMMENDATION 5)



Source: SGS, 2020

Windsor

As a part of the combined Strategic Centre, Windsor will have to overcome some character and amenity issues and will need a coordinated strategy to maintain activity along the expansive George Street stretch from the rail station and high street to the river. There may be potential for Windsor to expand its small-scale commercial and tourism roles.

Planning recommendations	Rationale
R7 Investigate precinct planning to develop the Windsor Station area as a 'gateway' to the Hawkesbury region	Windsor Station and the area in the immediate vicinity is a relatively low amenity and low density mix of residential, small scale commercial and hard public spaces (carpark and station). The existence of the rail station should be leveraged to encourage more employment activity. The 'gateway' to the Hawkesbury should draw people to experience the other activities and character areas along Georges Street, and the rest of the LGA.
R8 Monitor activity between Windsor station and Hawkesbury Valley Way as the 'gateway' is developed. Investigate and consider up zoning the B1 zone around Windsor station to allow for more commercial activity. Consider expansion of the B1 zone to align with some of the current uses in the area. Consider carefully the timing of land release for B zones, so that it meets demand and generates momentum.	There could be potential for more commercial activity in this zone. Floorspace projections indicate potential growth for 7,559 sqm of commercial/retail uses in Windsor centre, see Table 70. Investigate this potential with target industries (local centre commercial industries, such as local accountants and law businesses) as to whether this change would be feasible and would gain interest. Undertaking this activity would support Western District City Plan action 65c. Some residential lots between the Hawkesbury Valley Way and the B1 zone near Windsor Station are being used for retail/commercial purposes. There is potential to better align land use zones with existing uses, see Figure 52. Ensure zone changes and land release is carefully timed so that supply appropriately meets demand.
R9 Investigate and develop character areas	It is difficult to maintain activity along very long retail strips. Planning for distinct character areas along a strip can help to maintain a level of activity where otherwise 'dead spots' might persist. These character areas should build on the existing structure of the centre with the intention of both intensifying use around nodes and facilitating the connections between areas. North-east of Hawkesbury Valley Way and The Northern Road could be the Civic Precinct given it is already the location of several civic functions (Hawkesbury City Council, Hawkesbury District Health Service, Hawkesbury Central Library, Centrelink, Windsor Public School and the Police Station). Between Macquarie Street and the Hawkesbury River could be a Retail and Leisure Precinct. The character of the Station Precinct would be dependent on the outcomes of recommendation 7 and 8, see Figure 53.

	Build these character areas into the DCP and, potentially, into future economic development activity to ensure appropriate activity and built form and to ensure there is a co-ordinated planning response in Windsor.
R10 Plan for a small addition of retail floorspace in the medium to long term.	For Windsor centre, retail floorspace gap analysis suggests an additional 5,303 sqm may be required. The strongest demand would be for Supermarket (-1,946 sqm) and Hospitality (-1,727) commodity goods, see Table 9. When factoring in tourism retail expenditure, the overall gap in retail floorspace (resident + tourism spending) would be -14,737 sqm by 2036, notably in Hospitality (-8,757 sqm) and Supermarket (-2,332 sqm) commodity groups, see Table 11. Encouraging growth in Hospitality and Supermarket commodity types for Windsor centre should occur. Modelling of retail and commercial floorspace demand in centres related to employment growth indicates that post-2036 there would be 19 years capacity for commercial/retail growth.
R11 Plan for a small addition of commercial floorspace (relevant to a local centre) towards 2036, dependent on the outcomes of R8.	Projected additional commercial floorspace demand to 2036 for Windsor is 7,559 sqm, see Table 70. The fall in knowledge related employment against the background of strong performance in this sector in Greater Sydney suggests that a response is needed to improve the commercial land offering in Hawkesbury's centres. Much of this activity in the Hawkesbury will still be classed as small-scale commercial activity that is relevant to local centres (such as floorspace for accountants and lawyers, etc). Investigate this potential with specific target businesses (population serving commercial industries, such as local accountants and law businesses) as to whether this change would be feasible and would gain interest.
R12 Support the establishment of a high quality co-working space and the allowance for pop-up businesses in vacancies.	An increase in localised, co-working facilities has been observed across Australia. Co-working spaces are used across Australia to facilitate the work of freelance workers, small start-ups, but also provide a space for events like business talks, yoga classes, creative studios and workshops. Council can work with local business owners or landlords to actively find vacant floorspace (particularly in centres with high vacancies) to locate co-working uses and support small work groups. Retail vacancies are an ideal location due to their good accessibility and likely provision of kitchenette facilities. Supporting the establishment of a co-working space in vacant retail floorspace would help to: - Address the need for more affordable office spaces for small businesses, while also utilising current vacant floorspace - Help generate momentum and interest in the centre - Support collaboration and innovation within the community - Co-working spaces would also facilitate remote work opportunities. This principle aligns to Western City District Plan action 65c.
R13 Build the tourism industry, using Windsor as the primary, first hub.	The 2015 Tourism Strategy suggested starting with Windsor as the primary tourism hub and then expanding in a planned and strategic fashion through the LGA. Each town and village offer a point of difference, but ensure Windsor is the primary visitor hub with appropriate provision of visitor accommodation and good connectivity to the river. The current Hawkesbury Visitor Information Centre is located along Hawkesbury Valley Way, opposite the RAAF at Clarendon. Consider moving this facility to the Windsor Station precinct as the tourism industry and momentum grows and so that it is in close proximity to the public transport network, as well as having private vehicle access.

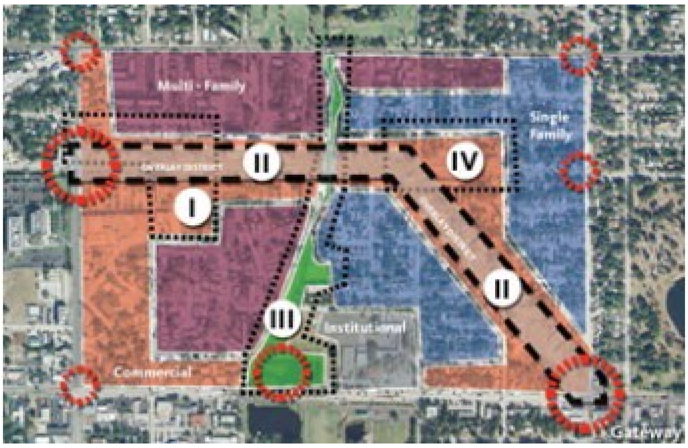
Recommendation 7 suggests the Windsor Station area become a 'gateway' for the Hawkesbury LGA. For example, in 2012, the City of Clearwater Florida created a vision plan for the **East Gateway District**. The location was bordered by the downtown and a state road. The location was well travelled but the district suffered a declining business base, deteriorating infrastructure and a mismatch of land uses and vacant storefronts. Residential uses were scattered within the district.

The location was split into four development zones with different goals to address community values:

- Zone I focused on redeveloping real estate to create mixed-use development to serve the medical industry
- Zone II focussed on progressing streetscape improvements and improving frontages and aesthetics
- Zone III focused on leveraging the natural environment and creating open space and recreational areas
- Zone IV aimed to create a central core for community uses.

In a similar fashion, an urban gateway could be developed at the Windsor Station area to earmark arrival to the Hawkesbury region and help divert exploration and visitation to the rest of the centre and down George Street.

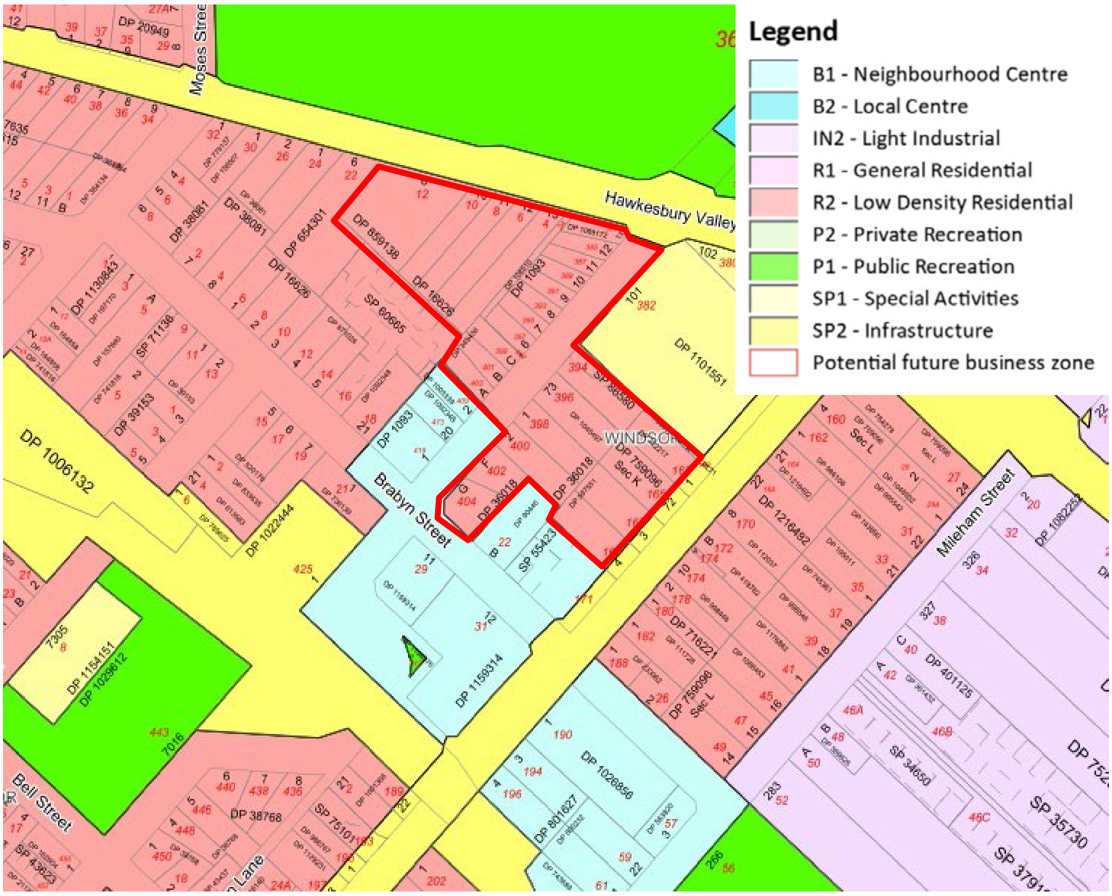
FIGURE 51: EAST GATEWAY DISTRICT



Source: Gateway District: Urban Design Concept
https://pdfs.semanticscholar.org/5432/8bb8c274ee6ea02d6f02844fc36fb8b4d59f.pdf

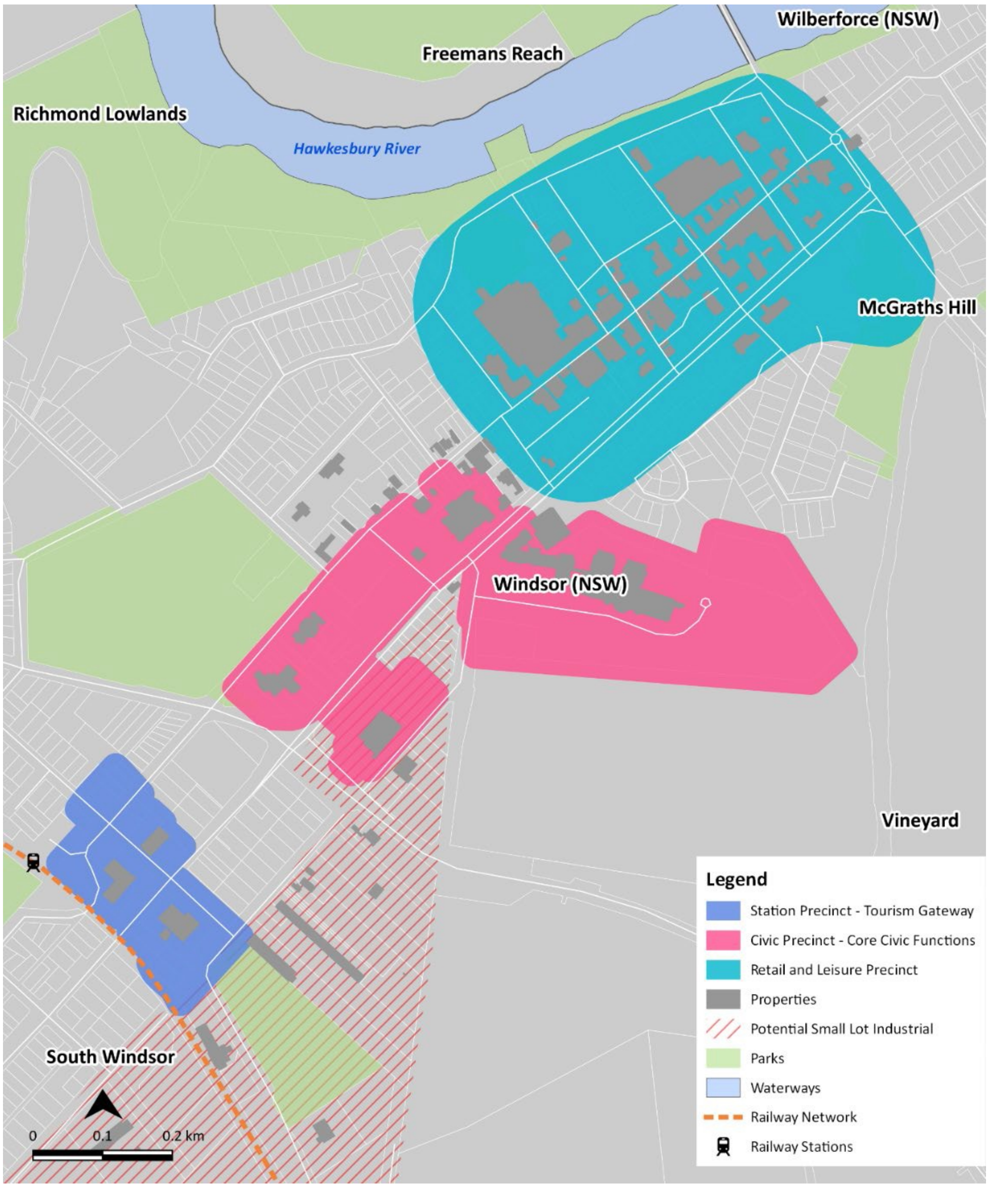
Recommendation 8 requires consideration be given to expanding the B zone between Windsor Station and Hawkesbury Valley Way to better align with current land uses. Figure 52 depicts potential B zone expansion areas (red boundary) near Windsor Station, close to the junction of Hawkesbury Valley Way and George Street. Rezoning should be carefully considered and timing of land release only when demand is present so that development momentum is generated and maintained.

FIGURE 52: POTENTIAL B ZONE EXPANSION TO ALIGN LAND USES (RECOMMENDATION 8)



Source: Hawkesbury City Council, 2020

FIGURE 53: POTENTIAL CHARACTER AREAS/PRECINCTS FOR WINDSOR (RECOMMENDATION 9)



Source: SGS, 2020

Figure 53 depicts potential character areas/precincts for Windsor town centre, as related to Recommendation 9. It is difficult to maintain activity along very long retail strips. Planning for distinct character areas along a strip can help as part of a strategy to maintain a level of activity where otherwise 'dead spots' might persist. These character areas build on the existing structure of the town centre and relate to town centre analysis being completed as part of the Liveability Program.

The northern section of Windsor would leverage its existing retail area and close connections to the river and become the retail and leisure precinct. The central area acknowledges the existence of many civic functions and would become the civic precinct. The area around Windsor Station would become the station precinct and an 'urban gateway' – acknowledging this area would be the first point of entry for many visitors to the LGA via public transport or via private vehicle from central Sydney.

An urban gateway acts as a transition between different spaces, connecting different places and people while forming an edge and a centre within itself. The gateway should be legible and engage with the surrounding environment – allowing arrival in place to be easily understood.

Clarendon

Clarendon will become a key agri-business and STEM hub within Greater Sydney. There is growing activity and momentum between Clarendon stakeholders to build the agri-business capabilities in the region (the education entities), the STEM capabilities in the region (RAAF), and the career pathway opportunities for students. Council can support growth of these industries and facilitate collaboration between stakeholders.

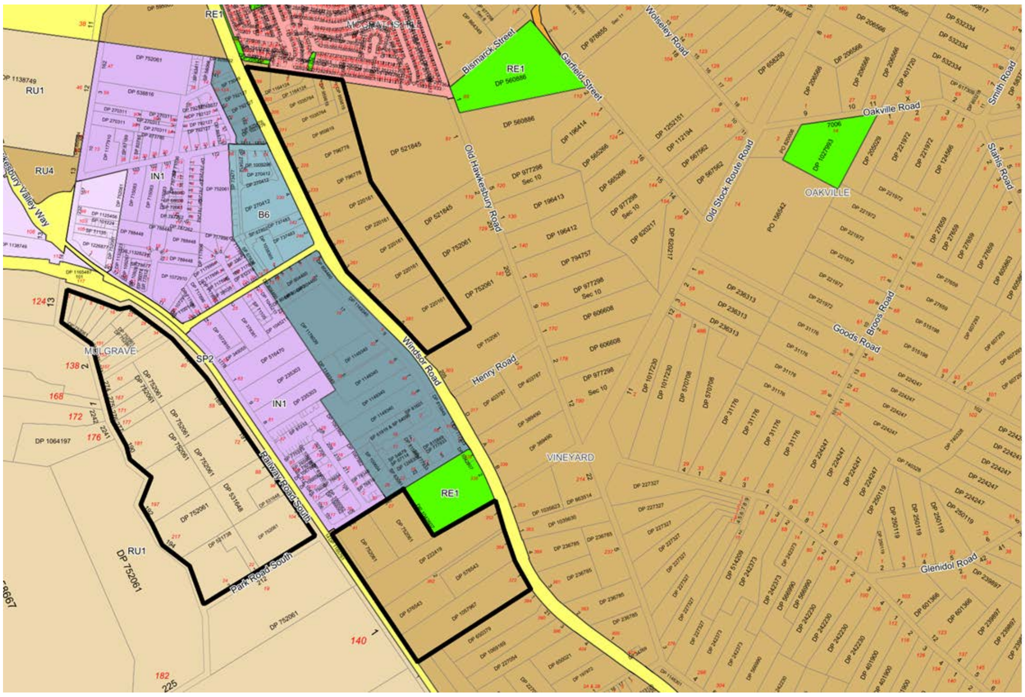
Planning recommendations	Rationale
R14 Support greater collaboration and dialogue between the Clarendon stakeholders and support industry linkages	Consultation and desktop analysis indicated that some activity has already started with the various stakeholders in Clarendon to build the agri-business/food system/STEM capabilities. Stakeholders want to build the profile of the LGA in these areas and develop clear career pathways for students into these industries. Council should facilitate a high-level working group between Clarendon precinct stakeholders to ensure co-ordination between strategies, to maintain the flow of information between stakeholders and provide clarity for the vision and direction of the precinct. Work with stakeholders should identify how the institutions can also support fresh produce processing as a career given this is a focus for the NSW Government. It may give greater impetus to its growth as an industry in the LGA, particularly in alignment with sustainable best practice. Council should work with Clarendon stakeholders to help build this vision and identity and assist collaboration – working not only with the RAAF and education entities but also the equine and horticulture industries. This aligns to the Western City District Plan action 65a.
R15 Support the development of the RAAF heritage museum	Support the development of the RAAF heritage museum and its contribution and promotion of STEM, as it may also increase visitation to the LGA (local community and school group visitation).
R16 Leverage the activity in the precinct for agri-business, food systems and STEM and link it to tourism opportunities	The Hawkesbury Destination Management Plan identified food-based tourism as a key product pillar for the Hawkesbury region. Council can progress this concept by working with Clarendon stakeholders and local producers to ensure tourism branding, activities and visitation sites are consistent and leverage each other. Council can also support the development of the RAAF heritage museum, and encourage visitation from schools in Greater Sydney, as this may help promote an interest in STEM with younger generations.
R17 Encourage and synergise land uses in the Clarendon precinct.	The 2008 employment study identified a potential need for land at Clarendon to support high amenity office and business development. As land uses in the precinct change, Council can encourage relevant businesses to locate in the precinct that link to the agribusiness and STEM opportunities being developed by the Clarendon stakeholders. Care is needed to ensure that any action to encourage office development within Clarendon does not adversely compete with small-scale commercial attraction in the town centres (recommendation 3 and 11). Similarly, any industrial related uses in Clarendon should synergise with agribusiness and STEM opportunities and complement the current Mulgrave industrial offering, and potential smaller lot offering of South Windsor (recommendation 23).

Mulgrave

Mulgrave contributes valuable industrial and urban services to the Hawkesbury LGA and Greater Sydney. The value of this contribution should be recognised and a 'retain and manage' approach applied to these lands. Mulgrave is the preferred industrial precinct in the LGA due to the quality of the built form, transport accessibility and general character. Council should continue to monitor this precinct overtime, to assess whether any expansion would be required in the lead up to 2036 and beyond.

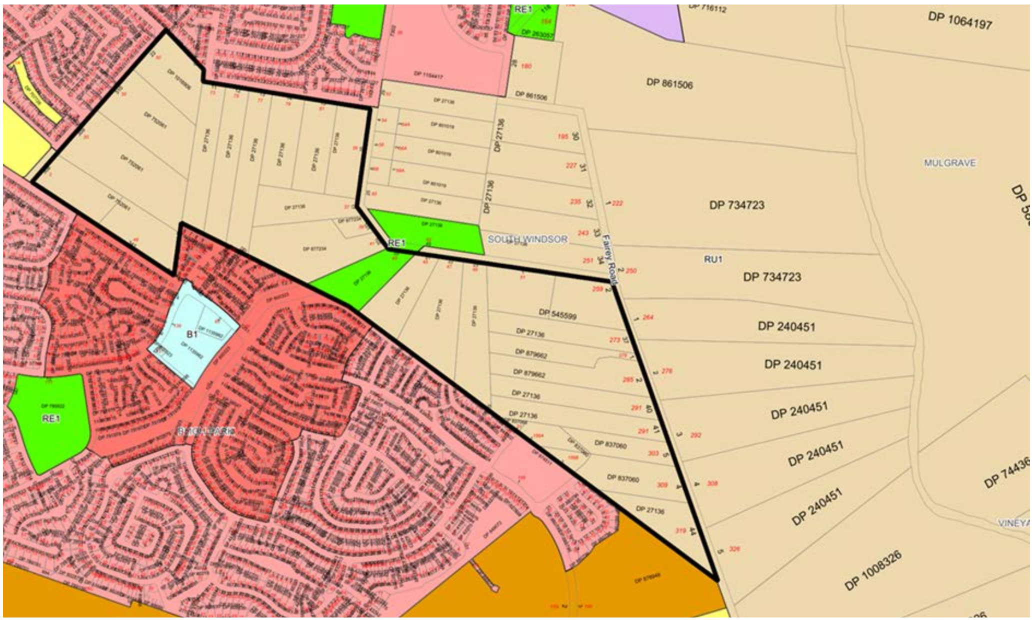
Planning recommendations	Rationale
R18 Monitor the performance of the industrial precinct over time and nominate an area as 'future industrial' for the expansion of the industrial precinct.	Projected demand for floorspace between 2016 and 2036 indicates a need for 78,213 sqm at Mulgrave for industrial uses, see Table 70. Council should consider future expansion given the success of this precinct (see Figure 54 and Figure 55) and long term needs. Based on the projections, industrial floorspace demand would be growing at 9,082 sqm per year. Therefore, post 2036, this amounts to an additional three years of capacity in the system for industrial floorspace. While supply is adequate within the planning horizon out to 2036, a 3-year buffer beyond that is a little low of industrial land planning purposes. Council should nominate the area highlighted in Figure 54 and Figure 55 as potential future industrial.
R19 Facilitate and monitor the growth of fresh produce processing and align industrial land uses capacity as relevant	Consultation indicated that Mulgrave is the preferred industrial precinct in the LGA, in part to its good connectivity to major road infrastructure. Given the NSW Government policy focus on building the food manufacturing industry, this makes Mulgrave currently the most attractive location in the LGA to locate such activity. There is some potential for overlap with planned activity at Clarendon. Within this sector, the focus at Mulgrave should be on industrial and storage and logistics functions. Whereas at Clarendon Council should be open to opportunities for more campus style business park development that integrates office, industrial/ logistics and potential research functions as part of business park development. While working with stakeholders to build agribusiness industry in the LGA, Council should investigate the potential to encourage greater food manufacturing capabilities, including the ways that local institutions could support career pathways for local students into food manufacturing and ways to ensure best practice sustainable.
R20 Maintain buffers between industrial and residential/commercial land uses.	To ensure industrial and nearby residential/commercial precincts can exist in close proximity, appropriate physical buffers should be incorporated into site planning. For residential-facing lots, development should consider 'public-facing' uses such as front of house functions like offices or show rooms, with heavier industrial uses to the rear. This is particularly relevant to the Mulgrave precinct and potential expansion sites indicated in Figure 54.
R21 Consider industrial land operational needs alongside employment generation.	Employment projections are just one indicator that define future need for industrial space. Functions such as warehousing, storage units and distribution centres may have low levels of employment and therefore, employment growth, yet their function is a critical one in serving business and consumer networks. This should be a consideration in future uses proposed in industrial precincts.

FIGURE 54: POTENTIAL FUTURE INDUSTRIAL LAND FOR EXPANSION (EAST OF EXISTING MULGRAVE INDUSTRIAL SITE), TO BE INVESTIGATED (RECOMMENDATION 18)



Source: Hawkesbury city council

FIGURE 55: POTENTIAL FUTURE INDUSTRIAL LAND FOR EXPANSION (NORTH BLIGH PARK), TO BE INVESTIGATED (RECOMMENDATION 23 AND 24)



Source: Hawkesbury City Council

Mulgrave industrial precinct has good transport connections being located alongside Windsor Road – a route of national significance[67]. The Mulgrave precinct is also accessible by public transport with the rail station located on the western edge of the precinct. By private vehicle, Mulgrave is highly accessible at about 30 minutes from the surrounding areas of Glossodia, Pitt Town, Vineyard and Riverstone. This high level of connectivity means the site is valuable for business and the transportation of goods, but also, is highly accessible for local residents to access employment opportunities – supporting the '30-minute city concept'[68].

Consultation indicated that Mulgrave was the preferred industrial precinct location with operators due to the higher quality built-form, transport access and general character. Market data analysis for industrial lands reinforces the consultation findings with industrial sales values between 2002-2017 higher for Mulgrave industrial, and also industrial sales volumes between 1990-2018 lower for Mulgrave industrial when compared to South Windsor[69].

Given these strong attributes, consideration should be given to the expansion of the Mulgrave precinct should demand continue in line with projections[70]. Figure 54 and Figure 55 represent land areas that could be considered and investigated further. These sites would provide continuity of land use; roadways, the natural reserve and rural land uses surrounding the lots would act as buffers. Appropriate buffers should be put in place where the alignment is close to the residential zones.

Consultation however, suggested South Windsor suffers from poor character and a supply of smaller lots for local operators was lacking. Here there is an opportunity for South Windsor to realign some areas – creating smaller lots to cater to the needs of local operators and set the precinct apart from Mulgrave.

[67] RMS, https://www.rms.nsw.gov.au/roads/using-roads/alpha-numeric/index.html
[68] GSC, 2018, Greater Sydney Regional Plan, p. 35
[69] See Appendix H
[70] Related to recommendation 18

Planning recommendations	Rationale
R22 Improve retail activation and linkages	Consider the promotion of active dual retailing frontages for Georges Street and Mullingar Lane, including public domain improvements on rear lanes. Support active ground floor retail uses.
R23 Consider the addition of smaller lots in the industrial precinct and update DCP to support	There has been a declining proportion of industrial related employment in the LGA in the decade 2006-2016, see Figure 10. Given industrial functions are such a valuable asset to the LGA, and to Greater Sydney for their contribution to the functioning of the city[71], there is value in reconfiguring some lots to meet local needs and revitalise the centre. Consultation revealed smaller operators are attracted to the Hawkesbury industrial lands. Consultation also indicated that there is an oversupply of large industrial lots and an undersupply of small industrial lots (500 sqm to 2000 sqm), particularly in South Windsor where there are very low vacancy levels for lots under 4,000 sqm. Industrial lots of 200 sqm to 300 sqm are popular. One of the objectives of the Hawkesbury Development Control Plan for Industrial Lot Sizes (clause 3.9.1) is that provision should be made for a variety of lot sizes (whilst also allowing for sufficient space to accommodate industrial operations and vehicle movements). Specific provision in the DCP for some smaller lots in South Windsor would support this objective and may also help meet market demand. Buffers between industrial and residential/commercial land uses should be maintained. To ensure industrial and nearby residential/commercial precincts can exist in close proximity, Council should consider how any future development faces adjacent uses. For residential-facing lots, development should consider 'public-facing' uses such as front of house functions like offices or show rooms, with heavier industrial uses to the rear. There has been a shifting pattern in some traditional industrial lands across Greater Sydney, where small scale operators in creative industries/small scale craft production, are locating in these areas to service local residents[72]. Smaller lots may cater to these types of operators.
R24 Consider industrial land operational need, not just employment generation.	Employment projections are just one indicator that define future need for industrial space. Functions such as warehousing, storage units and distribution centres may have low levels of employment and therefore, employment growth, yet their function is a critical one in serving business and consumer networks. This is a reason to protect these uses where they are demonstrably in demand, yet their operation is threatened through competing land uses, rezoning applications, etc. This should be a consideration in future uses proposed in industrial precincts of the future.

[71] See GSC, A Metropolis that Works, https://www.greater.sydney/a-metropolis-that-works
[72] See section 4.3 – industrial uses – creative uses.

Smaller Centres

The focus for smaller centres in the LGA will be to ensure floorspace, urban design and amenity meets the needs of the local population and visitors to the LGA

Planning recommendations	Rationale
R25 Plan for small additions to retail and commercial floorspace relevant in the smaller centres in the medium to long term.	North Richmond is expected to have a retail floorspace gap of -2,137 sqm by 2036, however this will be distributed across several commodity types ranging from 102 sqm for Clothing and Soft Goods to 702 sqm for Hospitality floorspace. Glossodia is expected to require an addition of 232 sqm of retail floorspace in Supermarket, Hospitality and Other Food commodity groups at 81, 78 and 58 sqm respectively. Other centres, such as Pitt town, Kurrajong, Wilberforce and Hobartville would have small floorspace gaps ranging to between 10 sqm and 921 sqm, see Table 9. With the addition of tourism spending, retail gravity modelling suggests North Richmond would have a higher requirement for additional floorspace at 5,279 sqm in predominantly the Hospitality commodity group. Glossodia would also have a significant rise for floorspace to 556 sqm predominantly in Supermarket and Other Food commodity groups. All other smaller centres did not exhibit dramatic demand for additional floorspace. Towards 2036, it is projected that McGraths Hill, Pitt Town, South Windsor, Glossodia and Wilberforce could require an additional 4,313 sqm, 3,699 sqm, 3,990 sqm, 1,015 sqm, and 1,442 sqm in commercial/retail related floorspace respectively. This could include 'population-serving commercial style' businesses such as real estate agents, small legal or accounting firms that tend to require smaller mixed use/ground floor office floorspace, see Table 70.

