HillPDA CONSULTING

UPPER HUNTER REGION

Employment Lands Strategy

Prepared for Dungog, Muswellbrook, Singleton and Upper Hunter Shire Councils.

AUGUST 2023

CONTENTS

Tables

Figures

EMPLOYMENT LANDS STRATEGY

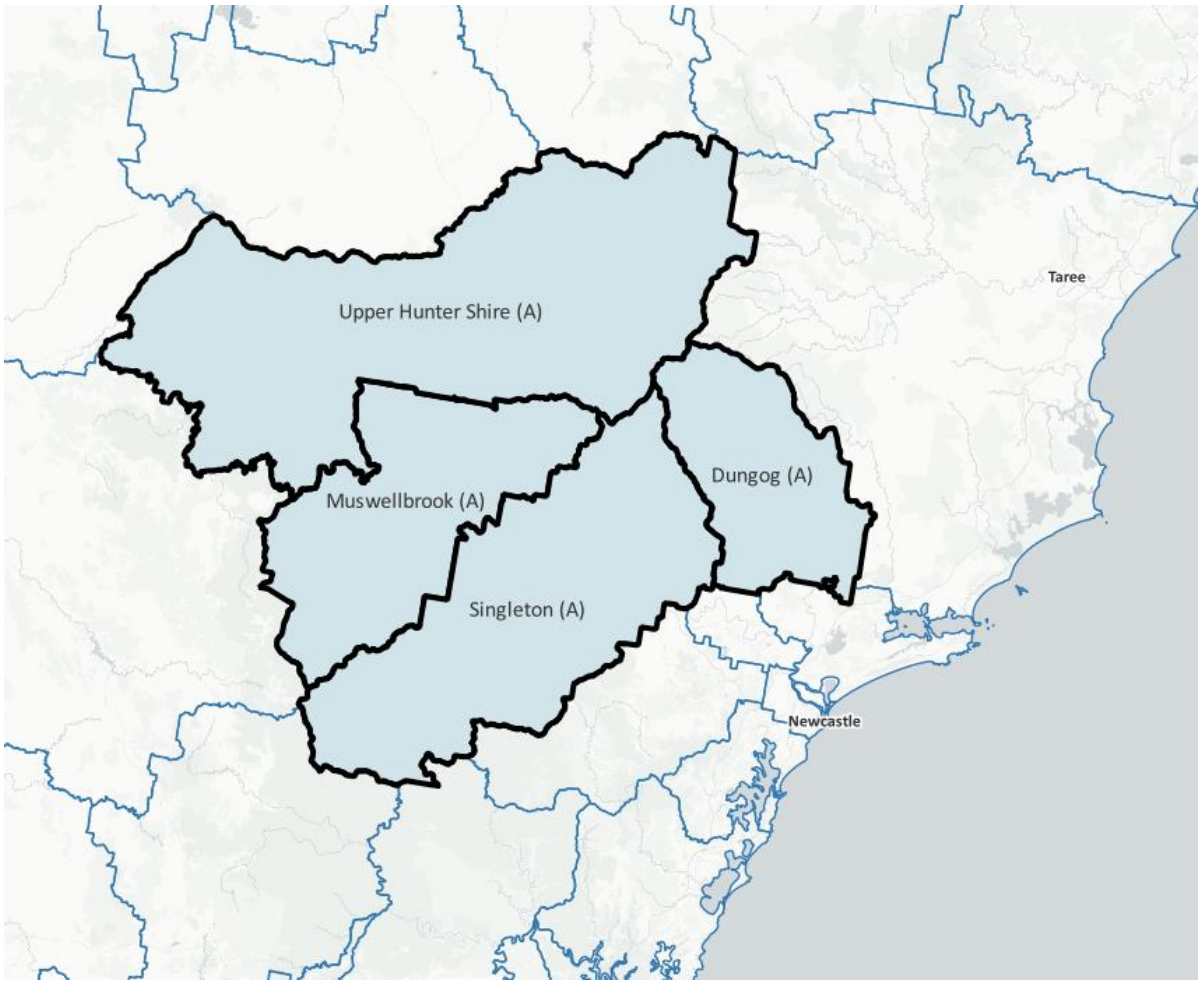
EXECUTIVE SUMMARY

Introduction

Dungog Shire Council, Muswellbrook Shire Council, Singleton Shire Council, and Upper Hunter Shire Council have engaged HillPDA through Muswellbrook Shire Council to prepare the Upper Hunter Region Employment Lands Strategy (the Strategy). The Strategy provides a strategic planning framework to guide the future development of employment lands in the Upper Hunter Region (the Region), consistent with the broader strategic planning framework and policy context.

Preparation of the Strategy was guided by the Department of Planning and Environment's *A guideline for local employment land strategies* (July 2022) and informed by the outcomes of targeted stakeholder engagement with councils, local businesses, industry associations, investors, and developers who operate out of the Region. The Region consists of Dungog, Muswellbrook, Singleton, and Upper Hunter Local Government Areas (LGAs), as illustrated in Figure 1.

Figure 1: Upper Hunter Region



Source: HillPDA

Vision

The Upper Hunter Region is in the midst of an economic transition that will shape the future of the Region for generations to come. The Region's $15 billion economy has traditionally powered NSW, supplying energy needs through both coal mining and power generation, while exporting coal and agricultural product globally. As the

world changes, the Region must also change with it powering toward a new green future, capitalising on its existing assets in energy generation, agriculture, and mining, while supporting a diversified post-mining economy with expansion in renewable energy, advanced manufacturing and agribusiness sectors. The Region will leverage its strengths to create a diversified economy that also includes tourism, services and digital uses, becoming a diverse innovation powerhouse across its four LGAs.

The Region contributes approximately 2.1% to the State's GSP while comprising approximately 0.8% of the State's population. It is vital that there is a plan in place to ensure the Region remains an employment and economic generator for years to come. The transition from mining to alternative uses can provide over 6,000 ha of mining land to new employment uses, properly staging the transition with industry attraction will ensure that 10,000 direct mining workers will have successful transitions from the coal industry. Furthermore, employment lands can spearhead the region's growth into new industries, including renewable energy, agriculture and agribusiness, advanced manufacturing, transport and logistics and eco-tourism.

Complementing the successful transition of mining industries will be a deeper investment in agricultural industry and urban centres. Creating lively hubs that attract innovators as well as tourists to experience the best the region has to offer.

By 2041, this Strategy sees the Upper Hunter Region as a dynamic, sustainable, and diverse regional economy that embraces innovation and resilience, while fostering a strong sense of community. Industry will continue to be supported in the Region, generating jobs, infrastructure services, and amenities to enable a growing population. Through diversification, the Region will be recognised as a leader in the development of new industries and technologies, and as a desirable place to live, work and visit.

This means that the Region can supply substantially more employment land to drive additional economic opportunity across the region and the State. Currently 15,124 hectares of land across the Upper Hunter Region is identified as a Mine Area by Geoscience Australia, of which the region plan identifies up to 6,058 hectares is identified as having future uses. Global trends and a large local workforce are spearheading the Region's gradual economic transition. Coal mining generates an estimated up to 10,861 jobs in the region, mostly in the LGAs of Muswellbrook and Singleton. The future of coal is uncertain, with some of the Region's closing in response to global demand. In extreme 'worst case' scenarios, mining job losses would lead to thousands of workers generating demand for employment land. While the closure of coal mines is unlikely to contribute to these many jobs being lost, it is already occurring at a smaller scale, necessitating early planning for the Region's economy. This also creates an opportunity to cultivate new industries, maintaining the Upper Hunter Region as a world-class economic unit by planning for thousands of emergent job opportunities.

The Upper Hunter Region has strong and diverse assets, including globally recognised agriculture, environmental amenity, proximity to major cities, transport links, and deep experience in providing energy for NSW and Australia. These assets can be leveraged to grow the Region's capabilities in renewable energy, agriculture and agribusiness, advanced manufacturing, transport and logistics, and eco-tourism. These industries require a range of employment lands, for which this Strategy provides strategic planning guidance. In particular, the supply, location, and servicing of industrial and business land use zones is essential in facilitating the growth of these industries and their complementary land uses.

To support economic growth in the Region, this Strategy identifies five directions:

- Ensure sufficient supply of employment land to enable industry attraction
- Support vibrant centres and place
- Encourage emerging and growing industries
- Continue to support a strong and vibrant mining industry while preparing for a post-mining future
- Simplify and enhance the planning system and processes.

These directions supported by 19 Actions. Each of the Councils in the Region must work collaboratively with each other, and with State Government, landowners, existing industry, and potential future employers to be able to take attract new businesses that will support jobs and a diversified economy.

Challenges

For the Upper Hunter Region to maximise its potential, a strong coordination of public and private funding and collaboration with local communities is essential. There are a range of challenges faced by the Region that can be addressed through coordinated investment, planning, and engagement. These challenges include the uncertain future of mining, the distribution of agricultural employment, and the future viability of the Region's towns and centres.

The Upper Hunter Region is about 10 times as dependent on mining compared to similar regions in Regional NSW. To support continued growth aspirations, Singleton and Muswellbrook must diversify their economies and innovate for new jobs with salaries close to those in the mining industry. Recent mine closures include Muswellbrook Coal, Liddell Coal, Mangoola, and Dartbrook, along with future closures including Mount Arthur Mine. While existing mines are confident of continued operation, it is critical that Muswellbrook and Singleton take steps to prepare for a post-mining future. With many mine workers and supporting businesses located throughout the Hunter Region, ensuring a well-planned transition is a State significant matter.

The local economies of Dungog and Upper Hunter LGAs are predominately agriculturally-based. While the Upper Hunter Region is world-renowned for its agriculture (particularly its equine industry), agricultural employment is dispersed over wide areas, especially with cattle farms amalgamating in response to economic conditions. Leveraging agricultural strengths for other employment can create more concentrated job opportunities for the Region's growing population. For instance, global food manufacturer JBS Australia currently employs 450 people in a meat processing plant in Scone. There are opportunities to use industrial land to grow agribusiness throughout the Region, as well as to expand the Region's agri-tourism capacity, particularly on business land in its towns and centres.

Unless employment opportunities are created locally and within the Region, residents in each of the LGAs will need to travel long distances to work or leave the area altogether, which has the potential to reduce the vibrancy and economic viability of towns and centres in the Region, making it increasingly difficult to attract new residents and industry. Each LGA faces specific challenges; however, common across all is the need to support industry attraction, with development-ready and affordable employment land both in centres and industrial precincts.

Strategic context

Based on a review of the broader strategic planning framework and policy context, the Strategy identifies the strategic vision and goals for the Region. These are to leverage the existing strengths across heavy industry, energy, equine, tourism and viticulture sectors, while supporting a more aggressive expansion into renewable energy, food and fibre, health and the 'new economy' with jobs based on digital business opportunities. Improvements to the Port of Newcastle and Newcastle Airport will be critical to the success for the Region as a key exporter and employer into the future. Through targeted stakeholder engagement, the Strategy also reveals that the Region envisions a broader role for itself with a strong potential for rapid expansion and innovation leveraging the landholdings that already exist.

HillPDA has drawn upon the Region's strategic vision and goals, and considered the availability of natural resources and infrastructure, to summarise the following key industries that are seen as appropriate to support diversification:

1. Renewable energy: After mining operations have ceased, the region will have access to land and infrastructure that could be repurposed for renewable energy projects, such as wind, solar farms and hydrogen generation.

2. Agriculture, agribusiness, viticulture: The area has fertile soil and access to water. It also has a strong history in agriculture which can be revitalised. Investing in new technologies such as hydroponics or vertical farming and more intensive agriculture practice may boost economic return.
3. Advanced manufacturing: The region has access to skilled workers and advanced manufacturing capabilities due to its mining origin. There are also existing industries that can benefit from technology advancements including defence, agriculture and renewal energy.
4. Circular Economy: The region is well placed to take advantage of the economic transition to a circular economy, with existing innovations in the sector, and large landholdings that can re-use or transform waste.
5. Transport and logistics: The region has strong road and rail transport infrastructure and strong access to the Port of Newcastle and Newcastle Airport.
6. Eco-tourism: The region's unique natural attractions make it viable for eco-tourism. This could involve promoting outdoor recreation activities such as hiking, fishing, or camping, and investing in infrastructure such as lodges, campsites, and tour companies. Rural and Indigenous Experiences can support the extension of the tourism offering leveraging the natural and agricultural environment of the region.

Socio-economic and market trends

The Strategy includes an analysis of socio-economic and market trends that emerged in the Region between 2011 and 2021, with the key findings used to inform some of the Strategy's recommendations and actions.

Throughout this time, the Region experienced 18 per cent growth in jobs, with the number of jobs increasing by 5,445 to reach a total 36,183.

The top five industries in 2021 were:

- Mining: 9,806 jobs (27.1% of employment)
- Agriculture, Forestry and Fishing: 2,648 jobs (7.3% of employment)
- Health Care and Social Assistance: 2,523 jobs (7% of employment)
- Retail Trade: 2,334 jobs (6.5% of employment)
- Construction: 2,219 jobs (6.1% of employment).

Mining jobs increased by 1,821 employees between 2011 and 2021, which means that they grew in importance in the Region.

Employment land supply

The Strategy includes an analysis of the existing supply of land and floorspace for various employment uses. It is noted that, given the timing of the analysis, it is based on now-repealed business and industrial land zonings (B1, B2, B3, B4, B5, B6, IN1, IN2, and IN3) which were replaced by a new suite of employment zones (E1, E2, E3, E4, E5, and MU1 zones) in April 2023, as part of the NSW Government's employment lands reforms. Key findings of this analysis are summarised below.

Employment land audit

- 1,033 hectares of zoned employment land in the Region
- Most employment lands are concentrated in Singleton (51%), followed by Muswellbrook (23%), Upper Hunter Shire (17%) and Dungog (5%)
- 528 hectares (51%) of all employment land is developed, with the highest proportion of developed land found in the B2 Local Centre, IN3 Heavy Industrial and B5 Business Development zones

- 505 hectares (49%) of all zoned employment land is vacant, with the highest proportion of vacant land found in the IN3 Heavy Industrial (78%), IN2 General Industrial (78%) and B5 Business Development (43%) zones.

Floorspace audit

- The Region has 1.17 million square metres of employment floorspace
- In particular, the Region has 321,000 square metres of industrial floor space, concentrated mostly in Muswellbrook and Singleton
- Most (86%) of the Region's floorspace is occupied by population serving, knowledge intensive and industrial land uses
- 7 per cent of floorspace is occupied by residential uses, mostly in the B2 Local Centre and B4 Mixed Use zones
- 4 per cent of floorspace is used for health and education and other community uses
- The remaining 3 per cent of floorspace is either vacant or occupied by temporary uses. These are mostly located near centres.

Current and future demand

HillPDA projected the amount of additional employment land required to support the Region's current and future resident, worker and visitor communities. This analysis did not look at the change related to mining and energy in the region:

Employment land

Dungog currently has a modest undersupply of land located close to town centres we consider between 2.4ha to 5ha would be critical immediate steps close to either Dungog or Clarence Town.

Muswellbrook must focus on the investment attraction to take advantage of the significant land supply from the transition of mines and the AGL power station sties. These provide up to 3,216ha of land that could be used over the next fifty years with immediate opportunity covering up to 1,800ha across Mount Arthur and Muswellbrook Coal. Muswellbrook has sufficient supply if it can attract businesses and secure the policy changes to unlock the opportunity. In the interim up to 33 hectares of land close to town could support expanded business and town centre uses over the next 20 years.

Singleton like Muswellbrook has up to 2,842ha of mining land that could be transitioned to alternative uses over time. While an additional 51.5ha of zoned and serviced business land could accommodate immediate demand, the focus is on generating additional demand to further grow the region.

Upper Hunter can meet industrial land supply through its existing land Scone; however, additional land release at Scone and Aberdeen would help generate competitive land environment. Upper Hunter Shire has limited business zoned land apart from B4 Mixed Use zoned land at Scone, additional land around the airport and racing precinct that is not currently zoned for business may be suitable to accommodate the remaining employment growth

HillPDA has considered the evidence provided by the Employment Lands Development Monitor (ELDM) in its auditing of employment land; however, it should be noted that councils have expressed a need for greater servicing for what is defined by the ELDM as serviced land (i.e. land that is serviced and ready for development).

Centres

LGA	Key findings
Dungog	• The DPE projections support an additional 4,000 to 5,000sqm of retail floorspace driven by population growth in the LGA. With only an IGA and Wholefood Co-op store currently, there is potential for a full-line supermarket (say 2,800sqm to 3,500sqm) with supporting specialty shops which would strengthen current capture rate levels and reduce the current levels of escape expenditure to Maitland and Raymond Terrace. • The full line supermarket would likely be located at Clarence Town. Clarence Town, approximately 20-minute drive from Dungog and Raymond Terrace. Therefore, it is likely that the capture for a full-service supermarket at Dungog would split the catchment from Clarence Town. • Under the council growth scenario there is very limited growth in floorspace demand. This would likely be accommodated through the relocation of some industrial uses in Dungog high street and development of population serving industrial land in Clarence Town.
Muswellbrook	• Under the DPE projections there is an undersupply of retail provision in the Muswellbrook Town Centre of almost 7,000sqm, with this likely to increase over time to around 13,000sqm due to population growth projected in the MTA. • Consider alternative locations for bulky-goods retail perhaps near the race course precinct. • Under the council growth scenario there would be an undersupply of 25,000sqm by 2041 due to the accelerated population growth. This would result in an additional demand for one new supermarket in the Muswellbrook LGA. There would also likely need to be additional bulky good retail. • The council growth scenario brings significantly more bulky goods demand, which would prioritise the bulky goods retail development earlier than otherwise. This would also possibly relocate uses such as Betta Home Living and Kentan Machinery allowing the town centre to expand. • Additional local retail including apparel stores and restaurants would be required under both scenarios, although an additional 3,500sqm compared to the council scenario. This could be absorbed on the New England Highway especially following the completion of the Muswellbrook bypass.
Singleton	• Under the DPE projections, the Singleton trade area is considered generally sufficiently provisioned to service its community over the short to medium term. Over the longer term, there may be scope for some minor additional food services. Priority should be given to protecting the viability of Singleton's existing centre. – Without population growth, there is not the capacity for an additional supermarket in the north of Singleton without cannibalising existing trade – There are currently significant and prominent vacancies in the CBD and a long-term undeveloped approved Woolworths development in Singleton north, indicating that there has been limited demand in the short-term. • Under Council's preferred population projections the demand in Singleton escalates substantially, and there would be the capacity for an additional one or even two supermarkets by 2041. – Singleton Heights does not have a full-service supermarket and most of the growth would be in the northern part of town – The development of a retail supermarket with supporting retail, specialist stores, and apparel stores in a retail precinct in north Singleton could be absorbed without cannibalising the existing CBD – The demand for additional department store and apparel stores may not translate to additional floorspace with the continued rise of online retailing over the next twenty years, and will need to be considered with the new context.
Upper Hunter	• Under the DPE scenario, Scone is sufficiently provisioned to service its community. Expanding retail space could result in an oversupply and an increase in vacancies. Focusing on protecting the existing centre is important for Scone to ensure it remains vibrant. • There might be a modest undersupply in the Scone under the high growth scenario. We consider that there might be some change in use from residential to retail in some of the B2 and B4 zone, but there is not sufficient undersupply to demand a substantial change in use.

Enablers and Barriers

The Strategy seeks to identify and address a range of enablers and barriers for the succesful development of employment lands through a land-use planning Strategy. These were identified through the land audits, trends analysis, and stakeholder engagement:

Strengths	Weaknesses
• Mining industry and support • Visitor economy as part of the wine region • Identification of new employment land • Industrial land close to town • Growing visitor economy and town centres • Strong population growth • Innovative e-commerce businesses are establishing • Proximity to National Parks • Proximity to the Port of Newcastle • World class equine industries in the Upper Hunter Shire • Meat processing and agriculture in Singleton and the Upper Hunter Shire	• Economic diversification • Wastewater capacity and servicing strategy • Traffic through town centre in Singleton • Limited remaining serviced employment land across all LGAs • Skilled labour and housing/accommodation availability • Land is in consolidated ownership across all LGAs • Road network is in poor condition and requires passage through town centres in Dungog • Limited warehousing and logistics space to allow for population growth in Dungog and Muswellbrook • Located within water catchment limited permitted uses.
Opportunities	**Threats**
• Industrial expansion at Rixs Creek • Development of Whittingham as an intermodal site • Planned use of post-mining land and infrastructure in Muswellbrook and Singleton • Substantial investment in renewable energy • Bypasses enabling investment into centres • Expand tourism through town centre revitalisation • Transition of former power generation land for employment land • Agritourism and adventure tourism increasing a diverse offering in the LGA • Intensive agriculture to complement beef, dairy and poultry • Scone Airport as a possible transportation node • Racing NSW Investment in the Upper Hunter Shire. • Water freed-up by mine and power station opportunities	• Accelerated mine closures in Singleton and Muswellbrook • Unable to unlock existing supply all LGAs • Low population growth • Limited employment land capacity close to town in Muswellbrook and Singleton • Complex planning and regulatory framework to enable economic transitions • Difficulty securing funding for major infrastructure upgrades. • Slow release of rezoned land due to monopolistic behaviours.

Strategic Directions and Actions

The Strategy is supported by five strategic directions, with a number of supporting actions for each of the strategies. These are summarised below. The full Strategy, including elaborated actions and delivery tasks, comprises Chapter 1.0 of this report.

Strategic Direction and Actions
Direction 1: Ensure sufficient supply of employment land to enable industry attraction Industry needs development ready and turn-key land to be attracted to an area. This means that there needs to be proactive supply to ensure that industry wants to move to the area. At a minimum, at least 630,000sqm of new floorspace is required by 2041 to service population growth. A larger supply of employment land will be critical to support industry attraction and help accelerate the economic diversification of the region, by having development-ready land for an industry to move to the region. Multiple development fronts and a deep pipeline can help ensure that there is competitive pressure among developers to help

affordability for business. Continual monitoring through the urban development program will help ensure that each Council can respond to any changes and adjust the strategy in a timely manner.

A1.1: Secure a pipeline of zoned, serviced and unconstrained employment land.

A1.2: Explore future employment investigation areas.

A1.3: Continue to monitor employment land supply through the Urban Development Program.

Direction 2: Support vibrant centres and place

Centres are the lifeblood of the community, they are where many residents work, live and play on a daily and weekly basis. Further activating the centres will help ensure that they are vibrant, especially as they will be bypassed for commuters. This provides an opportunity to create walkable and lively places, which leverage the existing high-streets. Ensuring that there is sufficient supply of retail spaces will help accommodate potential population growth. Clear Centre planning for new areas will help ensure this occurs.

A2.1: Prepare and implement centre activation strategies for the main settlements

A2.2: Promote and facilitate, in collaboration with the landowner, the establishment of a regional homemaker centre in Muswellbrook

A2.3: Support start-up businesses and flexible working spaces to drive innovation and regional lifestyle opportunity.

A2.4: Grow the vibrancy of Dungog Town Centre

A2.5: Prepare a Clarence Town Structure Plan and supporting documents to provide clarity around growth expectations and determine where a full-line supermarket could be accommodated.

A2.6 Support new retail to accommodate population growth.

Direction 3: Encourage emerging and growing industries

Councils are seeing the need for the Region to diversify with new industries. Businesses have said that they want more done to bring tourists and innovation in the region. The planning system has a role to encourage new businesses in the area by promoting new opportunities such as agri-tourism, while identifying sites for workers accommodation to enable the tourist opportunity to grow. The circular economy, distributions, and intermodals can all leverage the existing infrastructure within the region and provide a compelling value-add for the region.

A3.1: Leverage the growing tourism opportunity in Dungog, Singleton and Upper Hunter LGAs

A3.2: Unlock the opportunity for circular economy uses

A3.3: Explore the opportunity for a major distribution centre or intermodal facility within the region to support future business establishment and job creation

A3.4: Develop and promote the uptake of agri-tourism

Direction 4: Continue to support a strong and vibrant mining industry while preparing for a post-mining future

While mining is currently a strong regional industry, there is a need to plan for employment in a post-mining future. Councils have invested in new innovation ecosystems and are seeking sites for innovation hubs and greater diversification, the need for which is identified in the Diversification Action Plan. Supporting flexibility in the planning system and creating an investment prospectus will help ensure that post-mining land can be absorbed. The use of the land will need to be taken up early by an employer external to the region, to drive population growth and new jobs in the region. In order to support the transition of more than 6,000ha of mining land into new employment uses, it is critical that investment attraction activity is undertaken to de-risk the transition, and enable to mining industry and subsequent developers to confidently invest, knowing employers will take-up the use of the land. In addition, Councils will continue to work with miners, Federal and State governments to ensure that there is a straightforward regulatory pathway to enable transition.

A4.1: Develop an industry diversification investment prospectus

A4.2: Resolve key issues related to the use of former mining land.

A4.3: Assist in facilitating master planning processes on key mining closure sites

Direction 5: Simplify and enhance the planning system and processes

The region needs to ensure that its planning system continues to be an enabler for economic growth. Council continuing to look at opportunities to streamline in their local area, reduce timeframes and promoting flexibility and certainty will help ensure continued investment. While supporting appropriate land-uses will all help create a vibrant Region.
A5.1: Aim to reduce development approval timeframes
A5.2: Implement a flexible planning framework
A5.3: Investigate removing or adding land uses that could affect the viability of commercial or industrial development

1.0 STRATEGY

1.1 Vision

The Upper Hunter Region is in the midst of an economic transition that will shape the future of the Region for generations to come. The Region's $15 billion economy has traditionally powered NSW, supplying energy needs through both coal mining and power generation, while exporting coal and agricultural product globally. As the world changes, the Region must also change with it powering toward a new green future, capitalising on its existing assets in energy generation, agriculture, and mining, while supporting a diversified post-mining economy with expansion in renewable energy, advanced manufacturing and agribusiness sectors. The Region will leverage its strengths to create a diversified economy that also includes tourism, services and digital uses, becoming a diverse innovation powerhouse across its four LGAs.

The Region contributes approximately 2.1% to the State's GSP while comprising approximately 0.8% of the State's population. It is vital that there is a plan in place to ensure the Region remains an employment and economic generator for years to come. The transition from mining to alternative uses can provide over 6,000 ha of mining land to new employment uses, properly staging the transition with industry attraction will ensure that 10,000 direct mining workers will have successful transitions from the coal industry. Furthermore, employment lands can spearhead the region's growth into new industries, including renewable energy, agriculture and agribusiness, advanced manufacturing, transport and logistics and eco-tourism.

Complementing the successful transition of mining industries will be a deeper investment in agricultural industry and urban centres. Creating lively hubs that attract innovators as well as tourists to experience the best the region has to offer.

By 2041, this Strategy sees the Upper Hunter Region as a dynamic, sustainable, and diverse regional economy that embraces innovation and resilience, while fostering a strong sense of community. Industry will continue to be supported in the Region, generating jobs, infrastructure services, and amenities to enable a growing population. Through diversification, the Region will be recognised as a leader in the development of new industries and technologies, and as a desirable place to live, work and visit.

1.2 Directions and actions

DIRECTION 1: ENSURE SUFFICIENT SUPPLY OF EMPLOYMENT LAND TO ENABLE INDUSTRY ATTRACTION

Action 1.1: **Secure a pipeline** of zoned, serviced and unconstrained **employment land**.

Population changes in the Region will produce demand for approximately 630,000sqm of new floorspace by 2041. The process for calculating this projection is discussed in section 7.0. We heard that stakeholders also want jobs local to housing, to provide greater containment of jobs. New industries require development-ready serviced, zoned and unconstrained employment land for new businesses to locate quickly. The councils have a high quantum of land already do not have land that is serviceable and ready to go for new businesses seeking to operate at scale. Other areas do not have zoned land in the right location.

Principal delivery tasks include:

- Dungog:
  - Investigate an expansion area for E4 General Industrial north-west of Common Road, Dungog noting that topography and flooding are constraints.
  - Investigate and rezone an industrial precinct (E4 General Industrial) around Stroud Hill Road, which could be focussed on artisan industry leveraging existing strengths in agricultural production and providing an additional tourism focus.

- Singleton:
  - Work with the landowner to secure servicing strategy for Whittingham including funding potential funding strategies.
- Muswellbrook:
  - Support the proposed translation of the employment land reform to deliver more E3 Productivity Support land around Rutherford Road and Central Muswellbrook.
  - Investigate and rezone an industrial precinct (E4 General Industrial) near the existing industrial precinct at Thomas Mitchell Drive, the junction of Muscle Creek Rd and the proposed bypass or St Hilliers.
  - Explore use of the SP4 Enterprise zone for mine buffer land and former mine and power station sites for large manufacturing and agribusinesses that are not appropriate in a traditional E4 General Industrial zone, and are capable of managing all their waste disposal needs on site.
- Upper Hunter Shire:
  - Prepare a business case for the upgrade of the Scone Wastewater Treatment Plant to increase its capacity to allow further expansion of existing industrial sites.
  - Consider supporting employment uses on SP1 land at Scone airport and eventually rezoning land adjacent to the racing precinct and airport to future employment uses.
  - Investigate potential tenants and employers for industrial land at Aberdeen.

Action 1.2: Explore future employment investigation areas.

The expansion of new employment areas will be needed to continue to grow the industrial base for the Region and establish new manufacturing uses. This will help meet the 630,000sqm of floorspace needed by 2041 and encourage industry attraction by having well-located employment lands.

Principal delivery tasks include:

- Dungog:
  - Explore the provision of additional industrial land in Dungog LGA, as part of a Clarence Town Structure Plan, if the high population growth rate is adopted.
  - Undertake a Growth Management Strategy to ascertain where future growth will be accommodated.
  - Support interest for meat processing plants in areas outside the water catchment.
- Singleton:
  - The former Rixs Creek mining site is logically located to be able to deliver industrial land. There is demand for 15 ha of industrial land in Singleton which could be delivered through this site. Work with the proponent to undertake technical studies and master planning to determine the ideal location for an industrial precinct.
- Muswellbrook:
  - In collaboration with landowners, seek to transition the AGL Liddell Site from an SP2 Special Purpose site to an SP4 Enterprise zone that would enable flexibility to curate employment uses on the site.
  - Investigate potential for rezoning near the Racecourse to an E3 Economic Productivity zone to enable more opportunity for light industry, advanced manufacturing, and a homemakers centre.
  - Work with proponent (BHP) to encourage a master planning process on Mount Arthur land that seeks to repurpose hardstand infrastructure for the purpose of industrial uses. Considering the location, land along Thomas Mitchell Drive may be appropriate for circular economy uses.

- Upper Hunter

    Encourage the take-up of land for specialised uses in the Equine Precinct and at the airport. This could include light industry and commercial uses that complement the primary precinct intent.

    Explore an investigation site for a regional holiday/caravan park in the LGA including servicing and water treatment.

The identification of future investigation land should be guided by the principles below, which provide a framework to accompany this section of the Strategy.

Future land identification principles

The following criteria have been developed based on stakeholder consultation findings and industry experience. They identify the key characteristics that should be considered when looking to rezone land for employment uses. These criteria have helped inform the constraints analysis. However, the conditions of surrounding land and development appetite have also been considered.

Environmental constraints

Environmental constraints such as conservation zoned land can limit the development potential of land. This applies to areas of environmental significance both on zoned land and on land abutting employment areas. Sensitive environmental assets should be protected and areas of environmental risk (eg flooding, bushfire) should be avoided.

Principle: Avoid land subject to or in proximity to hazard and protection planning layers.

Slope

Employment lands benefit from flat topography. Industrial uses are not suited to sloped land due to access constraints, requirements for large property areas and the cost of developing on sloped land.

Industrial land requires larger floor plates, so benefits from relatively flat sites. We note that the region has challenging topography, although there are opportunities to utilise sloping sites through innovative developments.

Principle: Generally speaking, the flatter the land the better.

Electricity supply

The vast majority of industries are reliant on electricity for operational needs. Industrial electricity supply requires significant forward planning with the servicing agencies because expensive "headworks" upgrades may be required to service employment lands. There may be opportunities for providing industrial electricity resulting from the Hunter Transmission Project.

Principle: Provide an appropriate standard of electricity to employment lands to meet industrial uses.

Water supply and management

Water supply is vital for employment uses, particularly the provision of adequate levels of water pressure to allow firms to meet fire safety requirements. Water management such as sewer and stormwater services should also be in place. On site wastewater solutions and recycled water may need to be considered in the region. Resilience to floods, droughts, and other natural disasters should also be considered in water management practices.

Principle: Locate employment lands in areas which can be serviced by water, sewerage and stormwater in a cost effective and environmentally sensitive way.

Vehicular access

Vehicular access is the foundation for functional employment land uses. Consideration of car access and parking, truck and B-double circulation and motorway access is key. Small firms are particularly susceptible to problems with vehicle access into and out of their sites.

Principle: Locate and design employment lands to have vehicular access from a major road with circulation and parking suitable to the vehicles that need access.

Freight access

Employment lands benefit from access to the national and international freight network. This includes railway, ports and airports. Direct freight access or access via an intermodal logistics terminal is an asset for employment land.

Principle: Locate employment lands with close access to a freight railway, port or airport terminal.

Proximity to extractive industries

In some scenarios extractive industries leases can limit the developable area of employment land sites and immediate availability of industrial zoned land due to buffer requirements. Considering moving within the buffer requirements for some uses will be beneficial.

Principle: Employment lands should be located beyond the buffer requirements from current and potential future extractive resource assets.

Agglomeration

Employment uses benefit from proximity to other employment land uses. Therefore, new employment lands should seek to leverage the economic value of existing areas to boost efficiencies.

Principle: Employment lands should be located adjacent to an existing employment precinct, unless forming a significant new precinct.

Workforce and service catchment

Businesses located in proximity to residential areas have better access to the skills they need to operate and the customer base they service. Access to a populated catchment offers a competitive advantage to employment lands and could help to create 15-minute neighbourhoods, while continuing to provide employment to the region.

Principle: Employment lands should be located in a driveable distance from a regional population centre.

Public transport

Adequate public transport access means easier access for workers. Public transport can often be of concern to firms based in more inaccessible regional areas in relation to moving employees to and from work.

Principle: Employment lands should be accessible by at least one form of public transport. Otherwise, parking needs to be provided for workers.

Action 1.3: Continue to monitor employment land supply through the Urban Development Program.

An Urban Development Program (UDP) for the Region was established in April 2023. The UDP is the NSW Government's program for managing land and housing supply and assisting with infrastructure coordination. The success of the program will be somewhat dependent on the cooperation of councils and their utility services in providing information, as well as on local and State government resourcing to deliver strategies for sites

Principal delivery tasks include:

- In collaboration with the Department of Planning and Environment, seek to provide information that informs the status, supply and challenges to delivering employment lands.

DIRECTION 2: SUPPORT VIBRANT CENTRES AND PLACE

Action 2.1: Prepare and implement **centre activation strategies** for the main settlements

The main settlements of Dungog, Scone, Muswellbrook and Singleton would benefit from clear strategies that seek to attract investment and grow visitation numbers. The by-pass projects create opportunities for Scone, Muswellbrook and Singleton to revitalise their centres to become vibrant destinations. These projects will shift the centres from being thoroughfares for cars, and instead provide greater opportunity for high street activation and walkability.

Principal delivery tasks include:

- Establish a clear vision for the town centre developed in collaboration with centre traders
- Identify catalyst sites that can be activated temporarily or permanently
- Establish and promote a regular event strategy to draw people into the town centres
- Incorporate an investment prospective that identifies the opportunities and gaps in the market for new retail and hospitality
- Establish or empowers the chamber of commerce or similar governance body to input into, implement and monitor the activation strategy.

Action 2.2: Promote and facilitate, in collaboration with the landowner, the establishment of a **regional homemaker centre** in Muswellbrook.

Across Upper Hunter, Singleton and Muswellbrook LGAs, total demand for bulky good retail will increase to 25,306 sqm of bulky-good retail. Muswellbrook is centrally located between Scone and Singleton and has an appropriate zoned and located site that could be leveraged for the purpose of a home-maker centre. Agglomerating bulky-good retailing has the economic benefits for retailers due to increased trade attraction and retail competitiveness.

Principal delivery tasks include:

- Explore options for a Bulky Goods retailing site should the Showground no longer be relocated near Skellatar Stock Route and near Racecourse Road to clustering entertainment uses. Working with landowners to seek rezone land, if necessary.
- Attracting interested investors and tenants to establish in the homemaker centre.

Action 2.3: Support start-up businesses and flexible working spaces to drive innovation and regional lifestyle opportunity.

The Upper Hunter Region is seeing an influx of people moving to the region to leverage its lifestyle opportunities. As identified in Section 5.3, social media has generated the opportunity for more business start-ups and entrepreneurs to enter the e-commerce market. It has also created the capacity for people to live outside of major metropolitan areas as the dependency on bricks and mortar retailing has diminished. The emergence of new businesses and start-ups has increased the demand for:

- Warehouses with scale-up opportunities
- Manufacturing floorspace with scale-up opportunities
- Co-sharing spaces and collaboration spaces (commercial and industrial)
- Transport and logistics services including product packaging and distribution
- Commercial kitchens.

Muswellbrook Council has identified this opportunity and has created a facility that supports start-up manufacturing businesses. Dungog main street has also seen the emergence of new businesses leveraging agri- and experiential tourism. Bypass projects in Singleton, Scone, and Muswellbrook also create further opportunities from the potential revitalisation of town centres. There is opportunity for the region to further capture and position itself to cater to start-ups and entrepreneurs by establishing flexible incubator workspaces that can be co-shared.

The principal tasks would involve seeking to deliver flexible spaces through:

- Utilising existing underutilised council assets and government land
- Voluntary Planning Agreements
- Providing co-working or pop-up spaces in vacant commercial or industrial premises.
- Providing shared (incubator) warehousing facilities to enable initial industry expansion

Action 2.4: Grow the vibrancy of Dungog Town Centre

The Dungog Town Centre is going through a resurgence, with new and unique businesses moving into town. There is opportunity to capitalise on this renewed interest and investment by undertaking strategic projects that can catalyse the centre.

Principal delivery tasks include:

- Seek funding to implement planning for town beautification initiatives including:
  - Hooke Street revitalisation project, and
  - Brown Street pedestrian improvements to enhance access from Dungog Station
- Encourage the relocation of the agricultural sales businesses to the industrial precinct
- Explore a business case for repurposing government land near the station to accommodate a mixed use development opportunity.

Action 2.5: Prepare a Clarence Town Structure Plan and supporting documents to provide clarity around growth expectations and determine where a full-line supermarket could be accommodated.

The Dungog population is projected to double by 2041, (see Section 4.3.1) however there is limited strategic planning to support where the growth will go and at what scale. With population growth comes demand for retail, industrial and commercial services and space. There is a need to undertake strategic planning to provide clarity around growth expectations and determine where population serving floorspace should be delivered.

Principal delivery tasks include:

- Prepare the Clarence Town Structure Plan
- Prepare a servicing and delivery plan

- Update Local Environmental Plan
- Update Development Control Plan
- Prepare Development Contribution Plan.

Action 2.6: Support new retail to accommodate population growth.

Under high population growth scenarios the amount of retail across the LGAs will likely need to increase. Focus should be provided to supporting vibrant high streets that provide an important tourist and placemaking element to each of the towns. Bulky goods and supermarkets could be located in new areas or existing areas, as suggested in section 7.2.

Principal delivery tasks include:

- Identify and support a supermarket north of the Hunter River to support the growing population with full-line retail demand.
- Dungog LGA supermarket demand would increase by 2,148 square metres, which would lend itself to a full-size supermarket in the LGA by 2041. Depending on the likely location of population growth it might lend itself in Clarence Town to increase convenience for residents of both Dungog and Clarence Town. Council should identify a strategic site for the new supermarket and consider potential options for the current supermarket site.
- Muswellbrook has capacity for an additional 6,378sqm of retail overall, of which 2,021sqm is for supermarket and grocery uses. While there may not be capacity for a full-line supermarket, there could be capacity for a fresh format or an independent supermarket in Muswellbrook to serve the expected population growth.

DIRECTION 3: ENCOURAGE EMERGING AND GROWING INDUSTRIES

Action 3.1: Leverage the growing tourism opportunity in Dungog, Singleton and Upper Hunter

The tourism sector employs 1,266 people in the region. Through our product audit we identified 383 businesses offering tourism products or services across the region. Our consultation indicated the region had overall not experienced an increase due to Covid; however, there had been some increased adventure-based tourism in Dungog. Our consultation has also indicated that the majority of overnight stays are taken up by mining workers in Singleton and Muswellbrook towns. Noting the southern portion of Singleton Council is part of the Hunter Valley state significant tourism destination combined with Cessnock Council, this action is about establishing tourism beyond the Hutner Valley and vineyard precinct.

Section 5.2.5 identifies a number of strategies that could be adopted by the Joint Organisation of Councils, or individual councils to enhance the visitor economy across the region. These have been utilised to inform the principal tasks to achieving the action.

Principal delivery tasks include:

- Encourage the development of appropriate workers accommodation to free up accommodation for tourists.
- Investigate a site in the Upper Hunter LGA for a major tourist oriented premium holiday/caravan park
- Investigate the feasibility of a major branded holiday park around Dungog, leveraging the adventure tourism and natural assets of the region.
- Work with providers to offer unique and authentic experiences to attract visitors to eco and agritourism destinations. This can include activities such as hiking or cycling events, farm-to-table meals, farm tours, environment or agricultural education, and hands-on experiences like picking your own produce or helping with farm chores.
- Build partnerships with local businesses, farmers, and tourism organizations to promote eco and agritourism destinations and provide visitors with a wider range of experiences.

- Use digital marketing: strategies such as social media and online advertising to reach a wider audience and promote tourism destinations to potential visitors.
- Offer value-added products such as farm-fresh produce, artisanal goods, and locally-made souvenirs to help generate additional revenue for farmers and enhance the overall visitor experience.
- Develop a regional brand, similar to what has been successfully achieved on the Northern Rivers, that celebrates the unique features and products that are produced.
- Investigate the potential for Aboriginal-based tourism opportunities to complement the existing nature and adventure offerings in partnership with local Aboriginal communities.
- Finalise and implement the draft Vineyard Tourism Strategy for Singleton LGA.

Action 3.2: Unlock the opportunity for circular economy uses

Consultation has revealed strong interest in circular economy uses for the Region. The circular economy involves the recycling, remanufacturing, and reuse of materials, and has the potential to intersect with other important industries for the Region.

The circular economy presents opportunities for energy generation through the re-use of waste. As the NSW Energy from Waste Policy Statement identifies, a range of waste materials can be used for energy generation. If this is carried out in the Region, it could both support its green energy network and provide employment opportunities.

In addition to energy generation, the circular economy industry also includes manufacturing using recycled materials; this presents opportunities to grow the region's manufacturing industries to include the processing of waste and its manufacture into sustainable products. Another part of the circular economy involves the recycling of renewable energy equipment, including photovoltaic panels, wind turbines, and batteries. This sector of the circular economy could also grow in the Region alongside the long-term development of its renewable energy industry.

Circular economy opportunities are growing partly as a result of developments outside the region. Greater Sydney requires at least one large regional energy recovery facility and medium-scale 'dirty' MRF by 2030, and by 2040 at least three additional large-scale energy from waste facilities, and an additional medium-scale dirty MRF. The Hunter would require a medium-scale energy from waste facility. NSW does not have the capacity to treat persistent organic pollutants (such as PFAS) instead exporting to Queensland and Victoria. Former mine sites have the existing infrastructure to enable energy from waste facilities. Energy from Waste requires an approval from the EPA prior to being permitted under the SEPP. New requirements for food organic and green organic waste processing creates the need for a regional processing facility. The Upper Hunter Region could be a viable location for the joint organisation for processing this waste.

Principal delivery tasks include:

- Write to the EPA to advocate for former mining land in Muswellbrook to be used for circular economy uses as part of the energy from waste policy principles.
- Consider council site for the Hunter Joint Organisation Facility that incorporates FOGO processing

Action 3.3: Explore the opportunity for a major distribution centre or intermodal facility within the region to support future business establishment and job creation

As identified in section 5.0, there is a growing demand for transport and logistics hubs that are located close to major road and rail distribution connections. Despite the region's strategic location and industry base, there is currently no intermodal terminal in the Region. There is opportunity to cluster manufacturing, logistics and supply chain operators for agriculture, defence, mining and renewable energy. The existing heavy industrial site at Whittingham in Singleton LGA is strategically located with the opportunity, through investment, to leverage rail and road connections. While Wittingham presents a key opportunity within the Region, this Action and its delivery tasks could be applicable to various potential sites across the region.

An example inland intermodal is the Bromelton State Development Area in South East Queensland[1].

Principle delivery tasks include:

- In collaboration with Regional NSW, DPE and the land owner, seek to designate the site as a Special Activation Precinct.
- Work with stakeholders to develop a masterplan and technical studies.
- Seek to promote and attract significant industry investment in line with the strategic intent for the precinct.

Action 3.4: Develop and promote the **uptake of agri-tourism**

As identified in section 4.2.1, agriculture, forestry and fishing is the second largest employing industry in the Region. In 2023, the NSW Government introduced clear planning definitions for agritourism in NSW to make it easier for farmers to maximise the utilisation and economic return of their properties. These terms included farm gate premises, farm experience premises and farm stay accommodation. The government also announced new planning pathways through exempt and complying development to make it easier for landowners to maximise property utilisation. These changes create significant opportunity for the Region to leverage its primary agriculture industry to enhance regional visitation and economic return.

Principal delivery tasks include:

- Develop a simple factsheet that articulates the types of uses that can now operate on farms and the associated consent pathways.
- Draw on information from the DPE factsheet on agritourism.
- Share factsheet through social media and host on websites.
- Partner with local chamber of commerce and business organisations to distribute information on agritourism rules.
- Upper Hunter Council to consider implementing the agritourism clauses in its LEP.

DIRECTION 4: CONTINUE TO SUPPORT A STRONG AND VIBRANT MINING INDUSTRY WHILE PREPARING FOR A POST-MINING FUTURE

Action 4.1: Develop an industry diversification investment prospectus

The conversion of over 6,000ha of mining related land to new employment uses is critical to ensuring that a Region which contributes 2% of the State's Gross State Product with over 10,000 people directly employed in the mining industry continues to have a sustainable economy. That means the replacement industries and jobs will need to be found to avoid disruptions to the Region and State economy, which will be driven by industry and all levels of government working collaboratively to bring new jobs to the Region.

In saying this, however, the region is strategically located and well positioned to diversify its economy as outlined in section 5.2. There are a number of mining operations in the region that are logically located and have mooted intent to cease operations by 2030, if not before. Mine sites include MacArthur Coal and Muswellbrook Coal will be undergoing closure processes. As outline in section 5.4, mining sites have significant established infrastructure and hard stand areas that could be repurposed to accommodate substantial industries. In order to capitalise on the economic opportunity of these sites there is a need to generate independent interest and demand to invest in and repurpose the operations.

Principal delivery tasks include:

- Develop an investment prospectus (collaboration between Singleton and Muswellbrook councils, DPE and Regional NSW) to attract large industry operators that would be interested in investing in repurposing strategic mine sites. The prospectus should:

[1] https://www.statedevelopment.qld.gov.au/coordinator-general/state-development-areas/current/bromelton-state-development-area

Advertise site opportunities

Demonstrate the strategic merits of the region

Engage with a wide-range of potential users including defence, circular economy, and manufacturing users

Demonstrate vision for the region and depth of market capacity.

Action 4.2: Resolve key issues related to the use of former mining land.

Mining land provides established infrastructure for employment land expansion. The consultation process indicated that there are many complexities in this process. Mine approvals require offsetting areas that are multiple times the size of site areas for operation, as well as the rehabilitation of site areas. Areas for offsetting create barriers for urban expansion in Muswellbrook. Existing operating mine sites are under WHS (Mines and Petroleum Sites) legislation and lease conditions require reporting of any breaches. These are more onerous than existing lease conditions. Therefore, the use of buffer land can place the mine operation under threat if not appropriately managed. There are opportunities for both Singleton and Muswellbrook LGAs to work collaboratively to resolve key issues and challenges.

Principal delivery tasks include:

- Advocate that DPE and DRNSW as part of their place planning function work to:
  - Resolving biodiversity offsets to allow for site infrastructure to be retained and utilised
  - Consider partial modification pathway that do not restrict current mining operations
  - Find options to amend leases or WHS (Mines and Petroleum Sites) legislation to allow non-mining operation on land
- Advocate that DPE (Planning), DPE (EES), DRNSW, industries, councils and federal government form a working group to resolve key barriers. The findings should be reported to the Urban Development Program.
- Support modifications to consent for the SSD approvals that would enable development on buffer land, as well as changes in the post mining land form (and in particular land use).

Action 4.3: Assist in facilitating master planning processes on key mining closure sites

While some mines are planning to continue operations, others are undergoing closure processes. Muswellbrook Coal is currently undergoing the mine closure process. A range of other mines in Muswellbrook and Singleton LGAs may soon undergo closure processes as well. BHP has also announced the closure of its NSW Energy Coal business by 2030 subject to gaining approvals to enable mining beyond 2026. The Region Plan identifies an action for the Department to develop expedited options to change to another employment use for mine sites where existing infrastructure like hard stand areas, workshops, stores, treatment plants and rail loops are concentrated.

