Managed Growth Strategy

DRAFT ISSUES AND OPPORTUNITIES PAPER

CITY OF GREATER BENDIGO

Acknowledgement of Country

The City of Greater Bendigo respectfully acknowledges the traditional custodians of the land on which Greater Bendigo lies, the Dja Dja Wurrung and Taungurung Peoples.

The City acknowledges and extends our appreciation to the Traditional Owners, and we pay respects to Leaders Elders past, present and emerging for they hold the memories, the traditions, the culture and the hopes of all Dja Dja Wurrung and Taungurung People.

We express our gratitude in the sharing of this land, our sorrow for the personal, spiritual and cultural costs of that sharing and our hope that we may walk forward together in harmony and in the spirit of healing.

Contents

Glossary

Activity Centre Zone – A planning tool which can be used within Activity Centres to guide the development of the land including specifying different uses and requirements within different precincts

Big Housing Build – In late 2020, State Government committed $5.3 billion to be spent on delivering over 12,000 social and affordable dwellings across the state including a commitment of a minimum spend of $85 million in Greater Bendigo.

Building approvals – Number of building permits issued. The actual number of dwellings is counted for example in a 10 unit apartment development then 10 dwellings would be counted.

Covenants – Written agreements on title which restrict how land can be used and developed. These are often between the landowner and developer and run with the land unless they are removed or lapse at a certain time. The planning system is only involved if there is a planning application to remove or vary a covenant.

Development Contribution Plan (DCP) – A DCP is put in place where new development and the increase in population this brings will trigger the need for new infrastructure and community facilities to meet a growing need. It is a charge applied to new development and is introduced into the Planning Scheme through a Development Contributions Plan Overlay.

Dwelling – A self-contained residence. This could be a house, apartment, unit or townhouse.

Established areas – Existing neighbourhoods where there is already housing and associated services and facilities.

Estimated residential population – Official measurement of population based on usual residence. Compiled as at June 30 each year.

Green Travel Plan – Prepared for new developments and designed to encourage the use of more sustainable transport modes such as walking, cycling and public transport.

High Density Dwellings – For the purpose of this project high density refers to any development with apartments of three storeys or higher. This has been used to reflect census and ID data outlined in the report.

Household – Those who usually reside in the same dwelling.

Medium Density Dwellings – For the purpose of this project medium density refers to all semi-detached, townhouses and villa units, plus apartments of less than three storeys. This has been used to reflect census and ID data outlined in the report.

Transit oriented development – Compact integrated spaces which bring people, facilities, services and public spaces together to make it convenient for people to access what they need without the need to own a car.

Victoria in Future – Official State Government projections of population and households in Victoria.

Abbreviations

CFA – Country Fire Authority

CLACS – Commercial Land and Activity Centre Strategy

DELWP – Department of Environment, Land, Water and Planning

GBILDS – Greater Bendigo Industrial Land Development Strategy

GBRS – Greater Bendigo Residential Strategy

ITLUS – Integrated Transport and Land Use Strategy

LPPF – Local Planning Policy Framework

MGS – Managed Growth Strategy

MPS – Municipal Planning Strategy

PPF – Planning Policy Framework

SPPF – State Planning Policy Framework

UGB – Urban Growth Boundary

1. Overview

1.1 What is a Managed Growth Strategy?

The Managed Growth Strategy (MGS) will integrate relevant adopted Council strategies and consider land use opportunities and constraints along with broader population and lifestyle trends to provide high level strategic direction as to future land use and change over the next 30 years across Greater Bendigo.

The MGS aims to:

- Better understand current and future demographic, economic, social and environmental changes in Greater Bendigo to inform any changes around land use policy
- Plan for growth which helps to support a welcoming, sustainable and prosperous community aligning with the Greater Bendigo community vision
- Ensure future growth does not compromise the high value landscape, agricultural or environmental assets of Greater Bendigo
- Review the existing urban growth boundary and whether there should be any changes
- Encourage a mix of densities and uses in appropriate locations
- Identify appropriate growth and change for different suburbs and rural townships based on their supporting infrastructure, community service provision, commercial opportunities, community expectations, as well as other issues and constraints and having regard to existing strategies

The MGS will be informed by a new Housing Strategy and Neighbourhood Character Strategy and will result in a planning scheme amendment including the application of the residential zones and other suitable planning controls.

The MGS will provide more certainty for Council officers, service providers, the community, land owners and developers as to preferred development outcomes for the different areas of Greater Bendigo.

1.2 Why are we preparing a Managed Growth Strategy?

The preparation of the Managed Growth Strategy (MGS) was a key recommendation from the Greater Bendigo Planning Scheme Review 2019, the Economic Development Strategy 2020-2030 (A Stronger Greater Bendigo – where all people can thrive) and the Connecting Greater Bendigo Integrated Transport and Land Use Strategy (ITLUS). This recommendation was driven by:

- The need for clear suburb/area specific guidance on growth
- The need to better understand bushfire risk
- The need to have settlement hierarchy to guide development
- State planning policy which requires the City to plan and accommodate population growth over at least a 15-year period

The Planning Scheme Review makes a number of specific recommendations on matters that should be addressed in the MGS and these have been factored into the project plan.

1.3 What are the key principles which will inform the preparation of the Managed Growth Strategy?

Many aspects of planning for long term growth will be informed through the preparation of the Managed Growth Strategy, including appropriate growth and change for different areas. However, there are some key principles which align with State Legislation and State and Local Planning policy, that are fundamental to the Managed Growth Strategy. These include:

- Housing must be directed to areas with a lower bushfire risk
- A range of different types of housing including affordable housing is to be encouraged particularly in well serviced locations to meet different household needs
- Environmentally Sustainable Design is necessary and can improve health outcomes
- Development areas need to be serviced with water, sewer, electricity and other services
- Development is prioritised in areas that can be supported with cost effective water and sewer services, and developments are to include integrated water principles
- Access to shops, facilities and employment opportunities is important
- Habitat and native vegetation loss is to be avoided wherever possible, and open space reserves and links for flora and fauna are to be increased
- Productive agricultural land is to be retained
- Buffer distances (e.g. between industry and residential development) need to be considered
- Contaminated land is to be remediated prior to development
- Waterways are to be protected from residential impacts
- Recognition and Settlement Agreements that are in place with the Dja Dja Wurrung and Taungurung land use corporations need to be considered
- Levies, such as the Windfall Gains Tax and Development Contributions, need to be considered

1.4 What is the relationship between the Managed Growth Strategy and other adopted Council planning Strategies?

The Managed Growth Strategy will replace the existing Greater Bendigo Residential Strategy 2014 and will provide the high-level framework for housing growth. This will help to inform and prioritise future Structure Plans and other strategic work for individual precincts and suburbs which will provide more detail around how these areas will grow and change into the future.

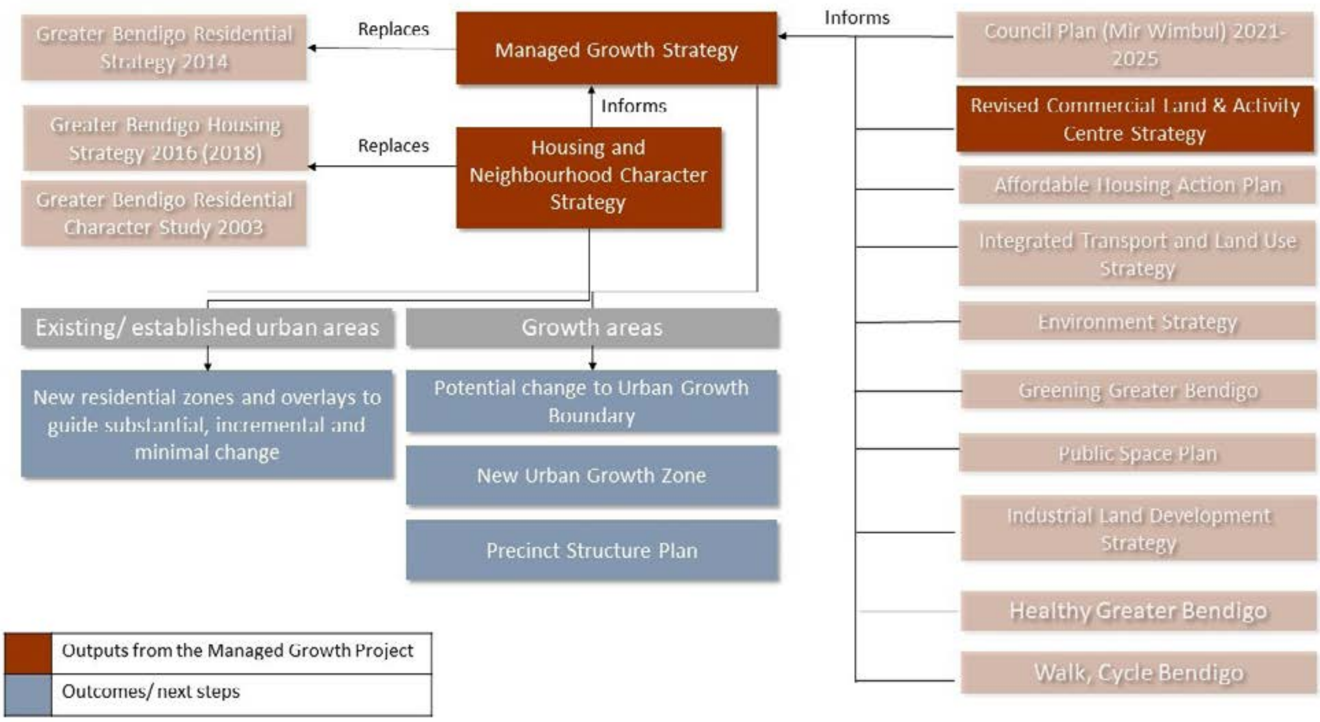
At the same time the City is looking to update its Housing Strategy and develop a new Neighbourhood Character Strategy which will replace the Greater Bendigo Residential Character Study adopted in 2003. While Council's Housing Strategy was only adopted in 2017, new practice notes have since been introduced by the State Government (90 and 91) regarding Housing and the application of the Residential Zones. Changes to State policy in relation to bushfire and guidance around native vegetation removal have also occurred. It is important that a new Housing Strategy is prepared to align with these practice notes, policies and guidance.

Finally, the City is also revising its Commercial Land & Activity Centre Strategy adopted in 2015. This is due to the time which has lapsed since the original strategy was prepared and the growing interest in commercial development across Greater Bendigo and the changing nature of retailing.

Combined with existing strategic work (Figure 1), including the Greater Bendigo Integrated Transport and Land Use Strategy which established a higher-level vision for planning and transport, this will provide the City and Council, with a solid strategic framework to base its planning decisions and to provide greater direction to the community and developers around preferred development outcomes.

The relationships between the various strategies, is shown in Figure 1.

Figure 1: Strategic Hierarchy



1.5 What is the purpose of the Managed Growth Strategy - Issues and Opportunities Paper (MGS-IOP)?

The MGS-IOP has been developed to help prompt discussion around the challenges and opportunities in delivering integrated growth in Greater Bendigo.

The MGS-IOP describes the strong policy context that underpins Greater Bendigo's growth, identifies different growth scenarios, highlights the growing environmental constraints and their implications, as well as identifying current and future infrastructure gaps. It highlights the importance of considering not only residential development but also employment and transport to ensure Greater Bendigo remains the liveable destination valued by residents.

The findings from this paper will be used to inform a draft Managed Growth Strategy. The draft Managed Growth Strategy will provide a series of directions. This includes direction around potential changes to the urban growth boundary, residential zones and priorities for future Activity Centre Structure Plans and Precinct Structure Plans.

1.6 Expressions of Interest process

At the same time as the Council consults on the MGS-IOP we are calling for Expressions of Interest from landowners who own land which may currently be within a Farming, Low Density Residential or another zone which meet certain criteria and are interested in their land being considered for rezoning to a residential zone. For sites to be considered they must meet the following criteria:

- Be over one hectare in size (or there is agreement from adjoining land owners to deliver one hectare)
- Be within or close to the existing Urban Growth Boundary
- Be subject to minimal environmental constraints (such as being of a low bushfire and flooding risk and not have high levels of contamination)
- Not be heavily vegetated
- Not have a steep topography
- Not be heavily impacted by groundwater
- Be close to existing services such as sewer, water and power if not already serviced

While all sites submitted which meet this criteria will be assessed further, a number of these sites for various reasons may be unsuitable for residential development. A summary of some of the reasons for this are identified below. If this is the case, further details will be provided to landowners as to why this land may be unsuitable.

- The site does not meet the principles outlined in Section 1.3 of this paper
- The site is impacted by an Extractive Industry Investigation Area, Extractive Industry Works Authority, State Resource Overlay, Minerals Exploration, Licence or buffer
- There are remaining or ongoing businesses or uses that may significantly impact, prevent or delay development e.g. existing operational quarry, EPA licensed facility
- The site is impacted by other major constraints that cannot be resolved by planning (e.g. sodic soils, bushfire, land is required for a government use, State commitments or infrastructure upgrades that are not committed or identified in department forward infrastructure pipelines)
- Not aligned with State, Regional and Local Planning Policy
- The project will over utilise existing infrastructure capacity, including services, transport, existing or planned schools, and emergency services
- Identification of other constraints such as acid sulphate soils, flooding, bushfire, flora and fauna, buffers (electricity, gas pipelines) aboriginal cultural heritage and land contamination
- High level feasibility analysis demonstrates that precincts are viable considering anticipated yield and infrastructure costs

In addition, further work is currently being undertaken as part of this project to identify what supply is needed over and above land that is currently zoned or proposed to be zoned residential. This will determine if there is a shortfall, and if individual sites and precincts need to be considered for future rezoning or strategic work to meet long term housing needs.

1.7 Timelines

- **Background Research**
  July - August 2021
- **Issues and Opportunities Paper**
  September 2021 - January 2022
- **Consultation Issues and Opportunities Paper**
  February 2022
- **Draft Managed Growth Strategy**
  April - August 2022
- **Consultation Draft Managed Growth Strategy**
  September - November 2022
- **Final Managed Growth Strategy and commence implementation**
  December 2022 - April 2022

2. Introduction

Greater Bendigo is built on the land of the Dja Dja Wurrung and Taungurung peoples who are the traditional owners. Greater Bendigo was the home of the Dja Dja Wurrung and Taungurung peoples for thousands of years before gold was found by European settlers in 1851. From here the municipality was quickly transformed as miners from Europe, China and North America moved here in search of gold. The German inspired heritage architecture is testament to the opulence of the period and remains one of the features that Greater Bendigo is renowned for today.

As well as through its buildings, the Greater Bendigo environment of today is shaped by its gold mining legacy. Mining resulted in the removal of most trees, completely changed how and where water flowed, removed soil and minerals from the earth and left mullock heaps scattered across this area and the region.

The legacy left by mining has implications on existing and future development, particularly for sensitive uses such as housing. This includes the numerous mine shafts dotted across Bendigo (the mapping of which is currently being updated), and the inability to progress development on some ex-mining sites, due to contamination and the cost involved in rehabilitating these sites.

Greater Bendigo is well known for its natural environment which is an important asset for the City. In particular the urban area of Bendigo is framed by being a City within a forest and this creates a natural barrier to urban expansion. While there is a growing recognition of the importance of the protection of the natural environment and biodiversity for its ecological and economic benefits, it does create challenges in housing a growing population.

A growing recognition of the impacts of climate change and the potential for more extreme weather events such as bushfire and flooding, as well as stricter guidelines around the removal of native vegetation may constrain development in areas which have been suitable for housing in the past.

In spite of any challenges to growth, new residents continue to choose to move Greater Bendigo. By any measure the Greater Bendigo of today is a vastly different place to the early 1990s. Bendigo has moved from a smaller regional city to a thriving regional hub known for its Gold Rush architecture, diverse employment base, art and culture, and as a Creative City of Gastronomy. Many of the smaller rural townships that are located in Greater Bendigo have also experienced growth and change with new residents attracted to the lifestyle and sense of community on offer.

In the next 30 years, the increase in new residents living in Greater Bendigo is expected to be roughly double that of the previous 30 years (based on current growth rates). In previous years this has primarily been driven by growth from residents in surrounding shires and natural increase (births less deaths). However, while much of the growth is still driven from residents of smaller townships relocating, we are starting to see a shift in an increase in residents relocating from Melbourne. Whether this is a short spike as a result of the pandemic, or part of a longer-term trend, it will be important to consider various growth scenarios through the preparation of the Managed Growth Strategy.

However, whether growth is accelerated following the pandemic or not, the Greater Bendigo of today will be a very different place by the middle of the century. We have the potential now to proactively plan for this change and determine how our municipality will grow to meet the needs of the community of the future. This is as much about planning for where residents and new housing will go, as considering the retention of the renowned heritage architecture and environmental features which have shaped the municipality in the past and still influence the ways in which land is used today and will be into the future.

It is on this basis that the City is preparing a Managed Growth Strategy which will include an updated Residential Framework Plan. The Managed Growth Strategy, like its predecessor the Greater Bendigo Residential Strategy 2014, provides us with an opportunity to reflect on how Greater Bendigo is currently growing and to plan for our future community by introducing planning controls and potentially other mechanisms to direct housing growth to suitable locations.

This paper considers what we know about land supply and new dwellings locations, proposes a range of growth scenarios and provides a summary of the various challenges and opportunities which will be faced now and into the future as we plan for new residents and employment growth, and everything that goes along with this. Feedback from this Issues and Opportunities paper will then inform a draft Managed Growth Strategy for consultation in the second half of 2022.

Consultation for the draft Managed Growth Strategy will be combined with a Housing and Neighbourhood Character Strategy. Where the Managed Growth Strategy will provide a long-term framework and priorities for growth the Housing and Neighbourhood Character Strategy will provide the detail within established areas for the application of residential zones.

3. Early engagement to inform the Issues and Opportunities Paper

To help provide context and background to inform this paper, the City ran two workshops facilitated by RM Consulting Group on October 14. One of these workshops was with State Government agencies and one was with the development industry.

A summary of the feedback is provided in the following section, and will assist the community and stakeholders in providing feedback on the Issues and Opportunities Paper.

Note the feedback provided is a summary of the workshops only. It does not reflect the views of City staff or Councillors.

3.1 State Agencies Workshop

Around 30 people attended the State Agencies Workshop with representation from 12 different agencies.

State Agencies were asked the following:

- What are the challenges associated with growth?
- What are the opportunities for overcoming issues?
- Are there any issues that must be considered?

These responses to these questions are summarised in Table 1 on the next page.

Table 1: Summary of State Agencies Workshop feedback

Challenges	Opportunities	Issues that must be considered
• Infrastructure and service provision • Greenfield development, e.g. conflicting policies and interface challenges • Infill development, e.g. character and heritage, contaminated land • Increasing need for ESD, biodiversity retention, social requirements • Stormwater runoff	• Place based funding model for outcomes for different locations that is sustainable and affordable • Ensure a balance between greenfield and infill development • Continue long-term planning for infrastructure • Reviewing requirements for subdivision in heritage areas	• Bushfire risk and management • Impacts from drought and climate change • Transition to a Zero Carbon economy • Essential Service Commission model – utilities are required to meet these funding models and obligations

Table 2: Summary of Development Industry Workshop feedback

Barriers	Opportunities	Council's role
• Lack of a clear vision • Land shortage for greenfield development • Time required to get land to market, and services to new subdivisions • Many constraints for infill development • Fragmented land with many owners in some areas • Difficult to develop medium density development due to cost involved • Water pressure issues in certain areas and cost in upgrades	• Market changes have created viable opportunities for different types of housing where this may not have been possible in the past • Known growth areas • Managed Growth Strategy provides the opportunity for long term planning • Potential to Strengthen 10 minute neighbourhoods • Introduce small lot housing code (ie reduce the need for planning permits on smaller lots)	• Precinct based planning and consultation • Identify areas for growth to increase supply and jobs • Provide a development facilitator • Consider the expansion of the Urban Growth Boundary • Provide land for satellite communities • Work closely with the Department of Environment, Land, Water and Planning

3.2 Development Industry Workshop

Around 30 people also attended the Development Industry Workshop with representation from a range of different businesses.

Developers were asked the following:

- What are the opportunities for growth?
- What are the barriers to growth?
- What role does Council play?

The responses to these questions are summarised in Table 2 above.

4. Context

4.1 State, regional and local planning strategies and policies

There are a broad range of State and Local strategies and policies that are relevant to the MGS. This chapter provides an overview of each of these and their relationship to the MGS. This is not an exhaustive list of all strategies and policies as they relate to planning in Greater Bendigo, but it does try to identify those most relevant to future planning for housing in the municipality.