5.5 Recommendations aligned to land uses and centres

Recommendation	Retail	Commercial	Industrial	Agricultural	Tourism
Overarching principles	*Ensure public domain improvements are high quality *Ensure the public domain is sensitive to the needs and mobility of local residents *Encourage well-designed mixed use that protects the character and heritage of high streets *Support the 'greening' of the centres	*Ensure public domain improvements are high quality *Ensure the public domain is sensitive to the needs and mobility of local residents *Encourage well-designed mixed use that protect the character and heritage of high streets *Support the 'greening' of the centres	*Retain and manage the industrial and urban services lands of the Mulgrave and South Windsor centres *Support the 'greening' of the centres	*Any development around the tourism economy in the Hawkesbury should minimise impact on the natural setting of the Hawkesbury and rural lands	*Reinforce the tourism brand/program in the character of the key centres and in line with the Tourism Strategy *Encourage development that is sympathetic to centres' heritage character, and reflects the environmental and food production assets of the LGA
Richmond	*Ensure the centre continues to support the essential needs of the local population with a strengthened approach to achieve its strategic centre designation *Plan for a small increase in retail floor space into the medium to long term	*Plan for a small addition of 'population serving' commercial floorspace towards 2036 *Encourage the provision of small-scale health care premises			*Develop a social program that is inclusive of the whole community and visitors to the LGA. *Improve amenity, safety-by-design and connectivity to and around the station
Windsor	*Plan for a small addition of retail floorspace in the medium to long term	*Investigate and consider a change to the B1 zone around Windsor station *Investigate and consider possible expansion of the B zone near Windsor station to better align with current uses *Plan for a small addition of 'population serving' commercial floorspace towards 2036 *Support the establishment of a high quality co-working space			*Build the tourism industry, using Windsor as the primary hub
Clarendon		*Encourage and synergise land uses in the Clarendon precinct	*Encourage and synergise land uses in the Clarendon precinct	*Leverage the activity in the Clarendon precinct surrounding agri-business and food systems and STEM and link it to tourism opportunities	*Support the development of the RAAF heritage museum *Leverage the activity in the Clarendon precinct surrounding agri-business and food systems and STEM and link it to tourism opportunities
South Windsor	*Improve retail activation and linkages		*Consider the addition of smaller lots in the precinct and update DCP to support *Consider industrial land operational need, not just employment generation		

Mulgrave	*Maintain buffers between industrial and residential/commercial land uses		*Monitor the performance of the industrial precinct overtime and nominate an area as ‘future industrial’ for the expansion of the industrial precinct *Maintain buffers between industrial and residential/commercial land uses *Consider industrial land operational need, not just employment generation *Facilitate and monitor the growth of food produce processing and align industrial land capacity as relevant		
Smaller centres	*Plan for small additions to retail and ‘population serving’ commercial floorspace in the smaller centres in the medium to long term	*Plan for small additions to retail and ‘population serving’ commercial floorspace in the smaller centres in the medium to long term			

5.6 Implementation

		Timeframe*	Greater Sydney Region Plan or Western City District Plan related action	Relationship to Scope of Works (dot point)	Relationship to 2008 Employment Lands Strategy
Planning Principles					
PP1	Ensure public domain improvements are high quality	S-M-L	Supports WCDP action 65b	Relates to Scope of Work (1) (8)	Relates to Strategy 3
PP2	Ensure the public domain is sensitive to the needs and mobility of local residents	S-M-L	Supports WCDP action 65b	Relates to Scope of Work (8)	
PP3	Encourage well-designed mixed use that protects the character and heritage of high streets	S-M-L	Supports WCDP action 65b	Relates to Scope of Work (1) (8)	
PP4	Support the 'greening' of the centres	S-M-L	Supports GSRP objective 30	Relates to Scope of Work (1) (8)	
PP5	Retain and manage the industrial and urban services lands	S-M-L	Supports GSRP objective 23	Relates to Scope of Work (1)	
PP6	Reinforce the tourism brand/program in the character of the key centres	S-M-L	Supports WCDP action 65b and GSRP objective 24	Relates to Scope of Work (1)	
PP7	Any development around the tourism economy in the Hawkesbury should minimise impact on the natural setting of the Hawkesbury and rural lands	S-M-L	Supports GSRP objective 24 (24.2) and objective 29		Relates to Strategy 6
Recommendations					
Richmond					
R1	Develop a social program that is inclusive of the whole community and visitors to the LGA	S	Supports GSRP objective 9 and WCDP action 65b		
R2	Plan for a small increase in retail floorspace in the medium to long term	M-L		Relates to Scope of Work (1) (7)	
R3	Plan for a small addition of commercial floorspace (relevant for a local centre) towards 2036.	M-L	Supports WCDP action 65c	Relates to Scope of Work (1) (7)	
R4	Encourage small scale health service provision in the centre	S-M-L		Relates to Scope of Work (1) (7)	
R5	Investigate the applicability of an urban, forum space in the centre	S-M	Support WCDP action 65b	Relates to Scope of Work (1)	
R6	Improve amenity, safety-by-design and connectivity to and around the rail station	S-M	Supports WCDP action 65b		Relates to Strategy 2
Windsor					

R7	Investigate precinct planning to develop the Windsor Station area as a 'gateway' to the Hawkesbury region	S-M-L	Supports GSRP objective 24 (24.2) and WCDP action 65b	Relates to Scope of Work (1) (7)	Relates to Strategy 8
R8	Monitor activity between Windsor station and Hawkesbury Valley Way as the 'gateway' is developed. Investigate and consider up zoning the B1 zone around Windsor station to allow for more commercial activity. Consider expansion of the B1 zone to align with some of the current uses in the area. Consider carefully the timing of land release for B zones, so that it meets demand and generates momentum.	M-L	Supports WCDP action 65b and 65c	Relates to Scope of Work (7)	
R9	Investigate and develop desired character areas	S-M	Supports WCDP action 65b	Relates to Scope of Work (1)	
R10	Plan for a small addition of retail floorspace in the medium to long term	M-L		Relates to Scope of Work (1) (7)	
R11	Plan for a small addition of commercial floorspace (relevant to the local centre) towards 2036, dependent on the outcomes of R8	M-L	Supports WCDP action 65c	Relates to Scope of Work (1) (7)	
R12	Support the establishment of a high quality co-working space and the allowance for pop-up businesses in vacancies	S-M	Supports WCDP action 65c	Relates to Scope of Works (3) (7)	
R13	Build the tourism industry in the Hawkesbury starting with Windsor as the primary hub	S-M	Supports GSRP objective 24 and WCDP action 65b		
Clarendon					
R14	Support greater collaboration and dialogue between the Clarendon stakeholders and support industry linkages	S-M-L	Supports WCDP action 65a	Relates to Scope of Works (5) (6)	
R15	Support the development of the RAAF heritage museum	S-M-L	Supports WCDP action 65a and GSRP objective 24	Relates to Scope of Works (5) (6)	Relates to Strategy 7
R16	Leverage the activity in the Clarendon precinct surrounding agri-business and food systems and STEM and link it to tourism opportunities	S-M-L	Supports WCDP action 65a and GSRP objective 24	Relates to Scope of Works (5)	Relates to Strategy 7
R17	Encourage and synergise land uses in the Clarendon precinct.	S-M-L	Supports WCDP action 65a and 65c	Relates to Scope of Works (1) (5) (7)	Relates to Strategy 4
Mulgrave					
R18	Monitor the performance of the industrial precinct over time and nominate an area as 'future industrial' for the expansion of the industrial precinct.	S-M		Relates to Scope of Work (1) (4)	Relates to Strategy 5
R19	Facilitate and monitor the growth of food produce processing and align industrial land capacity as relevant	M-L			
R20	Maintain buffers between industrial and residential/commercial land uses	S-M-L			
R21	Consider industrial land operational need, not just employment generation	S-M-L	Supports GSCP objective 23		

South Windsor					
R22	Improve retail activation and linkages	S-M	Supports WCDP action 65b	Relates too Scope of Work (7) (8)	
R23	Consider the additional of smaller lots in the precinct and update DCP to support	S		Relates to Scope of Work (1) (10)	
R24	Consider industrial land operational need, not just employment generation	S-M-L	Supports GSRP objective 23	Relates to Scope of Work (10)	
Smaller centres					
R25	Plan for small additions to retail and commercial floorspace relevant in the smaller centres in the medium to long term.	M-L	Supports WCDP action 65c	Relates to Scope of Work (1) (8)	

*Short term recommendations would be approximately 0-5 years; medium term 5-10 years; and long-term recommendations 10+ years.

Appendix

APPENDIX A

Data Sources

Data used to analyse precincts includes:

- Precinct boundaries that are defined by Transport for NSW's Transport Performance Analytics (TPA) Travel Zones
- Travel Zone (TZP2016 v1.51) datasets from TPA.

Travel Zones are the spatial units of geography defined by TPA. The Travel Zone spatial layer is applied to data sources used by TfNSW for transport modelling and analysis, including the Household Travel Survey and the Census 2016 Journey to Work data. The Australian Bureau of Statistics (ABS) Statistical Area boundaries form the foundation of the TZs. TZ boundaries are defined using population, employment, housing and transport infrastructure[73]. There can be limitations to forecasts at the small area level.

The analysis also includes Broad Industry Categories (BICs). In conjunction with the Greater Sydney Commission (GSC), SGS Economics and Planning categorised the ABS Australian and New Zealand Standard Industrial Classification (ANZSIC) employment codes into four Broad Industry Categories: Knowledge Intensive, Health and Education, Population Serving and Industrial. See Appendix F for a detailed breakdown of employment categories under each BIC.

The following age profile definitions has been applied:

- Children 0-5 (still out of school system)
- Youth 5-20 (mostly still living with parents)
- Young Adult 20-30 (starting to move out, becoming independent, saving for deposit)
- Adult 30-45 (starting a family, buying a house)
- Mature Adult 45-65 (moving to better neighbourhoods, settling long term, less mobile)
- Retirees 65+ (mainly out of work force).

[73] TfNSW, 2016, https://opendata.transport.nsw.gov.au/dataset/travel-zones-2016, date accessed: 20/11/2019

APPENDIX B

Key Employment Precinct Profile

LGA-wide

The Hawkesbury LGA's key precincts contained approximately 35,500 people collectively in 2016. In the 20 years between 2016 and 2036, the population is projected to grow by +7,500 to a population of about 43,000 persons. While *Mature Adults* made up the largest average proportion of age groups across the precincts in 2016 (25.8%), this is projected to decline to 21.6% by 2036. It is expected there will be a significant increase in Retirees (from +14.9% to 20.7%).

TABLE 14: HAWKESBURY LGA AGE GROUPS, 2016 (PUR)

Age Group	Children	Youth	Young Adult	Adult	Mature Adult	Retirees	*Total*
Average	6.5%	19.9%	14.1%	18.8%	25.8%	14.9%	35,465

Source: TZP2016 v1.51 (TPA)

TABLE 15: HAWKESBURY LGA AGE GROUPS, 2036 (PUR)

Age Group	Children	Youth	Young Adult	Adult	Mature Adult	Retirees	*Total*
Average	6.7%	19.2%	13.1%	18.6%	21.6%	20.7%	43,025

Source: TZP2016 v1.51 (TPA)

Hawkesbury's precincts contained approximately 20,900 jobs in 2016. By 2036, this is projected to grow by +6,600 jobs to approximately 27,500. The average share of jobs in the Industrial sector is projected to decline by -4.3%, while Knowledge Intensive and Health and Education is projected to slightly increase.

TABLE 16: HAWKESBURY LGA LOCAL EMPLOYMENT, 2016 (POW)

Broad Industry Category	Knowledge Intensive	Health and Education	Population Serving	Industrial	*Total*
Average	17.8%	22.7%	39.0%	20.5%	20,894

Source: TZP2016 v1.51 (TPA)

TABLE 17: HAWKESBURY LGA LOCAL EMPLOYMENT, 2036 (POW)

Broad Industry Category	Knowledge Intensive	Health and Education	Population Serving	Industrial	*Total*
Average	21.0%	25.5%	37.3%	16.2%	27,539

Source: TZP2016 v1.51 (TPA)

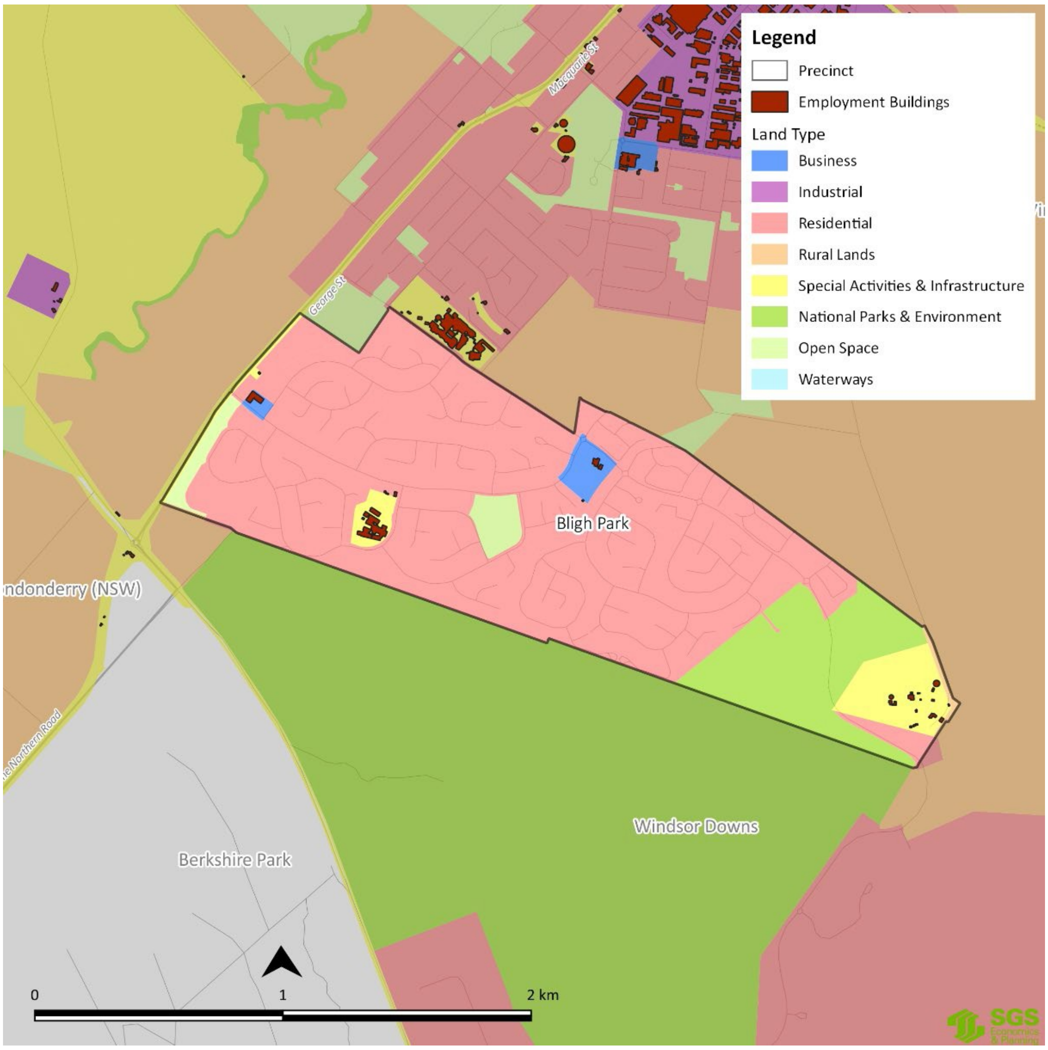
Bligh Park

Bligh Park is predominantly a residential and family neighbourhood with two small neighbourhood centres located in the western and central areas of the precinct. The western neighbourhood centre contains an IGA and Liquor Store while the central zone contains the

Bligh Park Community Hall. The two special activities are public schools: Bligh Park Public School and Windsor Park Public School.

In 2016, the largest age groups in the precinct were Mature Adults (+1,579) and Youth (+1,441). Retirees were the smallest group of people at +400. The most significant employment category in this precinct is Construction (+118) and Education and Training (+117).

FIGURE 56: BLIGH PARK



Source: SGS 2019 using LZN19

TABLE 18: BLIGH PARK AGE GROUPS, 2016 (PUR)

Age Group	No. 2016
Children	602
Youth	1,441
Young Adult	1,144
Adult	1,369
Mature Adult	1,579
Retirees	400
Total	*6,535*

Source: TZP2016 v1.51 (TPA)

TABLE 19: BLIGH PARK LOCAL EMPLOYMENT BY 1-DIGIT ANZSIC, 2016 (POW)

ANZSIC Employment	2016 Jobs
Agriculture, Forestry and Fishing	-
Mining	-
Manufacturing	-
Electricity, Gas, Water and Waste Services	2
Construction	118
Wholesale Trade	-
Retail Trade	69
Accommodation and Food Services	54
Transport, Postal and Warehousing	14
Information Media and Telecommunications	4
Financial and Insurance Services	-
Rental, Hiring and Real Estate Services	9
Professional, Scientific and Technical Services	24
Administrative and Support Services	23
Public Administration and Safety	7
Education and Training	117
Health Care and Social Assistance	104
Arts and Recreation Services	1
Other Services	15
Total	*561*

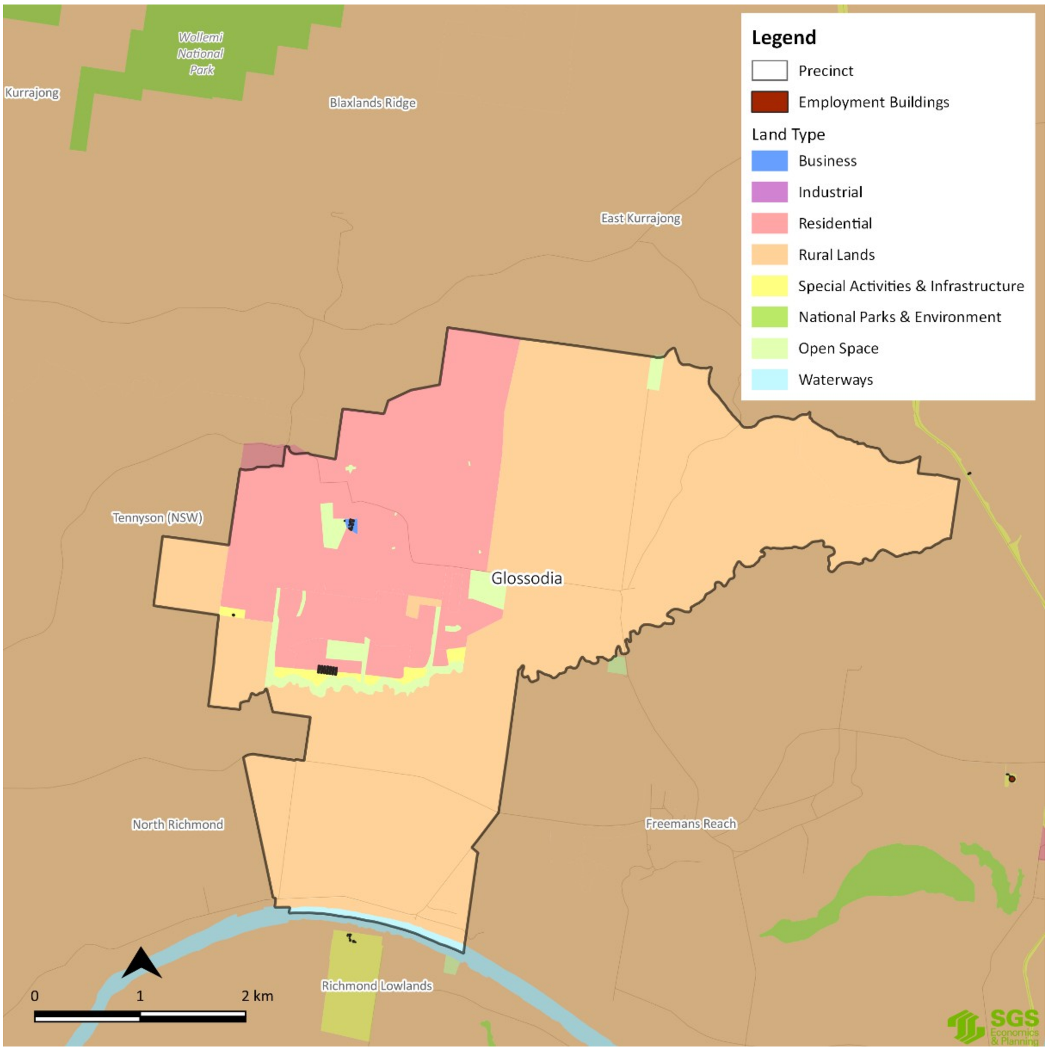
Source: TZP2016 v1.51 (TPA)

Glossodia

Glossodia is predominantly a rural region with some low-density housing towards the northwest of the precinct. Some of the rural industries include intensive animal agriculture.

In 2016, there was a fair distribution of age groups in the precinct with Mature Adults the largest group at +898 persons and Children the smallest at +267. Most employment in this precinct was attributed to Agriculture, Forestry and Fishing (+185) and Construction (+115).

FIGURE 57: GLOSSODIA



Source: SGS 2019 using LZN19

TABLE 20: GLOSSODIA AGE GROUP, 2016 (PUR)

Age Group	No. 2016
Children	267
Youth	764
Young Adult	528
Adult	729
Mature Adult	898
Retirees	307
Total	3,493

Source: TZP2016 v1.51 (TPA)

TABLE 21: GLOSSODIA LOCAL EMPLOYMENT BY 1-DIGIT ANZSIC, 2016 (POW)

ANZSIC Employment	2016 Jobs
Agriculture, Forestry and Fishing	185
Mining	-
Manufacturing	40
Electricity, Gas, Water and Waste Services	5
Construction	115
Wholesale Trade	-
Retail Trade	23
Accommodation and Food Services	14
Transport, Postal and Warehousing	36
Information Media and Telecommunications	4
Financial and Insurance Services	-
Rental, Hiring and Real Estate Services	-
Professional, Scientific and Technical Services	27
Administrative and Support Services	26
Public Administration and Safety	-
Education and Training	48
Health Care and Social Assistance	78
Arts and Recreation Services	5
Other Services	28
Total	*634*

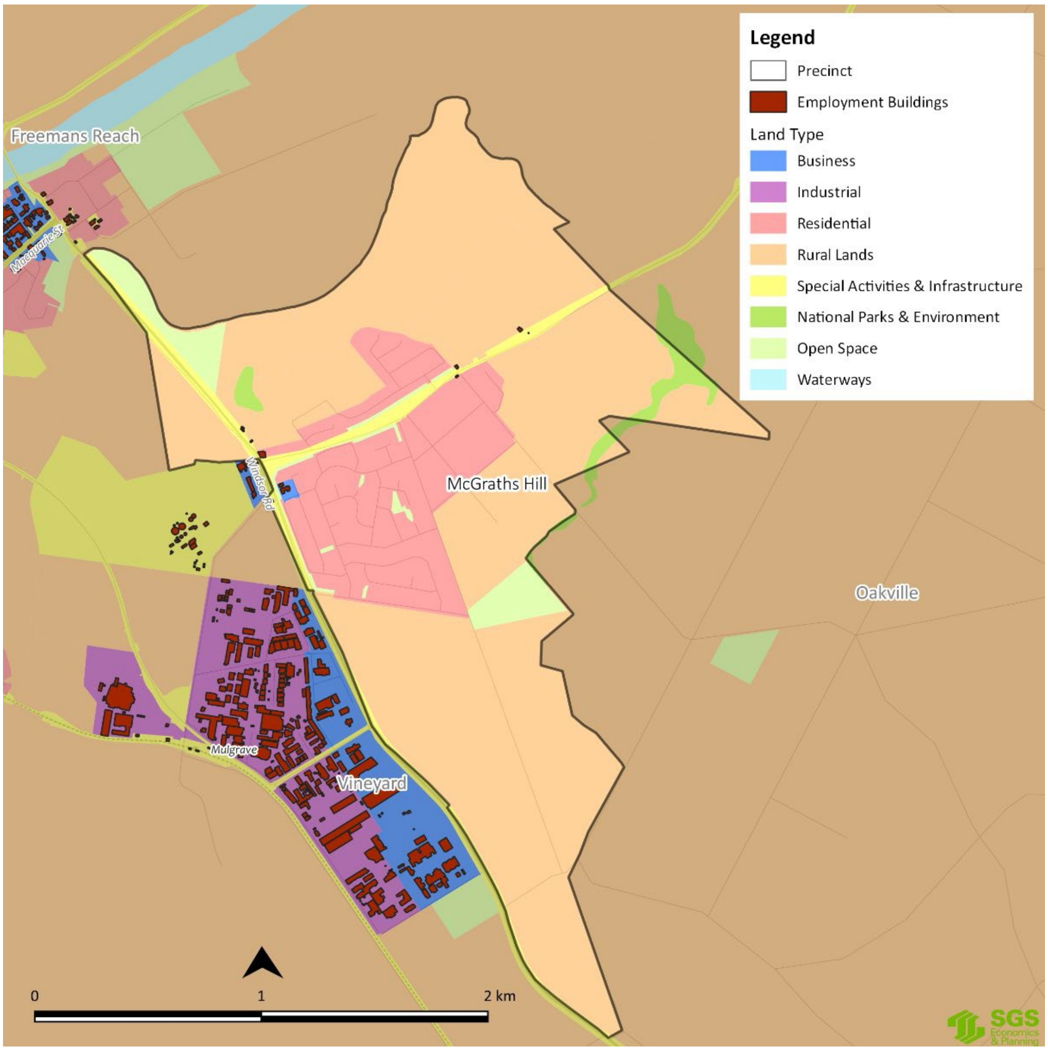
Source: TZP2016 v1.51 (TPA)

McGraths Hill

McGraths Hill is a precinct that contains predominantly rural lands but also low-density housing and a small neighbourhood centre that contains a food takeaway, restaurant and hairdresser.

Mature Adults (+705), Youth (+593) and Adults (+564) were the largest age groups in the precinct. The most significant employment type is Construction (+136).

FIGURE 58: MCGRATHS HILL



Source: SGS 2019 using LZN19

TABLE 22: MCGRATHS HILL AGE GROUP, 2016 (PUR)

Age Group	No. 2016
Children	199
Youth	593
Young Adult	368
Adult	564
Mature Adult	705
Retirees	254
Total	2,683

Source: TZP2016 v1.51 (TPA)

TABLE 23: MCGRATHS HILL LOCAL EMPLOYMENT BY 1-DIGIT ANZSIC, 2016 (POW)

ANZSIC Employment	2016 Jobs
Agriculture, Forestry and Fishing	70
Mining	-
Manufacturing	8
Electricity, Gas, Water and Waste Services	1
Construction	136
Wholesale Trade	-
Retail Trade	33
Accommodation and Food Services	39
Transport, Postal and Warehousing	56
Information Media and Telecommunications	-
Financial and Insurance Services	4
Rental, Hiring and Real Estate Services	-
Professional, Scientific and Technical Services	36
Administrative and Support Services	10
Public Administration and Safety	11
Education and Training	48
Health Care and Social Assistance	56
Arts and Recreation Services	5
Other Services	34
Total	*547*

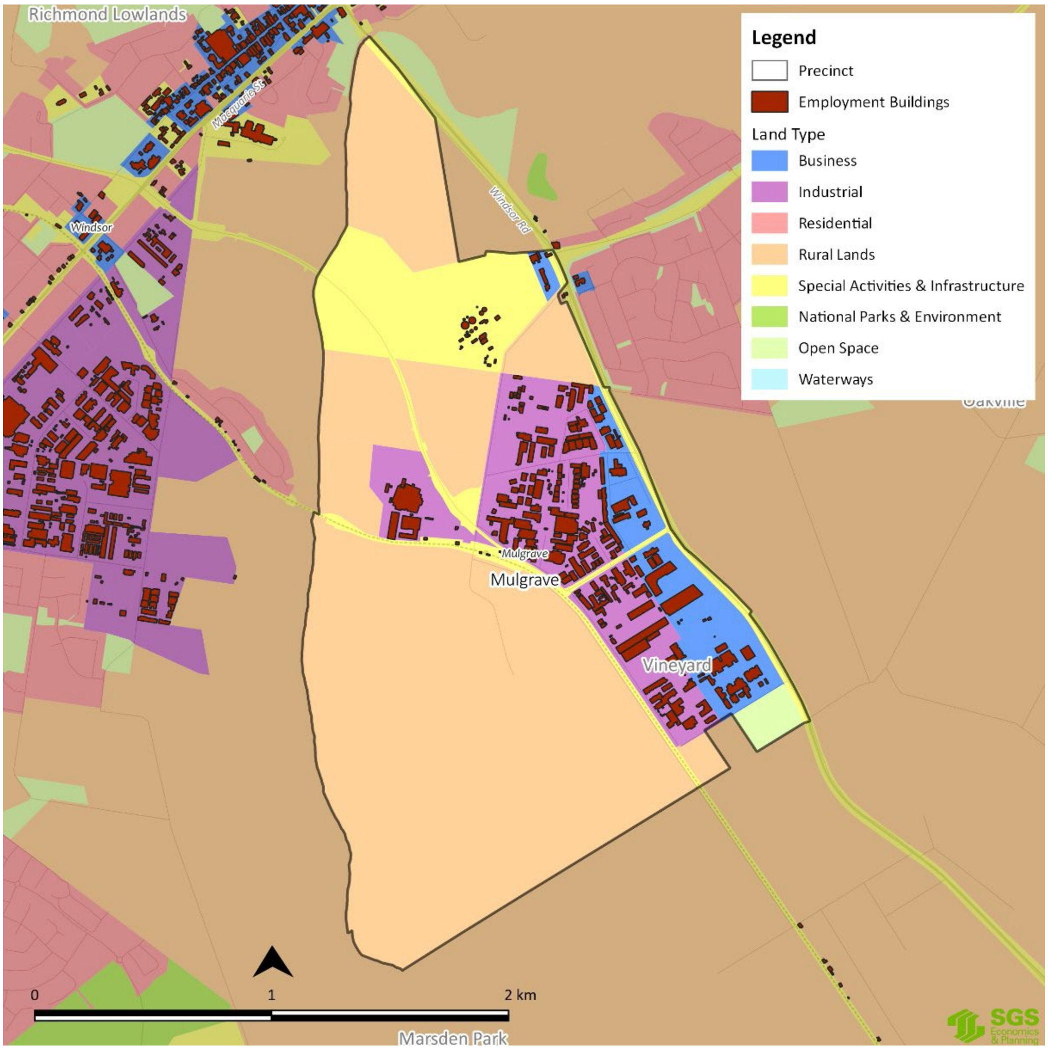
Source: TZP2016 v1.51 (TPA)

Mulgrave

Mulgrave is a business and industrial focused precinct. It contains a number of large format employment uses, such as Bunnings, Officeworks, Harvey Norman, Dulux Trade Centre and Supercheap Auto.

Given the dominance of business and industrial land uses in this precinct, the Place of Residence data for age groups is small with a total of 84 persons. The precinct has a diverse employment makeup with Construction the most significant employment type (+737 jobs); Manufacturing (+535) jobs, followed by Retail Trade (+500).

FIGURE 59: MULGRAVE



Source: SGS 2019 using LZN19

TABLE 24: MULGRAVE AGE GROUP, 2016 (PUR)

Age Group	No. 2016
Children	5
Youth	20
Young Adult	6
Adult	13
Mature Adult	23
Retirees	17
Total	84

Source: TZP2016 v1.51 (TPA)

TABLE 25: MULGRAVE LOCAL EMPLOYMENT BY 1-DIGIT ANZSIC, 2016 (POW)

ANZSIC Employment	2016 Jobs
Agriculture, Forestry and Fishing	52
Mining	-
Manufacturing	535
Electricity, Gas, Water and Waste Services	21
Construction	737
Wholesale Trade	164
Retail Trade	500
Accommodation and Food Services	246
Transport, Postal and Warehousing	201
Information Media and Telecommunications	13
Financial and Insurance Services	29
Rental, Hiring and Real Estate Services	37
Professional, Scientific and Technical Services	54
Administrative and Support Services	74
Public Administration and Safety	33
Education and Training	53
Health Care and Social Assistance	5
Arts and Recreation Services	5
Other Services	206
Total	*2,965*

Source: TZP2016 v1.51 (TPA)

Table 26 looks at the Construction industry in Mulgrave in more detail. It shows that the majority of jobs are currently Building Installation Services (+161), Heavy and Civil Engineering Construction (+73), Other Construction Services (+51) and Building Completion Services (+50).

TABLE 26: MULGRAVE CONSTRUCTION INDUSTRY LOCAL EMPLOYMENT (2016) *

ANZSIC Employment (3 digit)	No. 2016
Building Installation Services	161
Heavy and Civil Engineering Construction	73
Other Construction Services	51
Building Completion Services	50
Residential Building Construction	48
Non-Residential Building Construction	40
Building Structure Services	39
Construction, nfd	37
Land Development and Site Preparation Services	29
Building Construction, nfd	18

Source: TZP2016 v1.51 (TPA)
*Note: there is a difference between 1-digit job totals and those at 2, 3, and 4-digit levels, as the ABS randomises numbers at the fine-grain level.
^Not further defined

Table 27 looks at the Retail Trade industry in the Mulgrave precinct in more detail. It shows that the majority of jobs are currently in Hardware, Building and Garden Supplies Retailing (+106), Pharmaceutical and Other Store-Based Retailing (+57) and Motor Vehicle Retailing (+41).

TABLE 27: MULGRAVE RETAIL TRADE INDUSTRY LOCAL EMPLOYMENT (2016) *

ANZSIC Employment (3 digit)	No. 2016
Hardware, Building and Garden Supplies Retailing	106
Pharmaceutical and Other Store-Based Retailing	57
Motor Vehicle Retailing	41
Electrical and Electronic Goods Retailing	37
Recreational Goods Retailing	35
Furniture, Floor Coverings, Houseware and Textile Goods Retailing	34
Motor Vehicle Parts and Tyre Retailing	28
Supermarket and Grocery Stores	23
Retail Trade, nfd	11
Other Store-Based Retailing, nfd	5

Source: TZP2016 v1.51 (TPA)

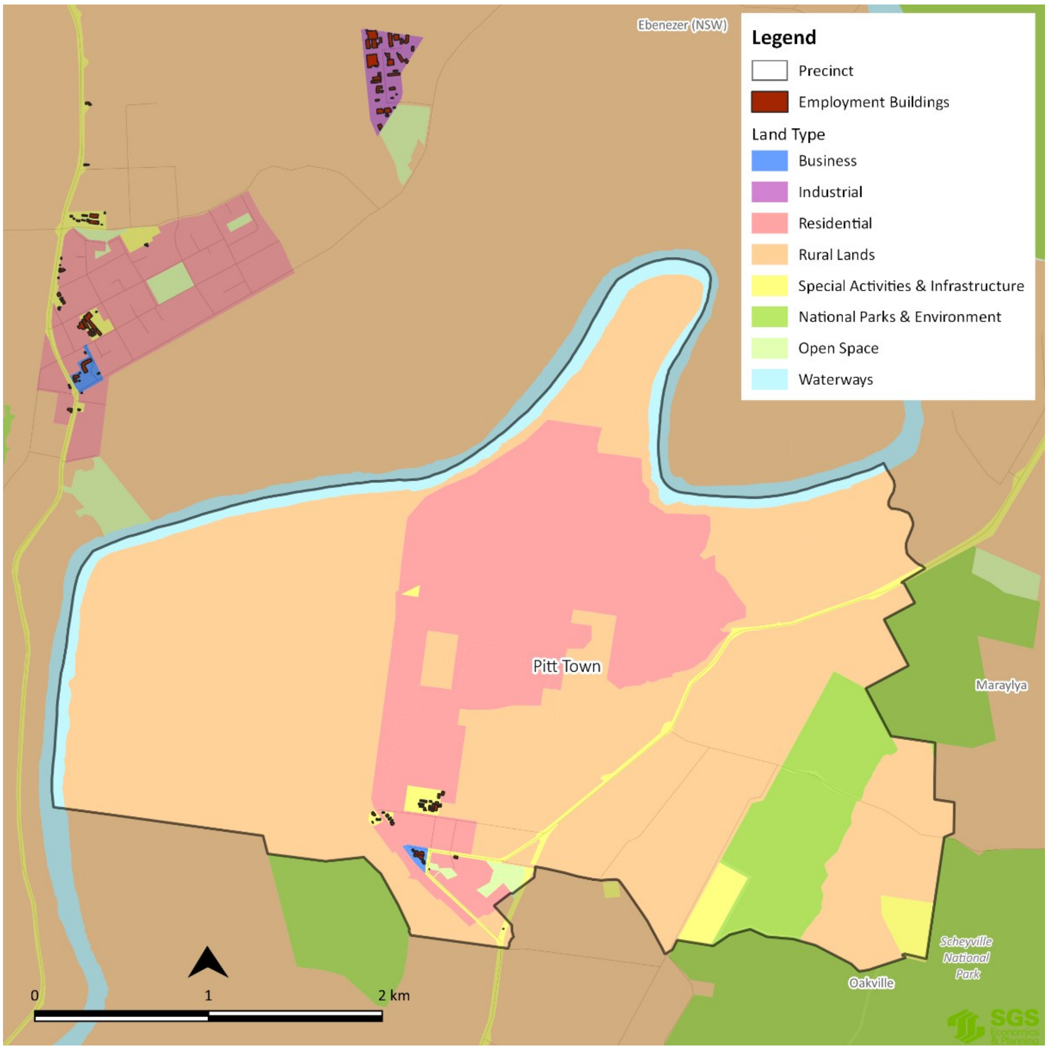
*Note: there is a difference between 1-digit job totals and those at 2, 3, and 4-digit levels, as the ABS randomises numbers at the fine-grain level.
^Not further defined

Pitt Town

Pitt Town is a historic local area and recently master-planned community, containing the housing estates of Bona Vista, Fernville, Blighton and Riverland. Vermont Living continues to provide housing in the area.

The largest age group in the precinct are Adults (+745). The number of Retirees and Children in the precinct are similar at +305 and +290 persons respectively. Construction jobs are the most predominant in the precinct (+147 jobs). Other types of employment in the precinct have a small representation.