Principal delivery tasks include:

- Work with mining companies, Regional NSW, and InvestNSW to prepare a prospectus and EOI for future uses of mines to better understand possible uses and help inform the preparation of SSD modifications.
- Councils to work with proponents to support or encourage master planning process for the Mount Arthur Mine buffer land (near Thomas Mitchell Drive) and the Muswellbrook Coal proposed industrial land in Muswellbrook LGA, and for Liddell Coal Operations and Ashton Coal land in Singleton LGA. There is strategic merit in all locations for the sites to accommodate employment and economic generating uses.
- Work with proponent, DPE, and Regional NSW to outline council's strong desire for economic uses for post-mining land as part of any council submission or advice related to mine extensions
- Advocate and provide input into place strategies prepared by DPE for each of the mine closure sites. Regularly ask DPE for updates on funding and progress on these place strategies.

DIRECTION 5: SIMPLIFY AND ENHANCE THE PLANNING SYSTEM AND PROCESSES

Action 5.1: Aim to reduce development approval timeframes

As identified in Section 5.8, development approval timeframes vary between averages of approximately 74 days (Upper Hunter LGA) and 114 days (Dungog LGA). These longer approval timeframes can add substantial holding costs to developers and can act as a deterrent to future investors. It also limits the ability for development ready land to be available for new businesses to establish itself.

There are opportunities to maximise the effectiveness of planning systems throughout the entire Region. For instance, a shared 'joint organisation' Duty Planner could add to collaboration and consistency between the region's LGAs with regard to fast-tracked and complying development applications.

Principal delivery tasks include:

- Encouraging the application of SEPP (Exempt and Complying Development) to reduce number of comprehensive development application that Council has to assess. This could be done by:
  - Providing information on Council's website about the circumstances in which a complying development application can be used (rather just a than a link to the planning portal)
  - Employing a shared 'joint organisation' Duty Planner to inform prospective applicants of the opportunities under part 5 of the SEPP for a fast-track assessment via the complying development pathway and navigating the planning portal.
- Encourage formal and informal pre-DA meetings and ongoing discussions with applications to resolve issues well prior to the DA being lodged.

Action 5.2: Implement a flexible planning framework

Discussions with stakeholders from local industry and businesses have identified that the more flexible the planning controls can be the more attractive an area is to invest in. This is discussed further in Chapter 8.0. The below set of delivery tasks aim to increase overall planning flexibility, including within employment zones, to make development more attractive through the easing of restrictions. The intent would be to create a consistent set of standards across the Upper Hunter.

Principal delivery tasks include:

- Establish a collaborative working group of Councils to align standards across the LGA.
- Advocate for consistent standards for Hunter Water to simplify the referrals process within the water catchment. This could include allowing Council to assess impacts without referral for development that is consistent.
- Investigate removing maximum height limits in the E4 General Industrial zone to avoid unnecessarily deterring or restricting development.
- Investigate parking requirements to ensure that they are not overly restrictive and do not unnecessarily increase development costs.
- In Muswellbrook consider the necessity of 10.0m setback from the principal boundary alignment, and the variation criteria requiring 6m landscaping across the frontage of the site in the DCP.
- In Singleton consider the necessity of a 15m setback in B1, B5, and IN3 zone, and the 9m setback in the B6 one in the DCP.

Action 5.3: Investigate removing or adding land uses that could affect the viability of commercial or industrial development

The employment zone reform creates an opportunity to rethink about how zones are applied and the permissibility of uses within them. A review of the permissible uses under the new planning framework was undertaken to determine whether there is relative consistency across the region and what uses could be added

or removed to improve the commercial viability and appeal of the region for development. This includes the encouragement of light industry, which is defined as being not impactful on surrounding amenity.

Principal delivery tasks include:

- In Dungog, consider removing the residential accommodation group term from permissible with consent and instead refine to higher density development such as shop top housing, multi-dwelling housing and residential flat buildings
- In all LEPs, consider enabling light industries as permissible with consent in the E1 Local Centre zone and E2 Commercial Centre zone (where adopted).
- In Upper Hunter LEP, consider enabling backpackers' accommodation, bed and breakfast accommodation and serviced apartments as permissible uses in the E1 Local Centre zone

BACKGROUND REPORT

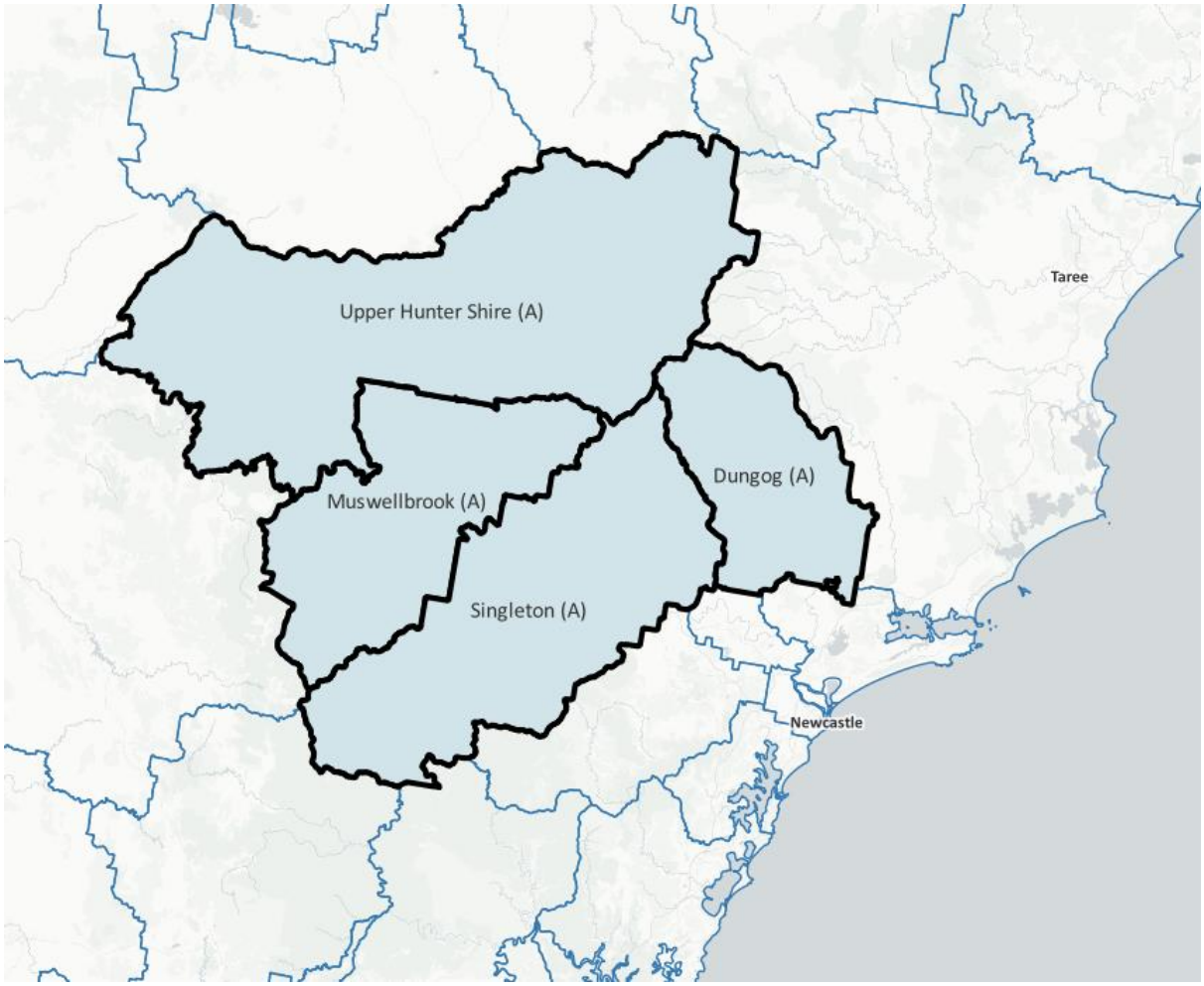
INTRODUCTION

2.0 INTRODUCTION

Dungog Shire Council, Muswellbrook Shire Council, Singleton Shire Council and Upper Hunter Shire Council engaged HillPDA through Muswellbrook Shire Council to prepare the Region Employment Lands Strategy (the Strategy). The Strategy provides a strategic planning framework to guide the future development of employment lands in the Region (the Region) identified in Figure 1, consistent with the broader strategic planning framework and policy context.

Preparation of the Strategy was guided by the Department of Planning and Environment's *A guideline for local employment land strategies* (July 2022) and informed by the outcomes of targeted stakeholder engagement with councils, local businesses, industry associations, investors, and developers who operate out of this Region.

Figure 2: Region



Source: HillPDA

2.1 Background

Taking a strategic approach to the delivery of suitable employment lands in the right locations is key to ensuring the Region's long-term economic prosperity and sustainability. Employment lands not only provide local and regional employment opportunities; they also support the functionality, vibrancy and well-being of urban areas across the Region and beyond, by providing:

- Essential services such as waste and water management, repair trades and construction services
- Warehousing, logistics and last mile distribution centres
- Areas for businesses to design, manufacture and produce goods and services
- Opportunities for businesses to increase their economic output and efficiencies through the effects of agglomeration.

2.2 What are employment lands?

Employment lands are areas within an LGA that are zoned to support employment uses. While it is acknowledged that a variety of land use zones support employment uses, including rural lands, this Strategy relates specifically to land in the Region that was zoned for business or industrial purposes immediately prior to 26 April 2023.

Due to the timing of this Strategy, it is based on the now repealed business and industrial land zonings listed in Table 1. It is noted that these zones were replaced by a new suite of employment zones listed in Table 2. The new zones were introduced by the NSW Government in December 2022 and commenced on 26 April 2023 as part of the employment lands reforms. A translation of the former business and industrial zones into the new employment zones for each of the LGAs in the Region is provided in Table 3.

Each LGA in the Region has taken a different approach in terms of the land uses that are permissible within the various employment zones, as demonstrated in the attached land use matrix.

Table 1: Former business and industrial zones

Zone	Description
B1 Neighbourhood Centre	Small scale retail, business, and community uses.
B2 Local Centre	Business, entertainment and community uses.
B3 Commercial Core	Retail, business, office, entertainment, and community uses.
B4 Mixed Use	Business, office, residential and retail.
B5 Business Development	Business, warehouse and large format retail.
B6 Enterprise Corridor	Business along main roads.
IN1 General industrial	Industrial and warehouse.
IN2 Light Industrial	Light industrial, warehouse and related uses.
IN3 Heavy Industrial	Heavy industries with high impacts (noise, vibrations, odours, etc.).

Table 2: New employment zones

Zone	Description
E1 Local Centre	Retail, business, entertainment and community uses. Residential uses allowed in the form of shop-top housing and boarding houses.
E2 Commercial Centre	Large scale commercial, retail, business and compatible associated uses like recreational and community services. Employment and business focus. Residential uses by exception (for high density areas) if the primary employment focus is preserved.
E3 Productivity Support	Mix of services, low-impact and creative industries, manufacturing, warehousing, office and limited supporting retail. Residential uses generally not appropriate.
E4 General Industrial	Light and general industrial and warehouse uses, with limited general retail. Residential uses not allowed.
E5 Heavy Industrial	Heavy industry and associated.
MU1 Mixed Use	Genuine mixed use including residential, retail, light industry, tourist accommodation.

Table 3: Zone translation for LGAs in the Region

Former business/industrial zone	New employment zone
Dungog	
B2	E1
B4	MU1
IN1	E4
Muswellbrook	
B2	E1, E2, E3, RE1
B5	E2, E3
IN1, IN2	E4
Singleton	
B1	E1
B3	E2
B4	MU1
B5, B6	E3
IN3	E5
Upper Hunter	
B2	E1
B2, B4	MU1
IN2	E4

Source: Department of Planning and Environment, *Equivalent zone tables*

2.3 Objectives

The purpose of the Strategy is to establish a strategic planning framework to guide future planning and decision making for employment lands in the Region, consistent with the broader strategic planning framework and policy context.

Specific objectives of the Strategy are to:

- Understand the amount and status of employment lands across the study area
- Ensure adequate supply to meet the forecasted demand and industry needs over the next 20 years
- Avoid shortages of serviced land in appropriate locations, so that economic/employment opportunities and competitiveness are not compromised
- Understand the region's land, business, employee, and training capacities, and whether resident skillsets align with local jobs
- Identify barriers/issues, and make recommendations to overcome or minimise them
- Provide recommendations that align with local planning objectives and strategies
- Ensure efficient and effective use of strategically located sites and infrastructure
- Ensure that planning is economically and environmentally sustainable
- Recognise fundamental elements in employment lands and the economy that could assist in 'closing the gap', as well as in responding to more general global, domestic, and local trends.

Overall, the Strategy seeks to identify opportunities for the Region to transition from an agricultural-mining dominated economy to a more diverse and modern economy focused around higher order and productive industries and the knowledge-intensive economy, supporting new and high-paying jobs.

The Region's economy is heavily reliant on mining for its economic potential, particularly coal mining in Singleton and Muswellbrook LGAs. Overall, the Region is 10 times as dependent on mining compared with other similar regions in Regional NSW.

To support their continued growth aspirations, Singleton and Muswellbrook must diversify their economy, and innovate to seek new jobs that pay salaries close to those in the mining industry. Recent mine closures include Muswellbrook Coal, Liddell Coal, Mangoola, and Dartbrook along with future closures including Mount Arthur Mine. While existing mines are confident of continued operation, it is critical that as the world decarbonises that Muswellbrook and Singleton take steps to prepare for a post-mining future. With many mine workers and supporting businesses located throughout the Hunter, ensuring a well-planned transition is a state significant matter.

The local economies of Dungog and Upper Hunter LGAs are predominately agriculturally based, with global food manufacturer JBS Australia employing approximately 450 people in Scone. Activating centres to bring tourism, offering a range of industrial opportunities, will support the projected population growth with job opportunities.

Unless employment opportunities are created locally and within the Region, residents in each of the LGAs will need to travel long distances to work or leave the area altogether, which has the potential to reduce the vibrancy and economic viability of towns and centres in the Region, making it increasingly difficult to attract new residents and industry.

Each LGA faces specific challenges; however, common across all is the need to support industry attraction, with development ready and affordable employment land both in centres and industrial precincts.

To support economic growth in the Region, this Strategy identifies five directions:

- Ensure sufficient supply of employment land to enable industry attraction
- Support vibrant centres and place
- Encourage emerging and growing industries
- Continue to support a strong and vibrant mining industry while preparing for a post-mining future

- Simplify and enhance the planning system and processes.

These directions supported by 19 Actions. Each of the Councils in the Region must work collaboratively with each other, and with State Government, landowners, existing industry, and potential future employers to be able to take attract new businesses that will support jobs and a diversified economy.

2.4 Stakeholder engagement

In preparation of this Strategy, HillPDA carried out stakeholder engagement with councils, local businesses, educational institutions, industry associations, investors, and developers operating in the Region. Engagement activities involved a combination of phone, online, and in-person interviews. Private sector stakeholders engaged as part of this process include real estate agencies, energy companies, manufacturers, and small businesses.

STRATEGIC CONTEXT

3.0 STRATEGIC CONTEXT

This section provides an overview of key strategic local and regional planning documents that together provide the strategic context for this Strategy. It demonstrates that the overarching vision for the Region is to leverage the existing strengths across heavy industry, energy, equine, tourism, food and fibre, and viticulture sectors, while supporting a more aggressive expansion into renewable energy and the new economy. Improvements to the Port of Newcastle and Newcastle Airport will be critical to the success for the Region as a key exporter and employer into the future. Based on stakeholder feedback, we note that the Region envisions a broader role for itself with potential for rapid expansion and innovation to leverage existing infrastructure and landholdings to continue the region's contribution to the State economy.

3.1 Hunter Regional Plan 2041

The *Hunter Regional Plan 2041*, published in December 2022, establishes objectives, strategies, actions, and planning priorities for the wider Hunter region. Under the Regional Plan, the Region is situated within the 'Upper Hunter district', with the exception of Dungog LGA, which is situated within the 'Barrington district'. The Regional Plan identifies strengths of the former in heavy industry, energy, equine, and viticulture sectors, with Dungog identified as an administrative centre for the latter district. The Regional Plan identifies the overall diversification of the Hunter Region, including in such sectors, as a key future objective.

A variety of employment land opportunities are identified by the Regional Plan, including the adaptation and transition of ex-mining lands to alternative employment uses; the contribution of the REZ to manufacturing and energy-intensive industries; the potential of knowledge and innovation clusters; the contribution of commercial centres towards local employment and economies; and opportunities in manufacturing, logistics, warehousing, freight, and circular economy industries.

This Strategy has been guided by these broad regional-level visions for future employment opportunities across the Hunter region. In focusing closely on the Region in particular, the Strategy is able to detail the strengths and opportunities of this region, producing strategies to address the Region's needs.

Consistent with the Region Plan this Strategy considers:

- how existing employment land areas, including those that provide urban services, will be retained
- unless opportunities for urban renewal arise through the relocation of industry
- if there is sufficient supply of vacant, serviced employment land providing capacity for a range of different sized employment enterprises
- the employment land needs for the local government area and identify flexible planning and development control frameworks to support their growth
- opportunities to facilitate growth in logistics, circular economy, new economic enterprises and industries and their supply chains
- the suitability of transport interchanges and bypasses for employment lands in consultation with Transport for NSW
- lands around the interchanges of the M1 Pacific Motorway and Pacific Highway should be used for employment activities that benefit from easy access to key markets such as manufacturing, logistics and warehousing
- the proximity of sensitive land uses and ensure they do not encroach upon these areas.

3.2 Hunter Regional Economic Development Strategy 2023 Update

The Hunter Regional Economic Development Strategy – 2023 Update (REDS Update) updates the 2018-2022 Strategy. It recognises the significant investment that has occurred in the region since 2018, including, as relevant to this study:

- The Hunter-Central Coast Renewable Energy Zone (REZ) could generate 40GW of renewable energy, translating to ~$100 billion of potential investment.
- $2 billion invested in upgrades to the New England Highway, M1 Motorway and the Scone, Muswellbrook and Singleton bypasses.

There has been year on year growth from 2011-2020 in the four key industries of Mining (+5.5%), Electricity supply (incl. renewables) (+3.5%), Agriculture (+6.5%) and Defence (+8.5%). Manufacturing however has seen a reduction in year-on-year growth of 4.8%.

The revised strategies for the REDS Update include (change from 2018 strategy in bold):

- Improve inter and intra-connectivity of the region to boost business opportunities in the 'engine' industries of agriculture, mining, manufacturing **and tourism**.
- Diversify the region's economy to build resilience **while leveraging opportunities presented by transformative change in the** mining and energy sectors.
- Improve infrastructure, services and amenities to fully **realise and sustain** the region's growth potential.
- **Invest in development of the region's local workforce capability and capacity.**

3.3 Upper Hunter Economic Diversification Strategic Priorities

The *Upper Hunter Economic Diversification Action Plan: Implementation Priorities* provides a framework for the Region's economic diversification. The Action Plan sets out proposed responses to the expected economic shocks as a result from reductions in coal mining-related employment, energy market changes, automation, power station closures, and water and energy security issues. It also identifies other impacts to employment that result from land use uncertainty and the wider land impacts of mining.

The Action Plan identifies innovation precincts and hubs as the principal generators of new employment opportunities. Educational institutions are potential drivers for such precincts and hubs, which include an Equine Innovation Precinct in Scone and an Energy Research Hub in Muswellbrook.

This Strategy has been influenced by the priorities outlined in the Action Plan. It considers employment land trends and opportunities that are guided by wider industrial trends expected to have significant impacts on the Region. While recognising that there will be a long-term transition from traditional mining and power station employment, this Strategy supports changes to the land-use planning framework through the transition.

3.4 The Six Cities Region Discussion Paper

The *Six Cities Region Discussion Paper*, published in September 2022, is a precursor to the forthcoming *Six Cities Region Plan*. Under that Plan, the Region—particularly Dungog and Singleton LGAs — border the 'Lower Hunter and Greater Newcastle City'. The region forms part of the Hunter-Central Coast Renewable Energy Zone (REZ), which is in an early planning stage.

This Strategy is framed by the Discussion Paper in considering the connectivity of the Region to other surrounding regions within NSW, as well as anticipated developments such as the Hunter-Central Coast REZ.

3.5 Local-level strategies

Employment lands are also influenced by strategies at the LGA level across the region. Local Strategic Planning Statements (LSPS), as well as Community Strategic Plans, Land Use Strategies, and other policies produced by local Councils, form strategic frameworks for the development of employment lands in the region.

These policies have been reviewed and summarised in relevant LGA profiles and informed the Strategy's directions and actions for each LGA.

3.6 LEP Additional permitted uses

All LGAs within the Region provide for 'additional permitted uses' through relevant Local Environmental Plans (LEPs). In a few cases, these additional permitted uses allow for employment land uses to be carried out in otherwise prohibitive zones. The purpose of such additional permitted uses is often to facilitate the continuation of existing on-site developments and activities. However, there are also cases in which additional permitted use provisions seek to unlock employment land opportunities beyond those provided by local zoning schemes. Table 2 summarises additional permitted uses that provide additional employment lands in LGAs throughout the Region.

Table 2: Additional permitted use provisions in Region by LGA

LGA	Site	Zonings	Additional permitted uses	Area
Singleton	George Street lots	R1	Office premises	0.3ha
Upper Hunter	Hunter Valley Equine Research Centre Precinct, Scone	RE2	Animal boarding or training establishments and veterinary hospitals	110.3ha

Source: HillPDA (2022)

As Table 2 shows, there are few cases of additional permitted use provisions providing significant additional employment lands within the Region.

The Racecourse at Scone forms part of the Hunter Valley Equine Research Centre Precinct, while zoned RE2 this provides a basis for racing and equine industry research and sports.

Additional permitted use provisions also apply to three lots in relative proximity to each other on George Street in Singleton. Despite being located within an R1 General Residential zoned area, office premises are permitted with consent on these sites, providing a potential 3,000sqm of office space near the Singleton town centre.

Other additional permitted employment uses are present in applicable planning documents. These relate to single sites for potential vehicle sales or hire premises, or other businesses.

SOCIO-ECONOMIC TRENDS

4.0 SOCIO-ECONOMIC TRENDS

This section provides an overview of the current and historic socio-economic trends in the Region. This analysis is based on data obtained from the Australian Bureau of Statistics (ABS), Transport for NSW and Department of Planning and Environment (DPE).

4.1 Resident population characteristics

The resident population refers to persons living in the Region, regardless of where they travel to work.

4.1.1 Terminology

In line with the Greater Sydney Commission's (GSC) employment categories, in some sections in this chapter and proceeding chapters, employment industries have been aggregated into four broad industry codes (BICs). These are based on the Australian and New Zealand Standard Industrial Classification (ANZSIC) 1-Digit categories.[2] These four BICs are as follows:

- **Knowledge intensive:** Information Media and Telecommunications; Financial and Insurance Services; Rental, Hiring and Real Estate Services; Professional, Scientific and Technical Services; and Public Administration and Safety.
- **Health and education:** Education and Training; and Health Care and Social Assistance.
- **Population serving**: Retail Trade; Accommodation and Food Services; Arts and Recreation Services; Construction; Administrative and Support Services and Other Services.
- **Industrial:** Agriculture; Forestry and Fishing; Mining; Manufacturing; Electricity, Gas, Water and Waste Services; Wholesale Trade; and Transport, Postal and Warehousing.

Due to the significance of agricultural and mining industries, these industries have been separated out of 'industrial' for some of the analysis where specified, because they are unlikely to occur on employment land. While these industries do provide significant regional employment, this Strategy requires considering the range of alternative industries that also have scope to provide employment in the region on employment land.

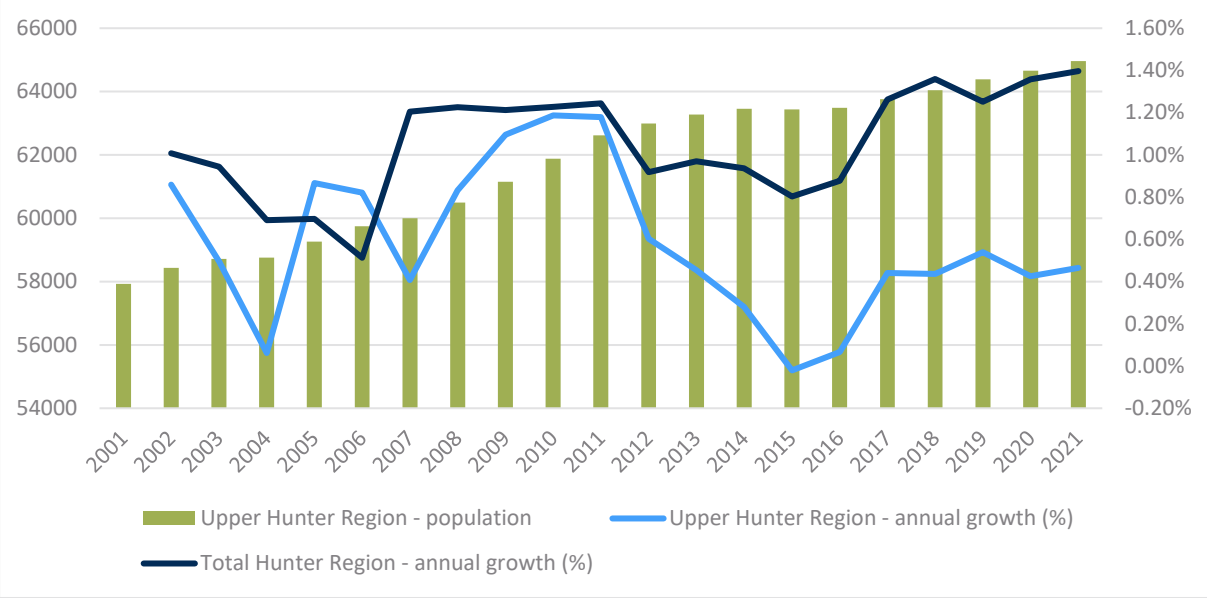
4.1.2 Resident population growth

Over a 20-year period to 2021, the population in the Region increased by 7,028 persons or 12%, reaching a total of around 64,704 residents. This represented an annual compound growth rate of around 0.55%. This was less than half the annual compounded growth rate for NSW (1.24%) over same period.

The Region generally experiences lower growth than the Hunter Region overall. The Region has experienced greater volatility in growth rates each year, reflecting the lower population and possibly the impact of major employers on the region due to economic and/or social or land use impacts.

2 The Australian and New Zealand Standard Industrial Classification (ANZSIC) 1-Digit industry system classifies entities based on their main business activity and is used to collect and analyse data across 19 industries

Figure 3: Estimated resident population 2001-21 (year ending in June)

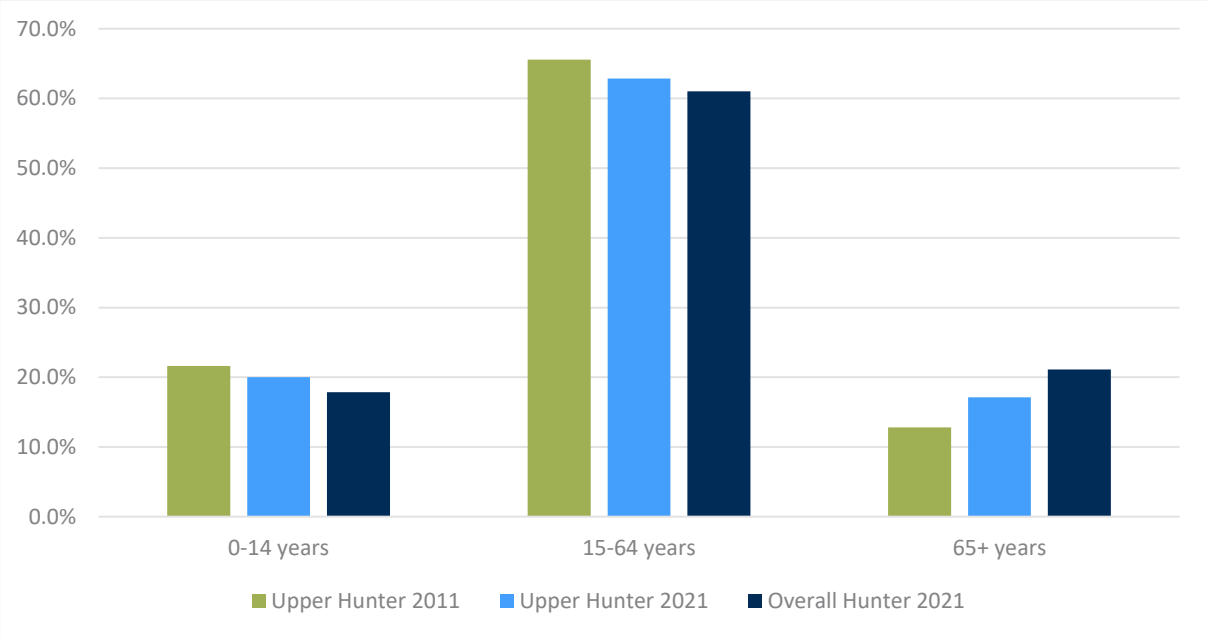


Source: ABS Regional population, HillPDA

4.1.3 Age composition

The Upper Hunter Region has a relatively younger population than the rest of the Hunter as seen in Figure 4. Despite ageing over the past decade, the Region continues to have a higher proportion of working-age population (66%) than the Hunter Region overall (61%)

Figure 4: Age composition 2011-21



Source: ABS 2011 and 2021 Census, TableBuilder

Population growth in the region reflects an aging population, with 150 residents fewer aged 14 in 2021 compared to 2011. In the same period the number of people aged between 15 and 19 decreased by 409. There were significant increases in older age groups with 1,370 more people between 50 and 64 years old and 3,330 more aged over 65.

Table 3: Net change in age cohorts in the Region, 2011-21

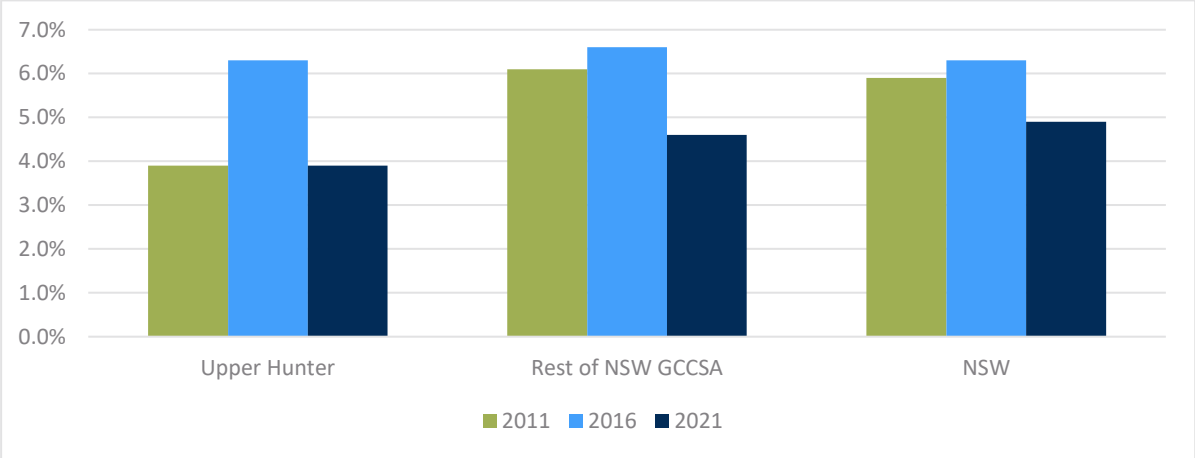
	Change 2011-16	Change 2016-21
0-14 years	-50	-100
15-49 years	-852	+443
50-64 years	+839	+531
65+ years	+1,672	+1,658

Source: ABS 2011, 2016, and 2021 Censuses

4.1.4 Labour force status

At each census, the unemployment rate in the Region has been lower than the rest of the state. This reflects the range of jobs for a mix of skills and work arrangements across the Upper Hunter Region. If there were substantial changes to the employment and employer make-up, this lower unemployment could be under threat.

Figure 5: Unemployment rate across selected regions, 2011-21



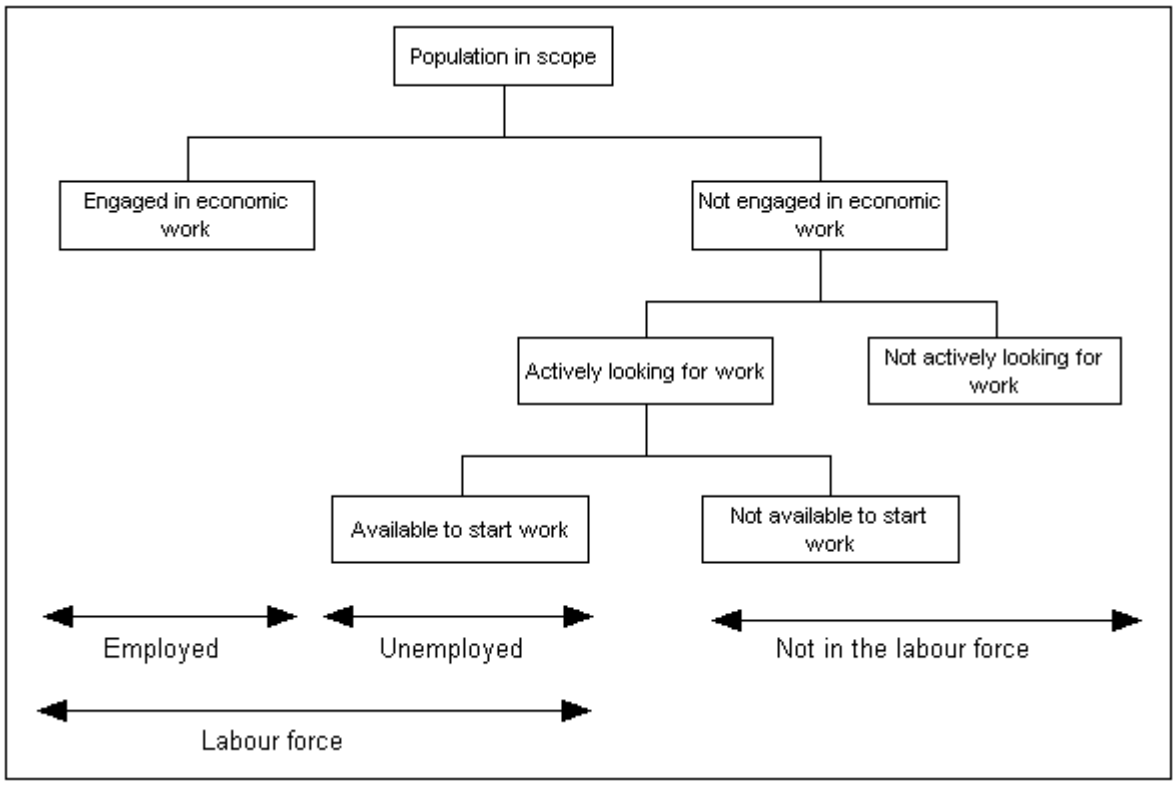
Source: ABS 2011 and 2021 Census, TableBuilder

While the Region has had lower unemployment than the remainder of NSW over the past 10 years, unemployment peaked in 2016 at close to the levels of Rest of NSW and NSW. As Figure 5 shows, this reflects broader trends seen across the State, perhaps combined with a volatility in the region's economy as indicated by the population trends observed in section 4.1.2.

Figure 6 outlines the Labour Force framework as defined the ABS, explaining the definitions of employed and unemployed. The ABS defines people as 'employed' if they work one hour or more in a week. This is the international standard for employment data and allows for comparison overtime and across countries. To be classified as unemployed, there are three key criteria:

- Not working more than one hour in the week
- Actively looking for work in the previous four weeks
- Available to start work in the week

Figure 6 The Labour Force Framework



Source: ABS

4.1.5 Resident industry of employment

In 2021, there were 30,653 employed residents in the Region, which is a 5.5% (1,604) increase over ten years. The compound annual growth rate was 0.27%, approximately a fifth of what was recorded in NSW outside of the Greater Sydney Area ("Rest of NSW"), which had 1.56% CAGR.

Over the five years to 2021, the Upper Hunter Region employment grew at a CAGR of 1.9%, representing a mini recovery from the peak in unemployment experienced in 2016. During that period there were 2,708 more employed residents than 2016, helped the region recover from a decline in 1,104 between 2011 and 2016.

There were employment challenges across the Upper Hunter Region in 2016, which have since rebounded. This reflected some broader trends across regional NSW, for example jobs in Wholesale Trade, Retail Trade and Manufacturing declined between 2011 and 2016, before recovering between 2016 and 2021. Manufacturing jobs experienced a very sharp decline between 2011-16, in both the Region and Regional NSW.

Between 2011-21, the top five growth industries for employed residents of the Region were:

- Health Care and Social Assistance: 744 additional jobs
- Administrative and Support Services: 420 additional jobs
- Education and Training: 417 additional jobs
- Public Administration and Safety: 126 additional jobs
- Arts and Recreation Services: 110 additional jobs.

Some industries experienced declines in the Region during this time. The top 5 were:

- Manufacturing: 487 fewer jobs
- Retail Trade: 148 fewer jobs
- Wholesale Trade: 111 fewer jobs

- Professional, Scientific and Technical Services: 109 fewer jobs
- Rental, Hiring and Real Estate Services: 100 fewer jobs.

Many industries in the Region, however, declined significantly in employed residents between 2011 and 2016, before increasing between 2016 and 2021. This was most strongly observable in the following:

- Construction: 327 fewer jobs between 2011-16, 422 additional jobs between 2016-21
- Mining: 363 fewer jobs between 2011-16, 312 additional jobs between 2016-21
- Wholesale Trade: 289 fewer jobs between 2011-16, 171 additional jobs between 2016-21
- Retail Trade: 292 fewer jobs between 2011-16, 144 additional jobs between 2016-21
- Manufacturing: 623 fewer jobs between 2011-16, 136 additional jobs between 2016-21.

Manufacturing; Wholesale Trade; and Transport, Postal and Warehousing are major demand drivers of land in employment and industrial precincts. Growing these industries would help support demand for employment land and diversified economic growth in the Region. This would occur through jobs in these industrial and logistics-related industries growing alongside the service-oriented top five growth industries identified above.

Some industries that have declined in the region, such as Professional, Scientific and Technical Services and Rental, Hiring and Real Estate Services, also reflect trends observed across regional NSW. It may be a challenge for the Region to develop knowledge-related industries, which should be considered for the types of employment land that may be delivered.

Table 4: Resident employment by industry, Region

Industry	Region			Net Change		Share 2021 (%)
	2011	2016	2021	2016-21	2011-21	
Agriculture, Forestry and Fishing	2,581	2,462	2,570	108	-11	8.4%
Mining	5,235	4,872	5,184	312	-51	16.9%
Manufacturing	1,971	1,348	1,484	136	-487	4.8%
Electricity, Gas, Water and Waste Services	801	808	733	-75	-68	2.4%
Construction	2,209	1,882	2,304	422	95	7.5%
Wholesale Trade	884	595	766	171	-118	2.5%
Retail Trade	2,486	2,194	2,338	144	-148	7.6%
Accommodation and Food Services	1,904	1,837	1,898	61	-6	6.2%
Transport, Postal and Warehousing	1,057	958	959	1	-98	3.1%
Information Media and Telecommunications	130	142	103	-39	-27	0.3%
Financial and Insurance Services	346	328	332	4	-14	1.1%
Rental, Hiring and Real Estate Services	412	328	312	-16	-100	1.0%
Professional, Scientific and Technical Services	1,164	962	1,055	93	-109	3.4%
Administrative and Support Services	838	1,009	1,258	249	420	4.1%
Public Administration and Safety	1,525	1,728	1,651	-77	126	5.4%
Education and Training	1,618	1,799	2,035	236	417	6.6%
Health Care and Social Assistance	2,120	2,270	2,864	594	744	9.3%
Arts and Recreation Services	254	264	364	100	110	1.2%
Other Services	1,338	1,143	1,272	129	-66	4.2%
Inadequately described/not stated	726	1,015	1,156	141	430	3.8%
Total	29,599	27,944	30,638	2,694	1,039	100.0%

Source: ABS 2011, 2016, and 2021 Census, TableBuilder

4.1.6 Resident location quotient

Location quotient (LQ) is a simple way of calculating the main industries in an area relative to a comparable area. This section uses LQ to compare industries in the Region to all of regional NSW excluding Greater Sydney ("Rest of NSW"). This involves comparing job ratios to generate an LQ number for each industry in the Region, which indicates the prevalence of certain jobs compared to the Rest of NSW.

A brief description of the LQ numbers is below:

- Where LQ is equal 1, the identified industry is as prevalent as in the comparable area
- An LQ greater than 1.2 indicates a significant specialisation of the industry in the study area – indicating possibly a key economic strength. Higher numbers indicate a greater specialisation with anything exceeding 2 being a major specialisation
- An LQ between 0.8 and 1.2 means the industry is broadly similar in importance in the study area compared to the comparison region and could be seen as representative
- An LQ under 0.8 indicates an industry which is more important in the comparable area than the study area and may represent an economic weakness or opportunity for growth.[3]

From Table 5, we can see that the Region's employed residents possess:

- Major specialisations in the industries of Mining and Electricity, Gas, Water and Waste Services, when compared to the Rest of NSW (excluding Greater Sydney)
- Significant specialisations in the industries of Agriculture, Forestry and Fishing; Wholesale Trade; and Administrative and Support Services
- Economic weaknesses/opportunities for growth in Information Media and Telecommunications; Financial and Insurance Services; Professional, Scientific and Technical Services; Education and Training; and Health Care and Social Assistance
- Similar ratios to the Rest of NSW in all other industries of employment.

Table 5: Resident employment location quotient, Region to Rest of NSW

Industry	Upper Hunter	Rest of NSW	LQ
Agriculture, Forestry and Fishing	5%	3%	1.80
Mining	10%	1%	7.63
Manufacturing	3%	3%	0.95
Electricity, Gas, Water and Waste Services	1%	1%	2.13
Construction	4%	5%	0.88
Wholesale Trade	1%	1%	1.40
Retail Trade	5%	5%	0.89
Accommodation and Food Services	4%	4%	0.91
Transport, Postal and Warehousing	2%	2%	0.93
Information Media and Telecommunications	0%	0%	0.49
Financial and Insurance Services	1%	1%	0.62
Rental, Hiring and Real Estate Services	1%	1%	0.89
Professional, Scientific and Technical Services	2%	3%	0.77
Administrative and Support Services	2%	2%	1.41
Public Administration and Safety	3%	4%	0.82
Education and Training	4%	5%	0.79
Health Care and Social Assistance	6%	9%	0.63
Arts and Recreation Services	1%	1%	1.07
Other Services	2%	2%	1.20

3 Profile.id

Source: ABS 2021, TableBuilder, HillPDA

Table LQ key:

Economic Weakness	Neutral	Significant Specialisation	Major Specialisation

The relative weakness in education and training is of particular concern considering the Upper Hunter Diversification Action Plan considers that education institutions will be critical drivers for the innovation hubs and precincts that will help diversity the Region economies.

The strength in agriculture, forestry and fishing is more pronounced in the Dungog and Upper Hunter LGAs, whereas mining is particularly pronounced within Singleton and Muswellbrook.

4.1.7 Where residents work and self-containment rate

Most residents in the region also work in the region. The self-containment rate refers to the portion of residents working in the LGA. For the Upper Hunter Region, it is 81% (24,593) of the 30,500 employed residents, indicated in Table 6. A further 12 per cent of employed Region residents worked within the surrounding Hunter Region; mostly Dungog and Singleton residents who commute to Maitland and Newcastle for work. This implies that residents have a preference to work within the local area (although this has declined slightly between 2016 and 2021). Therefore, population growth would need to be accompanied by employment growth in the region. Due to this, there must be sufficient supply of employment land in centres and precincts to attract jobs to the region.

Table 6: Region employment self-containment rate (2021)

Location	2016	%	2021	%
Live and work in the area	22,638	82.1%	24583	80.2%
Live in the area, but work outside	4,927	17.9%	6061	19.8%
Total employed residents in the area	27565	100.0%	30644	100.0%

Source: ABS 2016, TableBuilder; ABS 2021, TableBuilder

The industrial sector (including mining) has the highest self-containment rate (87%), followed by the population serving sector (78%). Simultaneously, the industrial sector employs the largest proportion of Region residents overall. This implies that industrial industries play a comparatively more significant economic role within the Region. Anecdotally, however, we have heard that there are a number of drive-in drive out workers in the LGA who prefer the coastal lifestyle and work within the mining sector.

Table 7: Region employment self-containment rate by BIC (2021)

BIC	Live and work in the area	Live in the area, but work outside	Self-containment rate
Knowledge intensive	3,912	1,072	75%
Health and education	3,606	1,282	74%
Population serving	7,370	2,029	78%
Industrial (including mining and agriculture)	10,126	1,488	87%

BIC defined in Section 4.1.1

Source: ABS 2021, TableBuilder

Health and education and knowledge intensive industries have lower self-containment rates. This possibly reflects the comparative disadvantage in employment in these areas identified in section 4.1.6.

4.2 Employment and economic characteristics

This section refers to people aged 15 years and over working in the Region, regardless of their place of usual residence.

4.2.1 General employment trends

Total jobs in the Upper Hunter Region increased by 5,445 (18%) in the ten years to 2021, reaching 36,183 jobs. The 1.6% compound growth rate achieved in the Region was two thirds the compounded annual growth rate of NSW (excluding Greater Sydney) (2.3%).

The top five industries in the Region in 2021 were:

- Mining: 9,806 jobs (27.1% of employment)
- Agriculture, Forestry and Fishing: 2,648 jobs (7.3% of employment)
- Health Care and Social Assistance: 2,523 jobs (7% of employment)
- Retail Trade: 2,334 jobs (6.5% of employment)
- Construction: 2,219 jobs (6.1% of employment).

Mining jobs increased by 1,821 employees within the region between 2011 and 2021, which means they grew in importance in the region.

The census represents a point in time, during 2016 there were fewer jobs than in 2011 in a number of industries the most significant reductions were in:

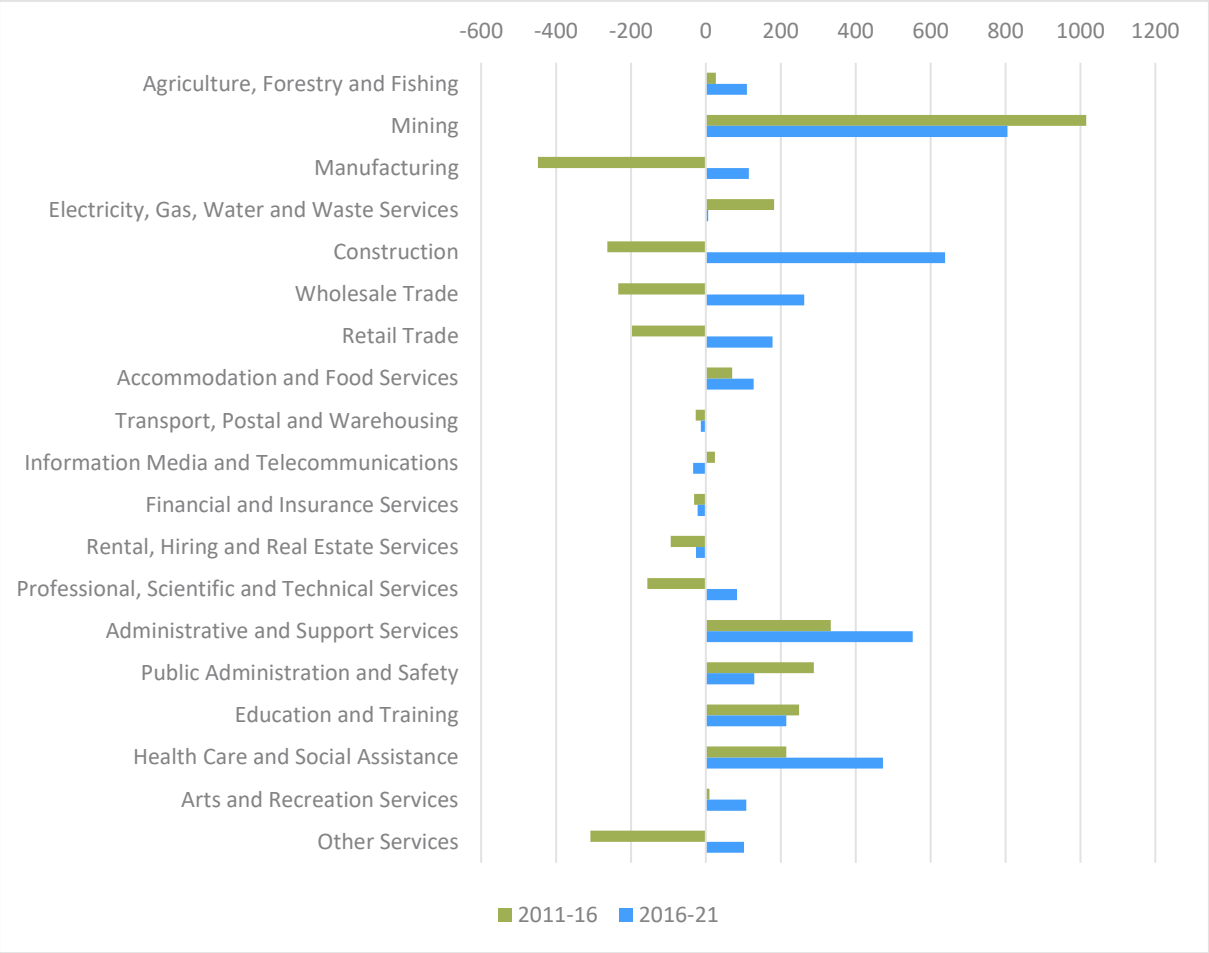
- Manufacturing: 448 fewer jobs
- Other Services: 308 fewer jobs
- Construction: 263 fewer jobs
- Wholesale Trade: 234 fewer jobs
- Retail Trade: 197 fewer jobs.