Table 3: Overview of State Strategies and Policies and relevance to MGS

Document	Relevance to the MGS
Plan Melbourne 2017-2050	Plan Melbourne establishes a long-term framework to guide future growth across Victoria with an emphasis on Melbourne. Direction 7 within Plan Melbourne identifies the importance of growing and investing in regional Victoria.
Victoria's 30 Year Infrastructure Strategy 2021-2051	This Strategy focuses on addressing Victoria's infrastructure pressures, to make better use of existing infrastructure and help to plan for the timing and location of new infrastructure. There are a number of recommendations contained within this strategy of relevance to the Managed Growth Strategy. Section 4 within the Strategy is focused on developing regional Victoria. This includes unlocking regional economic growth opportunities and delivering social housing in regional areas.
Guidelines for the removal, destruction or lopping of native vegetation 2017 (DELWP)	These guidelines provide statewide policy for the assessment of biodiversity impacts of removal of native vegetation and the calculation of native vegetation offsets where the preferred position of removal cannot be avoided. This has cost implications for development, and potentially creates a policy conflict when considered in conjunction with bushfire risk. This is a challenge in certain areas of Greater Bendigo given the municipality is a city in a forest.
Department of Transport Strategic Plan 2021-2025	This Strategic Plan provides actions for the Department of Transport over the medium term. An initiative within this plan is for Better Train Services for Bendigo and Central Victoria. The delivery of upgrades and new train stations will likely lead to certain areas becoming more attractive to new residents.
Victorian Cycling Strategy 2018-2028	This Strategy provides initiatives to encourage more people to cycle for transport. Of relevance to this project includes working with local Councils to address cycling corridor gaps and integrating cycling and public transport.

Table 4: Overview of Regional Strategies and Policies and relevance to MGS

Document	Relevance to the MGS
Loddon Mallee South Regional Growth Plan	The Loddon Mallee South Regional Growth Plan (LMSRGP) is the strategic land use plan for the region to guide growth and change to 2041. The LMSRGP provides a framework to help achieve sustainable growth across the region and looks at unlocking the growth potential of settlements in the region and improving connections between centres. Bendigo is identified as a hub for employment, education and service provision. The plan considers the implications of growing the population of up to 200,000 by 2041. For this to occur the municipality would need to grow by around 2.4% each year.
Loddon Campaspe Integrated Transport Strategy	The Loddon Campaspe Integrated Transport Strategy identifies 10 priorities based on the challenges, goals and trends of the regional transport network. Of relevance to Greater Bendigo includes: • Capacity improvements on the Bendigo, Swan Hill and Echuca passenger rail lines as well as increased services • A railway station access improvement program encouraging active and public transport
Loddon Campaspe Regional Digital Plan	This Plan provides an overview of where the gaps are in terms of NBN and mobile coverage across the Loddon Campaspe Region. Limited access to reliable internet coverage may impact on business and residential growth particularly in smaller townships.
Bendigo Education Plan 2018	Of relevance to this project, the Bendigo Education Plan identifies the need to investigate a staged plan for future educational needs in Bendigo.
Dja Dja Wurrung Land Use Activity Agreement	In March 2013 the State Government and the Dja Dja Wurrung Clans Aboriginal Corporation (DDWAC) on behalf of the Dja Dja Wurung traditional owner group entered into a 'Recognition and Settlement Agreement' which recognises the Dja Dja Wurrung as the traditional owner group on approximately 266,532 hectares of public land in Central Victoria. The agreement relates to Crown lands and waters within the external boundaries of the agreement area. The Agreement does not affect freehold land.
Taungurung Land Use Activity Agreement	In August 2020 the State Government and the Taungurung Land and Waters Council (TLWC) entered a 'Recognition and Settlement Agreement'. Benefits of the agreement include improving cultural and economic identity of the Taungurung people and protecting places and areas of significance.
Coliban Water Strategy 2030	Strategy 2030 identifies that many urban populations in the region are growing quickly but there is an uneven distribution of population. The challenge for Coliban is ensuring all communities are supported. The Strategy is underpinned by four Strategic Directions: • Water security and zero carbon • Healthy people and environment • Prosperous economies • Green and active communities

Table 5: Overview of Local Strategies and Policies and relevance to MGS

Document	Relevance to the MGS
Council Plan (Mir wimbul) 2021-2025	While there are many linkages to different sections within the Council Plan, the Managed Growth Strategy directly links to Outcome 2 'Healthy, liveable spaces and places' and Goal 7 'Sustainable population growth is planned for'.
Healthy Greater Bendigo (Municipal Health and Wellbeing Plan) 2021-2025	As with the Council plan the Managed Growth Strategy links to many areas of the Municipal Health and Wellbeing Plan given the important health outcomes in having well designed neighbourhoods and housing to meet community needs.
Climate Change and Environment Strategy 2021-2026	This Strategy takes a holistic approach to planning for environmental change and considers opportunities to improve community resilience, increase economic opportunities and secure the local food network. Flagship Project 5 within the Strategy is to Showcase Sustainable Developments.
Greater Bendigo Housing Strategy (GBHS) (2017)	The GBHS builds on the Residential Strategy 2014 by providing greater guidance on the form and type of housing in Greater Bendigo and includes some information around future housing growth areas. The GBHS provides recommendations for Low Density Residential and Farming Zoned land within the urban growth boundary of Bendigo.
Connecting Greater Bendigo – Integrated Transport and Land Use Strategy (ITLUS) (2015)	ITLUS seeks to prevent urban sprawl and to manage growth within the urban growth boundary. Of particular relevance, ITLUS promotes the concept of 10-minute neighbourhoods where residents can access most services including employment and educational facilities within 10 minutes to reduce the need for driving. The Managed Growth Strategy will need to build on these principles.
Commercial Land and Activity Centre Strategy (CLACS) (2015)	CLACS provides directions for how each of the activity centres in Greater Bendigo are planned and developed over a 15-year period. This includes directions around additional floorspace required for the different activity centres. Given six years have passed since CLACS was prepared it is timely to consider if there needs to be changes around the recommendations for the different centres and around floorspace.
Greater Bendigo Residential Strategy (2014)	Provides a framework for managing residential development for the whole municipality. This includes establishing an urban growth boundary. The MGS will replace this strategy.
Plan Greater Bendigo (2017)	Plan Greater Bendigo is a strategic infrastructure plan that identifies a number of transformational projects that will support future growth and liveability in Greater Bendigo. It identifies where Greater Bendigo is now and where it aspires to be towards 2050 under the goals of: • An adaptable and innovative economy • A stronger more vibrant City Centre • A healthy and inclusive community • A resourceful and sustainable region Plan Greater Bendigo identifies the need for redevelopment of public land, the importance of infrastructure delivery for inclusive growth and the need for investment in renewable energy and sustainability.
Affordable Housing Action Plan (2020)	The Action Plan sets out actions to increase the supply and provision of affordable housing.

Greater Bendigo Public Space Plan (2019)	The Public Space Plan is a 50-year plan which provides recommendations around existing and future public space in Greater Bendigo. Aims of the plan are to: • Set out a conceptual vision for public space in Greater Bendigo • Provide strategic guidance for planning and provision, uses and management, funding and investment, major policy issues and implementation priorities • Establish a framework of standards for access, quality, maintenance and design
Greater Bendigo Planning Scheme Review (2019)	The Planning Scheme Review identified the need for a settlement network and hierarchy to appropriately guide future development in a coordinate and efficient way. It recommended preparing a Municipal Settlement Strategy as a high priority.
Greater Bendigo Industrial Land Development Strategy (GBILDS) (2020)	The GBILDS provides a framework to deliver a 30-year supply of industrial land in Greater Bendigo including identifying a need for a minimum of 170ha over and above existing supply. It provides recommendations foreach of the existing industrial precincts in Greater Bendigo as well as key requirements in considering land for future development. The Managed Growth Strategy will need to include any identified sites for future industrial land.
A Stronger Greater Bendigo - where all people can thrive (Economic Development Strategy) (2020)	The strategy is focussed on business and jobs, improved health and wellbeing, strengthening skills and training and environmental sustainability – all of which will promote a prosperous future. Preparing the MGS was a key recommendation of the strategy. Other directions include revitalising the City Centre, supporting business, infrastructure investment and transitioning to low carbon economy.
Greening Greater Bendigo (2020)	Greening Greater Bendigo is an urban forest strategy that seeks to increase urban tree canopy coverage and improve tree health. The strategy recognises the environmental and health benefits from improved tree cover and includes a 10 year action plan to "green" high priority locations.

4.2 Area specific strategies

There are numerous area specific strategies which have been adopted and implemented or are in development that impact on future growth, transport and infrastructure. The MGS will need to be consistent with these documents when the detailed suburb plans are prepared:

- Axedale Township Structure Plan (2008)
- Bendigo City Centre Plan (2020)
- Bendigo City Centre Urban Design Framework (in development)
- Eaglehawk Structure Plan (2013)
- East Bendigo Local Structure Plan (2006)
- Elmore Township Plan (in development)
- Golden Square Structure Plan - Draft (2020)
- Goornong Township Plan (in development)
- Heathcote Township Plan (2018)
- Hospital Precinct Structure Plan (2014)
- Huntly Township Plan (2009)
- Jackass Flat Structure Plan (2009)
- Kangaroo Flat South Regional Centre Structure Plan (2006)
- Maiden Gully Precinct Structure Plan and Development Contributions Plan (2020)
- Marong Township Structure Plan (2020)
- Northern Corridor Huntly Local Structure Plan (2005)
- Parking Futures Action Plan (2020)
- Reimagining Bendigo Creek (2020)
- Rosalind Park Masterplan (2014)
- Strathfieldsaye Town Centre Urban Design Framework (2017)
- Strathfieldsaye Township Plan (2009)
- Various heritage studies
- Various masterplans for recreation reserves

4.3 (State) Planning Policy Framework

There are a number of Clauses within the Greater Bendigo Planning Scheme that help to guide short and long term development outcomes. The following section outlines those most relevant to the MGS and why they are relevant.

Table 6: Overview of relevant State Planning Policy clauses and relevance to the MGS

Document	Relevance to the MGS
11.01-S (Settlement)	Ensure the sustainable growth of Victoria. This includes: • Focusing investment in areas of state significance including in Bendigo • Ensuring regions are planned in accordance with Regional Growth Plans • Reinforcing settlement boundaries • Encouraging development along transport corridors • Delivering integrated settlements that balance strategic objectives and respond sustainably to population growth • Encouraging development that supports sustainable transport use • Limit urban sprawl and encourage growth within established areas
11.01-R (Settlement Loddon Mallee South)	Identifies Bendigo as the major population and economic growth hub for the region. It also identifies the importance of developing and revitalising underutilised land in Bendigo.
11.01-2 (Supply of Urban Land)	Identifies the need to ensure a sufficient supply of land for a variety of uses. This includes the need to plan to accommodate population growth over at least a 15-year period on a municipal basis considering development opportunities as well as constraints.
11.02-2 (Structure Planning)	Undertake comprehensive planning for areas that offer a range of services and facilities.
11.02-3 (Sequencing of Development)	Highlights the importance of sequencing development along with the delivery of infrastructure and facilities.
11.03-1S (Activity Centres)	Concentrate a variety of uses within Activity Centres to meet community needs along with high quality development is identified in Clause 11.03-1S.
11.03-2S (Growth Areas)	Locate growth close to transport corridors and encouraging densities of a minimum of 15 dwellings per developable hectare are relevant objectives.
11.03-6S (Regional and Local Spaces)	Consider the different characteristics and needs of locations when planning for future land use and development.
12.01-1S (Protection of Biodiversity)	Protect and conserve key habitat areas for any rare or threatened species.
12.01-2S (Native Vegetation Management)	Avoid the removal and destruction or lopping of native vegetation. Where this is not possible, minimise and provide offsets.
13.01-1S (Natural Hazards and climate change)	Consider risks associated with climate change in Strategic Planning.

13.02-1S (Bushfire Planning)	Give priority to the protection of human life by directing population growth and development to low bushfire risk locations.
13.03-1S (Floodplain management)	Identify land affected by flooding and avoid intensifying the impact of flooding through inappropriately located development.
13.04-1S (Contaminated and potentially contaminated land)	Ensure contaminated and potentially contaminated land is developed safely and protect sensitive uses including residential use from contamination.
13.04-3S (Salinity)	Prevent inappropriate development in locations affected by groundwater salinity.
13.06-1S (Air Quality Management)	Ensure a suitable separation between land uses that reduce air amenity and sensitive land uses.
13.07-1S (Land Use Capability)	Avoid incompatible land uses.
14.01-1S (Protection of Agricultural Land)	Ensure areas of high quality, productive agricultural land are preserved.
14.02-1S (Catchment planning and management)	Protect drainage corridors, water catchments and minimise stormwater runoff.
14.03-1S (Resource exploration and extraction)	Maintain buffers around mining activities.
15.01-1S (Urban design)	Create environments that contribute to the community and facilitate accessibility and inclusiveness.
15.01-3S (Subdivision design)	Reduce car dependency by providing access to alternative transport and creating compact neighbourhoods.
15.01-5S (Neighbourhood character)	Ensure new development contributes to a preferred neighbourhood character.
15.01-6S (Design for rural areas)	Ensure new development in rural areas protects and enhances rural character.
15.02-1S (Energy and resource efficiency)	Create developments that minimise greenhouse gas emissions through design, access to walking and cycling corridors and greening urban areas.
15.03-1S (Heritage conservation)	Conserve places of architectural, cultural or social significance.
15.03-2S (Aboriginal cultural heritage)	Protect places of Aboriginal cultural heritage significance.
16.01-1S (Housing supply)	Provide a diversity of housing in suitable locations and provide opportunities for increased residential densities.
16.01-2S (Housing affordability)	Deliver more affordable housing in well serviced locations.
16.01-3S (Rural residential development)	Identify locations for rural residential development through a housing or settlement strategy. Manage development in rural areas to protect areas with high agricultural values.

17 - Economic Development	Plan for a strong economy by providing land for commercial and industrial development and reducing land use conflicts.
18.01-1S (Land use and transport planning)	Integrate land use and transport by requiring integrated transport plans to be prepared for all major developments.
18.02-1S (Sustainable personal transport)	Encourage walking and cycling by creating safe and attractive environments.
18.02-1S (Public transport)	Facilitate development close to public transport networks.
18.05-1R (Freight links – Loddon Mallee South)	Explore opportunities to develop freight-related activities in Marong.
19 - Infrastructure	Deliver infrastructure and facilities in growing communities. Better utilise existing infrastructure in established areas.

4.6 Key issues and implications

The key issues and implications of Planning Policy and the Managed Growth Strategy include:

- The importance of Greater Bendigo as a regional hub
- The need to provide housing for a growing Victorian population is embedded in policy at a State, Regional and Local level
- State and Local Planning policy encourages more development in well serviced locations including having easy access to public transport and close to a variety of services and facilities
- New development needs to consider its context and surrounds. This includes preferred neighbourhood character, cultural and architectural heritage, landscape and any other specific design related planning controls
- It is important that development considers the surrounding environment which is becoming even more important due to climate change. This includes vegetation, bushfire and flooding risk
- There is a need to manage land use conflicts, for example having heavy industry directly abutting residential development and having housing near a landfill, as well as near a water treatment plant

In preparing a Managed Growth strategy and through its implementation, direction should be given to prioritising increasing the amount of housing in well serviced locations with limited environmental and other constraints. Conversely housing growth should be discouraged in areas which have high environmental risks, are not well serviced by infrastructure or facilities (and are not able to be in the future) or have existing land use conflicts.

5. A growing and changing Greater Bendigo

5.1 Current population

The current estimated residential population for Greater Bendigo is 119,980 (June 2020). In recent years the population has been growing steadily by around 1.6-1.7 per cent. It is estimated that the population in the Urban Area of Bendigo is 98,475 with the remainder in the small townships and rural areas.

It is important to understand how our population is changing over time as this can impact on the type and supply of services and infrastructure such as childcare, schools, housing, healthcare, employment, public transport, and sporting and community facilities.

5.1.1 Age structure

Looking at the past population profiles between 2006 and 2016, the largest changes were seen in the following emerging groups:

- Empty nesters and retirees (60 to 69) (+4,756 people)
- Young workforce (25 to 34) (+3,036 people)
- Seniors (70 to 84) (+2,407 people)
- Older workers and pre-retirees (50 to 59) (+2,191 people)

Table 7: Proportion of residents in different age cohorts from 2001 to 2016

Service age group	2001 %	2006 %	2011 %	2016 %
4 years and younger	6.6	6.2	6.7	6.4
5 to 11 years	10.5	9.8	8.9	9.1
12 to 17 years	9.3	9.0	8.2	7.5
18 to 24 years	9.8	10.0	10.0	9.4
25 to 34 years	12.3	11.5	11.7	12.4
35 to 49 years	21.5	20.8	19.4	18.1
50 to 59 years	11.4	13.2	13.3	13.1
60 to 69 years	8.1	8.9	10.5	11.8
70 to 84 years	8.6	8.8	9.1	9.6
85 years and over	1.8	1.9	2.2	2.5

Source: ID consulting, usual resident population

5.1.2 Household type

In recent years the greatest change in household type has been an increase in one person households. There was an increase in over 2,300 one person households from 2006 to 2016.

The greatest shift over the last couple of decades has been a decline in the proportion of couples with children families.

Table 8: Comparison of household type from 1991 to 2016

Household type	1991 %	1996 %	2001 %	2006 %	2011 %	2016 %
Couples with children	38.9	34.0	30.8	28.7	27.5	26.1
Couples without children	22.4	23.0	24.6	25.6	25.9	25.3
One parent households	10.5	11.2	12.2	12.0	12.0	11.5
One person households	20.8	23.8	24.9	25.5	26.0	26.3
Group households	4.3	4.9	4.1	4.1	4.1	3.8
Other	3.1	3.1	3.4	4.1	4.6	7.0

Source: ID consulting, enumerated population

5.1.3 Household size

The number of households in Greater Bendigo increased by 4,331 between 2011 and 2016.

The proportion of one and two person households has grown from 52.1% in 1991 through to 63.2% in 2016.

As household size declines, the number of dwellings needed to house the population grows. It also may impact on the types of dwellings that residents are attracted to as smaller households may also choose to live in smaller dwellings.

Table 9: Comparison of household size from 1991 and 2016

Number of persons usually resident	1991 %	1996 %	2001 %	2006 %	2011 %	2016 %
1 person	21.2	24.2	25.5	26.3	27.0	28.0
2 persons	30.9	32.3	34.0	35.0	35.5	35.2
3 persons	16.6	16.2	15.7	15.2	15.2	14.9
4 persons	17.7	15.8	14.6	14.2	13.4	13.2
5 persons	9.5	8.2	7.1	6.6	6.2	6.1
6 or more persons	4.1	3.4	3.0	2.8	2.7	2.6

Source: ID consulting

5.1.4 Migration patterns

Population growth in Greater Bendigo has largely been driven in the past by migration of residents from surrounding shires drawn to the services and facilities on offer in Bendigo. Now we are starting to see more residents from Melbourne choosing to move to the municipality. The total net migration to Greater Bendigo from 2015 to 2020 was 3,918, and of this, 1,450 residents were migrating from Greater Melbourne. This is based on an inbound migration of 23,878 and an outbound migration of 19,960[1]. The top 10 destinations of net migration to Greater Bendigo between July 2016 and July 2020 are shown in Table 10.

It is difficult to say what the longer-term impacts of the COVID pandemic will be on Melbourne residents electing to move to the municipality, but if flexible working arrangements continue, this is likely to make Greater Bendigo an attractive option for Melbourne residents seeking a ‘tree-change’ over the longer term.

Table 10: Migration into Greater Bendigo July 2016 - July 2020

LGA	In migration	Out migration	Net migration
Mount Alexander	1,069	544	525
Campaspe	1,036	612	424
Macedon	690	299	391
Swan Hill	497	231	266
Mitchell	457	210	247
Yarra Ranges	323	133	190
Mildura	422	234	188
Wyndham	594	420	174
Knox	282	149	133
Maroondah	288	156	132

Source: ID consulting

1 *ID Consulting, Profile ID, Annual migration by location.*

5.2 Population growth scenarios

The impact of COVID has shown the difficulty of planning for long term changes. If the annual growth rate remains at 1.6 per cent as it was in 2019/20 the municipality would grow by around 76,000 over the next 30 years. Over a 15-year timeframe, growth scenarios prepared by ID consulting and the Victoria in Future population projections forecast the municipality growing to 155,596 and 153,759 respectively by 2036 (projections at a local government area are not available to 2051).

In planning for the long-term development of Greater Bendigo, it is worth considering different growth scenarios as this will mean the rate of new dwellings needed will be very different.

If we consider a low growth, medium, high and very high growth scenario ranging from 1.2 per cent through to 2.4 per cent, the increase in the number of residents to 2051 could be anything from 43,000 to 130,000 (table 11). The medium growth scenario is a projection for if the City continues to grow at 1.6 per cent.

The scenario of 2.4 per cent is what would be required to meet the figure at the upper end of the Loddon Mallee Regional Growth Plan of 200,000 people by 2040.

Two other scenarios have been selected, a very conservative growth scenario of 1.2 per cent, and a higher growth scenario of 2.0 per cent.