FIGURE 60: PITT TOWN



Source: SGS 2019 using LZN19

TABLE 28: PITT TOWN AGE GROUPS, 2016 (PUR)

Age Group	No. 2016
Children	290
Youth	662
Young Adult	316
Adult	745
Mature Adult	681
Retirees	305
Total	2,999

Source: TZP2016 v1.51 (TPA)

TABLE 29: PITT TOWN LOCAL EMPLOYMENTS BY 1-DIGIT ANZSIC, 2016 (POW)

ANZSIC Employment	2016 Jobs
Agriculture, Forestry and Fishing	50
Mining	-
Manufacturing	4
Electricity, Gas, Water and Waste Services	4
Construction	147
Wholesale Trade	-
Retail Trade	24
Accommodation and Food Services	33
Transport, Postal and Warehousing	22
Information Media and Telecommunications	-
Financial and Insurance Services	10
Rental, Hiring and Real Estate Services	9
Professional, Scientific and Technical Services	20
Administrative and Support Services	18
Public Administration and Safety	4
Education and Training	24
Health Care and Social Assistance	25
Arts and Recreation Services	17
Other Services	16
Total	*427*

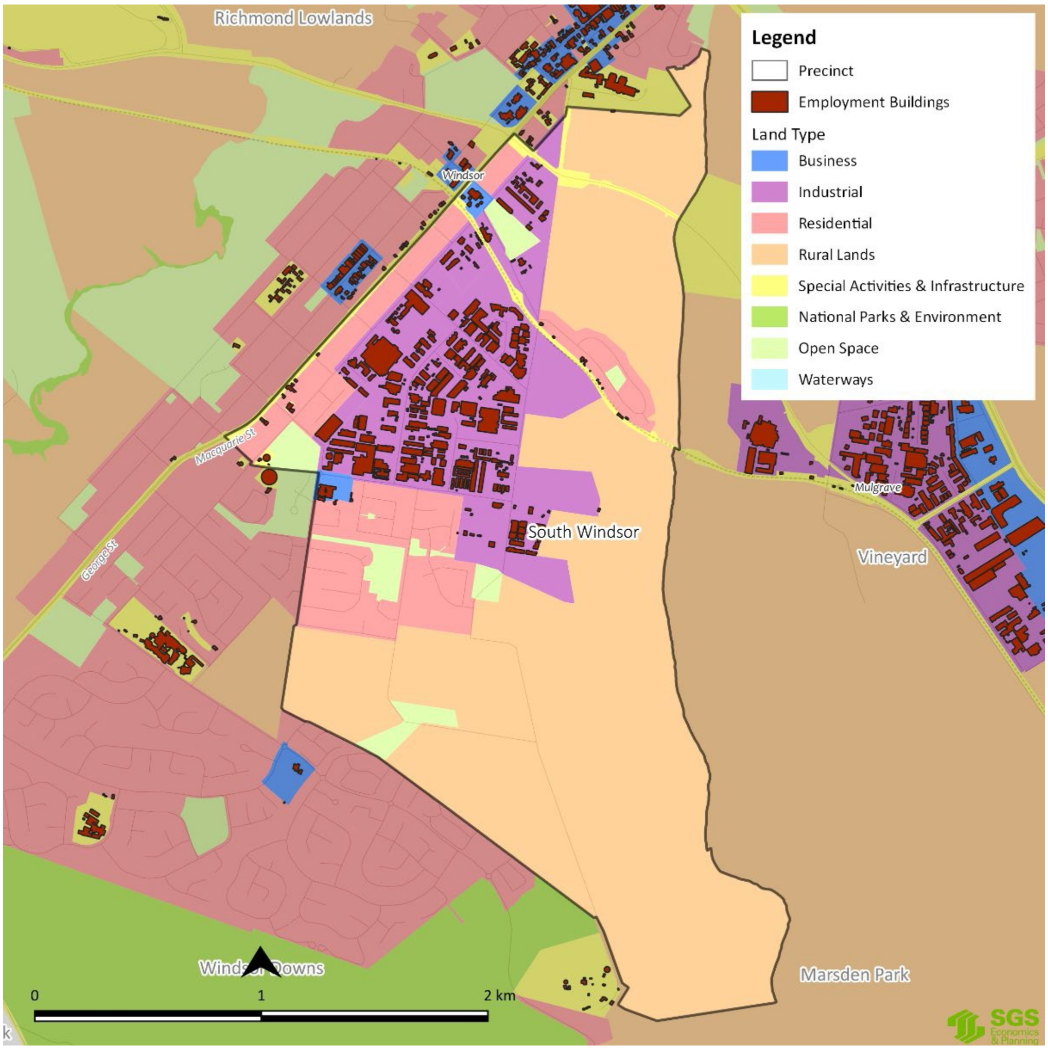
Source: TZP2016 v1.51 (TPA)

South Windsor

South Windsor has a mix of industrial activity as well as rural and residential living in its precinct. Some of the notable businesses in the region include Reece Plumbing, Evoqua Water Technologies and Huhtamaki Australia. The built form is predominantly industrial park and low-rise residential.

There is a mix of age groups in the precinct. Mature Adults are the largest at +590 persons, followed by Youth (+488). Manufacturing and Construction employment are the predominant form of employment in the precinct at +796 and +510 jobs respectively.

FIGURE 61: SOUTH WINDSOR



Source: SGS 2019 using LZN19

TABLE 30: SOUTH WINDSOR AGE GROUPS, 2016 (PUR)

Age Group	No. 2016
Children	145
Youth	488
Young Adult	359
Adult	414
Mature Adult	590
Retirees	275
Total	2,271

Source: TZP2016 v1.51 (TPA)

TABLE 31: SOUTH WINDSOR LOCAL EMPLOYMENT BY 1-DIGIT ANZSIC, 2016 (POW)

ANZSIC Employment	2016 Jobs
Agriculture, Forestry and Fishing	66
Mining	-
Manufacturing	796
Electricity, Gas, Water and Waste Services	241
Construction	510
Wholesale Trade	152
Retail Trade	145
Accommodation and Food Services	147
Transport, Postal and Warehousing	170
Information Media and Telecommunications	13
Financial and Insurance Services	-
Rental, Hiring and Real Estate Services	27
Professional, Scientific and Technical Services	87
Administrative and Support Services	81
Public Administration and Safety	46
Education and Training	61
Health Care and Social Assistance	75
Arts and Recreation Services	107
Other Services	209
Total	*2,933*

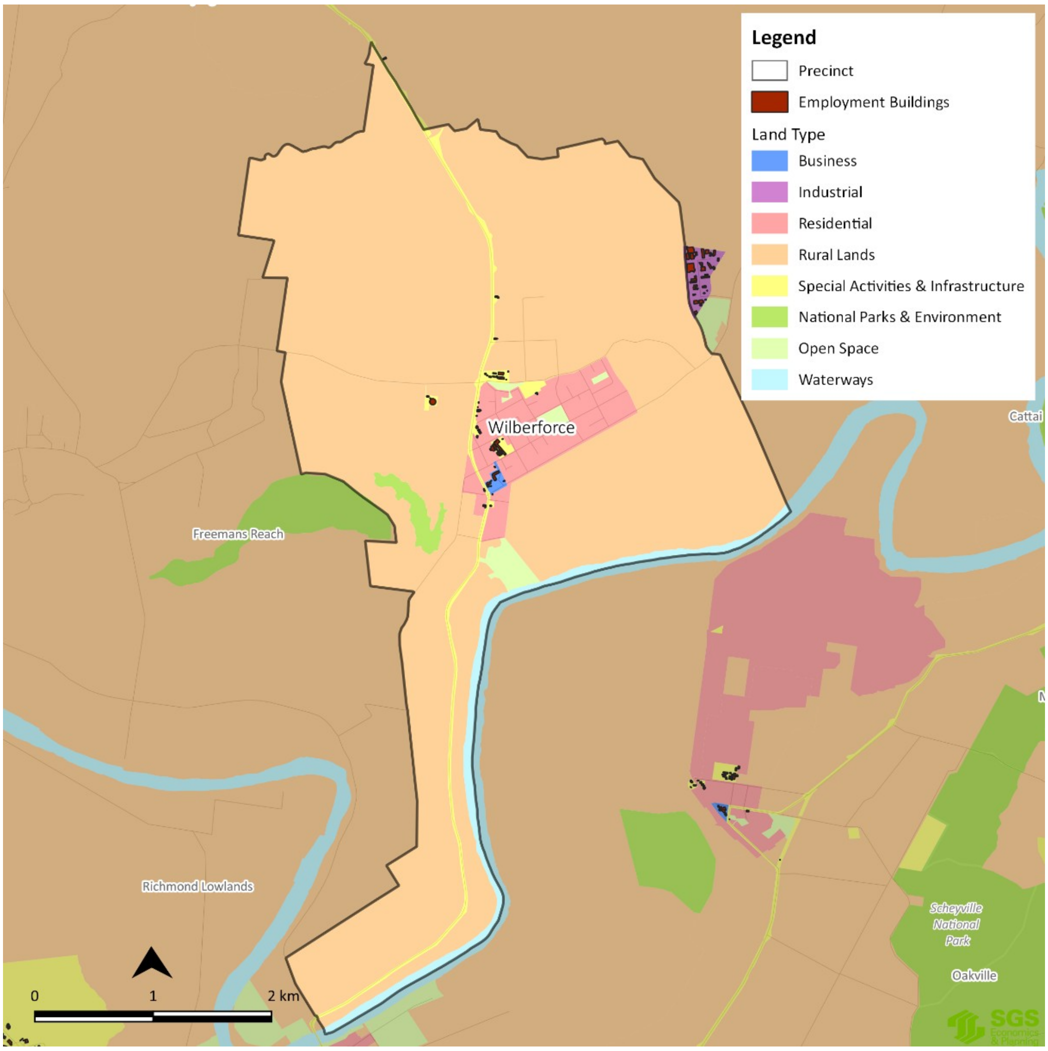
Source: TZP2016 v1.51 (TPA)

Wilberforce

Wilberforce precinct is almost entirely rural with some low density residential in the centre. The employment related land contains the Heritage Hotel and a Vet Hospital.

Mature Adults make up the largest age group in the precinct at +699 persons. Retirees and Children are the smallest groups at +286 and +143 persons respectively. Construction is the largest employment group (+97 jobs), followed by Retail Trade (+73 jobs.

FIGURE 62: WILBERFORCE



Source: SGS 2019 using LZN19

TABLE 32: WILBERFORCE AGE GROUPS, 2016 (PUR)

Age Group	No. 2016
Children	143
Youth	469
Young Adult	303
Adult	436
Mature Adult	699
Retirees	286
Total	2,336

Source: TZP2016 v1.51 (TPA)

TABLE 33: WILBERFORCE LOCAL EMPLOYMENT BY 1-DIGIT ANZSIC, 2016 (POW)

ANZSIC Employment	2016 Jobs
Agriculture, Forestry and Fishing	64
Mining	-
Manufacturing	17
Electricity, Gas, Water and Waste Services	-
Construction	97
Wholesale Trade	8
Retail Trade	73
Accommodation and Food Services	45
Transport, Postal and Warehousing	18
Information Media and Telecommunications	-
Financial and Insurance Services	-
Rental, Hiring and Real Estate Services	5
Professional, Scientific and Technical Services	22
Administrative and Support Services	17
Public Administration and Safety	51
Education and Training	62
Health Care and Social Assistance	35
Arts and Recreation Services	1
Other Services	20
Total	*535*

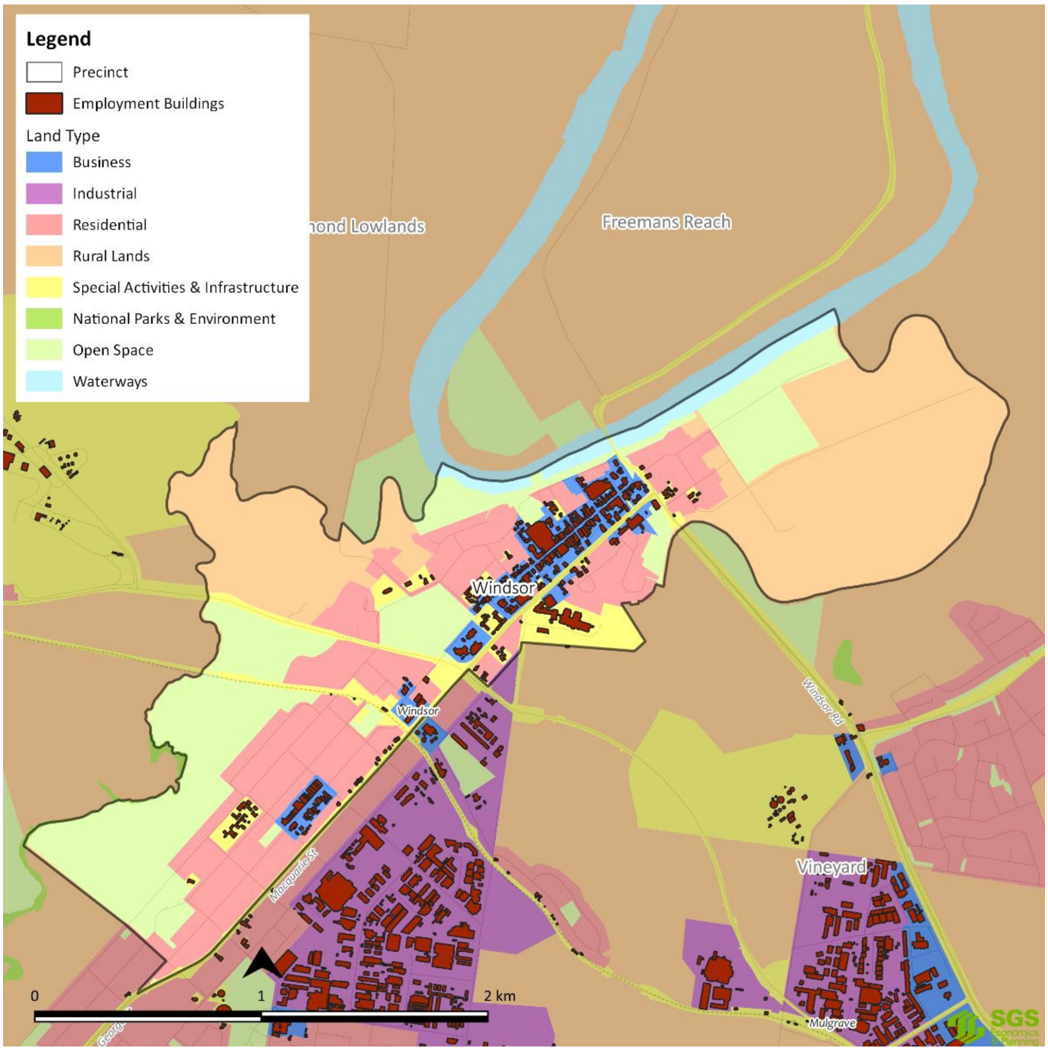
Source: TZP2016 v1.51 (TPA)

Windsor

The Windsor precinct is part of the Richmond-Windsor Strategic Centre as designated by the Western City District Plan. It contains a mix of retail (including cafes and restaurants) along the Northern Road as well as the Hawkesbury District Health Service and central library. Some large format retail and supermarket uses are also present, such as Coles, Target and Woolworths. The built form of the business area is predominantly low-rise, shop top.

There is a mixture of age groups across the precinct with Mature Adults the largest group at +712 persons and Children the smallest at +138 persons. Health Care and Social Assistance is a significant employment group in the precinct with +1,162 jobs, followed by Retail Trade employment (+567). Accommodation and Food Services and Public Administration and Safety employment is also strongly represented with +439 and +447 jobs respectively.

FIGURE 63: WINDSOR



Source: SGS 2019 using LZN19

TABLE 34: WINDSOR AGE GROUP, 2016 (PUR)

Age Group	No. 2016
Children	138
Youth	515
Young Adult	433
Adult	533
Mature Adult	712
Retirees	576
Total	2,907

Source: TZP2016 v1.51 (TPA)

TABLE 35: WINDSOR LOCAL EMPLOYMENT BY 1-DIGIT ANZSIC, 2016 (POW)

ANZSIC Employment	2016 Jobs
Agriculture, Forestry and Fishing	24
Mining	-
Manufacturing	149
Electricity, Gas, Water and Waste Services	71
Construction	117
Wholesale Trade	32
Retail Trade	567
Accommodation and Food Services	439
Transport, Postal and Warehousing	43
Information Media and Telecommunications	8
Financial and Insurance Services	76
Rental, Hiring and Real Estate Services	82
Professional, Scientific and Technical Services	150
Administrative and Support Services	56
Public Administration and Safety	447
Education and Training	91
Health Care and Social Assistance	1,162
Arts and Recreation Services	37
Other Services	135
Total	*3,686*

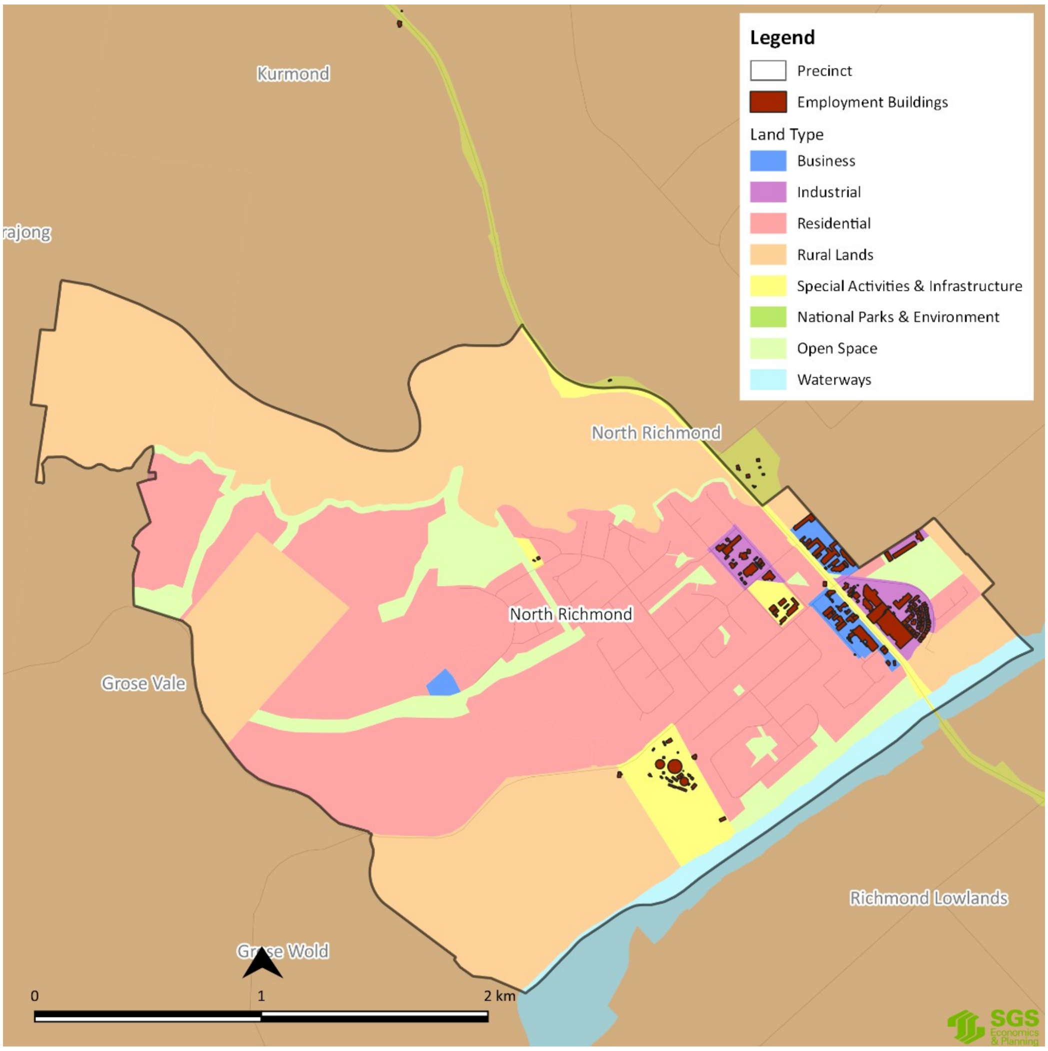
Source: TZP2016 v1.51 (TPA)

North Richmond

North Richmond is a low-density suburb with housing estate growth in the western strip of the precinct. The business zones include a Coles, ALDI, and other population-serving shops and services. The industrial zone includes Westrock (a packaging company) and King's Home Timber & Hardware.

In 2016, there was a mixture of age groups across the precinct with Mature Adults the largest (+986) and the Children age group the smallest (+283 persons). Health Care and Social Assistance, Information Media and Telecommunications and Manufacturing are the most significant employers in the precinct with +301, +261 and +258 jobs in 2016 respectively.

FIGURE 64: NORTH RICHMOND



Source: SGS 2019 using LZN19

TABLE 36: NORTH RICHMOND AGE GROUPS, 2016 (PUR)

Age Group	No. 2016
Children	283
Youth	812
Young Adult	584
Adult	809
Mature Adult	986
Retirees	741
Total	4,215

Source: TZP2016 v1.51 (TPA)

TABLE 37: NORTH RICHMOND LOCAL EMPLOYMENT BY 1-DIGIT ANZSIC, 2016 (POW)

ANZSIC Employment	2016 Jobs
Agriculture, Forestry and Fishing	45
Mining	0
Manufacturing	258
Electricity, Gas, Water and Waste Services	17
Construction	150
Wholesale Trade	20
Retail Trade	242
Accommodation and Food Services	140
Transport, Postal and Warehousing	30
Information Media and Telecommunications	261
Financial and Insurance Services	21
Rental, Hiring and Real Estate Services	34
Professional, Scientific and Technical Services	65
Administrative and Support Services	46
Public Administration and Safety	21
Education and Training	147
Health Care and Social Assistance	301
Arts and Recreation Services	10
Other Services	88
Total	*1,896*

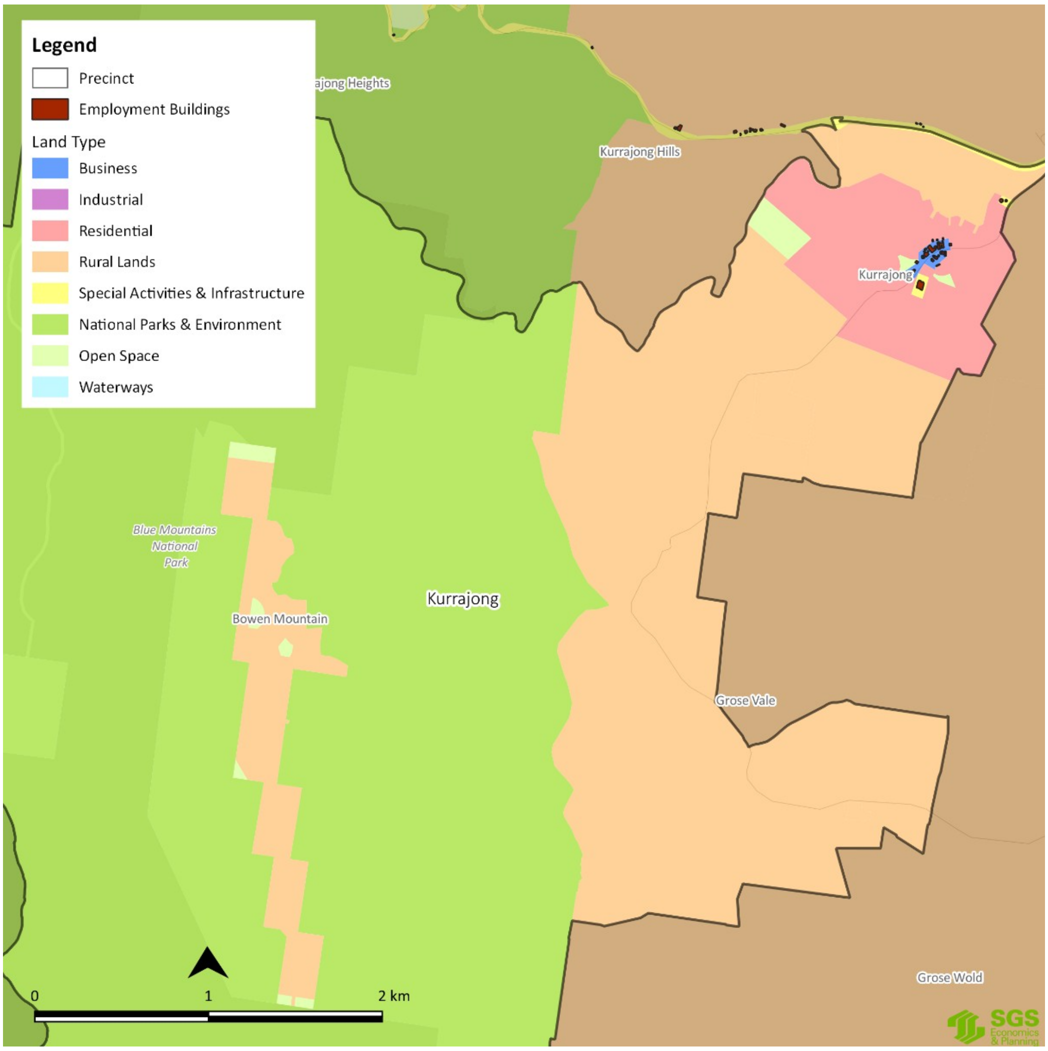
Source: TZP2016 v1.51 (TPA)

Kurrajong

The majority of the Kurrajong precinct is dedicated to National Parks & Environment land. There is rural land separating it from a small hub of economic activity. The small economic hub in the north-east of the precinct includes the Kurrajong Veterinary Clinic and Kurrajong Bark Park (café).

There is a mix of age groups in the precinct with Mature Adults making up the largest group (+950). There is a wide distribution of jobs in the precinct with Construction the most significant (+59), followed by jobs in Professional Services, Scientific and Technical Services (+32) and Education and Training (+27).

FIGURE 65: KURRAJONG



Source: SGS 2019 using LZN19

TABLE 38: KURRAJONG AGE GROUPS, 2016 (PUR)

Age Group	No. 2016
Children	214
Youth	741
Young Adult	329
Adult	631
Mature Adult	950
Retirees	463
Total	3,328

Source: TZP2016 v1.51 (TPA)

TABLE 39: KURRAJONG LOCAL EMPLOYMENT BY 1-DIGIT ANZSIC, 2016 (POW)

ANZSIC Employment	2016 Jobs
Agriculture, Forestry and Fishing	19
Mining	6
Manufacturing	12
Electricity, Gas, Water and Waste Services	5
Construction	59
Wholesale Trade	5
Retail Trade	24
Accommodation and Food Services	15
Transport, Postal and Warehousing	13
Information Media and Telecommunications	0
Financial and Insurance Services	2
Rental, Hiring and Real Estate Services	7
Professional, Scientific and Technical Services	32
Administrative and Support Services	15
Public Administration and Safety	2
Education and Training	27
Health Care and Social Assistance	25
Arts and Recreation Services	6
Other Services	13
Total	*287*

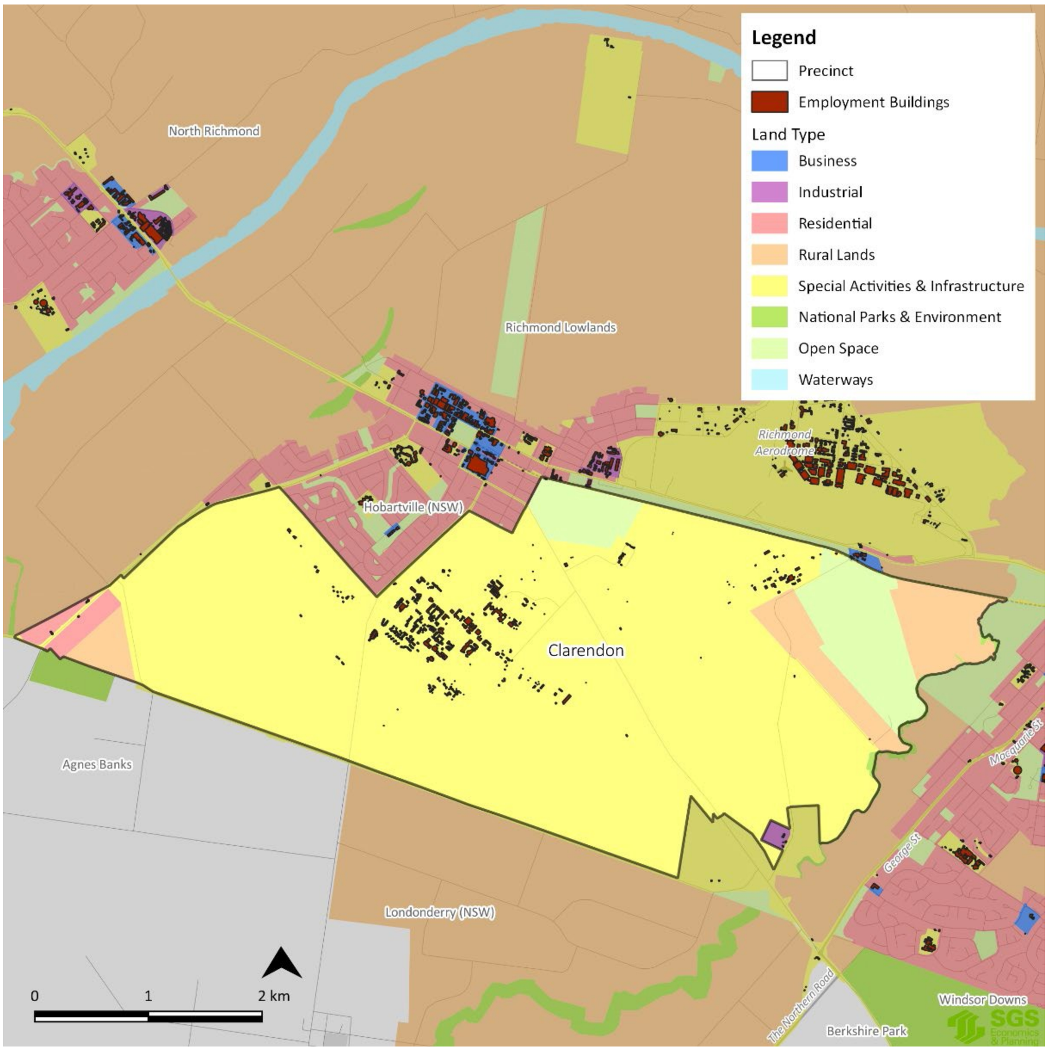
Source: TZP2016 v1.51 (TPA)

Clarendon

The Clarendon precinct contains the Western Sydney University Hawkesbury Campus and TAFE NSW Richmond Campus. The University, Hawkesbury Showground and the Hawkesbury District Agricultural Association are the major employers in the area.

The age structure of the precinct highlights the presence of education facilities with a slightly higher number Young Adults (+91) than other age groups. The breakdown of employment by 1-digit ANZSIC indicates approximately 712 jobs in the precinct are in Education and Training. There is also a significant number of Health Care and Social Assistance jobs (+120) and Arts and Recreation (+113).

FIGURE 66: CLARENDON



Source: SGS 2019 using LZN19

TABLE 40: CLARENDON AGE GROUPS, 2016 (PUR)

Age Group	No. 2016
Children	18
Youth	82
Young Adult	91
Adult	62
Mature Adult	69
Retirees	71
Total	393

Source: TZP2016 v1.51 (TPA)

TABLE 41: CLARENDON LOCAL EMPLOYMENT BY 1-DIGIT ANZSIC, 2016 (POW)

ANZSIC Employment	2016 Jobs
Agriculture, Forestry and Fishing	5
Mining	-
Manufacturing	-
Electricity, Gas, Water and Waste Services	13
Construction	28
Wholesale Trade	-
Retail Trade	-
Accommodation and Food Services	22
Transport, Postal and Warehousing	22
Information Media and Telecommunications	-
Financial and Insurance Services	-
Rental, Hiring and Real Estate Services	-
Professional, Scientific and Technical Services	9
Administrative and Support Services	33
Public Administration and Safety	10
Education and Training	712
Health Care and Social Assistance	120
Arts and Recreation Services	113
Other Services	21
Total	*1,108*

Source: TZP2016 v1.51 (TPA)

Table 42 highlights the Education and Training industry in Clarendon in more detail. It shows that the majority of jobs are currently in Higher Education (+551), followed by Technical and Vocational Education and Training Primary Education (+78) and Education and Training (+9).

TABLE 42: CLARENDON EDUCATION AND TRAINING INDUSTRY LOCAL EMPLOYMENT (2016) *

ANZSIC Employment (4 digit)	No. 2016
Higher Education	551
Technical and Vocational Education and Training	78
Education and Training, nfd^	9
Sports and Physical Recreation Instruction	5

Source: TZP2016 v1.51 (TPA)

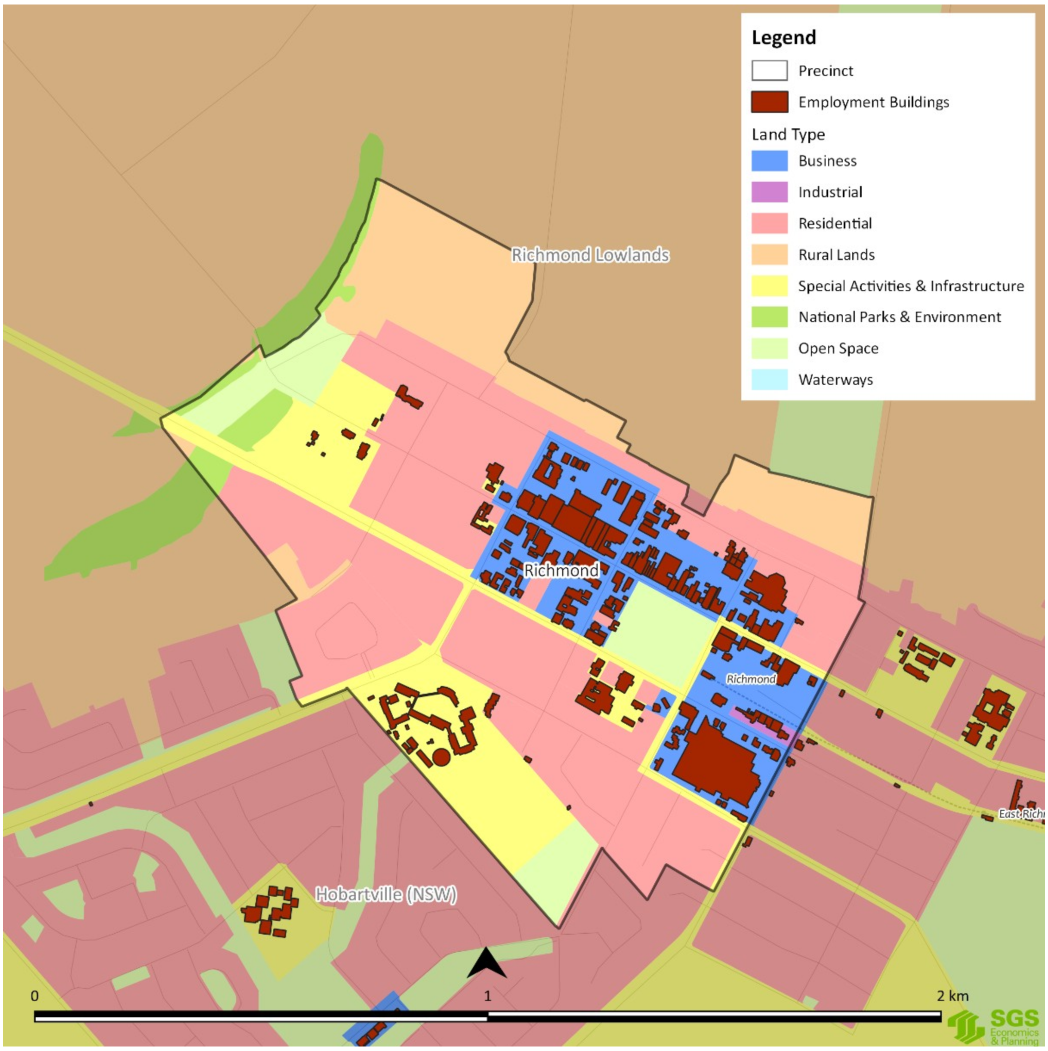
*Note: there is a difference between 1-digit job totals and those at 2, 3, and 4-digit levels, as the ABS randomises numbers at the fine-grain level.
^Not further defined

Richmond

The Richmond precinct is the other half of the Richmond-Windsor Strategic Centre as designated in the Western City District Plan. Richmond is a strategic centre in the Hawkesbury LGA and contains a pedestrian-focused town centre including BIG W, Woolworths, Coles and a main strip of retail and services along Windsor St. The main retail area of the precinct is predominantly low rise, shop top built form.