However, over the 2016-21 period, the same industries recorded the following growth in employment:

- Manufacturing: – 115 additional jobs
- Other Services: 102 additional jobs
- Construction: 639 additional jobs
- Wholesale Trade: 263 additional jobs
- Retail Trade: – 178 additional jobs.

In addition to the above industries, over the 2016-21 period, employment related to Professional, Scientific and Technical Services increased by 83 jobs, where the industry had previously fallen in job numbers between 2011 and 2016.

Figure 7: Net change in employment by industry and census period



Source: 2011, 2016 and 2021 Census, TableBuilder

The largest employment generating sector in the Region in 2021 was industrial BIC (16,951 jobs), followed by population serving industries (9,823 jobs), health and education industries (4,624 jobs), and lastly knowledge intensive industries, with 3,543 jobs. The mining sector makes up the majority of jobs within the industrial BIC, accounting for approximately 9,800 jobs, about the same as the population serving industries.

As seen in the following table, the population serving and industrial BICs significantly increased in employment between 2016-21 (1,707 and 1,286 additional jobs respectively). For the population serving BIC, this helped respond to a 354 reduction in jobs between 2011 and 2016. The health and education BIC also significantly increased between 2016 and 2021 (688 additional jobs).

It must also be noted that the number of jobs inadequately described or not stated significantly increased between the 2011 and 2021 Censuses. This may imply that employment within some job sectors is higher than that identified in the ABS. For example, REMPLAN estimates mining employment to have been at around 10,617 jobs in 2021 in the region. This was 811 jobs, or 8% higher, than the number estimated in the 2021 Census.

Figure 8: Employment by BICs 2011, 2016 and 2021

BIC	2011	2016	2021	2011-16 change	2016-21 change
Knowledge intensive	3382	3413	3543	31	130
Health and education	3472	3936	4624	464	688
Population serving	8470	8116	9823	-354	1707
Industrial	15149	15665	16951	516	1286
Inadequately/not stated	266	1078	1240	812	162

Source: 2011, 2016 and 2021 Census, TableBuilder

4.2.2 Workers' places of residence

People who work in the Region tend to live within the region, although this trend is declining slightly. At the 2021 Census, approximately 36,183 workers were employed in the region, 24,588 of whom (68.0 per cent) were residents. This is compared to 2016, at which time approximately 22,649 workers (or 70.3 per cent) were residents, shown in Table 8.

Table 8: Region workers by place of residence, 2016-21

Location	2016	%	2021	%
Live and work in the area	22,649	70.3%	24,588	68.0%
Work in the area, but live outside	9,564	29.7%	11,595	32.0%
Total workers employed in the area	32,213	100.0%	36,183	100.0%

Source: ABS 2016 and 2021 Censuses, TableBuilder

People who travel from outside the Region to work within it also tend to still reside within the wider Hunter Region. At the 2021 Census, only 1,383 people (or less than 4 per cent of the region's workers) came from other regions of NSW to work in the Region. This means that the implications of employment lands in the Region should also be considered for residents of the Lower Hunter. This is due both to the thousands of workers who commute from the Lower Hunter Region and to the jobs in the Lower Hunter that are reliant upon the Upper Hunter's economy.

4.2.3 Manufacturing employment

Manufacturing is a key occupier and driver of employment precincts. Within the Region, manufacturing employment decreased by around 333 jobs over the last ten years (2011-21). However, over the last five years (2016-21), manufacturing recorded an increase in employment of around 115 jobs. Analysis of industries at the ANZSIC 4-digit level[4] reveals that over the 2016-21 period, around 40 classes of manufacturing sub-categories increased in employment. The top five of these industry sub-categories, by net employment growth, were:

- Explosive Manufacturing: 59 additional jobs
- Shipbuilding and Repair Services: 38 additional jobs
- Mining and Construction Machinery Manufacturing: 29 additional jobs
- Tyre Manufacturing: 22 additional jobs
- Other Electrical Equipment Manufacturing: 15 additional jobs.

Some of these industry sub-categories, such as Explosive Manufacturing, Mining and Construction Machinery Manufacturing, and Tyre Manufacturing, are closely connected to the mining industry. As such, they are vulnerable to changes in mining trends in the region. This creates a need to assess the different employment land needs of different manufacturing jobs, which is discussed in section 5.2.2.

4.2.4 Transport, postal and warehousing employment

The industry of transport, postal and warehousing is another key driver for industrial land and space. This industry increased over the five-year period to 2021, likely experiencing high demand and rapid growth during the COVID-19 crisis. Industries likely to experience high demand and growth are those in courier pick-up and delivery services, and warehousing and storage services.

4 The lowest industry level that the ABS provides and undertakes employment analysis in is four digit.

The top five classes of these industries, by net employment growth between 2016 and 2021, were:

- Other Transport Support Services nec: 43 additional jobs
- Freight Forwarding Services: 24 additional jobs
- Interurban and Rural Bus Transport: 22 additional jobs
- Urban Bus Transport (Including Tramway): 7 additional jobs
- Courier Pick-up and Delivery Services: 4 additional jobs.

4.2.5 Wholesale trade employment

Wholesale trade is another key occupier and driver of industrial lands. Overall employment increased by around 29 jobs over the last ten years (2011-21). However, over the last five years (2016-21), wholesale trade recorded an increase in employment of around 263 jobs. Over the last five years, 15 wholesale sub-industries recorded a growth in employment, the top five classes of growth being:

- Other Specialised Industrial Machinery and Equipment Wholesaling: 170 additional jobs
- Agricultural and Construction Machinery Wholesaling: 94 additional jobs
- Other Machinery and Equipment Wholesaling nec: 18 additional jobs
- Clothing and Footwear Wholesaling: 7 additional jobs
- Computer and Computer Peripheral Wholesaling: 6 additional jobs.

4.2.6 Other services employment

Most industries are categorised within 18 of the 19 ANZSIC 1-digit level industry categories. However, a remaining group of industries are categorised as 'Other services', a population-serving industry category that encapsulates miscellaneous fields of work, divided into repair and maintenance; personal and other services; and household-related industries.

At the 2021 Census, approximately 1,290 people were employed in the Region within the 'other services' industry category. Of these workers, approximately 612 (or 47 per cent) were employed in machinery or equipment repairs. Jobs in the 'other services' industry category increased by approximately 102 over the five years to 2021. The continued growth of these jobs in relation to the Region's expected population growth should be considered.

4.2.7 Industry clustering/specialisations

Industry clustering/specialisations for geographical areas can be understood through location quotient (LQ) analysis. In addition to resident LQ, detailed in section 4.1.6, an analysis of employment location quotient can also be generated for people who work but do not necessarily live within the region.

Compared to the Rest of NSW area, the Region has a major specialisation in the Mining industry with an LQ of 10.75, shown in Figure 9 and Figure 10. This specialisation is focused on the Muswellbrook and Singleton LGAs, which have respective LQs of 12.73 and 14.20 in mining. By contrast, Upper Hunter and Dungog LGAs do not benefit from mining, with LQs of 0.21 and 0.31, respectively. The region also has a secondary major specialisation in the Electricity, Gas, Water and Waste Services industry, which is predominantly concentrated in the Muswellbrook LGA (LQ of 5.92). A significant future challenge for both Singleton and Muswellbrook LGAs will be to transition away from mining, and for the latter LGA also to transition away from related electricity industries. We note that there are a number of diversification strategies indicated in these LGAs' local planning frameworks.

The Region also has significant specialisations in Administrative and Support Services; Wholesale Trade; and Agriculture, Forestry and Fishing. Agriculture exists as a major specialisation of Upper Hunter and Dungog LGAs, with relevant LQs of 4.12 and 3.13 respectively. This likely demonstrates the globally significant equine industry in the Upper Hunter LGA and the challenges for industrial and urban development in Dungog LGA (within the water catchment). By contrast, Muswellbrook LGA's agricultural industry is on par with the Rest of NSW, with an LQ of 0.93, while agriculture is a relative weakness of the Singleton LGA, with an LQ of 0.50. In the coming years,

there may be a desire for agricultural industries to be maintained in Muswellbrook and developed in Singleton LGA. As Singleton leverages its potential for food and fibre, and significant population growth in the lower Hunter, the Region may need to pivot to become a "food bowl" with continued protection of prime agricultural land.

Figure 9: Employment location quotient, Region to Rest of NSW

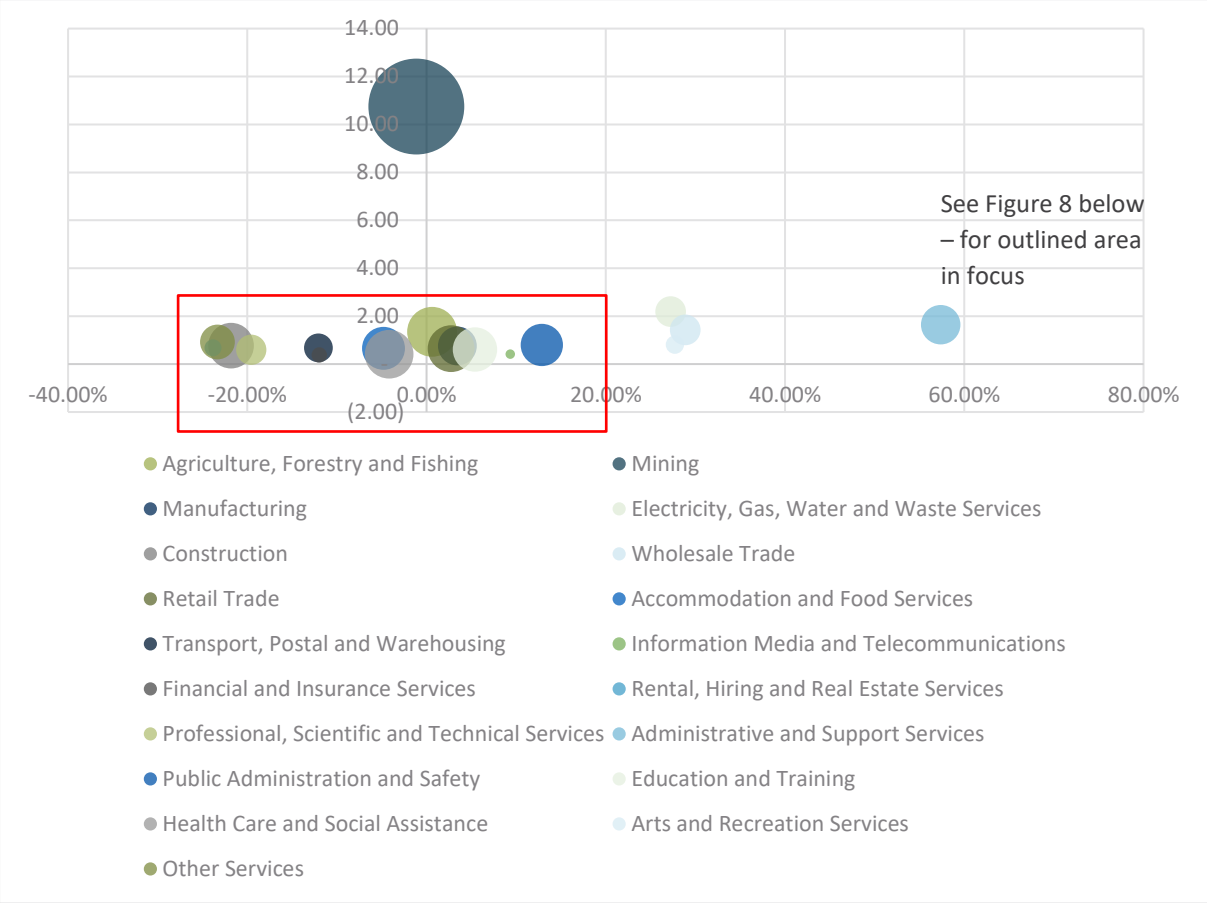
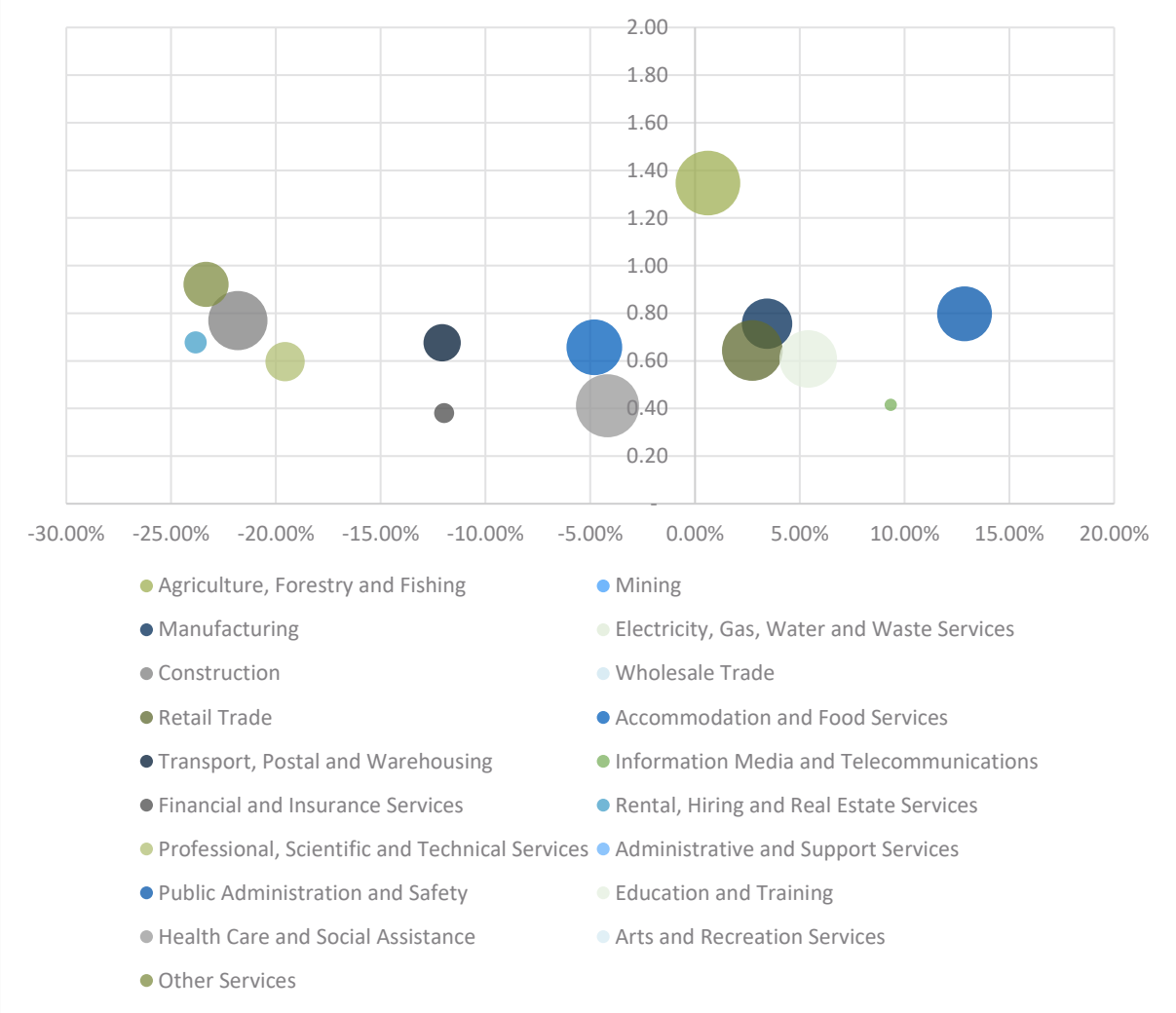


Figure 10: Employment location quotient (lower portion in focus), Region to Rest of NSW



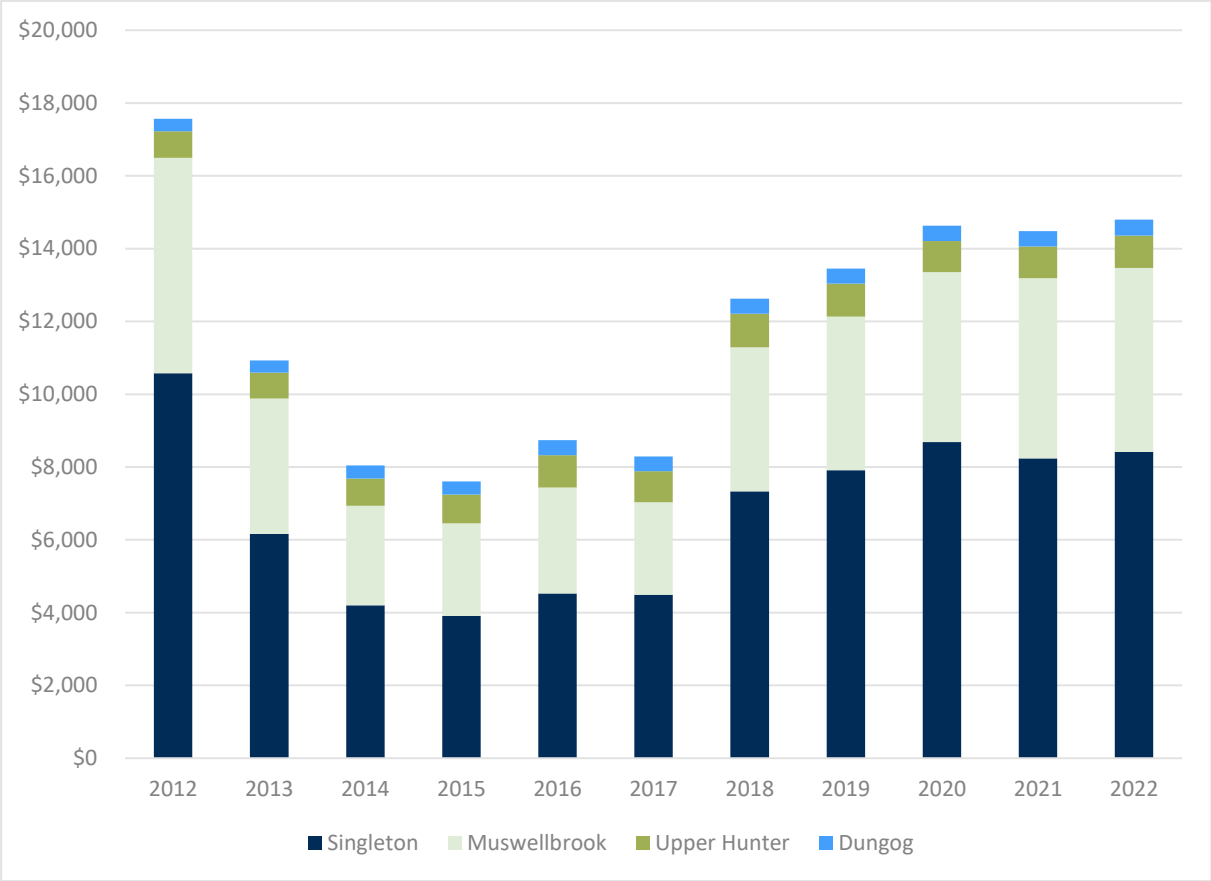
Source: ABS 2011 and 2021 Census, Table Builder, HillPDA

Employment LQ analysis can indicate changes in specialisations over time. In particular, the regional LQ for Administrative and Support Services has increased by 57 per cent between 2011 and 2021. This growth has been the strongest within Muswellbrook LGA, where the industry LQ has increased by 87 per cent. It has also increased by 50 per cent in Singleton LGA, where there are now over 1,000 jobs in the industry, representing a significant specialisation with an LQ of 1.45. This is predominantly due to jobs in Labour Supply Services, which is likely contingent on the mining sector. Other specialisations that grew between 2011 and 2021 include Wholesale Trade; Electricity, Gas, Water and Waste Services; and Arts and Recreation Services, the LQs for which increased by 29 per cent, 27 per cent, and 28 per cent respectively. Meanwhile, LQs declined for industries including Rental, Hiring and Real Estate Services and Construction.

4.2.8 Gross Regional Product (industry)

Gross Regional Product (GRP) is a measure of size or net wealth generated by the local economy. Over a 10-year period from 2012, it is estimated that the real GRP of the Region decreased by 15.7% over the past ten years. This represents the change in the regional export value of coal in Singleton and Muswellbrook LGAs. Meanwhile, the real GRP of Upper Hunter and Dungog LGAs grew by 2.1% and 2.2% on a capitalised annual basis. Figure 11 indicates the region's recent economic dependence on mining, with fluctuations in the GRPs of Muswellbrook and Singleton LGAs having an impact on the region's overall GRP.

Figure 11: Region Real GRP 2012-22 ($m)



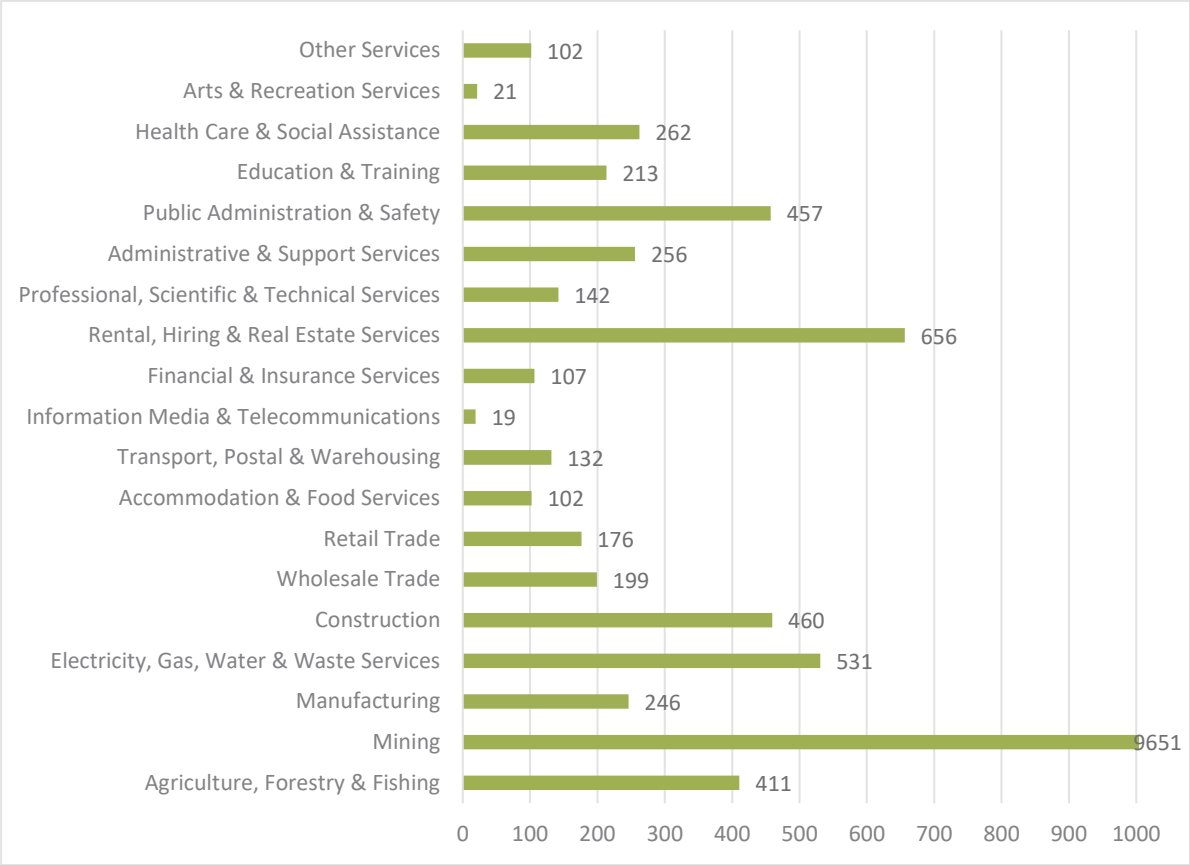
Source: RemPlan and HillPDA

4.2.9 Industry Value Added and worker productivity

The industry value added (IVA) of an industry refers to the value of outputs less the costs of inputs. It measures the contribution that the industry makes to the country's wealth or gross domestic product (GDP). The top five industries by value added in 2020/21 were:

- Mining: $9,651 million
- Rental, Hiring & Real Estate Services: $656 million
- Electricity, Gas, Water and Waste Services: $531 million
- Construction: $460 million
- Public Administration and Safety: $457 million.

Figure 12: Industry value added by industry 2020/21 ($m)



Note: Mining is 9,651 and outside the chart boundary

Source: Remplan

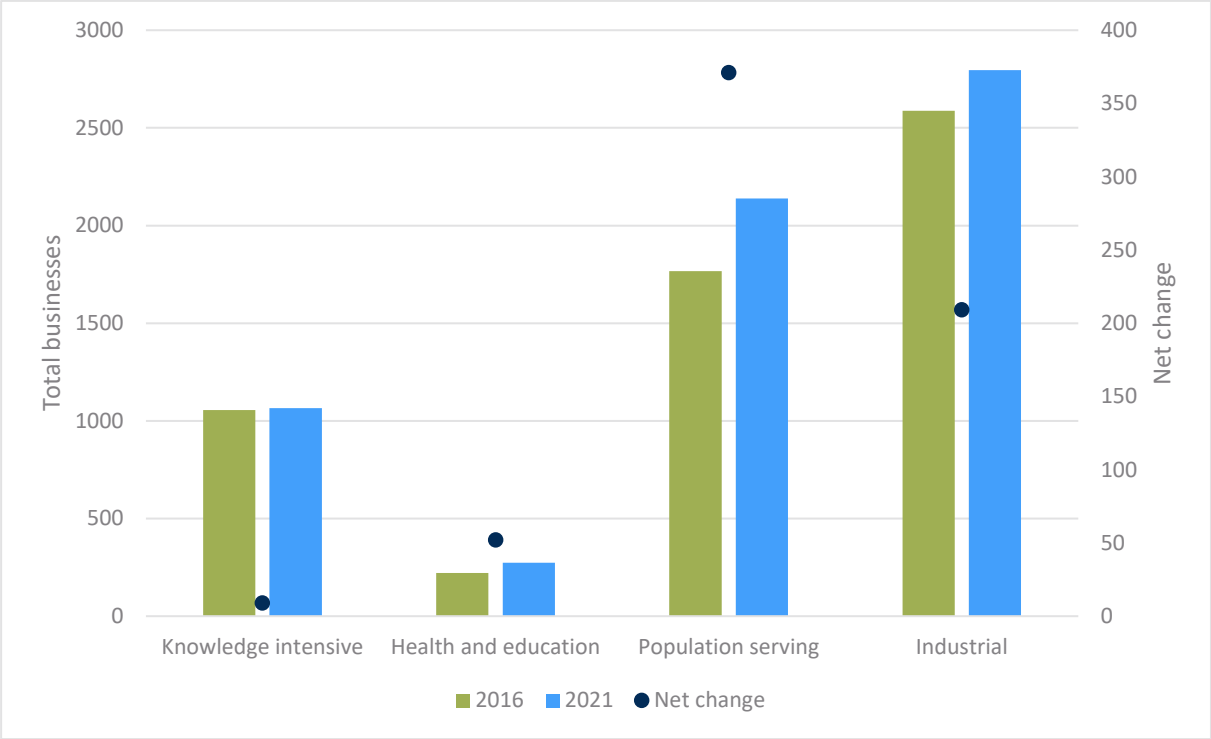
4.2.10 Businesses by industry type

Between 2017 and 2022, the number of businesses operating in the Region increased by 584, or 10%. By June 2022, there were 6,277 registered businesses in the Region. This represented 0.73% of all registered businesses in NSW.

The number of businesses in the Region increased more slowly than NSW. This was evident in the proportion of the NSW businesses registered in Region declining from 0.76% in 2017 to 0.73% by June 2022. The number of businesses, as well as the churn, can be an important indicator of the prevalence of the innovation and entrepreneurial sector within a region.

Over this five-year period, the largest increase in businesses was in the population serving BIC (+371 businesses), followed by industrial businesses (+209), health and education (+52), and lastly knowledge intensive, with 9 additional businesses.

Figure 13: Change in number of businesses across Region, 2017-21



Source: ABS Counts of Australian Businesses, including Entries and Exits

4.3 Projections

This section outlines population and employment projections for the Region for the purposes of projecting employment land demand. Such demand is based on many factors, with different industries having different land needs. On an ongoing basis, the region's employment land supply needs are to be addressed by the Urban Development Program (UDP), which is indicated in Action 1.3 of this report. This will help to ensure an adequate amount of land that provides for the population's employment needs while not unnecessarily compromising other land uses.

Projected populations and workforces have a fundamentally strong bearing on the region's forecasted employment land needs. Two population growth scenarios for the region have been developed and assessed for this Strategy. These scenarios, and the assumptions applied, are detailed below.

The population growth scenarios applied in this Study summarised in Table 9, and are as follows:

- **Scenario 1**: under Scenario 1, the population of the Region is projected to increase from 63,731 people in 2021 to 67,249 people in 2041. This would consist of high growth in Dungog, modest growth in Muswellbrook, and population reductions in Singleton and Upper Hunter Shire
- **Scenario 2**: under Scenario 2, the population of the Region is projected to increase more consistently, based on a combination of the Hunter JO preferred approach and statistics provided by each council. This would result in a population increase to 78,600 people in 2041, with modest growth in Dungog and substantially increased growth in Muswellbrook, Singleton, and Upper Hunter Shires.

Table 9: Population projections for Region Employment Lands Strategy

	Scenario 1 (2041 projection)	Scenario 2 (2041 projection)
Dungog	14,374	10,200
Muswellbrook	17,387	22,700
Singleton	21,315	30,500
Upper Hunter	13,280	16,700

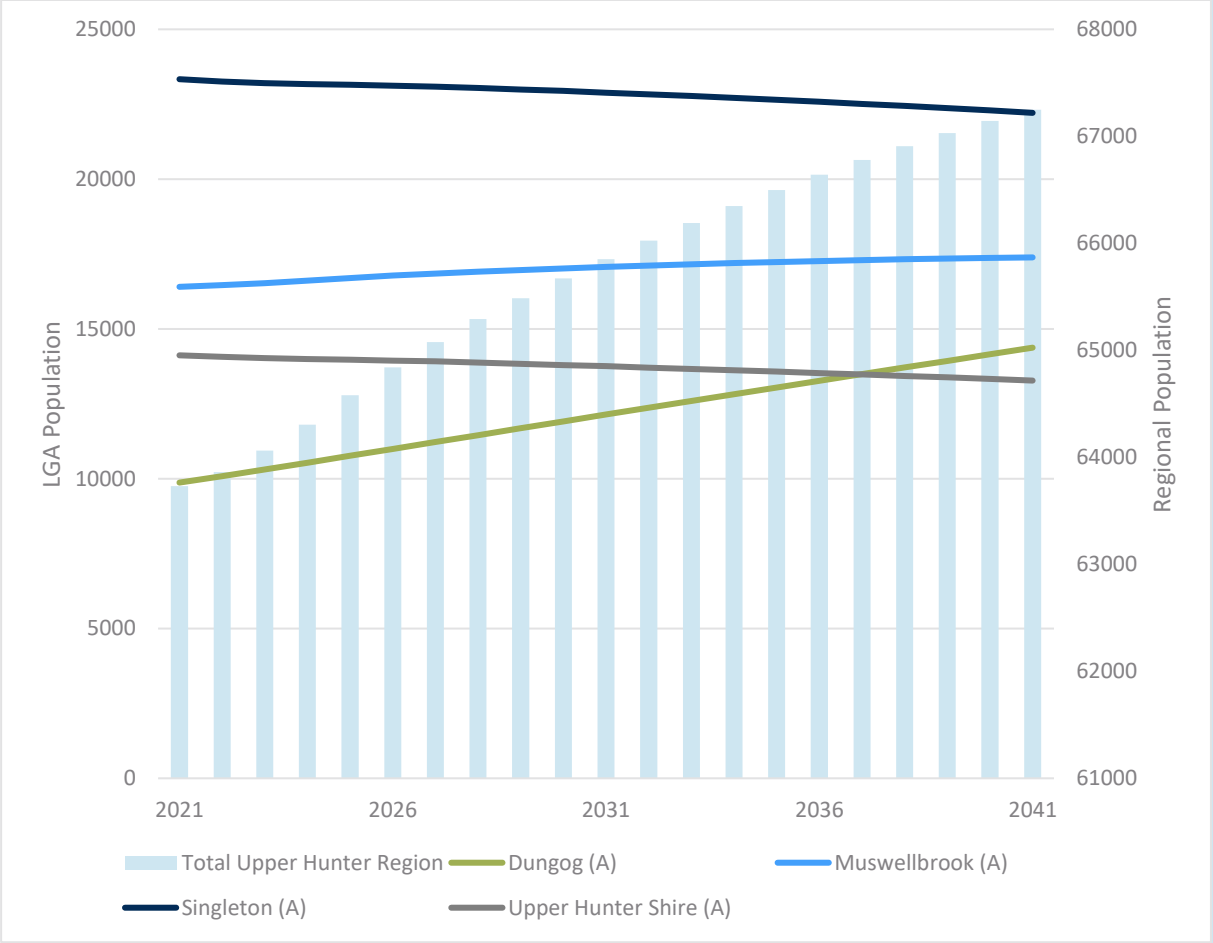
Source: TfNSW, Hunter JO, Singleton Council

4.3.1 Scenario 1 – DPE Population projections

According to the Department of Planning and Environment's *2022 NSW Common Planning Assumption Projections*, the population of the Region is projected to grow by approximately 3,518 people, or 5.5%, to reach 67,249 people in 2041. This would comprise a compound annual growth rate of 0.3%, which is slower than that projected for the entirety of NSW (1.0%).

As shown in Figure 14, the populations of Dungog and Muswellbrook LGAs are expected to grow over the next 20 years, while the rest of the Region is expected to decline in residents.

Figure 14 DPE growth projections for the region



Source: DPE 2022, 2022 NSW Common Planning Assumption Projections

This population growth is projected to result from a combination of natural change and migration.

Table 10 shows the projected population change across the Region between 2022 and 2041, and the proportions of this change as caused by different phenomena. As the table shows, population growth around the region is set to be mostly caused by natural change, with the exception of Dungog LGA. This signifies a forecasted high proportion of births versus deaths in Muswellbrook, Singleton, and Upper Hunter LGAs; but a forecasted high proportion of new residents moving to Dungog LGA.

Table 10 Projected population growth by causal factors in Region, 2022-41

LGA	2041 population	Net natural change, 2022-41	Net migration, 2022-41	Total net population change, 2022-41
Dungog	14,374	+168	+4,335	+4,503
Muswellbrook	17,387	+2,089	-1,107	+982
Singleton	22,211	+2,712	-3,836	-1,124
Upper Hunter Shire	13,276	+429	-1,271	-843
Region Total	**67,249**	**+5,398**	**-1,880**	**+3,518**

Source: DPE 2022, 2022 NSW Common Planning Assumption Projections

Table 11 summarises DPE's population projections for the Region during the 20 years to 2041. As it shows, the Region is projected to undergo change, with a significant proportion of this change occurring within Dungog LGA, the population of which is expected to grow by 45.6%.

Table 11 Projected population change across Region, 2021-41

LGA	2021	2041	Change 2021-41	% change
Dungog	9,872	14,374	4,503	45.6%
Muswellbrook	16,405	17,387	982	6.0%
Singleton	23,335	22,211	-1,124	-4.8%
Upper Hunter Shire	14,119	13,276	-843	-6.0%
Region Total	**63,731**	**67,249**	**3,518**	**5.5%**

Source: DPE 2022, 2022 NSW Common Planning Assumption Projections

4.3.2 Scenario 2 – Hybrid Projections

Scenario 2 is informed by a combination of Hunter Joint Organisation and Singleton Council population figures. These include:

Table 12 Hunter JO Population Numbers Update (Council View)

LGA	Medium	High
Dungog	9,800	10,200
Muswellbrook	18,500	22,700
Singleton	28,000	29,000
Upper Hunter Shire	16,000	16,700
Region Total	**63,731**	**67,249**

Source: Hunter JO

Singleton Council have also provided their own population projections, which forecast 30,484 residents in 2041, with a low range of 22,504 and a high range of 38,465. This is based on ABS Census data from 1996 and an annual growth rate of 1.2% derived from growth over the last 25 years. This estimate can inform planning for Singleton LGA, with a similar growth rate having since been observed in the ABS's Estimated Residential Population for the LGA.

HillPDA has considered the Hunter JO and DPE projections. Without a detailed briefing on the methodology of the projections, we have adopted the Hunter JO Council View (high) scenario for Dungog, Muswellbrook, and Upper Hunter LGAs. This forms an upper range of population growth, therefore providing a maximum for Muswellbrook and Upper Hunter Shires. For Dungog Shire, we consider that the medium projection represents the status quo. As such, utilising the high growth scenario helps to provide an indication of the impact of potential modest demand increases. For Singleton Shire, HillPDA has adopted the population forecast provided by Singleton Council.

Table 13 shows the Scenario 2 projections adopted by HillPDA in terms of change from the 2021 Estimated Resident Population as reported by the ABS, including compound annual growth rates (CAGR).

Table 13: Scenario 2 population projections by LGA, Region

LGA	2021	2041	2021-41	2021-41 (CAGR)
Dungog	9,525	10,200	675	0.3%
Muswellbrook	16,463	22,700	6,237	1.6%
Singleton	24,719	30,484	5,765	1.1%
Upper Hunter Shire	14,254	16,700	2,446	0.8%
Region Total	**64,961**	**80,084**	**15,123**	**1.1%**

Source: Hunter JO; Singleton Shire Council; HillPDA

Population growth forecasts for Scenarios 1 and 2 by LGA are indicated in the LGA Profiles section attached to this report.

4.4 Revised employment projections by growth scenario

Employment projections are based on forecasts provided by Transport, Performance and Analytics (TPA), a branch of Transport for NSW. Projections are provided for each industry sector in 5-year increments between 2016-66. Although these projections are based on NSW DPE population projections, some discrepancies have been noted.

TPA employment projections provided an important baseline for future employment growth and are based on observed trends. TPA employment projections have been prorated to the revised population scenarios developed in this study. These form Scenario 1 of the employment projections.

Scenario 2 of the employment projections has been based on the impact of increased employment as a result of determining a working population in the LGA, which was assigned based on the ratio of workers to population in 2021 census, the 2021 and 2041 TPA and DPE projections. In most cases worker containment and attraction was utilised, with the exception of Singleton. The TPA projections saw Singleton have a worker to population ratio containment of 95.4%, which we considered would have reflected a residential declining population and an increasing working population. This means that more people would be commuting to the LGA (in our view, an increasing population would have partially reflected that workers would have chosen to move to the LGA instead of commuting).

Using this methodology, it is estimated that:

- Under Scenario 1 employment across the Region would increase by around 3,658 jobs or 9% over the 20-year period
- Under Scenario 2 employment across the Region would increase by around 7,489 jobs or 18% over the 20-year period.

Additional adjustments were made to the employment forecasts. The TPA projections in relation to Electricity, Gas, Water and Waste Services in Muswellbrook LGA assumed continued growth in the sector from 2021 to 2051 resulting in an additional 362 jobs or 29% growth. This meant that the sector would have had continuous growth without any decline. We considered this would have been unlikely due to the closure of Liddell and Bayswater Power Stations. HillPDA amended the projections so that the growth rate for Muswellbrook aligned with the other LGAs.

Table 14 Net change in jobs under each scenario

Industry	Base Case	Scenario 1		Scenario 2	
		2041	Net Change	2041	Net Change
Agriculture, Forestry and Fishing	3,136	4,416	1,279	4,699	1,562
Mining	10,861	9,168	-1,692	10,009	-852
Manufacturing	1,990	2,448	457	2,720	730
Electricity, Gas, Water and Waste Services	1,464	1,523	59	1,113	-351
Construction	2,647	3,112	465	3,388	741
Wholesale Trade	843	904	61	1,052	210
Retail Trade	2,790	3,288	498	3,597	807
Accommodation and Food Services	2,192	2,628	436	2,886	694
Transport, Postal and Warehousing	1,297	1,340	43	1,516	218
Information Media and Telecommunications	103	105	2	174	71
Financial and Insurance Services	339	496	157	595	256
Rental, Hiring and Real Estate Services	402	544	141	640	238
Professional, Scientific and Technical Services	1,443	1,487	43	1,654	211
Administrative and Support Services	1,622	2,198	577	2,427	805
Public Administration and Safety	2,164	1,665	-498	1,859	-305
Education and Training	2,388	3,078	690	3,327	939
Health Care and Social Assistance	2,654	3,027	373	3,277	623
Arts and Recreation Services	370	523	153	639	268
Other Services	1,557	1,971	414	2,181	623
Total	40,264	43,923	3,658	47,753	7,489

Source: TPA, HillPDA 2023 based on forecasts provided by the councils.

Another important consideration is projections of mining-related employment. The above numbers do not attest to current trends in the energy industry, in which the closure of mines in Muswellbrook and Singleton is likely. Table 15 presents a recent list of mines operating in the Region, by consent expiry dates and average number of employees. If all expiry dates are to be reached without renewal being sought (as is currently the case for large mines including Mount Arthur Mine), 11,363 mining jobs will be lost between 2021 and 2041. While some mines will likely seek renewal, the decrease in mining jobs will likely be larger than what is indicated in

Table 14.

Table 15 List of mines and consent expiry dates at December 2022, Region

Name	Consent expiry	Avg. employees	LGA
Muswellbrook Mine	31/12/2022	151	Muswellbrook
Ashton Mine	31/12/2023	269	Singleton
Mount Arthur Mine	30/06/2026	2,046	Muswellbrook
Mount Pleasant Operations	22/12/2026	496	Muswellbrook
Liddell Mine	31/12/2028	566	Singleton
Mangoola	20/11/2029	380	Muswellbrook
Hunter Valley Operations	24/03/2030	1,679	Singleton
Rixs Creek Mine	31/12/2035	299	Singleton
Camberwell Mine/Integra	31/12/2035	260	Singleton
Mt Thorley Mine	15/02/2037	1,611	Singleton
Mount Owen Mine	31/12/2037	876	Singleton
Bengalla Mine	28/02/2039	704	Muswellbrook
Ravensworth-Narama Mine	31/12/2039	964	Singleton
Wambo Colliery	31/12/2039	232	Singleton
Bulga Mine	31/12/2039	830	Singleton
United Project (proposed)	*31/12/2039*	*514*	*Singleton*

Source: Geoscience Australia; Mining NSW

INDUSTRIAL AND RETAIL TRENDS

5.0 INDUSTRIAL AND RETAIL TRENDS

This section discusses the emerging broader industry trends and their potential implications on employment lands across the Region, with particular consideration of the impacts of new and emergent technologies on employment lands.

5.1 Historical trends

The Region has a long history of contributing to economic development within NSW. After the establishment of coal mining near Newcastle in the early 19th century, mining spread upwards through the Hunter Valley to become established near Muswellbrook in the early 20th century. Over the last 100 years, regional coal mining and associated power generation have contributed to national and international energy markets. Agriculture simultaneously developed throughout the Region during this time, spearheaded by dairy farming in Dungog and thoroughbred horse breeding in the Upper Hunter Shire, the origins for which date back to the early 1800s. All of these industries led eventually to a proliferation of different sectors in the region, contributing to long-term demand for employment lands. However, 21st century trends in energy, agriculture, and other industries are likely to encourage the further diversification of the Upper Hunter's industries, the context for which will be outlined in the following sections.

5.2 Industry diversification

There is opportunity to diversify the Upper Hunter Region economy and allow new industries to emerge. Considering the natural resources and infrastructure that is available in the Upper Hunter Region, as well as the regional strategic context, HillPDA sees the following industries as appropriate to support the diversification:

1. Renewable energy: The region has access to land and infrastructure for renewables now, but after mining operations cease, more land and infrastructure could be repurposed for renewable energy projects, such as wind, solar farms and hydrogen generation, without impacting agricultural production.
2. Agriculture and agribusiness: The area has fertile soil and access to water. It also has a strong history in agriculture which can be revitalised. Investing in emerging industries, new technologies such as hydroponics or vertical farming, and more intensive agriculture practice may boost economic return.
3. Advanced manufacturing: The region has access to skilled workers and advanced manufacturing capabilities due to its mining origin. There are also existing industries that can benefit from technology advancements including defence, agriculture and renewal energy.
4. Transport and logistics: The region has strong road and rail transport infrastructure and strong access to the Port of Newcastle and Newcastle Airport.
5. Eco-tourism: The region's unique natural attractions make it viable for eco-tourism. This could involve promoting outdoor recreation activities such as hiking, fishing, or camping, and investing in infrastructure such as lodges, campsites, and tour companies.
6. Defence: The region has existing defence assets and capabilities. If these are further developed, there may be increased opportunities for employment lands relating to the defence industry.

These industries, their spatial requirements and employment trends are explored in the following sections. The future suitability of land supply is discussed later in the report. As an overview, however, each industry has different sets of spatial requirements. These are briefly noted as follows:

- Renewable energy generation can be carried out on large expanses of land, which do not necessarily comprise employment lands. Some forms of energy may require more concentrated land uses, however, similarly to the 'Heavy industry' land indicated in section 5.9.

- Agriculture often requires large tracts of agricultural land. However, forms of intensive agriculture or agribusiness can take place more intensively, such as food processing carried out in factories
- Advanced manufacturing can occur on a range of employment lands, but larger floorspace requirements are more common, with the increasing use of advanced technologies that require space. The spatial requirements of advanced manufacturing are discussed further in section 5.2.2
- Transport and logistics industries may require varying amounts of floorspace. As discussed in section 5.2.3, warehouses may use between 200 and over 10,000 square metres of floorspace, with distribution centres requiring larger amounts of land
- Eco- and agri-tourism utilises diverse types of land. This could range from large sections of agricultural land to the smaller factories and facilities used for tourist-friendly agribusinesses
- Defence industries often have significant spatial requirements, with military training or weapons storage requiring large amounts of land. However, related manufacturing industries may require a range of comparatively smaller floorspace areas, which are outlined in sections 5.2.2 and 5.9.

5.2.1 Renewable energy

Renewable energy production refers to the process of generating energy from renewable sources that are naturally replenished over time, such as solar, wind, hydro, geothermal, and biomass. The Region falls within the Hunter and Central Coast Renewable Energy Zone (HCC REZ). This is illustrated in Figure 15, with individual LGAs demarcated by grey boundary lines.

Figure 15: Hunter and Central Coast REZ

Source: Energyco.nsw.gov.au/hcc-rez

The majority of pipeline renewable energy developments currently pertain to solar and wind energy. In general, two hectares of land is required to produce 1MWdc of solar power. Approximately 30MW – 50MW of power generation on a solar farm results in 1 direct operational job, noting some of these direct jobs may not be in the local area. This translates to a job density between 100-188ha per job, meaning that on its own, solar cannot provide sufficient jobs to support employment in the region. There are similar trends for wind generation.

Pumped hydro has a much higher job density, at approximately 3-4ha per job, but this is still a sparser concentration of employment than that potentially provided by employment lands.