Table 11: Different population and dwelling growth scenarios

Year	2021	2026	2031	2036	2041	2046	2051	Change 2051-ERP 2020
VIF	122,241	132,973	143,511	153,759	NA	NA	NA	
VIF dwellings	52,671	58,559	63,589	68,736	NA	NA	NA	
ID pop	123,632	134,466	145,065	155,596	NA	NA	NA	
ID dwellings	54,342	58,830	63,166	67,542	NA	NA	NA	
1.2%* growth	120,473	126,618	133,077	139,865	147,000	154,498	162,379	43,099
1.2%* growth dwellings	52,379	55,051	57,860	60,811	63,913	67,173	70,600	18,739
1.6%*	121,188	131,199	142,036	153,768	166,470	180,220	195,107	75,827
1.6% growth dwellings**	52,961	57,043	61,755	66,856	72,378	78,357	84,829	32,968
2.0%*	121,666	134,329	148,310	163,746	180,789	199,605	220,380	101,100
2.0% growth dwellings**	52,898	58,404	64,482	71,194	78,604	86,785	95,818	43,957
2.4%	122,143	137,520	154,834	174,328	196,276	220,987	248,809	129,529
2.4% growth dwellings**	53,106	59,792	67,319	75,795	85,337	96,081	108,178	59,317

*VIF - Victoria in Future. *Based on ERP 2020 – 119,280. **Based on dividing total population by 2.3 (higher than average household size as this considers occupied and vacant dwellings)*

5.3 Dwelling and land supply data

Maintaining a balanced level of land supply for competing land uses in the appropriate locations is a key challenge. Not enough land will place upward pressure on land prices. Having too many growth fronts presents challenges in terms of infrastructure and service provision.

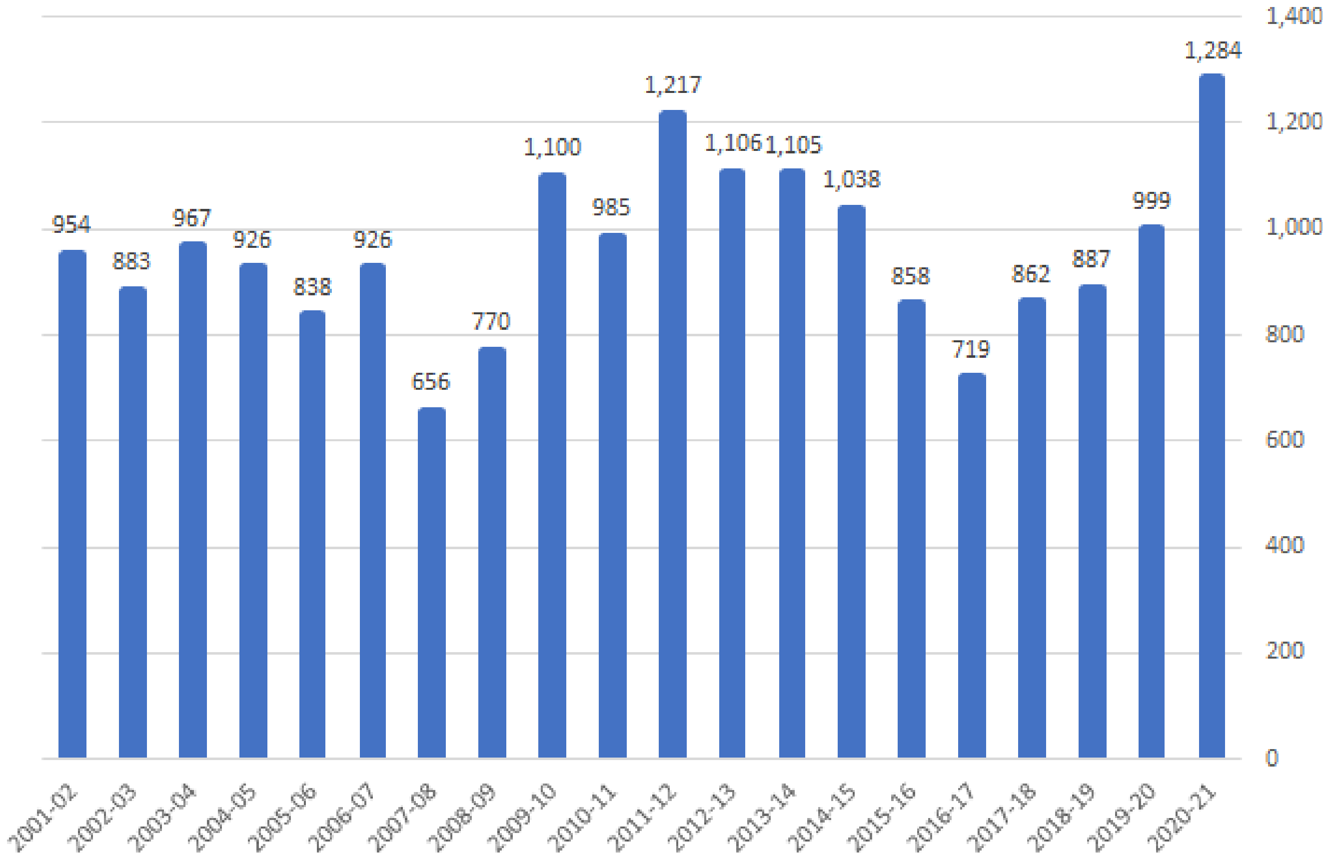
Since 2004, an Urban Growth Boundary (UGB) and the following residential growth framework has shaped residential development in Greater Bendigo[2]:

1. Urban Containment – making use of undeveloped (zoned) land
2. Core Development – increased densities in and around the City Centre, Hospital Precinct and University
3. Transit Oriented Development – increased densities along transit corridors
4. Greenfield – the staged release of land at Jackass Flat, Huntly, Strathfieldsaye and Maiden Gully
5. Satellite township – growth in Marong

This has been implemented over time through the development of local structure plans.

Housing outside of the Urban Growth Boundary has been actively discouraged since 2004 apart from in townships such as Marong.

Figure 2: Total number of new residential buildings approved each year in Greater Bendigo



Source: Profile ID ABS catalogue number 8731.0 – Building Approvals, Australia

5.3.1 Residential dwellings approvals

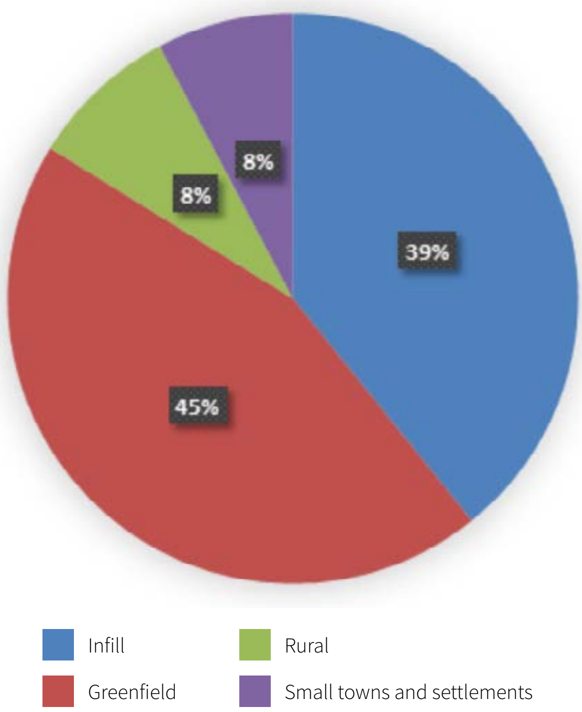
Between 2011/12 and 2020/21 a total of 10,075 residential buildings were approved. This is an increase of around 1,000 since the previous ten years[3]. In 2020/21 there were 285 more building approvals than the previous year.

It is difficult to know at this stage whether this is short term spike or part of a longer- term trend. If it is the later then this will impact on the availability of land into the future.

5.3.2 New dwelling construction by location type

Over the five years from 2015 to 2020, greenfield development accounted for 45% of all new housing (including in Marong) and infill development accounted for 39%, with the remainder in small towns and rural communities[4].

Figure 3: Breakdown of new dwelling construction location types in Greater Bendigo from 2015 to 2020



Source: City Building Approval Data

2 *Greater Bendigo Residential Development Strategy (2004); Greater Bendigo Residential Strategy (2016).*

3 *ABS catalogue number 8731.0 – Building Approvals, Australia, as accessed via Profile ID.*

4 *City Building Approval Data.*

Table 12: Total number of dwelling completions by suburb and year (City of Greater Bendigo data source)

Suburb	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
Kangaroo Flat	59	147	119	98	58	50	43	61	96	69	89	889
Strathfieldsaye	35	51	61	74	60	87	63	94	81	118	120	844
Epsom	48	61	79	158	125	113	53	49	27	46	46	805
Huntly	2	10	14	25	119	121	79	69	63	66	102	670
Junortoun	24	61	52	62	65	56	70	67	31	30	43	561
Jackass Flat	1	11	93	73	70	56	54	31	34	40	72	535
Maiden Gully	58	102	64	42	34	31	28	23	25	70	48	525
Golden Square	31	66	81	49	45	50	29	32	24	30	55	492
Eaglehawk	21	43	84	93	38	70	51	29	16	13	16	474
Ascot	49	28	42	73	24	9	15	20	64	55	38	417

Source: City Building Approval Data

5.3.3 New dwelling construction by suburb

The suburbs with the greatest number of dwelling completions over the 10 years from 2010 to 2020 were Kangaroo Flat with 889 new dwellings, and Strathfieldsaye with a further 844 dwellings[5].

In 2020 the greatest number of dwellings constructed were in Strathfieldsaye with 120 new dwellings and Huntly with 102 dwellings. Growth in these two suburbs is expected to be sustained over the medium term with around an additional 2,700 dwellings expected in Strathfieldsaye and 2,100 dwellings in Huntly to 2036[6]. The implementation of adopted structure plans for both Maiden Gully and Marong should also see large dwelling increases in these suburbs over this time period.

5.3.4 Urban Development Program

In 2021 the Urban Development Program within the Department of Environment Land Water and Planning (DELWP) prepared a residential land supply assessment for greenfield and major infill vacant land[7]. This assessment has identified there are between 16 and 19 years of zoned greenfield land supply in Bendigo. Overall including land yet to be rezoned there is estimated to be between 26 and 30 years of total land supply.

5.3.5 Housing Capacity Analysis

As part of the Housing and Neighbourhood Character Strategy the City will be appointing consultants to complete a Housing Capacity Analysis. This will assess the capacity within the established areas to accommodate growth. It will then also help to determine the capacity in different areas following the application of the residential zones.

5 *City Building Approvals.*

6 *Forecast ID.*

7 *www.planning.vic.gov.au/__data/assets/pdf_file/0028/79318/2017-Urban-Development-Program-Greater-Bendigo.pdf*

5.4 Key issues and implications

The key issues and implications for Greater Bendigo in relation to growth and demographic change include:

- An increase in smaller households over time, as well as an increase in dwelling sizes.
- An increase in the proportion of older residents will likely impact on the services and facilities needed, particularly in certain areas.
- Growth has predominantly been driven in the past by residents moving to Greater Bendigo from surrounding shires due to the services and facilities on offer, but more recently there has been an increase in Melbourne residents migrating to the municipality.
- There are many factors which may impact on population growth over the longer term which is why a variety of growth scenarios have been outlined in this paper. While the rate of growth may change, we do need to plan for continued growth and better understand what the implications of this will be on infrastructure, the environment, the economy and the community.

The City needs at least 900 dwellings to be constructed each year to keep up with current demand. While dwelling construction in 2020 was more aligned with population growth, there was over 1,000 less dwellings constructed between 2016 and 2020 compared with the previous five years meaning there is an existing deficit.

The community has the opportunity through the Managed Growth Strategy to have a say in how we will grow so that we retain the features and liveability that makes Greater Bendigo a valued place to live. This includes considerations around increasing housing densities in certain areas, expanding the Urban Growth Boundary and considering what neighbourhood character elements are important to different areas.

6. Housing

6.1 Housing diversity

Despite clear policy directions at both a State and Local level to provide a variety of housing types in well serviced locations, as well as increasing numbers of smaller households, the types of dwellings being built in Greater Bendigo are becoming larger and less diverse. Between 1996 and 2016, the number of dwellings with fewer than three bedrooms declined from 78.6 per cent to 65.1 per cent. Over this same time there were over 15,000 separate dwellings constructed and only 1,300 medium density dwellings. As a proportion, medium density dwellings have declined from 10.9 to 10.0 per cent over the same time period (there was a slight increase in higher density dwellings over this time)[8].

As well as a propensity for separate dwellings, houses are getting larger. The number of four- bedroom dwellings grew from 19 per cent in 1996 to 27.5 per cent in 2016. This is despite the average household size declining from 2.62 in 1996 to 2.41 in 2016[9].

While there have been some townhouse and apartment style developments constructed in recent years, these numbers are small when compared with detached dwellings and have been concentrated in the City Centre and the already established areas of Greater Bendigo. In the growth areas of Bendigo, housing based on the 2016 census is almost exclusively single dwellings of between three and five bedrooms on a lot. These areas are now very attractive to households with children. While this suits the current market, this may present challenges into the future should residents want to downsize and remain within their existing neighbourhood.

While the established areas generally fair better in terms of a mix of housing, there are other challenges such as existing character, single dwelling covenants, heritage, and environmental constraints. All of which can make it more challenging to get a range of dwelling types to meet different housing wants and needs.

8 *ID consulting based on 2016 ABS Census Data.*

9 *Profile ID, ID Consulting.*

Table 13: Annual residential sales and median price from 2010-2020 by type

Year	Number of house sales	Median house price	Number of unit sales	Median unit price	Number of vacant land sales	Median vacant land price
2010	1,645	$262,000	334	$216,250	723	$97,000
2011	1,660	$275,000	295	$225,000	888	$105,425
2012	1,654	$295,000	366	$228,300	851	$112,000
2013	1,787	$307,500	358	$237,250	779	$120,000
2014	1,700	$320,000	335	$235,000	751	$120,000
2015	1,643	$325,000	354	$237,750	552	$132,250
2016	1,785	$322,500	340	$240,000	481	$150,000
2017	1,783	$335,000	303	$259,000	639	$145,000
2018	1,963	$346,800	362	$265,000	766	$142,250
2019	1,874	$360,000	376	$265,000	839	$149,500
2020	1,846	$404,164	326	$305,000	1,127	$160,000

Source: A guide to property values, Valuer-General Victoria, January-December 2020

6.2 Housing affordability

Housing affordability is a growing challenge in Greater Bendigo which has the greatest impact on those least able to afford it. Between 2019 and 2020, the median house price grew by 12 per cent (from $360,000 to $404,164). This is compared to 4 per cent between 2018 and 2019. The growth in unit prices was even higher at 15 per cent (from $265,000 to $305,000) compared with no growth in the previous year. Despite an additional 288 vacant land sales from 2019 to 2020 the value of land went up by 7 per cent (from $149,500 to $160,000) compared with 3 per cent in 2018 to 2019[10]. While this will benefit the many residents already in the housing market, should price rises continue it will make it increasingly difficult for those looking to enter the market.

A further challenge is that housing price growth greatly exceeds that of wages. This means that a home buyer of today is likely to continue to be spending a much higher amount of their income on a mortgage for many years[11]. In Greater Bendigo in 1996, 43 per cent of households fully owned their homes compared with 31 per cent in 2016[12].

There is a very real possibility that many more households in the future will be entering retirement with a mortgage or experience an extended period of mortgage stress.

For those residents already struggling on low to moderate incomes it is becoming more difficult to find housing to suit their needs. Through the State Government's Big Housing Build a minimum of $85 million will be invested in Greater Bendigo to deliver social housing over the next four years. While this amount is significant and could deliver around 300 dwellings across the municipality, with a wait list of now over 2,752 in Greater Bendigo (June 2021)[13], there is still a growing need for more social as well as affordable housing. In September 2021 the City adopted its Affordable Housing Action Plan. Currently 4.6 per cent of dwellings in Greater Bendigo are classified as social housing, with a target of 10 per cent by 2036 identified in the Affordable Housing Action Plan which was adopted by Council in October 2021.

10 *Property Sales Statistics, Annual and quarterly sales statistics from Valuer-General Victoria, A Guide to Property Values, www.land.vic.gov.au/valuations/resources-and-reports/property-sales-statistics*

11 *Housing Affordability: Re-Imagining the Australian Dream – Grattan Institute, grattan.edu.au*

12 *Profile ID, ID Consulting.*

13 *DFFH.*

6.3 Built heritage

Many of the sought-after properties in Greater Bendigo are located within areas of heritage sensitivity and contain buildings of heritage significance. Greater Bendigo's rich history is demonstrated through its buildings of different eras from the German inspired heritage within the boulevards of the City Centre, miners cottages, federation or 'Bendigo Boom' architecture of the gold mining era through to interwar and post-war housing. To recognise and protect this history for future generations, there are over 6,000 properties in Greater Bendigo listed within a Heritage Overlay. This includes 40 precincts and 570 individual miners' cottages[14].

The City has undertaken numerous heritage studies of most parts of the Greater Bendigo area, and has translated these into the relevant parts of the planning scheme. Documents such as the Greater Bendigo Thematic Environmental History, 2013 and the Greater Bendigo Heritage Design Guidelines, August 2015 were prepared and assist owners when they seek to develop heritage recognised properties.

Council, through its planning scheme, provides for the protection of buildings and precincts, and sets out processes to be followed on how new development must respect our heritage buildings and places. Council also provides loans to assist owners to restore their properties.

Many of the individually significant buildings and precinct overlays are located within established residential areas but can also be found across our small towns and rural settlements. Given these areas are often well located to services, facilities and transport, the appropriate renovation or redevelopment of these dwellings should be actively encouraged while still ensuring the retention of valued heritage features for future generations.

There are now many examples of adaptive reuse and contemporary design incorporating original heritage architecture. Larger scale local examples include the former Saint Aidan's House in Kennington and Fortuna Villa in Golden Square. However, in addition to these well-known examples, there are also a number of smaller examples across the municipality. As well as adaptive reuse, there are also opportunities particularly on larger blocks to retain heritage buildings and to subdivide the land or to build secondary dwellings on the same allotment. However, it is acknowledged that current planning provisions make the delivery of secondary dwellings challenging.

6.4 Neighbourhood character

In addition to heritage, the protection of neighbourhood character is often highly valued by the community. The City has an adopted Residential Character Policy to provide guidance to planners, the community and developers around preferred character within the different urban areas of Greater Bendigo. This strategy was however adopted in 2003, making it now more than 18 years old. Much has changed in terms of the character of the different precincts and suburbs over this time including the styles, types and settings of dwellings. Therefore, it is important to develop a new Strategy to provide greater guidance around preferred character of different residential areas.

In addition to the Residential Character Policy which applies to the residential areas of urban Bendigo, there are two Neighbourhood Character Overlays. These overlays are put in place where areas have a unique or special character which needs to be retained. In Greater Bendigo these relate to Bendigo Early Settlement Residential Character and Bendigo Post War Residential Character.

Concurrently with the Managed Growth Strategy, the City has appointed consultants to prepare a new Housing and Neighbourhood Character Strategy (H&NCS). This Strategy will be developed to provide clear guidance around the important character elements in both the private and public realm of different areas of Greater Bendigo. This will include consideration of the existing character and any future areas where a Neighbourhood Character Overlay should be considered.

The H&NCS will help provide guidance to ensure new development is complementary to the preferred character of an area. It is important to note that while all areas have a character there will be some areas which are identified to undergo substantial change into the future. In these areas a new character will evolve over time. Examples of such areas include the area around the Bendigo Hospital where a Residential Growth Zone currently applies and the Bendigo City Centre where the City is looking to apply the Activity Centre Zone.

14 *Heritage Gap Study*

6.5 Residential zones

The Managed Growth Strategy, combined with the H&NCS, will provide the strategic basis for the application of the residential zones where detailed precinct planning has not already been undertaken.

The new Residential Zones were approved in March 2017, and then further refined via Amendment VC143 to make changes to Garden Area Requirements and permissible uses within the Residential Growth Zone.

A summary of the features of the different residential zones is provided in Figure 4. It is worth highlighting that the Activity Centre Zone is being proposed for the City Centre which allows for residential uses. As this is going through a separate process the details of the Activity Centre Zone have not been outlined within Figure 4.

In December 2019 the State Government introduced Planning Practice Note 91 which provides guidance on the application of the Residential Zones. It puts a stronger emphasis on the integration of Neighbourhood Character Strategies and Housing Strategies to inform changes to the residential zones.

Key principles within Practice Note 91[15] include:

- Housing and Neighbourhood Character plans need to be consistent
- All residential zones support increased housing unless other constraints exist
- Within the General Residential Zone a three storey, 11 metre height limit applies
- Density or number of dwellings can't be restricted within the Neighbourhood Residential Zone unless other constraints exist

Hobson's Bay was the first Council to commence the process of applying the Residential Zones following the introduction of this practice note. The panel report for Amendment C131, which in part proposes to introduce the residential zones to the Hobson's Bay planning scheme, was released in August 2021. It provides a series of recommendations for councils about to embark on similar projects which will need to be considered in any future application of the residential zones.