Retirees are the largest age group in the precinct (+541), approximately 33 per cent of the total population. There are a small number of Children living in the precinct at +69 persons. Retail Trade is the largest employer in the precinct with +787 jobs. Health Care and Social Assistance and Accommodation and Food Services are also significant employers with +506 and +458 jobs respectively.

FIGURE 67: RICHMOND



Source: SGS 2019 using LZN19

TABLE 43: RICHMOND AGE GROUPS, 2016 (PUR)

Age Group	No. 2016
Children	69
Youth	186
Young Adult	219
Adult	279
Mature Adult	362
Retirees	541
Total	1,656

Source: TZP2016 v1.51 (TPA)

TABLE 44: RICHMOND LOCAL EMPLOYMENT BY 1-DIGIT ANZSIC, 2016 (POW)

ANZSIC Employment	2016 Jobs
Agriculture, Forestry and Fishing	7
Mining	-
Manufacturing	46
Electricity, Gas, Water and Waste Services	1
Construction	44
Wholesale Trade	0
Retail Trade	787
Accommodation and Food Services	458
Transport, Postal and Warehousing	27
Information Media and Telecommunications	46
Financial and Insurance Services	71
Rental, Hiring and Real Estate Services	92
Professional, Scientific and Technical Services	141
Administrative and Support Services	55
Public Administration and Safety	57
Education and Training	126
Health Care and Social Assistance	506
Arts and Recreation Services	40
Other Services	140
Total	*2,644*

Source: TZP2016 v1.51 (TPA)

Table 45 looks at Retail Trade employment in more detail. The majority of jobs are in Supermarket and Grocery Stores (+303), substantially higher than any other type of Retail Trade.

TABLE 45: RICHMOND RETAIL TRADE INDUSTRY LOCAL EMPLOYMENT (2016) *

ANZSIC Employment (3 digit)	No. 2016
Supermarket and Grocery Stores	303
Department Stores	75
Clothing, Footwear and Personal Accessory Retailing	72
Pharmaceutical and Other Store-Based Retailing	59
Specialised Food Retailing	52
Recreational Goods Retailing	27
Furniture, Floor Coverings, Houseware and Textile Goods Retailing	20
Electrical and Electronic Goods Retailing	12
Retail Trade, nfd	9
Motor Vehicle Retailing	9

Source: TZP2016 v1.51 (TPA)

*Note: there is a difference between 1-digit job totals and those at 2, 3, and 4-digit levels, as the ABS randomises numbers at the fine-grain level.
^Not further defined

Table 46 shows the Health Care and Social Assistance industry in Richmond in more detail. It shows that the majority of jobs are currently in Aged Care Residential Services (+147), General Practice Medical Services (+61), Other Social Assistance Services (+44) and Dental Services (+40).

TABLE 46: RICHMOND HEALTH CARE AND SOCIAL ASSISTANCE INDUSTRY LOCAL EMPLOYMENT (2016) *

ANZSIC Employment (4 digit)	No. 2016
Aged Care Residential Services	147
General Practice Medical Services	61
Other Social Assistance Services	44
Dental Services	40
Other Allied Health Services	27
Optometry and Optical Dispensing	26
Ambulance Services	24
Specialist Medical Services	11
Child Care Services	11
Hospitals (except Psychiatric Hospitals)	10

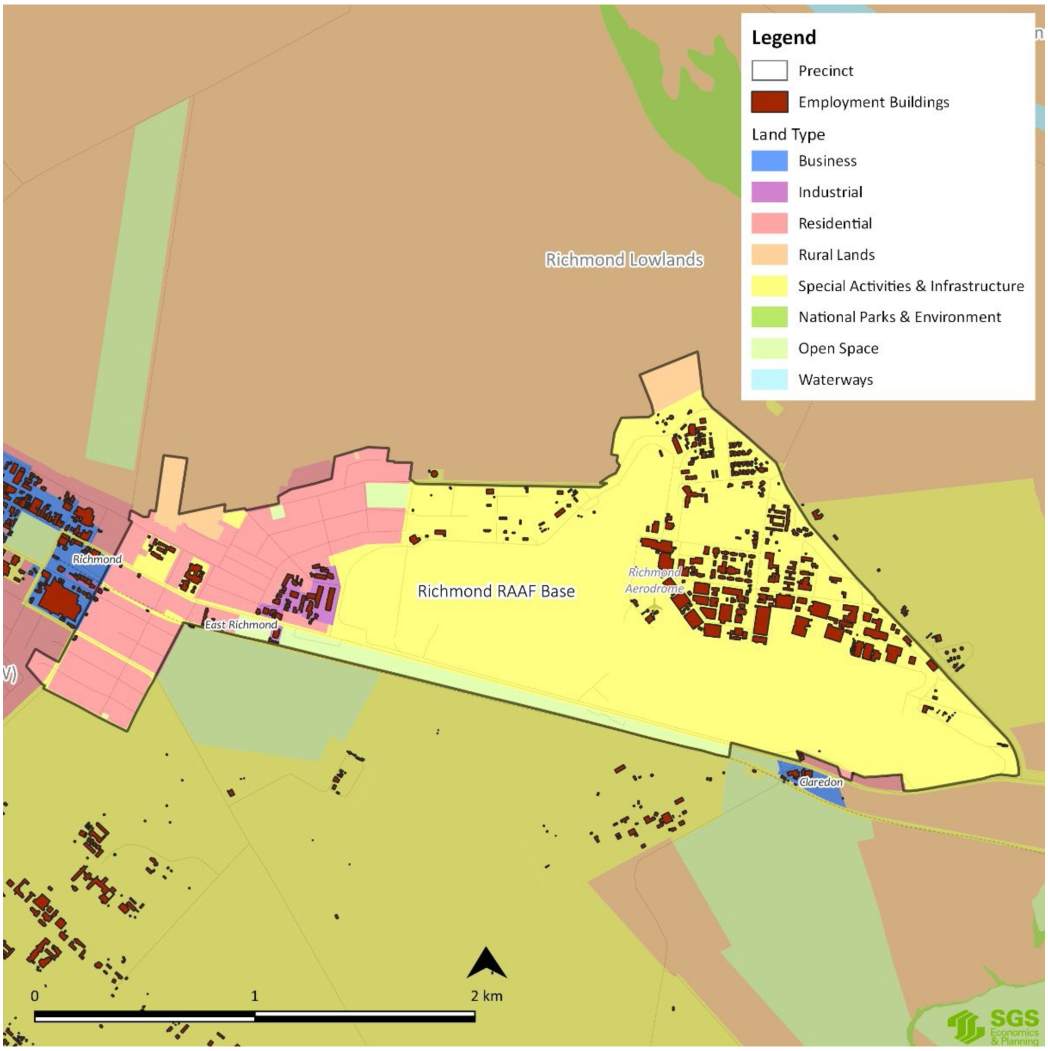
Source: TZP2016 v1.51 (TPA)
*Note: there is a difference between 1-digit job totals and those at 2, 3, and 4-digit levels, as the ABS randomises numbers at the fine-grain level.
^Not further defined

Richmond RAAF Base

The Richmond RAAF Base contains the base for the Royal Australian Air Force (RAAF), as well as the Australian Military Bank and a number of other ancillary uses. The western industrial site contains a mix of activities including Planet X Entertainment, an Indoor Cricket & Sport Centre, and large format retail.

Mature Adults are the largest age group in the precinct (+549). Young Adults (+410), Adults (+410) and Retirees (+401) are also significantly represented. The fairly equal distribution of age groups across the precinct reflects the residential land uses contained in the precinct that neighbour Richmond town centre, the RAAF and its alignment with the university and TAFE. Public Administration and Safety jobs represent just over half of the jobs in the precinct (+1,415).

FIGURE 68: RICHMOND RAAF BASE



Source: SGS 2019 using LZN19

TABLE 47: RICHMOND RAAF BASE AGE GROUPS, 2016 (PUR)

Age Group	No. 2016
Children	124
Youth	352
Young Adult	410
Adult	410
Mature Adult	549
Retirees	401
Total	2,246

Source: TZP2016 v1.51 (TPA)

TABLE 48: RICHMOND RAAF BASE LOCAL EMPLOYMENT BY 1-DIGIT ANZSIC, 2016 (POW)

ANZSIC Employment	2016 Jobs
Agriculture, Forestry and Fishing	5
Mining	-
Manufacturing	473
Electricity, Gas, Water and Waste Services	-
Construction	106
Wholesale Trade	16
Retail Trade	61
Accommodation and Food Services	27
Transport, Postal and Warehousing	71
Information Media and Telecommunications	-
Financial and Insurance Services	11
Rental, Hiring and Real Estate Services	5
Professional, Scientific and Technical Services	113
Administrative and Support Services	90
Public Administration and Safety	1,415
Education and Training	85
Health Care and Social Assistance	75
Arts and Recreation Services	21
Other Services	84
Total	*2,658*

Source: TZP2016 v1.51 (TPA)

Summary

Precinct profiling

The population in Hawkesbury LGA is growing, albeit slowly and with an ageing profile.

In 2016, the approximate total population for Hawkesbury LGA was 35,465 persons. By 2036, Hawkesbury LGA is forecast to experience some growth where the total population is expected to rise to 43,025 persons.

In 2016, Mature Adults made up the largest proportion of age groups across the different precincts within Hawkesbury LGA at 25.8%. Young, Young Adults, Adults and Retiree age groups ranged between 14.1% and 18.8%.

Towards 2036, the proportion of Mature Adults is projected to decline to 21.6%. Subsequently, the proportion of Retirees is expected to increase from +14.9% to 20.7%. Youth, Young Adults and Adult age groups are not expected to change dramatically as a proportion of the total population.

Knowledge Intensive and Health & Education industries and employment opportunities are expected to increase slightly in the LGA. As a proportion of employment, Population Serving and Industrial employment industries are expected to decrease slightly throughout the LGA.

Employment in the Population Serving industries has traditionally been strong in Hawkesbury LGA with approximately 39% of the employment structure in 2016.

Towards 2036, as a proportion of the total employment structure, the Industrial sector is expected to decline by -4.3%, Population Serving industries, while still having the greatest share of employment in the LGA, is expected to reduce slightly to -1.7% of the total employment structure to 2036. Health and Education industries and Knowledge Intensive industries on the other hand are expected to rise slightly, by 2.8% and 3.3% respectively.

APPENDIX C

Floorspace analysis

Floorspace supply method

SGS has developed a method to estimate floorspace exclusively from remotely sensed data and data compiled by communities, industry bodies, and the State Government.

Typically, floorspace estimation models are undertaken manually (by auditing public and private spaces on the ground) and generally, are only at a local scale. Models built with this kind of data cannot balance the retail interactions of the local trade system with the wider 'pull' that is occurring in areas outside of the local trade catchment.

The SGS floorspace estimation method utilises a number of different data sources, including:

- Building dimensions recorded by remote sensing by PSMA Australia
- Land use zones gazetted by the State Government
- Nature of property recorded in bulk property sales information by the Valuer General
- Flat type codes recorded in the Geocoded National Address File by PSMA Australia
- Points of interest recorded by Spatial Services (NSW Department of Finance, Services and Innovation)
- Places recorded in the Google Maps Platform and available over the Google Places API data
- Property Council of Australia Shopping Centre Database
- Australian Bureau of Statistics ANZSIC Place of Work data
- Shopping centre floorplates
- Previous retail studies.

The method involves integrating more precise data (i.e. Google/building footprint data and shopping centre floorplates) with more generic data (Shopping Centre Database, ABS data, previous retail studies). The combination of the two datasets helps to prepare a more balanced level of floorspace supply for integration into the gravity model.

Broadly, building use is identified by:

1. Identifying health, education and retail uses (as these occur across disparate zones)
2. Assessing the split between residential and non-residential uses in mixed-use zones
3. Calculating commercial-industrial floorspace as total floorspace in B and IN zones, less health, education, retail and residential uses
4. Calculating residential floorspace as total floorspace in mixed-use B zones and R zones as total floorspace, less health, education, retail and commercial uses.

One limitation of the model is that it cannot describe retail uses with 100 per cent accuracy at the building scale. This is because the available data may not consistently update in real time, available data may not accurately describe the data on the ground and/or that business may not be recorded digitally (i.e. in the Google Maps platform). As such, there may be an undercount of certain businesses in certain areas, particularly older businesses.

Retail floorspace supply results

Current retail supply

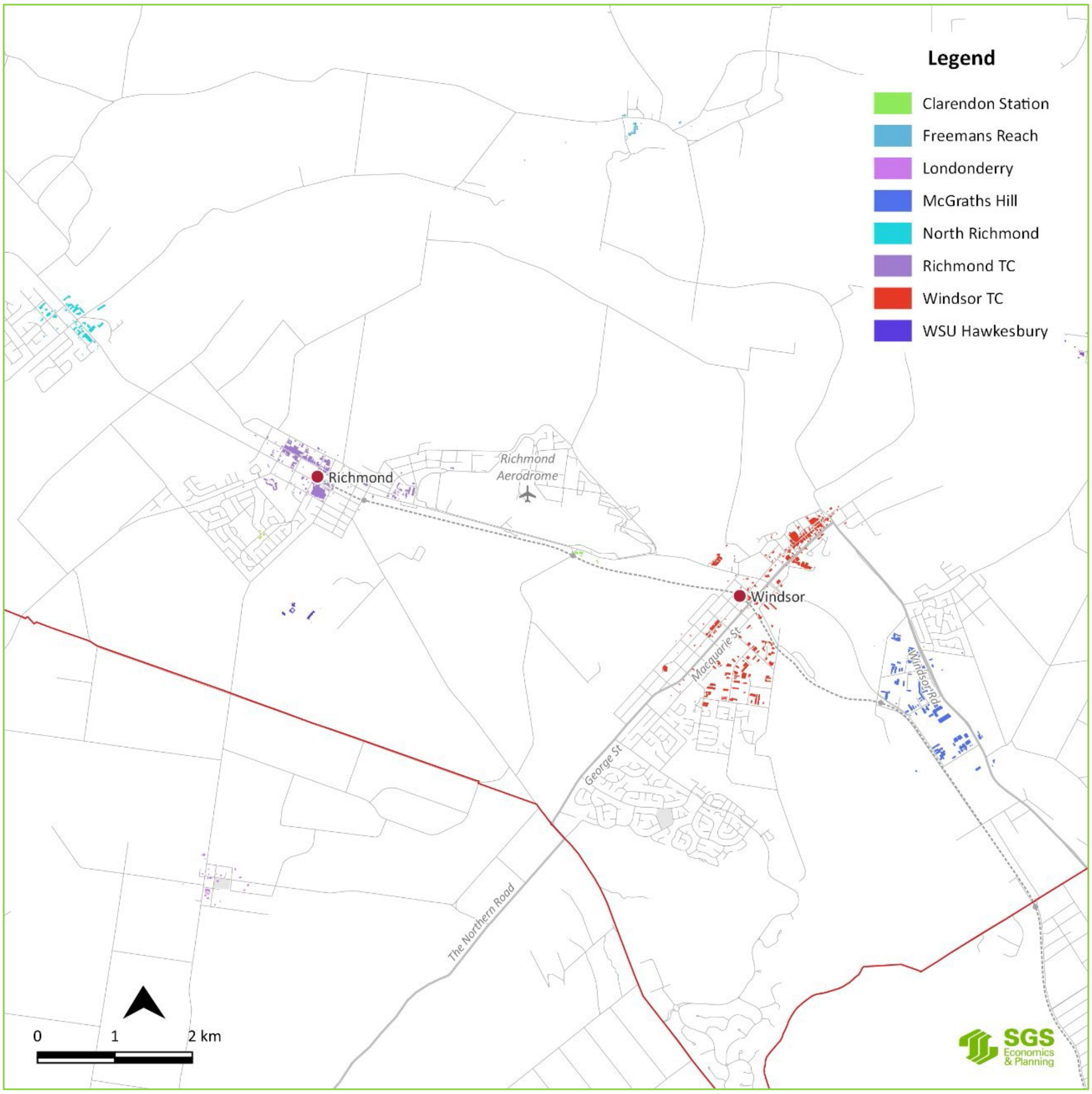
Table 49 provides a breakdown of estimated retail floorspace supply for centres within the Hawkesbury LGA. There is approximately 116,974 sqm of retail floorspace, spread across 11 precincts. The three largest precincts are Richmond Town Centre, Windsor Town Centre and McGraths Hill, which combined make up around 84.8% of total retail floorspace. Figure 69 depicts the key retail precincts in Hawkesbury LGA spatially.

TABLE 49: RETAIL FLOORSPACE SUPPLY BY CENTRE, HAWKESBURY LGA

Precinct	Estimated Floorspace (sqm)	% total
Richmond Town Centre	42,033	35.9%
Windsor Town Centre	33,950	29.0%
McGraths Hill	23,214	19.8%
North Richmond	9,991	8.5%
Kurrajong	2,658	2.3%
Wilberforce	1,298	1.1%
Glossodia	1,200	1.0%
Pitt Town	1,013	0.9%
Kurmond	884	0.8%
Hobartville NC	431	0.4%
Freemans Reach	302	0.3%
Total	116,974	100.0%

Source: SGS, 2019

FIGURE 69: KEY RETAIL PRECINCTS, HAWKESBURY LGA



Source: SGS, 2019

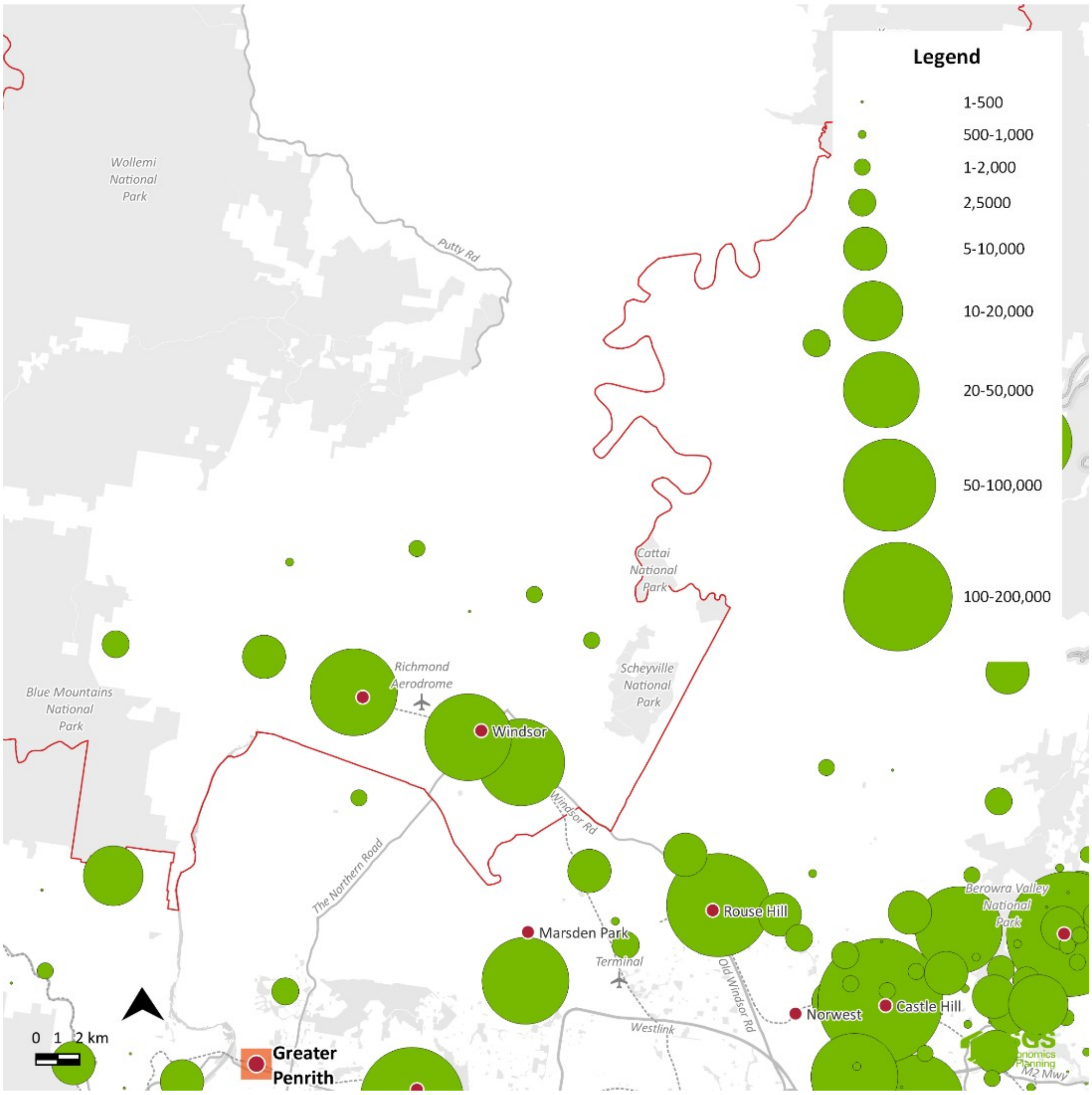
Floorspace supply is broken down into seven retail commodity types, as presented in Table 50. Richmond Town Centre has the highest amount of Supermarket (9,775 sqm), Other Food (2,970 sqm), Clothing & Soft Goods (4,177 sqm), Other Retail (8,213 sqm) and Department Store (6,733 sqm) floorspace. Windsor Town Centre has the highest amount of Hospitality (11,656 sqm) floorspace, while McGraths Hill holds the highest amount of Household Goods (14,145 sqm) floorspace.

TABLE 50: RETAIL FLOORSPACE SUPPLY BY COMMODITY, HAWKESBURY LGA (SQM)

Precinct	Supermarket	Other Food	Hospitality	Clothing & Soft Goods	House. Goods	Other Retail	Dep. Stores	Total
Richmond Town Centre	9,775	2,970	5,642	4,177	4,524	8,213	6,733	42,033
Windsor Town Centre	7,968	1,468	11,656	1,786	3,348	6,292	1,433	33,950
McGraths Hill	1,607	887	1,577	653	14,145	934	3,412	23,214
North Richmond	500	299	2,857	157	4,399	1,417	362	9,991
Kurrajong	-	531	694	128	653	652	-	2,658
Wilberforce	-	501	130	-	-	484	183	1,298
Glossodia	267	309	476	-	-	148	-	1,200
Pitt Town	-	391	437	-	-	185	-	1,013
Kurmond	-	295	222	-	-	367	-	884
Hobartville NC	221	-	210	-	-	-	-	431
Freemans Reach	-	-	-	-	132	169	-	302
Total	20,338	7,651	23,901	6,901	27,201	18,861	12,123	116,974

Source: SGS, 2019

FIGURE 70: CURRENT RETAIL FLOORSPACE, HAWKESBURY AND NEIGHBOURING LGAS (SQM)



Source: SGS, 2019

Figure 70 provides a spatial representation of the total floorspace by precinct in Hawkesbury LGA and the broader retail supply context to the south-east in The Hills Shire, Blacktown and Penrith LGAs. As indicated in the map, there is a significant retail offering south-east of the LGA in Rouse Hill, Castle Hill and Marsden Park.

Proposed retail floorspace

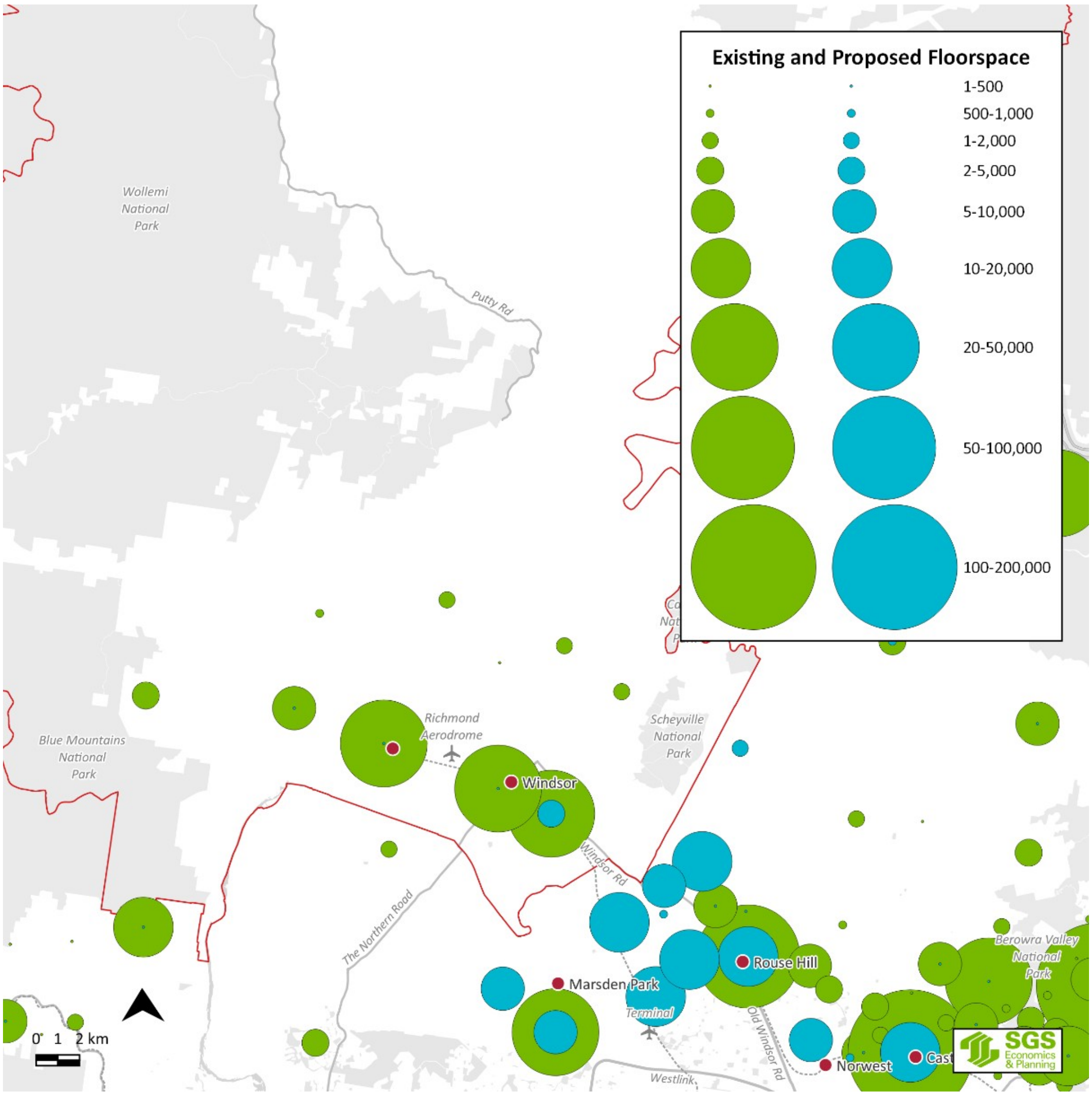
Utilising the Cordell Connect dataset, it has been estimated there is approximately 87,268 sqm of proposed retail floorspace expected in the Hawkesbury area and its surrounding region. Of this, there is only one proposed developed expected to occur within the LGA in McGraths Hill, where there is expected to be a 4,082 sqm retail development. The remaining proposed floorspace is expected predominantly outside Hawkesbury LGA to the south-east in Blacktown and The Hills Shire LGAs, predominantly in Household Goods (5,650 sqm) and Supermarket (5,102 sqm) floorspace. This has been spatially represented in Figure 71.

TABLE 51: PROPOSED RETAIL FLOORSPACE, HAWKESBURY LGA (SQM)

Centre	Year	Supermarket	Other Food	Hospitality	Clothing	House.Goods	Other Retail	Dept. Store	Total
Shelta Industrial Facility	2021	-	-	215	-	-	-	-	215
Boundary Road Mixed Use Dev	2021	353	141	141	141	141	212	-	1,130
Asics Facility Sydney Business Park	2021	-	-	-	1,500	-	-	-	1,500
Rouse Hill Town Centre	2021	-	500	493	493	750	500	750	3,486
McGraths Hill Entertainment Precinct	*2021*	-	*950*	*1,032*	-	*2,100*	-	-	*4,082*
Windsor Road Commercial Dev	2021	5,102	-	-	-	-	-	-	5,102
Schofields Shopping Centre Stage 1	2021	3,845	206	505	505	505	505	-	6,071
Marsden Park Trade Centre	2021	-	-	1,007	-	5,650		-	6,657
Terry & Windsor Roads Mixed Use Development	2026	-	-	-	-	-	77	-	77
Richmond Rd/Grange Av Mixed Dev	2026	-	50	50	50	50	50	-	250
Clarke Street Shop Top Housing	2026	-	146	146	146	146	146	-	728
Railway Terrace Mixed Use Dev	2026	1,300	500	700	500	592	500	-	4,092
Tallawong Station	2026	1,500	400	960	470	470	700	-	4,500
Elara Neighbourhood Centre	2026	2,982	701	672	701	701	150	-	5,906
Cudgegong Town Centre - The Rouse	2026	2,000	800	1,300	500	500	900	-	6,000
Riverstone Town Centre	2026	3,500	1,000	2,250	1,000	2,250	2,373	-	12,373
Box Hill Town Centre Precinct	2026	4,000	2,000	2,500	2,000	2,500	2,000	-	15,000
Rouse Hill TC Northern Precinct	2031	4,000	1,500	1,800	900	900	1,000	-	10,100
Total		28,582	8,893	13,771	8,906	17,255	9,112	750	87,268

Source: Cordell Connect, 2019

FIGURE 71: EXISTING AND PROPOSED FLOORSPACE TO 2036, HAWKESBURY LGA



Source: SGS, 2019

Employment floorspace capacity

Method

The capacity assessment comprises three scenarios:

Scenario 1 Permissible Capacity - maximum theoretical land use capacity

The permissible capacity assessment makes use of two environmental planning instruments to assess the maximal permissible building envelope on each property:

- Height of building controls gazetted by the State Government
- Floorspace ratio controls gazetted by the State Government.

This scenario assumes any lot that is not currently at its maximum capacity, based on building heights and floorspace ratio controls, would be redeveloped to maximum capacity. It also assumes that it would be built to full commercial or industrial use under those controls, depending on the appropriate zoning.

This is a theoretical capacity scenario because it is unlikely that this type of redevelopment would occur, particularly with developments close to maximum due to feasibility constraints.

Scenario 2 Practical Capacity - permissible and likely land use capacity

The practical capacity assessment makes use of several data sources for each property:

- Environmental Planning Instruments (EPIs) gazetted under Local Environmental Plans, namely terrestrial biodiversity, wetlands, flooding, and heritage
- Strata titles recorded by PSMA Australia
- Community uses and infrastructure recorded by Spatial Services, NSW Department of Finance, Services and Innovation
- Existing built form, as identified in the building use assessment.

Practical capacity is distinguished from permissible capacity in two ways:

1. By site – only certain sites are assessed to be practicably redevelopable, namely:

- Those without the application of biodiversity, wetland, flooding and heritage EPIs
- Those which do not host active community uses or infrastructure
- Those in industrial zones or vacant sites
- Those in B zones, sites with less than one half of the permissible building envelope already developed
- Those in mixed-use B zones and in R zones, sites with less than five strata titles.

2. By floorspace – where land use permissions are broad, only certain types and quanta of floorspace area assessed to be practicably developable.

This scenario assumes that development is built to full planning control limits, but it is only applied to lots that do not have a serious constraint such as biodiversity, wetlands, flooding, heritage, any identified community uses, any buildings with more than five strata units identified (in mixed use zones).

It also only considers those with significant potential for development uplift under current controls, with less than 50 per cent of total developable area considered. It also applied a limited to the development of commercial floorspace in mixed use zones to account for the competition it would face with residential. It also assumes that in industrial precincts, if there is any development on site, then the site would not be considered.

Scenario 3 Conservative Capacity - minimal likely land use capacity

The conservative capacity assessment applies the same conditions as per Scenario 2 above. In addition, conservative capacity is calculated with the further condition that all properties in all zones must be vacant to be assessed for redevelopment capacity.

Results

Scenario 1 Permissible Capacity – maximum theoretical

Results indicate a total of 803,746 sqm for B zones and 725,939 sqm for IN zones would be available under the condition of redevelopment of a lot to maximum capacity if the lot is not currently at its maximum. For B zones, the greatest capacity is within the B2 zone for Richmond – Clarendon and Windsor – Bligh Park. Pitt Town – McGraths Hill offers capacity for both IN1 and IN2 at 153,276 and 136,836 sqm respectively. Windsor – Bligh Park also have significant capacity for IN1 land uses with 281, 906 sqm.