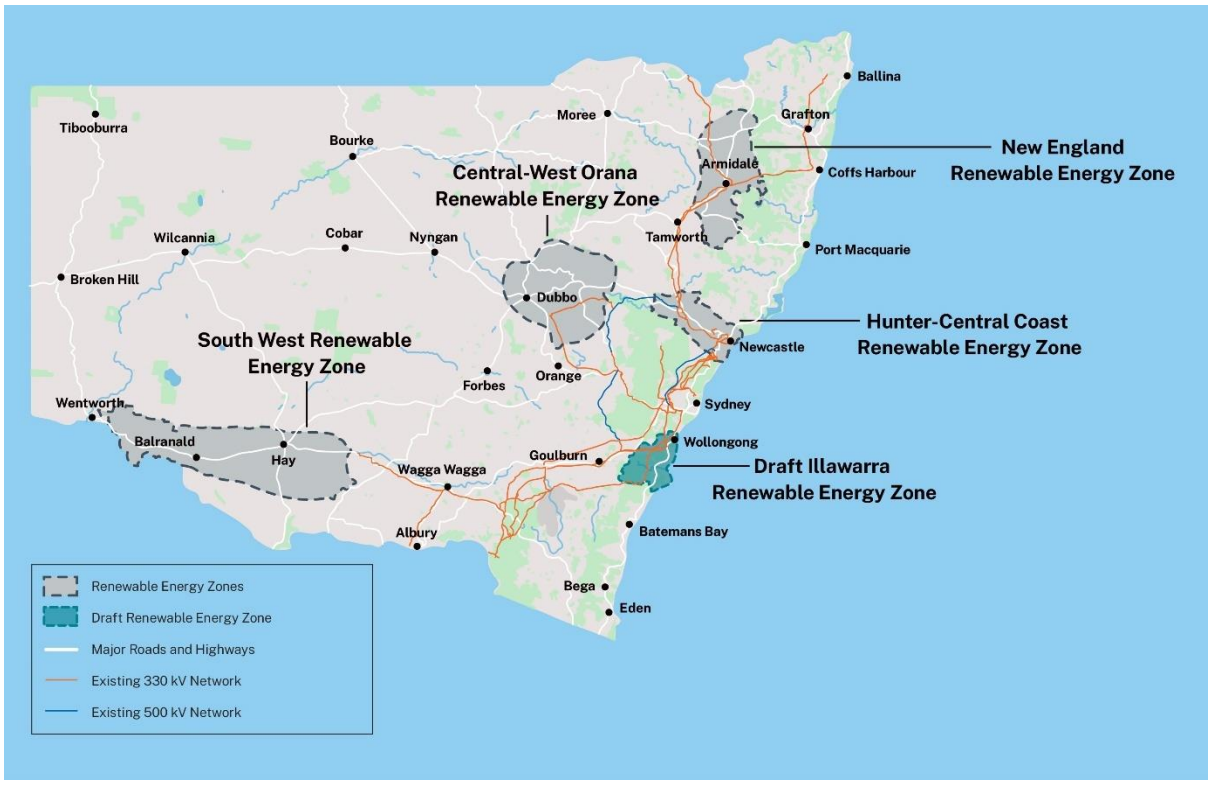
Solar, wind, hydro, and hydrogen energy, and related battery storage, will be important to support a viable advanced manufacturing industry within the Region by providing access to nearby energy and storage opportunities. On its own, renewable energy does not have the job density to maintain current rates of employment to diversify the economy. The opportunity of the Upper Hunter Region is therefore to form an agglomeration of solar and wind farms that will attract supporting industries and manufacturing. An example of this approach can be seen in the potential Muswellbrook Clean Industries Precinct, in which industrial lands would be located near solar and pumped hydro energy on the former Muswellbrook Coal mine site.

Renewable energy generation in and around the region presents a number of opportunities for different industries, including:

- Manufacturing: Driving demand for new manufacturing processes and technologies, such as the production of solar panels, wind turbines, and energy storage systems. This presents an opportunity for manufacturers to create new products and services that support the renewable energy industry.
- Construction: Opportunities for construction companies, as new wind and solar projects require the construction of new infrastructure. This includes the installation of wind turbines and solar panels, the construction of energy storage systems, and the development of new transmission lines.
- Agriculture: Farmers can lease land for wind or solar farms, providing an additional source of income. In addition, farmers can use renewable energy technologies, such as solar panels or small wind turbines, to generate their own electricity and reduce their energy costs.
- Transport and logistics: The renewable energy industry is generating demand to transport the significant infrastructure required to establish the energy generating uses.

As well as supporting the HCC REZ, the Region is uniquely positioned to leverage the major roads and highways that connect to the New England REZ and Central-West Orana REZ. Part of the Upper Hunter Shire LGA also falls within the Central-West Orana REZ, which will connect the Region to further employment opportunities.

Figure 16: NSW Renewable Energy Zone locations



Source: Energyco.nsw.gov.au/hcc-rez

The Region is an ideal location to manufacture energy production and storage components, such as solar panels, wind turbines and batteries, and distribute them to the broader region. Energy generation will be a key enabler for the region, with self-sufficiency and proximity to become important selling points for industry.

5.2.2 Advanced manufacturing

There are several advanced manufacturing trends that are shaping the future of manufacturing from both an employment skills and spatial requirements perspective. Trends include:

- Integrating digital technologies into manufacturing processes including the use of automation, artificial intelligence, the Internet of Things, and other advanced technologies to create connected, intelligent manufacturing ecosystems
- Additive manufacturing processes, also known as 3D printing, which has allowed companies to create complex shapes and design that were previously impossible through traditional manufacturing methods.
- Smart factories that use digital technologies to create highly automated and connected manufacturing environments through the use of integrated sensors and other digital technologies. This has optimised production, reduced downtime and improved quality control
- Sustainable manufacturing which includes the use of renewable energy sources, reducing waste and leveraging circular economy opportunities
- Collaborative robots which perform repetitive or dangerous tasks enhancing safety in processes.

With these trends comes the need to adapt the skillset of the workforce. Advanced manufacturing creates growing demand for:

- Engineers in the fields of mechanical, chemical, electrical, software and materials
- Technicians who install, maintain and repair the machinery and equipment
- Operators who oversee the function of machinery and equipment
- Data analysts who analyse and interpret the vast amounts of data generated and determine operational improvements.

There are synergies between some of the skillsets that would exist among mining employees and mining supply chain contributors and those required to support advanced manufacturing. Upskill programs, run through education institutes and training providers, can assist the transition of the mining based workforce. STEM programs run through schools can also educate students on the alternate career pathways. Muswellbrook Council has recognised this opportunity and has invested in the infrastructure to support the transition of the workforce and create opportunity for new business growth.

The floorspace requirements for advanced manufacturing have also shifted from that required by traditional manufacturing processes. Generally, advanced manufacturing processes require larger floorspace than traditional manufacturing due to the use of automated and advanced technologies that require more space. For example, a small advanced manufacturing facility for producing precision machinery parts might require at least 1,000 to 2,000 square metres of floorspace, while a larger facility for producing high-tech electronics might require 10,000 or more square metres of floorspace. Size will vary depending on several factors such as the specific type of manufacturing process, the size of the equipment and machinery needed, the number of employees working on the manufacturing floor, and the overall production volume.

It is expected that the employment density of these factories will be lower with increased automation, similarly fully internet enabled technology has the potential to be remotely controlled, which emphasises the need for:

- Highly skilled employees in the LGA to maintain the competitive value on site
- Access to internet, data storage and processing facilities.

As traditional mining support businesses transition out of the industrial estates, there are likely opportunities for the existing floorspace to be repurposed for advanced manufacturing uses, identified in actions under Direction 4. There will, however, be shorter term demand for smaller floorspace to support emerging businesses, necessitating sufficient separate employment land.

The advanced manufacturing opportunity is particularly relevant for the LGAs of Singleton and Muswellbrook.

5.2.3 Transport and logistics

Transport and logistics are constantly evolving industries, and there are several trends that are currently shaping the way these industries operate, including:

- The use of automation technology such as robotics, drones, and autonomous vehicles which is leading to more efficient and cost-effective operations, as well as improved safety and reliability.
- A growing focus on sustainability, with companies looking for ways to reduce their carbon footprint and improve their environmental impact. This includes the use of alternative fuels, electric vehicles, and more efficient logistics networks.
- The rise of e-commerce is driving significant growth, with companies needing to deliver goods quickly and efficiently to customers around the world. This has led to the development of new delivery models and technologies, such as same-day delivery and last-mile delivery solutions. This has implication on the demand for floorspace close to population centres.
- The use of big data and analytics to optimize operations, improve customer service, and make more informed decisions about supply chains.
- Global trade which is leading to increased demand for transport and logistics services, as well as new challenges related to cross-border shipping and customs regulations.

The increased use of automation and technology in the transport and logistics sector is creating demand for specialised skills workers including data analysts, robotic engineers and programmers. There will also be less demand for lower skilled jobs such a truck drivers as technology takes over the driving tasks. While e-commerce has generated demand for workers in order fulfillment, warehousing and last mile delivery.

The spatial requirements of the transport and logistics industries has also evolved with increased demand for varied warehousing spaces ranging in size from 200sqm up to over 10,000sqm. Distribution centres that include warehousing, loading docks, fleet storage, office space and ancillary facilities can need well over a hectare of land. Distribution centres can complement both the agriculture and manufacturing sector that are strong or emerging in the Upper Hunter Region.

The expansion of Newcastle Airport as an international airport brings air freight export opportunities. Similarly, the proposed container terminal at the Port of Newcastle would help diversify the Port and provide the Region with import-export access by rail. Scone Aerodrome also provides some air freight access to the north-western portion of the Region.

The Newcastle Institute for Energy and Resources (NIER) states that a key component of the changing energy industry across the Hunter region is set to be the generation, storage, and transport of hydrogen, which would require a strong transport and logistics network, incorporating the Port of Newcastle. In addition to this, the future competitiveness of other regional industries, such as a changing food and agribusiness landscape, is shown to be bolstered by well-developed transport and logistics systems. This supports the opportunity for mining-related areas to be used for logistics hubs, with the possibility for further growth in the transport and logistics industry across the Region.

The location of the Region on major highways and in proximity to the Port of Newcastle and Newcastle Airport creates opportunity for an inland port facility.

5.2.4 Agriculture and agribusiness

There are a variety of opportunities for agribusiness and equine sectors across the Region. Dungog and Upper Hunter LGAs have major agricultural specialisations, thus having strong opportunities in terms of related agribusiness growth. Simultaneously, sustainable industry trends may bring agribusiness benefits to the entirety of the Region.

The *Upper Hunter Economic Diversification Plan* lists various opportunities, advantages, and outcomes for agribusinesses throughout the Region. It states that food demand growth, the relocation of processing plants, and emerging industries such as industrial hemp, protected cropping, and processing plants, are driving agribusiness opportunities for the Region. The region's logistics infrastructure, proximity to markets, and industry clusters are cited as particular advantages, which help to achieve outcomes through new and larger operations, the adoption of circular economy principles, and land availability.

Within the wider region, Upper Hunter LGA is highly significant in terms of equine and related industries, with the LGA containing the second most significant thoroughbred horse breeding area in the world. While equine agriculture is often carried out on large-scale, rural properties, the existence of the Hunter Equine Centre near Scone also provides a potential clustering site for equine-related employment, including in veterinary services. Simultaneously, the cattle industry provides another key opportunity for food manufacturing employment clustering within the LGA. This is supported by cattle being produced across the LGA and subsequently being processed in facilities near Scone. The transferral of agricultural strengths into agribusiness employment can be further facilitated by enhancing the activation of town centres in the Shire, which may foster agribusiness agglomeration.

By contrast, in Dungog LGA, which has relatively strong agricultural employment, beef and dairy cattle industries have been noted as struggling for profitability. As stated in the *Draft Dungog Rural Lands Strategy*, the beef industry supply chain often involves the transportation of cattle from the LGA to be processed in Scone or

Singleton. Dungog LGA's poultry industry is contrastingly more clustered, with hatcheries, growing farms, and processing plants often located in close mutual proximity, but the local cattle industry employs significantly more people. As Dungog's draft Rural Lands Strategy points out, poultry farming has grown to contribute the majority of the LGA's agricultural value and livestock, while cattle farms have amalgamated and increased in size, responding to profitability challenges to take advantage of economies of scale. Agribusiness opportunities within Dungog LGA will depend on the agricultural activities that will be undertaken in the LGA's future. While synergies across the region are important, opportunities for agribusiness are stronger when located near primary agricultural production, such as within the LGA.

More broadly there are likely downstream processing and agri-business supply chain support opportunities, such as food processing, worth further exploring on industrial land—particularly as land prices rise in the main processor area of Newcastle. Supply chain opportunities may also include agri-tourism, discussed in the following section. There are opportunities to foster greater partnership and entrepreneur interest by providing business support programs, promotion and networking opportunities. Driving continued innovation and workforce development through partnerships with education and research institutions would also support this sector.

The pursuit of sustainability may strengthen food production and agribusiness, as well as other related industries in the Region. The Region is identified by NIER as one of three regional "nodes" in which sustainable development and economic diversification may be promoted in this way.

Food production and agribusiness, may be strengthened by a variety of circular economy initiatives, benefited by the use land and products related to mining and renewable energy industries. In particular, co-location and supply chain strengthening in the energy industry is predicted to increase efficiency and competitiveness in food and agribusiness, as well as in manufacturing.

In addition, new opportunities are being identified in the relationship between these industries and a changing energy economy. For instance, the use of lithium battery storage and capacity in meat processing plants may provide competitive advantage and cost savings for food product manufacturing and other industries. Within the sugar production industry, manufacturing processes may be also strengthened from improvements in electricity cogeneration from the burning of sugar cane residue. Current opportunities for food production, agribusiness, and manufacturing show the economic benefits that are to be found in greater economic diversification, as well as mutual ties between different changing industries.

5.2.5 Eco and agri-tourism

Due to the natural assets and beautiful farms in the region, there is significant opportunity to expand the eco-tourism and agri-tourism sectors. Eco-tourism typically involves visiting protected areas, such as national parks or wildlife reserves, and engaging in activities that have a minimal impact on the environment, such as hiking, bird watching, or wildlife observation. Agri-tourism typically involves activities such as farm tours, pick-your-own produce, farm-to-table meals, wine tastings, and agricultural education. The Upper Hunter LGA, Singleton LGA and Dungog LGA are well positioned to expand their regional offering.

The COVID-19 pandemic saw a growing demand for local tourism opportunities, with more people travelling regionally to visit small villages, explore natural assets and experience farming. This is evidenced by the growing boutique retailing emerging and the expanding interest in mountain biking in Dungog.

There is scope for further expansion of the region's eco- and agri-tourism profile. Strategies such as the Hunter Valley Destination Management Plan 2022 – 2030, which applies to Singleton and Cessnock LGAs, encourage nature-based, outdoor, and sustainable tourism to be developed and promoted within the region. This could be extended to further leverage the natural geography of the entire region. For instance, waterways and lakes, such as Lake Glenbawn and Lake St Clair, could be used to deliver more tourism opportunities. Additional agri-tourism could also be supported across the region, to add a more diverse set of tourism experiences to the Hunter Valley's existing profile of food- and wine-based tourism.

There are several strategies that can be adopted by councils to encourage visitors to the region. For example:

- Work with providers to offer unique and authentic experiences to attract visitors to eco and agritourism destinations. This can include activities such as hiking or cycling events, farm-to-table meals, farm tours, environment or agricultural education, and hands-on experiences like picking your own produce or helping with farm chores.
- Build partnerships with local businesses, farmers, and tourism organizations to promote eco and agritourism destinations and provide visitors with a wider range of experiences.
- Use digital marketing: strategies such as social media and online advertising to reach a wider audience and promote tourism destinations to potential visitors.
- Offer value-added products such as farm-fresh produce, artisanal goods, and locally-made souvenirs to help generate additional revenue for farmers and enhance the overall visitor experience.
- Develop a regional brand, similar to what has been successfully achieved on the Northern Rivers, that celebrates the unique features and products that are produced.

5.2.6 Defence

The Region contains assets and capabilities that support its role in defence and related industries. Singleton Military Area is located approximately 6 kilometres south of Singleton. It contains the Lone Pine Barracks and the Singleton Training Area, which provides initial training for infantry soldiers. Another facility is Myambat, a storage facility near Denman in Muswellbrook LGA. The wider Hunter Region also includes the Williamtown Special Activation Precinct, which seeks to centre a defence and aerospace cluster around the Williamtown Royal Australian Airforce Base and the adjacent Newcastle Airport.

Between these facilities, local industry, and skillsets in the region, there is the capability to extend the role of defence in the Upper Hunter economy. Existing regional assets include aerospace, data, simulation, and space expertise, which have been developed through the University of Newcastle and a variety of private industry organisations. In addition, industries such as mining in the region have experience in remote asset management, which could be applicable to the space industry. These assets could all be applied to develop the regional defence economy, which will generate demand for employment lands for related manufacturing.

Furthermore, global challenges such as shortages in ammunition provide an opportunity for defence-related manufacturing. There would potentially be future synergies between explosives for mining and for munitions.

As outlined in the Hunter Regional Plan, there is a need both to protect existing defence-related land uses and to provide land for defence-related manufacturing. There is also the potential to reuse ex-mining land for defence employment, with the Regional Plan indicating a mine at Bulga near the Singleton Military Area as having potential defence land uses.

5.3 Social media and e-commerce

Social media has created numerous opportunities for e-commerce including generating growth in business start-ups and entrepreneurs. Platforms such as Facebook, Instagram, Twitter, and Pinterest have millions of users who can see products, increase brand visibility and attract more customers.

The barriers to entry for new businesses have been lowered with social media providing a low-cost or free way to market products and reach potential customers. Social media has also facilitated crowdfunding, making it easier for start-ups to raise capital for business ideas. This has made it easier for entrepreneurs to launch new businesses with less upfront capital.

It has also generated an increase in product manufacturing at both a bespoke and commercial scale as businesses test new product and scale up ideas. Creative enterprises and experiential businesses have also surged due to social media with influencers and advertising and able target key markets and generate increased visitation. What this means is that more people are choosing to leave traditional professional and trade roles in pursuit of

new business ventures. In some instances, these ventures give them opportunity to live in regional areas – with unique clusters and location branding then emerging.

The emergence of new businesses and start-ups has increased the demand for:

- Warehouses with scale-up opportunities
- Manufacturing floorspace with scale-up opportunities
- Co-sharing spaces and collaboration spaces (commercial and industrial)
- Transport and logistics services including product packaging and distribution
- Commercial kitchens.

Focusing on e-commerce opportunities means many of these locations and start-ups may not need store front or high-street access to operate. While many businesses will likely still use high streets and cluster with similar businesses, these trends may generate more demand for employment lands that facilitate a diversity of regional start-ups and businesses.

5.4 Circular economy and energy from waste

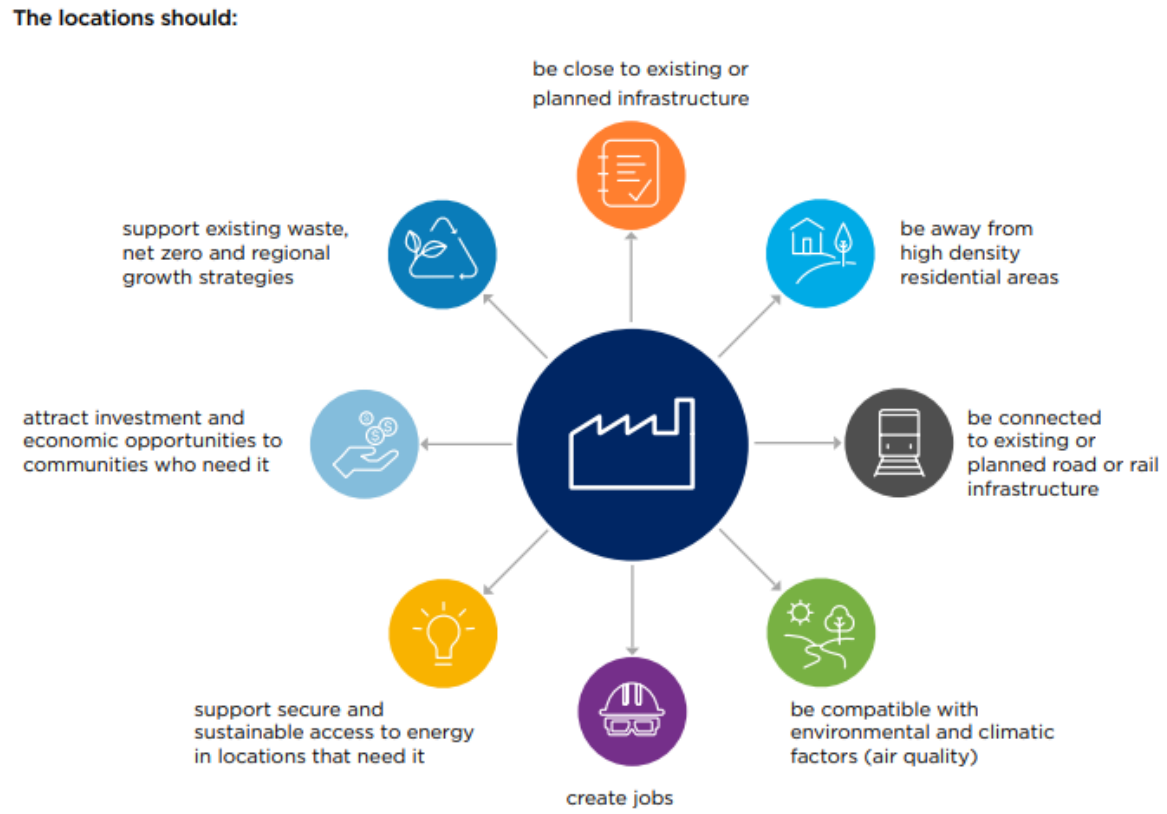
The circular economy redefines the economy from a linear where resources are produced into consumables and into waste, by looking at how waste can become a resource. This involves innovative recycling and re-use throughout the economy.

The Region already has recycling and composting facilities and is looking at further investment in the circular economy. Existing facilities include Scone Resource Recovery Centre, Muswellbrook Waste & Recycling Facility, Denman Waste Transfer Station, and Dungog Waste Management Facility. One element from the circular economy is energy from waste (EfW), which involves looking at energy production from waste. These are strictly regulated because of air quality and other environmental impacts.

Any development of new energy from waste in NSW is prohibited outside of the four designated areas of Parkes, Richmond Valley, Goulburn-Mulwaree, and Lithgow. However, new areas can be considered with post electricity generation sites and mine sites permitted to be considered. These locational factors for energy from waste are outlined in Figure 17.

Post mine sites in Muswellbrook and Singleton would fulfil all of these requirements, and therefore, it is recommended that should Council wish to pursue EfW opportunities that they write to the EPA to seek a gazetted area for EfW on their mine sites.

Figure 17 Locational factors for energy from waste



Source: Energy from Waste Infrastructure Plan

5.5 Adaptation of mining lands

When mining operations end, it can have a significant impact on the local economy, as well as on the community's social fabric. With the future of coal mining uncertain, the transition of disused mine sites to new employment uses has been an important consideration. The physical features of mine sites may accommodate potential industrial employment, e.g., mine shafts, residue materials, and proximity to infrastructure such as road, rail, and port connections.

Mining lands can be reused in a variety of ways, depending on the specific conditions of the site and the needs of the local government area. Potential economic generating uses include:

- Development of renewable energy sources such as solar, wind, or geothermal power
- Agriculture, horticulture, or forestry, depending on the soil conditions
- Recreational or cultural uses such as hiking trails, bike paths, camping areas, or heritage sites to facilitate tourism
- Industrial or commercial use, such as the development of manufacturing facilities, research and development centres, or business parks
- Residential use, where on lands in appropriate location and there is a need for housing.

The largest prohibitor of future site reuse is the conditions that are placed on site during the approval process. Generally the sites are required to be rehabilitated and restored to prior condition, which generally requires the removal of all infrastructure. An additional barrier can be water licences, which are generally linked to the use on the site. The State Government has been tasked with identifying pathways to unlock mining lands.

Once mines have been closed and relinquished, other challenges of re-using the land remain. These include the question of which developer or organisation will redevelop the land; the need to attract businesses to invest in ex-mine precincts; and the need to overcome water and sewer servicing challenges. However, a range of potential land use opportunities, discussed in the following paragraphs, may encourage the development of ex-mine sites through collaboration between the government and the private sector.

The Australian Government's *Mine Closure: Leading Practice Sustainable Development Program for the Mining Industry* report provides a guideline as to the sustainable closure of mining sites. It details the case study of former coalfields in the Ruhr and Saar valleys in Germany, where employment has been shifted towards logistics, distribution, manufacturing, and food production sectors. In particular, proximity to roads, canals, and railways has provided strong opportunities for industry to develop in particular sites, while the planning of business parks has allowed for industry clustering to occur. As stated in the report, these opportunities were made possible through the provision of infrastructure in the form of offices, commercial real estate, housing, recreational areas, and cultural facilities.

Other opportunities for former mining sites also exist inside the energy industry. For instance, the use of ex-mine shafts for gravity energy storage systems shows the potential reuse of coal mines for the renewable energy sector. This is a program that is set to be studied at a decommissioned coalmine in Cessnock LGA.

NIER carries out work with regard to various new industry opportunities associated with decarbonisation. While barriers of scale exist for businesses in emerging industries, co-location and co-investment are seen to encourage and enable industrial development, with new industries benefiting from clustering together. If this is carried out in specific areas, these industries may also utilise landscape features associated with former resource-related activities. In particular, resource recovery and circular economy principles provide opportunities for the re-use of mining land. Within Muswellbrook LGA, the potential for tailings to be used as a soil additive that supports mine rehabilitation, energy, and biofuel production has been explored, with the potential to create further opportunities for agribusiness on mined land.

If successful adaptation of mining lands is achieved, significantly more employment land stock would be generated in Muswellbrook and Singleton LGAs. The Hunter Regional Plan identifies a set of 20 mines that could together comprise over 6,000ha of additional employment land once decommissioned, excluding buffer lands. This is far in excess of the amount of employment land that will be needed in the next decades. Employment opportunities can be strengthened through clustering and agglomeration; due to this, particular mine sites should be carefully selected for employment opportunities to meet demand and maximise opportunities, with other mines undergoing environmental rehabilitation once decommissioned.

5.5.1 Projected mine closures

As discussed in section 4.3, the mining industry is set to lose jobs and decline in share of employment in the Region from 2021 to 2041. DPE projections forecast losses of approximately 1,400 mining jobs in Singleton LGA and 280 mining jobs in Muswellbrook LGA. However, consultation with Councils has identified that mining jobs in Muswellbrook are likely to decline far more significantly, at approximately 2,500.

There are currently seven mines operating in the Region with consent expiries between 2021 and 2031, and eight with consent expiries between 2031 and 2041. The total employees in these mines number approximately 11,360. We note that many of these mines intend to continue operations.

Four of Muswellbrook LGA's five current mines, constituting a total of approximately 3,070 employees, have consent expiry dates before 2031. Meanwhile, seven of Singleton LGA's 10 mines have consent expiry dates between 2031 and 2041. The consent for Muswellbrook LGA's largest employing mine, Mount Arthur Mine, expires in mid-2026; however, BHP have applied to extend operations until 2030 before ending operations.

Without approved extensions, Muswellbrook would lose most its mines and related jobs before 2031, while Singleton LGA would lose most mines and related jobs between 2031 and 2041. Despite the stated intention of

many companies to seek extensions, it is critical that each Council prepare for post-mining futures, especially to safeguard against policy changes and sudden closures.

Some new mines are also set to be opened, with existing mines also to be renewed. Renewal is currently being sought for two mines within Muswellbrook LGA and one within Singleton LGA, where an additional new mine is also being proposed.

While consents for some of the region's mines last until the end of 2039 and potentially later, planning for mine closure is a long-term process. Consequently, Local Strategic Planning Statements for Muswellbrook and Singleton LGAs, as well as region-wide strategies, identify the need to plan for mine rehabilitation and post-mining land use prior to even commencing mining.

5.5.2 Alternative uses for mining land

The mining sector plays a critical role in the future of the Region. As mines commence closures in the Region, due to supply shortages or corporate decision-making, there is an opportunity to transition the mines into productive employment land, as has been identified by the local community. This would leverage the existing hardstand, structures, and rail loops that exist on mines.

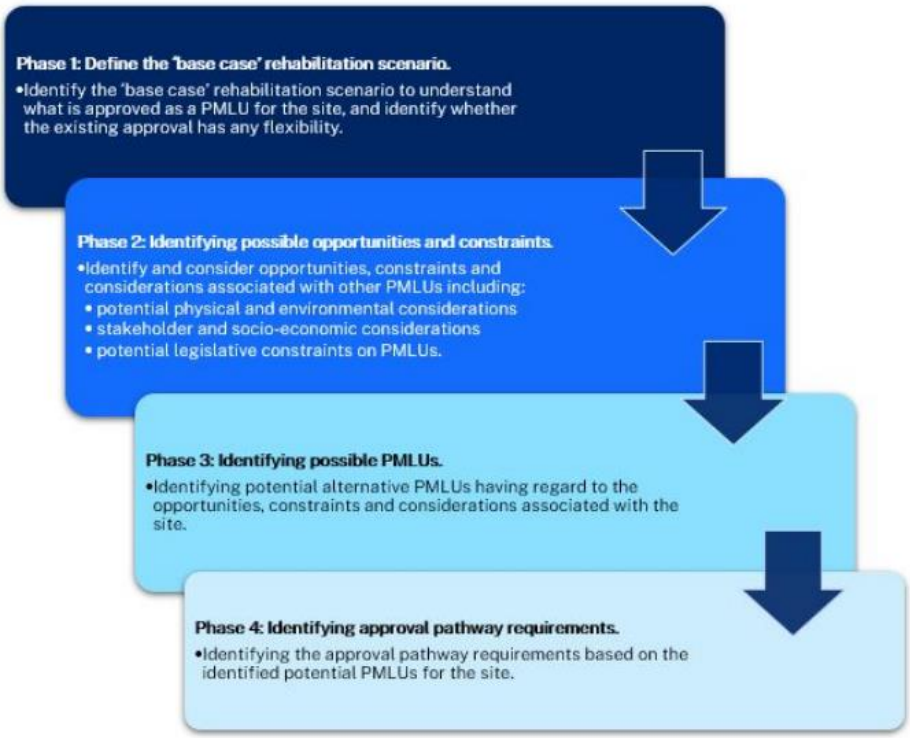
Mining applications identify the post mining landform and uses, for many of the mines in the Region this post mining landform and use relates to a combination of environmental conservation, forestry, and agricultural uses. Any change to the approval final land use will require either a new development consent or a modification to an existing consent from the relevant consent authority under the EP&A Act.[5]

For an applicant to seek a different post mining landform then there would need to be a modification to the consent. Mining industry stakeholders have stated that they are nervous about seeking modifications to the consent, because it opens up the whole consent up to review, which could include 'modernising' conditions. While this may be okay when a mine will continue to operate for a long-time, as it is seeking to wind-down to closure, there is limited appetite to change practices or upgrade standards. This results in nervousness and reluctance to seek a modification for post-mining land-use as it could impact on their current operations, which is the priority of a mining company. Collaborative work between, industry, Councils and DPE will help create the opportunity for post-mining land-uses and landform that include opportunities to leverage existing infrastructure, when it comes time to rezone the land to an Employment Zone or use.

In January 2023, the NSW Government published *Practical guide: post mining land use* to inform approaches to post-mining land use (PMLU). This included discussion of the practical benefits of alternative PMLU's to higher value and employment-generating beneficial uses.

- Large parcels of land
- Variety of landforms that can be repurposed
- Access to good quality water
- Good transport links
- Large volumes of stored water or potential for water storage
- Access to electricity infrastructure
- Access to regional population
- Established water management infrastructure

[5] Achieving rehabilitation completion (sign-off) (nsw.gov.au)



One key consideration identified by the guide is the physical environment. The guide states that the physical challenges of mines could be overcome if PMLU is considered at the mine design stage, although mining companies have so far been relatively uninvolved in planning PMLU for the purposes of employment land. The guide also states that the community's social needs, the economic feasibility of different options, and legislative requirements are all important in the planning of PMLUs. Achieving the right PMLU requires companies and government agencies to work together in addressing these considerations.

The PMLU focusses on identifying opportunities and recommends mining companies undertake expression of interest processes to identify specific future users. The ability for councils to plan for PMLU is somewhat limited, due to the stronger role of State and Federal Government legislation and policymaking. Councils are best placed to play an advocacy role, expressing the needs of local communities to mining companies and to other branches of government. The actions under Direction 2 of this report establish the ways that Councils in the Region can do so. Council could play an economic development role, facilitating expression of interest potentially on an LGA-wide basis in collaboration with industry and state government.

From an urban development perspective, there is economic risk developing an industrial precinct without potential future users, and therefore, identifying tenants early and understanding the financial contribution that the tenants would be willing to make through rent, and expectations as to built form, would be critical to understanding the viability of industrial transformation. Some stakeholders also spoke about developing industrial land on mining land or carrying out part of the transition early; however, this also presents regulatory risks for the sector. The mining sector is regulated by the *Work Health and Safety (Mines and Petroleum Sites) Regulation 2022*, the requirements of which are stricter than normal WHS requirements due to potential mine dangers. It is not desirable for most other operators to operate under those requirements, with non-mining companies lacking experience in the requirements. A breach in WHS standards on a mine (even if not mining-related) has the potential to compromise the mining licence, particularly if it goes unreported to the regulator.

As a result of these factors, mining operators have not been closely involved in establishing future employment uses for mining lands. There are, however, a range of opportunities being assessed at a policy level to best address the future use of mining lands.

5.5.3 Engagement with mine operators

Successful planning for PMLU can be aided by current mine operators being involved in planning the transition of mining lands. This presents a challenge, as many current operators remain optimistic about the future of mining and intend to maintain operations. Through HillPDA's stakeholder engagement, it has been noted that these operators are not incentivised to become engaged in planning for mine closures and subsequent land uses.

Significant local mine operators such as BHP and AGL have nonetheless become involved in the planning of PMLU, due to the forthcoming closure of mines including Mount Arthur and Muswellbrook Coal. A renewable energies precinct and adjacent industrial lands are currently in a planning stage for the area surrounding Muswellbrook Coal mine. Rehabilitation has also been planned for the Mount Arthur Mine, with BHP suggesting potential nature-based recreation to be facilitated on the site in the future.

The expertise of mining operators in navigating land use policies, finance, and economic strategy will be useful in planning for PMLU. Although risk and uncertainty may discourage mine closure planning at an early stage, engagement and advocacy between Councils, mine operators, and other stakeholders will likely encourage more strategic planning of post-mining lands.

5.6 Clustering opportunities

A 2022 report by the NSW Innovation and Productivity Council, *The Role of Anchors: lessons from international innovation precincts*, discusses the role of industry clusters in achieving private and public outcomes and bolstering local employment. As it states, clusters and precincts can be formed through the work of public or private 'anchor institutions', infrastructure access, and the presence of multiple large firms.

The potential role of 'anchor institutions' has been identified in strategic plans for the Region, including university and TAFE institutions, energy companies, and health institutions, often working together on industry initiatives. As the *Role of Anchors* report states, anchors facilitate new supply chains, investment, and business co-location within regional areas, aiding industries and regions to navigate industry shocks and economic change.

Currently, much of the Region is reliant upon mining, energy, and agricultural companies for employment. Regardless of the future of these industries, the region will likely continually need key infrastructure and industry anchors to achieve its full economic potential beyond mining, energy, and agriculture. The involvement of anchors in processes of mining and power station land transition would particularly aid the development of employment land clusters, as the regional economy undergoes a shift between industries.

Specific clustering opportunities are discussed at an LGA level in the Local Government Area Profiles attached to this report.

5.7 Changes outside the region

The Region comprises the northwest area of the wider Hunter Region, part of which is included in the Six Cities Region of NSW. Industry trends in the Region connect it economically to other nearby areas, which has implications for the planning of employment lands, discussed in the following sections. The decline of mining in the Region may impact other industries in the Hunter Region and the State more broadly.

5.7.1 Regional supply chains

Industries in the Region have supply chain relationships with other areas, particularly the rest of the Hunter Region.

The mining industry generates jobs in related industries in the Lower Hunter. The Port of Newcastle, located at Kooragang, is the world's largest port for exporting coal, which is transported via the Hunter Valley Coal Rail Network from mines in the Region. The port includes general and bulk cargo handling facilities, which generate jobs in the processing and loading of coal. Other related industries that directly surround the port include

materials manufacturing and freight services. The anticipated decline of coal mining in the Region may impact jobs in these industries.

Other coal-related industries in the Lower Hunter Region support mining operations in the Upper Hunter, and are thus somewhat reliant on the mining industry. In particular, the area of Tomago includes machinery and equipment manufacturing and wholesaling facilities that support the mining industry. This includes the companies Komatsu and WesTrac. Jobs relating to mining equipment are at risk of being impacted by industry changes in the Region. However, new opportunities for energy equipment companies may also arise from the needs of renewable energy industries.

This report considers areas for employment within the Region. It is possible that industry changes in the Lower Hunter Region impact demand for employment land in this area. For instance, there may be a greater need for manufacturing or wholesaling employment across the wider Hunter Region or the State, which may lead to greater numbers of people commuting from outside the Region to find work. The following section considers such commuting patterns in light of future industry changes.

5.7.2 Industry change impacts on workers living externally

The Region provides significant employment to residents of the lower Hunter Region. As identified in section 4.2.2, it is common for workers in the Upper Hunter to live externally. As such, projected mining job losses will likely impact employment prospects residents external to the region.

This may contribute to a larger population in the Region, if Lower Hunter residents become employed in alternative Upper Hunter industries and no longer choose to commute as far. However, the inverse may also occur, with Upper Hunter residents moving to seek housing and employment in the Lower Hunter. It is therefore difficult to predict the exact future trends impacted by the relationships between the Upper and Lower Hunter. However, planning for employment land needs should generally acknowledge that the Region provides jobs beyond its own boundaries, whether directly or indirectly, and consider the impacts of employment land planning for people beyond the residents of the Upper Hunter.

5.7.3 Agriculture outside the region

While large-scale industrial market trends are impacting the Hunter Region, the region is also set to be impacted by land use changes occurring elsewhere in NSW, particularly agricultural changes in Greater Sydney.

The Australian Farm Institute's 2020 research report, *Managing farm-related land use conflicts in NSW*, discusses agricultural trends throughout NSW. As it states, development in Greater Sydney has simultaneously intensified agricultural land uses and placed pressure on common forms of agriculture, particularly poultry farms and market gardens, with the result of farmers ceasing to operate in such areas. Continual urban development has also led chicken meat production to become more regionally distributed, with the Hunter Valley containing chicken processing plants. The egg industry, in addition to chicken meat production, has been shown to be a strength of the Hunter region (Hunter and Central Coast Development Corporation & Department of Regional NSW 2021).

Considering the state of urban development in areas such as Greater Sydney and the Lower Hunter, the Region may continue to grow in terms of agribusiness opportunities related to these forms of farming. There is opportunity to increase agribusiness clustering in the region, particularly considering the typically higher land costs closer to Newcastle.

5.8 Development activity

The volume of development applications (DAs) lodged and assessed in the Upper Hunter Region has fluctuated over recent financial years. During the current financial year (2022-23), there were 504 DAs lodged and 370 assessed as of February 2023, according to listings of relevant local developments published by Cordell Connect.

The assessment time for a DA generally differs throughout the Region, between averages of approximately 74 days (Upper Hunter LGA) and 114 days (Dungog LGA).

HillPDA has analysed Cordell Connect data on local and State significant developments to gain an insight into the pipeline for employment-related development, as shown in Table 16.

Table 16 Development pipeline in the Region

	Dungog		Muswellbrook		Singleton		Upper Hunter	
	Value ($m)	Count	Value ($m)	Count	Value ($m)	Count	Value ($m)	Count
Abandoned	$0	1	$6	3	$44	15	$194	7
Deferred	$-	-	$4	1	$1	2	$9	2
No further research to be conducted	$0	1	$62	9	$9	21	$30	27
Commenced	$2	2	$37	6	$6	4	$6	5
Possible	$1	1	$1,371	19	$1,193	46	$2,331	29
Early	$100	2	$80	2	$3	1	$-	-
Firm	$1	1	$480	10	$27	13	$29	4

Cordell Connect

The most significant major projects in the region are solar or renewable energy projects. All projects in excess of $50 million, with the exception of the Muswellbrook Showground conversion (listed as 'no further research to be conducted' in Cordell Connect) are solar and wind farm projects.

The job density of solar projects is unlikely to deliver significant employment outcomes; however, such projects will be an important enabler for the region and the State. This illustrates the significant importance of the REZ for the region's investment pipeline.

Table 17 breaks down the land-uses for projects that have been classified as early, firm, possible, and commenced that are employment related (with a use expected on employment land) and an estimated value in excess of $100,000. There are a total of 126 projects, of which 67 projects exceed $1 million, 30 exceed $5 million, and 17 exceed $50 million. Projects have been delineated according to categories of development established by Cordell Connect.

Table 17 Development pipeline by land use for projects classifed as early, firm possible, commenced projects

Development Type	Dungog		Muswellbrook		Singleton		Upper Hunter	
	($m)	Count	($m)	Count	($m)	Count	($m)	Count
Food Processing	$-	-	$30.00	1	$-	-	$0.20	1
Tourist Accommodation	$-	-	$1.10	2	$6.65	4	$2.90	3
Entertainment	$-	-	$27.00	1	$11.46	8	$0.20	1
Industrial	$-	-	$44.38	7	$19.13	10	$3.10	6
Commercial	$-	-	$-	-	$0.57	1	$0.80	2
Emergency	$1.35	1	$2.31	1	$1.50	2	$1.00	1
Heavy Industry	$-	-	$-	-	$-	-	$-	-
Medical	$-	-	$45.00	1	$-	-	$0.82	1
Tourist Activity	$1.08	1	$1.77	1	$3.42	1	$-	-
Light Industry	$-	-	$1.47	2	$11.30	12	$1.20	6
Infrastructure	$-	-	$0.55	1	$4.44	3	$0.50	1
Military	$-	-	$373.75	3	$-	-	$-	-
Transport	$-	-	$2.88	2	$-	-	$4.70	2
Agriculture	$-	-	$33.34	1	$6.79	6	$31.50	5
Power Station	$100.63	3	$1,762.56	10	$1,137.64	6	$2,310.20	3
Retail	$-	-	$0.25	1	$-	-	$0.75	1

Source: Cordell Connect, HillPDA 2023

LGA-specific data on major project pipelines are provided in the Local Government Profiles attached to this report.

5.9 Lot sizes by industry profile

The table below provides an indication of the typical lot sizes used by different types of employment land. These are based on the typical uses for the type of precinct, and examples of areas from NSW and the region.

Table 18: Lot size of industrial land typology

Employment land type	Indicative lot sizes (sqm)	Example area	Typical uses	Typical zones	New zones
Heavy industry	150,000+	• Bayswater Power Station, Muswellbrook LGA • Port Kembla, Wollongong LGA	Heavy manufacturing, freight and logistics, resource processing	IN3, SP1	E5 Heavy Industrial, SP1
Large lot industrial	20,000 – 150,000	• Mount Thorley, Singleton LGA • Erskine Park, Penrith LGA	Manufacturing, logistics	IN1	E4 General industrial
General industrial/productivity support	1,000 – 20,000	• Industrial Close, Muswellbrook LGA • West Gosford, Central Coast LGA	Trade supplies, automotive, manufacturing, warehousing	IN1, IN2	E4 General industrial E3 Productivity Support
Small lot factoryette	Up to 500 (can be within strata)	• Alfred Road, Chipping Norton, Liverpool LGA	Trade supplies, automotive, manufacturing, warehousing	IN1, IN2	E3 Productivity Support
Mixed use commercial and industrial/enterprise corridor	1,000 – 25,000	• B6 zone near showground site, Muswellbrook LGA • B6 zone, Singleton LGA • Canterbury Road, Canterbury-Bankstown LGA	Trade supplies, office, retail, automotive, warehousing	B5	E3 Productivity Support
Business/technology park	5,000 – 25,000	• Tuggerah, Central Coast LGA • [Does not exist in Region]	Office, research, advanced manufacturing	B7	E3 Productivity Support

Source: HillPDA research 2023

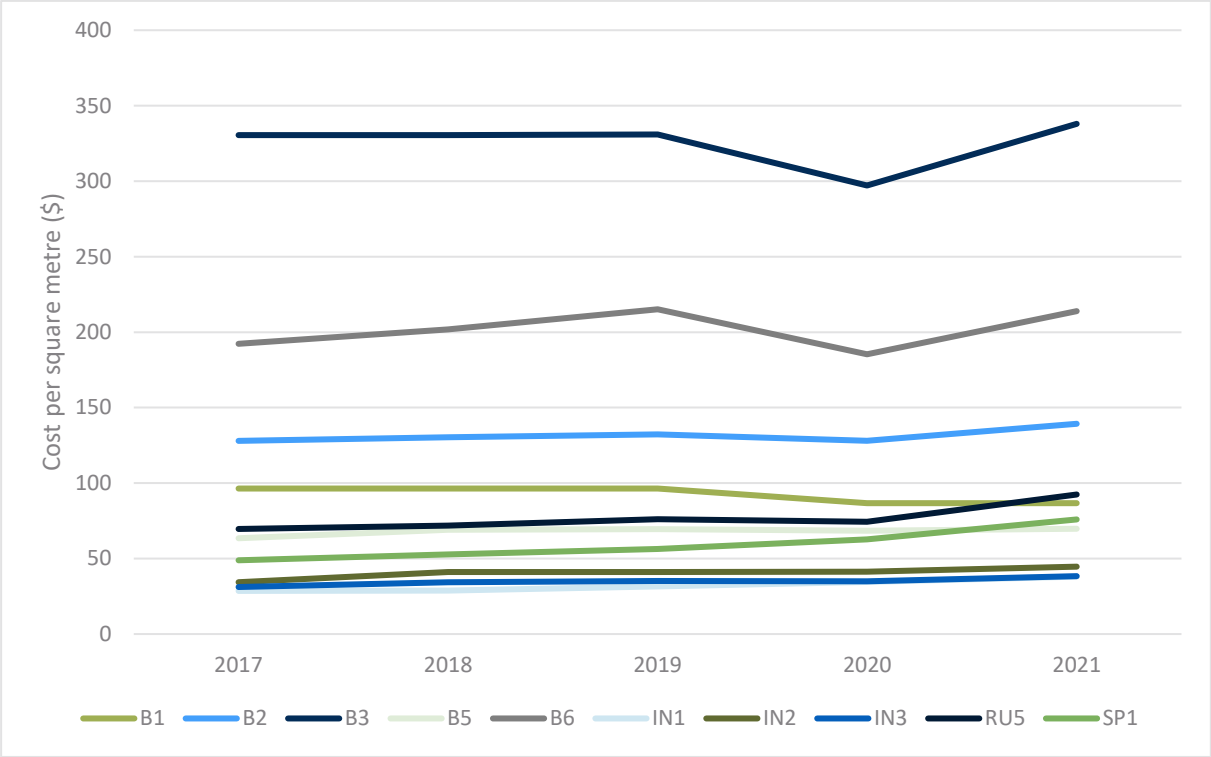
The above categories facilitate different types of employment examined in section 5.2. For instance, freight and logistics can occur across a range of lot sizes, with larger distribution facilities housed in large lot industrial land. Advanced manufacturing, meanwhile, can occur on general industrial/productivity support land, with floorspace requirements ranging from 1,000 to over 10,000 square metres. Advanced manufacturing can also be facilitated by business/technology park land.

The Region's current and future employment land supply needs are considered in sections 6.0 and 7.0 of this report.

5.10 Land value trends

The unimproved land value has increased over time for each of the land use types across the four LGAs. In general, B3 land, which is predominately located in Singleton town centre with larger retailers, is the most valuable. This is followed by B6 land, which also houses established businesses. The remaining land zonings overall have lower values. B2 land has a slight premium over B4 and RU5 land, which reflects the likely advantage of being located in an urban centre within the region. Similarly, we note that there is a premium on IN1 land over IN2 and IN3 land, which reflects the greater flexibility of uses, and likely the smaller lot sizes, allowing for more intensive uses.

Figure 18 Unimproved Capital Land Values



Source: Valuer-General 2023

SUPPLY

6.0 LAND AND FLOORSPACE SUPPLY

6.1 Employment land audit

The following section overviews the land characteristics of the existing and proposed employment precincts in the Region. Characteristics include:

- Total land area
- Total land area by zoning
- Status of employment land (developed and vacant)
- Lot sizes (developed and vacant).

HillPDA considered the Employment Land Development Monitor and undertook its own additional land use auditing.

The Audit considered employment zoned land as defined in section 2.2.

6.1.1 Employment Land Development Monitor

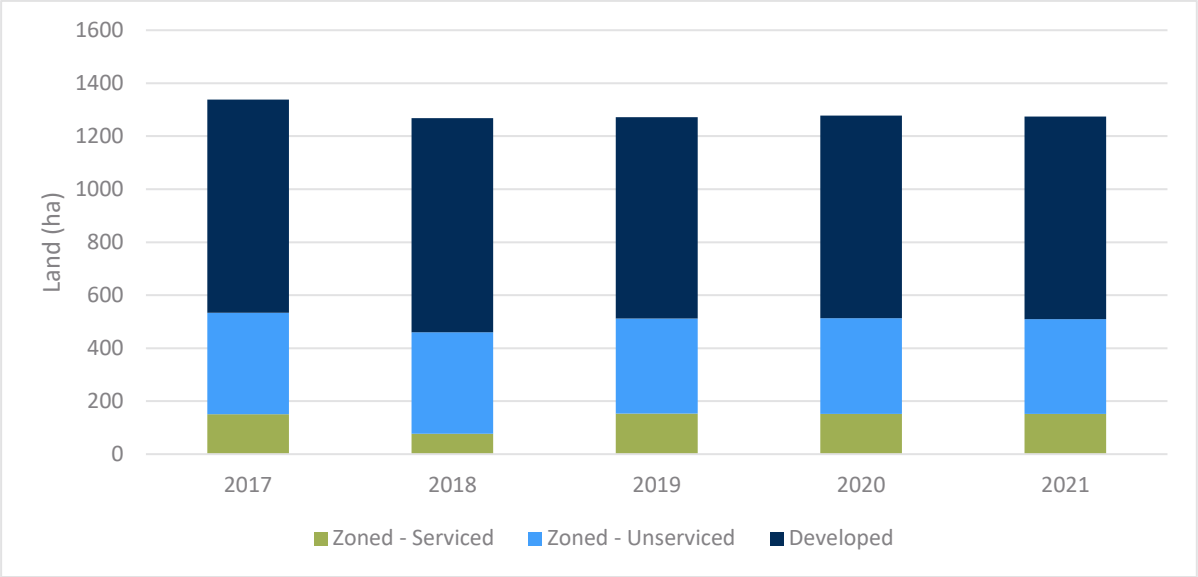
The Employment Lands Development Monitor (ELDM) prepared by the Department of Planning and Environment tracks the amount of Employment Lands in the Hunter, Greater Sydney, Central Coast and Illawarra. The ELDM defines employment land as land having the following zoning:

- IN1 General Industrial (ha)
- IN2 Light Industrial (ha)
- IN3 Heavy Industrial (ha)
- IN4 Working Waterfront (ha)
- B5 Business Development (ha)
- B6 Enterprise Corridor (ha)
- B7 Business Park (ha)

Other land in the region also provides for employment. For instance, agriculture or mining jobs take place on rurally zoned land. However, this Strategy pertains specifically to employment lands as defined in section 2.2, and has utilised the above list of zonings to audit employment land precincts.