6.5.1 Existing Farming and Low Density Zoned land within the Urban Growth Boundary

While it is important to retain areas of productive farming land as identified later in this paper, there are a number of areas within the existing growth boundary which are currently zoned as Farming (FZ) or Low Density Residential (LDRZ). These are largely a legacy from the pre-amalgamation planning schemes. Serviced areas in a LDRZ in Greater Bendigo generally allow for lots of 0.2 hectares (and unserviced lots 0.4 hectares) and in a FZ, 40 hectares.

As part of the adopted Housing Strategy 2018 all FZ and LDRZ land within the urban areas of Greater Bendigo was investigated. Overall, 29 precincts were investigated through this process which covered over 2,201 hectares and incorporated 959 properties . Since this time the area in Huntly on the west side of Whirrakee Parade was rezoned from LDRZ via amendment C222. Despite this rezoning there remains a large amount of land within a LDRZ or FZ within the Urban Growth boundary.

Some of these areas will be inappropriate for more density due to environmental issues such as flooding, vegetation, or being located proximate to the wastewater treatment plant in Epsom. There however remains some land which could be investigated for rezoning through the Managed Growth Strategy or through privately led rezonings. This should be considered when looking to apply the new residential zones.

15 *Practice Note 91, DELWP www.planning.vic.gov.au/__data/assets/pdf_file/0033/445389/PPN91-Using-the-residential-zones.pdf*

16 *Investigation of Low Density Residential and Farming Zoned Land.*

Figure 4: Overview of different residential zones

Zone	Low Density Residential Zone	Mixed Use Zone	Township Zone
Objective	Provide for low-density lots, which can treat and retain wastewater where there is no access to reticulated sewerage	Provide for a range of range of complementary uses including higher density housing	Provide for a range of uses in small towns
Building height	No maximum building height specified	No maximum building height specified. However, a mandatory maximum building height can be specified in the schedule to the zone	Discretionary maximum height – 9 metres but mandatory height of at least 9 metres can be specified in the schedule to the zone
Subdivision area	None specified	None specified	None specified
Garden area	None specified	None specified	None specified
Objective specification	Objectives can be specified	Objectives can be specified	Objectives can be specified
Application and decision guidelines	Application and decision guidelines can be specified	Application and decision guidelines can be specified	Application and decision guidelines can be specified
Zone	**Residential Growth Zone**	**General Residential Zone**	**Neighbourhood Residential Zone**
Objective	Housing of up to and including 4 storeys in locations well serviced by services and facilities including activity centres	Encourage a diversity of housing types particularly in well serviced locations while respecting the neighbourhood character of the area	Ensure development respects identified neighbourhood character, heritage, environmental or landscape characteristics
Building height	Discretionary maximum height – 13.5 metres but mandatory height of at least 13.5 metres can be specified in the schedule to the zone	Mandatory maximum height 11 metres and 3 storeys	Mandatory maximum 9 metres and 2 storeys
Subdivision area	None specified	None specified	Minimum subdivision area requirement
Garden area	None specified	Minimum garden area but potential for requirement to be exempted	Minimum garden area with no exemption
Objective specification	Objectives can be specified	Objectives can be specified	Objectives can be specified
Application and decision guidelines	Application and decision guidelines can be specified	Application and decision guidelines can be specified	Application and decision guidelines can be specified

Source: Adapted from DELWP Planning Practice Note 91, Using the Residential Zones

6.6 Urban Growth Boundary

The latest Urban Growth Boundary (UGB) was introduced via Amendment C60 following the adoption of the Residential Strategy 2004. The UGB is a policy tool to manage Bendigo's outward growth by channelling residential and other urban land uses and development into designated growth areas, preventing their outward sprawl and incursion into areas which council wants to protect.

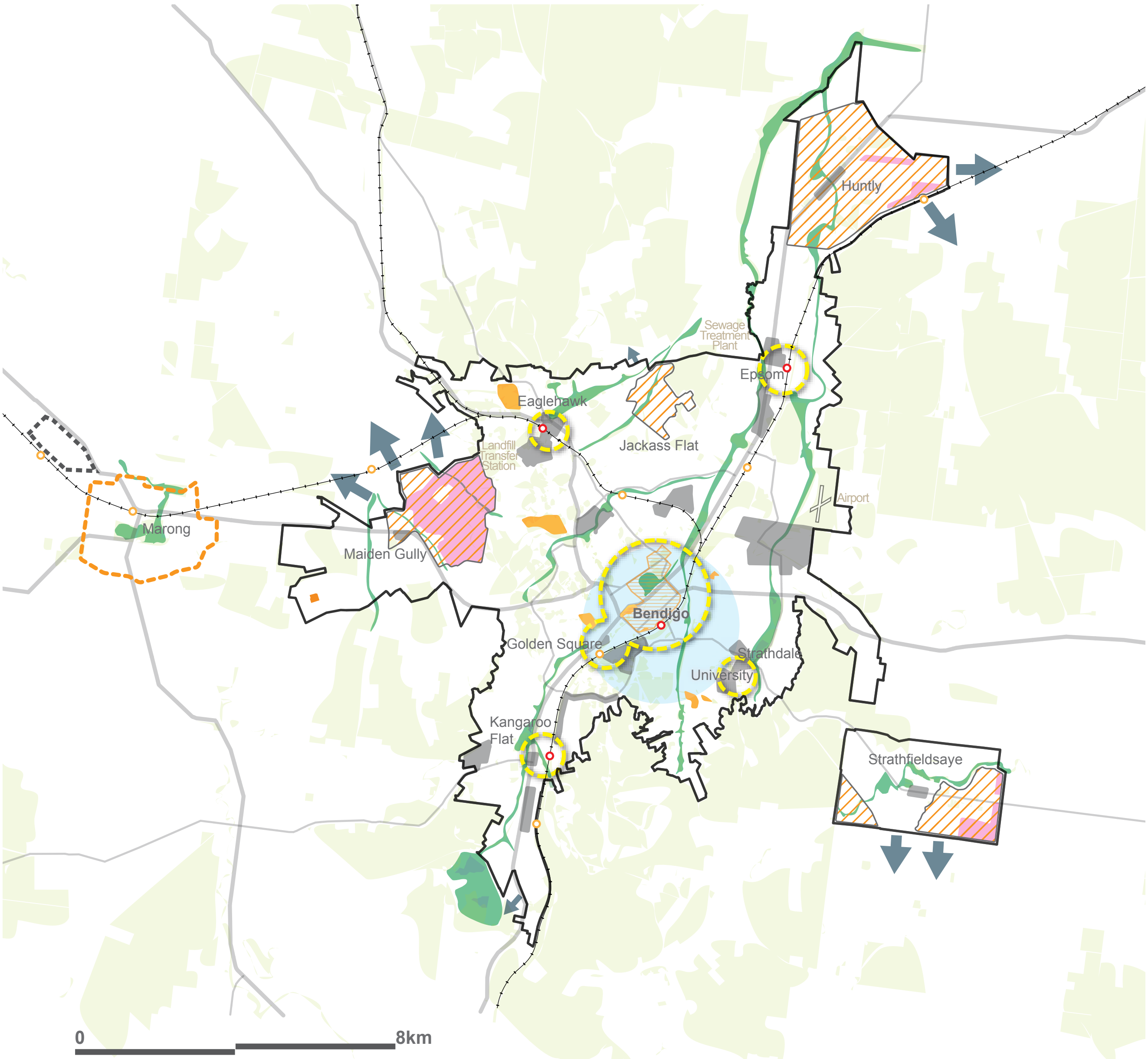
Along with the areas within the Bendigo Urban Area, the Residential Growth Framework (figure 5) also identifies future investigation areas including outside of the current UGB. This includes the area around the new Huntly Railway Station and Maiden Gully North West.

The City will soon commence planning around the Huntly Railway Station and an update to the Huntly Township Plan 2007 as part of a separate project.

In terms of progressing a plan for Maiden Gully North West, this would only be able to be progressed if it is identified as a low risk location, which is not clear at this stage. This will be investigated as part of a Municipal Wide Bushfire Risk Assessment as part of the Managed Growth Strategy.

The Managed Growth Strategy will consider whether there needs to be any changes to the Urban Growth Boundary. This includes considering if all areas currently included are appropriate, if future growth areas should be identified, or alternatively if growth in new satellite townships should be identified. This would need to be balanced with the environmental features and infrastructure constraints, managing bushfire risks to an acceptable level, and managing the policy tension which is directed at encouraging more housing in well serviced areas.

Figure 5: Existing Residential Growth Framework



Greenfield growth
Key Development Site
Future Satellite Township
Future Residential Rezoning
Employment Areas
City Centre
Integrated Activity Centre
Potential Longer Term Growth
Existing Green Corridors
Proposed Forest Links
Urban Growth Area / Boundary
Public Land
Train Station
Proposed/Reopened Train Station
Rail Line
2km Radius from Bendigo Train Station
Road

6.7 Summary of housing issues and opportunities

6.7.1 Issues

- Lack of housing diversity particularly in growth areas of Bendigo
- Areas with predominantly lower density housing make it difficult to attract businesses and services
- Limited understanding around the market demand for different types of housing in Greater Bendigo, for example units and apartments
- Limited understanding of the existing housing capacity in Greater Bendigo
- There are over 6,000 buildings in a Heritage Overlay which creates development challenges and limitations
- Lack of understanding on the extent of single dwelling covenants*, particularly across the established areas of urban Greater Bendigo
- Housing affordability is an increasing problem exasperated by social housing wait lists
- An outdated Residential Character Policy which provides limited direction for preferred character outcomes in Greater Bendigo
- Limited direction in terms of legislation/rules to improve environmental sustainability outcomes in the majority of new houses
- The high cost of servicing new housing areas with water, sewerage, electricity and roads

6.7.2 Opportunities

- Introduce residential zones that provide clarity around suitable housing for different areas
- Develop Urban Design Frameworks that provide guidance around the design of new developments in Commercial centres to encourage better housing design and diversity
- Undertake a survey to determine market demand for medium density development
- Undertake further investigation to determine the potential of rezoning some areas of farming and low-density residential land within the Urban Growth Boundary
- Better integrate new housing in heritage precincts including secondary dwellings to the rear of properties or contemporary extensions
- Maximise opportunities through the Big Housing Build for housing in Greater Bendigo
- Maximise existing planning tools to encourage a proportion of affordable housing in new developments
- Investigate density incentives when a positive community benefit will be delivered as a result of a new development
- Investigate alterations to the Urban Growth Boundary that could progress the supply of residential land

7. Environment

7.1 Context

The natural assets of Greater Bendigo are highly regarded by the local community and visitors. Being a city in a forest means we have a rich variety of flora and fauna for residents and visitors alike to enjoy. However, this also brings its own challenges in limiting where development can take place to ensure the ongoing protection of important vegetation and fauna.

In a city with areas prone to both bushfire and flooding, the potential of more frequent future extreme weather events must be considered when planning suitable locations for new housing. A dry climate and less frequent rainfall is also something that needs to be considered when planning for new development.

Positively the temperate climate of Greater Bendigo makes it ideally placed to harness renewable energy opportunities and maximising these opportunities in all new developments and renovations should be encouraged. There are also many opportunities to make better use of the rainfall that Greater Bendigo does get by introducing Water Sensitive Urban Design into new developments and landscaping with appropriate drought tolerant plant species.

7.2 Climate Change

Greater Bendigo is not only expected to get warmer and drier into the future, with less annual rainfall, but to experience more extreme weather events. This includes an increased risk of both bushfires and intense storms[17]. It is expected that the weather in the region may be more closely aligned to the current weather of Shepparton by 2050[18].

With knowledge of the likely regional impacts of climate change, it is essential that these impacts are considered when planning for future development. This includes directing housing to low-risk bushfire locations and discouraging new housing in flood prone areas.

As the population grows so do the surfaces which attract heat such as concrete and roads. During hot weather these areas can be several degrees warmer than the surrounding areas, resulting in a heat island affect. If we don’t seek to mitigate the effects of this through more tree planting and other strategies these environments will become increasingly difficult for residents to live. More detail around this and its impacts is provided in the City’s adopted Greening Greater Bendigo Strategy.

With a dry climate and a long-term average rainfall of 510mm (150mm less than Melbourne)[19] having access to potable water has long been a concern raised by residents including in the most recent consultation for the Council Plan (Mir Wimbul). This needs to be factored into the City's long-term planning and the City will need to work closely with Coliban Water in particular to address this.

Over half of the land within Greater Bendigo is zoned for farming. Agriculture is an important industry in Greater Bendigo and different areas of the municipality are suited to different types of farming from livestock and cropping in the south and west to irrigated farming in the north around Elmore[20]. Climate change is also likely to have an impact on the types of farming that are suitable in and around Greater Bendigo and the City is working with Deakin University on a project to better understand what this might mean for the region. The continued retention and protection of areas of high agricultural productivity from residential encroachment will be an important consideration. This is being further supported by the City through a decrease in the 2021/22 budget of the farmland differential rate from 85 to 75 per cent of the general rate.

The City's recent Climate Change and Environment Strategy encourages our community to produce net zero carbon emissions by 2030, and zero carbon housing developments have a big role to play. This is discussed later in this section.

7.3 Flooding

Prior to 2000 urban drainage was designed for minor, frequent rain events not extreme flood events. While the City is currently upgrading the network, this will take time and comes at a significant cost (estimated to be at around $40 million).

The Bendigo Urban Flood Study was prepared in 2013 in collaboration between the North Central Catchment Management Authority (NCCMA) and the City of Greater Bendigo. Bendigo has a long history of flooding however this flood study was the first of its kind in Greater Bendigo to be used to support development information.

The study estimated that around 30,000 properties with a variety of uses including residential, commercial and industrial would be impacted by a large flood in Bendigo. Areas that are particularly vulnerable include areas around Kangaroo Flat, central Bendigo and Epsom and Huntly.

The Bendigo Urban Flood Study was implemented via Amendment C221.

More recently a Heathcote Flood study was completed in collaboration with the NCCMA. The Heathcote Flood Study was implemented via Amendment C243 which updated the planning controls to approximately 320 properties.

Consideration needs to be given to not increasing residential densities in flood prone areas particularly given the likelihood of more extreme weather events into the future.

7.4 Native Vegetation

The native vegetation in around the Bendigo urban area is one of the defining characteristics of the City. It plays an important role not only from an amenity perspective, but also biodiversity and cooling of the urban environment.

The planning controls in relation to the removal of native vegetation have been getting progressively increased. This is part of a deliberate government policy around reversing the loss of native vegetation across the State.

Amendment VC138 was introduced in 2018 following the release of Protecting Victoria's Environment - Biodiversity 2037. The amendment introduced changes to Clause 12 (Biodiversity) of the Planning Scheme to refer to the Guidelines for the removal, destruction or lopping of native vegetation (Department of Environment, Land, Water and Planning, 2017). Clause 12 identifies the need for no 'net loss of biodiversity as a result of the removal, destruction or lopping of native vegetation.' While avoiding the removal of native vegetation is the preferred approach, where this is unavoidable impacts of this native vegetation loss should be minimised, and an offset to compensate for the biodiversity impact is required.

The introduction of the Guidelines for the removal, destruction and lopping of native vegetation in 2017 has created an additional layer of complexity to land use planning, particularly on a precinct wide basis. Offset requirements are becoming increasingly expensive and difficult to source, to the point where it may make development economically unviable. The modelling for native vegetation removal is evolving and becoming more sophisticated and this is also creating a number of challenges. When read in conjunction with VC140 around bushfire planning and directing growth to low-risk locations, this can potentially become problematic in a City like Greater Bendigo given the surrounding natural context, and has already been a challenge in progressing planning projects such as the Maiden Gully Precinct Structure Plan.

As Greater Bendigo's population and the demand for rural living grows, housing is increasingly occurring around the edges of urban Bendigo close to or within bushland. One of the State's greatest concentration of Box-Ironbark forest surrounds the urban area of Bendigo. This presents a number of challenges in managing a healthy forest, habitat corridors for native animals, and bushfire risk, especially with some of this flora and fauna protected under the Flora and Fauna Guarantee (1988) at a State Level and Protection and Environment Protection and Biodiversity Conservation Act (1999) at a national level.

17 *Environment Strategy page 9.*

18 *Loddon Campaspe Climate Projections 2019 www.climatechange.vic.gov.au/__data/assets/pdf_file/0039/429879/Loddon-Campaspe-Climate-Projections-2019_20200219.pdf*

19 *Greening Greater Bendigo 2020-2070.*

20 *North Central Regional Sustainable Agriculture Strategy, NCCMA 2016.*

7.5 Bushfire

The Bushfire Royal Commission highlighted the importance of addressing bushfire risk at a strategic planning level rather than at the planning permit stage. Subsequent changes to State policy and statutory provisions have enshrined this into the planning system. The role of the Country Fire Authority (CFA) was also elevated significantly.

There are currently 15,000 properties in Greater Bendigo within a Bushfire Management Overlay (BMO). A planning permit is required for subdivision and new houses on properties which are affected by a BMO. This control is applied to ensure that development is only permitted where harmful exposure to bushfire can be reduced[21].

Given the potential loss of life around bushfire in recent years, policies have been strengthened. Bushfire protection now is the primary consideration when deciding whether areas are suitable for residential development. Areas cannot be rezoned to allow further intensification of the land unless they can achieve a radiant heat flux of 12.5kw/h (or a Bushfire Attack Level of 12.5).

State planning policy also requires that growth be directed into low risk locations and it is a requirement for Council to be able to demonstrate that a particular growth area is low risk compared to other potential areas. This is a particular challenge as there is no Planning Practice Note or other guidance on how to undertake this type of assessment.

While the BMO identifies areas of hazard it does not identify bushfire risk. In order to adequately assess bushfire risk across Greater Bendigo, the City requires a Municipal Bushfire Risk Assessment to be completed. A consultant will be appointed over the coming months to undertake this work to inform the Managed Growth Strategy. The aim of this assessment will be to identify the bushfire risk profile of different areas of Greater Bendigo. Where these areas are of a high risk then new residential development in these areas should be actively discouraged. This is likely to be one of the biggest constraints on any further expansion of the urban area of Greater Bendigo.

Where lower risk areas are identified it will then be necessary to undertake a more detailed precinct-based assessment of the bushfire risk to identify potential mitigations measures.

The historic pattern of development within Greater Bendigo has also meant there are many dwellings which have been constructed in heavily vegetated environments or directly adjoining vegetated areas without a buffer of defendable space. Consideration may need to be given into the future around the appropriate zone for some of these areas to discourage new housing.

7.6 Zero carbon homes and environmentally sustainable development

The average Australian household generates over seven tonnes of greenhouse gas emissions annually, with around 40 per cent of this due to heating and cooling[19].

There is a move towards increasing renewable energy particularly at both a State and Local level. The State Government has established a renewable energy target of 50 per cent by 2030[22].

The City's Climate Change and Environment Strategy 2021-2026 identifies and goal of 40 per cent of households and businesses having a solar system installed by 2030.

While these targets may sound ambitious, already 69 per cent of the region's energy needs are generated from renewable energy, up from less than five per cent only five years ago. It is anticipated that over the next five years if all planned largescale solar projects go ahead that the region will be able to generate its own energy needs and even be able to export power out of the region[23].

The Trajectory for Low Energy Buildings agreed by all states and territories in February 2019 anticipated strengthened energy provisions in the National Construction Code (NCC 2022), including an increase in building efficiency and stronger standards for fixed appliances such as heating, cooling and hot water. This strengthening will continue in future reviews of the NCC eventuating in zero energy (and carbon) ready buildings into the future[24].

The proposed increases will maximise the benefits of solar PV panels for renewable energy generation on homes, transition away from fossil fuel gas and move to all-electric new homes resulting in reducing the impacts of climate change, and a shift to a net-zero future.

It is therefore important that new estates and new dwellings in existing residential areas are designed to consider a transition to net zero energy usage now and adapt to a hotter and drier environment in the future. This includes introducing greening and landscaping to reduce urban heat island effects, installing or allowing for the installation of solar Photovoltaic panels and ensuring improved thermal fabric and high energy and water efficient standards in any new build or renovation.

The City has been proactive and introduced an Environmentally Sustainable Development (ESD) policy into the Greater Bendigo planning scheme in 2018. This policy ensures ESD is considered at a planning stage prior to building approval where the greatest impact on sustainability for the lowest amount of cost exists. The ESD policy requires planning permit applications for three or more dwellings on a lot to submit a Sustainable Design Assessment. Currently single dwellings on a lot are required to achieve a minimum 6 Star energy rating however the Victorian Government via the NCC 2022 review has committed toward all new homes requiring to meeting a 7 Star energy rating[25].

Figure 6: Concept plan for Chum Street, Golden Square prepared by MGS architects in 2014

Development Summary

Site area	13.5 hectares	
1 bedroom apartments	28	Over 3-4 storeys
2 bedroom apartments	132	Over 3-4 storeys
2 bedroom semi-detached dwelling	40	Over 2 storeys
3 bedroom semi-detached dwelling	9	Over 2-3 storeys
4 bedroom semi-detached dwelling	8	Feature housing over 2 storeys
2 bedroom terraced dwelling	101	Over 2 storeys
3 bedroom terraced dwelling	70	Over 2-3 storeys

7.7 Land contamination

The alluvial mining legacy of Bendigo means that large parts of the urban area are impacted by varying degrees of soil contamination with metals such as arsenic, lead, zinc and copper among others. The cost to rehabilitate some of these sites to allow for sensitive uses such as residential development, has made the development of these sites unviable to date.