TABLE 52: PERMISSIBLE/MAXIMUM THEORETICAL FLOORSPACE CAPACITY UNDER CURRENT PLANNING CONTROLS (SQM)

SA2	B1	B2	B5	B6	Total B zones	IN1	IN2	Total IN zones
Kurrajong Heights - Ebenezer	65,870				65,870	35,875		**35,875**
Pitt Town - McGraths Hill	5,800		93,863	28,418	128,081	153,276	136,836	**290,112**
Richmond - Clarendon	48,018	209,650	20,840		278,508		46,725	**46,725**
Windsor - Bligh Park	71,382	259,905			331,287	281,906	71,321	**353,227**
Total	191,070	469,555	114,703	28,418	803,746	471,057	254,882	**725,939**

Source: SGS, 2019

Scenario 2 Practical Capacity

Results indicate a total of 132,634 sqm for B zones and 211,404 sqm for IN zones would be available under a practical scenario of redevelopment where a number of constraints are applied to sites. Richmond – Clarendon would have the greatest capacity for B2 land uses with 17,673 sqm. Pitt Town – McGraths Hill would offer the greatest capacity for B5 land uses with 48,496 sqm. Capacity is identified for IN1 and IN2 land uses across the four SA2 area, particularly within Pitt Town – McGraths Hill and Windsor-Bligh Park.

TABLE 53: PRACTICAL FLOORSPACE CAPACITY UNDER CURRENT PLANNING CONTROLS (SQM)

SA2	B1	B2	B5	B6	Total B zones	IN1	IN2	Total IN zones
Kurrajong Heights - Ebenezer	2,332				2,332	5,348		5,348
Pitt Town - McGraths Hill			48,496	26,650	75,146	13,941	122,571	136,512
Richmond - Clarendon	6,653	17,673	19,670		43,996		2,099	2,099
Windsor - Bligh Park	3,978	7,182			11,160	67,092	353	67,445
Total	12,963	24,855	68,166	26,650	132,634	86,381	125,023	211,404

Source: SGS, 2019

Scenario 3 Conservative Capacity

As the most conservative scenario of the three, the total capacity reduces to 41,166 sqm for B zones and 211,404 sqm for IN zones.

TABLE 54: CONSERVATIVE FLOORSPACE CAPACITY UNDER CURRENT PLANNING CONTROLS (SQM)

SA2	B1	B2	B5	B6	Total B zones	IN1	IN2	Total IN zones
Kurrajong Heights - Ebenezer	1,599				1,599	5,348		5,348
Pitt Town - McGraths Hill			9,492	5,788	15,280	13,941	122,571	136,512
Richmond - Clarendon	5,128	6,882	9,272		21,282		2,099	2,099
Windsor - Bligh Park	1,595	1,410			3,005	67,092	353	67,445
Total	8,322	8,292	18,764	5,788	41,166	86,381	125,023	211,404

Source: SGS, 2019

Capacity summary

A summary of capacity results under each of the scenarios is shown below. Commercial capacity (under the B zone designations) displays more variation between the different scenarios and land use zones.

TABLE 55: TOTAL EMPLOYMENT FLOORSPACE CAPACITY (SQM) UNDER EACH OF THE CAPACITY SCENARIOS

Capacity Scenario	**B1**	**B2**	**B5**	**B6**	**Total Centres (B zones)**	**IN1**	**IN2**	**Total Industrial (IN zones)**
Scenario 1 Permissible Capacity	191,070	469,555	114,703	28,418	**803,746**	471,057	254,882	**725,939**
Scenario 2 Practical Capacity	12,963	24,855	68,166	26,650	**132,634**	86,381	125,023	**211,404**
Scenario 3 Conservative Capacity	8,322	8,292	18,764	5,788	**41,166**	86,381	125,023	**211,404**

Summary

Floorspace supply

Retail related centres outside the LGA may compete with the retail offering in Richmond, Windsor and McGraths Hill, although the retailing challenge is viewed as online retailing

Richmond, Windsor and McGraths Hill clearly provide the majority of retail floorspace in the LGA with a combined total of approximately 85%. Richmond offers the most variety of retail floorspace across the different commodity groups. Windsor has the greatest offer of Hospitality floorspace, while the retail offering at McGraths Hill is centred around Household Goods.

There is a notable supply of retail floorspace in centres to the south-east, outside the LGA, namely Rouse Hill, Marsden Park and Castle Hill. These centres are highly accessible to populations living within the Richmond-Windsor axis where drive time is approximately 15 to 30 minutes to Rouse Hill and Marsden Park and 45 minutes to Castle Hill. It is likely Rouse Hill and Castle Hill would compete with Richmond and Windsor town centres for Supermarket, Hospitality, Clothing commodity groups, while Marsden Park would challenge the Household Goods offering at McGraths Hill.

The majority of proposed new retail floorspace is earmarked for these same centres outside the LGA, including Rouse Hill, Marsden Park, Castle Hill, Norwest but also even closer to the LGA border at Box Hill and Riverstone across all commodity group types. Proposed new retail floorspace may increase pressure on retail centres in the Hawkesbury by drawing spending away from the LGA.

Consultation revealed there is a 'localised mindset' when it comes to the retail centres in Hawkesbury LGA. The centres are viewed as adequately serving the local market. Even Richmond, as the biggest retail centre in the LGA, is still viewed as a subregional shopping centre that serves a different purpose to Rouse Hill and Marsden Park – the purpose of serving local, loyal residents. The retail challenge moreover is viewed as online retailing, rather than competition posed by other retail centres over the LGA border. Even if the purpose of the retail centres in Hawkesbury LGA remains to be subregional serving, opportunities to improve these centres should be investigated to help overcome the impact of online retailing and retail growth outside the LGA.

Floorspace capacity varies within the different B and IN land use zones under the three redevelopment scenarios

Floorspace capacity assessment, under three different scenarios, suggests a range of floorspace capacity for B and IN zones ranging from 41,166 sqm to 725,939 sqm dependent on the conditions and constraints applied and the land use type. In general, capacity would be present across all the zones B1, B2, B5, B6, IN1 and IN2 within the four identified SA2 areas (Kurrajong Heights-Ebenezer; Pitt Town-McGraths Hill; Richmond-Clarendon; Windsor-Bligh).

Scenario 2 is the most likely scenario to occur. Under scenario 2 (practical capacity), analysis suggests a total of 132,634 sqm for B zones would be available and a total of 211,404 sqm for IN zones.

Floorspace demand analysis

Retail demand

Retail gravity modelling

A retail gravity model was applied to analyse the future demand of retail floorspace across Hawkesbury LGA and the surrounding local trade area. Gravity modelling simulates where people will spend their money when given the choice of different retail destinations. It considers additional variables such as spending by retail commodity type (eg: groceries, clothing), the distance they have to travel and the attractiveness of that centre.

A large Westfield for instance, tends to have greater 'pull' or 'gravity' compared to a local retail high street. Gravity modelling is built from two main components – Retail Expenditure (Demand) which is converted to Turnover via the gravity model (amount spent per metre of retail floorspace) and Retail Floorspace (Supply).

Retail expenditure

Retail expenditure data has been developed out of resident-based expenditure accounts across 24 commodity groups at an SA1 level (e.g. fresh food, groceries, pharmaceuticals, restaurants, etc). These expenditure accounts are sourced from MarketInfo's Market Data Systems (MDS). MDS are the industry benchmark in estimating small area expenditure that draws on the latest Household Expenditure Survey (HES), ABS Census and other datasets. These expenditure per capita forecasts are then combined with robust small area land use projections for population and employment developed by SGS and Transport for NSW.

The retail expenditure data also considers changing consumer spending patterns, such as the growing role of online shopping, in addition to factoring in the degree to which expenditure is influenced by work-based, education-based and tourism-based spending. These considerations help to capture overall leakage/capture for the whole system.

Table 56 indicates retail expenditure across Hawkesbury LGA to 2036 is expected to grow by around 47.0%. This is slower growth than is set to occur across the Sydney GMA, which is expected to grow by around 57.2%. Overall, Hawkesbury contribution to GMA expenditure is around 1.32%, which slowly decreases to around 1.24% of expenditure by 2036.

TABLE 56: RETAIL EXPENDITURE HAWKESBURY LGA VS SYDNEY GMA

	2016	2021	2026	2031	2036	16-36%
Hawkesbury	909	974	1,086	1,206	1,335	47.0%
Sydney GMA	68,678	75,550	85,660	96,224	107,988	57.2%
% of GMA	1.32%	1.29%	1.27%	1.25%	1.24%	-0.09%

Source: MarketInfo, 2018

Retail commodity groups across the Hawkesbury LGA and the broader Sydney GMA are expected to experience sustained growth. Additionally, the contribution to overall retail growth is roughly proportional. It is observed that Supermarket, Clothing and Soft Goods and Other Food contribute to a higher overall contribution to Hawkesbury expenditure growth. Within the broader Sydney GMA, there is higher expenditure growth found in Other Retail, Household Goods, Department Store and Hospitality.

TABLE 57: RETAIL COMMODITY CONTRIBUTION TO EXPENDITURE GROWTH

	Hawkesbury			GMA		
	2016	2036	%	2016	2036	%
Supermarket	275.1	436.5	37.8%	20,108.2	34,413.8	36.4%
Clothing and Soft Goods	105.5	166.4	14.3%	7,720.6	13,005.1	13.4%
Other Food	130.8	187.5	13.3%	8,545.2	13,277.1	12.0%
Other Retail	137.5	185.5	11.3%	11,898.2	17,089.2	13.2%
Household Goods	127.8	168.6	9.6%	9,393.0	13,186.7	9.7%
Department Stores	77.2	109.5	7.6%	6,268.1	9,511.1	8.2%
Hospitality and Services	54.7	81.3	6.2%	4,745.1	7,505.5	7.0%
Total	908.6	1,335.3	100.0%	68,678.5	107,988.5	100.0%

Source: MarketInfo, 2018

Gravity modelling allows for the conversion of retail expenditure to an estimate of turnover for each retail centre. When combining turnover with the average turnover per square metre, also known as a Retail Turnover Density, or "RTD", it is possible to estimate floorspace demand for each centre.

Retail turnover

Retail turnover relates to the amount of consumer expenditure being attracted to a particular centre. Higher retail turnover tends to indicate a larger centre capable of attracting a larger number of consumer expenditure.

The results of the retail gravity model indicate that Hawkesbury centre turnover growth is around 39.1%, compared with the Sydney GMA of 57.2%. This is lower than the retail expenditure growth of 47.0%. This indicates that there is a degree of leakage occurring, where those living and working in Hawkesbury LGA travel into the wider Sydney GMA to spend. Leakage is estimated at around 6.5% in 2016. This is expected to grow to around 11.5% by 2036.

TABLE 58: RETAIL TURNOVER HAWKESBURY LGA VS SYDNEY GMA

	2016	2021	2026	2031	2036	16-36%
Hawkesbury Expenditure	909	974	1,086	1,206	1,335	47.0%
Hawkesbury Turnover	850	896	966	1,099	1,182	39.1%
Leakage	59	78	120	107	153	159.3%
Leakage (%)	6.5%	8.0%	11.0%	8.9%	11.5%	5.0%

Source: MarketInfo, 2018

Retail floorspace demand

Table 59 provides a summary of retail floorspace demand within the Hawkesbury LGA. Between 2016 and 2036, demand is expected to grow by around 24,380 sqm. This is demand growth of around 20.8%. This is less than the wider Sydney GMA, which is set to experience demand growth of around 29.7%. Overall, Hawkesbury contribution to overall demand is set to decline from around 1.48% in 2016, to 1.38% in 2036.

TABLE 59: RETAIL DEMAND, HAWKESBURY VS GMA (SQM)

	2016	2036	Growth
Hawkesbury	116,975	141,355	20.8%
GMA	7,904,425	10,254,663	29.7%
Contribution	1.48%	1.38%	-0.1%

Source: SGS, 2019

Breaking down floorspace demand by precinct finds that the majority of demand is being drawn into McGraths Hill, which contributes to almost 40% of the total demand for the LGA. This is followed by Richmond Town Centre (TC) and Windsor TC, which contribute arounds 22% each.

TABLE 60: RETAIL FLOORSPACE DEMAND BY CENTRE, HAWKESBURY LGA (SQM)

Precinct	2016 Demand	2036 Demand	Growth	% of growth
McGraths Hill	23,214	32,885	9,671	39.7%
Richmond TC	42,033	47,517	5,484	22.5%
Windsor TC	33,950	39,261	5,311	21.8%
North Richmond	9,991	12,132	2,140	8.8%
Pitt Town	1,013	1,934	921	3.8%
Kurrajong	2,658	2,914	256	1.1%
Glossodia	1,200	1,432	232	1.0%
Wilberforce	1,298	1,515	217	0.9%
Hobartville NC	431	521	90	0.4%
Kurmond	884	951	66	0.3%
Freemans Reach	302	292	-9	0.0%
Total	116,975	141,355	24,380	100.0%

Source: SGS, 2019

Breaking down floorspace demand growth by commodity type finds that Supermarket floorspace is in the highest demand, particularly in Richmond Town Centre and Windsor Town Centre. This is followed by Hospitality floorspace, found to be in highest demand in McGraths Hill and Windsor Town Centre. Other notable commodity groups are Household Goods with demand growth expected in McGraths Hill, but small demand declines across Richmond Town Centre and Windsor Town Centre. This is most likely due to the continued emergence of McGraths Hill as a Household Goods destination, followed by other out of centre Household Goods centres, such as Marsden Park in close proximity to the LGA, which are influencing demand, see Table 61.

TABLE 61: DEMAND GROWTH 2016-36, HAWKESBURY LGA (SQM)

Precinct	Supermarket	Other Food	Hospitality	Clothing & Soft Goods	House. Goods	Other Retail	Dep. Stores	Total
McGraths Hill	674	1,661	1,911	319	2,939	368	1,798	9,671
Richmond TC	2,203	501	537	941	-300	570	1,031	5,484
Windsor TC	1,946	263	1,728	452	-143	775	290	5,311
North Richmond	352	163	702	102	310	333	178	2,140
Pitt Town	-	361	405	-	-	154	-	921
Kurrajong	-	91	106	31	-4	32	-	256
Glossodia	81	58	78	-	-	15	-	232
Wilberforce	-	103	33	-	-	40	42	217
Hobartville NC	60	-	30	-	-	-	-	90
Kurmond	-	38	19	-	-	9	-	66
Freemans Reach	-	-	-	-	-8	-2	-	-9
Total	5,316	3,239	5,550	1,845	2,796	2,294	3,340	24,380

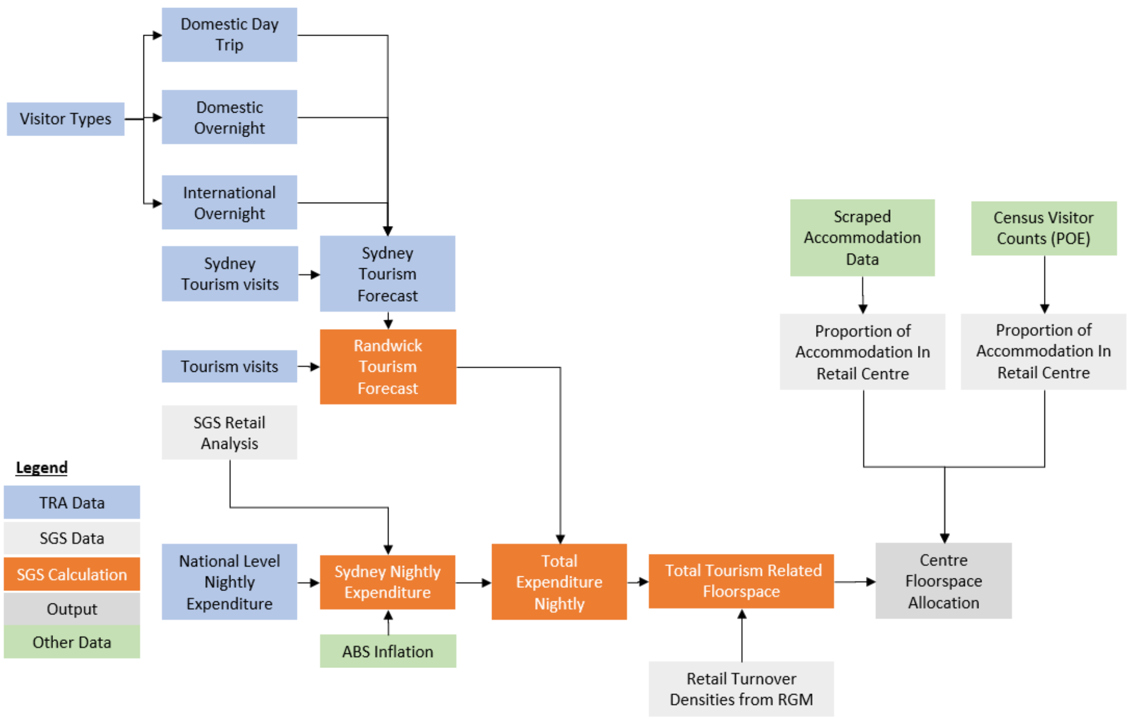
Source: SGS, 2019

Tourism Related Retail Expenditure

Accommodation location approach

SGS has devised a method to identify demand for floorspace from tourism impacts via visitation to the local centres. This methodology is outlined in Figure 72 below.

FIGURE 72: TOURISM FLOORSPACE METHODOLOGY



Source: SGS, 2019

The model works by identifying where commercial accommodation facilities are located and the located of visitors on census night within the study region. Retail floorspace is then allocated based on the proportional weights to nearby retail centres and the type of floorspace within the centre[74].

The next step is to identify how much typical tourists spend whilst visiting the area. This is done by using data gathered from Tourism Research Australia (TRA), identifying the type (Domestic Daytrip, Domestic Overnight or International Overnight) and typical length of stay (Visitor Nights[75]).

The proportion of current visitation is then taken within Hawksbury in 2016 and held constant as a proportion of visitation to Sydney and apply this to forecasted [76]visitation numbers provided by TRA.

[74] For example, if there is no existing supermarket floorspace within a centre then this allocation is set to zero and the demand get allocated across the other centre in the system.
[75] Day Trip is 1 night by default
[76] Trended out to 2036 by SGSEP

The estimated total number of visitor nights for 2016-36 at identified in Table 62 below.

TABLE 62: HAWKSBURY LGA TOURISM VISITOR NIGHTS FORECASTS 2016-2036

	Domestic Day Trip	Domestic overnight	International Overnight	Total
2016	170,493	468,529	319,837	958,859
2021	229,565	531,750	390,333	1,151,648
2026	298,451	584,895	455,023	1,338,369
2031	358,992	639,718	519,714	1,518,424
2036	422,811	694,016	584,405	1,701,231
2016-36	252,318	225,487	264,567	742,372

Source: SGS, 2019, with Tourism Research Australia Visitor forecast Data

From here, it is estimated how much of this expenditure is contained within the system (Hawksbury Centres) by reviewing places of visitation by tourists staying in Hawksbury (LGA) from the International Visitor Survey (IVS) provided by TRA. This leads to a self-containment weighting for each visitor night.

Using further information produced by TRA for national level expenditure by category by visitor types, SGS allocates retail related expenditure and then estimates how much is contained within the local system for each visitor night, before adjusting these expenditure categories to match total expenditure by visitor type relative to the difference between expenditure in Sydney totals compared to national level totals.

TABLE 63: SELF CONTAINMENT AND HAWKSBURY NIGHTLY VISITOR EXPENDITURE BY RETAIL CATEGORY (2016)

Domestic Daytrip	Spending-Containment	**Supermarket**	**Other Food**	**Hospitality & Services**	**Clothing & Soft Goods**	**Household Goods**	**Other Retail**	**Department Stores**	**Total**
Groceries for self-catering	100%	$5.6	$0.0	$0.0	$0.0	$0.0	$0.6	$0.0	$6.3
Alcohol (not already reported)	90%	$0.0	$2.2	$3.2	$0.0	$0.0	$0.0	$0.0	$5.4
Takeaway & restaurant meals	90%	$0.0	$2.1	$18.8	$0.0	$0.0	$0.0	$0.0	$20.9
Shopping/Gifts/Souvenirs	95%	$0.0	$0.0	$0.0	$7.8	$2.6	$10.4	$5.2	$25.9
Other expenditure	10%	$0.0	$0.0	$0.0	$0.0	$0.0	$0.5	$0.0	$0.5
Total		$5.6	$4.2	$22.0	$7.8	$2.6	$11.5	$5.2	$58.9
Domestic Overnight									
Groceries for self-catering	90%	$13.6	$0.0	$0.0	$0.0	$0.0	$1.5	$0.0	$15.1
Alcohol (not already reported)	66%	$0.0	$4.6	$6.9	$0.0	$0.0	$0.0	$0.0	$11.4
Takeaway & restaurant meals	66%	$0.0	$2.8	$25.4	$0.0	$0.0	$0.0	$0.0	$28.2
Shopping/Gifts/Souvenirs	20%	$0.0	$0.0	$0.0	$1.3	$0.4	$1.8	$0.9	$4.5
Other expenditure	10%	$0.0	$0.0	$0.0	$0.0	$0.0	$0.3	$0.0	$0.3
Total		$13.6	$7.4	$32.3	$1.3	$0.4	$3.6	$0.9	$59.5
International Overnight									
Shopping - use in Australia	80%	$0	$0	$0	$1	$0	$1	$1	$3.0
Shopping - take home	50%	$0	$0	$0	$1	$0	$2	$1	$4.5
Food, drink and accommodation	66%	$3	$8	$15	$0	$0	$0	$0	$25.3
Phone, internet, postage	15%	$0	$0	$0	$0	$0	$0	$0	$0.2
Other expenditure	10%	$0	$0	$0	$0	$0	$0	$0	$0.1
Total		$2.5	$7.6	$15.2	$2.2	$0.9	$3.1	$1.5	$33.1

Source: SGS, 2019, with Tourism Research Australia Visitor Survey Data

From here SGS can calculate total expenditure by tourists within the Hawksbury LGA system, by retail category. These values are identified by year and retail category in Table 64 and are represented in 2016-dollar values.

TABLE 64: HAWKSBURY LGA TOURISM VISITOR EXPENDITURE FORECASTS 2016-2036 ($)

	Supermarket	Other Food	Hospitality & Services	Clothing & Soft Goods	Household Goods	Other Retail	Department Stores
2016	6,880,191	4,924,802	17,732,131	2,233,632	779,349	3,764,757	1,489,088
2021	8,064,017	5,899,371	21,232,599	2,866,206	997,878	4,739,060	1,910,804
2026	9,177,801	6,831,297	24,660,525	3,557,488	1,235,345	5,783,389	2,371,659
2031	10,263,626	7,736,339	27,941,816	4,185,043	1,451,570	6,739,780	2,790,028
2036	11,361,955	8,652,618	31,283,661	4,837,721	1,676,169	7,731,025	3,225,148
2016-36	4,481,764	3,727,816	13,551,530	2,604,089	896,820	3,966,268	1,736,060

Source: SGS, 2019

Applying Retail Turnover Densities (RTD's) calculated for each of the centres in the retail model from the previous section to calculate tourism related retail floorspace demand for each Hawksbury (LGA) as a whole, the values of floorspace demand for each retail category are shown below in Table 65.

TABLE 65: HAWKSBURY LGA TOURISM VISITOR FLOORSPACE BY RETAIL CATEGORY 2016-2036 (SQM)

	2016	2021	2026	2031	2036	**2016-36**
Clothing and Soft Goods	488	572	651	728	806	317
Department Stores	493	591	684	775	867	374
Hospitality and Services	6,330	7,582	8,809	9,983	11,179	4,849
Household Goods	264	342	429	506	588	323
Other Food	181	232	287	337	390	209
Other Retail	407	512	626	729	837	430
Supermarket	301	387	481	565	654	352
Total	8,465	10,218	11,966	13,625	15,319	6,854

Source: SGS, 2019

The estimated demand across the Hawksbury system indicate that there is presently demand for approximately 8,465m^2 of retail floorspace across Hawksbury, with approximately 75% or 6,330 m^2 of the total floorspace demand associated with the hospitality and services category.

There is expected growth of approximately 6,854m^2 of retail floorspace growth projected from 2016 to 2036, with 71% of the total floorspace growth associated with the Hospitality and Services category and a further 4,849m^2 of floorspace growth.

There will be demand for an estimated 15,319 m^2 of retail floorspace in 2036, the location of which is identified in Table 66 below by Hawksbury Retail centres previously identified.

Floorspace demand has been allocated according to the proportion of Total Commercial Accommodation facilities and location of visitors on census night for each centre and whether there is existing floorspace (for example, Supermarket within that centre).

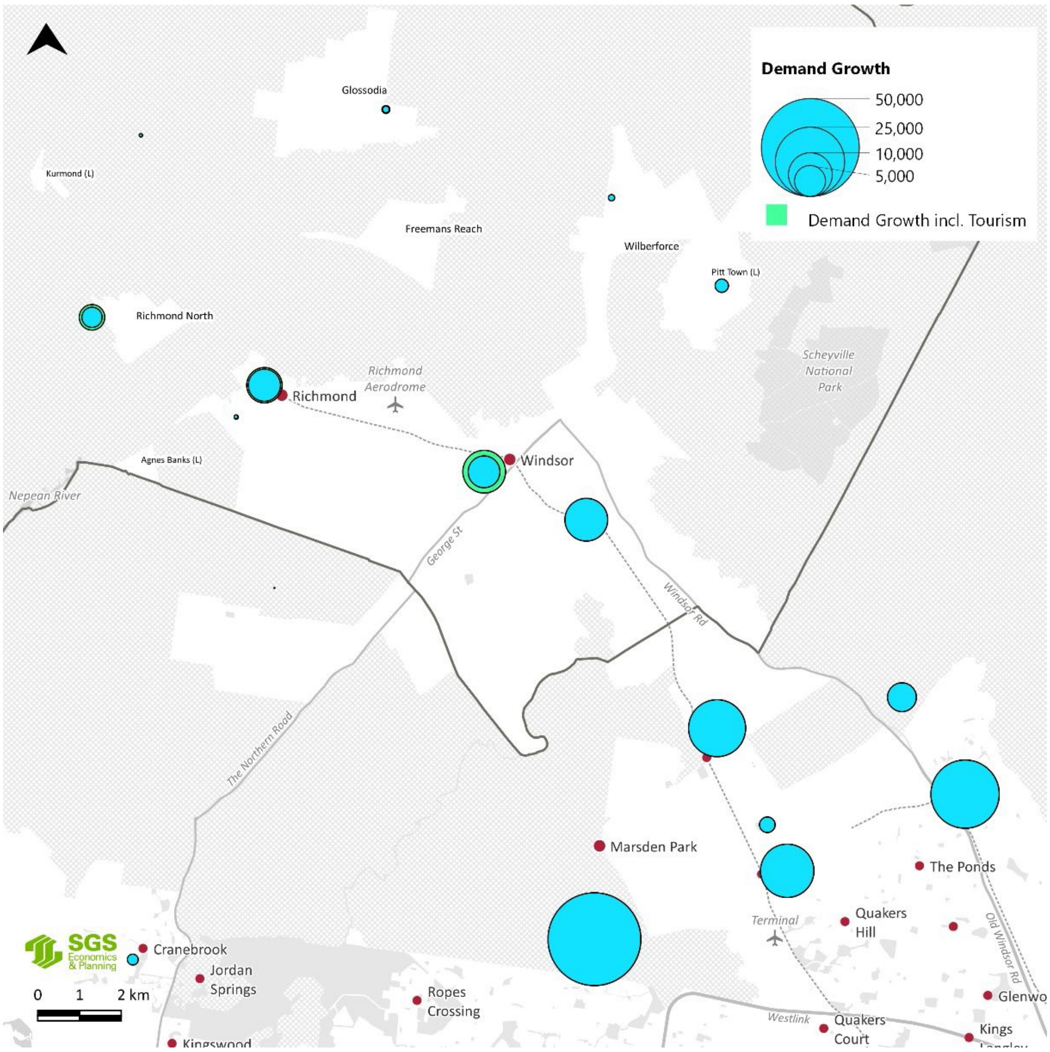
According to these estimates, the majority of floorspace demand growth will occur in the Windsor Station area, with estimated demand for 5,123 m^2 of retail floorspace in 2016 and with total growth of 4,311m^2 or 70 per cent of total Hawksbury floorspace growth between 2016-2036. This is spatially depicted in Figure 73.

TABLE 66: HAWKSBURY CENTRES TOURISM VISITOR FLOORSPACE FORECASTS 2016-2036 (SQM)

	2016	2021	2026	2031	2036	2016-36
Glossodia	204	237	266	295	324	120
Hobartville	19	22	25	28	30	11
Richmond North Public School	1,802	2,150	2,487	2,812	3,142	1,802
Richmond Station	1,317	1,594	1,864	2,124	2,389	1,072
Windsor Station	5,123	6,216	7,324	8,366	9,434	4,311
Total	8,465	10,218	11,966	13,625	15,319	6,854

Source: SGS, 2019

FIGURE 73: RETAIL DEMAND GROWTH INCLUDING TOURIST SPENDING (SQM)



Source: SGS, 2019

Centres and industrial demand

Method

Future employment floorspace for centres and industrial land uses have also been estimated based upon small-area employment projections for the LGA[77]. Employment projections have been converted into floorspace projections using the following method:

1. Broad land use categories: employment forecasts by industry by small area are converted into forecasts by broad land use categories (BLCs), using an SGS standard matrix. The matrix has been developed based on multiple prior land audits. BLCs are types of built form, such as office, manufacturing light and retail big box, see Appendix G for a more detailed description of BLCs.

2. Floorspace demand in small areas: Standard SGS floorspace per job ratios for each BLC are used to convert employment forecasts into floorspace demand forecasts.

3. LGA-wide floorspace demand: floorspace requirements are aggregated up to the LGA level, maintaining the split into land use zones and BLCs. It is important to aggregate floorspace demand to an LGA level because businesses, regardless of their type, are rarely constrained to operating in a single precinct, and precincts generally do not function as a self-contained submarket. Additionally, the employment forecasts used are less accurate at a small area level and are more accurate when multiple adjacent precincts are considered together.

This approach therefore aggregates supply-demand gap up to the LGA level to enable strategic planning directions to best assign where growth should occur. This is one of the biggest distinctions between this method and the retail modelling, as the retail gravity model assumes that existing major retail centres will continue to pull future retail spending towards them.

Results

Employment growth

Employment growth in Hawkesbury LGA to 2036 indicates most growth will occur in Knowledge Intensive industries and Health and Education industries, see Table 67. These industries tend to cluster in commercial centres. Retail Trade is expecting a smaller step change with potentially an additional 535 jobs. Accommodation and Food Services will potentially have an increase of 772 jobs by 2036.

As indicated in Table 68 employment growth is expected for Pitt Town – McGraths Hill SA2 and Richmond – Clarendon SA2 that encompasses Richmond Town Centre, Clarendon, Mulgrave centre and McGraths Hill.

[77] Note: this demand projection is based on employment projections. This differs to Section 3.1 where demand is derived from the retail gravity model and is based on retail expenditure projections.

TABLE 67: EMPLOYMENT GROWTH BY ANZSIC (2016-2036)

ANZSIC Employment Category	2016	2036	Change 2016-36	% Growth
Agriculture, Forestry and Fishing	1,635	1,421	-214	-13%
Mining	55	61	5	10%
Manufacturing	2,902	2,829	-74	-3%
Electricity, Gas, Water and Waste Services	429	651	222	52%
Construction	4,117	5,266	1,149	28%
Wholesale Trade	546	805	259	47%
Retail Trade	2,858	3,394	535	19%
Accommodation and Food Services	2,103	2,876	772	37%
Transport, Postal and Warehousing	1,096	1,335	239	22%
Information Media and Telecommunications	421	480	59	14%
Financial and Insurance Services	271	471	200	74%
Rental, Hiring and Real Estate Services	417	597	180	43%
Professional, Scientific and Technical Services	1,284	2,363	1,079	84%
Administrative and Support Services	888	1,220	332	37%
Public Administration and Safety	2,246	3,486	1,240	55%
Education and Training	2,566	3,976	1,410	55%
Health Care and Social Assistance	3,094	4,333	1,239	40%
Arts and Recreation Services	616	896	281	46%
Other Services	1,293	1,998	705	54%

Source: SGS, 2019

TABLE 68: EMPLOYMENT GROWTH BY SA2 (2016-2036)

SA2	2016	2036	Change 2016-36	% Growth
Kurrajong Heights - Ebenezer	1,474	1,974	500	34%
Pitt Town - McGraths Hill	2,642	4,929	2,287	87%
Richmond - Clarendon	4,962	6,369	1,407	28%
Windsor - Bligh Park	4,004	4,975	972	24%
Total	13,081	18,247	5,166	39%

Source: SGS, 2019

Projected floorspace demand

Floorspace demand results for the LGA are shown below in Table 69 and Table 70.

Employment in commercial categories, such as Professional, Scientific and Technical Services and Public Administration and Safety, is expected to increase between 2016 and 2036. Floorspace demand projections indicate an additional 29,029 sqm of floorspace will be required by 2036, taking the total for commercial related floorspace in the LGA to approximately 88,007 sqm. The split between Office and Business Park built forms is similar with an additional 15,625 sqm and 13,404 sqm of approximate floorspace to 2036 respectively[78].

Projected floorspace demand for Retail land uses varies between the different categories. Bulky Good would potentially require the least floorspace growth at approximately 2,415 sqm; Big Box retail land use could require 12,782 sqm and Main Street retail could require 23,205 sqm.

Employment in Manufacturing and Agriculture, Forestry and Fishing is expected to contract between 2016 and 2036, yet employment in Electricity, Gas, Water and Waste Services; Wholesale Trade; and Transport, Postal and Warehousing is expected to experience growth. Industrial floorspace demand projections indicate an additional 181,638 sqm will be required between 2016 and 2036 to cater to this growth. By 2036, it is expected the total floorspace for industrial land uses would amount to approximately 739,767 sqm.

The majority of this floorspace is likely to be required in Local Services (for example automobile repairs, building suppliers, panel beaters, domestic storage and machinery and equipment hiring); Urban Services (such as bus depots, water and electricity supply, concrete batching and recycling depots); and Freight & Logistics (including postal depots, container terminals, road freight transportation services) with 53,467sqm , 52,796sqm and 41,484 sqm respectively. Heavy and light manufacturing is expected to demand less floorspace into the future with approximately 24,584 sqm for light uses and only 9,307sqm for heavy manufacturing uses.

Therefore, by 2036, based on employment projections there could potentially be demand for an additional 67,431 of floorspace in centres to accommodate the various commercial and retail land uses; and 181,638 sqm for the various industrial land uses. By precinct, majority of the floorspace demand would potentially be in Mulgrave and Richmond RAAF Base precincts for commercial and retail; and Mulgrave precinct for industrial.