The Employment Land Development Monitor has estimated employment land to total 1,274ha in the Upper Hunter Region.

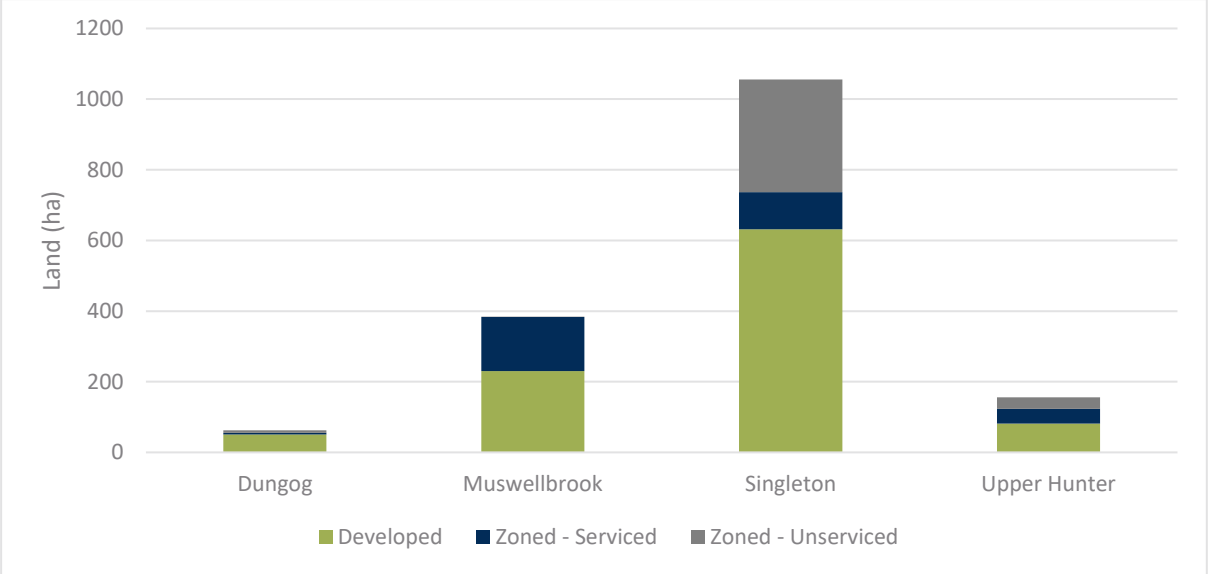
Figure 19: Region Employment Land Availability



Note: The ELDM takes a theoretical approach to servicing, which assumes land is serviced if it is within 30m of a water main or a sewer main. It does not take into account the water, sewer, or electrical capacity of upstream infrastructure, or the ability for the site to be connected to services.

Source: ELDM (2018, 2019, 2020, 2021)

Figure 20: Employment land availability by LGA



Note: The ELDM takes a theoretical approach to servicing, which assumes land is serviced if it is within 30m of a water main or a sewer main. It does not take into account the water, sewer, or electrical capacity of upstream infrastructure, or the ability for the site to be connected to services.

Source: ELDM (2021)

6.1.1.1 Servicing and the ELDM

Servicing refers to the capacity of the site to be connected to sewer, water, power, and telecommunications infrastructure. The ELDM's approach to servicing is limited because it does not necessarily consider electrical, or total network capacity. Instead, Undeveloped and Serviced Employment Lands is defined as land that is currently zoned, undeveloped and located within 30 metres of a water and sewer main. Where there is a sewer main within 30 m for a particular site, it is assumed that water is also available on the site.

While a site might be able to be connected to a sewer system, it does not meant that the sewer system or water system has the upstream capacity to accommodate the connection to the system. In many instances the Council sewer systems are generally at capacity and not designed to process significant quantities of trade waste.

HillPDA undertook initial consultation with Council to better understanding servicing constraints.

- Upper Hunter Shire is highly constrained with 8,000 EF treatment facility currently operating slightly above capacity
- Muswellbrook sewer has limited capacity and would require expansion
- Dungog does not have the capacity for significant industrial waste
- Singleton has mostly un-serviced land, and would require sewer expansion or augmentation.

HillPDA tested the ELDM data against our own land-use audit methodology, which is summarised below to develop a clear picture of Employment Land supply across each of the LGAs.

6.1.2 Land use audit methodology and data sources

The land use audit was informed by the following information sources:

- NSW Department of Planning and Environment (DPE) land use zones
- Department of Spatial Services, SIX Maps Clip and Ship Cadastral layer (property lots)
- MetroMap aerial imagery
- Cordell Connect, development applications.

6.1.2.1 Employment land estimate methodology

To determine the amount of employment land, the following steps were undertaken:

1. Each LGA's cadastral or property lot layers were clipped against NSW DPE land zones
2. Each lot was assigned its corresponding land zone, LGA name and land area (sqm)
3. All land zones except for employment land zonings were excluded
4. Road, laneways and footpaths were excluded, where possible
5. Resulting property lot land areas were assessed at the zone and LGA level.

6.1.2.2 Land status definitions and methodology

To determine the status of Region employment land stocks, the following steps were undertaken:

1. Each individual employment cadastral or property lot was assessed using aerial imagery via MetroMap
2. Each lot was assigned the status of developed or vacant
3. MetroMap was somewhat dated in limited locations (early 2021 satellite images). As such, Cordell Connect was used to overlay recent industrial developments and those currently under construction (post 2021). Where these intersected with any lots identified as vacant, they were changed to a developed status.

Two land use status definitions have been applied in this assessment, these being:

- **Developed**: this refers to employment land stocks which are being used or which are considered to have limited to no capacity to contribute to future development at present. Developed land predominantly was identified by having a pre-existing building (commercial or residential) on the lot. In some cases, developed land includes land which is being used for ancillary operational businesses purposes, including storage. This category also includes railway land which is zoned as employment land. These corridors, if inactive, are too narrow to be used for future supply. We note that this has future growth development as infill development, through knockdown-rebuild or refurbishment. However, this may not significantly increase floorspace, without adding levels.

- **Vacant:** this refers to employment land stocks which are vacant; that is, they do not contain a pre-existing building, have no building under construction, or have limited storage use. This land is available for development. Please note a constraints analysis was not undertaken at this stage.

6.1.3 Existing employment land characteristics

The following section overviews the land characteristics of the existing employment precincts across the Region.

6.1.3.1 Total zoned employment land area by development status and LGA

The land use audit indicates that the Region contains around 1,033 hectares of zoned employment land. The majority (571 hectares or 51% of land stocks) was contained within Singleton, followed by Muswellbrook (238 hectares or 23% of land stocks) and Upper Hunter Shire, with 175 hectares or 17% of land stocks. Dungog Shire had 49 hectares or 5% of employment land.

Of total employment land stocks, 528 hectares, or 51%, was considered developed, with the remaining 505 hectares, or 49%, being vacant.

The following table summarises employment land stocks by area and status for each LGA that comprises the Region.

Table 19: Employment land area by status and LGA (ha)

LGA	Developed	Vacant	Total
Dungog	27	22	49
Muswellbrook	204	34	238
Singleton	189	382	571
Upper Hunter Shire	108	67	175
Total	**528**	**505**	**1,033**

Source: HillPDA 2023

6.1.3.2 Employment land by zone and development status

Total employment land stocks by zone

Of total employment land stocks across the Region, the largest zone was IN3 Heavy Industrial 39% (401 hectares) of total land stocks. The next largest land zonings were:

- IN1 General Industrial which accounted of 23% of land stocks (241 hectares)
- B5 Business Development which accounted of 13% of land stocks (139 hectares)
- B2 Neighbourhood Centre which accounted of 10% of land stocks (106 hectares)
- B6 Enterprise Corridor which accounted of 2% of land stocks (43 hectares)
- B7 Business Park which accounted of 1% of land stocks (23 hectares).

Developed land stocks by zone

Of the 527 hectares of developed employment lands, most land was IN1 zoned, accounting for 34% (178 hectares) of total developed land stocks. The next largest land zonings were:

- B2 which accounted of 19% of developed land stocks (99 hectares)
- IN3 which accounted of 16% of developed land stocks (86 hectares)
- B5 which accounted of 15% of developed land stocks (80 hectares)

Vacant land stocks by zone

Of the 505 hectares of zoned employment land that was vacant, the largest zone was IN3 General Industrial, accounting for 62% (315 hectares) of total vacant land stocks. The next largest land zoning was:

- IN1 which accounted of 12% of vacant land stocks (63 hectares)
- B5 which accounted of 12% of vacant land stocks (59 hectares)
- IN2 which accounted for 8% of total land stocks (41 hectares)

The following table summarises employment land stocks by zone, land area and development status for each LGA that comprises the Region.

Table 20: Region employment land stocks by LGA, zone and land status (ha)

Land status	Land zone	Dungog	Muswellbrook	Singleton	Upper Hunter Shire	Total
Developed	B1	-	-	0.4	-	0.4
	B2	14.9	42.7	-	41.8	99.4
	B3	-	-	8.0	-	8.0
	B4	-	-	16.1	39.4	55.5
	B5	-	10.2	69.8	-	79.9
	B6	-	-	8.8	-	8.8
	IN1	12.0	140.1	-	26.3	178.3
	IN2	-	10.9	-	0.5	11.4
	IN3	-	-	86.2	-	86.2
	Total	**26.9**	**203.8**	**189.2**	**108.0**	**527.9**
Vacant	B1	-	-	2.6	-	2.6
	B2	1.5	3.3	-	1.5	6.3
	B3	-	-	0.0	-	0.0
	B4	0.8	0.0	5.4	12.8	18.9
	B5	-	0.0	59.2	-	59.2
	B6	-	-	0.1	-	0.1
	IN1	19.4	26.1	-	17.3	62.8
	IN2	-	4.8	-	35.7	40.5
	IN3	-	-	314.6	-	314.6
	Total	**21.7**	**34.2**	**381.9**	**67.3**	**505.1**
Total	B1	-	-	3.0	-	3.0
	B2	16.4	46.0	-	43.3	105.7
	B3	-	-	8.0	-	8.0
	B4	0.8	0.0	21.5	52.2	74.4
	B5	-	10.2	128.9	-	139.1
	B6	-	-	8.9	-	8.9
	IN1	31.3	166.2	-	43.6	241.2
	IN2	-	15.7	-	36.2	51.9
	IN3	-	-	400.8	-	400.8
	Total	**48.5**	**238.0**	**571.2**	**175.3**	**1,033.0**

Note: Some of this land includes small parcels or slivers of land that are unlikely to be developable (such as B2 land in Muswellbrook)

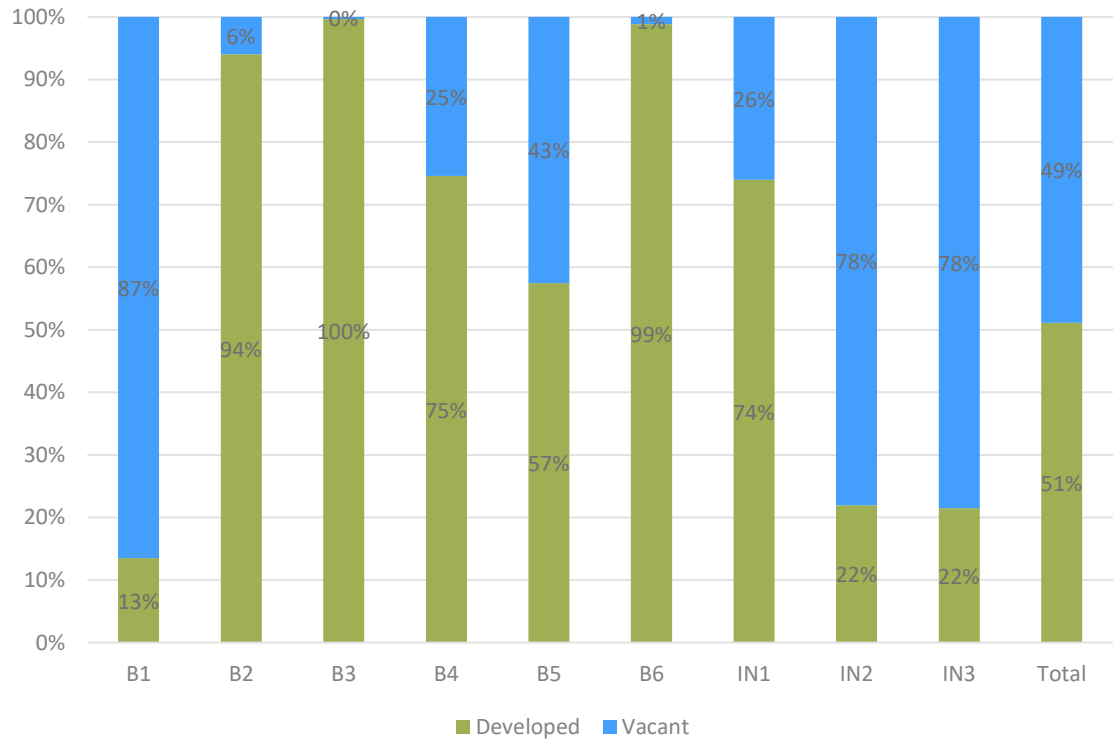
Source: HillPDA 2023

6.1.3.3 Vacant land by individual zone

Figure 21 shows the proportion of land developed versus vacant for each employment zone. It shows that:

- Of the 3 hectares of B1 zoned land 87% (2.6 hectares) was vacant
- Of the 105 hectares of B2 zoned land 6% (6.3hectares) was vacant.
- Of the 8 hectares of B3 zoned land almost none (0.03 hectares) was vacant.
- Of the 74 hectares of B4 zoned land 25% (19 hectares) was vacant.
- Of the 139 hectares of B5 zoned land 43% (139 hectares) was vacant
- Of the 9 hectares of B6 zoned land 1% (0.1 hectare) was vacant
- Of the 241 hectares of IN1 zoned land 26% (63hectares) was vacant
- Of the 52 hectares of IN2 zoned land 78% (40 hectares) was vacant
- Of the 400 hectares of IN3 zoned land 78% (315 hectares) was vacant.

Figure 21: Proportion of employment zoned land developed versus vacant by zone



Source: HillPDA 2023

6.1.3.4 Number of lots by size ranges and status

The number of lots by the size and status provides an indication of what lots are in demand and occupied, as well as providing an indication of how ready the lots are for development. For example, lots greater than 5 hectares are likely to need servicing and might require further subdivision. Lots smaller than 500sqm speak to town centre uses and if vacant may not be suitable to a range of uses, and therefore may not provide significant employment land supply.

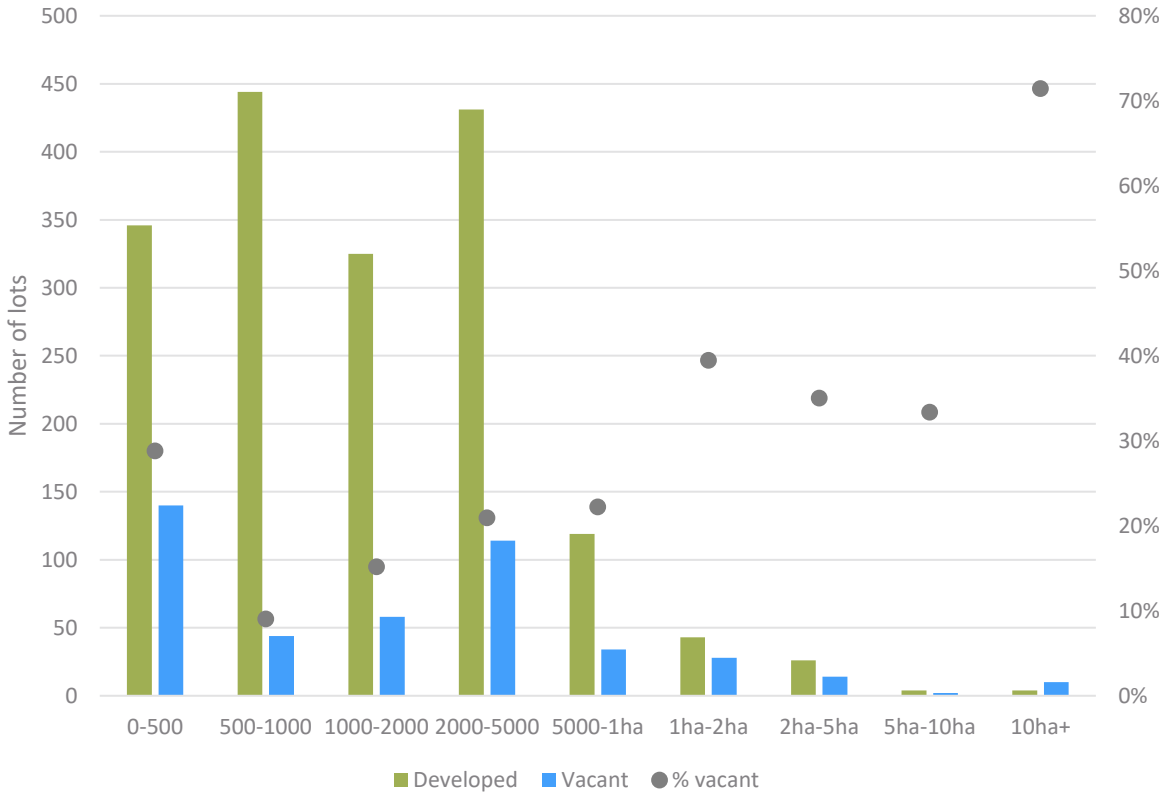
There were an estimated 2,186 zoned employment lots across the Region. Of these, around 1,742 lots, or 80%, were developed, with the remaining 20%, or 440 lots, being vacant.

Of the 2,186 lots, around 87% (1,902 lots) were 5,000sqm and under. The most common lot size range was 2,000-5,000sqm. Lots in this range accounted for 25% of all lots (545 lots).

The number of vacant lots, when expressed as a proportion to the total number of lots within a range, shows that larger lot ranges (1ha and above) generally had a higher proportion of vacant lots than smaller lot ranges. For example, only 44 (or 9%) of the 488 lots ranging in size from 500 to 1,000sqm were vacant, compared to 41% of lots sized 1 hectare and larger being vacant. It should be noted, however, that there was a considerably smaller number of total lots in this latter category, shown in the below figure.

The status of lots indicates potential development readiness. The presence of vacant lots of particular sizes indicates land that may be developed for the various forms of employment-generating activities discussed in sections 5.2 and 5.8.

Figure 22: Number of employment land lots by size range and status



Source: HillPDA 2023

The table below provides the number of lots counted for each size range by its development status.

Table 21: Number of employment land lots by size range and status

Status	0-500	500-1000	1000-2000	2000-5000	5000-1ha	1ha-2ha	2ha-5ha	5ha-10ha	10ha+	Total
Developed	346	444	325	431	119	43	26	4	4	1742
Vacant	140	44	58	114	34	28	14	2	10	444
Total	486	488	383	545	153	71	40	6	14	2186
% of total land stocks	22%	22%	18%	25%	7%	3%	2%	0%	1%	100%
% vacant	29%	9%	15%	21%	22%	39%	35%	33%	71%	20%

Source: HillPDA 2023

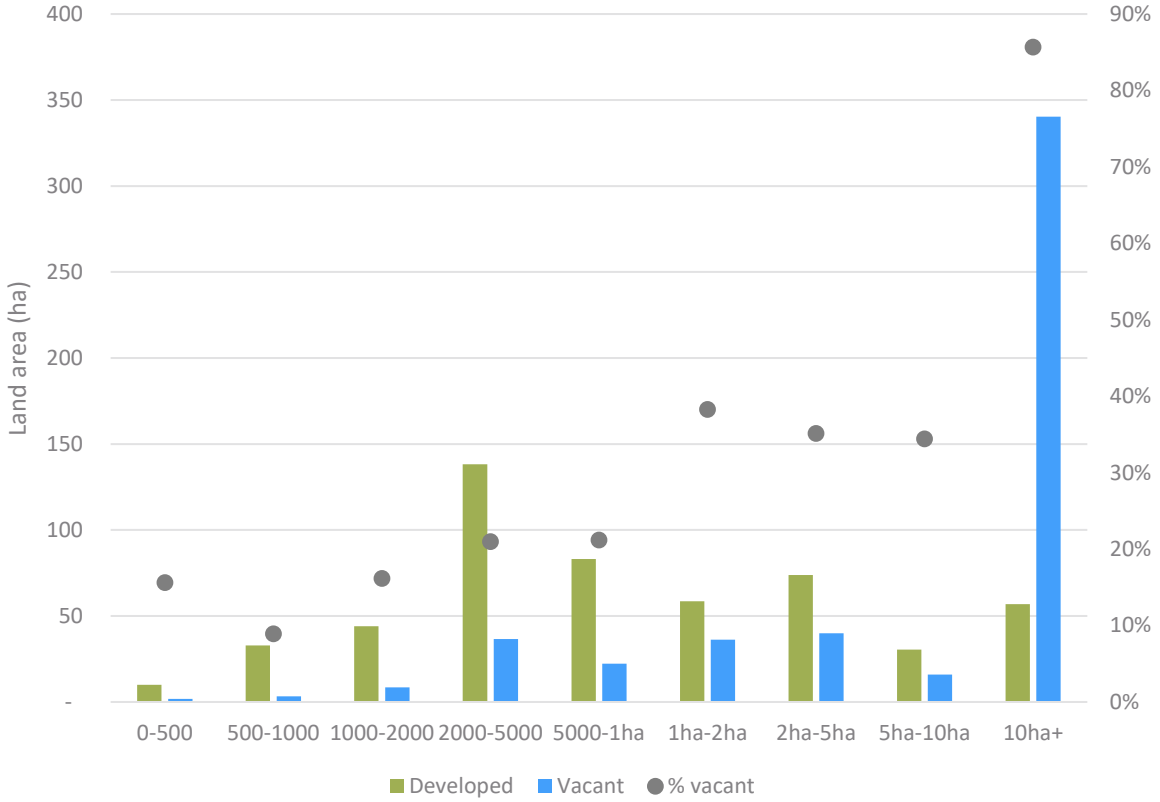
6.1.3.5 Amount of employment zoned land by lot size range and status (ha)

The analysis above showed that 94% of lots were smaller than 1 hectare in size. 652 hectares or 63% of all employment land in the Upper Hunter Region is located on lots larger than one hectare in size.

Although lots within the 2,000-5,000sqm size were the most common lot range (25% of all lots), they only comprised 17% (175 hectares) of employment land stocks. Of this, 22 hectares was vacant.

The amount of vacant land stocks is proportionally higher in the larger lots. For example, of the 505 hectares of vacant land stock, 86% or 433 hectares had a lot size of 1 hectare and over.

Figure 23: Amount of employment zoned land by lot size range (ha)



Source: HillPDA 2023

The table below provides the amount of employment zoned land by lot size range and status.

Table 22: Amount of employment zoned land by lot size range (ha)

Status	0-500	500-1000	1000-2000	2000-5000	5000-1ha	1ha-2ha	2ha-5ha	5ha-10ha	10ha+	Total
Developed	10	33	44	138	83	59	74	30	57	b
Vacant	2	3	8	37	22	36	40	16	340	505
Total	**12**	**36**	**53**	**175**	**105**	**95**	**114**	**46**	**397**	**1,033**
% vacant	16%	9%	16%	21%	21%	38%	35%	34%	86%	49%

Source: HillPDA 2023

6.2 Floorspace audit

HillPDA completed a floorspace audit of the sites in the LGA. This was focused on land that was zoned for employment uses. Areas that generated jobs outside of zoned land were excluded from the audit. There are 2,729 buildings on employment land in the Region. Approximately, 1,781 buildings were employment generating this means that they were either coded as relating to one of the four BICs, industrial, population serving, knowledge intensive, or health and education.

6.2.1 Methodology

Using the land identified in the employment land audit. HillPDA:

- Utilised building footprint data
- Reviewed each site on google maps or with DA plans to ensure that the correct number of floors for the was utilised
- Assign businesses (or business types) to each building using a combination of ABR data, scraping, and site visits.
- Each building was assigned to one of the four BICs, as well as temporary, residential, and sundries (which referred to items that did not represent floorspace on the site e.g. shipping container, water tanks)
- Review council provided DA information on undeveloped land to determine additional floorspace.
- Utilise the Regional NSW Industry Attraction Mapping tool to identify vacant space for lease in each precinct.

6.2.2 Floorspace by business type

Utilising ABR data and our own audit we have estimated floorspace on the relevant land by business type. There is about 1.17 million square metres of employment floorspace in the Region. Most land is taken up by population serving uses, with retail trade and accommodation and food services taking up land in the centres. However, these are also distributed in centres.

The region provides around 321 thousand square metres of industrial space, with most floorspace centred on Muswellbrook and Singleton. There is limited floorspace identified as vacant in the LGA with most identified in town centres.

Around seven per cent of employment zoned land is taken up with residential dwellings, which predominately occur in the B2 and B4 zones. This creates flexibility in the centres and allows for a mix in uses to ensure that there is occupancy (either residential or commercial) in the centres and helps create the 'high street' and rural feel for the centres, particularly in Dungog and the Upper Hunter Shire, which have the highest proportion of residential dwellings in employment zones.

Table 23 Floorspace by business type

	Dungog	Singleton	Muswellbrook	Upper Hunter	Region Total
Population Serving	28,693	233,739	198,029	76,634	537,096
Knowledge Intensive	9,628	52,076	74,964	13,392	150,060
Industrial	25,839	153,492	114,764	27,057	321,152
Health and Education	1,842	5,505	4,753	6,013	18,113
Vacant	2,273	11,307	7,485	2,433	23,497
Community	4,664	6,937	14,215	3,648	29,464
Residential	17,242	13,103	23,597	31,809	85,750
Temporary	866	2,357	919	362	4,505
Total	91,047	478,516	438,725	161,349	1,169,638

Source HillPDA 2023

6.2.3 Floorspace by zone

The floorspace audit indicates that there is 1,026,421sqm of functional employment generating floorspace that is assigned to each of the four BICs with an additional 17,400sqm of vacant floorspace. Industrial uses account for 40% of the uses in the B5 zone, which is substantially higher than would normally be expected in the zone, reflecting the use of McDougalls Hill as a combined industrial and productivity support zone.

Table 24 Employment generating Floorspace by zone (excludes residential and temporary uses)

Zone	Population Serving	Knowledge Intensive	Industrial	Health and Education	Vacant	Total
B1	1,428	-	-	-	-	1,428
B2	263,273	76,662	14,225	12,608	4,974	371,743
B3	68,543	4,076	-	1,051	1,758	75,427
B4	57,188	15,591	6,175	1,688	7,848	88,491
B5	81,560	19,365	67,371	1,256	-	169,552
B6	28,892	3,638	-	1,509	-	34,039
IN1	25,128	18,018	143,775	-	1,151	188,072
IN2	4,475	3,304	8,003	-	-	15,782
IN3	6,610	9,406	81,602	-	1,701	99,319
Total	537,096	150,060	321,152	18,113	17,432	1,043,853

Source: HillPDA

6.2.4 Site utilisation

The overall average site utilisation refers to the floorspace per developed land area. Overall, it is 0.21 across the region. This is typical of lower density and rural environments, where land is relatively more affordable, so lot sizes can be larger with an allowance for growth, instead of developing additional roads and smaller lots. It reflects the car dependency and suburban nature with of development with many lots having open spaces for parking and storage within the centre zones.

The extremely low site coverage for IN1, IN2 and B5 zones reflects that there has been underutilisation of some lots, as well as many lots serving depot or wrecking yard purposes which are not captured as floorspace. When looking at lots that have a building area of 1,000sqm or more the site utilisation increases to 0.27. This reflects the capacity for additional densification in the employment precincts.

Table 25 Site utilisation

	Average FSR
B1	0.35
B2	0.62
B3	0.64
B4	0.50
B5	0.13
B6	0.89
B7	0.10
IN1	0.07
IN2	0.09
IN3	0.35

Source: HillPDA

Any redevelopment of industrial precincts or sites would require a suitable site for businesses to move to in the interim, a staged approach where the business is able to continue operations, or a business closure. Flexibility to allow densification of use in employment precincts may help alleviate some of the land-use pressures. However, denser uses may require additional infrastructure such as water, waste water, and electricity depending on the use.

6.2.5 Advertised property

HillPDA reviewed property advertised for sale/lease in November 2022. There were 98 properties on the market that could have served an employment lease. 56 were for sale and 42 were advertised for lease. There were also additional vacant properties that were not on the market, as indicated by the floorspace audit. 27 of the properties on the market had been listed for more than 365 days. Indicating that there has been challenges in filling spaces, or the spaces available are not suitable for business expansion. It also reflects the consolidated ownership, which was reported in the stakeholder engagement, whereby industrial release areas have been held with stages released progressively.

6.3 Tourism product audit

HillPDA has completed a Tourism Product Audit within the region. Tourism products were identified using ABR and Yellow Pages data. Tourism as an industry is defined by the status of the consumer; that is, the consumer is a visitor rather than a resident, whereas most industry classification schemes including ANZIC rely on the type of producer. The ABS has developed the Tourism Industry Correspondence that provides an outline of which ANZIC code provides characteristic and connected tourism. In general, tourist-related industries are also population serving industries, forming a broad category that serves both locals and tourists.

Across the Region, tourism accounts for 1,266 jobs across 612 businesses. The predominant tourism sector is accommodation and food services, which incorporates hotels, pubs, and cafes.

Table 26 Tourism Business Count

	Employees	Output $m	No. Businesses
Dungog	148	26.5 (3.3%)	105
Muswellbrook	303	47.6 (0.5%)	126
Singleton	547	92.8 (0.6%)	212
Upper Hunter	268	43.4 (2.4%)	169

Source: Remplan, Tourism Research Australia

Through our tourism product audit, we considered that there were 383 businesses or services that offered tourism products. While retail provides an important service to tourists and benefits from tourism it was excluded from the tourism product audit. In many cases businesses provided multiple offerings across each of the features.

Table 27 Tourism Product Count

LGA	Attraction	F&B	Accommodation	Tour	Experience
Dungog	15	14	34	1	4
Muswellbrook	18	30	15	0	3
Singleton	46	71	52	0	27
Upper Hunter	13	6	3	7	6

Source: HillPDA

As shown in Table 27, there is a diverse array of tourism products in the Region. However, these are mostly concentrated within Singleton Shire. Together with Cessnock LGA, Singleton forms a part of the Upper Hunter tourism destination, which the NSW Destination Management Plan identifies as a 'hero destination' for the State. Tourism may soon grow across other parts of the Region as well, with the Destination Management Plan identifying Upper Hunter Shire and Dungog Shires as potential future 'hero destinations'.

While the Hunter Valley has food and drink offerings based around wine and luxury experiences, the Region has also sought to differentiate itself on themes focused on 'adventure' and 'country', with a focus on national parks, adventure tourism and agritourism experiences. However, it is reported that access to agriculture can be challenging.

There are very few dedicated tour and experience operators. These businesses can help develop products that attract people to the region. The expansion of these subsets would rely on tourists willing to spend more, access to unique opportunities

With close proximity to Sydney and including Wollemi and Barrington Tops, which exists within the Upper Hunter and Dungog LGAs, there is opportunity to expand the offerings in the region. The Hunter Valley is a short drive from Sydney, with the Region only slightly further.

The key enablers and barriers for tourism in the region are summarised below:

Enablers	Barriers
• Proximity to Sydney • Boutique and Unique Accommodation • Scenic Vistas • National Parks – Wollemi and Barrington Tops • Horses • Ability for tourism	• Activating built heritage, activating national parks • Agriculture is an attractor, but access is difficult (incl equine) • Lack Consistent signage • Weather dependent tourism • Drive through perception • F&B diversity and quality • Accommodation taken up by mining workers

Communities have a focus on events, but they need to be continued to regularly attract visitors to the region. This could be considered with looking to increase the number of events and duration, along with accommodation capacity could encourage more people to overnight in the region while events are on. The impact of covid-19 on the visitor economy did not come up through the stakeholder consultations, with many not seeing a significant uplift.

The image of the Upper Hunter Region needs to shift from a 'stop over' to a strong destination. Dungog has created a destination through its cycling tourism and gateway to national parks. This will be more important for Muswellbrook, Singleton, and Scone as they become bypassed, which will create the need for attractors to bring people to these centres. A clear identity, diverse offerings and high quality accommodation will be critical for the success of the region.

Motel style and pub-based accommodation is predominant in the Region. A lot of the accommodation is targeted toward drive in drive out mining workers. While there are caravan parks, they are dated and focus on transient visitors. The region does not offer the facilities that a major branded 'holiday parks' such as NRMA or Ingenia Holidays offer, which would help attract family visitors and encourage longer stays in the region with a higher amenity offering. Either transitioning existing council-owned facilities or identifying new land to a higher quality offering would help lift tourism in the region. This could leverage off the growing tourism profile of areas such as Dungog.

Much of the premium accommodation is located within the wine region in Singleton. However, there are unique accommodation offerings through each of the LGAs. Agritourism enabling planning changes could enable an increase in unique accommodation offerings that target the Sydney market and boost overnight visitation. This could include farm-based accommodation, farm stays, and accommodation on or adjacent to farmland.

Outside of Muswellbrook and Singleton, accommodation is mostly occupied over the weekend period, reflecting the region as a weekend destination from Sydney. It would likely be challenging to draw short-term stays from international tourists without a broader tourism offering. This could potentially through utilising a combination of unique accommodation and creating a global brand for the national parks in the area, leveraging social media in particular. Another opportunity is to engage with Local Aboriginal Land Councils to discuss eco-tourism and cultural opportunities reflecting the Aboriginal heritage of the area. This might help add tourism and experience operators, while supporting Aboriginal economic empowerment in the region.

The agritourism reforms provide an opportunity for even further diversification, without compromising the agricultural purpose of agricultural purposes through farm stays, farm gate premisses allowing boutique produce.

Farm experiences will leverage and build in the 'adventure' aspect of tourism giving tourists the ability to have experiences that may increase the amount spent and the ability for increased diversification of tourism offerings, without compromising primary production and agriculture in the region.

DEMAND

7.0 LAND AND FLOORSPACE DEMAND

The following section projects the amount of additional employment land required to support the Region's resident, worker and visitor communities.

To understand and forecast future demand, this section analyses population projections (detailed in section 4.3) which informs revised employment projections for the Region. Employment projections are then converted into floorspace equivalents and land requirements using standard conversion ratios.

7.1 Industrial and Productivity Support (E3, E4 and E5)

7.1.1 Demand methodology

The methodology for projecting the demand for employment land is as follows:

1. Analyse State Government employment projections (released in November 2022) at the LGA and Region level
2. Pro rata State employment projections to the population scenarios assessed in this study
3. Estimate the amount of employment directed towards employment precincts, based on the industry type, land zonings, and market trends
4. This step is achieved by applying a distribution proportion to the net growth/decline in employment at the industry level. For example, 90% of manufacturing would be expected to be directed towards industrial or productivity precincts, while 10-20% retail to these precincts.
5. Convert net growth in employment directed towards employment precincts to floorspace by applying industry standard employment densities (the amount of floorspace required per worker) to the net growth/decline by industry type
6. Convert floorspace requirements into demand for land by applying typical Floor Space Ratios (FSRs) for developments in employment precincts.

It is important to note that additional floorspace beyond the demand projections could support industry attraction that would further support population growth and accommodation.

It is also important to note that this methodology focuses on net changes in employment land and industry outcomes. Therefore, change in use is likely to be accommodated.

Employment within the mining industry is treated separately in the report, so the change in mining floorspace is not included in the totals. Jobs in other industries, which will likely be needed to replace mining jobs, have been factored into the forecasted employment land demand.

7.1.2 Net employment floorspace requirements 2021-41

Employment is converted into floorspace needs by applying industry standard employment densities (the amount of floorspace required per worker) to the amount of employment directed towards the Region employment precincts in 2021 and 2041. Employment densities for the industries of manufacturing, wholesale and warehousing have considered business practices and technologies that are changing, such as increased automation.

Based on our assumptions it is estimated that between 2021-41:

- Under Scenario 1 employment zones across the Region would accommodate an additional 270,414 sqm of employment floorspace
- Under Scenario 2 employment zones across the Region would accommodate an additional 628,154 sqm of employment floorspace.

Table 28: Region, net additional floorspace demand 2021-41 (sqm)

	2041 (Scenario 1)	2041 (Scenario 2)
Agriculture, Forestry and Fishing	38,374	58,560
Mining	-	-
Manufacturing	41,151	95,120
Electricity, Gas, Water and Waste Services	8,839	12,613
Construction	13,955	32,733
Wholesale Trade	11,593	2,383
Retail Trade	22,432	53,451
Accommodation and Food Services	17,449	34,036
Transport, Postal and Warehousing	7,809	111,966
Information Media and Telecommunications	57	2,294
Financial and Insurance Services	4,711	9,744
Rental, Hiring and Real Estate Services	21,196	48,388
Professional, Scientific and Technical Services	1,303	19,075
Administrative and Support Services	20,187	24,935
Public Administration and Safety	-14,952	-3,462
Education and Training	20,707	34,524
Health Care and Social Assistance	13,044	23,043
Arts and Recreation Services	9,186	15,669
Other Services	33,101	67,028
Total	270,141	628,155

Source: HillPDA

This analysis made adjustments external to the model for electricity, gas, water, and waste services category. The scenario 1 forecasts estimated that the electricity, gas, water and waste services would grow by 54,236sqm with no reduction for the likely closure of Liddell and Bayswater Power Stations. This has been adjusted downward to 4,500sqm increase in net demand for land. However, additional land would also need to be found for replacement jobs from the closure of the power stations. The modelling approach for Scenario 2 treated the growth in Electricity Gas and Wastewater slightly differently and resulted in a 12,613sqm increase.

In relation to mining land, the forecasts estimated a 194,612sqm reduction in demand for land on which mining industry workers are employed. Demand in mining service industries is incorporated into the totals for other industries such as Manufacturing and Wholesale Trade. Within the mining industry, land needs pertain to mines and directly surrounding land, rather than employment lands. Therefore, we have excluded mining from the net demand analysis. Scenario testing for mining related land is included in section 7.1.5.

7.1.3 Net employment land demand 2021-41

Net growth in floorspace is converted into land requirements by applying typical Floor Space Ratios (FSRs) for developments in employment precincts.

Typically, the building areas of industrial developments do not encompass the entirety of the land parcels they reside within. This is a result of the specific site requirements of typical industrial occupiers, which require setbacks from property boundaries, turning areas, parking areas, loading and unloading, etc. In our experience, although employment (industrial) precincts have an allowable typically FSR around 1:1—that is, the amount of floorspace that could be developed is equal to the properties' total land area—the actual built FSR ranges from

between 0.3:1 to 0.6:1. For this assessment, HillPDA has applied a ratio of 0.4:1 to net growth in floorspace demand.

It is also prudent to allow for some level of vacancy and additional capacity. As such, an additional 20% in floorspace demand has been applied.

Using this methodology, it is estimated that the demand for employment land floor space will increase between 50ha and 130ha between 2021 and 2041. This equates to annual demand of between 2.5 and 6. 5 hectares over the next 20-year period.

hectares of employment land between 2021-41. This equates to an annual demand of between 9 to 15 hectares over the 20-year period.

Table 29: Total additional employment land demand 2021-41 (ha)

LGA	Scenario 1	Scenario 2
Dungog	9	5
Muswellbrook	23	83
Singleton	30	52
Upper Hunter	17	51

Source: HillPDA

Based on the current development patterns, the above total demand for employment land has been distributed into two broad employment land zones, these being:

1. Businesses zoned land (current B5, B6 and B7 zones), these are to transform into E3 productivity support under the new planning reforms
2. Industrial zoned land (current IN1, IN2, IN4 zones), these are to transform into an E4 general industrial and W4 working waterfront zones under the new planning reforms.

Table 30: Total additional employment land demand by broad zone 2021-41 (ha)

	Business	Industrial	Total
Scenario 1	24	25	49
Scenario 2	62	69	131

Source: HillPDA

7.1.4 Land capacity gap assessment

The employment land development monitor identified 154 hectares of vacant zoned and serviced land available in the Region, of which 51 hectares was for business and 103 was for industrial purposes.

Comparing this to the demand under each scenarios reveals that:

- Under Scenario 1 there is an overall surplus in employment zoned land of around 105 hectares. Business zoned land would have a surplus of around 27 hectares and a surplus of around 78 hectares of industrial zoned land
- Under Scenario 2 there is an overall surplus in employment zoned land of around 23 hectares. Business zoned land would have deficit in supply of around 11hectares while industrial zoned land would have a surplus of around 34 hectares of industrial zoned land.

Please note that this capacity assessment has not been informed by a constraints analysis. The availability and suitability of vacant land stocks for development would need to be determined. It should also be noted that consulted councils have expressed that land defined by the ELDM as “serviced” may in fact require greater levels of servicing.

Table 31: Employment precinct supply and demand gap assessment (ha)

Category	Scenario	Business	Industrial	Total
Supply (ha) Zoned and Serviced		51	103	154
Demand (ha)	Scenario 1	24	25	49

	Scenario 2	62	69	131
Under (-) / Oversupply (+) – (ha)	Scenario 1	27	78	105
	Scenario 2	-11	34	23

Source: HillPDA

HillPDA has sought to identify the spatial relationship of the difference in floorspace, because different LGAs have different levels of floorspace that is available in the LGA. While the region can provide the overall floorspace on zoned and serviced land, it results in certain LGAs being advantaged for businesses.

Table 32: Employment land gaps analysis

		Dungog	Dungog	Musw.	Musw.	Singleton	Singleton	Up. Hnt.	Up. Hnt.
		Business	Industrial	Business	Industrial	Business	Industrial	Business	Industrial
Supply	Vacant (Audit)	2.3 (B2, B4)	2.36	3.3 (B2)	30.9	59.3 (B5) 5.4 (B4)	314.6	12.8 (B4)	48
	Undeveloped (Serviced)	0	2.6	0	77.6	51.5	0	0	23.2
Demand	Scenario 1	2.32	1.41	9.3	12.7	11.8	7.4	6.0	8.9
	Scenario 2	1.05	0.8	33.8	43.6	22.4	13.4	16.8	25.5
Under (-) / Over Supply (+)	Scenario 1	-2.3	18	-9.3	18.2	47.5	307.2	6.8	39.1
	Scenario 2	-1.05	18.5	-33.8	-12.7	36.9	301.2	-4	22.5

7.1.5 Mining related land

Mining is a significant contributor to the Muswellbrook and Singleton LGA. There are currently between 9,749 (ABS Census) and 11,726 (Council) employed in mining within the LGA. The loss of jobs within the minerals sector will create the need for new jobs in other sectors in the economy, which would take place on a range of land use zones.

The demand for jobs in the mining sector is a driver of population change in the LGAs but is not influenced by changes in population. The key drivers include local coal supply, local policy settings, and global demand for coal.

There are significant uncertainties to the potential industries of employment. We have undertaken a scenario approach to new employment land that would generate employment from a reduction in coal employment. Scenarios:

- Scenario A – 20% reduction in mining related jobs
- Scenario B – 40% reduction in mining related jobs
- Scenario C – 60% reduction in mining related jobs
- Scenario D – 80% reduction in mining related jobs
- Scenario E – 100% reduction in mining related jobs.

We note that the scenarios exceeding a 40 per cent reduction were developed at the request of stakeholders. These scenarios have been modelled to capture degrees of change in mining related employment over the 20-year life of this Strategy, with a 100 per cent reduction in mining related jobs representing an extreme 'worst case' scenario for local employment. However, the mining sector was extremely bullish about the future of mining in the Upper Hunter.

The impact of these scenarios are summarised in the table below and are in addition to the gap analysis mentioned earlier. The land uses are typical job types in the land use zones. Future job types have been projected by analysing trends in non-mining industries forecasted by TfNSW for 2021 to 2041 in Singleton and Muswellbrook LGAs. These forecasts indicate an increase in population serving industries over the following 20 years.

Table 33 Mining replacement land projections across Muswellbrook and Singleton LGAs

	Decline in Jobs	Implied Land Use E1/E2	Implied Land Use E3	Implied Land Use E4	Total Implied Land Use
Scenario A	2,172	5.8	3.4	5.3	14.6
Scenario B	4,344	11.6	6.8	10.7	29.2
Scenario C	6,516	17.4	10.3	16.0	43.7
Scenario D	8,688	23.3	13.7	21.4	58.3
Scenario E	10,861	29.1	17.1	26.7	72.9

Note: This utilises standard job densities to create implied land-use; however, lower job density employment uses would result in a shirt in approach.

Utilising this approach, we consider that there are between 14.6 and 72.9ha required across Muswellbrook and Singleton LGAs, assuming the replacement jobs take on a typical mix of future employment uses. Based on differing uses this could be further adjusted. We have not allocated the floorspace to particular LGAs but assume approximately 30% of the land would be required in Muswellbrook and 70% in Singleton based on the share of employment at mines in each LGA aligned with mine employment and consent expiry dates.

These floorspace projections are based on typical job densities in different types of employment lands. Larger areas with lower job densities may also be used for certain manufacturing or agribusiness land uses, but the figures in the above table reflect projected needs for generic quantities of employment land.

Many of the replacement jobs will require more significant parcels of 10ha-100ha in large manufacturing/agribusinesses uses, where the mine sites or power sites, will result in limited conflict with urban areas, while still possessing infrastructure and renewable energy opportunities. This would result in additional land required for the same jobs, undertaking EOI for future uses on post-mining land would help establish these expectations.

7.1.6 Key Findings

- Dungog has a small undersupply of business zoned land, requiring at least 2.4 hectares zoned under the high growth scenario
- Dungog has an oversupply of industrial land; however, this land is not well-located therefore a long-term approach to zoning at least 1.5ha close to Dungog or Clarence Town would be helpful
- Muswellbrook requires B2-zoned land between 9 and 33 ha
- Muswellbrook requires a maximum of 13ha of industrial land. This would be achieved through the conversion of post mining land and the transition of the Liddell Power Station. The key focus would be on employment attraction
- Singleton has 51.5ha of zoned and serviced business land, which could potentially accommodate the demand for both business and industrial land within the LGA
- Upper Hunter Shire has limited business zoned land apart from some B4 land at the entrance to Scone, which might be able to accommodate growth under Scenario 1. Additional land (not zoned for business) around the airport and racing precinct would likely be able to accommodate the remaining employment growth
- Upper Hunter Shire can meet the industrial land demand through its existing undeveloped (serviced) land; however, some of this land is not well-located, such as a small tract of land around Merriwa. Additional land at Scone and Aberdeen would help meet the industrial land demand

- The change in mining related jobs would result in at least an additional 7.3 to 29ha required across Muswellbrook and Singleton LGAs.

7.2 Centre demand (E1, E2)

This section derives trade area(s) for the four main settlements (Town Centres) within the Upper Hunter Region to service the residential community. Settlements examined include Singleton, Muswellbrook, Dungog and Scone. On deriving these trade area(s), the section projects the resident population, estimates total retail expenditure and the amount of retail floorspace that could be supported in these local centres between 2022-41.

7.2.1 Town centres of influence

The key centres within Upper Hunter Region include:

- **Dungog Town Centre**: The town centre is centrally located with retail and commercial services largely fronting Dowling Street (the main street). Total occupied retail floorspace at Dungog is estimated at around 6,500sqm and includes a convenience based retail offering anchored by a Lovey's Grocers IGA plus Liquor of around 1,200sqm and a small format Wholefood Co-op store. The centre includes older style shopfront space and includes a small provision of apparel retailing, around 10 eateries, bottle store, pharmacy, a medical centre and a small provision of other non-food retailers and commercial services.

- **Muswellbrook Town Centre**: provides a substantive commercial and retail offer estimated at around 30,000sqm, with the vast majority of retail provision provided within the enclosed shopping centres being:

  Muswellbrook Marketplace located just off the New England Highway on Sowerby Street. The retail offer is 11,161sqm GLAR and is anchored by a Big W discount department store (5,557sqm) and Woolworths supermarket (3,337sqm).

  Muswellbrook Fair located along Rutherford Street provides a further 8,765sqm of retail floorspace and is anchored by a Coles supermarket (3,071sqm) and Harvey Norman bulky goods store (2,032sqm).

  Additional strip retailing extends to the north of Muswellbrook Marketplace to Turanville Avenue and south to William Street and along Rutherford Road adjacent to Muswellbrook Fair. This area includes an IGA supermarket and an ALDI food store.

- **Singleton Town Centre**: is the largest commercial and retail centre within the Upper Hunter Region, and provides around 36,000sqm of retail floorspace focused on John Street. Most of the retail space in the centre is provided in Singleton Square with 20,056sqm of retail floorspace and includes a Big W DDS (6,433sqm), Coles (3,921sqm) and Woolworths supermarkets (3,800sqm) as well as 55 specialty retailers. Singleton Plaza provides another 3,500sqm of retail floorspace, including a 2,000qm Supa IGA, while Singleton Town Square provides a further 2,000sqm. A stand-alone ALDI food store is located on John Street in the CBD.