This has led to a number of well located land parcels remaining vacant for a long time. The most notable of these is Chum Street, Golden Square. A concept plan for this 13 hectare Crown Land site was prepared as part of the previous Residential Strategy in 2014 and has been further referenced within the Golden Square Structure Plan. The concept plan comprised 388 dwellings of a range of sizes.

There is a need to better utilise public land which may include de-risking some of this land, if we want to better utilise land which is well located close to existing services and infrastructure.

The ongoing exploration of sites such as Chum Street should continue to help in meeting Greater Bendigo's growth needs due to their alignment with planning policy to provide housing in established areas and better utilise existing infrastructure.

Another legacy of the mining era is that there are many mine shafts and mining vents across the City. Where these are known preliminary soil investigations on properties are required, and if this indicates that development can occur, then construction management plans need to be prepared. This all adds to the cost and unviability of developments. There are also instances where mine shafts aren't currently mapped and were poorly capped. From time to time the mine shafts will experience subsidence and open up without warning.

The development of the municipality over time has also led to the potential for other forms of contamination such as old tips or petrol stations. All this goes to further impact on what might otherwise be land which could be suitable for residential development.

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21 *Building in the BMO, www.planning.vic.gov.au/policy-and-strategy/bushfire/building-in-the-bmo*

22 *Victoria's Renewable Energy Targets, www.energy.vic.gov.au/renewable-energy/victorias-renewable-energy-targets*

23 *Adapt Loddon Mallee, www.adaptloddonmallee.com.au/energy*

24 *Renew – Resources on the 2022 National Construction Code, https://renew.org.au/advocacy/climate-resilient-homes/resources-on-the-2022-national-construction-code/*

25 *Victoria to Pursue 7-Star Energy Efficiency Vision, www.premier.vic.gov.au/victoria-pursue-7-star-energy-efficiency-vision*

7.8 Groundwater

Groundwater is naturally occurring within the disused and abandoned mines across Greater Bendigo and has been recovering to normal levels since the cessation of mining activity within these mines in 2011[26]. Interim solutions to managing this groundwater have been put in place since 2015. However, a long-term solution for the groundwater issue still needs to be found otherwise it will continue to discharge into the environment at several points across Greater Bendigo. Groundwater has higher levels of salt, arsenic, other heavy metals and hydrogen sulphide.

7.9 Summary of environmental issues and opportunities

7.9.1 Issues

- Greater Bendigo is likely to be hotter and drier in the future, and experience more extreme weather events
- With patches of native vegetation on many sites, this can make it difficult to develop these sites or it can be difficult or costly to obtain vegetation offsets (where vegetation is provided elsewhere to make up for vegetation loss)
- Planning for growth whilst managing bushfire risk is a challenge and timely strategic planning advice from the CFA is needed
- We need to consider the impacts of building housing in flood prone areas, this includes the impacts to homes downstream. While not a planning consideration it also may impact on insurance
- Retrofitting existing dwellings to be more energy efficient can be costly upfront. Not doing this however will likely lead to growing costs to heat and cool these dwellings in the future which is likely to impact on those least able to afford it
- New mining exploration licences may further limit suitable development areas
- While there are a number of ex-mining sites in well located areas, the cost and ability to remove the contamination on these sites and get them ready for development can be challenging
- Mine shafts and mine vents can add to new development costs and often the location of these shafts is not always known
- Currently groundwater discharges into several points across Greater Bendigo
- Erosion is a challenge in certain areas and may make some locations unsuitable for development

26 *DELWP, Managing Groundwater from Bendigo Mines www.water.vic.gov.au/groundwater/bendigo*

7.9.2 Opportunities

- Continue to advocate for the remediation of former mining land to enable residential and other uses
- Protect and enhance vegetation and tree canopy coverage
- Establish and promote a native vegetation offset bank, that will not only permanently protect vegetation but increase opportunities for locally sourced vegetation offsets
- Complete a municipal wide bushfire assessment prior to the draft Managed Growth Strategy to ensure residential development is directed to low-risk locations
- Develop and implement flood studies (also identified in the Climate Change and Environment Strategy 2021-2026)
- Encourage more housing in areas with fewer environmental risks
- Encourage greater consideration of Environmentally Sustainable Design at the design stage of development by providing ready access to information and tools to make the process as easy as possible
- Encourage residents to continue to reduce their water use including outside of droughts
- Partner with Coliban Water to improve household and business water use efficiency (also identified in the Climate Change and Environment Strategy 2021-2026)

8. Infrastructure

8.1 Water

Since European colonisation the flow of water across the landscape has been significantly altered. Greater Bendigo sits between the Campaspe and Loddon Rivers and contains several significant waterways, water storage and treatment facilities. This includes Lake Eppalock, the Coliban Water reclamation plant, Bendigo Creek, Axe Creek, Myers Creek, and Bullock Creek. Over time urban and rural land use and development is impacting the quality of waterways and ground water, and balancing water functions and land use and development is becoming increasingly difficult.

Lake Eppalock is located on the Campaspe and Coliban Rivers and was constructed in the 1960s for irrigation and domestic water supply. Today it continues to be a major water storage facility and is also used for recreation purposes and environmental flows. The surrounding area is heavily vegetated which is vital for water quality and habitat.

Intensification of use and development around waterways, particularly in urban areas, is increasingly causing issues relating to flooding, contamination, silting, poor water quality and limited passive surveillance. More recently the development of walking and cycling paths along several creek corridors has increased, including the use of street art and the re-introduction of native habitats.

Bendigo Creek is fed by numerous tributaries and runs from Big Hill through the heart of the Bendigo urban area and into our rural landscape. The heavily engineered drain that we see today has continued to be altered since the discovery of gold to straighten, regrade and remove obstructions from a once-natural Creek. This allowed vast volumes of gold mining sludge to be channelled out of the city and deposited across the landscape, producing contaminated soils and sediment. Contaminated groundwater from mine workings is still being discharged into the Creek, as well as stormwater from urban areas. During the 1980s flood levee banking was constructed around the Creek along the Epsom and Huntly sections, the lifespan of which presents a potential risk for surrounding land use and development. With the growth of urbanisation, there has been a steady loss of indigenous vegetation and a disconnection with the Creek, with most land use and development backing onto the Creek rather than fronting it.

In the urban area of Bendigo there are a number of active and decommissioned water channels. This provides an opportunity for modernisation of active channels during the development phase to improve developer outcomes, improve water services to rural water users and reduce overall system water losses.

Water pressure can be a challenge in certain areas for example for taller buildings in the City Centre and in planning for new areas. It is important that this is considered at the planning stage.

Since the establishment of the water reclamation plant in Epsom there has been significant residential growth occurring to the south and east.

Recycled water has also become a major feature of the Bendigo Water Reclamation Plant with the opportunity and demand for recycled water growing strongly.

Recycled water is water that has been treated so it can be used for other purposes. Coliban Water produces approximately 1,700 ML of recycled water annually, with the dominate uses being irrigation of public open space and farmland, and the Fosterville gold mine. There is also some third pipe developments within the city, where Class A recycled water is able to be used for garden watering.

There is an exciting opportunity to improve the drought resilience of the City, however the opportunity is also limited to the viability of moving recycled water over long distance from the central source at Epsom. Over the coming twenty five years the flows into the Bendigo Water Reclamation Plant will increase by 5,000ML per annum.

As lifestyle living has grown in popularity over the last 30 years, the widespread construction of dams for this style of living has further altered the flow of water across the landscape.

8.2 Sewerage

Coliban water currently around 45,000 household sewer connections within Greater Bendigo, with the number of connections growing at around 2.2 per cent per year.

In addition, there are currently around 10,000 properties reliant on onsite wastewater management systems with around 200 new applications per year in Greater Bendigo. These management systems are the responsibility of the property owner.

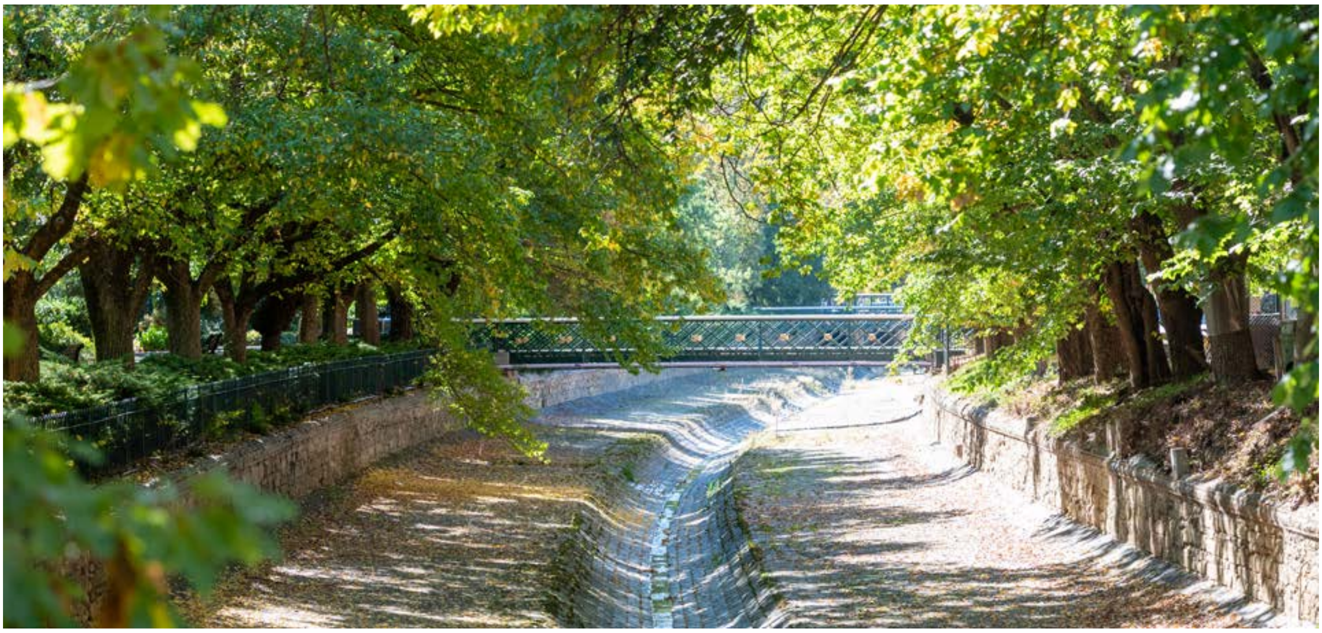
In urban Bendigo sewage flows via gravity, or in low areas is collected and pumped to the Bendigo Water Reclamation Plan in Epsom. With a growing population and development of new employment land the amount of sewage flows being sent to Epsom will increase.

From a land use point of view, it is becoming increasingly important to ensure that more housing is not directed near to the treatment plant. Therefore, the City is currently working with Coliban Water on appropriate planning controls surrounding the treatment plant to protect this important asset.

8.3 Digital connectivity

Like many areas in regional Victoria, Greater Bendigo is impacted by digital connectivity issues particularly in rural areas but also some of the urban areas of Bendigo. The Loddon Campaspe Regional Digital Plan identified some of the following challenges in terms of digital connectivity; access, affordability, mobile coverage and public wifi.

In an era of remote working access to reliable internet and mobile coverage has never been more important. Inadequate access to reliable internet and speeds could hamper the economic and residential growth in certain areas.



8.4 Community buildings/hubs

Community buildings are important for healthy, sustainable communities. They support community members' social and economic participation and access to services.

The City has developed a draft Community Buildings Policy (Policy). The Policy principles and service level hierarchy are guiding the development of a draft Community Hubs Strategy (Strategy). The Strategy will support a future where Greater Bendigo has an integrated and equitable network of community buildings / hubs that can be used flexibly to meet growing and evolving community needs.

There are hundreds of community buildings already in existence across Greater Bendigo – including the likes of community centres, halls, libraries and sporting pavilions. These vary in terms of their quality and utilisation rates.

There are identified financial challenges in maintaining/ renewing numerous existing infrastructure assets. The asset maintenance/ renewal 'gap' is expected to increase as Greater Bendigo's existing infrastructure assets continue to age, and as standards change.

The draft Community Hubs Strategy may identify scenarios where communities wish to move away from having several low quality, poorly utilised community buildings within close proximity of one another, to investing in a higher quality, more vibrant and multi-purpose community building/hub.

Within the growth areas of Bendigo, investment in community hubs can potentially be partially funded through Developer Contributions Plans to a maximum amount of $1,225 per new dwelling[27]. Importantly this doesn't fund the full cost of the development of a new facility and therefore the City still needs to factor this into its capital works planning.

8.5 Public space and recreation

Our public spaces are the commons of the city; the places that we share and come together in as citizens. They are collectively a vital ingredient of our economy, society, community health and wellbeing, and culture. They are intrinsic to the fabric, character and identity of the city itself.

Greater Bendigo's public spaces are diverse. They include parks, gardens, creek corridors, bushland, sporting reserves, but also streets and road reserves, urban spaces such as squares, malls and plazas, privately-owned public space, rail corridors and easements, and crucially, extensive areas of public land which are usually managed by organisations other than the City of Greater Bendigo.

Over 23 per cent of the city's area (over 71,400 hectares) is made up of some form of public space (even excluding some major public space types such as streets). This compares very favourably with most other areas of Victoria and Australia.

Figure 7 – Public space in Bendigo

Developing residential neighbourhoods nearer to the city fringes requires integrated planning and provision of new public space to provide for the recreation, mobility, liveability and local character needs of these communities.

The priority for most established parts of the municipality is however for improvements to the quality of existing public spaces, with some communities in need of more investment than others.

The kinds of improvements most commonly needed are infrastructure, facilities and amenity upgrades such as pathways, seating and lighting, better connections between spaces, as well as more shade, trees and vegetation. Facilities and infrastructure to support active recreation, such as organised sports, play spaces, and water access, are generally well-provided for though there are ongoing needs for new provisions and upgrades, in both newer and more established communities.

As well as public spaces as the population grows, there will be and increasing need to address gaps in organised sporting facilities. There is an action in adopted Greater Bendigo Public Space Plan (page 75) to Develop a policy framework for the strategic planning and provision of recreation reserves and facilities.

27 *www.planning.vic.gov.au/policy-and-strategy/development-contributions*

8.6 Education

There are 23 standalone kindergartens and 27 long day care centres in Greater Bendigo with these services managed by: 60% private not for profit, 34% private for profit, 4% local government and 2% other.

From 2022, funded kindergarten services are being expanded to include three-year-old and four-year-old children across Greater Bendigo and local children will benefit from this additional education. The number of children in our community, aged three and four-years-old, is expected to grow from 3,594 in 2021 to 3,877 in 2029. Two SA2 regions in Greater Bendigo (SA2 region-south and SA2 region – Eaglehawk/ California Gully) are expected to experience significant levels of unmet demand for kindergarten places during this time.

Across Greater Bendigo there are 28 government primary schools, two special schools catering for students with additional needs, four junior secondary schools from years 7-10 and one senior secondary college, years 11-12[28]. This is a slightly different secondary education model to most areas in Victoria. The Bendigo Senior Secondary College caters for 1,700 students making it the largest in the state[29]. As well as government school there are also 10 catholic primary schools, three prep-year 12 schools, one prep-year 10 and one catholic secondary school.

As at 2021 it was estimated there were around 11,500 primary school age students (5-11) and 9,400 secondary school age students (12-17). By 2036 it is forecast there will be an additional 3,100 primary school age students and a further 2,700 secondary school age students[30]. Based on 200,000 people at 2050 there could be an additional 4,000 primary school students and 3,500 secondary school students, based on 2036 numbers.

The majority of schools in Greater Bendigo, particularly secondary schools, are located within the established areas of Bendigo. Over the longer term, in particular, having a single government funded senior secondary college in the centre of Bendigo with limited opportunities for expansion may create challenges.

Given the time it takes to plan for new schools, it is important that this is considered early within any (precinct) structure planning process.

8.7 Summary of infrastructure issues and opportunities

8.7.1 Issues

- Need to ensure that the wastewater treatment plant is protected from residential encroachment and the development of more housing nearby
- Improve access to reticulated services such as water and sewerage into the small towns so they can offer housing opportunities
- There is a large number of community buildings across the municipality which are not currently aligned with need (i.e. some areas are well serviced with community buildings and others not as well serviced)
- There are gaps in the provision of public space, recreation and sporting facilities in certain areas - some of these gaps have been identified in the Greater Bendigo Public Space Plan
- Limited opportunities for expansion of the certain schools due to their location
- Currently secondary schools in Greater Bendigo are all located within the established areas of Greater Bendigo
- Development Contribution Plans only collect part of the cost of what infrastructure and services actually cost

8.7.2 Opportunities

- Encourage households to design their gardens to better capture stormwater and minimise runoff
- Discourage gas connections within new housing estates consistent with the Greater Bendigo Climate Change and Environment Strategy
- Ensure Development Contribution Plans are developed concurrently with (Precinct) Structure Plans for new Growth Areas to fund infrastructure and open space
- Work with school building authorities to develop a shared understanding of growth, and impacts for schools
- Ensure community facilities are planned alongside population growth and directed to the most appropriate locations
- Make it clear where new growth is encouraged, particularly within established areas with the necessary, existing infrastructure

28 *www.education.vic.gov.au/about/programs/Pages/educationplansbendigo.aspx*

29 *Bendigo Senior Secondary College, College Profile, www.bssc.edu.au/college/profile*

30 *https://forecast.id.com.au/bendigo*

9. Transport

9.1 Integrated Transport and Land Use planning

Transport Planning and Land Use Planning have often been considered separately. The Connecting Greater Bendigo Integrated Transport and Land Use Strategy (ITLUS) adopted in 2015 was a way of bringing these two elements together. This strategy is currently being implemented and sets the high-level strategic framework for sustainable transport and land use decisions. The five objectives of ITLUS are:

1. Preventing urban sprawl and strengthening connections between people and places
2. Improving health and wellbeing through much better public transport and more active travel
3. Using the capacity of our network to better move people and goods
4. Changing individual travel behaviours through strengthening partnerships and building community support
5. Leading through innovation and good governance

Considering land use and transport together is important because they are interrelated and impact how a city operates. Land uses generate movement, which can vary in terms of time, frequency and intensity. For example, a school will generate predictably large amount of movement at specific times on specific days. The location of land uses, as well as surrounding infrastructure will also have impacts. For example, if a school is within a neighbourhood that has safe footpaths and road crossing points and it doesn't take too long to walk or ride places, the school is likely to generate fewer car movements and more movements by people on bike or foot.

Without interconnected active transport connections and frequent and efficient public transport, residents will have little choice but to drive to their work, shops and services and open space. Equally important is increasing residential densities in areas which are close to shops, services or good transport to enable people to access their daily needs nearby. As we plan for growth and change, considering how the City can continue to encourage the take up of more sustainable and efficient ways of moving around will be fundamental to ensuring a liveable city into the future.

Therefore, it is important that ITLUS informs the Managed Growth Strategy and the two strategies align.

9.2 Walking and Cycling

The City adopted the Walk, Cycle Greater Bendigo Strategy in 2019 which identifies the many benefits to walking and cycling including health, cost and better-connected communities. This strategy identified there was a clear interest in walking and cycling more often. Technological changes and improvements also mean that it has never been easier to travel via active transport. The take up of e-bikes, which has grown by 800 per cent in Australia over the last five years[31], and the growth in e-scooters, provide the opportunity for residents to travel longer distances comfortably.

Further growth in active transport does however depend on having access to infrastructure and ideally separated paths. Walk, Cycle Greater Bendigo identified there are 700km of footpaths, 165km of trails and 12 road underpasses across Greater Bendigo. However, these are currently not evenly distributed across Greater Bendigo and often lack connection with the broader network of footpaths and shared paths. Safe infrastructure such as physically separated bike lanes, off-road trails, footpaths and priority crossings are important because 60 per cent of Greater Bendigo residents want to walk or ride more often but are concerned about their own safety from the risks of car traffic.

Given the benefit of residents in new developments of having access to safe and separated walking and cycling connections, it is essential these are considered at the design stage and through the (precinct) structure planning process. Given the hot climate within Greater Bendigo during the summer months, new estates should include substantial tree coverage to reduce the heat island effect and provide a comfortable and attractive environment to walk and ride.

Retrofitting safe and comfortable walking and cycling infrastructure into the city's already established areas should also be treated as a priority. Equally, firmer policy and clear practice expectations at a local and State level should be established regarding the provision of safer walking and cycling infrastructure in transport projects.