[78] The split of Office and Business Park floorspace is based on the SGS broad land use category matrix. The matrix has been developed based on multiple prior land audits for other metropolitan areas of Sydney. If there is no suitable space within the LGA for Business Park activities to gravitate towards, then it is expected that some of this activity would be lost to areas outside of the LGA. However, a small proportion is likely to be accommodated within the LGA in commercial and industrial zones.

TABLE 69: FLOORSPACE DEMAND BY LAND USE AND BLC 2016-2036 (SQM)

Land Use	Broad Land Use Category (built form)	2016 floorspace	Projected demand in floorspace 2016-2036	Total projected floorspace 2036
Centres (commercial + retail)	Commercial (Office)	29,985	15,625	45,610
	Commercial (Business Park)	28,993	13,404	42,397
	Retail (Big Box)	31,983	12,782	44,765
	Retail (Bulky Goods)	5,081	2,415	7,496
	Retail (Main Street)	54,270	23,205	77,475
	Total centres	150,312	67,431	217,743
Industrial	Freight & Logistics	156,415	41,484	197,899
	Local Services	142,927	53,467	196,394
	Manufacturing Heavy	38,409	9,307	47,716
	Manufacturing Light	90,487	24,584	115,071
	Urban Services	129,891	52,796	182,687
	Total industrial	558,129	181,638	739,767

TABLE 70: FLOORSPACE DEMAND BY PRECINCT 2016-2036 (SQM)

Precinct^	Industrial			Centres (commercial + retail)		
	Floorspace 2016	Projected demand in floorspace 2016-2036	Total projected floorspace 2036	Floorspace 2016	Projected demand in floorspace 2016-2036	Total projected floorspace 2036
Windsor	32,933	9,195	42,128	25,445	7,559	33,004
South Windsor	108,662	18,956	127,617	15,965	3,990	19,955
Glossodia	14,603	3,354	17,957	2,204	1,015	3,219
Wilberforce	12,366	2,397	14,763	3,268	1,442	4,710
Kurrajong	8,016	2,271	10,286	1,891	957	2,848
Pitt Town	14,678	10,895	25,573	2,991	3,699	6,690
McGrath Hill	17,699	12,792	30,491	3,257	4,313	7,570
Mulgrave	115,541	78,213	193,754	16,953	18,741	35,694
Richmond	84,990	14,616	99,606	36,958	8,592	45,550
Richmond RAAF Base	83,927	16,238	100,165	26,022	11,350	37,372
Clarendon*	0	0	0	0	0	0
Bligh Park	11,812	1,712	13,523	3,135	697	3,832
Other	52,903	11,000	63,903	12,223	5,075	17,298

^Precincts relate to the precincts boundaries identified in appendix B; *Floorspace analysis in the table above is linked to B and IN zones, therefore, floorspace projections for Clarendon are listed as zero as the majority of this precinct is zoned SP1 special activities agriculture and education. No forecasts are usually made for Health and Education zones as they tend to operate as their own submarket. Qualitative analysis will be completed for Clarendon.

Summary

Floorspace demand

Based on retail expenditure, retail floorspace demand is expected to be drawn towards the current major centres of McGraths Hill, Richmond Town Centre and Windsor Town Centre to 2036

For Hawkesbury LGA, retail floorspace demand to 2036 is expected to be approximately an additional 24,380 sqm. It is expected to be predominantly in the following three centres: McGraths Hill (9,671 sqm), Richmond Town Centre (5,484 sqm), and Windsor Town Centre (5,311 sqm). North Richmond will potentially demand an additional 2,140 sqm.

For Richmond Town Centre and Windsor Town Centre, the most demand is expected to be for additional Supermarket and Hospitality floorspace. For McGraths Hill, most demand is expected to be for Household Goods retail floorspace. The future demand for retail floorspace may vary dependent on the 'pull' of other retail centre across the border in Blacktown and The Hills Shire LGA, as well as the impact of online retailing. Desktop research and consultation has highlighted the negative impact of online retailing to the 'bricks and mortar' retail market.

Consultation with a number of agents highlighted the need for improvements to the streetscapes and retail centres in Hawkesbury LGA. Retail centres are seen as average, the retail market was described as 'flat' and only serving the local market, failing to attract people from outside the LGA. Windsor, where shops are viewed as low quality, and South Windsor were particularly identified as poor-quality centres. Richmond is seen as the primary retail destination in the LGA, tending to dominate other centres. Improvements to the major retail centres within Hawkesbury LGA may help overcome the issues of growing retail centres in neighbouring LGAs and the impact of online retailing.

It is expected that the smaller retail centres within Hawksbury LGA will only demand additional retail floorspace between 60 sqm and 900 sqm. The future focus for these centres should be to ensure floorspace meets the needs of the local population.

Additional retail floorspace demand, due to tourism spending, is likely to be mostly drawn to the Windsor Station area

A need for an additional 4,311 sqm in retail floorspace could be drawn to the Windsor Station area when factoring in tourism retail spending to 2036. The areas of Richmond Station and Richmond North Public School are also expected to demand an additional 1,072 sqm and 1,802 sqm respectively. In total, a demand for an additional 6,854 sqm would be expected within the LGA between 2016 and 2036. If the tourism industry develops in Hawkesbury LGA, the growth of the retail offering and improvements to accessibility around Windsor centre could be a consideration.

Consultation revealed the Windsor area is generally performing poorly with many poor-quality retail shops and a need for streetscape improvements. Should growth of the tourism industry become a key focus in the future, improvements to Windsor as a whole should be considered alongside the need of additional floorspace.

Based on employment growth, within the centres, most floorspace demand will be for Retail (Main Street) based on historic employment growth. There may be some additional demand for commercial 'office' style floorspace and a small proportion of business park commercial floorspace.

Between 2016 and 2036, projected floorspace demand for Retail land uses varies between the different categories. Retail (Bulky Goods) would potentially require the least floorspace growth at approximately 2,415 sqm; Retail (Big Box) land use could require 12,782 sqm and Retail (Main Street) could require 23,205 sqm.

In 2016, commercial floorspace estimates suggest there is about 29,985 sqm of office floorspace in the LGA. With projected employment growth to 2036 in Professional, Scientific and Technical Services; Public Administration and Safety and Education and Training, it is expected there will be demand for commercial floorspace within the LGA. Floorspace demand projections indicate Commercial (Office) land use types will require approximately an additional 15,625 sqm.

Given the profile of the LGA, it is expected that the office floorspace demand will be for more 'population serving' commercial businesses, such as real estate businesses, or small legal and accounting businesses that tend to require smaller mixed use/ground floor office space rather than large commercial towers and the more 'footloose' commercial business (such as a call centre).

Consultation indicated there is a need for suitable and affordable office spaces for smaller businesses.

Analysis suggests demand for Commercial (Business Park) floorspace could be approximately 13,404 sqm towards 2036. However, it should be noted that these findings are derived from audit data based on other metropolitan areas of Sydney and are also driven by the way ABS ANZSIC codes (employment type) typically aligns with land uses. If there is no suitable space within the LGA for business park activities to gravitate towards, then it is expected that some of this activity would be lost to areas outside of the LGA. However, a small proportion is likely to be accommodated within the LGA.

Mulgrave precinct and Richmond RAAF Base precinct are likely to demand the most commercial/retail floorspace towards 2036 (18,741 sqm and 11,350 sqm respectively). Richmond and Windsor precincts will potentially demand between 7,500 and 8,500 sqm.

Based on employment growth, local services, urban services and freight & logistics land use types are likely to demand the most industrial floorspace to 2036.

Floorspace estimates for 2016 indicate the majority of floorspace is taken up by Freight & Logistics, Local services and Urban services land uses at 156,415 sqm, 142,927 sqm and 129,891 sqm respectively.

A total demand of 181,638 sqm of industrial floorspace is expected between 2016-2036 in the LGA. The majority of this floorspace is likely to be for Local Services (such as automobile repairs, building suppliers, panel beaters, domestic storage and machinery and equipment hiring); Urban Services (such as bus depots, water and electricity supply, concrete batching and recycling depots); and Freight & Logistics (including postal depots, container terminals, road freight transportation services) for 53,467sqm, 52,796sqm and 41,484 sqm respectively. Floorspace for heavy manufacturing land use types is expected to be only an additional 9,307 sqm to 2036.

Consultation indicated there is demand for smaller lots for industrial purposes.

Mulgrave precinct is likely to demand the most industrial floorspace towards 2036. Between 2016 and 2036, industrial floorspace projections indicate Mulgrave precinct will demand an additional 78,213 sqm. This is substantially higher than any other precinct in the LGA. South Windsor precinct is likely to require an additional 18,956 sqm by 2036. Consultation and market analysis indicated that Mulgrave is performing strongly with preferable building stock, transport connections and character.

Floorspace gap analysis

Retail gap analysis

Analysing retail supply against retail demand finds that the Hawkesbury LGA is expected to enter into a shortage by 2026, of around 1,857 sqm. This gap grows substantially by 2031, with an overall shortage of 20,237sqm expected by 2036.

TABLE 71: RETAIL GAP, HAWKESBURY LGA (SQM)

	2016	2021	2026	2031	2036
Supply	116,975	121,118	121,118	121,118	121,118
Demand	116,975	117,713	122,975	135,168	141,355
Gap (sqm)	0	3,405	-1,857	-14,050	-20,237
Gap (hectares)	0.00	0.34	-0.19	-1.40	-2.02

Source: SGS, 2019

Retail gap by commodity

Breaking down the 2036 floorspace gap finds that McGraths Hill has the highest projected floorspace gap at -5,568sqm. This is closely followed by Richmond Town Centre with a gap of around -5,468sqm and Windsor Town Centre at -5,303sqm. The combination of the three accounts for three-quarters of the total retail shortage across the LGA. Specific commodity groups experiencing a shortage include department store in McGraths Hill. In Richmond Town Centre, the shortage is found in supermarket and department store floorspace. In Windsor Town centre, the shortage is found in supermarket and hospitality floorspace.

TABLE 72: RETAIL GAP BY COMMODITY 2036, HAWKESBURY LGA (SQM)

Precinct	Supermarket	Other Food	Hospitality	Clothing & Soft Goods	House. Goods	Other Retail	Dep. Stores	Total
McGraths Hill	-674	-708	-878	-318	-827	-368	-1,796	-5,568
Richmond TC	-2,203	-501	-536	-937	302	-567	-1,026	-5,468
Windsor TC	-1,946	-262	-1,727	-450	144	-772	-290	-5,303
North Richmond	-352	-163	-702	-102	-308	-332	-178	-2,137
Pitt Town	-	-361	-405	-	-	-154	-	-921
Kurrajong	-	-91	-106	-31	4	-31	-	-255
Glossodia	-81	-58	-78	-	-	-15	-	-232
Wilberforce	-	-103	-33	-	-	-40	-42	-217
Hobartville NC	-60	-	-30	-	-	-	-	-90
Kurmond	-	-38	-19	-	-	-9	-	-66
Freemans Reach	-	-	-	-	8	2	-	10
Total	-5,316	-2,285	-4,515	-1,838	-676	-2,287	-3,332	-20,249

Source: SGS, 2019

Additional scenario – Resident/worker expenditure + tourism

The existing retail gap is based on resident-related expenditure from MarketInfo. This comprises of residents, workers and students. This does not include external expenditure that can occur through tourism. As a result, tourism related demand is an exogenous variable that cannot be computed within the standard retail gravity model framework. It is possible to loosely blend the demand results together, but the result is that it over-balances a system that is designed to be in equilibrium in the base year of 2016.

Results

Modelling the impact of tourism adds an additional 8,465sqm of demand to existing Hawkesbury LGA floorspace in 2016. This grows to 15,316sqm by 2036. A simple blend finds a shortage of floorspace by around 8,465 sqm in 2016. Combined with the growing retail gap, there is a shortage of floorspace from 2016 to 2036, which grows to a shortage of around 35,500 sqm of floorspace. The key limitation is that the system is immediately unbalanced in 2016, with the retail gravity model assuming that there is a market equilibrium in the base year. As such, there is a floorspace gap of around 6,813 starting in 2021, continuing out to a gap of 35,556 in 2036.

TABLE 73: BLEND OF RESIDENT + TOURISM GAP, HAWKESBURY LGA

	2016	2021	2026	2031	2036
Supply	116,975	121,118	121,118	121,118	121,118
Demand	116,975	117,713	122,975	135,168	141,355
+Tourism	*8,465*	*10,219*	*11,967*	*13,624*	*15,319*
Combined	*125,440*	*127,932*	*134,942*	*148,792*	*156,674*
Gap (sqm)	*-8,465*	-6,813	-13,823	-27,674	-35,556
Gap Adjusted	*0*	-6,813	-13,823	-27,674	-35,556
Gap (hectares)	*-0.85*	-0.68	-1.38	-2.77	-3.56

Source: SGS, 2019

Breaking down the scenario gap for 2021, finds that Windsor TC has the most immediate floorspace gap of -4,647 sqm. This is followed by North Richmond at -2,500sqm and Richmond TC at -816sqm. Windsor TC and North Richmond are estimated to have a hospitality floorspace gap, whereas Richmond TC has a relatively equal split of gap between supermarket and hospitality floorspace. McGraths Hill is the only centre estimated to have sufficient floorspace, influenced predominantly by an oversupply of households goods floorspace.

TABLE 74: 2021 RESIDENT + TOURISM GAP, HAWKESBURY LGA

Precinct	Supermarket	Other Food	Hospitality	Clothing & Soft Goods	House. Goods	Other Retail	Dep. Stores	Total
Windsor TC	-611	-291	-3,449	-230	88	146	-299	-4,647
North Richmond	-252	-172	-1,590	-96	-113	-125	-153	-2,500
Richmond TC	-596	-126	-611	-68	263	563	-241	-816
Pitt Town	-	-122	-85	-	-	-40	-	-247
Glossodia	-110	-96	41	-	-	-36	-	-200
Hobartville NC	-38	-	15	-	-	-	-	-23
Wilberforce	-	-16	9	-	-	33	-9	17
Freemans Reach	-	-	-	-	8	14	-	23
Kurmond	-	-6	18	-	-	30	-	42
Kurrajong	-	-17	45	-1	27	48	-	101
McGraths Hill	-72	47	307	-15	1,314	26	-171	1,437
Total	-1,680	-797	-5,300	-411	1,588	658	-872	-6,813

Source: SGS, 2019

By 2036, the combined floorspace gap is expected to grow substantially to a shortage of around 35,568 sqm of floorspace. The largest gaps are found in Windsor TC at -14,737sqm, followed by Richmond TC (-7,857sqm), McGraths Hill (-5,568sqm) and North Richmond (-5,279sqm). The largest gaps by commodity group for Windsor is found in Hospitality, followed by Supermarket. Richmond Town Centre has a floorspace gap evenly split between hospitality and supermarket floorspace, followed by clothing and department store. McGraths Hill has a gap predominantly in department store floorspace, followed by North Richmond with a hospitality floorspace gap.

TABLE 75: 2036 RESIDENT + TOURISM GAP, HAWKESBURY LGA (SQM)

Precinct	Supermarket	Other Food	Hospitality	Clothing & Soft Goods	House. Goods	Other Retail	Dep. Stores	Total
Windsor TC	-2,332	-698	-8,757	-842	-111	-1,271	-725	-14,737
Richmond TC	-2,303	-642	-2,312	-1,023	239	-690	-1,127	-7,857
McGraths Hill	-674	-708	-878	-318	-827	-368	-1,796	-5,568
North Richmond	-514	-322	-3,076	-211	-379	-481	-296	-5,279
Pitt Town	-	-361	-405	-	-	-154	-	-921
Glossodia	-208	-189	-78	-	-	-81	-	-556
Kurrajong	-	-91	-106	-31	4	-31	-	-255
Wilberforce	-	-103	-33	-	-	-40	-42	-217
Hobartville NC	-91	-	-30	-	-	-	-	-121
Kurmond	-	-38	-19	-	-	-9	-	-66
Freemans Reach	-	-	-	-	8	2	-	10
Total	-6,122	-3,152	-15,694	-2,426	-1,066	-3,124	-3,985	-35,568

Source: SGS, 2019

Centres and industrial gap

Floorspace capacity under three different redevelopment scenarios was calculated (page 177). Table 76 replicates the findings from the capacity analysis.

In total, the B zones have a range of floorspace capacity from 41,166 sqm to 803,746 sqm dependent on the scenario. Similarly, IN zones have a floorspace capacity ranging from 211,404 sqm to 725,939 sqm.

TABLE 76: TOTAL EMPLOYMENT FLOORSPACE CAPACITY (SQM) UNDER EACH OF THE CAPACITY SCENARIOS

Capacity Scenario	B1	B2	B5	B6	Total Centres (B zones)	IN1	IN2	Total Industrial (IN zones)
Scenario 1 Permissible Capacity	191,070	469,555	114,703	28,418	**803,746**	471,057	254,882	**725,939**
Scenario 2 Practical Capacity	12,963	24,855	68,166	26,650	**132,634**	86,381	125,023	**211,404**
Scenario 3 Conservative Capacity	8,322	8,292	18,764	5,788	**41,166**	86,381	125,023	**211,404**

Bringing together the capacity and demand analysis, the potential future gap for floorspace provision under the different scenario conditions can be determined for the centres and industrial land uses.

Within the centres (B zones), there is 736,315 sqm of floorspace in development reserve under scenario 1 when factoring in a future additional demand of 67,431 sqm. For scenario 2 (practical), there is a gap of 65,203 sqm. For scenario 3 (the most conservative scenario) there would be a shortage of approximately 26,265 sqm.

For industrial land uses, when factoring in potential future demand of industrial floorspace, at an additional 181,638 sqm, the gap in floorspace indicates there is still 544,301 sqm left in the system under scenario 1 (permissible); 29,766 sqm under scenario 2 and 3 (practical and conservative scenarios).

Scenario 2 represents the most likely, practical redevelopment scenario. Therefore, in summary, it is expected that the current planning controls for Hawkesbury LGA would be sufficient to accommodate future floorspace demand to 2036 with a gap of 65,203 sqm for commercial/retail redevelopment and 29,766 sqm for industrial redevelopment.

However, based on this pattern, industrial floorspace demand would be growing at approximately 9082 sqm per year, and commercial/retail floorspace demand in centres at approximately 3372 sqm per year. Therefore, post 2036, this would amount to just 3 additional years of capacity in the system for industrial floorspace and 19 years for commercial/retail.

TABLE 77: POTENTIAL FLOORSPACE GAP TO 2036 (SQM) – CENTRES AND INDUSTRIAL

	Centres (commercial + retail)			Industrial		
Capacity Scenario	Scenario 1 Permissible	Scenario 2 Practical	Scenario 3 Conservative	Scenario 1 Permissible	Scenario 2 Practical	Scenario 3 Conservative
(sqm)	803,746	132,634	41,166	725,939	211,404	211,404
Potential Future Demand 2016-2036 (sqm) (commercial + retail)	67,431 (approximately 3372 sqm per year)			181,638 (approximately 9082 sqm per year)		
Potential Floorspace Gap (sqm)	736,315	65,203	-26,265	544,301	29,766	29,766

Summary

Floorspace gap

Based on retail expenditure patterns, some additional retail floorspace could be required by 2026, it may be slightly earlier if the tourism industry develops (2021).

When assessing retail floorspace supply and demand, gap analysis suggests there may potentially be a requirement for floorspace by 2026 for approximately 1,857 sqm. This could increase to 20,237 sqm by 2036. Retail floorspace type would be largely split between McGraths Hill, Richmond Town Centre and Windsor Town Centre at approximately 5,400 sqm for each centre.

When factoring in tourism spending, the requirement for floorspace would start earlier, in 2021 where it is projected there would be a deficiency of about 6,813 sqm. This could increase to 35,556 sqm by 2036. The majority of retail floorspace is likely to be required in Windsor Town Centre at 14,737 sqm.

Based on employment growth, analysis suggests there is enough floorspace capacity in the system to cater to future demand for commercial/retail in centres and industrial land uses to 2036.

Within the centres (B zones), there is 736,315 sqm of floorspace in development reserve under scenario 1 when factoring in a future additional demand of 67,431 sqm. For scenario 2 (practical), there is a gap of 65,203 sqm. For scenario 3 (the most conservative scenario) there would be a shortage of approximately 26,265 sqm.

For industrial land uses, when factoring in potential future demand of industrial floorspace, at an additional 181,638 sqm, the gap in floorspace indicates there is still 544,301 sqm left in the system under scenario 1 (permissible); 29,766 sqm under scenario 2 and 3 (practical and conservative scenarios).

Scenario 2 represents the most likely, practical redevelopment scenario. Therefore, in summary, it is expected that the current planning controls for Hawkesbury LGA would be sufficient to accommodate future floorspace demand to 2036 with a gap of 65,203 sqm for 'population serving' commercial/retail redevelopment and 29,766 sqm for industrial redevelopment based on employment growth.

Consideration of future land area for industrial purposes would be required in the near future.

Based on the projections, industrial floorspace demand would be growing at approximately 9082 sqm per year, and commercial/retail floorspace demand in centres at approximately 3372 sqm per year. Therefore, post 2036, this would amount to approximately an additional 3 years of capacity in the system for industrial floorspace and 19 years for commercial/retail.

APPENDIX D

Consultation

Consultation method

The format of the interviews was semi-structured interview based on some broad questions regarding the performance of the centres, opportunities and barriers and key strengths.

A number of stakeholders were contacted for interviews, seven in total responded. Five agent stakeholders that work across the commercial, retail and industrial property market were interviewed. Two respondents from the Chamber of Commerce were interviewed, one with a home-based business and the other a manager associated with Richmond Marketplace.

TABLE 78: LIST OF INTERVIEWEES

Interviewee Role	Focus areas	Company	Interview date
Director	South Windsor	Real Estate Agent	12/08/2019
Director	South Windsor Mulgrave	Real Estate Agent	13/08/2019
Director	Richmond and Windsor	Real Estate Agent	14/08/2019
Director	Richmond and Windsor	Real Estate Agent	21/08/2019
Director	Richmond, North Richmond, Windsor	Real Estate Agent	11/09/2019
CEO	South Windsor, Windsor, North Richmond, Clarendon	Hawkesbury Chamber of Commerce Representative	26/09/2019
Manager	Richmond	Hawkesbury Chamber of Commerce Representative	27/09/2019
Officer	RAAF Base Richmond	Australian Airforce	21/11/2019
Officer	Clarendon	Western Sydney University	02/12/2019

Interview notes summary

General centre and market performance

- The commercial and industrial market is consistent, [it is] not going through a peak and not in [high] demand at the moment.
- The commercial, industrial and retail market is relatively flat, not much has changed in the past few years. The values of the properties may have grown, but that is because of interest rates and an increase in land value. Rents did not grow.
- In general, the centres are performing well. The population is growing, and people who visit will pass [through] Richmond and Windsor.
- There tends to be more enquires for personal service types of business, such as hairdressing, instead of product retailing.

- If Council can speed up the development application process, that will give more confidence to developers and investors. There were a few developers wanting to build hotels and new generation boarding houses in Windsor, but the application [process] was hard to get through.

Retail

- In Windsor, there are a large volume of vacancies on the main street, especially for the large shops. There is not enough transaction for retail tenancies to pay the high rent. There are two large shops that have been vacant for two years. The rent is high, and some landowners don't want to renovate, therefore many shops are low in quality. The South Windsor Arcade has minimum uptake. The Windsor Riverview Shopping Centre is 100 per cent occupied and has attracted shoppers away from the main street retail. The Sunday market at Windsor Mall is quite popular.
- The main reasons for the vacancies are low quality shops, high rents, and low expenditure (high disadvantage) within the local residential population.
- There is opportunity for Windsor to expand its retail offers. It is a historical town (part of the five Macquarie Towns) and it is only 40 minutes to the Western Sydney Airport. Windsor is a prime location for residential development. Some 25 units are in the pipeline. The residential developments will bring more people to the area and more expenditure. There are opportunities to have ground floor retail in those new developments.
- Richmond and North Richmond don't have much vacancies for retail. The local population has a higher socio-economic advantage than Windsor. There are not many vacancies in the Marketplace shopping centre nor the main street.
- Richmond main street is performing well, while other areas can take a bit of time to rent out. There are a few inquiries about hairdressing and other service industries. The main retail activities are services instead of selling products. People tend to do online shopping more.
- For retail, some categories can be difficult, womenswear for example. But what is affecting retail more than anything is online shopping. Butchers are also finding it very hard; they have to compete against Woolworth and other big grocery stores.
- Richmond Marketplace has 65 speciality shops and covers what the public wants. Telecommunication, travel agencies and food are doing very well. As long as there is a good mix of retailers, the centre will do well.
- In terms of retail, Rouse Hills, Penrith, Castle Towers, those with a Westfield are 'big guns'. The Marketplace at Richmond is classified as a 'mini gun', it is a sub-regional shopping centre. Anything under 20,000 GLA (Gross Lettable Area) would be classified in that category. Richmond Marketplace does not compete with Rouse Hill and Marsden Park, they are the 'big guns' and next level. Richmond serves a different purpose and serves the residents. If you only want to spend $50 you won't go to Rouse Hill, you will shop locally.
- Richmond is the number one destination for Hawkesbury people. They love coming to Richmond and the centre is busy. Riverview at Windsor does not compete with Richmond, as the Richmond retail product is far superior with a bigger range and key usages.
- The strategy for retailing in Richmond is to make sure there is ambience and comfort within the community. They have something that they are proud of. A recent refurbishment with a new playground and café, both are very popular.
- Richmond main street is doing better than four years ago. There are ten new, beautiful shops. The problem is some of the owners don't update their premises, some of the stocks really need refurbishment. Generally, Richmond main street is picking up. There are not many vacancies. The rent is a lot cheaper there than in the shopping centre. Richmond, in terms of retail, is definitely probably performing better than some of the other centres.
- Kmart has been looking in the area but hasn't found a suitable site.

- Online Shopping is very detrimental to some businesses, especially in the in the clothing. There will be a lot of work to do [to overcome the impact of online retailing].

Commercial

- Richmond is the major commercial centre. There aren't many vacancies in Richmond.
- Commercial properties are more popular in Windsor as it is closer to the Hills District.
- NSW Correction was looking at expansion, but it didn't go ahead.
- Small business operations: for a small business operator (20 years in business) and wanting to expand and hire, generally South Windsor, Windsor and North Richmond don't offer affordable, suitable locations yet. A lot of properties are not on the market to begin with.
- South Windsor has office space at an affordable price for a small business, however, it has a poor reputation as a suburb. The price is around $1,500 per month for a 69 sqm space.
- Windsor and North Richmond are both expensive for small business owners. Demand doesn't necessarily drive up price, it may be because owners overestimated values when applying for loans, and now the rent captures that value. There has been no new office development as well.
- There aren't many office spaces. The most common businesses in North Richmond and Windsor are restaurants and cafes. North Richmond has more cafes. The opening hours are quite short, the cafes generally close at around 3 o'clock.
- There are not many [commercial related] jobs in Hawkesbury. People have to go elsewhere to find a job.
- For the small business operator, most client are in the city, not in Hawkesbury. There are no big events here.
- The air [aviation] related businesses in Clarendon don't hire locally.
- There is a dilemma where local people have to go elsewhere to work while local businesses don't hire locally. It's quite difficult to operate here.
- The university does rent out spaces, however they are quite expensive. They are more expensive than office spaces in Richmond. It's cheaper to have an office in the middle of the town than have it on campus. There is a training organisation located on the campus.
- In Clarendon, the businesses operating there are mostly air related because of the RAAF base. These businesses don't hire locally, and they don't shop locally as well.

Industrial

- Most of the industrial lands are located at South Windsor, Mulgrave and McGraths Hill (near Mulgrave Station). The industrial market is performing well. There is demand for both small and large lots. At the moment, small lots are more in demand in South Windsor. Large lots are occupied by aluminium windows manufacturer (O'Brien Aluminium), fire trucks manufacturer (Kuipers Engineering), agricultural machinery manufacturer (Saliba Ag) and other manufacturers. The demand for smaller lots came from owner occupiers. There are also some industrial uses in North Richmond.
- Mulgrave performs better than South Windsor as there are lot more modern buildings and is close to main road.
- The main industrial markets are in South Windsor and Mulgrave.
- Mulgrave – performing well and can compete with other industrial areas, mainly industrial uses (bulky goods and manufacturing).
- Industrial market is doing fairly well, small factory units (200 sqm to 300 sqm lots) are very popular. The large ones are a bit hard to rent out, as Windsor is still a bit far from main roads. It is suitable for small factories that do not rely heavily on good transportation.
- North Richmond is too far west and not a focus for the industrial market

Barriers or impediments to performance

- South Windsor – the industrial lands there are too big to be in demand. Small occupiers are not looking because there is nothing available and big occupiers will choose better locations than South Windsor.
- South Windsor is a secondary market, it cannot compete with industrial lands near Western Sydney International (Nancy-Bird Walton) Airport.
- South Windsor doesn't have potential to extend retail as it doesn't have good transport connection.
- The newly released 200 hectares of employment land at Badgerys Creek will attract those big occupiers. South Windsor does not have good transport connection and is, therefore, not an attractive place for the freight and logistics industry which accounts for about 60 per cent of the industrial land market. South Windsor is likely to only serve the market western of M2 or M7 but not the eastern side.
- South Windsor has to compete with major shopping areas in Rosehill, Penrith and others. Currently it only has local shops with large amount of vacancies. Major shopping areas close to South Windsor such as Richmond, Rouse Hill, Castle Hill and Penrith draw people away from South Windsor.
- The retail shops in Richmond and Windsor are average, they only serve the local market. The local population is small and does not have high expenditure capacity.
- The Development Application process for shops and hotels is slow and difficult. Developers have lost confidence in the area.
- The mall at Windsor is outdated and there are a lot of empty shops.
- South Windsor is not an attractive place for tenancies, [and has a] small population.
- Windsor [there is] nothing to attract people.

Under or oversupply of floorspace

- Under supply of small industrial lots (500 sqm to 2000 sqm) and an over-supply of large lots.
- Huge demand for accommodation including hotels, motels, accommodations for workers and affordable housing. There are a lot of activities at the Hawkesbury Showground, and visitors need accommodation.
- Lack of suitable and affordable commercial office space for small businesses wanting to expand and hire. Generally South Windsor, Windsor and North Richmond don't offer affordable, suitable locations yet. A lot of properties are not on the market to begin with.

Vacancies

- South Windsor has large amount of old vacant shops, there is no need to provide more retail uses as the current vacancies cannot be filled.
- Land values are expensive everywhere including Hawkesbury. There is not much vacancy for industrial land under 4,000 sqm in South Windsor. The market is tightly held.
- The shops are well occupied, there is not much vacancy at Richmond and Windsor. However, shops can take between two to three months to rent out, it is sometimes hard to get the right tenant.
- South Windsor is not performing well economically. Tenancies used to always pay on time but not anymore. There are 10 or 11 vacant shops. Two of them have been vacant for at least two years, one for three years and one for at least 18 months. There are no enquiries for them. There are several vacant industrial sites, not as many as the retail ones, but there is little development.

Key strengths

- South Windsor currently has heavy industries, car repairs, carpets makers and other manufacturing industries. It has potential for manufacturing industries that don't require much logistics, including small print shops.
- South Windsor has potential to grow as a secondary industrial market that serves the small occupiers which are often owner occupiers. The current lots are too big for small occupiers (500 to 2000 sqm). Anything above 4000 sqm is at a higher price bracket and would be too expensive for small occupiers.
- Mulgrave [has] land size, location, quick to get to Windsor Road, better quality buildings, major industrial centre in the LGA.
- South Windsor's shopping strip with chemist, butcher, fruit and vegetable retailer, newsagency, medical practice, hairdressers and others. It has plenty of parking compared to Windsor.
- Richmond – major commercial centre in the LGA and shopping destination (Richmond Marketplace). Richmond has old English charm.
- Windsor - shops are generally small, owner operated retail outlets with a Coles supermarket at the southern end, a Woolworths at the other and a Target Country store in between. The Sunday market at the pedestrian mall draws large crowds on Sundays.
- Bligh Park - it has a small shopping centre which includes an IGA supermarket, a bakery, newsagent, butcher and 2 or 3 takeaway/eat-in food outlets as well as a busy medical practice.
- Glossodia – it has a local shopping centre that has been extended in recent years.
- Pitt Town – it has a local shopping centre that has been recently extended.
- Windsor and Richmond are both traditional commercial hubs and the population is growing.

Opportunities for centres

- South Windsor – improvement of street scapes may attract more people.
- Richmond and Windsor's retail market can grow if there is higher density and the demographic changes. Currently they do not attract people outside of the local area.
- People won't go to Richmond or Windsor to visit a doctor, rather residents at Richmond or Windsor would visit other areas for services.
- There are a lot of empty shops, [therefore, an opportunity is to help making] the retail strips presentable.
- The tourism industry lacks organisation.
- There are lots of retail job opportunities for local people.

RAAF Base Richmond

Linkages to the local area

- The RAAF Richmond has a number of linkages with the surrounding community and businesses in the LGA.
- The Airforce uses national suppliers for garrison related services such as meals, laundry and accommodation. But they also use a number of local suppliers and contractors to support the RAAF and its personnel. They are usually local trade persons that provide minor telecommunication repairs or repairs on the Base or on defence housing that is leased in the area. They supply services where a large national supplier is not required.
- Defence housing is scattered in a 25km radius around the Base. All these housing require repairs and local subcontractors will be engaged.
- As Airforce personnel live in defence housing in the LGA, they would interact with local business and local centres frequently.
- The RAAF often engages with the local community looking for local contractors.

- There could be potential for an off-site location/facility to support meetings related to the RAAF. Meetings are held with external entities. Security to allow them onto the Base is extensive. An off-site meeting facility would mean the extensive security arrangement could be avoided. For example, Airbus is a contractor at the Base, if they need to arrange a meeting with international entities, it is easier to hold the meeting off-site, as the RAAF has to get clearance from Canberra for external entities to enter the Base. Often these entities stay and use the facilities at the Crown Plaza.
- Security is tight at the Base, only entities with a pass that has been vetted are allowed to enter.
- The Base is conveniently placed for Federal ministers to fly into and then visit their constitute areas in Western Sydney, avoiding the congestion of Kingsford Smith Airport.