- **Scone Town Centre**: provides some 16,000sqm of retail floorspace orientated toward Kelly Street. The centre includes a full line Woolworths supermarket and BWS liquor store, a Coles supermarket, a hardware store, and a number of apparel stores and eateries.

In terms of future retail, a 5,000sqm bulky goods centre has been approved in the Upper Hunter LGA at Macqueen Street in Aberdeen. Council has also received development applications for Service Stations and small-

scale developments which include ancillary retail at Scone, Aberdeen and Singleton. However these latter applications are smaller in scale and not likely to compete significantly with the main retail centres.

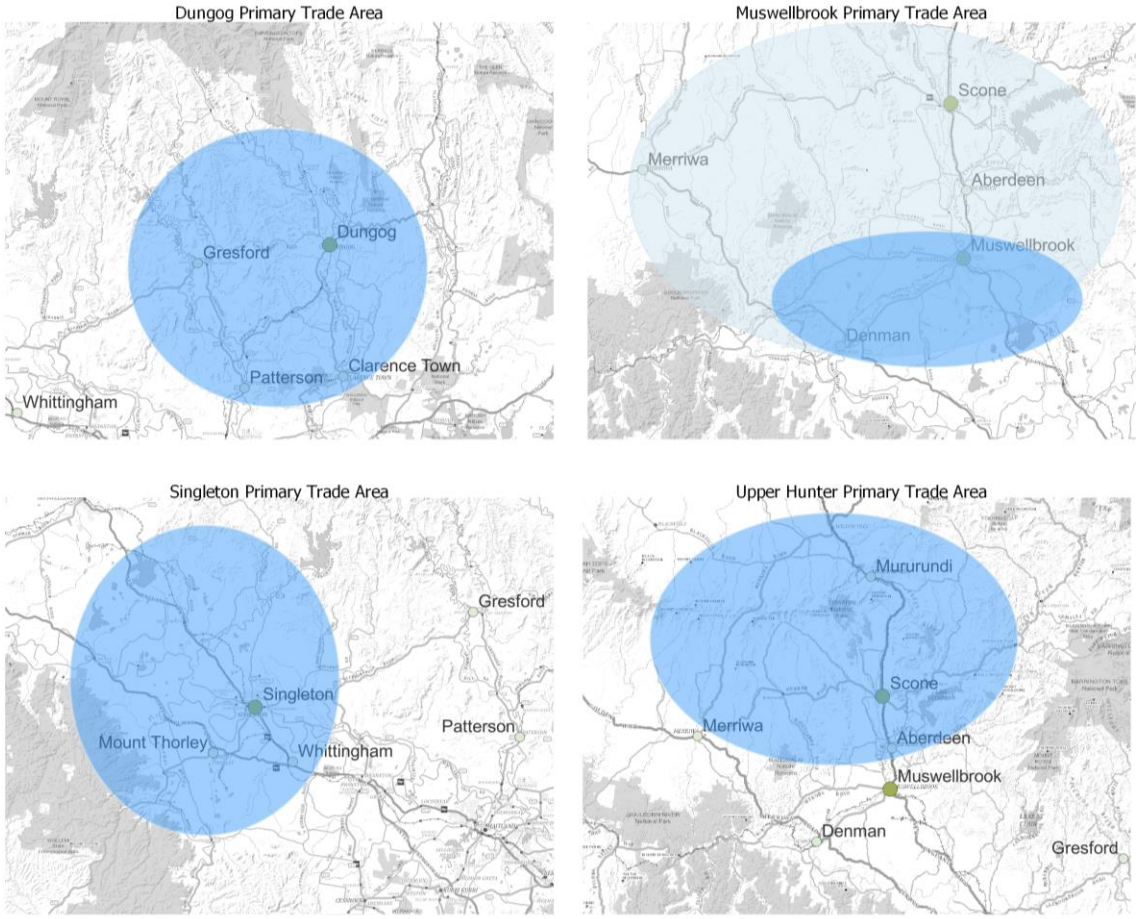
7.2.2 Trade area analysis

Trade areas are used to define the geographic area (catchment) that a centre draws from. A primary trade area (PTA) generally provides around 50 – 75 per cent of a centres business and secondary trade areas (STA) provide around 15 – 25 per cent of business. The two trade areas combined comprise a Main Trade Area (MTA). In some cases, a tertiary trade area could be identified (for instance, capturing less than 15 per cent of expenditure). The remaining is from fringe areas of discretionary visitor spending. Defining trade areas is important for understanding the potential expenditure catchment from which a centre can draw upon and what scale a centre can be. It does not necessarily mean the centre will draw trade away from another centre, particularly if it is located in a secondary trade catchment.

Trade areas have been defined for existing Town Centres within the Region. The trade area for each centre has been defined as the corresponding LGA, except for Muswellbrook Town Centre, where two trade areas have been defined: a PTA which encompasses Muswellbrook LGA, and an STA which encompasses Upper Hunter LGA. Muswellbrook Town Centre is likely to attract trade from residents of Upper Hunter LGA due its stronger offer and proximity. The two trade areas are collectively referred to as Muswellbrook's main trade area (MTA).

The four Town Centres ensure that each LGA is serviced by a functional retail centre that meets the retail needs of the community and promotes a sense of place and is focal point for the community.

Figure 24: Primary trade area catchments



Source: HillPDA 2023

At this point, it is worth noting that there is some escape expenditure to other centres outside the defined trade areas. Raymond Terrace captures a considerable level of expenditure from Dungog residents, and other centres such as Maitland, Kotara and Newcastle capture some expenditure from all four LGAs.

7.2.3 Household expenditure

The expenditure generated by the trade area households was derived using the population projection scenarios as outlined in section 4.3. The table below provides a summary of total expenditure on retail goods and services generated by trade area households. Expenditure is directly related to the number of residents present in each trade area and also correlated with household income levels.

Table 34 Expenditure generated by trade area

Trade Area	DPE Case					LGA Case				
	2022	2026	2031	2036	2041	2022	2026	2031	2036	2041
Dungog MTA	142.7	159.5	182.2	208.0	237.7	140.2	146.4	153.5	160.9	168.7
Muswellbrook PTA	247.0	257.7	271.8	286.8	302.6	250.3	275.5	310.6	350.2	395.1
Muswellbrook STA	208.6	212.5	217.5	222.7	228.1	211.0	225.0	244.0	264.6	287.0
Muswellbrook MTA	455.6	470.2	489.3	509.5	530.7	461.3	500.5	554.5	614.8	682.0
Singleton MTA	348.8	356.2	365.6	375.5	385.7	353.5	380.7	417.8	458.6	503.5
Scone MTA	208.6	212.5	217.5	222.7	228.1	211.0	225.0	244.0	264.6	287.0

Source: ABS Retail Turnover, ABS Household Expenditure Surveys and HillPDA 2023

7.2.4 Potential expenditure captured by Town Centres

Town centre expenditure capture refers to the amount of expenditure that is captured at a given area. A town centre would not be expected to capture all retail expenditure generated in its respective trade area. Competition from other nearby centres (e.g. Maitland and Raymond Terrace) and online retail provide alternatives and offer or other brands or retail store types that are not represented in the trade area. The below table provides a summary of the target capture rates for each Town Centre and retail category. These capture rates have been applied to the retail expenditure by store type for each MTA as identified in the table below.

Table 35 Upper Hunter Region capture by town centre and retail store type

Retail category	Dungog	Muswellbrook			Singleton	Scone
	MTA	PTA	STA	MTA	MTA	MTA
Supermarkets & Grocery Stores	65.0%	90.0%	10.0%	53.1%	90.0%	85.0%
Specialty Food Stores	60.0%	90.0%	10.0%	53.3%	90.0%	85.0%
Fast-Food Stores	5.0%	45.0%	35.0%	40.4%	45.0%	30.0%
Restaurants, Hotels and Clubs*	-	45.0%	35.0%	40.4%	45.0%	-
Department Stores	5.0%	35.0%	20.0%	28.2%	40.0%	20.0%
Apparel Stores	20.0%	65.0%	10.0%	40.0%	70.0%	30.0%
Bulky Goods Stores	30.0%	75.0%	15.0%	47.7%	80.0%	60.0%
Other Personal & Household Goods Retailing	50.0%	80.0%	10.0%	48.2%	85.0%	65.0%
Selected Personal Services	34.9%	69.6%	17.0%	45.5%	71.2%	54.4%

Source: HillPDA 2023

Through our stakeholder engagement with local chambers of commerce, we noted that there was frustration among local businesses about containment, with higher paid and skilled workers choosing to live closer to the coast and commuting to the regions, which somewhat compromised the success of the high streets in these regions.

By applying the above capture rates, the below table provides an estimate as to the total amount of retail expenditure potentially captured by the Town Centre within their respective trade area.

It is estimated that retailers in Dungog Town Centre could capture around 35 per cent of the total amount of expenditure generated within its respective MTA. Retailers in Muswellbrook Town Centre could capture 70 per

cent of PTA expenditure and 17 per cent of STA expenditure, while retailers in Singleton and Scone could capture around 71 and 54 per cent of the total amount of expenditure generated within their respective MTAs.

The below details the total potential residential expenditure that could be captured by each Town Centre.

Table 36 Estimated potential residential retail expenditure captured by retailers within Town Centre ($m)

Town Centre	DPE Case					Council Case				
	2022	2026	2031	2036	2041	2022	2026	2031	2036	2041
Dungog*	52.3	58.9	67.7	77.8	89.5	51.4	54.0	57.0	60.2	63.5
Muswellbrook*	217.7	226.5	238.1	250.4	263.4	220.6	241.8	271.2	304.5	341.9
Singleton**	266.9	273.1	281.1	289.4	298.1	270.5	291.9	321.2	353.5	389.2
Scone*	119.1	122.0	125.6	129.4	133.2	120.5	129.2	140.9	153.7	167.6

Source: HillPDA, *includes an allowance for an additional 5% of expenditure captured from beyond MTA ** includes an allowance for an additional 7.5% of expenditure captured from beyond MTA to reflect its superior offer in the region

7.2.5 Potential tourism expenditure captured by Town Centre

Muswellbrook, Singleton and Upper Hunter LGAs also attract a significant proportion of domestic overnight visitors and to a lesser extent international visitors. Tourism provides a further source of expenditure for these centres. The below table details the potential tourist expenditure that each town centre could capture.

Table 37 Estimated tourist expenditure captured by retailers within Town Centres ($m)

Town Centre	International visitors (nights)*	Domestic visitors (nights)*	Spend on retail goods and service per visitor night**	Tourism retail goods and service spend potential ($m)	Tourism retail goods and service spend captured with town centre ($m)***
Dungog	-	-	$97	$20.0	$10.0
Muswellbrook	-	285,000	$70	$20.0	$10.0
Singleton	114,000	487,000	$70	$42.0	$21.0
Scone	-	284,000	$70	$20.0	$10.0

Note: * Adopts tourism levels as at 2019 to reflect conditions prior to impacts of Covid-19 Source: DestinationNSW 2029 LGA Profiles ** International and National Visitor Survey average 2010-2020 ***Assumes Town Centre captures around 50% of total tourism retail goods and services spend.

Note that Dungog visitor numbers and international visitors to Muswellbrook LGA and Upper Hunter Shire are low and are assumed to be accounted for in the trade from beyond capture in the preceding analysis. Trade from beyond also accounts for any day trippers to the LGA.

Our consultation findings identified that businesses were opting for shorter opening schedules, focusing on a three-to-four-day opening schedule instead of a seven- or five-day schedule, often with shorter trading hours. This has allowed businesses to focus on the later portion of the week and weekend trading to accommodate for tourists. This reflects the cost of operating the business, and focusing on when business and trade will be most profitable.

7.2.6 Total expenditure captured by the Town Centres

The below provides total potential retail sales in each Town Centre generated from trade area residents and tourists/visitors.

Table 38 Estimated total potential retail expenditure captured by retailers within Town Centre ($m) DPE Case.

Town Centre	2022	2026	2031	2036	2041
Dungog	52.3	58.9	67.7	77.8	89.5
Muswellbrook	227.7	236.5	248.1	260.3	273.3
Singleton	287.9	294.1	302.2	310.5	319.1
Scone	129.1	131.9	135.6	139.3	143.2

Source: HillPDA

7.2.7 Demand for retail floorspace by town centre

In order to determine the demand for retail floorspace within the Town Centre's MTA, target turnover rates ($/sqm of retail floorspace, and otherwise known as Retail Turnover Densities (RTDs)) have been applied to projected retail expenditure captured in the MTA. These RTD rates broadly represent industry averages.

The table below provides a summary of the potential retail space that could be supported within each of the Town Centre located within the respective LGA, taking to account existing and future supply of retail within the LGA.

Table 39 Potential retail floorspace demand by town centre (sqm)

Town Centre		Base Case					Council Case				
	RTD	2022	2026	2031	2036	2041	2022	2026	2031	2036	2041
Dungog											
Demand	8,361	6,258	7,029	8,069	9,263	10,635	6,151	6,451	6,797	7,162	7,546
Supply	-	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500
Under/ over supply	-	242	-529	-1,569	-2,763	-4,135	349	49	-297	-662	-1,046
Muswellbrook											
Demand	5,944	36,631	37,861	39,479	41,194	43,009	37,086	40,282	44,714	49,690	55,279
Supply	-	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
Under/ over supply	-	-6,631	-7,861	-9,479	-11,194	-13,009	-7,086	-10,282	-14,714	-19,690	-25,279
Singleton											
Demand	6,531	44,082	44,891	45,937	47,023	48,149	44,631	47,765	52,034	56,730	61,896
Supply	-	45,026	45,026	45,026	45,026	45,026	45,026	45,026	45,026	45,026	45,026
Under/ over supply	-	944	135	-911	-1,997	-3,123	395	-2,739	-7,008	-11,704	-16,870
Scone											
Demand	6,787	17,555	17,907	18,359	18,824	19,304	17,742	18,885	20,427	22,107	23,937
Supply*		16,000	16,000	21,000	21,000	21,000	16,000	16,000	21,000	21,000	21,000
Under/ over supply		-1,555	-1,907	2,641	2,176	1,696	-1,742	-2,885	573	-1,107	-2,937

Source: HillPDA *Assumes bulky good centre of around 5,000sqm opens at Aberdeen by 2031 Note red indicates an undersupply whilst green denotes an oversupply.

7.2.8 Key findings

LGA	Key findings
Dungog	• The DPE projections support an additional 4,000 to 5,000sqm of retail floorspace driven by population growth in the LGA. With only an IGA and Wholefood Co-op store currently, there is potential for a full-line supermarket (say 2,800sqm to 3,500sqm) with supporting specialty shops which would strengthen current capture rate levels and reduce the current levels of escape expenditure to Maitland and Raymond Terrace. • Locating the full line supermarket would likely be located at Clarence Town. Clarence Town is located approximately a 20-minute drive from Dungog and Raymond Terrace. Therefore, it is likely that the capture for a full-service supermarket at Dungog would split the catchment from Clarence Town.

LGA	Key findings
	• Under the council growth scenario there is very limited growth in floorspace demand. This would likely be accommodated through relocating some industrial uses in Dungog high street and development of population serving industrial land in Clarence Town.
Muswellbrook	• Under the DPE projections there is an undersupply of retail provision in the Muswellbrook Town Centre of almost 7,000sqm, with this likely to increase over time to around 13,000sqm due to population growth projected in the MTA. – We note there was planned bulky goods retail at the showground site if the plans to redevelop the show ground are not progressed, then an alternative bulky goods site needs to be identified. • Under the council growth scenario there would be an undersupply of 25,000sqm by 2041 due to the accelerated population growth. This would result in in an additional demand for one new supermarket in the Muswellbrook LGA. There would also likely need to be additional bulky good retail. • The council growth scenario brings significantly more bulky goods demand, which would prioritise the bulky goods retail development earlier than otherwise. This would also possibly relocate uses such as Pacific Furniture and Kentan Machinery, freeing up retail places. • Additional local retail including apparel stores and restaurants would be required under both scenarios, although an additional 3,500sqm compared to the council scenario. This could be absorbed on the New England Highway especially following the completion of the Muswellbrook bypass.
Singleton	• Under the DPE projections trade area is considered generally sufficiently provisioned to service its community over the short to medium term. Over the longer term there may be scope for some minor additional food services. Priority should be given to protecting the viability of the existing centre. – Without population growth there is not the capacity for an additional supermarket in the north of Singleton without cannibalising existing trade. – There are currently significant and prominent vacancies in the CBD, and long-term undeveloped approved Woolworths development in Singleton north, indicating that there have been limited demand in the short-term. • Under more ambitious population projections the demand in Singleton escalates substantially, and there would be the capacity for an additional one or even two supermarkets by 2041. – Singleton Heights does not have a full-service supermarket and most of the growth would be in the northern part of town. – The development of a retail supermarket with supporting retail, specialist stores, and apparel stores in a retail precinct in north Singleton could be absorbed without cannibalising the existing CBD. – The demand for additional department store and apparel stores may not translate to additional floorspace with the continued rise of online retailing over the next twenty years, and will need to be considered with the new context.
Upper Hunter	• Under the DPE scenario scone is sufficiently provisioned to service its community. Expanding retail space could result in an oversupply and an increase in vacancies. Focusing on protecting the existing centre is important for Scone to ensure it remains vibrant. • There might be a modest undersupply in the Scone under the high growth scenario. We consider that there might be some change in use from residential to retail in some of the B2 and B4 zone, but there is not sufficient undersupply to demand a substantial change in use.

BARRIERS AND OPPORTUNITIES

8.0 BARRIERS AND OPPORTUNITIES

This chapter has been informed through stakeholder, council and industry consultation, which has identified a range of employment land considerations. As such, the following sections discuss a range of considerations, having all been explored from a range of viewpoints during consultation. The consultation methodology has been discussed in Section 9.Typical barriers

8.1.1 Zoned land not meeting market demand

The planning system regulates the land uses that can exist in different locations. However, it can be a barrier in circumstances where proponents cannot find suitably zoned land to meet demand, or where planning controls prevent certain uses from occurring on sites.

Stakeholder engagement identified that the development sector and emerging businesses in the region were frustrated about a lack of employment-ready land and the length of approval times to be able to secure land. These stakeholders stated that this results in developments moving to other locations, in which timeframes are more accommodated by the planning system. This results in upward pressure on the region's land prices, because potential employment land is underdeveloped.

The Strategy addresses this barrier by recommending that planning responds to regional supply and demand trends to ensure there is a strong pipeline of suitably zoned employment land. Actions for ensuring this pipeline are provided under Direction 1 of this Strategy, and actions for simplifying and enhancing planning systems in particular are provided under Direction 5.

8.1.2 Land banking

Our stakeholder engagement indicated that many of the industrial sites within the Region were held in consolidated ownership. Our employment land audit and floorspace audit indicated that there were only a few precincts in each LGA, with limited employment land development fronts. Therefore, it is possible that land banking has occurred.

Some sites such as Whittingham have been sterilised for a number of years, due to a range of factors including development viability, servicing, and broader economic conditions.

Urban development in Australia is predominantly developer-led and is subject to the constraints of development economics. A property developer's business model is to maximise profit and where supply is monopolised due to poor planning, then suboptimal land supply will occur, resulting in upward price pressures. The industry does not have obligations to deliver a supply of property product. Undeveloped land is an asset on a landowner's balance sheet like any other asset, earning a return in the form of capital gain once sold. Development will occur when a property can meet hurdle rates, that is, the return is sufficient for the risk of development. If developing and selling the land provides a greater return to the landowners, then development is likely to occur. The impact of land banking is upward pressure on price due to a constrained supply.

This Strategy addresses the perceived issue of land banking by identifying a number of investigation areas for future employment land release in each LGA. For a regional council it is particularly important to investigate a number of areas, because land surrounding the town is likely to be held in consolidated ownership. Post mining sites also provide a competitive pressure as an alternative for potential employment land, which would help ensure land is developed in a timely manner. Councils should generally plan for a surplus of 20 per cent over an above stated demand to secure a strong pipeline.

8.1.3 Workforce skillset

The Region has a relatively skilled workforce. The workforce is focused on the industries that are already present in the Region, with expertise in mining and agriculture. Therefore, it is difficult to diversify the economy too far from those industries, because a new workforce needs to be attracted to the region. Conversely, larger cities (Sydney, Melbourne, Newcastle) tend to have a larger workforce to draw from. Focusing on transferrable skills and putting in place programs to encourage people to upskill and re-skill is important.

It is the role of economic development strategies to ensure that workforce skills are in alignment with employment opportunities. This Strategy addresses the workforce skillset challenges through advocacy actions for planned responses to mine closures. In addition, councils in the region are establishing incubator and innovation spaces in the Region to encourage workers to use their transferrable problem-solving skills to innovate and solve new problems.

8.1.4 Statutory planning processes and regulatory barriers

Urban development must follow a complicated statutory planning process, with complex regulation. There are complicated processes for planning applications in NSW. This is for both local and regionally significant development, as well as for State Significant Development. Our consultation indicated that many stakeholders felt frustrated by the planning process in government, for straight forward industrial and business development.

More complex mining-related development is currently tied-up with multiple levels of government and different agencies in each government. Anecdotally, this has created hard boundaries around Muswellbrook Town Centre and has limited the uses of the sites beyond mining.

Rezoning can also be delayed as they go through each of the layers. Procedural expectations vary across different levels of government. Strategic planning plays a role by establishing the need for the LGA.

Utilising planning systems that are as close to code-based as possible, while also allowing flexibility for applicants, will help facilitate better and faster planning decisions. Investment confidence will be strengthened by building perceptions of a straight-forward, transparent, and efficient planning process across the Region. Businesses are more likely to invest in areas with Councils perceived as being enabling than in areas with Councils perceived as being barriers to development.

This Strategy addresses and acknowledges the complexities in the system, which are not always in the control of councils, by:

- Identifying areas for council-led rezoning and investigation areas to simplify the planning process with a ready supply of zoned land
- Identifying controls that can be simplified, modernised, or removed in the LEPs
- Promoting clear guidance materials to applicants and residents in the LGA
- Encouraging advocacy on resolving overlapping issues such as use of mining-related land, place plans, and regulatory barriers to energy from waste.

8.1.5 Infrastructure capacity

Employment land should be located where it is adequately serviced by infrastructure. Where the infrastructure is at capacity or does not exist, this can be a barrier to the development of employment land. Infrastructure investments for servicing generally require large up-front costs. However, the first development may only be utilising a little of that capacity. That means that either councils need to invest upfront in infrastructure or developers are required to forward fund, and then seek reimbursements over time. This can create unacceptable risks for both councils, especially councils with smaller rate bases, and developers.

Our consultation has indicated that waste water treatment plants are generally at capacity in the major centres of each of the councils, and/or have not been designed to process significant quantities of trade waste.

This Strategy addresses the challenges in infrastructure capacity by encouraging a collaborative approach with large landowners on servicing. Flexibility and the use of onsite solutions may be preferred to extending wastewater or electricity networks. It also encourages locating development at sites with existing infrastructure capacity. Key infrastructure tasks are included in the Actions section of this report.

8.1.6 Transport connectivity

Retail and industrial operations are becoming increasingly aligned. Supply chain efficiencies are key for the success of the retail sector. The increase in online retailing is driving demand for warehousing and distribution centres. Proximity to key transport routes is one of the priorities for industrial occupiers due to supply chain efficiencies and the increasing geographic division between consumption and production.

The Upper Hunter Region has a considerable network of distribution for coal and agricultural products. The region has network and accessibility to the Newcastle Port; however, this is predominantly for coal. Newcastle Port is expected to host a container terminal in the future, and this is expected to increase capacity for exports and other forms of logistics.

Within the region, access to the Port of Newcastle (and Newcastle Airport) is a challenge in Dungog LGA, with the Brig O'Johnston Bridge in Clarence Town limiting truck movements. The upgrading of the bridge is considered to be critical for the transport of local produce.

Traditional single and multi-channel logistics are being replaced by omni-channel logistics offering availability 24 hours a day online, with multiple methods of delivery, at the convenience of the customer. With this enhanced demand for supply chain efficiency, comes the need for different models of warehousing and distribution hubs. Integrated transport facilities are beginning to be developed to receive, process and store goods and dispatch in one unified facility. Stakeholder engagement indicated that warehousing and storage facilities were limited in some areas and that distribution opportunities for smaller goods were impeded by frequency of logistic services.

This Strategy addresses transport and logistics infrastructure by encouraging the use of rail loops as mining becomes less intensive, and encouraging employment land to be located in areas with good motorway access.

8.1.7 Telecommunications

Currently, practically any form of business in Australia requires telecommunications. Regional areas have historically had poorer connectivity as compared to metropolitan areas, and therefore to advance economic development of new and existing industries, digital connectivity infrastructure is required. The key challenge is that this infrastructure is not profitable for most industries to deliver (extractive industries are an exception due to their profitability). Existing and future industries including agriculture, hydrogen, other/new industries do not have funding to establish connections. While it is generally a commonwealth responsibility, state and territory governments have been investing and co-investing to deliver infrastructure. In some cases, this means delivering fit-for-purpose infrastructure beyond what is provided by the National Broadband Network.

Telecommunications infrastructure has recently been included in development control plans – such as the *Western Sydney Aerotropolis Development Control Plan 2022* – to ensure that development demonstrates delivery of high-speed internet.

This Strategy addresses the need for telecommunications infrastructure through encouraging data centres.

8.2 Constraints analysis

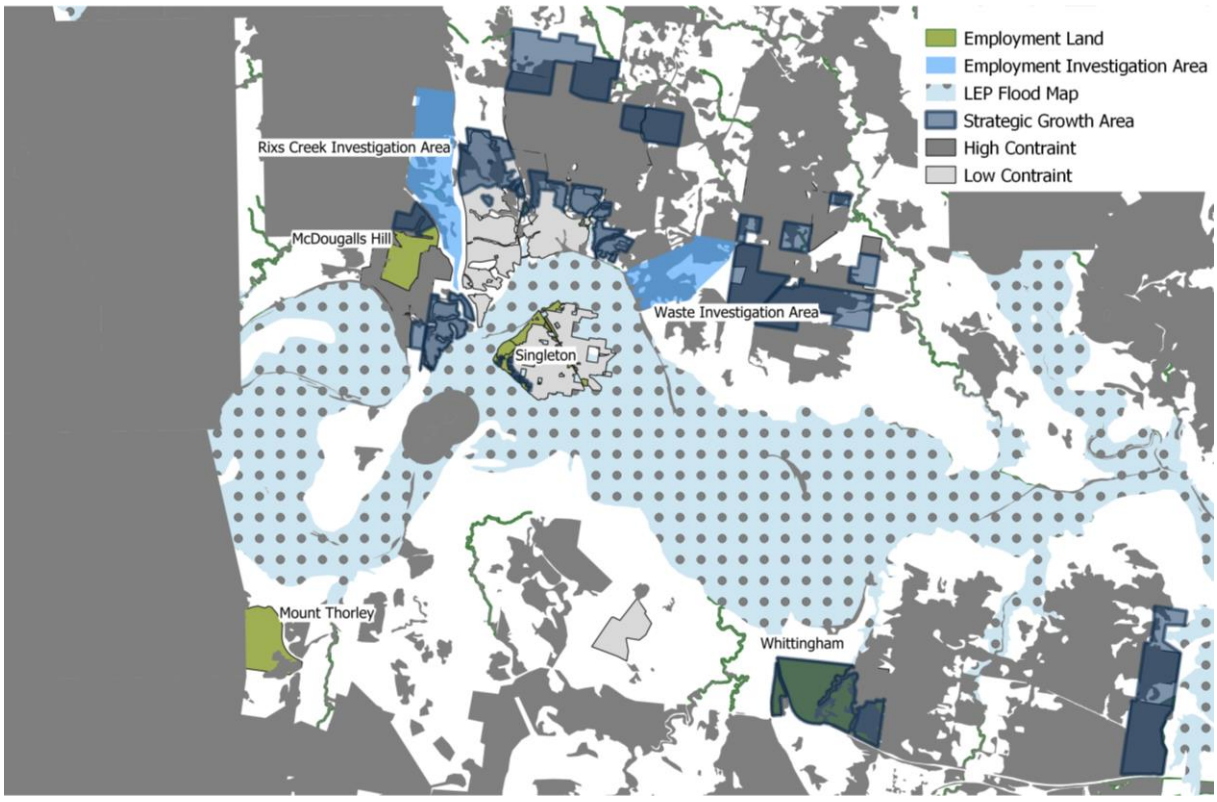
HillPDA has reviewed the constraints present in each of the LGAs. This has been based on either data received from the Council or using the Planning Portal Spatial Viewer to identify high level constraints. This has allowed HillPDA to identify area for investigation.

8.2.1.1 Singleton LGA

HillPDA has identified two potential new investigation areas for employment land in the Singleton LGA around the township, Rixs Creek and the 'Waste Precinct'.

Rixs Creek is an extension of McDougalls Hill to the West and provides an employment use on buffer land. It is separated from residential development by the highway and has a substantial area for expansion. The area has some bushfire and mapped biodiversity conservation corridors, but overall is suitable for industrial development. Rixs Creek is located adjacent to town. There is a risk that as mines close Mount Thorley becomes a less attractive location for industrial development, as it would be somewhat isolated from the township.

Figure 25: Singleton LGA constraints mapping



HillPDA understands that the land is predominantly serviced; however, it is located close to town and servicing could also be extended and augmented at a reasonable rate.

The Waste Precinct is located to the west of Singleton. We understand that servicing has recently been extended and Council is seeking to relocate its work depot to the precinct. This land is predominantly bushfire affected but not flood affected, thereby providing an opportunity to utilise a combination of private and Council owned land for some employment land expansion and complementary uses to the council services in the precinct. We consider that this provides an opportunity for further investigation given the ownership, proximity to town, and the lack of flood affection.

8.2.1.2 Dungog LGA

HillPDA received limited data in relation to Dungog LGA. We have used the DPE spatial viewer to assess high level constraints.

Figure 26: Dungog constraints mapping

The existing industrial area does not have flood affection. The western portion has some flood affection. It is difficult to extend the industrial area.

We recommend looking at the area west of the existing industrial precinct as a new area. While there is some identified biodiversity land separating it, there seems to be limited vegetation when looking at aerials. There is some fire affection, which might be addressed through maintaining buffers. The land is not as hilly as other areas around Dungog.

At the Eastern Industrial precinct there is a substantial amount of land that does not have flood affection and is relatively flat, even compared to the existing western precinct. While there is limited business in this part of the LGA. It makes sense that it could form the start of an artisan industrial and agricultural equipment precinct.

Dungog LGA has limitations due to the presence of water catchments. In particular, the Williams River Catchment Area is a declared special area under Section 53(3) of the Hunter Water Act 1991. This covers most of the Dungog LGA (including Dungog and Clarence Town). This means that any work that significantly affects the Corporation's operations or water quality require referral to Hunter Water. Examples of development include:

- Any development with a constructed area above 2000m^2
- Landfilling, earthworks or clearing of more than 2500m^2
- Industrial or commercial development involving processing, use, storage of waste, chemicals, hazardous or toxic materials, wet industry, mechanical workshop, or produce nutrients in the catchment.
- Forestry operations
- Intensive Agriculture (including plant, livestock and aquaculture)
- Animal boarding and training establishments and intensive animal facilities.

In these areas development needs to be neutral or have a beneficial effect on the water catchment. In many cases, managing stormwater with onsite solutions will require a significant amount of space to store and then use the water on site. This may be limiting for some developments that require significant amount of hardstand in the catchment.

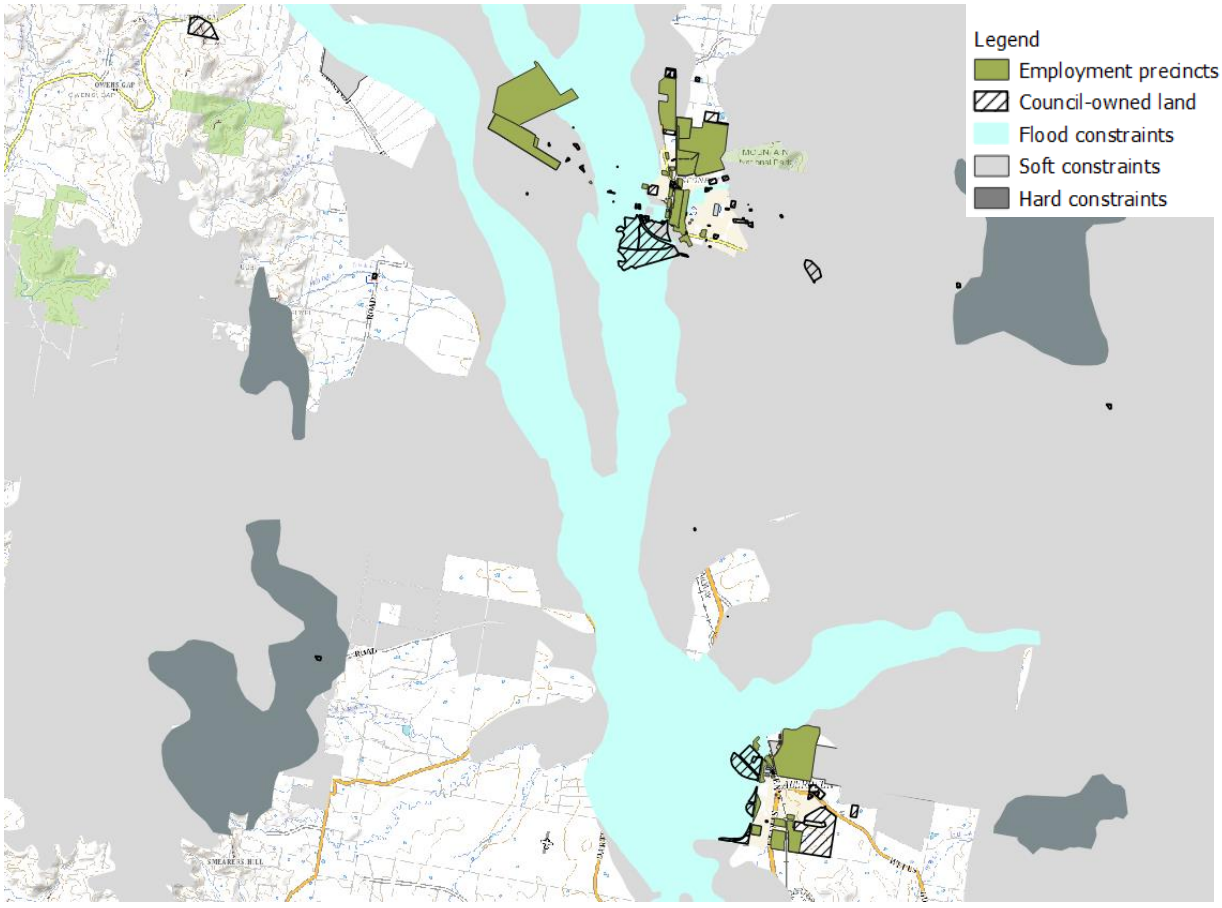
Dungog Council has stated that meeting Hunter Water requirements in the water catchment have generally impeded industries from establishing businesses in the area, due to generating additional costs.

Intensive agriculture is both water heavy and can produce a high amount of waste. It is therefore more likely these uses would need to locate outside the drinking catchment. Paterson is not affected by the Drinking Water Catchment, which therefore could make it a desirable place to focus industrial development or intensive agriculture. Paterson currently has no sewage system, so any development in the area needs septic tanks, and therefore, is not suitable for industrial development..

8.2.1.3 Upper Hunter LGA

HillPDA has assessed the land around Scone. Land is predominantly identified as strategic agricultural land for equine industry, with some for the biophysical strategic agricultural land as well. There is currently sufficient zoned industrial land. The expansion of the racing precinct is a complementary use that would enable additional employment opportunity. Further industrial land expansion is not recommended at this time. However, reviewing and maximising the flexibility for uses around the airport and racing precinct would avoid flooding and utilise existing access roads.

Figure 27: Upper Hunter Shire constraints mapping (Scone/Aberdeen)



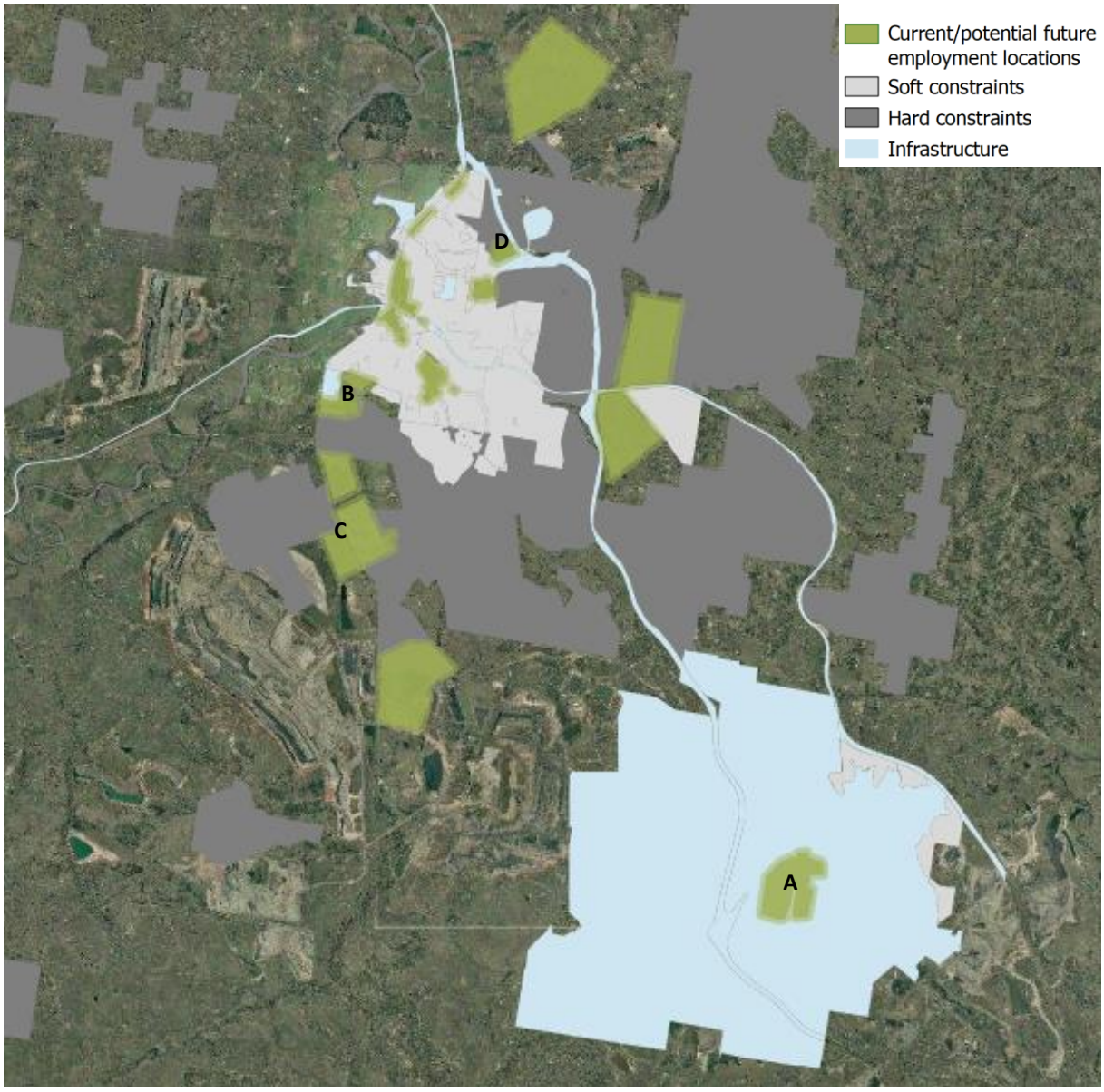
8.2.1.4 Muswellbrook LGA

The constraints around employment land in Muswellbrook are predominately related to conservation zones. Flood mapping was not provided for Muswellbrook, so the flood impact has not been assessed. There is servicing capacity and electricity capacity in each of the growth areas. However, expansions on former mine sites may need additional servicing or on-site servicing. Current and potential employment areas are highlighted in green in Figure 28. This includes employment land opportunities at AGL land (A); Skellatar Stock Route (B); the buffer

conservation land at Thomas Mitchell Drive, if expansion is permitted (C); and land currently on the site of the Muswellbrook Coal Mine (D).

The expansion at the buffer land alongside Thomas Mitchell Drive is strategically located across from the existing agricultural precinct and therefore allows for the expansion of a significant industrial uses. In time, this would also help leverage soon to be closed Mont Arthur Mine. Skellatar Stock Route is an opportunity for infill industrial land that a proponent is considering to develop, and provides light industrial, productivity support precinct opportunities, across form the school. Finally, Muswellbrook coal is located close to town, and has the potential to provide a range of industrial, and renewable energy industry.

Figure 28 Indicative constraints analysis Muswellbrook LGA



8.3 Opportunities

The Region has been characterised by a robust mining industry, which has anchored jobs, alongside viticulture and agriculture, including world leading equine industries. While stakeholders saw the importance of economic diversification, it was clear that diversification should not undermine these strengths of the region.

Businesses were optimistic about the region's future, progressing faster with rezoning was a critical opportunity they were keen to seek. The mining and utilities sector commented on the positive working relationship with councils and the proactive nature of planning in the region.

We heard that younger families moving back to the region has helped expand retail offerings in the region. Similarly, the working from home trend has anecdotally seen more people move to the area to work and enjoy a country lifestyle. Some have decided to explore business start-ups and entrepreneurial ventures.

Looking forward, local industry was excited about the opportunity presented by the airport and port opportunities.

8.3.1 Regional context

The Region is well-positioned regionally. While section 5.7 identifies some of the risks arising from the region's connectivity with other areas, there are also opportunities due to its position within NSW, as well as the presence of connecting infrastructure.

The Region is positioned near the Six Cities Region of NSW, between Greater Newcastle and the inland regions of New England, Orana, and the Central West. Major roads and rail lines connect these regions of NSW, all of which will be mutually reliant through the development of renewable energy zones and the growth of regional cities. As such, the Region is well-placed to continue to play an important economic role within NSW.

One legacy of the Region's coal mining industry is the presence of significant transport infrastructure. Transport linkages currently used to transport coal and other goods could be leveraged to enhance the region's future role in transport and logistics. For instance, the potential for an intermodal facility to be developed in the region is discussed in section 0.

8.3.2 Equine industries

The Upper Hunter LGA is a globally significant equine area. The new Scone Equine Precinct on Satur Road has the potential to centre the knowledge and innovation of the industry and ensure continued investment. The precinct currently consists of the Airport, Equine Centre, racecourse, and TAFE. Racing NSW is investing to create a racing precinct, which has the potential to increase training opportunities for horses, increase the number of races that are held in the precinct, and form an innovation centre for equine research.

As has been identified in academic research, effective water management in the Upper Hunter Shire is a primary task in ensuring the future benefits of its equine region. With regard to employment lands, this Strategy assumes that such practices can be carried out, advocating for the expansion of equine opportunities with the nearby development of light industrial and commercial opportunities.

This Strategy addresses these investment opportunities through suggested actions, including consideration of the SP4 zone to help ensure that the area is fit for purpose and value-adding and mutually supporting businesses to operate within the cluster.

8.3.3 Renewable energy

Renewable energy is currently the largest development investor in the Region as seen in section 5.8. While these industries have relatively low job densities, reliable and relatively more affordable power will help attract manufacturing and other energy users to the region. Well-located power generation through solar and wind can help viability as there would be a relatively lower loss compared to distant power generation. This provides an opportunity to help enable advanced manufacturing to establish in the region.

Sections of the Region are within both the Hunter and Central West-Orana Renewable Energy Zones, providing opportunities for the development of renewable technologies in the region. The Region is also well located proximate to other Renewable Energy Zones. There could be opportunity for the Region to form an

agglomeration of solar and renewable industry centred around design, manufacturing, repair, and then future circular economy uses, as part of an integrated advanced manufacturing industry.

Whittingham, at the intersection of the Golden Highway and New England Highway, has access to both the Central-West Orana and New England Renewable Energy Zones. It is well-located to Port Botany and the Port of Newcastle by road. A limitation of the precinct is freight rail accessibility, which it is proximate to the existing rail. There could be possible extension to form an intermodal. The intersection of the Golden Highway and New England Highway has strategically located IN3 Heavy Industrial zoned land. Unfortunately, this land is not serviced and despite rezoning in the mid to late 2000s, there has been limited development. The land is under consolidated ownership and there is limited ability to ensure land release. This site, however, has the potential to be a critical agri-industrial centre for processing prior to export, collecting goods from both strategic links prior to export. This would require servicing and agreement from the relevant landowners. In addition, there are many other additional opportunities for intermodals in the Region, due to its strong transport infrastructure and developing industries including renewable energy.

This Strategy addresses the above opportunities by:

- Encouraging detailed investigation of Whittingham for an intermodal
- Encouraging investigation of a site on New England Highway in Muswellbrook LGA for an intermodal linked to hydrogen refuelling and battery exchange
- Supporting well-located solar and renewable energy
- Encouraging collaborative development of post-electricity generating and mining sites to connect renewable energy and infrastructure opportunities
- Leveraging existing rail loops and infrastructure on mines.

8.3.4 Leverage post mining lands

Mining land has established infrastructure including hardstand areas, offices, and rail loops. This infrastructure is currently required to be rehabilitated into conservation or pastural land. Looking at innovative ways to better leverage this infrastructure will help encourage growth.

Currently, many mining jobs in the region are situated on land within SP2 (Power Station), RU1 and C3 zonings. Once mines are decommissioned, the land they are on will be rehabilitated to non-employment land uses, unless different options for ex-mine and buffer sites are developed, and such lands are rezoned to become employment lands.

The Upper Hutner Region Plan provides illustrative ideas for each mine. The next step of the process will be to undertake an EOI process consistent with the PMLU Guideline to better understand the types of providers, to inform the post-mining landform. Enabling a post-mining land form that is consistent with industry needs will help ensure that the investment is worthwhile for the mining company and longer-term employment is achieved.

This report addresses this opportunity by advocating for a pathway forward to better leverage post-mining lands.

8.3.5 Infrastructure investment

Road infrastructure investment, through establishing bypasses through Singleton and Muswellbrook, provide the opportunity to improve the town centres and reposition them as more walkable destinations to attract tourism to the region. The new flyover at Whittingham provides the ability for potential further uses for the zoned industrial land within that precinct.

The Strategy addresses this investment by encouraging the preparation of town centre activation strategies and an intermodal terminal at Whittingham.

8.3.6 Innovation enabling

The innovation sector will be critical to the growth and diversification of the Region. Our stakeholder engagement indicated that businesses and innovators needed space to create, think, and collaborate to grow business engagement. Muswellbrook Council has collaborated with The Melt to create an innovation hub for the region, which allows for rapid prototyping and testing of new technology and products.

The opportunity to further partner with universities, TAFE, and businesses to create an innovation culture for the region would help enable the region to further grow and diversify the economy, as envisioned in the Upper Hunter Economic Diversification Action Plan.

This Strategy addresses this enabler by encouraging space for collaboration and early upscaling of start-up businesses, and then encouraging further employment land that will help businesses continue to expand.

8.3.7 Population growth

Population growth creates the need for more population serving employment and adds to the skill-base of the workforce, encouraging greater investment. Rapid population growth will most likely come from people moving to the region. This will likely require, in addition to population-serving industry, additional industrial and knowledge intensive jobs to establish in the area.

This Strategy addresses the need to develop an investment prospectus to encourage large significant employers to take-up land that will likely become available if a rezoning or post-mining opportunities were to occur.

8.3.8 Value-adding industry

The Upper Hunter Region contains agricultural strengths including viticulture, cattle-farming, and a world-leading equine industry. There is scope to expand complementary industries that add value to agricultural production and provide significant local employment.

Viticulture is concentrated around Singleton and, to a lesser extent, Muswellbrook LGAs. Although much local wine is produced on-site at vineyards, there are also opportunities to concentrate wine production in larger-scale facilities on employment lands, as seen elsewhere in Regional NSW.

The relationship between agriculture and value-adding industry can also be seen in the local meat industry. Cattle and other animal farming industries have synergies with local processing facilities, such as the JBS Meats Australia processing plant in Scone. This could be extended to cover a wider range of farm product manufacturing, particularly as the Region's agricultural base expands and diversifies.

The Upper Hunter Region also has a well-developed equine market, which supports a local horse industry concentrated particularly around the west of Scone.

These examples comprise opportunities to grow local industries by using local employment lands to leverage and add value to the agricultural output of the Region.

8.3.9 Intensive agriculture

As farming technologies innovate and the world decarbonises, there will be opportunities to develop new forms of intensive agriculture. Practices such as vertical farming may occur in employment precincts, providing accessible employment while reducing environmental impacts of traditional farming. Hydroponic technologies also provide a potential avenue for intensifying agricultural yields, while minimising land use needs and attendant environmental impacts.

As these technologies to continue to develop, the agricultural industry may shift to encompass more concentrated forms of employment, possibly on employment lands. Ex-mine sites may be suitable locations for such enterprises. This Strategy addresses this opportunity by advocating for a development prospectus to encourage the pursuit of innovative employment opportunities throughout the Region.