Greater Bendigo has an opportunity to provide a city that is easy to walk and ride around. This is due to some locally relevant factors, as well as external forces. These include:

- A comparably good starting point and precedents for quality walking and cycling infrastructure, such as the Bendigo Creek, Back Creek and Long Gully Trails
- A relatively flat landscape and logical corridors for future walking and cycling infrastructure
- A strong policy base for investment that extends beyond ITLUS and the Walk, Cycle Greater Bendigo Strategy. This includes the Greater Bendigo Public Space Plan 2019, the Climate Change and Environment Strategy 2021-2026, the Mir Wimbul Council Plan 2021-2025, Greening Greater Bendigo 2020, and the Reimagining Bendigo Creek Plan 2020
- A moderately sized urban footprint and predominantly central employment cluster which can lead to efficiencies in attracting more walking and cycling as standard commuter patterns
- Wide road reserves (commonly 30 metres wide) which can accommodate shady trees, footpaths and bike lane
- A recent rise in the popularity of walking and cycling. This emerged from the first COVID-19 lockdown in March-April 2020; however, the popularity has since remained
- Exponential growth in the sales and popularity of e-bikes. E-bikes attract a larger group of riders who can get where they need to be quicker, and often without worrying about hills, headwinds, and about what they wear while riding

9.3 Public Transport

Urban buses and regional rail are the primary modes of public transport that service Greater Bendigo.

There are now five railway stations within Greater Bendigo: Bendigo Station, Kangaroo Flat, Eaglehawk, Epsom and Elmore. There are currently 20 train services to Melbourne and 23 from Melbourne to Bendigo each weekday. These provide a relatively frequent and convenient service from Bendigo and Kangaroo Flat; however, there are only seven train services to and from Epsom each weekday, and only five train services to and from Eaglehawk each day. These infrequencies have led to very low patronage at these stations.

The delivery of Bendigo Metro Rail means there are also new stations being constructed at Huntly, Goornong and Raywood.

31 *Monash University, The changing face of urban mobility: The rise of electric scooters and e-bikes, https://lens.monash.edu/@design-architecture/2021/10/06/1383900/the-changing-face-of-urban-mobility-the-rise-of-electric-scooters-and-e-bikes*

Figure 8: Urban bus routes and 400m catchment areas of bus stops

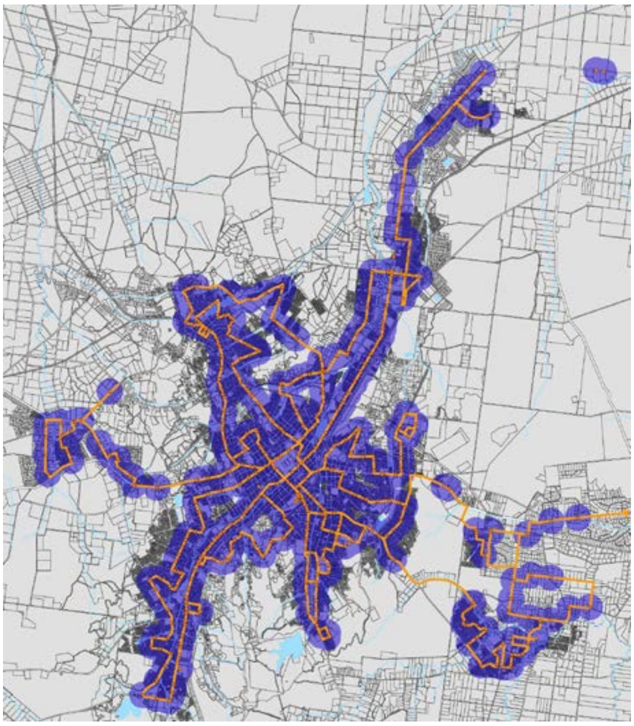
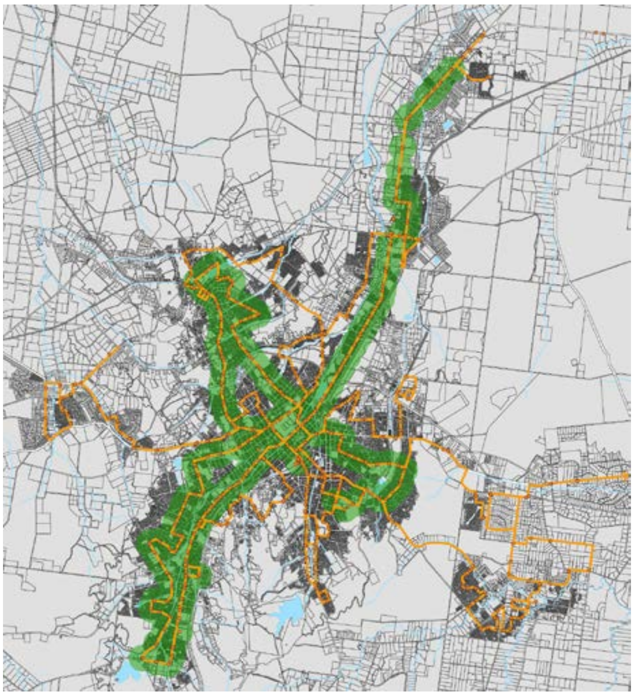


Figure 9: Urban bus routes and 400m catchment areas of bus stops that have average weekday frequencies of more than two services per hour



While there is an ambition to have regular train services and more stations so that the network can double as a metro rail service, the train network still operates primarily as a regional connector. Transporting passengers between Bendigo and Melbourne and providing sub-regional services for connecting places like Kyneton, Castlemaine and Bendigo with each other are the typical functions for the train network.

There is a substantial amount of underutilised land surrounding the train stations in Greater Bendigo. There is the potential over time to develop some of this well-located land to provide transit orientated development to meet a range of community needs.

Currently, despite there being 17 bus services in Bendigo including the Strathfieldsaye Loop (#71), Bendigo-Heathcote, and Bendigo-Goornong, and roughly 302 urban buses leaving the station every weekday, bus patronage as a share of journey to work data remains relatively low. Capturing total bus patronage data is difficult as a number of passengers don't touch on to pay a fare, resulting in a large gap between the patronage data being analysed and the true amount of people on a bus. From anecdotal estimates, the proportion of total passengers who don't pay a fare could be as high as 70-80%.

Bendigo's bus network generally provides good coverage of the city's suburban locations and is reliable in terms of delivery and punctuality, and offers a fleet of well maintained, clean, accessible and safe vehicles. Bus stops are gradually being upgraded to be more accessible for people with physical disabilities, and to provide better weather protection. Most of the urban bus routes operate on an average weekday frequency of one (or less than one) service per hour. There are only six routes that offer more frequent service intervals. While approximately 80% of dwellings within urban Bendigo are within 400m of a bus stop (figure 8), the proportion within 400m of a bus stop with an adequate frequency is far less (figure 9).

There are substantial opportunities to increase public transport use particularly for trips into the City Centre both on the train and bus. To do this however, services need to be direct and frequent otherwise it is generally more convenient for most people to drive.

9.4 Private Vehicle Use

Currently as our population grows so does our reliance on car ownership. Currently, while 81.6% of all dwellings in the urban area are within 400 metres of a bus stop, most residents continue to choose to drive to work.

In 1996, 13% of households owned three cars, and by 2016 this was 18.7%. Conversely the proportion of households without a car halved over the same time period from one in 10 households to one in 20 (10.2% to 5.3%)[32]. Should this pattern of growth in car ownership continue there will likely be significant impacts on road infrastructure.

32 *Profile ID, ID Consulting*

This will include more traffic making it more difficult to get around the city, more money needing to be spent on upgrading and widening roads, and more intersection upgrades. However, these patterns are likely reflective of the urban environment that has been developed and policy context in recent decades.

The following factors encourage private vehicle use over alternative transport modes:

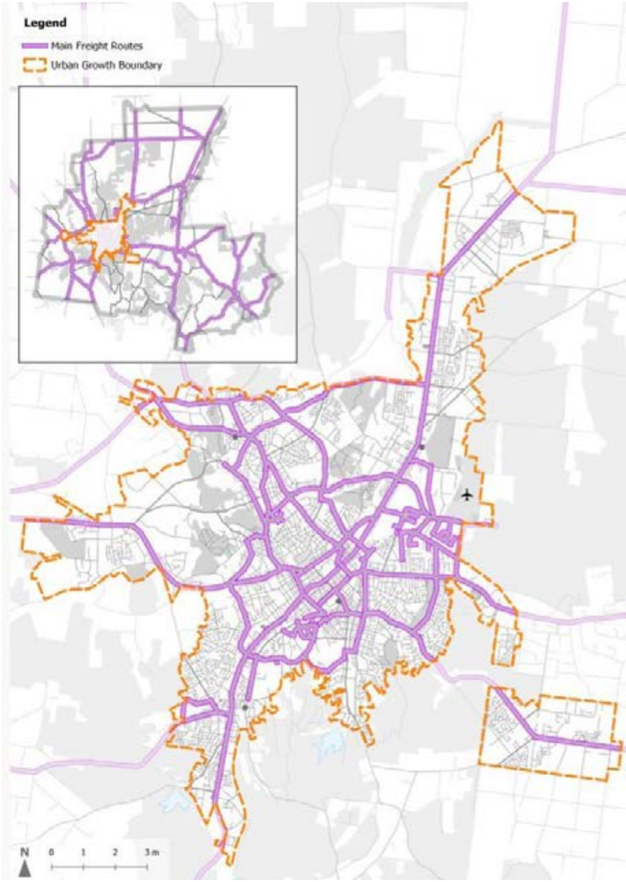
- An increase in low density residential development on the city's fringe, where it takes longer to get to places and is more difficult to service effectively with public transport
- The provision of cheap or free parking
- Minimum car parking requirements in the planning scheme for new developments and changes to land uses
- An inconsistent distribution and quality of infrastructure that supports walking and cycling
- An uneven distribution of funds for transport infrastructure
- Streetscape environments that favour private vehicles, for example high speed limits, priority for space and sequencing, and designs that allow for safer vehicle movements at higher speeds

These factors contribute to a city that predominantly relies on private vehicle use for transport. Driving as opposed to using active transport can also result in more sedentary lifestyles, increasing public health risks such as higher rates of obesity, leading to non-communicable diseases such as type 2 diabetes and coronary heart disease. These public health risks are in addition to the high number of road-based casualties and fatalities. Since 2000, 146 people have lost their lives on roads in Greater Bendigo and 2,018 have been hospitalised due to road-based trauma.

Heavy reliance on private vehicle use also leads to detrimental impacts to our environment, both in terms of increasing greenhouse gas emissions, but also to the amenity that is valued in a regional city like Greater Bendigo. Increased private vehicle use will lead to more traffic, noisy street environments, longer commutes, and less space within the road reserve for things like street trees and nature strips. This threat is something that Greater Bendigo residents treat seriously and was the major catalyst for the development of ITLUS.

While the City of Greater Bendigo and the State Government acknowledge that our cities and policies need to be more conducive to safer and healthier modes of transport, it could take a long time to effectively address the environment that has led to such a heavy reliance on private vehicles.

Figure 10: Main freight routes in Bendigo



9.5 Freight

In 2017, Council endorsed the Bendigo Freight Study. This study identifies the importance of protecting freight routes from residential encroachment. It highlights that where freight routes are not protected this can lead to decreasing traffic flow, increasing likelihood of conflicts between heavy vehicles and cyclists, and the need for expensive infrastructure such as noise attenuation barriers.

With a growing population, employment and more residents shopping online, it is likely that there is going to be more freight in Greater Bendigo. The types of vehicles may also change to more larger vehicles such as B-doubles and potentially B-triples.

The potential Western Freight and Northern Freight Corridor will be important over time to reduce the need for trucks to travel through residential areas given the potential for greater conflict with more trucks and more residents travelling by car and bike.

9.6 Summary of transport issues and opportunities

9.6.1 Issues

- If car ownership patterns remain unchanged there could be 30,000 more cars on the road by 2036, an increase of more than one third on current numbers
- If car ownership continues to grow, the cost of maintaining, upgrading and adding additional lanes to roads will increase, and there will be amenity and environmental impacts due to road widening projects
- Lack of safety when riding a bicycle on roads in Greater Bendigo
- Lack of incentives for an alternative transport mode given the time and ease of car travel in Greater Bendigo
- Lack of pedestrian and cycle connections in some suburbs and estates discourages walkability
- Upfront cost of introducing separated bike lanes, footpath improvements etc to encourage walking and cycling
- Reliance on a high portion of grant funding from State and Federal governments to deliver infrastructure which is prioritised at a state-wide level
- Lack of train services to Eaglehawk, Elmore, Goornong, and Epsom Stations and time between services
- Direct and frequent public transport in low density urban areas is not financially viable
- Servicing growth areas with public transport often occurs after the majority of the new population has moved in and have already established their daily travel behaviours which predominantly rely on driving
- Growth in trucks on roads, including through the residential areas of Bendigo

9.6.2 Opportunities

- Advocate for more direct, cross city and new bus services where there are gaps, such as Marong and other small townships
- Continue to advocate for Bendigo Metro Rail and the delivery of more stations and services across Greater Bendigo, such as Golden Square, Maiden Gully, Marong and Kangaroo Flat South
- Encourage new development in and around current and proposed train stations
- Advocate for the development of vacant land owned by State Government for future train stations in Bendigo including Bendigo Station, Eaglehawk and Golden Square
- Encourage the provision of bicycle parking requirements and end of trip facilities in new developments over and above the requirements at Clause 52.34 of the Planning Scheme
- Ensure new developments are well connected to existing pedestrian and cycle networks
- Respond to the growing proportion of our community using e-bikes and scooters as modes of transport by providing safe cycling infrastructure
- Encourage electric charging stations in new subdivisions
- Guide development to established areas with good transport opportunities, including frequent bus and safe walking and cycling infrastructure
- Encourage the establishment of a car sharing scheme in Greater Bendigo to reduce private car ownership
- Work with the Department of Transport to develop a priority project list to optimise funding opportunities at Federal, State and local government levels

10. Economy and employment

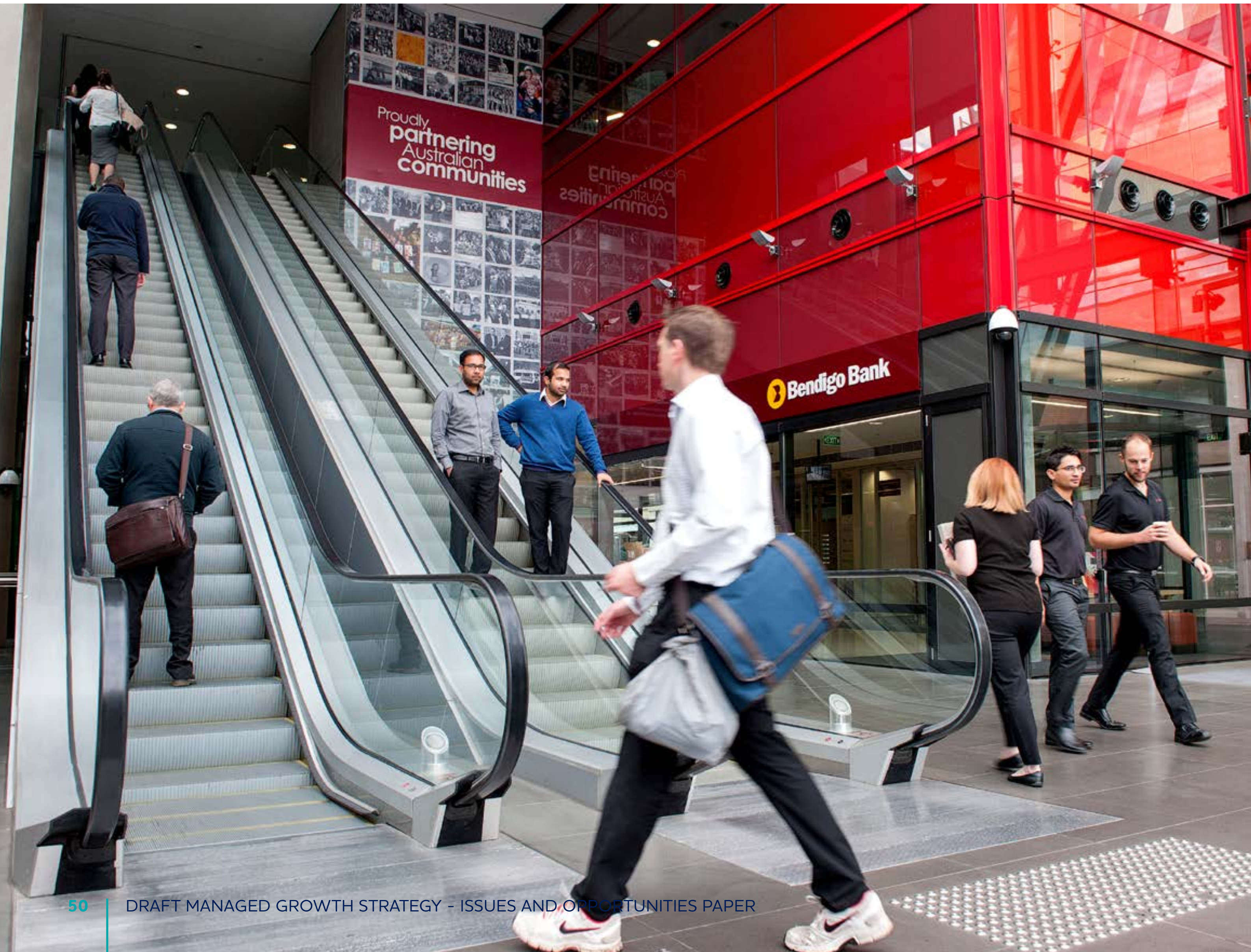
10.1 Greater Bendigo economy

Greater Bendigo supports around 48,000 jobs and an annual economic output of $16 billion[33]. The economy in Greater Bendigo benefits from being largely self-contained, with around 89 per cent of employed residents also working within Greater Bendigo.

COVID has changed the way we work, with up to 40 per cent experimenting with working from home. This is compared with at the 2016 census day where only five per cent of workers worked from home[34]. This was even lower in Greater Bendigo at four per cent.

As was the case prior to the pandemic, consumer behaviour is also changing. The way consumers interact with their commercial spaces has been impacted in the past 18 months and has seen online expenditure grow at an equivalent annual rate of just under 70 per cent across Australia[35].

It is difficult to know what the impact of COVID will be on employment but if remote working continues, this may have impacts on the scale and composition of some of the suburban and neighbourhood activity centres.



10.2 Employment

Greater Bendigo benefits from a diversified economy which has helped employment levels to bounce back to now being marginally higher than pre-COVID levels.

There are close to 8,000 businesses now operating in Greater Bendigo. While the City benefits from larger employers such as the Bendigo and Adelaide Bank, Bendigo Hospital and Hazeldines Chickens among others, the majority of businesses are small, with 97% employing less than 20 staff and 59% being sole traders. The construction industries accounts for the highest number of sole traders - more than one in five businesses[36].

Health care and social assistance is the greatest employer in the municipality representing 18.2% of all employment. This is followed by retail trade (12.1%), construction (9.5%) and education and training (9.2%)[37].

Projected employment at a Greater Bendigo Regional (SA4) level suggests that growth to May 2024 will be strongest in health care and social assistance with a further 2,200 jobs added, construction with a further 1,300 jobs added and transport, postal and warehousing with a further 400 jobs added[38]. COVID has shown how difficult it is to project changes even on a shorter-term time period, therefore longer-term projections in terms of employment are more difficult. Increasing levels of automation also make it challenging to predict jobs of the future which can make planning for commercial land more challenging.

However, it is likely that employment growth will continue in industries such as healthcare due to the ageing population, STEM (or STEAM) and creativity[39].

Providing employment where people live is important in creating integrated communities. Therefore, it is important to consider commercial land when planning new development areas or opportunities to encourage a greater range of uses in certain established areas. This may be through planning controls such as the Mixed Use or Activity Centre Zone.

Given the large number of sole traders, establishing a business at home, where appropriate, will also continue to be important.