Future intentions of the RAAF

- The RAAF is very conscious of its existing footprint in the area given the continual need overtime to balance community concern with Base operations. The RAAF is sensitive to community concerns.
- They primarily use one type of aircraft and have no plans for expansion from a land perspective.
- The traffic arrangement for the Base is dynamic.
- There is no change envisaged for personnel numbers at the moment. There could be some growth in contractors.
- There is a high security arrangement at the Base now, no longer can people simply visit the Base, they must have a pass that is vetted.
- The RAAF also interacts with the Air Ambulance, Rural Fire Service and the Royal Flying Doctor Service. For these three first response groups, there will be growth in their service areas in the future and they need accommodation which the Base cannot provide.
- There is a lot of growth potential in the Airforce and Army cadet programs. Cadets are aged between 12-18 years of age (year 7-12 school). The RAAF runs school camp programs to allow them to experience life at the Base and highlight the future career opportunities that are open to them. The Army also needs pilots and is looking to use Richmond in the future. The school camps run for a couple of weeks throughout the year.
- The RAAF is supporting the growth of STEM. They are looking to link with Western Sydney University via the engineering officers to progress research and development in robotics and artificial intelligence and where there are commonalities in aeronautical. This also extends to the TAFE. TAFE wants to expand its Richmond campus and they are looking at strengthening the linkages/opportunities for students with the Base, for example mechanics.
- The RAAF also runs job experience days (Green Light Days) where students from the TAFE or school (year 10 and above) can come and experience the Base and learn about the career pathway into the Airforce.
- A heritage museum is being developed outside the front gate of the Base on Percival Street. It will be couple of hangars in size and will showcase historical and STEM related exhibits. The RAAF Base is the second oldest airfield in Australia. The museum will feature aircraft that has flown out of the area since 1928. The opening date is yet to be determined. This museum therefore has potential to drawn in education entities such as school visits or could add to the tourism potential of the LGA. The museum would be on RAAF land. The Council wouldn't need to invest in the museum, but they could benefit from its development in the LGA.
- The RAAF has a relationship with One Giant Leap which has links to NASA. They run space camps for Australian students to the USA. One of the few credited entities in space aeronautical in Australia.

Western Sydney University

Linkages to the local area

- The university has a number of linkages into the local area.
- There are facilities on-site that are open to the general public.
- A number of research projects align with businesses (although perhaps not local businesses at the current moment).
- Local workers (such as tradesmen) are used by the university for planning and maintenance works.
- Regular discussion occurs with the RAAF.
- Some staff go off-site during the day to Richmond and Windsor, although most things are well catered for on-campus.
- Some professional staff do live locally, some staff travel from as far as Campbelltown.

Future intentions of the WSU

- The university submitted a response to the Hawksbury Council LSPS which identified the follow strategic direction for WSU in the Clarendon precinct:
  - Develop Hawkesbury's position as a leading peri-urban centre in economic and sustainable regional development: allow agricultural-related businesses to grow and create new economic opportunities.
  - Develop innovative and diverse agri-businesses within the Clarendon precinct: focus new employment, business and industry partnerships linked to research on lands between Richmond and Windsor and encourage an agglomeration of activities that supports the economic growth of Hawkesbury and the region.
  - Co-locate emerging industries close to the WSU: develop an agri-knowledge precinct that can leverage from existing and emerging specialisations in agricultural technology and related businesses.
  - Foster strategic partnerships and strong effective governance: continue to collaborate and build partnerships with Council, RAAF, TAFE, and other stakeholders to develop educational pathways and business synergies that leverages opportunities from Western Sydney Airport and the Aerotropolis new global markets.
  - Explore and advocate for sustainable future: investigate opportunities in renewable energy, water recycling, biodiversity and research the impacts of bushfire and flood.
- One of the productivity planning priorities for WSU is to promote the agricultural and food industry strengths, and growth of the agri-business sector and invest in agri-knowledge/agri-economic research.
- WSU also supports the management, enhancement and celebration of the distinctive heritage characters of the towns, villages and open spaces of the Hawkesbury.
- Another planning priority is to explore opportunities at the WSU and RAAF Base to create a value chain at Western Sydney Airport and STEM industry. WSU will collaborate with the Richmond RAAF, and the equine industry to facilitate the development of the Clarendon Agglomerated Precinct.
- The university masterplan is to be revised next year and they are looking to encourage commercial partnerships, so that there are clear pathways for students to move into R&D.
- The vision for the university is to have an agri-precinct on campus, link it to local businesses, and linked through the Aerotropolis in Western Sydney.

- The university is keen to work with Council and other stakeholders and understand Council plans for Clarendon. Better connections with the Council are needed and an understanding of the boundaries and vision for the area.
- There are opportunities and synergies in the Clarendon precinct between stakeholders but ultimately the environmental constraints, flooding and evacuation routes, will restrict the development in the area. Peri-urban greenhouse and farm-use buildings would be good uses of the land area that are more compatible with the environmental constraints.

Summary

Stakeholders suggested Hawkesbury LGA is performing at a consistent level, servicing the local market but there is room for improvement

Overall, feedback from stakeholders was mixed. Retail, commercial and industrial markets could be described as performing consistently - adequately servicing the local population. But these same markets were also described as experiencing no peaks in demand, were relatively flat and had experienced no change in the last few years. Performance also depended on the centre, as some centres were out-performing others.

The main barriers for growth, as identified by the interviewees, are:

- Unsuitable lot size for industrial land
- Outdated shopping centre and low-quality retail shops
- Not enough density to support local retailers
- Online retailing drawing spending away from centres
- Mismatch between high rents, low quality shops and low profit for small operators
- Low expenditure levels of the local population in some areas impacts retailing
- Long and difficult Development Application process decreasing confidence
- There are not many jobs for residents, people go elsewhere to find work
- Not enough affordable office spaces for local businesses
- Tourism industry needs to be more organised and associated infrastructure provided for.

Opportunities identified included:

- Retail: better streetscapes; and higher quality shopping centres that provide other experiences than selling products.
- Commercial: a revision of the development application process for commercial properties that regains confidence from developers; development of the tourism industry; and smaller office space for small businesses.
- Industrial: provision of smaller lot sizes than meet market demand.

Richmond is considered the prime retail destination for the LGA, but online retailing is impacting the 'bricks and mortar' market in general

Richmond was described as the number one retail destination for Hawkesbury residents with charm and a main street that performs well with low vacancies. The shopping centre is seen to have a superior offering to Riverview at Windsor. South Windsor and Windsor's main street retail market is not performing well, as there are many vacancies and limited retail offerings. Local residents expenditure capacity is a major factor in retail performance, as well as the quality of shops.

The global retail trend of online shopping is affecting the retail market at Hawkesbury where many people were described as preferring to shop online. One stakeholder with experience in the retail market, reported that tenancies are increasingly for service-related activities, such as hairdressing, instead of selling products.

A recurring aspect raised in interviews is the prevalence of low-quality shops and the negative impacts it has on retail performance. Some shops require refurbishment and streetscapes need improvements to attract shoppers. Richmond Marketplace is a popular local shopping destination. It responded to retail pressures by including a playground, cafes and restaurants. It also pays attention to shopping experience and the quality of place.

Consultation revealed a very 'localised mindset' when considering the purpose and future of retail in the LGA. The centres of Hawkesbury LGA are viewed as adequately supporting the local population and that there is no need to compete with other, larger centres as the key centres of Hawkesbury LGA are completing their sub-regional role.

Retail in Hawkesbury LGA presents an interesting picture. It is viewed that Richmond is adequately serving the local population but at the same time, outside of Richmond centre, there are a number of issues. There are also other retail pressures from outside the LGA and online. While the retailing needs may be met by Richmond now, it seems at some stage there will be a need to innovate and improve others centres as the profile of the population changes, and as retail competition continue to grow over the border or online.

Smaller lots could meet demand and offer a point of difference for industrial lands in Hawkesbury LGA

The Hawkesbury industrial market is considered a secondary market that attracts small occupiers. Occupiers wanting larger lots are attracted to Western Sydney which has better accessibility to transport infrastructure. Smaller lots that are below 2000 sqm are popular. The strength for Hawkesbury would be to attract manufacturing industries that don't require too much in the way of logistics.

Mulgrave was considered to be the most successful industrial precinct in the LGA with better quality buildings and better access to transport infrastructure. It was suggested that it should continue to provide industrial land at different sizes to meet the demands of large and small tenancies.

Windsor and South Windsor are two other major industrial areas. South Windsor currently is not offering the right lot size but has potential to grow its industrial sector if large lots can be subdivided into smaller lots to meet the needs of small tenancies. South Windsor, while more affordable, has an undersupply of smaller lots (500 to 2000 sqm) and also has a bad reputation. Small lots (200 to 300 sqm) are very popular in Windsor, there is not much demand for big lots. Windsor attracts small tenants that do not need major freight and transport infrastructure.

North Richmond is too far west and not a focus for the industrial market.

The Hawkesbury commercial market is less understood but there could be demand for floorspace to facilitate smaller businesses.

The Hawkesbury commercial market is less understood than the industrial and retail markets. This could be due to the lack of commercial office stock in the areas where the interviewees operate. Windsor and Richmond have been identified as traditional commercial centres. There are concerns about the high rents in North Richmond and Windsor. South Windsor is affordable however, it is considered a less desirable area. One stakeholder suggested there is a demand for affordable office space for small businesses which could be an area of opportunity for the LGA.

There are a number of linkages already existing between some anchors in the Clarendon precinct, and also between some anchors and the rest of the LGA. These anchors are working to build the industry profile of the Hawkesbury region in a number of relevant areas. Council could help facilitate this work, as well as bring other anchors onboard.

The Western City District Plan has stated stakeholders should support complementary land uses around the agglomeration of education and defence uses in Richmond.

A reviewing the strategic plans for stakeholders in the Claredon precinct and consulting the RAAF and WSU has indicated that:

- There is a coordinated approach emerging with the education industry to build a strong agri-business/agri-knowledge profile in the area, through R&D and industry partnerships and career pathways for students.
- Similarly, the RAAF is supporting the growth of STEM and related engineering career pathways.
- Both entities use local businesses for maintenance works at the institutions.
- Both entities are keen to continue and increase collaboration.
- Both entities would be willing to work with Council.

In contrast, no feedback was received from the equine industry. Consultation with local community members indicated the links between the Clarendon institutions and local businesses were not that evident or strong. Clarity over the future direction of Clarendon is needed.

Supporting the industry profiles being developed by the education industry and RAAF is an area of opportunity for Council, as well as promoting this as a future vision for the Clarendon precinct; facilitating greater collaboration on this vision between the anchors; and between the anchors and the rest of the local community.

APPENDIX E

Suitability Analysis

Purpose

SGS has developed an in-house spatial model to measure the relative suitability of areas within a defined boundary to accommodate different land use types. The intent of this analysis is to understand where, within an LGA, certain land uses are best situated when planning for future growth.

This is a valuable tool as it considers a range of criteria that land uses (and, by extension, employment types) may be most appropriately located, near to or away from, so Council is able to develop strategies to optimise the location of certain industries.

Method

Broadly, this method divides the LGA into lots. Each lot is then measured against a number of criteria to understand the lot's relative proximity to a particular point of interest representing the criteria. Certain criteria are desirable for a land use to be in close proximity. These are referred to as 'pull' factors. For other criteria it may be desirable to be further away from certain points of interest, these are referred to as 'push' factors.

Criteria includes arterial roads, land value, dwelling density, public transit nodes, flood affected areas, local health clusters, hospitals, aged care, education institution, industrial lands, shopping centres, lot size and population.

These separate indicators are then transposed onto a relative scale of 0 to 1. The minimum original value is assigned a score of 0, and the maximum original value is assigned a score of 1. All other values are spread across the spectrum. This highlights the variation between lots, but also allows for direct comparison between different indicators. For certain indicators, cut- off points have been applied. The purpose of this step is to exclude outliers but also to reflect similar rates of change after certain thresholds (for instance after the 30-minute point, the cost of travelling to a medical centre remains the same).

Once calculated, weightings are applied to heighten the value of specific indicators in the calculations. The overall score is derived by multiplying the designated weighting with the appropriate indicator and then summing up the results.

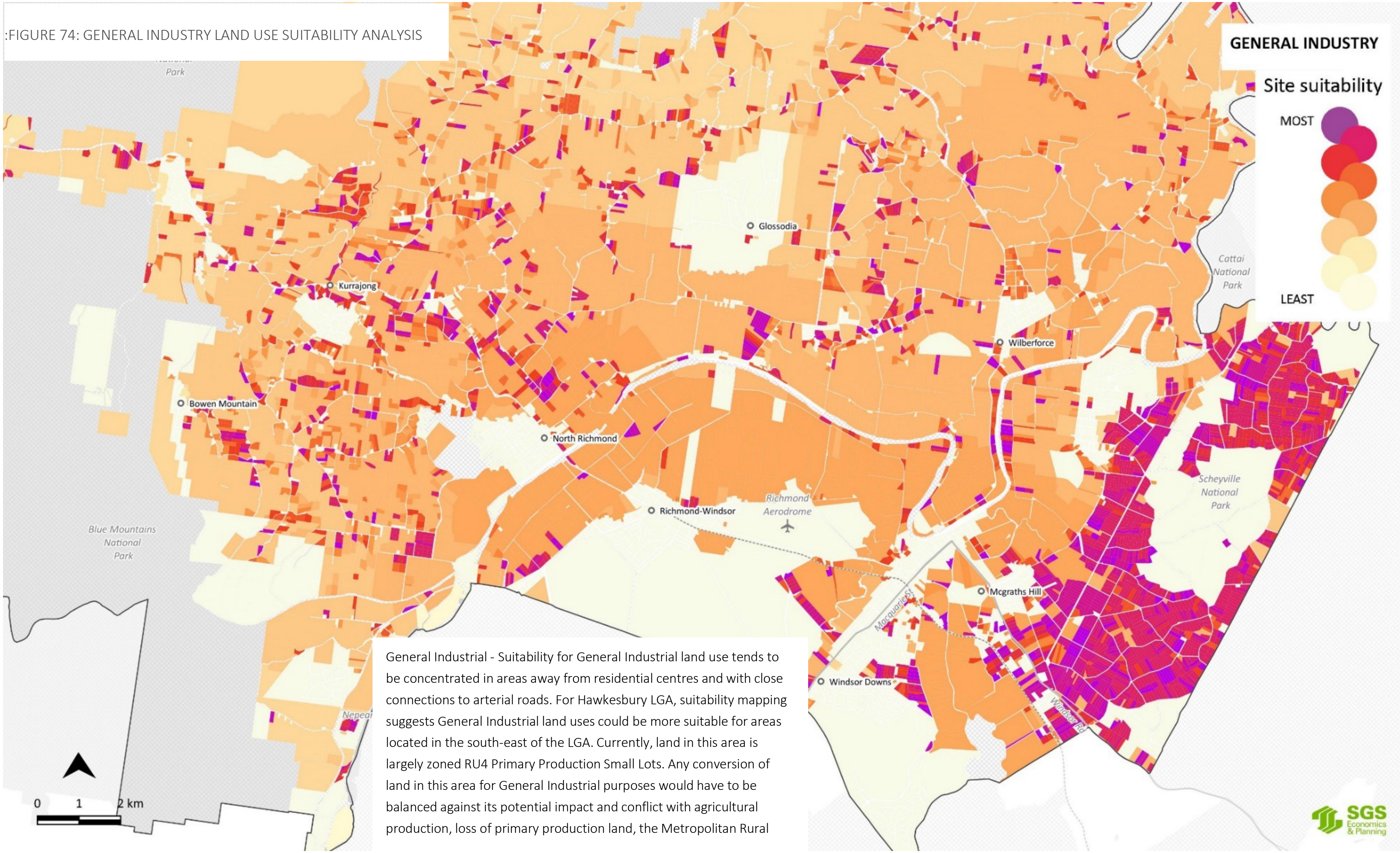
Suitability analysis for Hawkesbury LGA has been undertaken for six different land use types. These are:

- General industrial – land uses that may take up large areas, require truck access and have noise and/or visual impacts on surrounding areas. They tend to locate away from established centres and residential areas.
- Local light industrial – local industrial functions, such as car repairs that require moderately large sites but benefit from being close to local centres and are within access to a residential or business catchment.
- Strategic office/commercial – office floorspace that may strategically choose to locate anywhere in a District, Metropolitan area or LGA, based on access to public transport, established commercial areas etc.
- Local office/commercial – population-serving local services, such as accountants, who serve a local residential population or business community and are likely to seek to remain close to these networks within an LGA.

- Local and district retail – retail uses that serve a local or district-level population but benefit from proximity to public transport, other areas of retail and good access to a surrounding population catchment
- Large format retail – retail uses that require larger floorplates that may not suit the amenity of a retail strip or even high amenity shopping centre but do benefit from visibility along arterial roads and reasonable adjacency to existing centres.

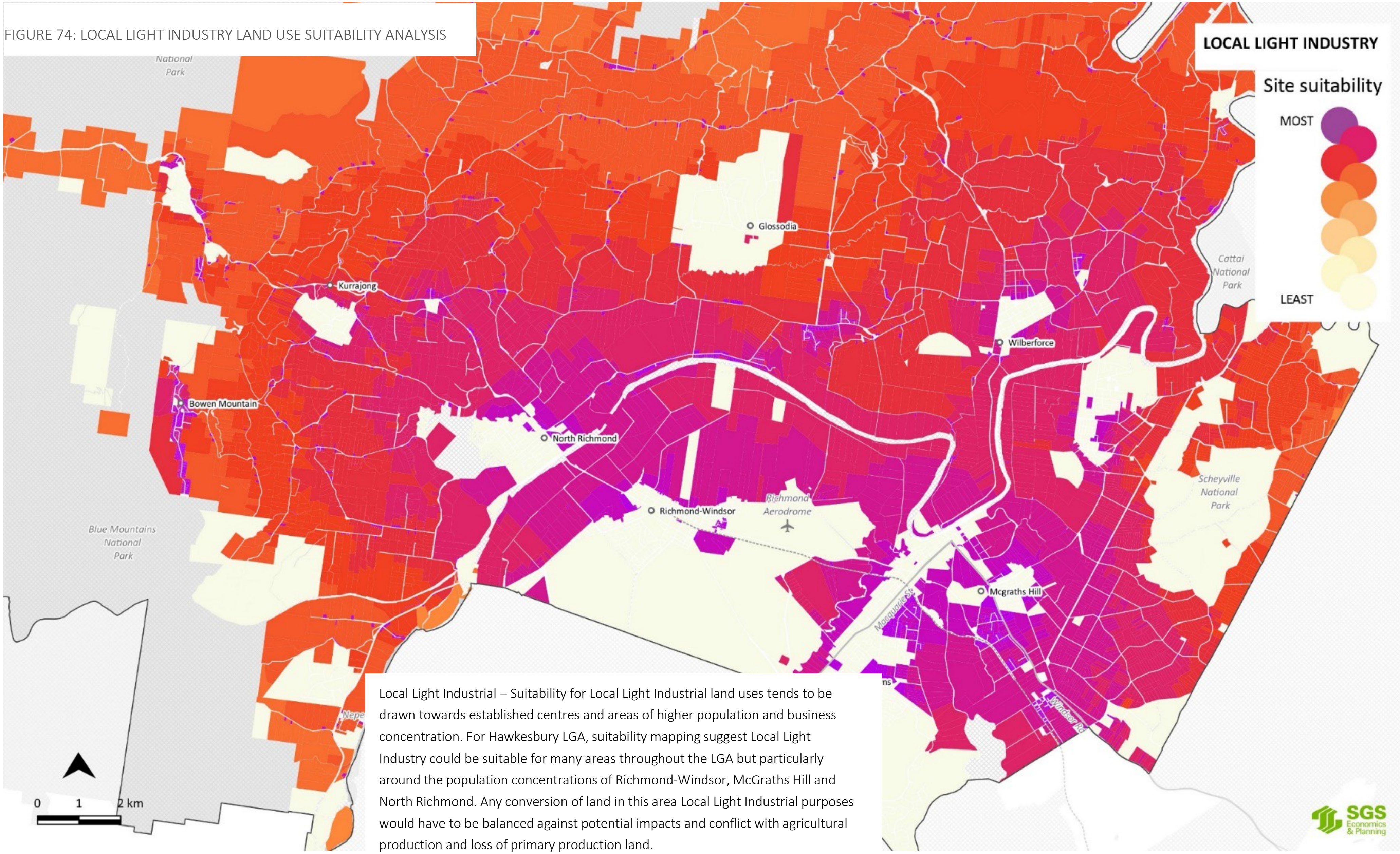
It is important to note that this analysis is intended as one mechanism of advice where, based on a range of criteria, certain land uses may best fit within Hawkesbury LGA.

:FIGURE 74: GENERAL INDUSTRY LAND USE SUITABILITY ANALYSIS



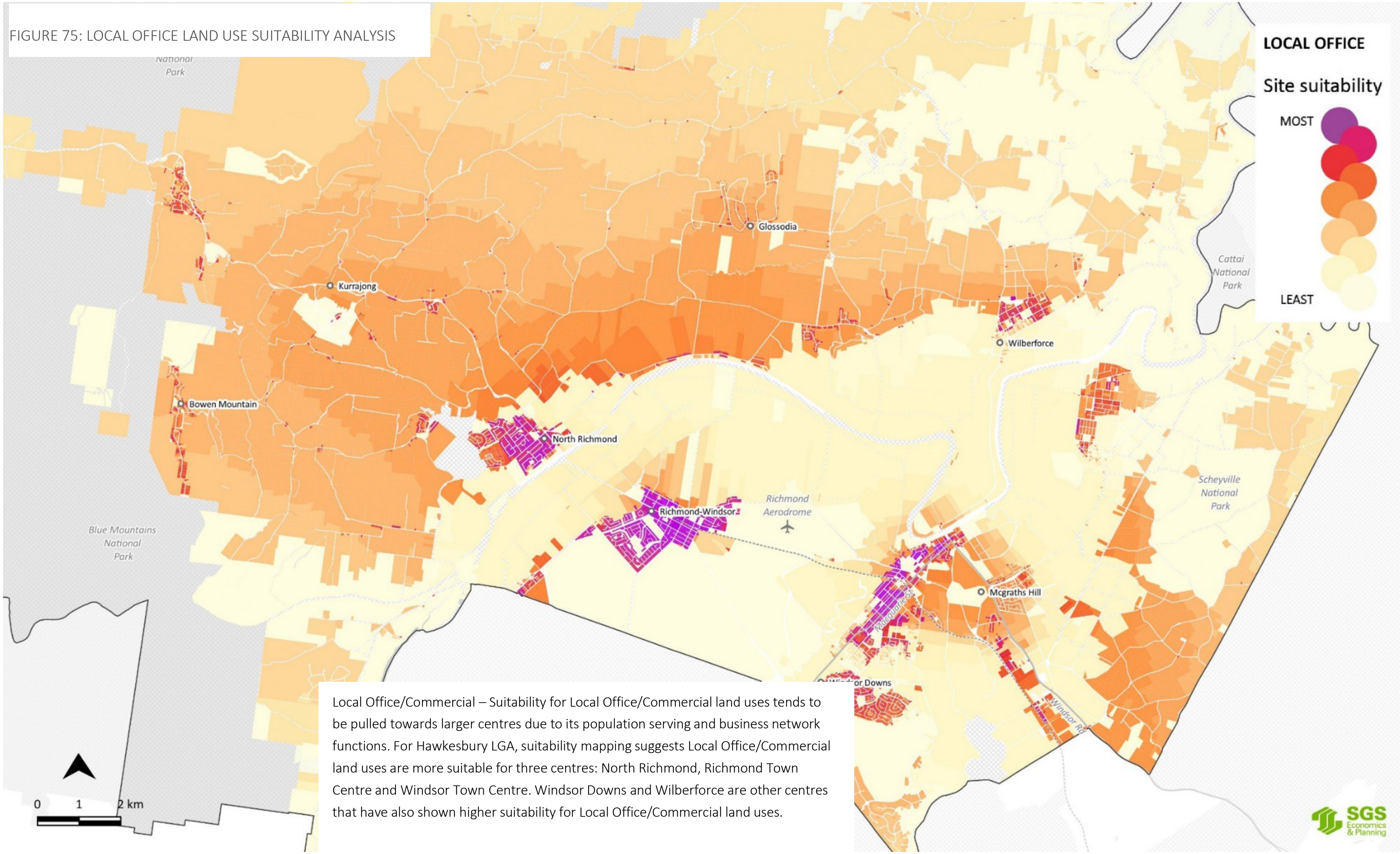
General Industrial - Suitability for General Industrial land use tends to be concentrated in areas away from residential centres and with close connections to arterial roads. For Hawkesbury LGA, suitability mapping suggests General Industrial land uses could be more suitable for areas located in the south-east of the LGA. Currently, land in this area is largely zoned RU4 Primary Production Small Lots. Any conversion of land in this area for General Industrial purposes would have to be balanced against its potential impact and conflict with agricultural production, loss of primary production land, the Metropolitan Rural

FIGURE 74: LOCAL LIGHT INDUSTRY LAND USE SUITABILITY ANALYSIS



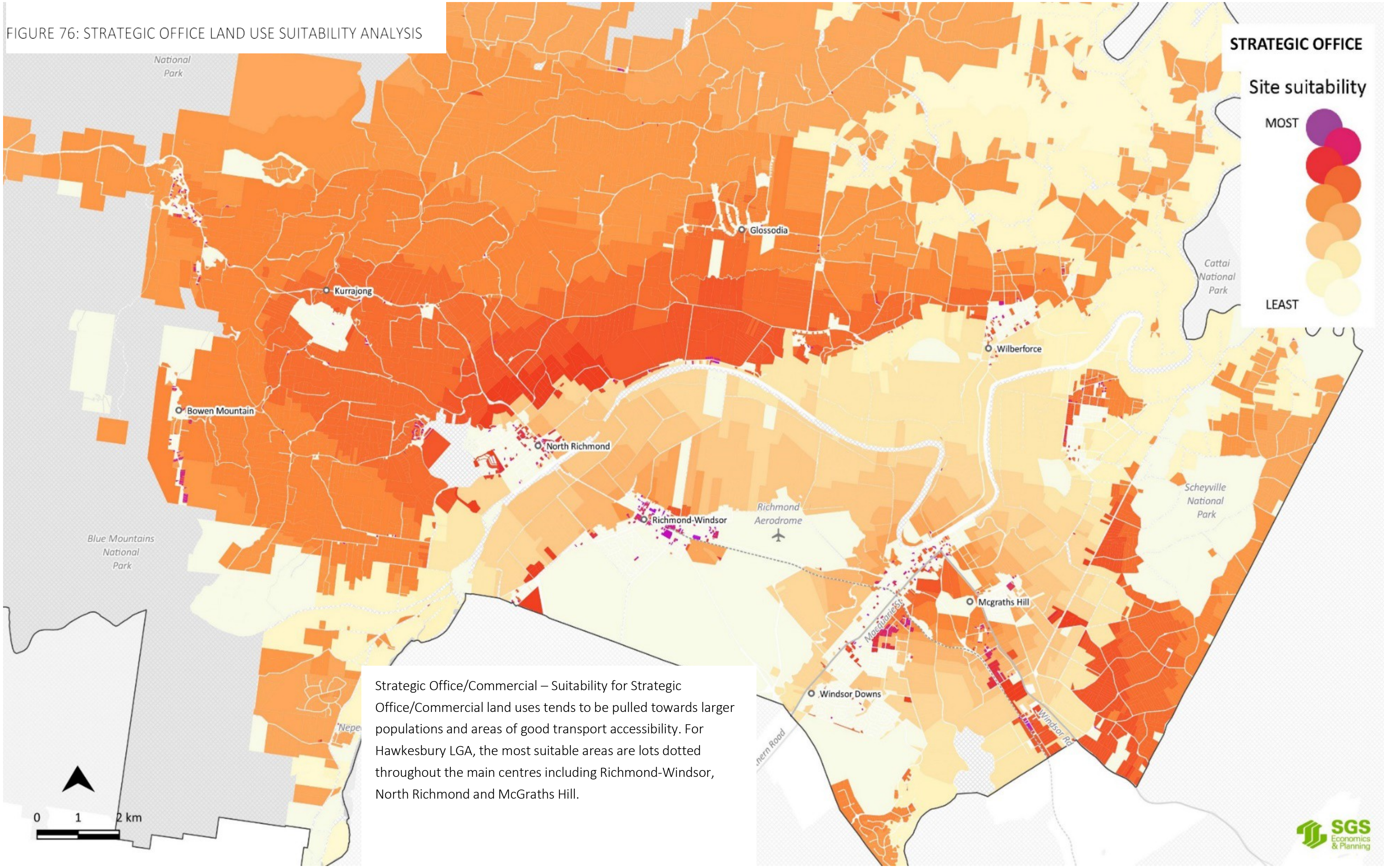
Local Light Industrial – Suitability for Local Light Industrial land uses tends to be drawn towards established centres and areas of higher population and business concentration. For Hawkesbury LGA, suitability mapping suggest Local Light Industry could be suitable for many areas throughout the LGA but particularly around the population concentrations of Richmond-Windsor, McGraths Hill and North Richmond. Any conversion of land in this area Local Light Industrial purposes would have to be balanced against potential impacts and conflict with agricultural production and loss of primary production land.

FIGURE 75: LOCAL OFFICE LAND USE SUITABILITY ANALYSIS



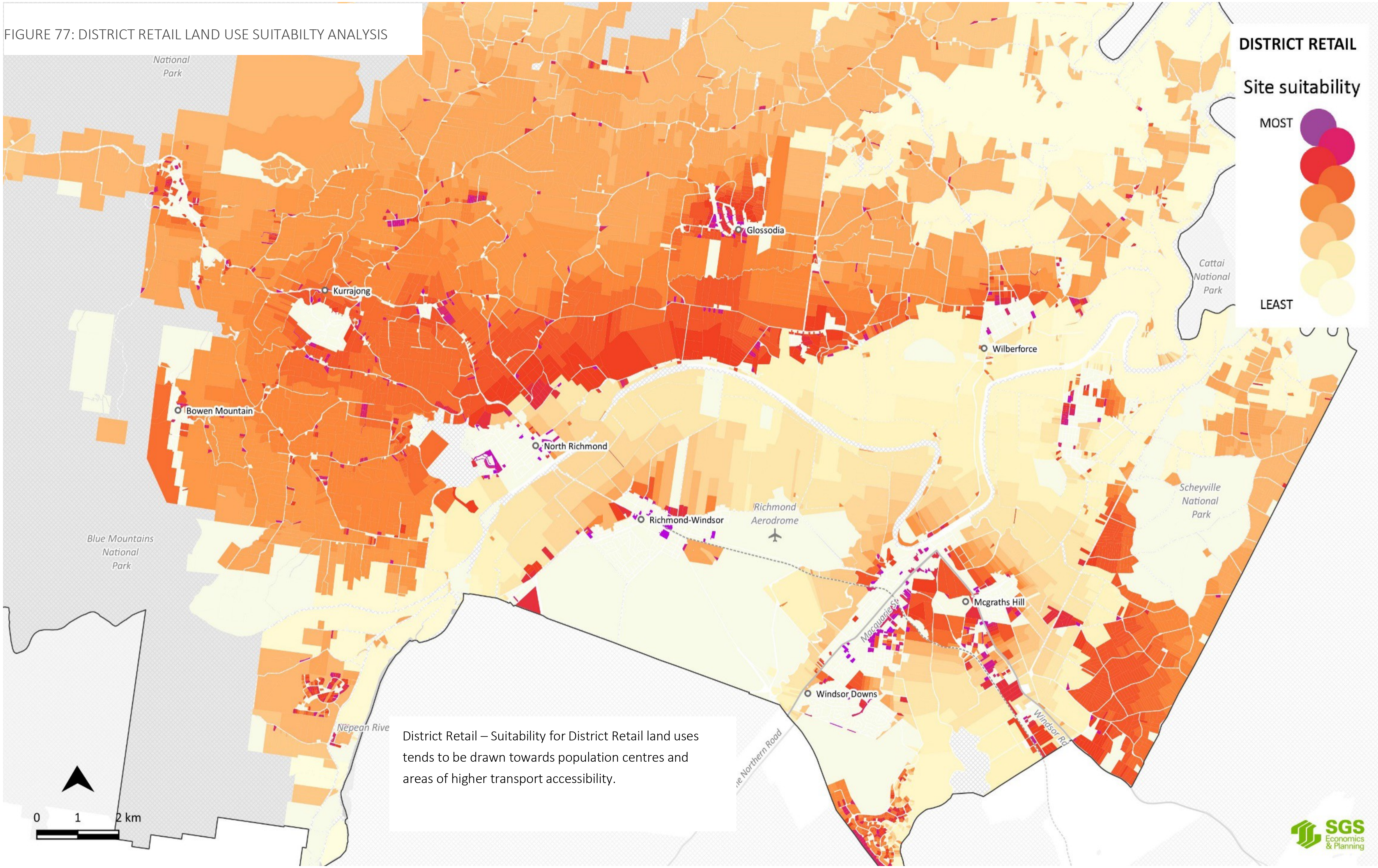
Local Office/Commercial – Suitability for Local Office/Commercial land uses tends to be pulled towards larger centres due to its population serving and business network functions. For Hawkesbury LGA, suitability mapping suggests Local Office/Commercial land uses are more suitable for three centres: North Richmond, Richmond Town Centre and Windsor Town Centre. Windsor Downs and Wilberforce are other centres that have also shown higher suitability for Local Office/Commercial land uses.