8.3.10 Circular economy

The circular economy encompasses a wide-ranging set of principles; as such, it could provide diverse opportunities for the Upper Hunter Region.

The Upper Hunter Region and surrounding areas are experiencing growth in population, industries, and businesses. Such growth is likely to generate increased amounts of household, industrial, and commercial waste. Together with the Region's existing energy capacity, this creates a circular economy opportunity for the Upper Hunter.

The circular economy involves utilising waste products to create new commodities through recycling, manufacturing, and/or energy production. These activities could complement the Upper Hunter Region's other sectors, particularly with regard to manufacturing and energy generation. As more land becomes available in the Region on decommissioned mines and other potential employment sites, there will be opportunities to cultivate a local circular economy in areas that are well-separated from residential development and other sensitive land uses.

8.3.11 Tourism

The Upper Hunter Region has a variety of assets that strengthen its potential tourism offering. Located within several hours of major population centres such as Newcastle, Sydney, and the Central Coast, the Region has an opportunity to further expand its tourism economy.

The Upper Hunter Region is already widely recognised for its wine and equine agriculture, both of which are currently being leveraged for a regional tourism market. Other assets across the Region include national parks, waterways, heritage sites, and town centres. Awareness of the Region's tourism market could be increased by marketing these assets to domestic and international tourists. Further opportunities to strengthen agritourism are discussed in Chapter 8.3.12.

The growth of the Upper Hunter Region's tourism sector would generate opportunities for employment lands. For instance, visiting consumers could support value-added industries by purchasing boutique regional food, drink, and other products. Furthermore, the Region's local and commercial centres could be boosted by tourists fraternising local businesses. This opportunity is currently being strengthened by bypass and revitalisation plans, as well as the protection of built heritage in historical town centres, to strengthen the Region's tourist appeal.

8.3.12 Agritourism and agribusiness

In addition to population growth, population-serving employment would also contribute to the region's burgeoning tourism industry. This could coincide with a lifting of the region's agribusiness profile. The Region's natural assets, as well as its agricultural strengths, are driving interest in the region as a tourism destination. Agricultural industries such as viticulture could be further leveraged to provide agritourism. This would also facilitate the region's further development of agribusiness, in which agriculture is currently driving future potential.

8.3.13 Defence, aerospace and allied industries

The Region is located close to strategic defence and aerospace industry such as Williamtown, Singleton Army Base and the Myambat munitions storage facility. Furthermore, the explosives required for mining creates an create an opportunity for establishment of bussies allied to Defence. There is a challenging environment for the production of explosive powers throughout Europe and the US, as well as Australia, which could be located near the Upper Hunter. In addition, former mining sites and the use of airports such as Scone, could help position the Upper Hunter as a testing ground for drone delivered weaponry, missiles manufacturing and satellite rockets.

With the challenges associated with flight training in Sydney (Bankstown and Camden) and the opening of the Western Sydney Airport, there could be additional opportunity for additional flight training, and associated small

aircraft manufacturing and repairs for the Upper Hunter. Furthermore, it will likely be easier to store aircraft in the Hutner than in Sydney.

LGA PROFILES

9.0 DUNGOG LGA PROFILE

9.1 Current situation

Dungog is located adjacent to Port Stephens, Maitland, Singleton, Upper Hunter, and Mid-Coast LGAs. It is proximate to Newcastle Airport and the Port of Newcastle. The population is centred around Dungog, Clarence Town, Paterson, and Gresford.

The employment land development monitor shows Dungog has 50.4 hectares of developed employment land supply, and only 5.2 hectares of serviced employment land. Through stakeholder engagement it was evident that there was demand for further employment land for logistics, warehousing, and business expansion in the region. The LGA and its strong agricultural industry benefit from rural zoning, which has meant that many businesses have become rurally based; however, this can lead to potential land-use conflicts where some businesses may be better suited to industrial uses, such as mechanics.

From a broader logistics position, Dungog's timber bridge network creates a significant constraint on development within the LGA, with developments such as upgrading the Brig O'Johnston Bridge important for connecting local produce to nearby places. This is significant as Dungog currently relies on agriculture as the significant employer in the LGA.

9.2 Strategic context

Table 40 outlines the key local strategic documents that have informed the strategic planning context for Dungog LGA.

Table 40 Local Strategic Context

Key documents/strategies/actions	Relevant considerations for ELS
Moving Toward 2040: Dungog Shire Local Planning Statement Planning Priority 2 – Promote diversification and innovation of agriculture Action 1. Undertake the Rural Lands Strategy to: • Investigate opportunities for innovation and diversification of agribusiness and possible complementary industries • Review planning controls with regard to permissible uses in the RU1 Primary Production zone, minimum lot size provisions and utilising the RU4 Small Lot Primary Production zone • Review the supply chain and transport infrastructure for agriculture and industry and identify opportunities for innovation and diversification. Planning Priority 3 – Encourage new industry and economic development Action 3. Undertake Employment Lands Study to: • Review supply and demand for commercial and industrial land • Opportunities for growth in these areas and appropriate locations. Action 4. Investigate opportunities for economic growth: • In emerging technologies and industries based on land capability as identified in the Rural Lands Strategy • Identify areas of strength with regard to the provision of telecommunication services and provide strategies to leverage off these • For investment in renewable energy for Council and the LGA generally • For exporting and growth in the region by leveraging off the connections to the Newcastle Airport and Port of Newcastle • Develop a strategy and guideline for local business for economic growth and exporting opportunities.	• The ELS should consider Dungog Shire Council's intention to develop an RLS, as a means of identifying employment opportunities in a way that is sensitive to and maximises opportunities from existing rural land uses. • The ELS should also acknowledge the already stated need for an ELS to identify needed and appropriate industrial and commercial lands within Dungog LGA. • For Dungog LGA, the ELS should also consider telecommunication access, potential renewable energy investment, and connections to Newcastle Airport and Port of Newcastle. The potential role of local businesses in exporting should also be considered.

Key documents/strategies/actions	Relevant considerations for ELS
Our Dungog Shire 2032: Community Strategic Plan 2022 – 2032 Objective 3.1 That we ensure our economy is strong, creative, innovative and sustainable and provides us with jobs, business and creative opportunities and easy access to goods and services. • Strategy 3.1.2 Ensure we plan for the availability of land to facilitate commercial and industrial growth • Strategy 3.1.5 Promote the Shire as a good location for the establishment of innovative, small to medium scale, sustainable businesses.	• The ELS should consider the "small to medium" scale of businesses indicated by the CSP as being appropriate for Dungog LGA.
Dungog Shire Economic Development Plan 2022 – 2026: Riding Towards Prosperity Theme 2 – Infrastructure • Action 2. Conduct an audit of the existing internet and mobile phone services across the LGA to determine both the best performing areas and those in most need of improvement Theme 3 – Industry • Action 1. Undertake Employment Lands Study and make necessary amendments to the Local Environmental Plan to deliver sufficient industrial land and commercial land in the Shire (priority project) • Action 2. Council to take a proactive role and investigate other options for the provision of increased industrial land (i.e. IN1 Lands) through the Strategic Property Review (priority project) Theme 4 – Innovation • Action 2. Investigate investment in energy conservation and renewable energy for Council and the LGA (priority project)	• As also indicated in the Dungog LSPS, access to telecommunication services is an important consideration for the ELS • The ELS should include specific suggested LEP adjustments while drawing upon the collaborative efforts of Dungog Shire Council, to provide a useful framework for delivering employment land • Energy conservation and renewable energy should be considered by the ELS as a potential employment land use
Dungog Shire Council Delivery Program 2022-2026 Strategy 3.1.2 Ensure we plan for the availability of land to facilitate commercial and industrial growth Actions: • Continue to develop availability of Council owned industrial land • Work with our regional Council and NSW Government partners to prepare and deliver an Employment Lands Study which includes Dungog Shire • Conduct a review of all Council's operational land holdings with a view to it informing a development prospectus.	• The ELS should consider Council-owned industrial land within Dungog LGA.
Dungog Shire Council – Draft Rural Lands Strategy (2021) • Action 1-8 Encourage and promote the establishment of cooperatives and processing plants on land in Zone RU1 Primary Production and Zone RU4 Primary Production Small Lots to support existing and emerging agricultural enterprises • Action 1-9 Engage with Muswellbrook Council and the Upper Hunter Economic Diversification Group to explore opportunities for the Dungog LGA with regard to the Bio Refinery project • Action 1-10 Advocate the Federal and State Government for funding and improvements to key access routes that connect local producers to export opportunities in the Port of Newcastle, Newcastle Airport and connect to regional processing facilities and saleyards • Action 4-3 Prepare planning proposals to implement the actions of the RLS to provide flexibility in the planning framework that allows for innovation and diversification. **Draft Dungog Rural Lands Strategy – Rural Issues Paper (2020)** • 10.2 Need for growth and diversification • 10.4 Diversification and new industry development.	• The ELS should be informed by current industry patterns and strengths across the LGA, as well as the RLS's identification of potential sites for clustering opportunities • The ELS should consider the infrastructure surrounding Dungog LGA, and whether it could be better connected to the LGA • As with other LGAs, the ELS should consider the importance of industry diversification for Dungog Shire • Additional opportunities for non-agricultural employment industries may be identified by the ELS.

HillPDA 2023

9.3 Industries of employment

Dungog's strongest industry of employment is Agriculture, Forestry and Fishing, which employed 410 workers in the LGA at the 2021 Census, followed by Education and Training, which employed 311 workers.

Agriculture, Forestry and Fishing represents a major local specialisation, with a location quotient (LQ) value of 4.12 relative to regional NSW. A full explanation of LQ analysis is provided in the main background report; however, any LQ value above 2 is considered a major specialisation compared to a comparator area.

Dungog's agricultural specialisation is propelled by its strength in beef and dairy cattle farming, which employed over 200 workers in 2021. Despite this strength, Dungog's agricultural specialisation has waned slightly between 2011 and 2021. We consider slight variations to be normal; however, Dungog Shire Council has noted that agricultural specialisation may be declining in the LGA.

9.4 Population and employment projections

Various methods for projecting population and employment growth are detailed in Sections 3.3 and 3.4 in the main Employment Lands Strategy. Table 41 indicates potential population and employment trends for Dungog LGA between 2021 and 2041, including compound annual growth rates (CAGR). As it shows, there are significant differences between Scenario 1 for population growth (projected by DPE) and the medium and high projections for Scenario 2. Differences between employment scenarios are less drastic, but employment growth Scenario 2 still projects fewer employees by 2041 compared to Scenario 1.

Table 41 Population and employment projections, Dungog LGA, 2021-41

Dungog	2021	2041	2021-41 change	2021-41 CAGR
Population: Scenario 1	9,525	14,374	4,849	2.1%
Population: Scenario 2 (Medium)	9,525	9,800	275	0.1%
Population: Scenario 2 (High)	9,525	10,200	675	0.3%
Employment: Scenario 1	2,756	3,646	890	1.4%
Employment: Scenario 2	2,417	2,940	523	1.0%

Source: Hunter JO; ABS; TfNSW; HillPDA

9.5 Employment precincts

There are four employment land precincts in Dungog, containing industrial zoned land at various stages of development. The LGA also contains two centres/large villages, Dungog and Clarence Town; and two infrastructure-based precincts. Table 42 indicates employment-generating precincts within the LGA.

Table 42 Dungog precincts

Precinct name	Current zone	Description
Employment land		
Common Road Industrial	E4 General Industrial	Dungog's main industrial area - nearing capacity with few vacant lots. Variety of light industrial uses including Council works depot, stables, NSW National Parks and Wildlife Service depot, kitchen remodelling and earthmoving services.
Hooke Street Industrial	E4 General Industrial	5 lots zoned general industrial with buildings of unknown use. Vacant land available to the north of the site, intersected by Hooke Street.
Clarence Town industrial	E4 General Industrial	2.69ha of unused zoned industrial land held under single ownership
Stroud Hill Road Industrial	E4 General Industrial	Largely vacant general industrial land surrounded by RU1 Primary Production.

Precinct name	Current zone	Description
Centres and large villages		
Dungog	E1 Local Centre	Historic buildings with retail and commercial services largely fronting Dowling Street (the main street). Small provision of apparel retailing, around 10 eateries, bottle store, pharmacy, a medical centre and a small provision of other non-food retailers and commercial services.
Clarence Town	E1 Local Centre	Some vacant lots with capacity to accommodate expansion of retail, hospitality, and professional service provision. Predominantly detached dwellings on large blocks. Few retail offerings.
Other		
Short Street Waste Management	SP2 Infrastructure Waste or Resource Management Facility	Infrastructure saleyards – includes waste management facilities, Dungog Saleyards, and a vacant lot.
Lord Street Public Administration	SP2 Infrastructure Public Administration Buildings	Zoned public administration area – houses Dungog fire station and some buildings for which no information is available. Appears to be fully developed.

HillPDA 2023

9.6 Employment land supply and demand

HillPDA has undertaken an employment land audit and a demand analysis to calculate the likely under/oversupply of employment land from 2021 to 2041 across the region. The full methodology and findings of this process are detailed in the main report. Table 43 indicates the forecasted supply and demand of employment land in Dungog LGA from 2021 to 2041, showing that there is likely to be an oversupply of industrial land and a slight undersupply of business land by 2041.

Table 43 Forecasted employment supply and demand, Dungog LGA, 2021-41

Supply/Demand	Status/Scenario	Business	Industrial
Supply	Vacant (Audit)	2.3 (B2, B4)	2.36
	Undeveloped (Serviced)	0	2.6
Demand	Scenario 1	2.32	1.41
	Scenario 2	1.05	0.8
Under (-) / Over Supply (+)	Scenario 1	-2.3	18
	Scenario 2	-1.05	18.5

HillPDA (2023)

9.7 Development activity

Dungog has a relatively small development pipeline compared to other LGAs in the region. Construction data reported by Cordell Connect indicate approximately eight developments in the pipeline for the LGA, shown in Table 44.

Table 44 Development pipeline in Dungog LGA

Development Status	Value ($m)	Count
Abandoned	$0	1
Deferred	$-	-
No further research to be conducted	$0	1
Commenced	$2	2
Possible	$1	1
Early	$100	2
Firm	$1	1
Development Type (Commenced/Possible/Early/Firm developments)	**Value ($m)**	**Count**

Food Processing	$-	-
Tourist Accommodation	$-	-
Entertainment	$-	-
Industrial	$-	-
Commercial	$-	-
Emergency	$1.35	1
Heavy Industry	$-	-
Medical	$-	-
Tourist Activity	$1.08	1
Light Industry	$-	-
Infrastructure	$-	-
Military	$-	-
Transport	$-	-
Agriculture	$-	-
Power Station	$100.63	3
Retail	$-	-

Source: Cordell Connect

The projects in the pipeline for Dungog also tend to be less significant for employment generation compared to other LGAs across the region, with fewer major projects occurring. The LGA's most significant projects are:

- Proposed Martins Creek Solar Farm with an estimated value of $50 million
- Proposed Vacy Solar Farm with an estimated value of $50 million
- The new Dungog Fire Station with an estimated value of $1.35 million.

Solar farms require low job densities and thus tend to deliver small-scale employment outcomes. However, these projects can be important enablers for the area, region, and State. Dungog's solar farms may eventually contribute to a more employment-generating investment pipeline in the area.

9.8 Barriers and enablers to growth

Strengths	Weaknesses
• Growing visitor economy and town centres • Strong population growth • Innovative e-commerce businesses are establishing • Proximity to Barrington Tops National Park • Boutique retail offerings in the LGA. • Proximity to Port of Newcastle (approximately 45 minutes from Clarence Town)	• Road network is in poor condition and requires passage through town centres • Limited warehousing and logistics space to allow for population growth • Located within water catchment limited permitted uses.
Opportunities	**Threats**
• Expand tourism through town centre revitalisation • Invest in shared storage and warehousing for up to 3,000sqm. • Consider a section 7.11 plan for heavy haulage • Agritourism and adventure tourism increasing a diverse offering in the LGA • Intensive agriculture to complement beef, dairy and poultry	• Council funding and rate base is insufficient to fully maintain infrastructure and b-doubles tend to degrade roads more quickly than other vehicles • Lack of planned growth management making infrastructure delivery and capacity difficult • Many access routes go through residential areas, to avoid land-use conflicts time of day restrictions may need to be put in place

HillPDA 2023

9.9 Planning framework considerations

Development in the Dungog LGA is guided by the Dungog Local Environmental Plan 2014 ('Dungog LEP'). Businesses in the Upper Hunter Region have identified the flexibility of planning systems as a key consideration for where to locate development. General delivery tasks for achieving this across the region involve enabling light industries as permissible with consent in E1 zones, investigating the removal of maximum height limits in E4 zones, and investigating the possible impacts of parking requirements in LEPs.

Dungog LGA has longer development approval timeframes than other LGAs in the region, which can act as a deterrent to future investors. While existing constraints in the LGA may be adding to such timeframes, actions such as pre-development assessment meetings to discuss potential issues may expediate assessments and attract more investment.

9.9.1 E1 Local Centre

Centres within Dungog LGA will transition to E1 Local Centre under the planning framework. The proposed permissible uses are appropriate to support appropriate development types in the centre. Objective 3 of the zone reads:

> *Objective 3: To enable residential development that contributes to a vibrant and active local centre and is consistent with the Council's strategic planning for residential development in the area.*

While there is merit in this objective, there is currently limited strategic planning within the LGA to demonstrate consistency with residential development requirements. There is a need to undertake strategic planning in the form of a Local Housing Strategy and Structure Plans to identify housing delivery opportunities and logical growth areas. This should consider growth around all centres.

There is currently no objective that encourages the attraction and enhancement of tourism opportunities. This is a growing sector, particularly in Dungog, and should be reflected in the Objectives for centres.

9.9.2 Potential higher density development provisions

As mentioned above, towns within Dungog LGA include E1-zoned land. This land use zone permits shop top housing among other forms of development with consent. Expressly permitting other higher density forms of housing with consent (e.g. multi-dwelling housing and residential flat buildings) in the zone would help to concentrate development in the town centres and enhance the viability of employment-generating commercial development.

9.10 Clustering opportunities

The future development of anchor institutions in the Upper Hunter Region may indirectly facilitate employment in Dungog LGA. More directly, the concentration of employment lands in certain parts of the LGA would also facilitate some employment clustering.

Employment in the LGA is currently most strongly concentrated in the town of Dungog. Further enhancements to the town would further improve its standing as a commercial centre for the area. Improvements to the accessibility and amenity of Dungog Town Centre would improve its vibrancy, which may attract further investment. This could catalyse Dungog becoming a cluster for small businesses, particularly if a mixed-use development is also undertaken near Dungog Railway Station.

Agriculture provides another opportunity for small-scale business clustering. Dungog's agricultural industries include cattle and poultry farming. While cattle farming employment is more significant in the LGA, it lacks the clustering seen in the poultry industry. There is opportunity for more cattle-related clusters to form within the LGA. This could occur through locating meat processing facilities outside the water catchment. However, the future of such industries depends on trends in Dungog's agricultural output.

Dungog LGA also has the potential for some agritourism industry clustering to occur. This could involve the development of artisan industries in industrial areas, to convert the LGA's agricultural strengths into potential tourism opportunities. It would also involve encouraging farm-based agritourism, as well as enhancing the appeal of the LGA's town centres.

Stakeholder engagement has also revealed a desire for more logistics, warehouse, and business expansion opportunities in Dungog LGA. This could be encouraged through provision of appropriate employment lands alongside the delivery of related infrastructure. In particular, more industrial land precincts could be zoned in areas such as Clarence Town in a high population growth scenario. The provision of more industrial space may have flow-on effects to boost other local industries, such as local artisan goods production.

The economic character of Dungog will likely continue to be predominately local businesses that seek to service either local community or tourists, with some expansion of remote employees. The critical challenge for Dungog as an LGA continues to be accessibility and the water catchment. Leaning into artisan manufacturing across primary industries, adventure tourism, has the potential to further grow the economy with supporting retail and legal offerings.

9.11 Actions

The following actions and principal delivery tasks are applicable for Dungog LGA:

Table 45 Actions and principal delivery tasks for Dungog LGA

Action	Principal delivery tasks
1.1: Secure a pipeline of zoned, serviced and unconstrained employment land.	• Investigate an expansion area for E4 General Industrial north-west of Common Road, Dungog noting that topography and flooding are constraints. • Investigate and rezone an industrial precinct (E4 General Industrial) around Stroud Hill Road, which could be focussed on artisan industry leveraging existing strengths in agricultural production and providing an additional tourism focus.

1.2: Explore future employment investigation areas.	• Explore the provision of additional industrial land in Dungog LGA, as part of a Clarence Town Structure Plan, if the high population growth rate is adopted. • Undertake a Growth Management Strategy to ascertain where future growth will be accommodated. • Support interest for meat processing plants in areas outside the water catchment.
1.3: Continue to monitor employment land supply through the Urban Development Program.	• In collaboration with the Department of Planning and Environment, seek to provide information that informs the status, supply and challenges to delivering employment lands.
2.1: Prepare and implement centre activation strategies for the main settlements	• Establish a clear vision for the town centre developed in collaboration with centre traders • Identify catalyst sites that can be activated temporarily or permanently • Establish and promote a regular event strategy to draw people into the town centres • Incorporate an investment prospective that identifies the opportunities and gaps in the market for new retail and hospitality • Establish or empowers the chamber of commerce or similar governance body to input into, implement and monitor the activation strategy.
2.3: Support start-up businesses and flexible working spaces to drive innovation and regional lifestyle opportunity.	• Utilising existing underutilised council assets and government land • Voluntary Planning Agreements • Providing co-working or pop-up spaces in vacant commercial or industrial premises • Providing shared (incubator) warehousing facilities to enable initial industry expansion.
2.4: Grow the vibrancy of Dungog Town Centre	• Seek funding to implement planning for town beautification initiatives including: – Hooke Street revitalisation project, and – Brown Street pedestrian improvements to enhance access from Dungog Station • Encourage the relocation of the agricultural sales businesses to the industrial precinct • Explore a business case for repurposing government land near the station to accommodation a mixed use development opportunity.
2.5: Prepare a Clarence Town Structure Plan and supporting documents to provide clarity around growth expectations and determine where a full-line supermarket could be accommodated.	• Prepare the Clarence Town Structure Plan • Prepare a servicing and delivery plan • Update Local Environmental Plan • Update Development Control Plan • Prepare Development Contribution Plan.
2.6: Support new retail to accommodate population growth.	• Dungog LGA supermarket demand would increase by 2,148 square metres, which would lend itself to a full-size supermarket in the LGA by 2041. Depending on the likely location of population growth it might lend itself in Clarence Town to increase convenience for residents of both Dungog and Clarence Town. Council should identify a strategic site for the new supermarket and consider potential options for the current supermarket site.
3.1: Leverage the growing tourism opportunity in Dungog, Singleton and Upper Hunter LGAs	• Encourage the development of appropriate workers accommodation to free up accommodation for tourists • Work with providers to offer unique and authentic experiences to attract visitors to eco and agritourism destinations. This can include activities such as hiking or cycling events, farm-to-table meals, farm tours, environment or agricultural education, and hands-on experiences like picking your own produce or helping with farm chores • Build partnerships with local businesses, farmers, and tourism organizations to promote eco and agritourism destinations and provide visitors with a wider range of experiences • Use digital marketing: strategies such as social media and online advertising to reach a wider audience and promote tourism destinations to potential visitors • Offer value-added products such as farm-fresh produce, artisanal goods, and locally-made souvenirs to help generate additional revenue for farmers and enhance the overall visitor experience • Investigate the potential for Aboriginal-based tourism opportunities to complement the existing nature and adventure offerings.

3.4: Develop and promote the uptake of agri-tourism	• Develop a simple factsheet that articulates the types of uses that can now operate on farms and the associated consent pathways • Draw on information from the DPE factsheet on agritourism • Share factsheet through social media and host on websites • Partner with local chamber of commerce and business organisations to distribute information on agritourism rules.
5.1: Aim to reduce development approval timeframes	• Encouraging the application of SEPP (Exempt and Complying Development) to reduce number of comprehensive development application that Council has to assess. This could be done by: – Providing information on Council's website about the circumstances in which a complying development application can be used (rather just a than a link to the planning portal) – Employing a shared 'joint organisation' Duty Planner to inform prospective applicants of the opportunities under part 5 of the SEPP for a fast track assessment via the complying development pathway and navigating the planning portal • Encourage formal and informal pre-DA meetings and ongoing discussions with applications to resolve issues well prior to the DA being lodged.
5.2: Implement a flexible planning framework	• Investigate removing maximum height limits in the E4 General Industrial zone to avoid unnecessarily deterring or restricting development • Investigate parking requirements to ensure that they are not overly restrictive and do not unnecessarily increase development costs.
5.3: Investigate removing or adding land uses that could affect the viability of commercial or industrial development	• In Dungog, consider removing the residential accommodation group term from permissible with consent and instead refine to higher density development such as shop top housing, multi-dwelling housing and residential flat buildings • In all LEPs, consider enabling light industries as permissible with consent in the E1 Local Centre zone and E2 Commercial Centre zone (where adopted).

10.0 MUSWELLBROOOK LGA PROFILE

10.1 Current situation

Muswellbrook LGA is currently dominated by the mining industry with significant employment in electrical generation. These uses are located off traditional employment lands and on SP2 and rural land use zones. As the economy shifts from a fossil fuel economy to a renewable economy these traditional uses will become redundant. It is important for Council to plan a sustainable economic future for the LGA to ensure it is set up for future success. The first mine closures at Muswellbrook Coal and BHP Mount Arthur, as well as the closure of the Liddell Power Station have already commenced.

10.2 Strategic context

Table 46 outlines the key local strategic documents that have informed the strategic planning context for Muswellbrook LGA.

Table 46 Local Strategic Context

Key documents/strategies/actions	Relevant considerations for ELS
Muswellbrook Local Strategic Planning Statement 2020 Planning Priority 1: Our Shire embraces technology and innovation. Actions: • Council will identify potential locations for establishment of food processing facilities utilising the strong local workforce and capitalising on local infrastructure and transport networks • Local planning instruments will be reviewed to introduce flexibility to allow for low impact, technology-based businesses and industries to locate in the Shire Planning Priority 2: We plan for the transition of mine and power station sites before their closure. Actions: • Council will be an active participant in the planning and transition of Liddell Power Station to a range of employment opportunities • Council will be an active participant in the planning and transition of Muswellbrook Coal Mine to a range of employment opportunities • Council is an active participant in the planning and transition of Bayswater Power Station to a range of employment opportunities • Council will be an active participant in the planning and transition of Dartbrook and Mangoola Coal Mines to a range of employment and housing opportunities. Planning Priority 3: The mineral resource and power generation industry is productive, accountable and considerate of surrounding land uses. Actions: • Council will advocate for updates to state and local planning instruments to encourage coal mines and quarries to maintain buffers to equine, viticulture operations and other critical industry clusters. Planning Priority 5: Land uses in rural areas are protected from incompatible land uses and supporting industries are encouraged. Actions: • Council will prepare a Rural and Agricultural Lands Study and Policy investigate the viability of new and emerging agribusinesses to support diversification of the sector. Planning Priority 7: Industrial land is developed in an orderly manner, which meets future needs, and is provided with appropriate infrastructure. Actions:	• The ELS should consider food processing facilities as a potential local source of employment, as well as the opportunities presented by technological innovation • The ELS should identify the sites of mines and power stations anticipated to close as potential employment land locations. Specific land use opportunities that retain the sites' former labour intensity should be identified • The ELS should consider the need for differing employment and other land uses to be mutually protected, particularly through the maintenance of buffers • The ELS should consider the LSPS's intention to support agriculture with compatible industries, such as through appropriate agribusinesses in rural areas • The ELS should consider the influence of existing and planned infrastructure on the location of employment land. This extends to considerations of how infrastructure linked to mines and power stations can be leveraged for employment transitions • The ELS should also consider the role of centres in providing commercial and knowledge- and services-related employment, such as Muswellbrook Town Centre, as well as a potential commercial Highway Service Centre

- The availability of land for industry is monitored through updating the Muswellbrook Urban Development Program
- Council will continue to invest in its Future Fund and Economic Development programs to encourage diversification of industries, economic opportunities and employment in the Shire
- Council will review local planning instruments to ensure there is flexibility for industry, agribusiness and sustainable energy generation to be established in the buffers to mine and power stations sites, and as transition uses
- Council will prepare an infrastructure plan to guide investment in infrastructure that will support a wide range of agribusiness, mining and industrial activity.

Planning Priority 8: Our Town Centres and Villages are places of economic growth, business diversification and employment opportunities.
Actions:

- Local planning instruments will be reviewed to implement the Muswellbrook Town Centre Strategy to guide future development in Muswellbrook Central Business District, including plans for a purpose-built civic services precinct
- Investigations will occur to identify an appropriate location for a Highway Service Centre, with direct access to the town, to support the needs of the travelling public, provide employment opportunities and to enable the Muswellbrook community to promote itself to future visitors when the Muswellbrook Bypass is constructed.

Muswellbrook Shire 2022 – 2032 Community Strategic Plan Where do we want to be in 10 years? • 1. A dynamic local economy with full employment for current and future residents in a diverse range of high value industries. How will we get there? • 1.1 Support job growth within the Shire • 1.2 Diversify the economy, facilitate the development of intensive agriculture, innovative manufacturing, health services and other growth industries.	• The ELS should recognise the LGA's potential diverse range of industries as identified by the Community Strategic Plan, in addition to focusing on key areas identified in the CSP and LSPS.
Muswellbrook Town Centre Strategy Key Strategic Direction 10. Enhanced Economic Activity Objective Encourage an increase in private investment activity in the town centre. Actions • Council to investigate the opportunity to create and market development sites after establishing public benefit requirements from its current building stock • Council to explore the opportunity to establish Private Public Partnerships to achieve an increase in overall investment in the town centre. Objective Examine the opportunity to establish new business encouragement and activity programmes Action • Consider the establishment of a program like "renew Newcastle" to facilitate the establishment of new local business and increase use of existing vacant building stock	• The ELS should consider opportunities for educational-related clusters to facilitate employment in Muswellbrook town centre, as well as the potential of further concentrated commercial development to strengthen employment diversity.

HillPDA 2023

10.3 Industries of employment

Muswellbrook's local economy is underpinned by mining and related industries. At the 2021 Census, approximately 3,469 workers were employed in mining in the LGA. The extent of the LGA's specialisation is exemplified by its industries' location quotients compared to regional NSW. A full explanation of LQ analysis is provided in the main report; however, any LQ value above 2 is considered a major specialisation compared to a comparator area. Muswellbrook has two major specialisations compared to the 'Rest of NSW' area. These are Mining, with an LQ value of 12.73; and the related industry of Electricity, Gas, Water and Waste Services, with an LQ value of 5.92.

Coal mine and power station closures in the area creates an exigent need to diversify the local economy, which is discussed in the LGA's local strategic planning framework. Possible future responses include the development of local business and retail opportunities and the adaptation of former mine sites to become employment lands.

10.4 Population and employment projections

Various methods for projecting population and employment growth are detailed in Sections 3.3 and 3.4 in the main Employment Lands Strategy. Table 41 indicates potential population and employment trends for Muswellbrook LGA between 2021 and 2041. As it shows, Scenario 2 of the population projections forecasts significantly higher growth than Scenario 1, which is based on the work of DPE. This is particularly the case for the 'high' variant of Scenario 2. Employment growth Scenario 2 also forecasts higher employment growth than employment growth Scenario 1, at a CAGR of 1.7 per cent compared to 0.5 per cent.

Table 47 Population and employment projections, Muswellbrook LGA, 2021-41

Muswellbrook	2021	2041	2021-41 change	2021-41 CAGR
Population: Scenario 1	16,405	17,387	982	0.3%
Population: Scenario 2 (Medium)	16,405	18,500	2,095	0.6%
Population: Scenario 2 (High)	16,405	22,700	6,295	1.6%
Employment: Scenario 1	11,809	12,994	1,185	0.5%
Employment: Scenario 2	10,795	15,124	4,329	1.7%

Source: Hunter JO; ABS; TfNSW; HillPDA

10.5 Employment precincts

Muswellbrook LGA contains a variety of key employment precincts. These consist of five employment land sites, three centres/large villages, and one educational infrastructure precinct, shown in the below table.

Table 48 Muswellbrook precincts

Precinct name	Current zone	Description
Employment land		
Thomas Mitchell Drive	E4 General Industrial	Two clusters of E4 General Industrial zoned land incorporating an Ausgrid Depot, construction equipment suppliers and distributors, manufacturing and mining services and some consumer-focused industry. Southern cluster is largely developed, with more capacity in vacant lots in the cluster further north. The viability of the mining services businesses will be closely tied to the continuation of mining in the LGA.
Denman Road	E4 General Industrial	Six E4 General Industrial lots including engineering, workshopping, hydraulics, and a lift and shift firm. Low total building area, but significant amount of storage, and workshopping space.
Common Road	E4 General Industrial	E4 precinct serves a light industry/population serving/productivity support purpose. Mostly consists of light industrial, with some vacant lots. Businesses in the area include electrical, landscape supplies, scrap metal, and body repairs, as well as some warehousing and self-storage. The precinct has some capacity, and while its proximity to the waste and recycling facility could create some circular economy clustering, it would be more suitable to remain in light industry. Access to the precinct is

Precinct name	Current zone	Description
		somewhat limited, with heavy vehicle access required via Coal Road, to avoid disturbing residents along Queen Street.
Denman	E4 General Industrial	23.3ha vacant parcel of land zoned E4 General Industrial - predominantly vacant, current use unclear.
Showground Precinct	E3 Productivity Support	Precinct mainly contains the Muswellbrook Showground. A motor vehicle dealer, gym and a youth service centre are also within the precinct.
Centres and large villages		
Muswellbrook Town Centre North (Muswellbrook Marketplace)	E2 Commercial Centre	Main Street style centre stretching from the Muswellbrook rail station to just north of Wilkins Street mostly fronting Bridge Street (New England Highway). Diversity of retail, professional, hospitality and administrative service floorspace. Incorporates TAFE NSW, Council office and library. Muswellbrook Marketplace is a 11,161 sqm sub-regional shopping centre that is anchored by the major retail tenants of Woolworths and Big W. The centre is off the main street, instead fronting Sowerby Street and Brook Street.
Muswellbrook South (Sydney Street and Bridge Street to Wilder Street)	E3 Productivity Support	Scattered residential and retail fronting Maitland Street consisting of population serving businesses such as carwashes, accommodation, take-away food providers and automotive services. Could be more reflective of a productivity support zoned.
Rutherford Road Muswellbrook (Muswellbrook Fair)	E1 Local Centre	Scattered E1 Local Centre zoning fronting Maitland Street and Rutherford Road. Muswellbrook Fair contributes around 8,765sqm of retail floorspace and includes the major tenants of Coles and Harvey Norman (Shopping Centre Director, 2020). An Aldi and a large car dealership adjoin the mall on either side. Another car dealership, a hotel and a take-away food premise front Maitland Street. The precinct is mostly developed with only one sloped 3,450sqm site.
Other		
Education Precinct	R1 General Residential	Tafe NSW and Muswellbrook South Public School are located in the R1 zone fronting Maitland Street between the Rutherford Road Centre and Muswellbrook South centre area.

HillPDA 2023

10.6 Employment land supply and demand

HillPDA has undertaken an employment land audit and a demand analysis to calculate the likely under/oversupply of employment land from 2021 to 2041 across the region. The full methodology and findings of this process are detailed in the main report. Table 50 indicates the forecasted supply and demand of employment land in Muswellbrook LGA from 2021 to 2041, showing that there is likely to be an undersupply of both business and industrial land under population growth Scenario 2 and an undersupply of business land/oversupply of industrial land under population growth Scenario 1.

Table 49 Forecasted employment supply and demand, Muswellbrook LGA, 2021-41

Supply/Demand	Status/Scenario	Business	Industrial
Supply	Vacant (Audit)	3.3 (B2)	30.9
	Undeveloped (Serviced)	0	77.6
Demand	Scenario 1	9.3	12.7
	Scenario 2	33.8	43.6
Under (-) / Over Supply (+)	Scenario 1	-9.3	18.2
	Scenario 2	-33.8	-12.7

HillPDA (2023)

10.7 Development activity

Muswellbrook LGA contains a wide range of employment-generating pipeline projects at various stages of development. As shown in Table 50, this includes developments relating to industry, infrastructure, power stations, and a range of other purposes. The largest monetary value is in military-related pipeline developments reflecting upgrades to Myambat.

Table 50 Development pipeline in Muswellbrook LGA

Development Status	Value ($m)	Count
Abandoned	$6	3
Deferred	$4	1
No further research to be conducted	$62	9
Commenced	$37	6
Possible	$1,371	19
Early	$80	2
Firm	$480	10
Development Type (Commenced/Possible/Early/Firm developments)	**Value ($m)**	**Count**
Food Processing	$30.00	1
Tourist Accommodation	$1.10	2
Entertainment	$27.00	1
Industrial	$44.38	7
Commercial	$-	-
Emergency	$2.31	1
Heavy Industry	$-	-
Medical	$45.00	1
Tourist Activity	$1.77	1
Light Industry	$1.47	2
Infrastructure	$0.55	1
Military	$373.75	3
Transport	$2.88	2
Agriculture	$-	-
Power Station	$100.63	3
Retail	$-	-

Source: Cordell Connect

The development pipeline in Muswellbrook includes a range of major projects. For the following list, renewable energy projects have been omitted, due to typically lower job densities leading to lower impacts on employment. The remainder of Muswellbrook's major projects include:

- $763 million construction of a battery energy storage system at Liddell
- $400 million conversion of Liddell Coal mine into a pumped hydro facility
- $200 million construction of a 135MW Solar Farm at Muscle Creek
- Muswellbrook Battery Energy Storage System at Sandy Creek Road valued at $150 million
- Hunter River Solar Farm valued at $150 million
- AGL Green Energy Hydrogen Facility valued at $50 million
- Yarraman Abattoir and Feedlot at Denman with an estimated value of $30 million
- Carramere Road resource management facility with an estimated value of $29 million
- Muswellbrook Regional Entertainment & Conference Centre with an estimated value of $27 million
- Glen Munro Road waste & resource management facilities with an estimated value of $8 million
- Coal Road organics recycling facility at Muswellbrook with an estimated value of $3.9 million
- Turner Street Museum at Denman with an estimated value of $1.8m creating a tourist attraction with a heritage village
- Maitland Street Motel - The Remington expansion with an estimated value of $1.7m.

The above list indicates employment-generating opportunities in several different industries. The Regional Entertainment & Conference Centre indicates that Council is investing in the tourism infrastructure to attract additional visitors to the area. The above projects also demonstrate a high level of interest in resource, waste, and recycling management in Muswellbrook, which could be further investigated for the region.

10.8 Barriers and enablers to growth

Strengths	Weaknesses
• Central location • Road and rail infrastructure connection to the port and airport • Energy infrastructure • Mining industry and support • Motivated council and dialogue with industry • Investment in innovation and start-up	• Urban Expansion is limited by conservation land • Limited light industrial uses • Limited remaining serviced employment land • Wastewater servicing
Opportunities	**Threats**
• Unpick conservation arrangements for urban expansion and employment uses as part of post mining future • Regional centre for Health services • Regional population serving services • innovation • transition to renewables • AGL transition land to be converted into renewable energy precinct • Regional bulky good retailing • Planned use of post-mining land and infrastructure • Muswellbrook bypass enabling investment in the centre	• Accelerated mine closures • Unable to unlock existing supply • Limited Housing • Limited short term accommodation • Low population growth • Limited employment land capacity close to town • Lack of space for incubation and scaling up from incubation stage

HillPDA 2023

10.9 Planning framework considerations

Development in Muswellbrook LGA is guided by the Muswellbrook Local Environmental Plan 2009 ('Muswellbrook LEP'). Businesses in the Upper Hunter Region have identified the flexibility of planning systems as a key consideration for where to locate development. General delivery tasks for achieving this across the region involve enabling light industries as permissible with consent in E1 and E2 zones, investigating the removal of maximum height limits in E4 zones, and investigating the possible impacts of parking requirements in LEPs.

Light industry is a form of development defined as being not impactful on surrounding amenity, and which contributes to the appeal of precincts for a wider range of investors. It should also be noted that this action is primarily relevant to Muswellbrook in terms of the E2 zone, which now applies to a segment of Muswellbrook discussed in section 10.5 above as 'Muswellbrook North'.

10.9.1 Shop top housing provisions

The section of Muswellbrook zoned as E2 Commercial Centre currently provides for a range of population-serving uses and includes the Muswellbrook Marketplace shopping centre. Commercial viability could be further enhanced by the effects of permitting shop top housing with consent in this zone.

10.9.2 Setback and landscaping provisions

Muswellbrook LEP currently requires industrial buildings to have front setbacks of at least 10 metres. Together with landscaping requirements, this reduces the flexibility of local planning, possibly impacting the LGA's attractiveness to investors. Considering the necessity of these provisions would be useful in framing an understanding of the LEP's current flexibility, and an assessment of whether to address this.

10.10 Clustering opportunities

Muswellbrook LGA has some employment clusters that have typically formed around its energy industries and nearby towns. Coal mines to the south of Muswellbrook have existed in synergy with Bayswater and Liddell Power Stations, until the closure of the latter in 2023. Bayswater Power Station is also likely to close within the

next 10 years. Combined with the likely closure of mines in the region, the previous strong employment role of such clusters is at risk. Simultaneously, the potential uses of ex-mining and power station lands, discussed in the main ELS report, provide opportunities for new industry clusters to form, if employment lands are supported in tandem with the development of new industries such as renewable energy.

An example of a new potential industry cluster is the Muswellbrook Clean Industries Precinct, which proposes to co-locate solar and pumped hydro energy on the former Muswellbrook Coal mine site near connected industrial land. This proposed clustering provides an example of how previously concentrated employment could be replaced with new industries in the same areas. The actions outlined below identify the Mount Arthur and Muswellbrook Coal sites as key locations for doing so.

Within the town of Muswellbrook itself, clusters provide a diversity of opportunities for employment growth. The Donald Horne Building has recently opened in Muswellbrook, adding to the Hunter Innovation Precinct, which brings together employment-generating anchor institutions in the form of TAFE NSW, the University of Newcastle, and Muswellbrook Library. There is also the potential to develop potential entertainment and commercial clusters in Muswellbrook according to Action 2.2, discussed in the main ELS report. Lastly, the overall development of Muswellbrook town centre may also facilitate further commercial clusters, which would generate more jobs in Muswellbrook.

10.11 Actions

The following actions and principal delivery tasks are applicable for Muswellbrook LGA:

Table 51 Actions and principal delivery tasks for Muswellbrook LGA

Action	Principal delivery tasks
1.1: Secure a pipeline of zoned, serviced and unconstrained employment land.	• Support the proposed translation of the employment land reform to deliver more E3 Productivity Support land around Rutherford Road, Skellatar Stock Route and Race Course Road and Central Muswellbrook • Investigate and rezone an industrial precinct (E4 General Industrial) near the existing industrial precinct at Thomas Mitchell Drive, the junction of Muscle Creek Rd and the proposed bypass or St Hilliers • Explore use of the SP4 Enterprise zone for mine buffer land and former mine and power station sites for large manufacturing and agribusinesses that are not appropriate in a traditional E4 General Industrial zone, and are capable of managing all their waste disposal needs on site.
1.2: Explore future employment investigation areas.	• In collaboration with landowners, seek to transition the AGL Liddell Site from an SP2 Special Purpose site to an SP4 Enterprise zone that would enable flexibility to curate employment uses on the site • Investigate potential for rezoning near the Racecourse to an E3 Economic Productivity zone to enable more opportunity for light industry, advanced manufacturing, and a homemakers centre. • Work with proponent (BHP) to encourage a master planning process on Mount Arthur land that seeks to repurpose hardstand infrastructure for the purpose of industrial uses. Considering the location, land along Thomas Mitchell Drive may be appropriate for circular economy uses.
1.3: Continue to monitor employment land supply through the Urban Development Program.	• In collaboration with the Department of Planning and Environment, seek to provide information that informs the status, supply and challenges to delivering employment lands.
2.1: Prepare and implement centre activation strategies for the main settlements	• Establish a clear vision for the town centre developed in collaboration with centre traders • Identify catalyst sites that can be activated temporarily or permanently • Establish and promote a regular event strategy to draw people into the town centres • Incorporate an investment prospective that identifies the opportunities and gaps in the market for new retail and hospitality

	• Establish or empowers the chamber of commerce or similar governance body to input into, implement and monitor the activation strategy.
2.2: Promote and facilitate, in collaboration with the landowner, the establishment of a regional homemaker centre in Muswellbrook.	• Explore options for a Bulky Goods retailing site should the Showground no longer be relocated near Skellatar Stock Route and near Racecourse Road to clustering entertainment uses. Working with landowners to seek rezone land, if necessary. • Attracting interested investors and tenants to establish in the homemaker centre.
2.3: Support start-up businesses and flexible working spaces to drive innovation and regional lifestyle opportunity.	• Utilising existing underutilised council assets and government land • Voluntary Planning Agreements seeking some flexible working space incorporated in the development • Providing co-working or pop-up spaces in vacant commercial or industrial premises • Providing shared (incubator) warehousing facilities to enable initial industry expansion.
2.6: Support new retail to accommodate population growth.	• Muswellbrook has capacity for an additional 6,378sqm of retail overall, of which 2,021sqm is for supermarket and grocery uses. While there may not be capacity for a full-line supermarket, there could be capacity for a fresh format or an independent supermarket in Muswellbrook to serve the expected population growth.
3.2: Unlock the opportunity for circular economy uses	• Write to the EPA to advocate for former mining land in Muswellbrook to be used for circular economy uses as part of the energy from waste policy principles. • Consider council site for the Hunter Joint Organisation Facility that incorporates FOGO processing. • Progress with construction with Council's FOGO processing facility • Consider establishing separation of Commercial and industrial wastes at the existing Waste & Recycling Facility to diverse from landfill and return to functional economy. • Consider amendments to local planning controls to permit reuse of recovered waste in building construction.
3.3: Explore the opportunity for a major distribution centre or intermodal facility within the region to support future business establishment and job creation	• In collaboration with Regional NSW, DPE and the land owner, seek to designate the site as a priority precinct. • Work with stakeholders to develop a masterplan and technical studies • Seek to promote and attract significant industry investment in line with the strategic intent for the precinct.
3.4: Develop and promote the uptake of agri-tourism	• Develop a simple factsheet that articulates the types of uses that can now operate on farms and the associated consent pathways • Draw on information from the DPE factsheet on agritourism • Share factsheet through social media and host on websites • Partner with local chamber of commerce and business organisations to distribute information on agritourism rules.
4.1: Develop an industry diversification investment prospectus	• Develop an investment prospectus (collaboration between Singleton and Muswellbrook councils, DPE and Regional NSW) to attract large industry operators that would be interested in investing in repurposing strategic mine sites. The prospectus should: – Advertise site opportunities – Demonstrate the strategic merits of the region – Demonstrate vision for the region and depth of market capacity.
4.2: Resolve key issues related to the use of former mining land	• Advocate that DPE and DRNSW as part of their place planning function work to: – Resolving biodiversity offsets to allow for site infrastructure to be retained and utilised – Consider partial modification pathway that do not restrict current mining operations – Find options to amend leases or WHS (Mines and Petroleum Sites) legislation to allow non-mining operation on land.

	• Advocate that DPE (Planning), DPE (EES), DRNSW, industries, councils and federal government form a working group to resolve key barriers. The findings should be reported to the Urban Development Program.
4.3: Assist in facilitating master planning processes on key mining closure sites	• Councils to work with proponents to support or encourage master planning process for the Mount Arthur Mine buffer land (near Thomas Mitchell Drive) and the Muswellbrook Coal proposed industrial land in Muswellbrook LGA, and for Liddell Coal Operations and Ashton Coal land in Singleton LGA. There is strategic merit in all locations for the sites to accommodate employment and economic generating uses. • Work with proponent, DPE, and Regional NSW to outline council's strong desire for economic uses for post-mining land as part of any council submission or advice related to mine extensions • Advocate and provide input into place strategies prepared by DPE for each of the mine closure sites. Regularly ask DPE for updates on funding and progress on these place strategies.
5.1: Aim to reduce development approval timeframes	• Encouraging the application of SEPP (Exempt and Complying Development) to reduce number of comprehensive development application that Council has to assess. This could be done by: – Providing information on Council's website about the circumstances in which a complying development application can be used (rather just a than a link to the planning portal) – Employing a shared 'joint organisation' Duty Planner to inform prospective applicants of the opportunities under part 5 of the SEPP for a fast track assessment via the complying development pathway and navigating the planning portal • Encourage formal and informal pre-DA meetings and ongoing discussions with applications to resolve issues well prior to the DA being lodged.
5.2: Implement a flexible planning framework	• Investigate removing maximum height limits in the E4 General Industrial zone to avoid unnecessarily deterring or restricting development • Investigate parking requirements to ensure that they are not overly restrictive and do not unnecessarily increase development costs • In Muswellbrook consider the necessity of 10.0m setback from the principal boundary alignment, and the variation criteria requiring 6m landscaping across the frontage of the site in the DCP.
5.3: Investigate removing or adding land uses that could affect the viability of commercial or industrial development	• In all LEPs, consider enabling light industries as permissible with consent in the E1 Local Centre zone and E2 Commercial Centre zone (where adopted) • In Muswellbrook LEP, consider enabling shop top housing as permissible with consent in the E2 Commercial Centre zone.