33 *REMPLAN, 2019.*

34 *Working from Home Research Paper, Productivity Commission Report.*

35 *Bendigo CLACS Floor Space Projections Draft 2021.*

36 *Australian Bureau of Statistics. Counts of Australian Businesses Entries and Exits, Cat. 8165., Jun 2018, 2019, 2020 as cited in REMPLAN.*

37 *REMPLAN, Greater Bendigo Economic Profile.*

38 *Employment Projections by Industry, Labour Market Information Portal, https://lmip.gov.au/default.aspx?LMIP/Downloads/EmploymentRegion*

39 *The workforce of the future, McKinsey and Company, www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/the-workforce-of-the-future*

Figure 11: Activity centres in Greater Bendigo

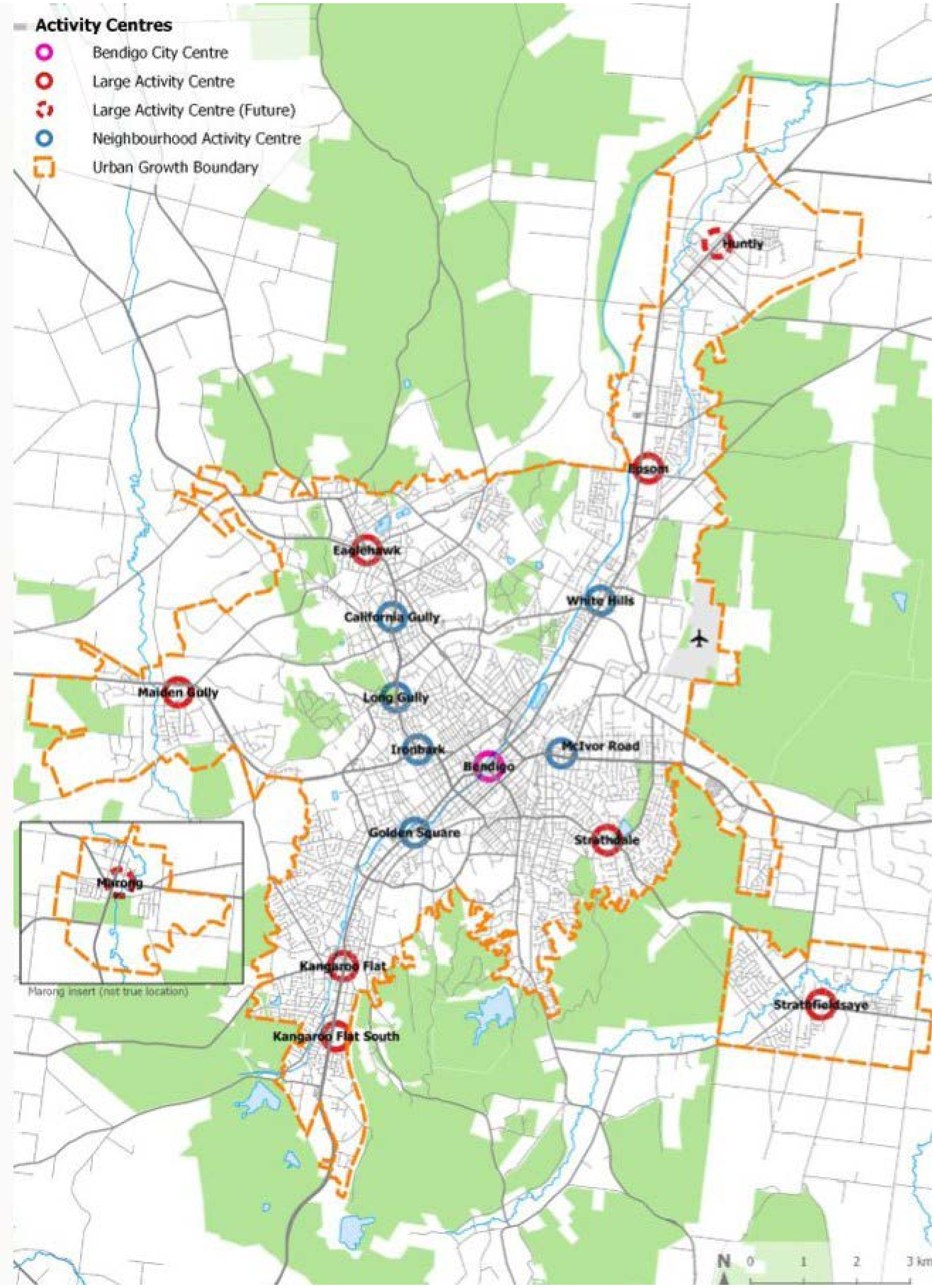


Table 14: Estimates of commercial floorspace requirements, CLACS 2015

	By 2021 – additional square metres				By 2036 – additional square metres			
	Super-market	Specialty retail	Office	Department Store	Super-market	Speciality retail	Office	Department Store
Bendigo City Centre	x	36,400 and hospitality	24,000	1,600	2,900	60,400	20,400	8,900
Eaglehawk	800	3,100	300	x	2,400	5,000	400	x
Epsom	1,600	2,100 + 300 hospitality	x	x	1,700	+ 600 hospitality	x	x
Golden Square	x	400	x	x	1,700	1,000	x	x
Kangaroo Flat	x	2,500 + 600 hospitality	x	x	1,500	4,000 +1,200 hospitality	x	x
Kangaroo Flat South	x	7,100	100	1,600	4,000	8,600	200	4,300
Strathdale	x	1,800 + 300 hospitality	x	x	4,100	2,000 + 600 hospitality	300	x
S/saye	700	2,000	x	x	1,800	3,100	x	x
Maiden Gully	2,000	400	x	x	1,100	200	x	x
Huntly	1,400	300	x	x	1,000	200	x	x
Marong*	1,700	300	x	x	1,200	200	x	x
Total	**8,200**	**55,100**	**24,400**	**3,200**	**23,400**	**83,500**	**21,300**	**13,200**

**A separate retail assessment has been undertaken as part of the Marong Township Structure Plan*

10.3 Commercial development

In 2015 Council adopted a Commercial Land and Activity Centre Strategy (CLACS). Given the changes brought on by COVID including growth in online shopping, click and collect and home delivery options, increased remote working, as well as growing interest in commercial land, CLACS will be updated at the same time as the Managed Growth Strategy. This update will be an input into the draft Managed Growth Strategy.

The City's urban areas are well serviced by commercial centres. In addition to the Bendigo City Centre, there are currently seven large activity centres located within the urban area and satellite townships of Greater Bendigo and two future large centres at Huntly and Marong (Figure 11).

At the time of writing CLACS in 2015, it was estimated that by 2021 an additional 90,900 square metres of additional commercial floorspace would be required across the urban area of Bendigo (plus Marong) and by 2036 a further 141,400 square metres (Table 13). By far the greatest proportion of this was estimated to be in the City Centre. An update to these floorspace projections will be provided in the draft Managed Growth Strategy.

It is also important to note the way retail centres function will need to evolve with current and future trends. Diverse retail environments should be encouraged and supported to enable shopping centres, fine grain retail areas and larger shopping complexes to offer a diversity of shops and experiences such as café culture/outdoor dining to capture a wide local base.

10.4 Industrial development

The Greater Bendigo Industrial Land Development Strategy (2020) indicates that there is an impending shortage of industrial land. There is a total of 967ha of zoned industrial land, but as of March 2020 there was less than 100ha of land available for development, with land above one hectare particularly scarce.

The strategy forecasts that existing supply could be exhausted by 2032. Therefore, setting aside more land for industrial development is a high priority for the City.

Over the past two years the City has been working to progress a large site or sites to enable a new employment precinct. Through this process the Bendigo Regional Employment Precinct (BREP), a 280 hectare precinct to the south of the Marong township was identified. Technical planning studies are currently being undertaken to inform a future planning scheme amendment to rezone this land to enable industrial development.

Industrial centres such as East Bendigo and Golden Square will continue to remain important, providing local employment opportunities and proximity to the centre of Bendigo and in the case of East Bendigo, the Bendigo Airport. However, the BREP does enable consideration of the future and form of some industrial precincts located close to residential development. None more so than Charleston Road, East Bendigo being strategically located opposite the Bendigo TAFE Food and Fibre Centre and only two kilometres from the Bendigo City Centre. The preparation of a masterplan to redevelop this precinct should be progressed in the short term.

10.5 Circular Economy

The consumption of materials and production of waste accounts for approximately 50 per cent of greenhouse gas emissions[40]. A Circular Economy approach is key to reducing future global heating and broader environmental degradation from material use. From a community perspective, household waste accounts for about 30 per cent of all waste sent to landfill in Greater Bendigo. These figures have grown relatively in line with population growth. If substantial changes are not made and business-as-usual growth continues, the annual volume of waste (and subsequent negative impacts) will continue to rise with a growing population.

Households in Greater Bendigo produce:

- 23,000 tonnes/annum general waste kerbside
- 14,500 tonnes/annum comingled recycling
- 12,000 tonnes/annum Food & Garden Organics (FOGO) (15,500 tonnes/annum including household green-waste drop-off at landfill)

This is around 400 kilograms of general waste per dwelling in Greater Bendigo each year, not to mention the waste produced from the process of manufacturing and supplying these goods to households. There is a great opportunity for this to be reduced through behavioural and technological solutions.

The City is focused on delivering a circular economy to address both our climate and waste crises. This means that we reduce the production and consumption of goods and make better use of existing materials through recycling and reuse i.e. transition to using secondary rather than primary materials. A key goal is to reduce the material going to landfill and increase its recirculation into the economy. To help deliver on this aim, the City has introduced a range of initiatives in recent years to reduce waste to landfill such as the organics, the use of reusable coffee cups and the adoption of a Circular Economy & Zero Waste Policy to guide our design and procurement of infrastructure and services using recycled and reused products and materials.

As new dwellings are constructed there is great potential to better utilise recycled content in their construction and in the supporting infrastructure such as new bike paths and roads. This is not to mention the better utilisation of existing spaces in the region. The use of recovered products and materials, and recycled content, should be promoted and incentivised to support the region's climate change objectives into the future.

Another significant issue that may impact residential development in Greater Bendigo is the Eaglehawk landfill which is due to close in 2022/23. The City is currently working through what this transition may look like given, at least in the short term, some material at least needs to be sent to general waste. Residential waste, recycling and organic collections will not be impacted by this process, but there will likely be ramifications for construction and demolition (C&D) and commercial & industrial (C&I) stakeholders. As part of a post-landfill environment the City plans to work closely with such stakeholders to provided suitable diversion routes for end-of-life materials e.g. C&D "waste".

Given the environmental legacy issues of a landfill, more housing proximate to the Eaglehawk landfill needs to be discouraged. The proposed introduction of a Buffer Area Overlay and the application of the Neighbourhood Residential Zone to land within 500 metres of the landfill site boundary will be the subject of a separate planning scheme amendment outside of this project (Amendment C242).

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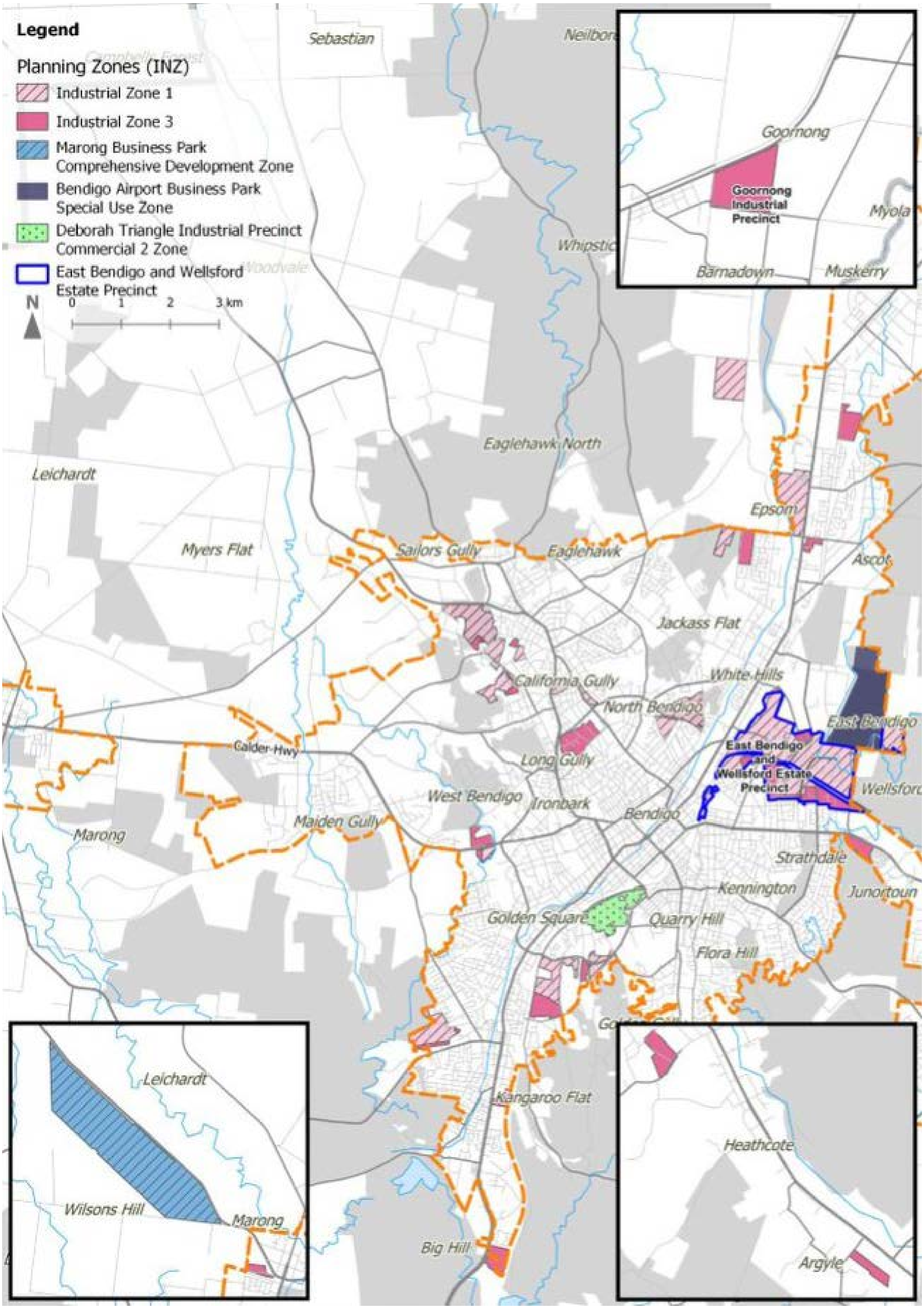
40 *Ellen MacArthur Foundation, 2021,https://emf.thirdlight.com/link/w750u7vysuy1-5a5i6n/@/preview/1?o*

Figure 12: Industrial Land in Greater Bendigo



10.6 Agribusiness

In Greater Bendigo agriculture plays an important role in the local and national economy and food supply chain. Agricultural land use and development is referred to in this section as Agribusiness. Agribusiness includes all agricultural primary producers, food and beverage product manufacturers, as well as manufacturers of agricultural machinery and agricultural support services.

In 2016, there was a total of 1,940 (5.2%) people employed in the Agribusiness sector. Most jobs were in the 'Food Product Manufacturing' sector, which was following by the 'Sheep, Grains, Beef & Dairy Cattle' and the 'Poultry and Other Livestock' sectors[41].

This Agribusiness activity generates demand for local goods and services (industrial effects), and a proportion of these workers' wages is then spent locally (consumption effects). As a result, for every 10 people employed directly in the Agribusiness sector, it is estimated that another 9 to 10 people are employed in the broader Greater Bendigo economy (total of 3,866 jobs).

In 2016, the total economic output for Greater Bendigo is estimated at $11.236 billion, of which Agribusiness accounts for $801.962 million (7.1%). The dominant sector was 'Food Product Manufacturing' at $530.406 million, following by the 'Sheep, Grains, Beef & Dairy Cattle', 'Beverage Product Manufacturing', and 'Poultry and Other Livestock' sectors[42].

10.7 Intensive animal industries

Intensive Animal industries are an important contributor to employment and economic output of the Greater Bendigo economy. With the growth of Greater Bendigo, some of the buffer distances have been reduced and allowed for more residential development closer to some of these operations, which can create challenges in terms of biosecurity, health and amenity.

Given this potential conflict in 2013, the City developed an Intensive Animal Industries Study to consider planning tools to further enhance the buffers around existing operations. The implementation of this study was not completed due to the commencement in 2015 of a State-wide review to update planning regulations around intensive animal industries.

Following this State-wide review an action to be implemented by 2022 is to develop a more consistent approach to determining separation distances for various animal industries[43]. This should provide greater clarity around the buffers required to protect different industries.

41 *Agri-business Economic Contributions Study, Greater Bendigo and Loddon Campaspe 2017, REMPLAN.*

42 *Agri-business Economic Contributions Study, Greater Bendigo and Loddon Campaspe 2017, REMPLAN.*

43 *Planning for sustainable animal industries in Victoria, https://agriculture.vic.gov.au/about/agriculture-in-victoria/sustainable-animal-industries/planning-for-sustainable-animal-industries-in-victoria*

Figure 13: Agribusiness output and employment by sector in Greater Bendigo 2016

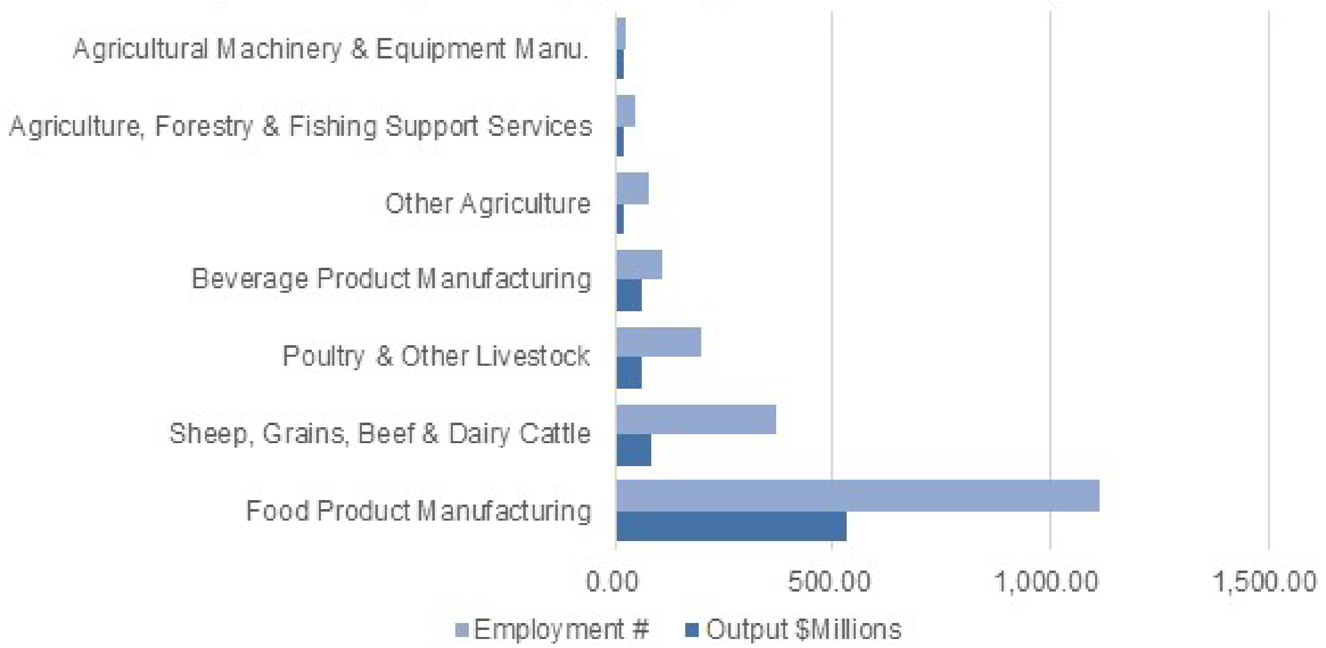
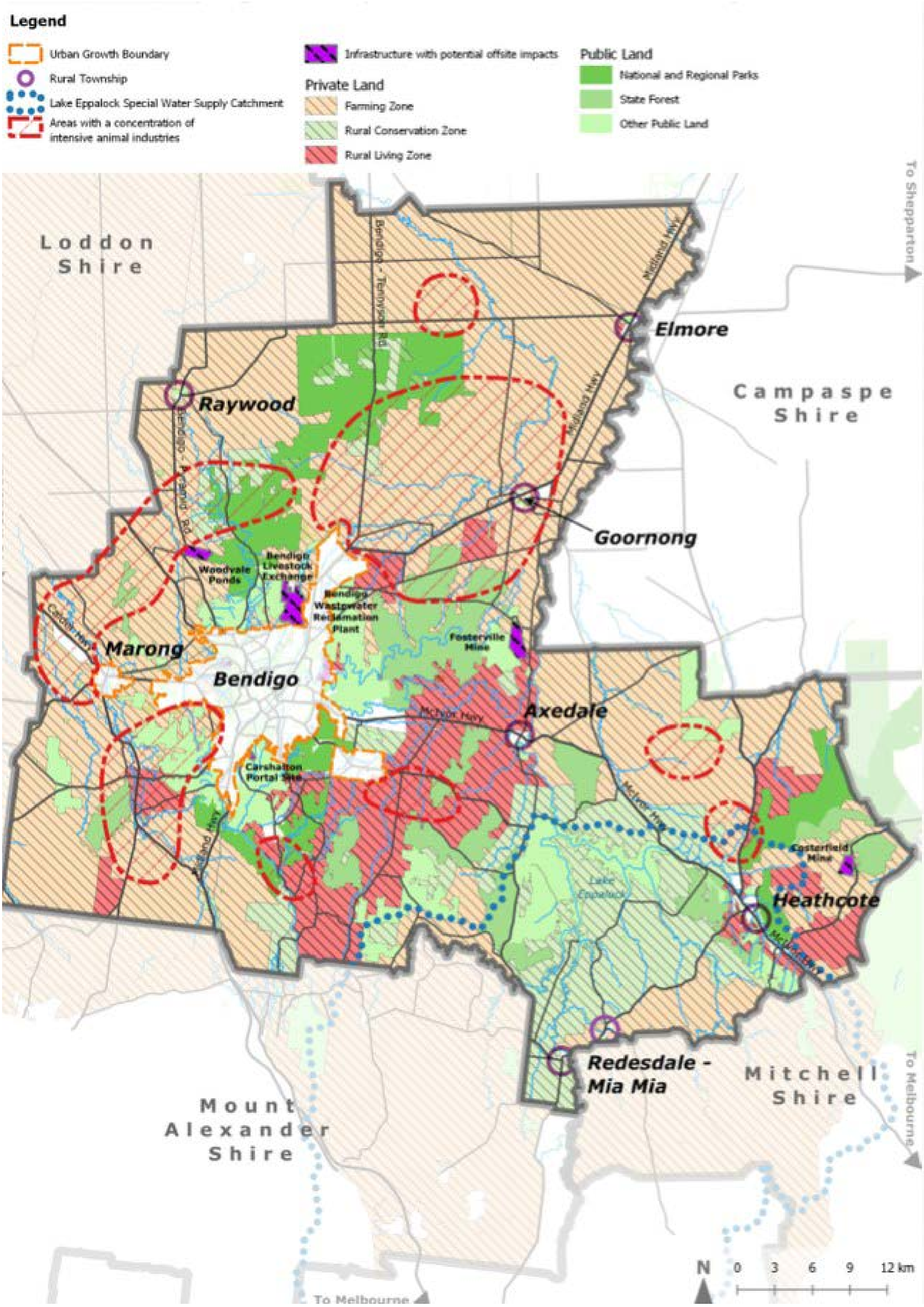