FIGURE 76: STRATEGIC OFFICE LAND USE SUITABILITY ANALYSIS



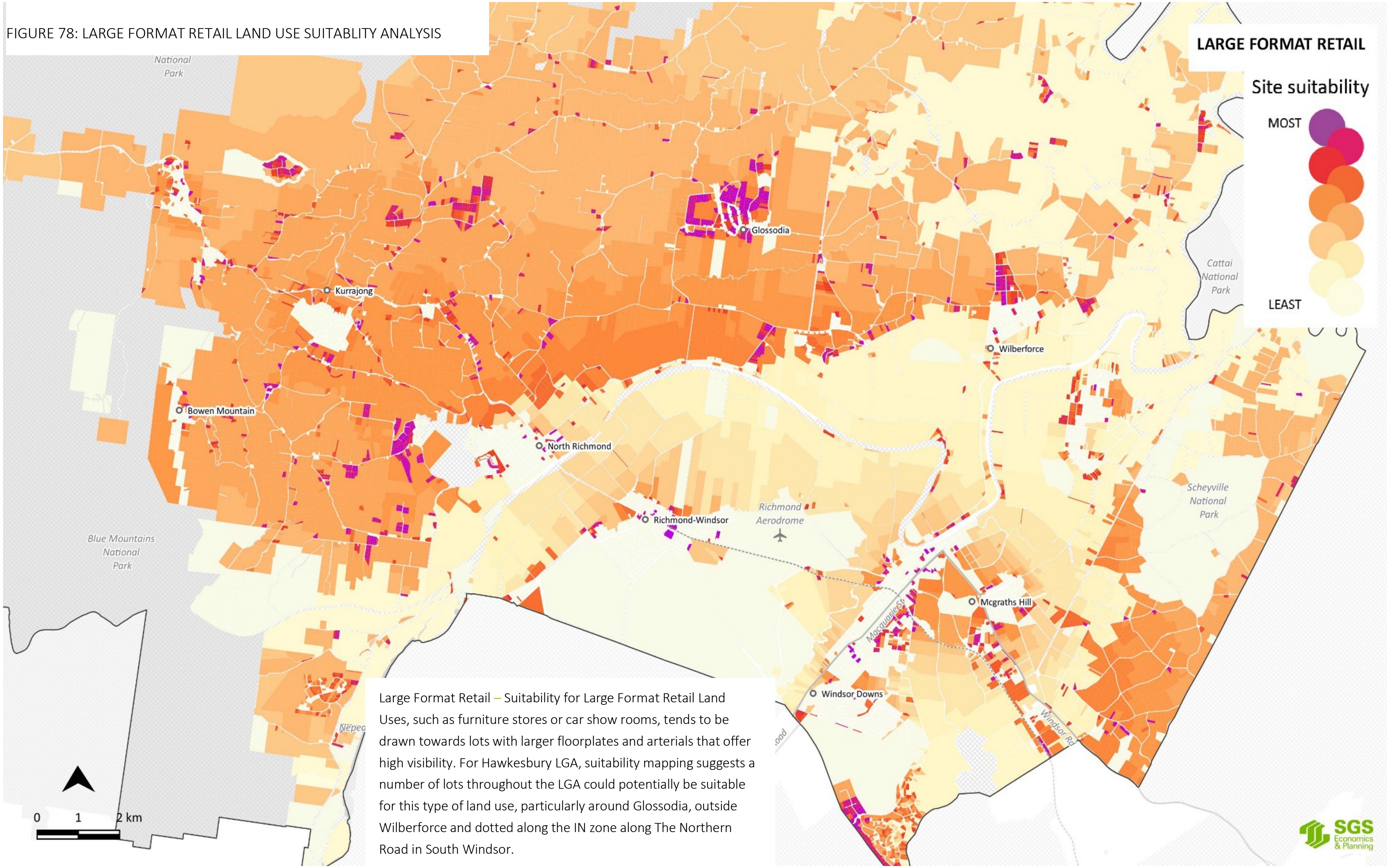
Strategic Office/Commercial – Suitability for Strategic Office/Commercial land uses tends to be pulled towards larger populations and areas of good transport accessibility. For Hawkesbury LGA, the most suitable areas are lots dotted throughout the main centres including Richmond-Windsor, North Richmond and McGraths Hill.

FIGURE 77: DISTRICT RETAIL LAND USE SUITABILTY ANALYSIS



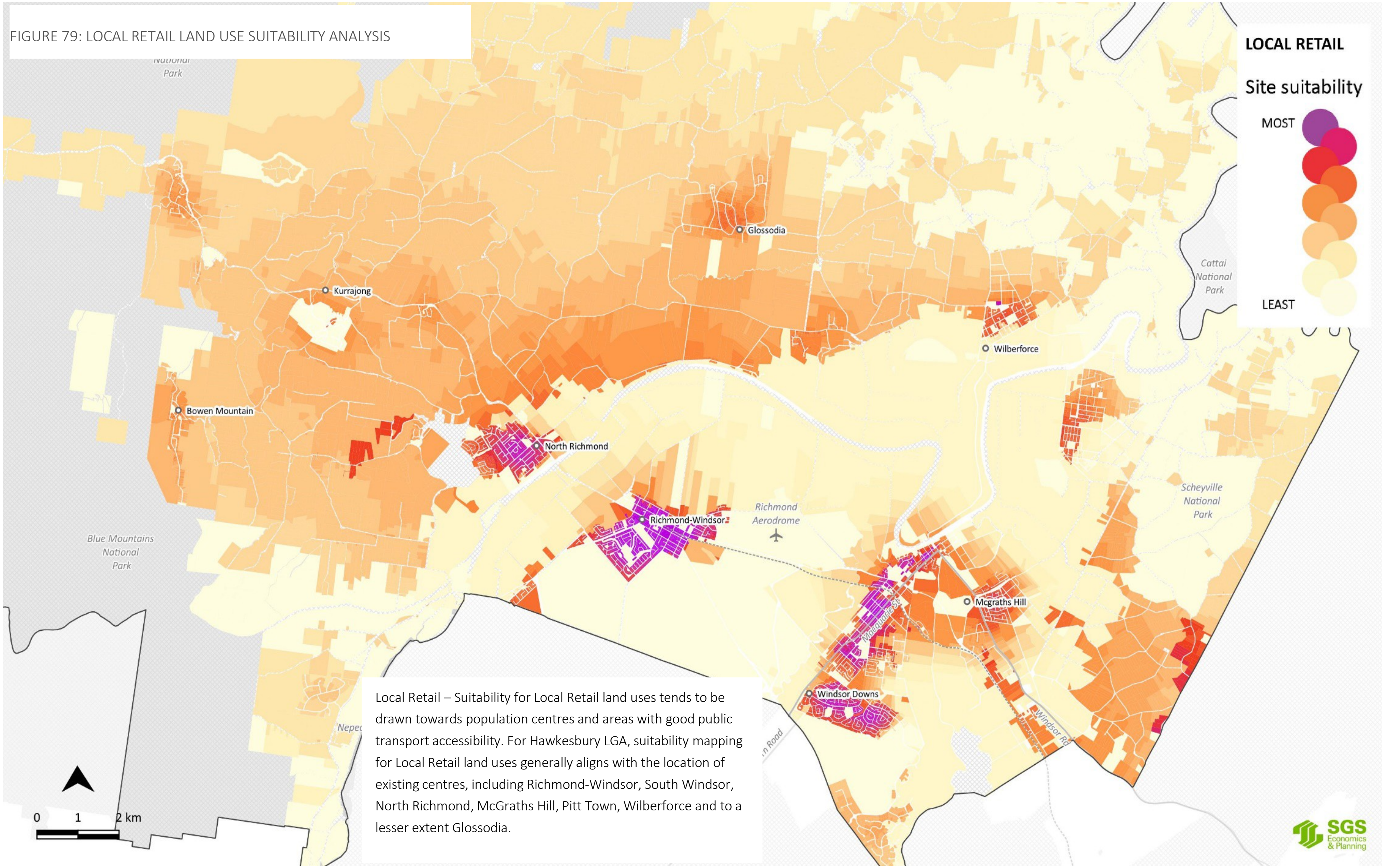
District Retail – Suitability for District Retail land uses tends to be drawn towards population centres and areas of higher transport accessibility.

FIGURE 78: LARGE FORMAT RETAIL LAND USE SUITABLITY ANALYSIS



Large Format Retail – Suitability for Large Format Retail Land Uses, such as furniture stores or car show rooms, tends to be drawn towards lots with larger floorplates and arterials that offer high visibility. For Hawkesbury LGA, suitability mapping suggests a number of lots throughout the LGA could potentially be suitable for this type of land use, particularly around Glossodia, outside Wilberforce and dotted along the IN zone along The Northern Road in South Windsor.

FIGURE 79: LOCAL RETAIL LAND USE SUITABILITY ANALYSIS



Local Retail – Suitability for Local Retail land uses tends to be drawn towards population centres and areas with good public transport accessibility. For Hawkesbury LGA, suitability mapping for Local Retail land uses generally aligns with the location of existing centres, including Richmond-Windsor, South Windsor, North Richmond, McGraths Hill, Pitt Town, Wilberforce and to a lesser extent Glossodia.

Summary

Suitability Analysis highlighted relative suitability for a range of land uses. Conversion of any land uses would have to be considered against productivity of land and land use conflicts.

Suitability Analysis highlighted sites that would be more or less suitable for a range of land uses including: General Industrial, Local Light Industry, Local Office, Strategic Office, District Retail, Large Format Retail, and Local Retail based on a range of criteria such as distance to transport infrastructure, points of interest, population and dwelling density and lot sizes and environmental constraints.

The use of any of these sites for alternate land uses would have to be considered against other factors such as use and loss of productive agricultural land, impact on residential and environmental land uses within the LGA and in neighbouring LGAs, the Metropolitan Rural Lands policy and other land use conflicts for example.

APPENDIX F

Broad Industry Categories (BIC) definition

In conjunction with the Greater Sydney Commission (GSC), SGS Economics and Planning has categorised ANZSIC Divisions into four broad Industry Groups (also known as Broad Industry Categories – BIC). The following table illustrates the classification.

TABLE 79: INDUSTRY GROUPS

ANZSIC 2006 Division Code	ANZSIC 2006 Division Title	Group
J	Information Media and Telecommunications	Knowledge Intensive
K	Financial and Insurance Services	Knowledge Intensive
L	Rental, Hiring and Real Estate Services	Knowledge Intensive
M	Professional, Scientific and Technical Services	Knowledge Intensive
N	Administrative and Support Services	Knowledge Intensive
O	Public Administration and Safety	Knowledge Intensive
P	Education and Training	Health and Education
Q	Health Care and Social Assistance	Health and Education
E	Construction	Population Serving
G	Retail Trade	Population Serving
H	Accommodation and Food Services	Population Serving
R	Arts and Recreation Services	Population Serving
S	Other Services	Population Serving
A	Agriculture, Forestry and Fishing	Industrial
B	Mining	Industrial
C	Manufacturing	Industrial
D	Electricity, Gas, Water and Waste Services	Industrial
F	Wholesale Trade	Industrial
I	Transport, Postal and Warehousing	Industrial

Source: ABS ANZSIC 2006 Support Tool, SGS Economics and Planning and GSC 2016

APPENDIX G

Broad Land Use Categories

In this guide are definitions of the Broad Land Use Categories. The first few pages contain a summary table of all of the BLC classifications, followed by detailed information on each BLC.

	BLC Code	BLC Name	Description	Example uses	Physical indicators	Location requirements
Commercial office	**O**	**Office**	Office buildings that are independent (i.e. are not ancillary to another use on site) and likely to accommodate a significant number of administration staff	Banks; Professional services Consultancies	Office buildings likely to accommodate a significant number of administration staff (>10 people); and will generally be in commercial area.	Typically require commercial centre locations. Need to have good accessibility for office workers.
Commercial office	**BP**	**Business Park**	Integrated warehouse, storage, R&D, 'back-room' management and administration with greater than 40% office component		Generally, a combination of office and some back-office functions, such is usually more than 40% of total floorspace, along with floorspace that would typically be considered industrial.	Traditional business park environments offer large land parcels and attractive site aspects. Business park locations are heavily driven by strategic positioning with respect to arterial infrastructure. For business park land uses with higher industrial components proximity to population centres is not desirable.
Retail	**RB**	**Big Box Retail**	Large shopping complex and supermarket developments.	Shopping Complexes (e.g. Westfields) Supermarkets Department Stores Factory Outlets	Typically, large, rectangular buildings with few windows, and are purpose built	Typically require high levels of visibility and accessibility.

	BLC Code	BLC Name	Description	Example uses	Physical indicators	Location requirements
Retail	**RM**	**Main Street Retail**	Main Street Retail involves small scale and local retailing activities, traditionally found on the main street of an area.	Post office Newsagency Chemist Clothing Retailing Convenience Stores Fresh Meat, Fish and Poultry Retailing Accessories Other Store-Based Retailing (except bulky goods)	Small scale, located along main roads or streets and in or near centres.	Typically, within local commercial centres. Best situated in areas of high trade and foot traffic.
Retail	**RBG**	**Bulky Goods**	Typically, large, one-story buildings surrounded by car-parking,	Automobile Retailing; Homemaker centres Bedding & furniture retail Timber and bulk hardware (eg Bunnings).	Require large building for storage of bulky goods Large, one story buildings, usually out of centre; Usually surrounding by car-parking; and Usually high exposure (main roads).	Usually located out of centre and in high exposure (main road) locations.
Industrial	**HI**	**Heavy Industrial**	Large scale production activity. Likely to be characterised by high noise emission; emission stacks; use of heavy machinery; and frequency of large trucks	Chemical Manufacturing Iron and Steel Manufacturing Petroleum and Coal Manufacturing Log Sawmilling Meat Processing Oil and Fat Manufacturing	Emission Stacks; Large scale production; High noise emission; Use of heavy machinery; and Frequency of large trucks.	Industrial areas. Heavy manufacturing is in decline in major Australian cities but will continue to cluster in some locations. There are strong arguments for collocation in terms of raw material delivery and to concentrate externalities (such as emissions or hazardous materials risks).

Industrial	**FL**	**Freight and Logistics**	Warehousing and distribution activities. Includes buildings with a number of docking facilities; 'hard stand' areas with trucks or goods awaiting distribution; and large storage facilities	Postal depot/mail centres Road Freight Transportation Services Container Terminals Distribution Centre Woolworth Storage Centre	Buildings with large number of docking facilities; Large 'hard stand' areas with trucks or goods awaiting distribution; Heavy movement of trucks; Large Storage Facilities;	Warehousing and distribution are a metro level issue with activities preferably locating close to air, sea and inter-modal inland ports, or with access to the motorway system
Industrial	**US**	**Urban Services**	Concrete batching, waste recycling and transfer, construction and local and state government depots, sewerage, water supply, electricity construction yards	Government (federal, state or local) Depot Bus Depot Water Supply, Sewerage and Drainage Services Electricity Supply Concrete Batching Recycling Depots	Varied typologies based on specific purpose the building was constructed for.	These typically have noise dust and traffic implications and need to be isolated or buffered from other land uses. Needed in each sub-region
Industrial	**LI**	**Light Industrial**	Small scale production with lower noise and emission levels than heavy manufacturing	Printing works Small scale production Wide range of manufacturing land uses	Large floorplate warehouses Few windows or active street frontages	Industrial areas but with a lower requirement for distance from population than heavy manufacturing/
Industrial	**LSI**	**Local Service Industrial**	Wide range of businesses that service other business (components, maintenance and support) and Subregional populations. Typically, does not interfere with the amenity of the neighbourhood via pollution.	Automobile Repairs Plumbers Building supplies Panel beaters Domestic Storage Bricklaying Services Machinery and Equipment Hiring Self-storage	Similar to light industrial, but smaller scale, typically with street frontage which advertises the businesses. May have some ancillary office less than 20% of total.	Need to be accessible for population centres

Dispersed	**DL**	**Local Dispersed**	Social and community services, trades construction, other 'nomads'	Police/ Fire/Ambulance Services Childcare Religious Services Funeral Services Cultural and Community Services (Libraries, Museums, Parks and Gardens) Accommodation	Generally standalone uses, in suburban areas, small scale	Institutions are dispersed but need to be accessible and well served by public transport.
Dispersed	**DR**	**Regional Dispersed**	Varied typology, however, typically large in scale.	Performing Arts Venues Amusement Parks Sports and Physical Recreational Venues and Grounds	Large scale government, community or entertainment/sporting sites, providing a wide variety of activities.	Typically require strategic locations and needed in each sub-region.
Dispersed	**SS**	**Service Stations**	Service Stations	Service Stations	Service Stations	Main roads and busy road corridors
Health & Education	**LHE**	**Local health and education**	Smaller scale education or health uses such as schools, training centres, community college, aged care facilities, day surgery	Nursing homes Veterinarians, doctors, dentists etc Training centres Pre, Primary schools Sports and Recreational Services Secondary Schooling	Small scale education or health buildings servicing local populations	Institutions are dispersed but need to be accessible and well served by public transport.
Health & Education	**RHE**	**Regional health and education**	Large-scale regional health and education facilities include general and speciality hospitals, universities and TAFEs	Hospitals Tertiary Level Education	Large scale education or health facilities, built on large areas of dedicated land.	Typically require strategic locations and needed in each sub-region.

Commercial Office Land use

Business Park

Business Parks are represented by integrated warehouse, storage, R&D, 'back-room' management and administration developments with generally more than 40% office component. It is important to distinguish business parks from industrial developments, which is predominantly determined by the integration of R&D, management and administrative elements onto warehousing and storage within the development; this is something which may be less apparent when viewing new industrial developments (which can also contain office and administrative elements in their design).

Physical indicators include:

Generally, a combination of office and some back-office functions, as such is usually more than 40% of the total floorspace on the site.

Location Requirements:

Traditional business park environments offer large land parcels and attractive site aspects. Business park locations are heavily driven by strategic positioning with respect to arterial infrastructure. For business park land uses with higher industrial components proximity to population centres is not desirable.

Office

Office land uses are classified as such when the office building is independent (i.e. is not ancillary to another use on the site) and is likely to accommodate a significant number of administrative staff. They are typically located within commercial centres and require good access for workers.

Examples of Offices land uses include:

- Financial Services
- Accounting Services
- Administrative Services (incl. Govt.)
- Banks
- Architectural and Surveying Services
- Information Technology Services

Physical indicators include:

- Office buildings that are independent (ie, are not ancillary to another use on site).
- Office buildings likely to accommodate a significant number of administration staff (>10 people); and
- Will generally be in commercial areas.

Location Requirements:

Typically require commercial centre locations. Need to have good accessibility for office workers.

Retail Land Use

Big Box Retail

Big Box Retail consists of large shopping complex and supermarket developments which require high levels of visibility and accessibility. They are typically large, rectangular buildings with few windows, and are purpose built.

Examples of Big Box Retail include:

- Shopping complex developments (e.g. Westfields)
- Department Stores
- Supermarkets
- Factory Outlets

Physical indicators include:

Typically, large, rectangular buildings with few windows, and are purpose built.

Location Requirements:

Typically require high levels of visibility and accessibility.

Main Street Retail

Main Street Retail involves small scale and local retailing activities, traditionally found on the main street of an area. They are typically small clusters or strips of stores located on a main road or street.

Examples of Main Street Retail include:

- Restaurants & Cafés
- Newsagents
- Bakeries
- Small Supermarkets
- Butchers
- Real Estate Agents

Physical indicators include:

Small scale activities, normally with active frontages and frequently with shop-top housing or offices.

Location Requirements:

Located along main roads or streets within urban centres of varying scale.

Bulky Goods

Bulky Goods Retail is typified by the sale of bulky goods, requiring large buildings for the storage of these items. The buildings are typically one storey and located outside of main centres, with substantial provision of car parking and located in places of high exposure.

Examples of Bulky Goods Retail include:

- Automobile Retailing
- Homemaker Centres
- Furniture Retailing
- Large Electrical and Whitegoods Retail
- Timber and Bulk Hardware Retail

Physical indicators include:

- Require large building for storage of bulky goods
- Large, one story buildings, usually out of centre.
- Usually surrounded by car-parking; and
- Usually high exposure (main roads)

Location Requirements:

Usually located out of centre and in high exposure (main road) locations.

Industrial Land Use

Heavy Industrial

Heavy manufacturing is typified by large scale production activity, with physical characteristics including high noise levels, emission stacks and the use of heavy machinery. These land uses are often collocated within industrial zones to reduce impacts on surrounding areas and for an increased efficiency in logistics.

Examples of Heavy Manufacturing include:

- Chemical Manufacturing
- Iron and Steel Manufacturing
- Sawmilling
- Coal or Petroleum Manufacturing
- Meat Processing
- Oil & Fat Manufacturing

Physical Indicators include:

- Emission Stacks;
- Large scale production;
- High noise emission;
- Use of heavy machinery; and
- Frequency of large trucks

Location Requirements:

Industrial areas. Heavy manufacturing is in decline in major Australian cities but will continue to cluster in some locations. There are strong arguments for collocation in terms of raw material delivery and to concentrate externalities (such as emissions and hazardous materials risks).

Freight and Logistics

Freight and logistics land uses are typified by activities such as warehousing and distribution services, and intermodal terminals. In terms of physical characteristics, sites within this category will typically have buildings with large numbers of docking facilities, large 'hard stand' areas with trucks/goods awaiting distribution & storage and warehousing facilities.

Examples include:

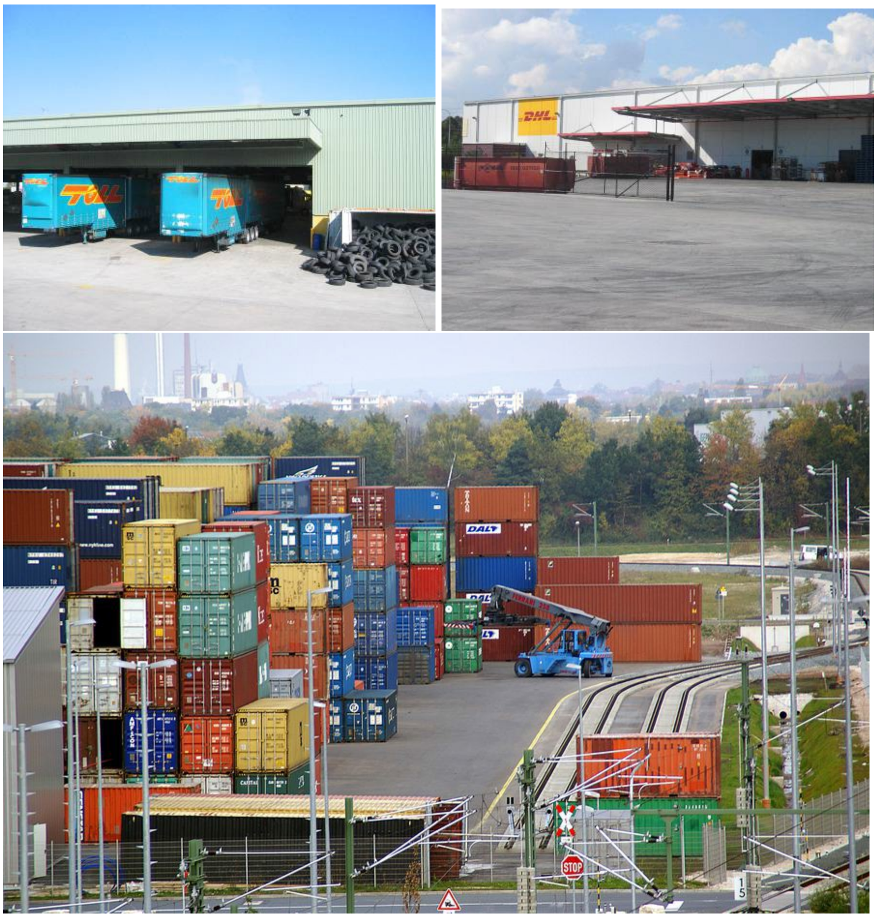
- Postal depots/Mail Centres
- Road Freight Transportation Services
- Container Terminals
- Distribution Centres for Retail Goods

Physical Indicators include:

- Buildings with large number of docking facilities;
- Large 'hard stand' areas with trucks or goods awaiting distribution;
- Heavy movement of trucks;
- Large Storage Facilities;
- Warehousing; and
- Distribution Centres

Location Requirements:

Warehousing and distribution is a metro level issue with activities preferably locating close to air, sea and inter-modal inland ports, or with access to the motorway system.



Clockwise from top left:

- Goods distribution centre
- Postal/Mail Depot
- Intermodal Container Terminal

Urban Services

Urban Services land uses are the types of activities which are needed for the continued direct functioning of the urban environment, such as utilities infrastructure or concrete batching plants. They can have noise, dust or traffic implications, and will generally require appropriate buffering from other land uses to minimise their adverse impacts on surrounding land uses.

Examples include:

Examples of Urban Services land uses include:

- Concrete Batching Plants
- Electricity Supply and Distribution
- Bus Depots
- Waste Processing Facilities
- Water Supply, Sewerage and Drainage
- Defence Activities

Physical Indicators for urban services are varied dependant on the specific use

Location Requirements:

These typically have noise dust and traffic implications and need to be isolated or buffered from other land uses. Needed in each sub-region.

Clockwise from top left:

- Concrete Batching Plant
- Council Depot
- Electricity Sub-station

Light Industrial

Light Industrial is characterised by smaller scale production activities and lower levels of noise and emissions than Heavy Industrial. These areas also collocate within industrial zones; however they have a lower requirement of distance between themselves and residential areas than heavy manufacturing due to their lower levels of impact.

Examples of Light Industrial include:

- Clothing Manufacturing
- Electrical Equipment Manufacturing
- Boat Building
- Light Engineering Activities
- Toy Manufacturing

Physical indicators include:

- Smaller scale production activities
- Lower levels of noise and emissions
- Warehousing and industrial type buildings
- Some hardstand area

Location Requirements:

Industrial areas but with a lower requirement for distance from population than heavy manufacturing.

Local Service Industrial

Activities which are typified by a wide range of small-scale businesses which provide services to other businesses or individuals, such as car service and repair; joinery, construction and building supplies and domestic storage. Typically does not interfere with the amenity of the neighbourhood via pollution.

Examples of Local Services Industrial include:

- Automobile Repairs
- Plumbers
- Domestic Storage
- Small printing works
- Bricklaying Services, and
- Machinery and Equipment Hiring

Physical indicators include:

Services providing urban support, generally related to local population demand. May have some ancillary office less than 20% of total.

Location Requirements:

Wide range of businesses that service other business (components, maintenance and support) and subregional populations, therefore they need to be accessible for population centres.

Top:

- Auto repair shop

Bottom:

- Domestic storage

Dispersed Land Use

Local Dispersed

The Local Dispersed land use category includes local social and community services such as childcare, religious services, police/fire/ambulance stations.

Examples of Local Dispersed land uses include:

- Police/ Fire/Ambulance Services
- Childcare
- Religious Services
- Local health services, such as veterinarians, doctors, physios, chiros, dentists etc.
- Funeral Services
- Cultural and Community Services (e.g. Libraries, Museums, Parks and Gardens)
- Short term accommodation

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Physical characteristics of Local Dispersed land uses vary based upon the specific activity.

Locational requirements:

Institutions are dispersed but need to be accessible and well served by public transport.

Top:

- Glebe Ambulance Station

Bottom:

- Redfern Community Centre

Regional Dispersed

The Local Dispersed land use category includes regional social and community services such as sports stadiums, amusement parks and the like.

Examples of Local Dispersed land uses include:

- Performing Arts Venues
- Amusement Parks
- Sports and Physical Recreational Venues and Grounds

Physical characteristics of Local Dispersed land uses vary based upon the specific activity.

Locational requirements:

Typically require strategic locations and needed in each sub-region, along with being accessible and well served by public transport.

Service Stations

Purpose built facilities for the provision basic maintenance for road vehicles (e.g. air, water), along with retail of fuel and other required goods for road vehicles.

Examples Include:

- Service Stations

Locational Requirements:

Typically main roads and busy road corridors.

Health & Education Land Use

Local Health and Education

Smaller scale education or health uses such as schools, training centres, community college, aged care facilities or day surgeries. Important to note is the fact that these land uses are distinguished from local dispersed uses (which can also involve the provision of health care) by their nature as being purpose-built facilities.

Examples of Local Dispersed land uses include:

- Nursing Homes
- Training Centres
- Pre & Primary Schools
- Secondary Schools

Physical characteristics of Local Health and Education land uses vary based upon the specific activity.

Locational requirements:

Institutions are dispersed but need to be accessible and well served by public transport.

Top:

- Aged Care Centre

Bottom:

- Secondary School

Regional Health and Education

These land uses encompass larger scale health and education services which are provided at a regional level, such as general or specialist hospitals, universities and TAFEs.

Examples of Regional Health and Education include:

- Hospitals
- Public and Large-Scale Tertiary Education Institutions (Universities and Regional TAFEs)

Physical characteristics of Regional Health and Education land uses vary based upon the specific activity.

Locational Requirements:

Typically require strategic locations and needed in each sub-region, along with being accessible and well served by public transport.

Other Land Use

Residential

Residential BLCs apply to buildings for which the primary use is residential accommodation. They can apply to a range of different types of housing, including:

- Detached dwellings
- Dual occupancy dwellings (duplexes) and semi-detached dwellings
- Multi-dwelling housing (townhouses, villas)
- Residential flat buildings (apartments)
- Some other types of housing, such as hostels, seniors housing or boarding houses

In some cases, residential buildings can host commercial premises, normally in the form of a ground or first floor retail or office component, however, consideration must be given to the amount of floorspace that is occupied by non-residential uses when determining the BLC. For a building with some business floorspace to be allocated a residential BLC, generally there must be at least three stories of residential above it.

Open Space

This BLC is applicable to land that is dedicated to open space, typically under the RE1 – Public Recreation zone, typically covering parks, playing fields or areas of publicly accessible bushland.

Infrastructure

This BLC is used to capture lots and buildings that provide dedicated infrastructure, but which do not fall within the Urban Services BLC. This BLC is typically applicable to road and rail corridors.

Under construction

This BLC captures lots that are presently undergoing construction works. In some cases, the new BLC of a building being constructed may be evident at the time of observation, in which case it may be recorded appropriately, however this is frequently not the case, and a lack of available information about the project necessitates that no other BLC be applied.

APPENDIX H

Industrial Market Data

FIGURE 80: INDUSTRIAL SALES VALUE X CENTRE (2002 - 2017)

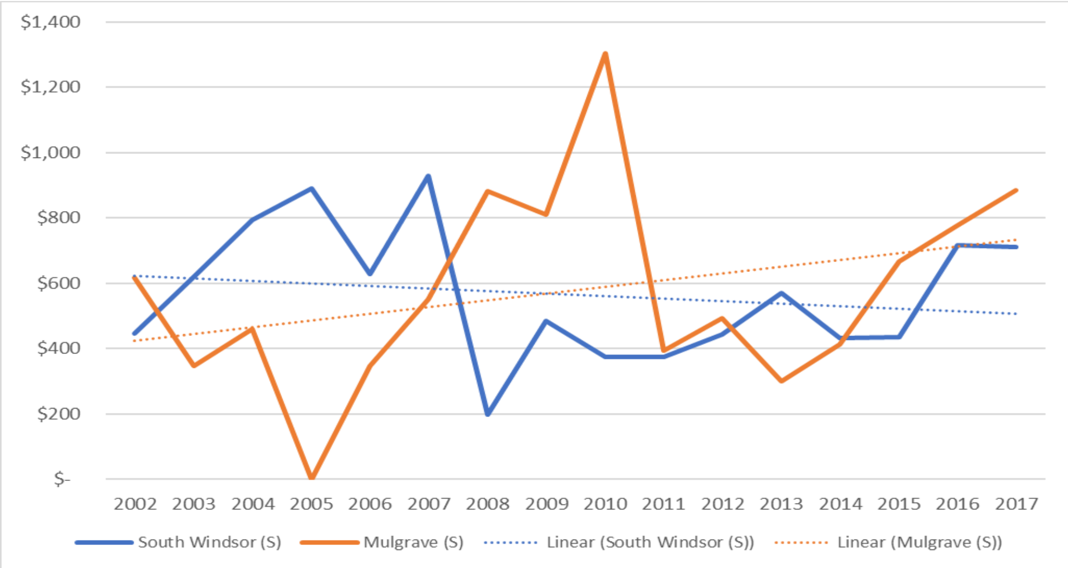
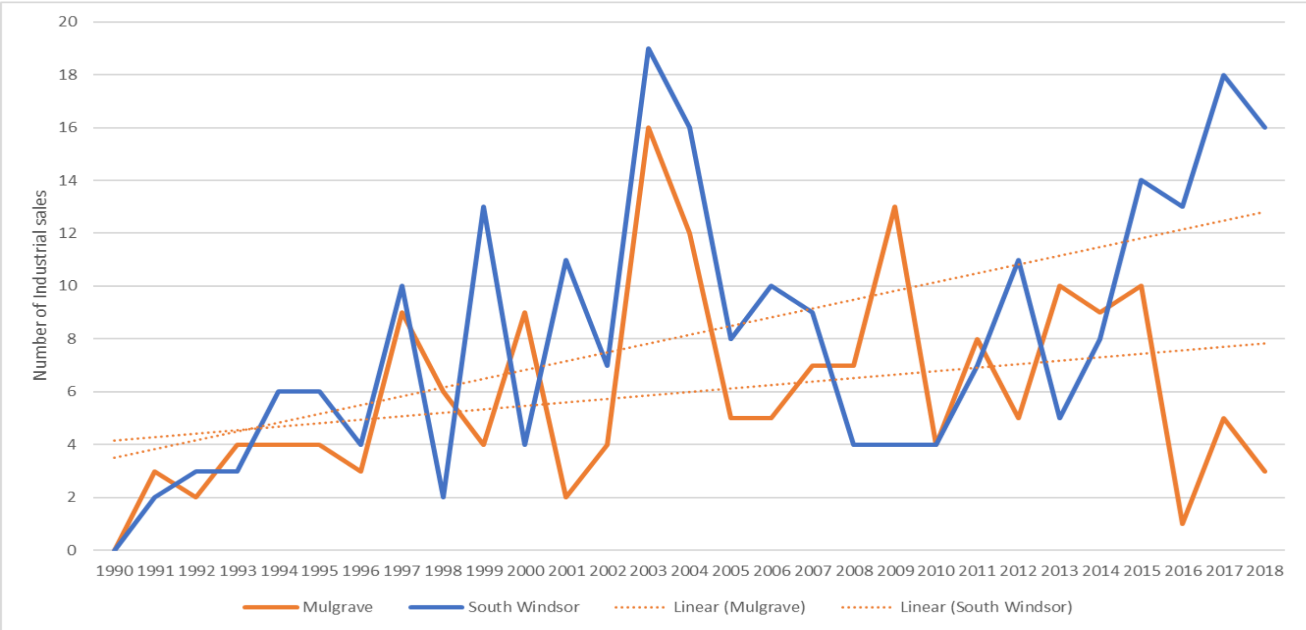


FIGURE 81: INDUSTRIAL SALES VOLUMES X CENTRE (1990 - 2018)



Source: NSW Valuer-General, 2019

APPENDIX I

Glossary

ABS – Australian Bureau of Statistics

ANZSIC – Australian and New Zealand Standard Industrial Classification

ASCO – Australian Standard Classification of Occupations

BIC – Broad Industry Category

BLC – Broad Land Use Category

CAGR (%) – Compounded Annual Growth Rate

DCP – Development Control Plan

District – North District

DPIE – Department of Planning, Infrastructure and Environment

GSRP – Greater Sydney Region Plan

GS – Greater Sydney

GSC – Greater Sydney Commission

HR – Human Resource

I-O – Input Output

LEP – Local Environmental Plans

LGA – Local Government Area

LSPS – Local Strategic Planning Statement

MRA – Metropolitan Rural Area

POW – Place of Work

PP (%) – Point Percentage

PUR – Place of Work

RAAF – Royal Australia Air Force

R&D – Research and development

SA2 - Statistical Areas Level 2

STEM – Science, technology, engineering and mathematics

Subset- Refers to the categories of employment that go deeper than a BIC or 1-digit ANZIC, mostly referring but not limited to 4-digit ANZICs.

TfNSW – Transport for NSW

TPA – Transport Performance and Analytics (Transport for NSW)

VET – Vocational Education and Training

WCDP – Western City District Plan

WSU – Western Sydney University

YE – Year End

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