11.0 SINGLETON LGA PROFILE

11.1 Current situation

Singleton LGA, like Muswellbrook, currently has a strong economic reliance on the mining industry. As the energy market shifts gradually towards renewables, it is important for Singleton Shire Council to consider post-mining employment-generating land uses.

Singleton is positioned adjacent to Dungog, Muswellbrook, and Upper Hunter Shires, as well as to Lower Hunter LGAs such as Cessnock and Maitland LGAs. The New England and Golden Highways both run through the LGA. There are a variety of future employment land opportunities for the LGA, due both to its location and to its current and potential future assets.

11.2 Strategic context

Table 52 outlines the key local strategic documents that have informed the strategic planning context for Singleton LGA.

Table 52 Local Strategic Context

Key documents/strategies/actions	Relevant considerations for ELS
Singleton Council Local Strategic Planning Statement 2041 Planning Priority 4.1: The Industry Base is Innovative, Resilient and Productive Strategic Policy Positions • We will seek to prevent the encroachment of sensitive uses on employment land • Clustering of land uses that are complementary and compatible will be encouraged through implementation of appropriate planning controls • Emerging opportunities for economic diversification in the LGA will be investigated • Opportunities to reduce barriers to establishing key industries and services in the LGA will be investigated • Land use planning constraints and opportunities for renewable energy will be investigated. Actions • 4.1.1 Develop an employment lands strategy that provides for the sustainable growth and diversification of industries • 4.1.2 Prepare a report, which investigates constraints, opportunities and impacts associated with establishing renewable energy production facilities in the LGA • 4.1.3 Establish a monitoring and reporting system to monitor implementation of the employment lands strategy Planning Priority 4.4: The Mineral Resource Industry is Productive, Accountable and Considerate of Surrounding Land Uses Strategic Policy Positions • As relevant, LEP amendment proposals, which seek to rezone land to a non-rural zone or reduce the minimum lot size for subdivision of land, will be required to demonstrate that the development of the land for the intended future purpose will not constrain reasonable access to viable mineral resource deposits • LEP amendment proposals and development proposals that are likely to result in the disturbance or harm to natural resources are supported by adequate justification for why the proposal should proceed in consideration of alternative options to the disturbance or harm. Action	• The ELS should consider both the projected future role of mining within Singleton LGA and signalled intents to diversify local employment. • The ELS should consider Council's existing intents to form an ELS that emphasises sustainable growth and industry diversification. Through doing so, it should more thoroughly explore the diversification of employment, including a strengthening of the renewable energy sector, the clustering of land uses, and the reduction of barriers to new industries • Simultaneously, the ELS should also recognise the ongoing importance ascribed by the LSPS to mining. It should recognise the role of buffer areas in minimising conflict and achieving land use balance. It must also consider the impact of potential employment land uses on both access to mineral resource deposits, and potential disturbance of natural resources.

• 4.4.1 In consultation with government agencies, develop and apply, through appropriate mechanisms, buffer areas around urban settlement and growth areas, establishing limits on how close extractive industries can encroach upon such areas, so as to minimise the potential for land use conflict and maintain balance between the respective land uses	
Create Singleton 2032: Community Strategic Plan 2022 – 2032 Our Economy Our Strategies • 4.1 Attract new investment to increase the diversity and resilience of the Singleton economy • 4.2 Support the capacity of Singleton businesses to be flexible, adaptable and prepared for change	• The ELS should simultaneously recognise two of the Community Strategic Plan's aims of preserving the strength of mining and facilitating diversification in the LGA.
Singleton Socio-Economic Development Strategy 2020/2024 Encourage new industry investment • Action 18 Work closely with governments, universities and industry to identify opportunities within Singleton and the Upper Hunter • Action 19 Engage with AGL regarding the future use of the Liddell and Bayswater power station sites • Action 20 Investigate the opportunities available in ethanol and Bio-valley innovation • Action 21 Advocate for flexible post mining land use that meets the communities current and future needs • Action 22 Advocate for DA approval flexibility that allows for improved access to mining buffer lands within the approval framework. • Industry transition • Action 43 Seek funding for ongoing mine rehabilitation projects to ensure the final land use meets community expectation • Action 45 Develop an investment prospectus for all under employed post mining land and infrastructure that will assist with attracting investment.	• Economic diversification away from mining in the Singleton LGA is presented as a slightly less pressing imperative than in Muswellbrook LGA. However, opportunities for it should still be explored by the ELS • The ELS should consider Singleton LGA's intentions of how to facilitate improved access to mining buffer lands, for employment land uses • Overall, the ELS should also include consideration of sites identified by the Strategy for potential new employment opportunities in the LGA, such as current mine sites

HillPDA 2023

11.3 Industries of employment

Singleton LGA has a particular strength in mining. At the 2021 Census, approximately 6,280 Singleton residents worked in the mining industry.

Location quotient (LQ) is a metric used to assess an area's specialisation in certain industries. A full explanation of LQ analysis is provided in the main report; however, any LQ value above 2 is considered a major specialisation compared to a comparator area. Singleton's LQ value for mining is 14.2 compared to regional NSW, representing a very high major specialisation. As the energy market shifts away from fossil fuel to renewable sources, the long-term transition from mining employment is a key concern for Singleton, which is at risk of this LQ value (and thus the strength of its specialisation) declining. Possible responses include adapting former mining sites to become employment lands or leveraging Singleton's tourism profile to create employment land opportunities.

Singleton LGA also has a significant specialisation in Administrative and Support Services, at 1.45 relative to the 'Rest of NSW' area. This specialisation grew by 50 per cent from 2011 to 2021, with the industry now employing over 1,000 workers in the LGA. However, this is predominantly due to jobs in Labour Supply Services, which is likely contingent on the mining sector, and potentially also at a threat of decline in the future.

11.4 Population and employment projections

Various methods for projecting population and employment growth are detailed in Sections 3.3 and 3.4 in the main Employment Lands Strategy. Table 41 indicates potential population and employment trends for Singleton LGA between 2021 and 2041. As it shows, Scenario 2 of the population projections forecasts very different growth trends than Scenario 1, which is based on the work of DPE. Growth of 5,765 residents is forecasted,

compared with DPE's projection of negative growth of over 2,500 residents. By contrast, both employment growth scenarios project an increase in workers, although Scenario 2 projects a higher increase than Scenario 1.

Table 53 Population and employment projections, Singleton LGA, 2021-41

Singleton	2021	2041	2021-41 change	2021-41 CAGR
Population: Scenario 1	24,719	22,211	-2,508	-0.5%
Population: Scenario 2	24,719	30,484	5,765	1.1%
Employment: Scenario 1	19,375	20,346	971	0.2%
Employment: Scenario 2	17,534	21,339	3,805	1.0%

Source: Singleton Shire Council; ABS; TfNSW; HillPDA

11.5 Employment precincts

A map of the employment precincts currently zoned are in Figure 29. Table 54 outlines the role and nature of each of the precincts.

Figure 29 Map of Singleton employment precincts

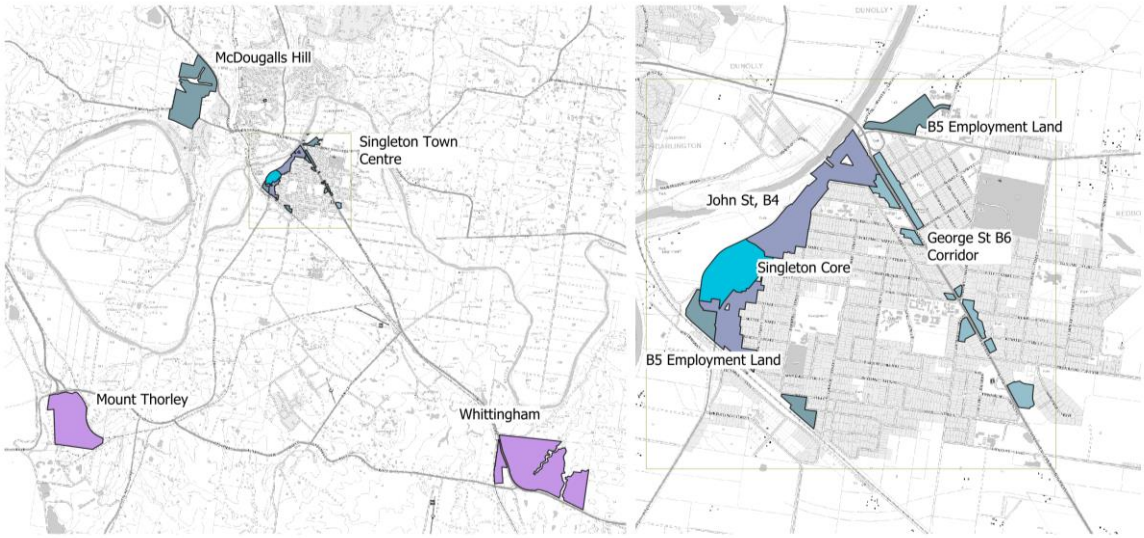


Table 54 Singleton precincts

Precinct name	Current zone	Description
Employment land		
Mount Thorley	E5 Heavy Industrial	Mount Thorley is a heavy industrial precinct that mainly services the mining industry.
Whittingham	E5 Heavy Industrial	Whittingham is a vacant E5 site at the intersection of the Golden Highway and New England Highway. There is not a clear potential use for the site.
McDougalls Hill	E3 Productivity Support	McDougalls Hill is a E3 Productivity Support precinct with some vacant land to the north of the precinct and mostly fully developed to the south. The proponents are considering the feasibility of commencing stages 4 and 5 on lot 3000.
Downtown Singleton	E3 Productivity Support	There are several sites in the town of Singleton that are zoned E3 Productivity Support. Two of these sites are in the southeast of Singleton, directly adjacent to the railway line; and another site is in the north of Singleton, near the New England Highway.
George Street Singleton	E3 Productivity Support	There is some land on either side of George Street in Singleton zoned E3 Productivity Support. This provides for a variety of employment-generating businesses to be located along the approach to Singleton town centre.
Centres and large villages		
Singleton Township	E4 Productivity Support	The northeast of the commercial core is largely occupied by population servicing industries including retail trade, accommodation and food services and administrative support services. Large format retail occupies the precinct's southwest with Gowrie Street Mall. Group of 5 vacant lots.

Singleton Mixed Use	MU1 Mixed Use	Singleton's commercial core area is surrounded by a wider area zoned MU1 Mixed Use. This provides for a range of more locally-based businesses along the north-west edge of the town.
Branxton	E1 Local Centre	Currently zoned E1 Local Centre vacant land - master planning in development for site to accommodate a newly planned medium-sized township 'Huntlee'.
Other		
Singleton Military Area	SP2 Infrastructure Defence	Singleton Military Area is a large area zoned SP2 Infrastructure Defence, on which infantry training takes place, located approximately 6 kilometres south of Singleton.

HillPDA 2023

11.6 Employment land supply and demand

HillPDA has undertaken an employment land audit and a demand analysis to calculate the likely under/oversupply of employment land from 2021 to 2041 across the region. The full methodology and findings of this process are detailed in the main report. Table 55 indicates the forecasted supply and demand of employment land in Singleton LGA from 2021 to 2041, showing that there is likely to be an oversupply of business land and a significant oversupply of industrial land by 2041.

Table 55 Forecasted employment supply and demand, Singleton LGA, 2021-41

Supply/Demand	Status/Scenario	Business	Industrial
Supply	Vacant (Audit)	59.3 (B5) 5.4 (B4)	314.6
	Undeveloped (Serviced)	51.5	0
Demand	Scenario 1	11.8	7.4
	Scenario 2	22.4	13.4
Under (-) / Over Supply (+)	Scenario 1	47.5	307.2
	Scenario 2	36.9	301.2

HillPDA (2023)

11.7 Development activity

Singleton LGA contains a variety of pipeline developments at different stages of development. As indicated in Table 56, there is a relatively large number of developments deemed 'possible' according to data published by Cordell Connect. Along with 'early', 'firm', and 'commenced' pipeline developments, these relate to industrial, infrastructure, agricultural, and power station land uses, among other purposes.

Table 56 Development pipeline in Singleton LGA

Development Status	Value ($m)	Count
Abandoned	$44	15
Deferred	$1	2
No further research to be conducted	$9	21
Commenced	$6	4
Possible	$1,193	46
Early	$3	1
Firm	$27	13
Development Type (Commenced/Possible/Early/Firm developments)	**Value ($m)**	**Count**
Food Processing	$-	-
Tourist Accommodation	$6.65	4
Entertainment	$11.46	8
Industrial	$19.13	10
Commercial	$0.57	1
Emergency	$1.50	2
Heavy Industry	$-	-

Medical	$-	-
Tourist Activity	$3.42	1
Light Industry	$11.30	12
Infrastructure	$4.44	3
Military	$-	-
Transport	$-	-
Agriculture	$6.79	6
Power Station	$1,137.64	6
Retail	$-	-

Source: Cordell Connect

Singleton's most significant pipeline investments are in power station developments, with an overall value of $1.138 billion. However, potential power station developments relate to renewable energy and gas projects, which tend to feature low job densities and do not lead directly to strong concentrations of employment (although they may do so indirectly). Excluding renewable and gas projects from the list, Singleton's major projects tend to have lower monetary values, consisting of:

- Singleton Recycling Centre at McDougalls Hill with an estimated value of $7.18 million
- Ravensworth Composting Facility Expansion at Ravensworth with an estimated value of $4.82 million
- Singleton Arts & Culture Centre at Singleton with an estimated value of $3.42 million
- Krinklewood Estate at Broke with an estimated value of $2.95 million
- 11 Mathry Close Light Industrial Units Aiqua at Gowrie with an estimated value of $2.49 million
- Thrift Close Industrial Development at Mount Thorley with an estimated value of $2 million.

Singleton has slightly fewer such major projects compared to Muswellbrook, but they are more varied in character. Investment in Singleton is focused on tourist infrastructure, through the Culture Centre and Krinklewood Estate; the circular economy, through recycling and composting; and the ongoing development of light industry on available land.

11.8 Barriers and enablers to growth

Strengths	Weaknesses
• Road and rail infrastructure • Mining industry and support • Visitor economy as part of the wine region • Identification of new employment land • Industrial land close to town	• Economic diversification • Wastewater capacity and servicing strategy • Traffic through town centre • Limited remaining serviced employment land • Land is in consolidated ownership
Opportunities	**Threats**
• Industrial expansion at Rixs Creek • Development of Whittingham as an intermodal site • Planned use of post-mining land and infrastructure • Singleton bypass enabling investment in the centre	• Accelerated mine closures • Unable to unlock existing supply • Low population growth • Limited employment land capacity close to town

HillPDA 2023

11.9 Planning framework considerations

Development in Singleton LGA is guided by the Singleton Local Environmental Plan 2013 ('Singleton LEP'). Businesses in the Upper Hunter Region have identified the flexibility of planning systems as a key consideration for where to locate development. Singleton LEP provides for some additional permitted uses, mentioned below. More fundamental delivery tasks for across the region, however, involve enabling light industries as permissible with consent in E1 and E2 zones, investigating the removal of maximum height limits in E4 zones, and

investigating the possible impacts of parking requirements in LEPs. These are suggested as tasks for the Singleton LEP.

11.9.1 Additional permitted uses

Singleton LEP provides for the additional permitted use of office premises on R1-zoned lots totalling approximately 0.3 hectares of land along George Street, Singleton. Through these provisions, employment-generating land uses are permitted on non-employment land zoned for residential housing. However, these provisions are possibly responding to existing activities, rather than necessarily seeking to unlock new supplies of employment land.

11.9.2 Setback provisions

Consideration should be given to the potential role of setback provisions in the local planning framework. While building setbacks have a variety of purposes, relaxed setback rules may eventually enhance flexibility and attract more investors into the area.

11.10 Clustering opportunities

Singleton has some clusters that currently generate employment in the LGA. Singleton's existing and emerging industries should be used to facilitate new clusters, responding proactively to industry change.

As discussed in section 10.10, there have typically been synergies between Liddell and Bayswater Power Stations (located in Muswellbrook LGA) and nearby mines. This includes mines in Singleton LGA, for which synergies with power stations could be considered an industry cluster. As power stations close and coal mines are decommissioned, there is a need to replace this strong employment base with alternative local employment. A clear avenue for doing so is the re-use of ex-mining land to provide jobs, possibly involving renewable energy or transport and logistics clusters. Actions 4.1, 4.2, 4.3 provide guidance as to the planning requirements of doing so, with the latter action identifying Liddell and Ashton coal mines as potential future sites for employment clustering. Action 1.2 also discusses the potential role of the former Rixs Creek mining site as providing a new employment precinct in the area.

Another opportunity is to develop an intermodal facility at Wittingham, which would leverage the development of the Hunter and Central West-Orana Renewable Energy Zones to provide transport and logistics employment. This may aid in the development of a region-wide agglomeration of jobs connected to renewable energy production, such as advanced manufacturing; repair; and design. It would do so by strengthening the connectivity of industries across the region in addition to providing its own quantity of jobs. This concept could be applied at a number of well-located alternative sites throughout Singleton Shire, as well as in other LGAs.

Lastly, there is the opportunity to develop population-serving clusters through the development of Singleton town centre and/or new areas. This could include improvements to the amenity and accessibility of Singleton and/or the development of a supermarket north of the Hunter River. Developing towns within the LGA may attract further investment, which would encourage the further clustering of local businesses and commercial employment in town centres.

11.11 Actions

The following actions and principal delivery tasks are applicable for Singleton LGA:

Table 57 Actions and principal delivery tasks for Singleton LGA

Action	Principal delivery tasks
1.1: Secure a pipeline of zoned, serviced and unconstrained employment land.	• Work with the landowner to secure servicing strategy for Whittingham including funding potential funding strategies.

1.2: Explore future employment investigation areas.	• The former Rixs Creek mining site is logically located to be able to deliver industrial land. There is demand for 15 ha of industrial land in Singleton which could be delivered through this site. Work with the proponent to undertake technical studies and master planning to determine the ideal location for an industrial precinct.
1.3: Continue to monitor employment land supply through the Urban Development Program.	• In collaboration with the Department of Planning and Environment, seek to provide information that informs the status, supply and challenges to delivering employment lands.
2.1: Prepare and implement centre activation strategies for the main settlements	• Establish a clear vision for the town centre developed in collaboration with centre traders • Identify catalyst sites that can be activated temporarily or permanently • Establish and promote a regular event strategy to draw people into the town centres • Incorporate an investment prospective that identifies the opportunities and gaps in the market for new retail and hospitality • Establish or empowers the chamber of commerce or similar governance body to input into, implement and monitor the activation strategy.
2.3: Support start-up businesses and flexible working spaces to drive innovation and regional lifestyle opportunity.	• Utilising existing underutilised council assets and government land • Voluntary Planning Agreements • Providing co-working or pop-up spaces in vacant commercial or industrial premises • Providing shared (incubator) warehousing facilities to enable initial industry expansion.
2.6: Support new retail to accommodate population growth.	• Identify and support a supermarket north of the Hunter River to support the growing population with full-line retail demand.
3.1: Leverage the growing tourism opportunity in Dungog, Singleton and Upper Hunter LGAs	• Encourage the development of appropriate workers accommodation to free up accommodation for tourists • Work with providers to offer unique and authentic experiences to attract visitors to eco and agritourism destinations. This can include activities such as hiking or cycling events, farm-to-table meals, farm tours, environment or agricultural education, and hands-on experiences like picking your own produce or helping with farm chores • Build partnerships with local businesses, farmers, and tourism organizations to promote eco and agritourism destinations and provide visitors with a wider range of experiences • Use digital marketing: strategies such as social media and online advertising to reach a wider audience and promote tourism destinations to potential visitors • Offer value-added products such as farm-fresh produce, artisanal goods, and locally-made souvenirs to help generate additional revenue for farmers and enhance the overall visitor experience • Investigate the potential for Aboriginal-based tourism opportunities to complement the existing nature and adventure offerings.
3.2: Unlock the opportunity for circular economy uses	• Consider council site for the Hunter Joint Organisation Facility that incorporates FOGO processing.
3.3: Explore the opportunity for a major distribution centre or intermodal facility within the region to support future business establishment and job creation	• In collaboration with Regional NSW, DPE and the land owner, seek to designate the site as a Special Activation Precinct • Work with stakeholders to develop a masterplan and technical studies • Seek to promote and attract significant industry investment in line with the strategic intent for the precinct.
3.4: Develop and promote the uptake of agri-tourism	• Develop a simple factsheet that articulates the types of uses that can now operate on farms and the associated consent pathways • Draw on information from the DPE factsheet on agritourism • Share factsheet through social media and host on websites • Partner with local chamber of commerce and business organisations to distribute information on agritourism rules.
4.1: Develop an industry diversification investment prospectus	• Develop an investment prospectus (collaboration between Singleton and Muswellbrook councils, DPE and Regional NSW) to attract large industry operators that would be interested in investing in repurposing strategic mine sites. The prospectus should:

	– Advertise site opportunities – Demonstrate the strategic merits of the region – Demonstrate vision for the region and depth of market capacity.
4.2: Resolve key issues related to the use of former mining land	• Advocate that DPE and DRNSW as part of their place planning function work to: – Resolving biodiversity offsets to allow for site infrastructure to be retained and utilised – Consider partial modification pathway that do not restrict current mining operations – Find options to amend leases or WHS (Mines and Petroleum Sites) legislation to allow non-mining operation on land. • Advocate that DPE (Planning), DPE (EES), DRNSW, industries, councils and federal government form a working group to resolve key barriers. The findings should be reported to the Urban Development Program.
4.3: Assist in facilitating master planning processes on key mining closure sites	• Councils to work with proponents to support or encourage master planning process for the Mount Arthur Mine buffer land (near Thomas Mitchell Drive) and the Muswellbrook Coal proposed industrial land in Muswellbrook LGA, and for Liddell Coal Operations and Ashton Coal land in Singleton LGA. There is strategic merit in all locations for the sites to accommodate employment and economic generating uses. • Work with proponent, DPE, and Regional NSW to outline council's strong desire for economic uses for post-mining land as part of any council submission or advice related to mine extensions • Advocate and provide input into place strategies prepared by DPE for each of the mine closure sites. Regularly ask DPE for updates on funding and progress on these place strategies.
5.1: Aim to reduce development approval timeframes	• Encouraging the application of SEPP (Exempt and Complying Development) to reduce number of comprehensive development application that Council has to assess. This could be done by: – Providing information on Council's website about the circumstances in which a complying development application can be used (rather just a than a link to the planning portal) – Employing a shared 'joint organisation' Duty Planner to inform prospective applicants of the opportunities under part 5 of the SEPP for a fast track assessment via the complying development pathway and navigating the planning portal • Encourage formal and informal pre-DA meetings and ongoing discussions with applications to resolve issues well prior to the DA being lodged.
5.2: Implement a flexible planning framework	• Investigate removing maximum height limits in the E4 General Industrial zone to avoid unnecessarily deterring or restricting development • Investigate parking requirements to ensure that they are not overly restrictive and do not unnecessarily increase development costs • In Singleton consider the necessity of a 15m setback in B1, B5, and IN3 zone, and the 9m setback in the B6 one in the DCP.
5.3: Investigate removing or adding land uses that could affect the viability of commercial or industrial development	• In all LEPs, consider enabling light industries as permissible with consent in the E1 Local Centre zone and E2 Commercial Centre zone (where adopted).

12.0 UPPER HUNTER LGA PROFILE

12.1 Current situation

The Upper Hunter LGA occupies the northern portion of the Upper Hunter Region and is its largest LGA by size. It has a globally prominent equine industry, with an equine industry cluster near Scone. The Upper Hunter LGA has an opportunity to further leverage its strong agricultural industries, as well as related industries such as meat processing and eco-tourism.

12.2 Strategic context

Table 58 outlines the key local strategic documents that have informed the strategic planning context for the Upper Hunter LGA.

Table 58 Local Strategic Context

Key documents/strategies/actions	Relevant considerations for ELS
Upper Hunter Local Strategic Planning Statement (2020) 7.1 Sustainable Environment • 7.0.5 Planning Priority: Facilitate the use of renewable energy – Action 1.19 Support the investigation of renewable energy opportunities throughout the region and infrastructure requirements. 7.3 Rural Economy • 7.0.9 Planning Priority: Promote sustainable agriculture – Action 3.1 Incorporate the Land Use Strategy's local framework for assessing impacts to agricultural lands into statutory planning provisions (e.g. LEP) or, alternatively, DCP to mandate the preparation of an Agricultural Impact Assessment for certain developments that occur within areas identified as important to agricultural industries. • 7.0.11 Planning Priority: Accommodate employment-generating activities – Action 3.10 Review (and amend planning controls if necessary) the supply of floor space within commercial centres in Towns and Villages – Action 3.11 Investigate the industrial land supply in Merriwa and Murrurundi – Action 3.12 Develop partnerships with stakeholders to enhance development guidelines in relation to development within the vicinity of the Scone Airport – Action 3.13 Work with TfNSW, RMS and DPIE to develop planning controls for land adjoining the Scone Bypass. 7.5 Vibrant and Creative Community • 7.0.19 Planning Priority: Encourage economic diversification – Action 5.8 Work with Upper Hunter Economic Diversification Plan partners to develop appropriate planning response – Action 5.9 Support the establishment of the Upper Hunter Green Energy Precinct	The ELS should respond to the role of agriculture in the LGA and avoid contributing to land use conflict through the planning of employment lands. • The ELS should include a consideration of renewable energy, as relevant to employment lands within Upper Hunter LGA • The ELS should also consider employment lands with regard to the need to consider the agricultural impacts of developments • The ELS should respond to the LSPS's identified need to investigate industrial land in Merriwa and Murrurundi, land near the Scone Airport and Bypass, and commercial floorspace in existing centres • Other needs for diversification, such as infrastructure, may also be identified in the ELS. • The ELS should be carried out with regard given to the constraints and suitability of land across the LGA.
Upper Hunter Land Use Strategy 2017 Direction 1.4 Urban employment lands and centres • Policies – Employment lands will be regularly reviewed and maintained to provide a minimum of 5 years' supply of land zoned and serviced for industrial and commercial uses is available in a minimum of 2 landownerships – A network of commercial centres will reflect the Settlement Pattern adopted by the Strategy, which will be used to consider the preferred	• The ELS should consider the combination of commercial, health, education, aviation, and industrial employment uses identified by the Strategy for the Upper Hunter LGA • In terms of commercial employment land in the LGA, the ELS should consider existing centres, of which Scone is the largest

location and scale of commercial, retail, community and civic developments
  - The current supply of land zoned for business uses in Town and Village centres will be rationalised, and future development to strengthen commercial centres will be supported by appropriate planning controls
  - Inappropriate commercial developments (e.g. bulky goods retailing) will be discouraged from locating in industrial areas
  - Intensive/industrial agriculture uses may be permitted in industrial areas
  - Community and cultural facilities will be permitted in business and industrial zones
- Strategic actions
  - Prioritise Investigation Areas as identified in the Strategy to assist with managing the industrial lands supply
  - Review the boundaries of and supply of floorspace within commercial centres in Towns and Villages
  - Reviewing the zoning regime in Merriwa and Murrurundi to consider the range of light industrial uses permitted in residential areas; and
  - Identifying an additional 2 to 5 ha of industrial lands, collectively, in these towns
  - Monitor and review the availability and take-up of commercial and industrial lands to identify the need for future rezoning.

Direction 2.2: Scone

- Objectives
  - To retain and attract employment-generating uses along the Satur/Bunnan Road corridor, particularly to support the ongoing viability and growth of the Airport, TAFE and Equine Centre.
- Strategic actions
  - Review the potential and demand for commercial development potential along the proposed Scone bypass route and develop a strategy for responding to rezoning requests prior to the completion of the bypass, particularly at northern and southern intersection accesses to the town.

2.3: Scone's Airport and surrounds

- Objectives
  - To provide for the continued operation of Scone Airport and facilitate airport related employment generation
  - To support the implementation of Council's strategic plan for the Airport.
- Policies
  - Maintain suitable zoning of buffer land in an appropriate location to enable airport related employment generating development.

Direction 2.4: Aberdeen

- Objectives
  - To rationalise the town's supply of industrial lands, supporting the efficient use and re-use of established industrial areas.

Direction 2.5: Merriwa

- Objectives
  - To support the future growth of the industrial area in the town.

Direction 2.6: Murrurundi

- Objectives
  - To support the future establishment of an industrial area in the town.
- Strategic actions

- While the Strategy states that commercial developments should be located away from industrial areas, the encouragement of community/cultural facilities in business/industrial zones, as well as the potential for agriculture in industrial areas, should inform the ELS
- The ELS should respond to the Strategy's identification of the need for 2-5ha of additional industrial lands in Merriwa and Murrurundi, as well as the specific areas suggested for this land
- The ELS should consider commercial development primarily around Scone
- The ELS should consider possibilities for employment clusters surrounding the airport, TAFE and Equine Centre
- The ELS should respond to the Strategy's identification of the need for buffer lands both surrounding the airport, and to protect different agricultural land uses
- The ELS should consider the Strategy's proposed rationalisation of employment land in Aberdeen, as well as its identification of the former abattoir site for employment
- The ELS should consider the potential healthcare and other service-related employment lands identified by the Strategy for Murrurundi
- As with other LGAs, the ELS should consider balance between the current opportunities presented by coal and related industries, and the anticipated future need for diversified employment, across the Upper Hunter LGA.

– Work with industry and the community to identify the requirements and considerations to establish a dedicated industrial area in Murrurundi – Once an industrial area is established in Murrurundi, use the Housing and Land Monitor to regularly monitor the supply of industrial lands. Direction 4.1: Agricultural lands • Policies • Proposals identified as being incompatible with existing or potential future agricultural enterprises will be generally discouraged, or will be required to establish and maintain appropriate buffers.	

HillPDA 2023

12.3 Industries of employment

The Upper Hunter LGA has a particular strength in the agriculture industry. At the 2021 Census, 1,187 workers in the LGA were employed in Agriculture, Forestry and Fishing, comprising approximately 26 per cent of employed residents. The location quotient (LQ) value for this industry relative to the 'Rest of NSW' is 4.17. A full explanation of LQ analysis is provided in the main report; however, any LQ value above 2 is considered a major specialisation compared to a comparator area. As this indicates, agriculture is a particular strength of the Upper Hunter Shire.

Agriculture in the Upper Hunter LGA is centred around equine agriculture and food production. At the 2021 Census, Horse Farming employed 470 residents, with Beef Cattle Farming (Specialised) employing 410 residents, together providing the majority of agricultural employment in the LGA.

In addition to its agricultural sector, the Upper Hunter LGA leads the region in specialisations in the Arts and Recreation and Manufacturing industries, with respective LQs of 2.54 and 1.34. Its strength in arts and recreation has grown by 58 per cent between 2011-21, but it remains a small specialisation of employment mainly concentrated in the Horse and Dog Racing Activities sector, connected to the strong local equine industry. This may continue to grow in the region with further racing investment in the LGA. Upper Hunter LGA's manufacturing LQ has increased by 64 per cent between 2011 and 2021, predominantly within the Meat Processing industry. There is a meat processing plant in the area, which may work synergistically with nearby cattle farming patterns.

As this indicates, agriculture in the Upper Hunter LGA is also a catalyst for other industries, such as related recreation and manufacturing industries. This report considers further opportunities to leverage the LGA's existing strengths to develop industries that utilise employment lands.

12.4 Population and employment projections

Various methods for projecting population and employment growth are detailed in Sections 3.3 and 3.4 in the main Employment Lands Strategy. Table 41 indicates potential population and employment trends for Upper Hunter LGA between 2021 and 2041. As it shows, Scenario 2 of the population projections forecasts significantly different growth than Scenario 1, which is based on the work of DPE. This is particularly the case for the 'high' variant of Scenario 2, forecasting a growth of 2,446 residents, while DPE has projected negative growth. By contrast, both employment growth scenarios project positive growth, although Scenario 2 projects significantly higher growth, with a CAGR of 2.2 per cent compared to 0.7 per cent.

Table 59 Population and employment projections, Muswellbrook LGA, 2021-41

Upper Hunter LGA	2021	2041	2021-41 change	2021-41 CAGR
Population: Scenario 1	14,254	13,276	-978	-0.4%
Population: Scenario 2 (Medium)	14,254	16,000	1,746	0.6%
Population: Scenario 2 (High)	14,254	16,700	2,446	0.8%
Employment: Scenario 1	6,326	7,269	943	0.7%
Employment: Scenario 2	5,414	8,350	2,936	2.2%

Source: Hunter JO; ABS; TfNSW; HillPDA

12.5 Employment precincts

Table 21 identifies and describes the key employment precincts in Upper Hunter LGA.

Table 60 Upper Hunter LGA precincts

Precinct name	Current zone	Description
Employment land		
Makybe Diva Street Industrial	E4 General Industrial	Comprised of smaller vacant lots to the south, and two larger lots to the north. There is Evidence of some recent industrial activity to the south.
Muffett Street Industrial	E4 General Industrial	E4 General Industrial is located to the west of Muffett Street, and has highway access; however, the road widths present a challenge for larger trucks in the precinct. Precinct is largely vacant, light industrial – capacity for industrial related uses
Aberdeen Industrial	E4 General Industrial	Largely vacant with six vacant lots to the south. Some evidence of industrial use in the four lots to the northeast. However, it has been limited.
Merriwa Industrial	E4 General Industrial	Industrial precinct located to the west of the Merriwa town centre - includes a small range of local population servicing industrial precincts
Centres and large villages		
Aberdeen	E1 Local Centre	Township's retail and business core - Three small clusters centred on MacQeen Street offering retail and automotive services. Largely vacant, small building areas.
Scone	E1 Local Centre	Being a stud farm region, Scone focuses on agricultural industries with veterinary practices, livestock processing and selling centres. It is also the main centre for the region with major retail and population serving industries for the broader population.
Merriwa	E1 Local Centre	Local centre includes a small range of businesses providing a variety of goods and services to locals and visitors.
Murrundi	E1 Local Centre	Small retail offerings in detached dwellings centred on Mayne Street, part of the New England Highway
Other		
Muffett Street Special Purpose Precinct	SP1 Special Activities Livestock Processing Industry	Industrial uses are predominantly located along Muffett Street, as well as livestock processing and saleyards on SP1 zoned land to the north. Meatworks facilities are located to the south of the precinct, and a recycling centre to the north.
Equine Precinct (Flemington Driver)	RE2 Private Recreation	Located adjacent to the airport on Satur Road - Largely cleared land housing private recreation uses including Equine Research Centre and horse racing facilities

Precinct name	Current zone	Description
Airport Precinct (Airfield Road)	SP1 Special Activities Airport	Special activities airport co-located adjacent to an Equine Centre and tertiary educational institution
Aberdeen Mixed Use Employment	MU1 Mixed Use	Located to the South of Aberdeen - mixed use precinct is currently vacant

HillPDA 2023

12.6 Employment land supply and demand

HillPDA has undertaken an employment land audit and a demand analysis to calculate the likely under/oversupply of employment land from 2021 to 2041 across the region. The full methodology and findings of this process are detailed in the main report. Table 61 indicates the forecasted supply and demand of employment land in the Upper Hunter LGA from 2021 to 2041, showing that there is likely to be an oversupply of industrial land, and either a slight oversupply or undersupply of business land under population growth Scenarios 1 and 2 respectively, by 2041.

Table 61 Forecasted employment supply and demand, Upper Hunter LGA, 2021-41

Supply/Demand	Status/Scenario	Business	Industrial
Supply	Vacant (Audit)	12.8 (B4)	48
	Undeveloped (Serviced)	0	23.2
Demand	Scenario 1	6.0	8.9
	Scenario 2	16.8	25.5
Under (-) / Over Supply (+)	Scenario 1	6.8	39.1
	Scenario 2	-4	22.5

HillPDA (2023)

12.7 Development activity

The Upper Hunter LGA has a development pipeline encapsulating a wide variety of employment-generating developments, with strong monetary investment in the pipeline for energy-related developments. Table 62 indicates the statuses and types of developments in the pipeline for the LGA, according to data published by Cordell Connect.

Table 62 Development pipeline in Upper Hunter LGA

Development Status	Value ($m)	Count
Abandoned	$194	7
Deferred	$9	2
No further research to be conducted	$30	27
Commenced	$6	5
Possible	$2,331	29
Early	$-	-
Firm	$29	4

Development Type (Commenced/Possible/Early/Firm developments)	Value ($m)	Count
Food Processing	$0.20	1
Tourist Accommodation	$2.90	3
Entertainment	$0.20	1
Industrial	$3.10	6
Commercial	$0.80	2
Emergency	$1.00	1
Heavy Industry	$-	-
Medical	$0.82	1
Tourist Activity	$-	-
Light Industry	$1.20	6
Infrastructure	$0.50	1
Military	$-	-
Transport	$4.70	2
Agriculture	$31.50	5
Power Station	$2,310.20	3
Retail	$0.75	1

Source: Cordell Connect

The strongest investments in the Upper Hunter LGA are for pipeline developments relating to power stations, with an overall potential investment value of $2.31 billion. Renewable energy generation, which would be supported by such investment, exhibits lower job densities and tends to have a relatively smaller impact on concentrated employment generation. As such, renewable energy developments have been excluded from the following list, which details the Upper Hunter LGA's pipeline major projects:

- Racing NSW Scone Race Club Horse Stables at Scone with an estimated value of $32 million
- Scone Equine Hospital Stages 1 & 2 at Scone with an estimated value of $13 million
- 1-5 Makybe Diva Street & 2854 New England Highway Service Centre at Scone with an estimated value of $11 million.

Such investments are most commonly focused on the equine industry, which will be further enhanced by the Racing NSW Precinct. The investment with the highest potential monetary value is the Racing NSW Scone Race Club Horse Stables, with an estimated value of $32 million.

12.8 Barriers and enablers to growth

Strengths	Weaknesses
• Globally significant equine industry • Strong food-based agriculture industry	• Economic diversification • Wastewater capacity and servicing • Challenges of highway connectivity for employment lands
Opportunities	**Threats**
• Tourism leveraging strengths in agricultural industries • Solar energy generation • Racing NSW precinct development • Scone bypass	• Low population growth • Presence of one major employer in the area (JBS Australia)

HillPDA 2023

12.9 Planning framework considerations

Development in the Upper Hunter LGA is guided by the Upper Hunter Local Environmental Plan 2013 ('Upper Hunter LEP'). Businesses in the Upper Hunter Region have identified the flexibility of planning systems as a key consideration for where to locate development. The Upper Hunter LEP has unique elements that either provide some flexibility or could be amended to do so. General delivery tasks for across the region, however, involve enabling light industries as permissible with consent in E1 zones, investigating the removal of maximum height limits in E4 zones, and investigating the possible impacts of parking requirements in LEPs.

12.9.1 Additional permitted uses

The Upper Hunter LEP provides for the additional permitted uses of animal boarding or training establishments and veterinary hospital at the Hunter Valley Equine Research Centre Precinct at Scone. This land is zoned RE2 Private Recreation. While not being employment land, LEP provisions therefore allow for employment-generating land uses to be carried out on approximately 110.3 hectares of land at this site.

12.9.2 Potential tourism provisions

The Upper Hunter Shire has a strong agricultural base, giving it the potential to facilitate agritourism. While eco-tourism is discussed in the Upper Hunter LEP, there is scope for Council to implement changes introduced by the Department of Planning and Environment in 2022 regarding the treatment of agritourism in LEPs. The adoption of these changes would extend the definition of agritourism in the Upper Hunter LEP to include farm stay accommodation, while streamlining planning pathways regarding developments. This would allow the Upper Hunter Shire to leverage its agricultural position to provide employment land relating to tourism, depending on the appropriate land use zones for such changes.

There is also scope for Council to consider enabling backpackers' accommodation, bed and breakfast accommodation, and serviced apartments as permissible uses in E1 zones through the Upper Hunter LEP, which would support the development of tourism in the LGA's towns.

12.10 Clustering opportunities

The Upper Hunter LGA has some employment clusters that could be further leveraged, although it should be noted that industry diversification would also be beneficial for the area.

An equine industry precinct is located to the west of Scone. A racecourse, TAFE campus, and the Equine Research Facility are all located around Satur Road, providing a set of anchor institutions for employment clustering. These are supported by nearby infrastructure including Scone Airport and Scone Equine Hospital. This cluster of sites

has supported the development of the Upper Hunter LGA's engine industries. Racing NSW investment in a racing precinct will likely further the development of this cluster, as would the development of the Upper Hunter Equine Innovation Precinct as identified in the *Upper Hunter Diversification Action Plan*. Such developments could be supported by providing for employment on SP1 land at Scone Airport or rezoning nearby land in the future.

Another potential employment cluster is to the northeast of Scone, which includes a JBS Australia processing facility and a nearby livestock selling centre near Muffett Street. There is potential to attract a wider range of food-related facilities to the area. This may also aid in making local employment more secure by diversifying food manufacturing across multiple employers. However, the viability of establishing more food manufacturing in this area would first have to be established.

12.11 Actions

The following actions and principal delivery tasks are applicable for Upper Hunter LGA:

Table 63 Actions and principal delivery tasks for Upper Hunter LGA

Action	Principal delivery tasks
1.1: Secure a pipeline of zoned, serviced and unconstrained employment land.	• Prepare a business case for the upgrade of the Scone Wastewater Treatment Plant to increase its capacity to allow further expansion of existing industrial sites • Consider supporting employment uses on SP1 land at Scone airport and eventually rezoning land adjacent to the racing precinct and airport to future employment uses • Investigate potential tenants and employers for industrial land at Aberdeen.
1.2: Explore future employment investigation areas.	• Encourage the take-up of land for specialised uses in the Equine Precinct and at the airport. This could include light industry and commercial uses that complement the primary precinct intent • Explore an investigation site for a regional holiday/caravan park in the LGA including servicing and water treatment.
1.3: Continue to monitor employment land supply through the Urban Development Program.	• In collaboration with the Department of Planning and Environment, seek to provide information that informs the status, supply and challenges to delivering employment lands.
2.1: Prepare and implement centre activation strategies for the main settlements	• Establish a clear vision for the town centre developed in collaboration with centre traders • Identify catalyst sites that can be activated temporarily or permanently • Establish and promote a regular event strategy to draw people into the town centres • Incorporate an investment prospective that identifies the opportunities and gaps in the market for new retail and hospitality • Establish or empowers the chamber of commerce or similar governance body to input into, implement and monitor the activation strategy.
2.3: Support start-up businesses and flexible working spaces to drive innovation and regional lifestyle opportunity.	• Utilising existing underutilised council assets and government land • Voluntary Planning Agreements • Providing co-working or pop-up spaces in vacant commercial or industrial premises • Providing shared (incubator) warehousing facilities to enable initial industry expansion.
3.1: Leverage the growing tourism opportunity in Dungog, Singleton and Upper Hunter LGAs	• Encourage the development of appropriate workers accommodation to free up accommodation for tourists • Investigate a site in the Upper Hunter LGA for a major tourist oriented premium holiday/caravan park • Work with providers to offer unique and authentic experiences to attract visitors to eco and agritourism destinations. This can include activities such as hiking or cycling events, farm-to-table meals, farm tours, environment or agricultural education, and hands-on experiences like picking your own produce or helping with farm chores • Build partnerships with local businesses, farmers, and tourism organizations to promote eco and agritourism destinations and provide visitors with a wider range of experiences • Use digital marketing: strategies such as social media and online advertising to reach a wider audience and promote tourism destinations to potential visitors

	• Offer value-added products such as farm-fresh produce, artisanal goods, and locally-made souvenirs to help generate additional revenue for farmers and enhance the overall visitor experience • Investigate the potential for Aboriginal-based tourism opportunities to complement the existing nature and adventure offerings.
3.4: Develop and promote the uptake of agri-tourism	• Develop a simple factsheet that articulates the types of uses that can now operate on farms and the associated consent pathways • Draw on information from the DPE factsheet on agritourism • Share factsheet through social media and host on websites • Partner with local chamber of commerce and business organisations to distribute information on agritourism rules • Upper Hunter Council to consider implementing the agritourism clauses in its LEP.
5.1: Aim to reduce development approval timeframes	• Encouraging the application of SEPP (Exempt and Complying Development) to reduce number of comprehensive development application that Council has to assess. This could be done by: – Providing information on Council's website about the circumstances in which a complying development application can be used (rather just a than a link to the planning portal) – Employing a shared 'joint organisation' Duty Planner to inform prospective applicants of the opportunities under part 5 of the SEPP for a fast track assessment via the complying development pathway and navigating the planning portal • Encourage formal and informal pre-DA meetings and ongoing discussions with applications to resolve issues well prior to the DA being lodged.
5.2: Implement a flexible planning framework	• Investigate parking requirements to ensure that they are not overly restrictive and do not unnecessarily increase development costs.
5.3: Investigate removing or adding land uses that could affect the viability of commercial or industrial development	• In all LEPs, consider enabling light industries as permissible with consent in the E1 Local Centre zone and E2 Commercial Centre zone (where adopted) • In Upper Hunter LEP, consider enabling backpackers' accommodation, bed and breakfast accommodation and serviced apartments as permissible uses in the E1 Local Centre zone.

13.0 STAKEHOLDER APPROACH

HillPDA completed targeted industry consultation to understand gaps around employment land across the study area. This consultation was focussed on better understanding any barriers to the development of existing land stocks, including infrastructure requirements. It consisted of two parts:

Targeted phone calls, where HillPDA completed informal interviews over the course of two weeks with key business representatives and/or industrial representatives within each LGA. The conversations would aim to discuss items such as (but not limited to):

- SWOT of employment lands
- Understand any incentives that may attract business
- Understand any barriers to attracting businesses
- What infrastructure attracts businesses/are required in each LGA
- Locational attributes/attractors
- Is the supply, zoning and location of land appropriate for business needs.

Key stakeholder workshops which consisted of an interactive online session with key internal Council staff from each LGA (separately) and the Department of Regional NSW. These meetings would allowed HillPDA to better understands:

- Gain local knowledge of employment lands in each LGA
- Ensure recommendation alignment with local planning and growth strategies
- Infrastructure requirements
- Issues or possible improvements to planning controls or employment areas
- Understand any incentives and barriers for businesses.

Disclaimer

1. This report is for the confidential use only of the party to whom it is addressed ("Client") for the specific purposes to which it refers and has been based on, and takes into account, the Client's specific instructions. It is not intended to be relied on by any third party who, subject to paragraph 3, must make their own enquiries in relation to the issues with which this report deals.
2. HillPDA makes no representations as to the appropriateness, accuracy or completeness of this report for the purpose of any party other than the Client ("Recipient"). HillPDA disclaims all liability to any Recipient for any loss, error or other consequence which may arise as a result of the Recipient acting, relying upon or using the whole or part of this report's contents.
3. This report must not be disclosed to any Recipient or reproduced in whole or in part, for any purpose not directly connected to the project for which HillPDA was engaged to prepare the report, without the prior written approval of HillPDA. In the event that a Recipient wishes to rely upon this report, the Recipient must inform HillPDA who may, in its sole discretion and on specified terms, provide its consent.
4. This report and its attached appendices are based on estimates, assumptions and information provided by the Client or sourced and referenced from external sources by HillPDA. While we endeavour to check these estimates, assumptions and information, no warranty is given in relation to their reliability, feasibility, accuracy or reasonableness. HillPDA presents these estimates and assumptions as a basis for the Client's interpretation and analysis. With respect to forecasts, HillPDA does not present them as results that will actually be achieved. HillPDA relies upon the interpretation of the Client to judge for itself the likelihood of whether these projections can be achieved or not.
5. Due care has been taken to prepare the attached financial models from available information at the time of writing, however no responsibility can be or is accepted for errors or inaccuracies that may have occurred either with the programming or the resultant financial projections and their assumptions.
6. This report does not constitute a valuation of any property or interest in property. In preparing this report HillPDA has relied upon information concerning the subject property and/or proposed development provided by the Client and HillPDA has not independently verified this information except where noted in this report.
7. In relation to any valuation which is undertaken for a Managed Investment Scheme (as defined by the Managed Investments Act 1998) or for any lender that is subject to the provisions of the Managed Investments Act, the following clause applies:
   This valuation is prepared on the assumption that the lender or addressee as referred to in this valuation report (and no other) may rely on the valuation for mortgage finance purposes and the lender has complied with its own lending guidelines as well as prudent finance industry lending practices, and has considered all prudent aspects of credit risk for any potential borrower, including the borrower's ability to service and repay any mortgage loan. Further, the valuation is prepared on the assumption that the lender is providing mortgage financing at a conservative and prudent loan to value ratio.
8. HillPDA makes no representations or warranties of any kind, about the accuracy, reliability, completeness, suitability or fitness in relation to maps generated by HillPDA or contained within this report.

Liability limited by a scheme approved under the Professional Standards Legislation

SYDNEY

Level 3, 234 George Street
Sydney NSW 2000
GPO Box 2748 Sydney NSW 2001
t: +61 2 9252 8777
f: +61 2 9252 6077
e: sydney@hillpda.com

MELBOURNE

Suite 114, 838 Collins Street
Docklands VIC 3008
t: +61 3 9629 1842
f: +61 3 9629 6315
e: melbourne@hillpda.com

WWW.HILLPDA.COM