Figure 14: Major Intensive Animal Industries in Greater Bendigo



10.8 Summary of economy and employment issues and opportunities

10.8.1 Issues

- Challenges with land use conflict, particularly between heavy industries, intensive animal industries and residential development
- Lack of industrial land supply and potential impact on employment opportunities
- Growth in online shopping may have a negative impact on some existing retail stores and the composition of the various activity centres
- Difficult to project what the longer-term impacts of COVID will have in planning for commercial floorspace and commercial development

10.8. 2 Opportunities

- Continue to encourage a range of business activities in different areas to ensure a diversified economy
- Encourage and facilitate greater circular economy outcomes
- Encourage more opportunities for active commercial space at ground floor and residential above particularly within the City Centre and along transport corridors such as High Street, Bendigo
- Encourage better landscaping, tree canopies and pedestrian access to new commercial developments to encourage walking to access daily goods and services
- Encourage a diversity of dwelling types surrounding existing or future activity centres
- Consider the transition of some industrial land located adjacent to residential development to an alternative zone, following detailed precinct planning
- Prepare a masterplan for the Charleston Road, East Bendigo precinct
- Discourage more residential development adjacent to existing industrial/ landfill precincts
- Identify areas of high value agricultural land now and into the future given the importance of the agricultural industry to Greater Bendigo
- Potential for new employment opportunities and growth aligned with the release of mining exploration licenses

11. Rural areas

11.1 Context

The rural areas of Greater Bendigo house around 19,882 residents or approximately 17% of the population. Like the urban area of Bendigo, rural areas have experienced significant changes over time. Following European colonisation, land was subdivided into smaller lots and sold privately through settlement schemes as part of the gold rush and soldiers returning from WWI. As a result, much of the land that was once managed and cared for according to Dja Dja Wurrung and Taungurung Law and customs is now in private and public ownership. Rural areas are now valued for their productivity, resources, and amenity.

European farming practices have introduced both rewards and challenges. The municipality has a diverse and thriving agricultural sector, including intensive animal industries, grazing, cropping and wine production. However, widespread land clearing and expanding land use and development has resulted in the loss of native vegetation and caused issues with salinity, erosion and water quality.

Many large rural properties were made up of smaller parcels created as part of the early settlement schemes. This has resulted in fragmentation of farming land, particularly in the northern parts of the municipality. Gradually over time smaller farming lots are being sold to individual owners which often results in the land being used for rural living and permanently losing its value as productive agricultural.

Greater Bendigo's rural areas can be defined by their population, function, infrastructure and services, and are categorised as traditional service centres, urban periphery towns, or rural townships and localities (see Figure 15).

Traditional service centres, which include Elmore and Heathcote, have a larger residential population and are well serviced with facilities and infrastructure to support future growth. They are major transport junctions, often being a resting point for travellers, and are also a destination in their own right with permanent tourism attractions and major events.

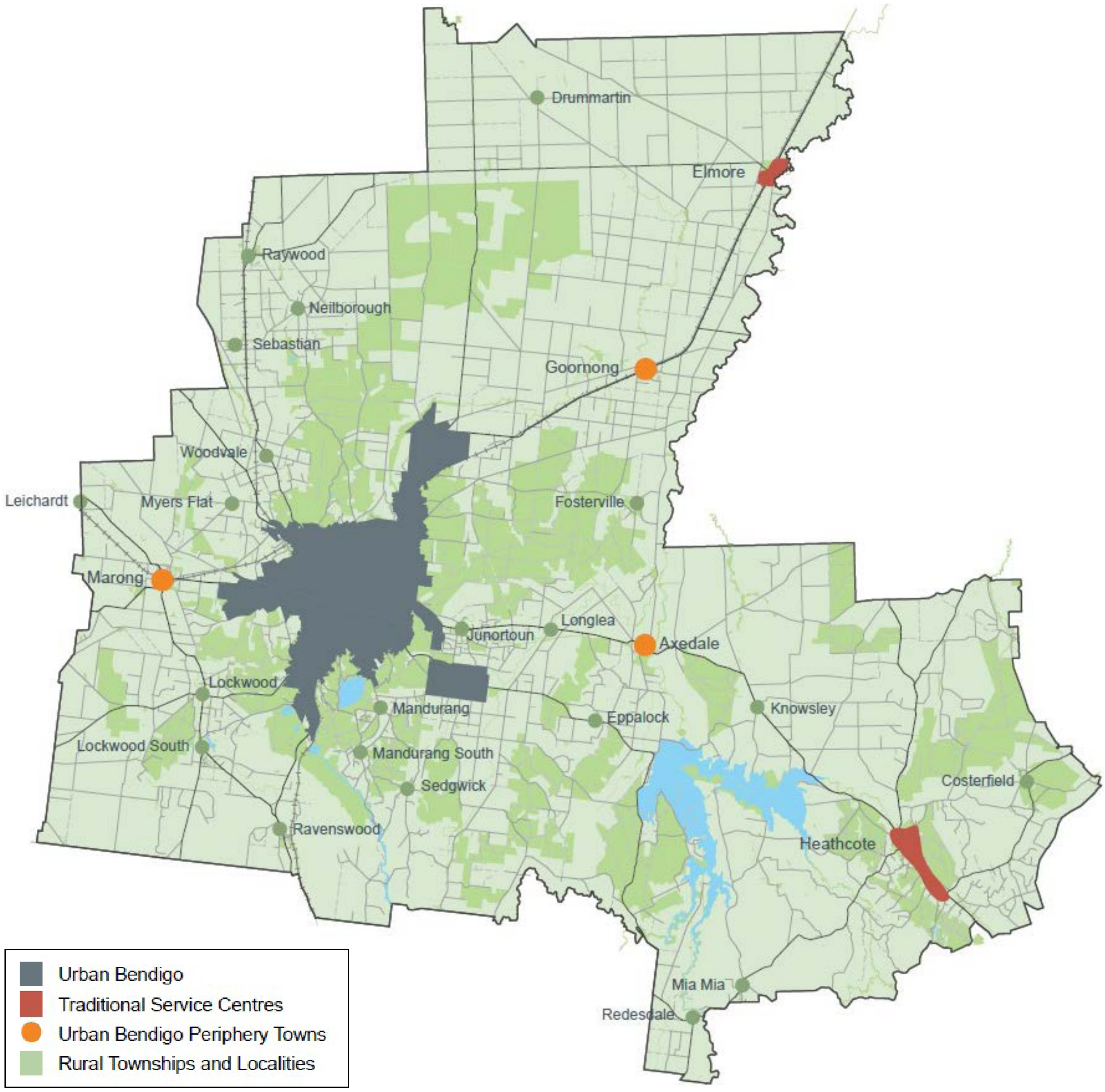
Urban periphery towns, including Axedale, Goornong and Marong, are located within close proximity (generally within 15km) to the Bendigo urban area, currently have a smaller residential population, and fewer facilities and infrastructure to support population growth (noting the longer term growth potential of Marong).

Rural townships and localities have fewer residents again, with limited infrastructure and facilities. Their functions vary across the municipality, from rural lifestyle properties and hobby farms to large farming properties including cropping, grazing or intensive animal industries.

Since developing the Rural Communities Strategy in 2016, the City has progressively worked towards planning for future growth in rural areas while protecting community values. This is being realised through the adoption and implementation of the Heathcote Township Plan in 2019 and the current work being undertaken to develop Township Plans for Elmore and Goornong.

In the strategic work undertaken to date, infrastructure provision, growth of townships, and land use conflicts are consistent themes across most rural areas.

Figure 15: Map of rural areas of Greater Bendigo



11.2 Housing in rural areas

The Rural Areas Strategy was prepared and adopted in 2009. Recommendations include to reduce the fragmentation of agricultural land and discourage new houses in rural areas unless they support agricultural uses. It also identifies the current over-supply of rural living land in Greater Bendigo.

Since adoption of the Rural Areas Strategy, housing in rural areas has continued to increase. Most growth has continued to expand rural lifestyle properties in areas close to the urban area of Bendigo, as well as urban periphery towns and traditional service centres (see Figure 16).

Given the time which has lapsed since the Rural Areas Strategy was developed, and the growing pressure for new development in some of these areas, it is important that this Strategy is updated. This will be the subject of a separate piece of work which will take place following the completion of the Managed Growth Strategy.

Figure 16: Dwellings constructed in rural areas

11.3 Summary of rural issues and opportunities

11.3.1 Issues

- An increased appetite for lifestyle and rural living resulting in demand for more dwellings
- Lack of servicing or cost to service some rural areas with infrastructure, including reticulated sewerage, which limits growth
- Potential land use conflicts due to the way townships have developed (for example having industry near residential development)
- Limited access to public transport in certain areas

11.3.2 Opportunities

- Undertake a new Rural Areas Strategy to provide greater direction for rural townships
- Continue to develop township plans to provide direction for the growth and change in bigger townships
- Better understand the economic and tourism opportunities in different townships, facilitate development to meet these needs and increase employment opportunities
- Continue to build on tourism opportunities through the delivery of infrastructure, for example the O'Keefe Rail Trail
- Ensure there are community facilities fit for purpose that meet community needs
- Work with the Department of Transport to deliver transport options which meet community needs
- Continue to advocate for improved telecommunication infrastructure to improve access for business and households

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Appendix 1 - Suburb snapshots

This appendix provides a snapshot of the suburbs of Bendigo and the small towns.

The population and household statistics are based on the 2016 Census. It is acknowledged that some areas have experienced significant growth since this time and update data will be available following the 2021 Census.

The dwelling construction data is based on the building data where a Certificate of Occupancy has been issued – the dwelling has been completed.

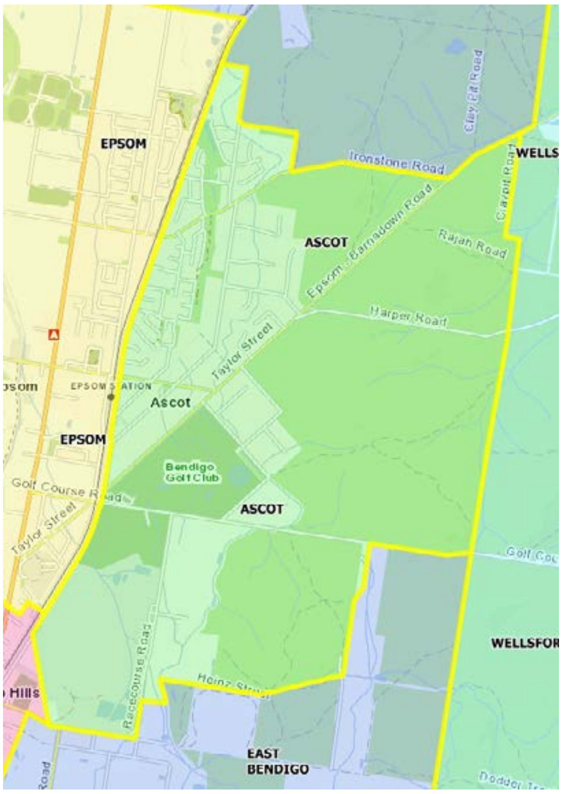
Subdivision data is derived from the City's planning records.

ASCOT (2016 Census snapshot)

Total population	11,747
Median age	33
Total private dwellings	4,646
Household Composition	
Family	76.2%
Lone person	20.5%
Other	1%
Dwelling Structure	
Separate house	96%
Semi-detached	2.9%
Flat or apartment	0.4%
Other	0.5%

Number of bedrooms	
1 bedroom	0.9%
2 bedrooms	7.8%
3 bedrooms	50.5%
4+ bedrooms	38.5%
Not stated	2.2%
Number of vehicles	
None	3.1%
1	27.7%
2	43.2%
3+	22.2%
Not stated	3.8%

Top industries of employment	
Hospitals	6.2%
Supermarket and grocery stores	3.1%
Takeaway food services	2.9%
Banking	2.8%
Primary education	2.5%

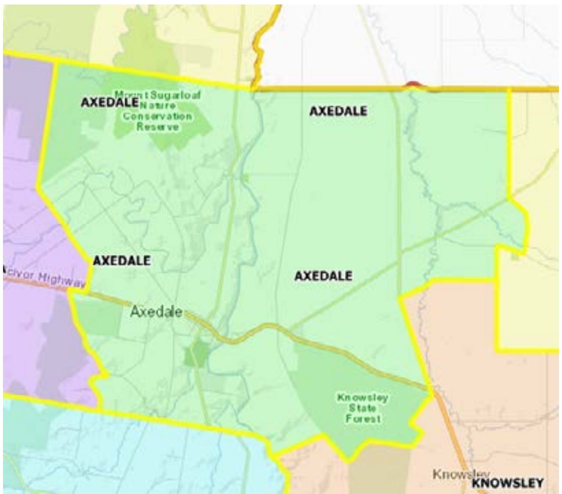


AXEDALE (2016 Census snapshot)

Total population	802
Median age	40
Total private dwellings	325
Household Composition	
Family	80.4%
Lone person	18.5%
Other	1.1%
Dwelling Structure	
Separate house	100%
Semi-detached	0%
Flat or apartment	0%
Other	0%

Number of bedrooms	
1 bedroom	0%
2 bedrooms	11.3%
3 bedrooms	44.5%
4+ bedrooms	41.1%
Not stated	3%
Number of vehicles	
None	1.1%
1	21.6%
2	39.8%
3+	35.2%
Not stated	2.3%

Top industries of employment	
Hospitals	5.7%
Gold ore mining	4.7%
Site preparation services	3%
Plumbing services	3%
Sheep farming (specialised)	2.7%

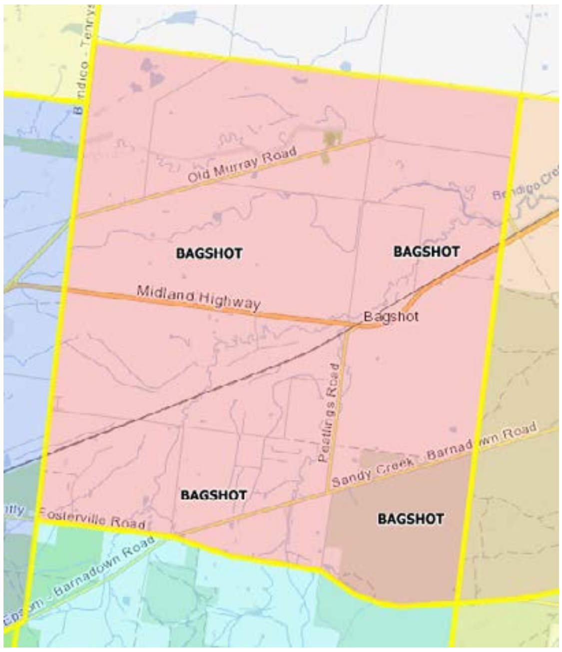


BAGSHOT (2016 Census snapshot)

Total population	288
Median age	44
Total private dwellings	102
Household Composition	
Family	94.3%
Lone person	5.7%
Other	0%
Dwelling Structure	
Separate house	100%
Semi-detached	0%
Flat or apartment	0%
Other	0%

Number of bedrooms	
1 bedroom	3.1%
2 bedrooms	4.1%
3 bedrooms	37.8%
4+ bedrooms	52.0%
Not stated	3.1%
Number of vehicles	
None	0%
1	9.7%
2	38.7%
3+	48.4%
Not stated	3.2%

Top industries of employment	
Poultry farming (egg)	8.2%
Site preparation services	7.3%
Hospitals	6.4%
Beef cattle farming (specialised)	3.6%
Supermarket and grocery stores	3.6%

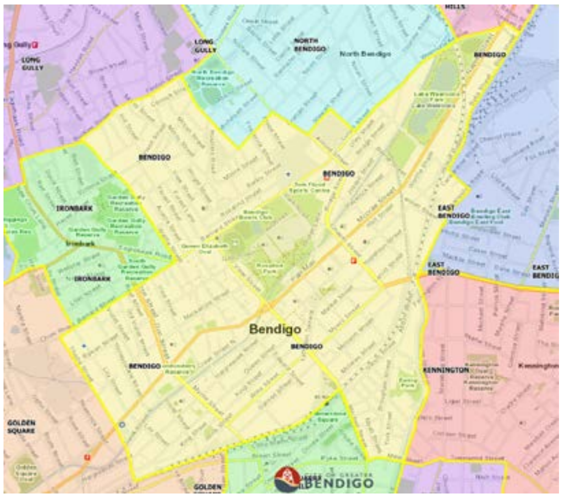


BENDIGO (2016 Census snapshot)

Total population	5,512
Median age	41
Total private dwellings	3,007
Household Composition	
Family	55.6%
Lone person	38.9%
Other	5.5%
Dwelling Structure	
Separate house	80.8%
Semi-detached	15.8%
Flat or apartment	2.5%
Other	0.6%

Number of bedrooms	
1 bedroom	5.7%
2 bedrooms	28.7%
3 bedrooms	44.6%
4+ bedrooms	17.2%
Not stated	3.6%
Number of vehicles	
None	11.0%
1	44.1%
2	29.9%
3+	10.8%
Not stated	4.2%

Top industries of employment	
Hospitals	9.3%
Banking	3.7%
Primary education	3.2%
Cafes and restaurants	3.1%
Supermarket and grocery stores	2.4%



CALIFORNIA GULLY

(2016 Census snapshot)

Total population	4,363
Median age	38
Total private dwellings	2,016
Household Composition	
Family	62.5%
Lone person	33.2%
Other	4.2%
Dwelling Structure	
Separate house	94.3%
Semi-detached	4.0%
Flat or apartment	1.3%
Other	0.2%

Number of bedrooms	
1 bedroom	1.8%
2 bedrooms	16.7%
3 bedrooms	59.9%
4+ bedrooms	17.8%
Not stated	3.2%
Number of vehicles	
None	8.3%
1	39.8%
2	31.0%
3+	15.4%
Not stated	5.5%

Top industries of employment	
Hospitals	5.9%
Supermarket and grocery stores	4.4%
Aged care residential services	4.2%
Building and other industrial cleaning services	2.8%
Takeaway food services	2.7%

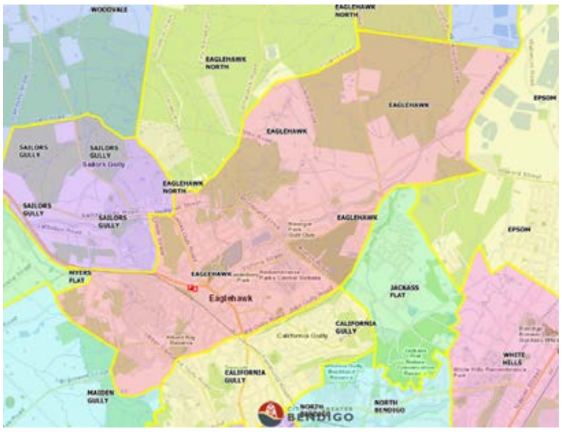
EAGLEHAWK

(2016 Census snapshot)

Total population	5,691
Median age	39
Total private dwellings	2,625
Household Composition	
Family	55.6%
Lone person	34.8%
Other	3.8%
Dwelling Structure	
Separate house	89.5%
Semi-detached	8.3%
Flat or apartment	1.0%
Other	0.3%

Number of bedrooms	
1 bedroom	4.4%
2 bedrooms	20.8%
3 bedrooms	49.5%
4+ bedrooms	22.3%
Not stated	2.9%
Number of vehicles	
None	8.5%
1	35.1%
2	34.6%
3+	16.4%
Not stated	5.4%

Top industries of employment	
Hospitals	6.8%
Supermarket and grocery stores	4.1%
Other social assistance services	3.8%
Aged care residential services	2.7%
Takeaway food services	2.5%

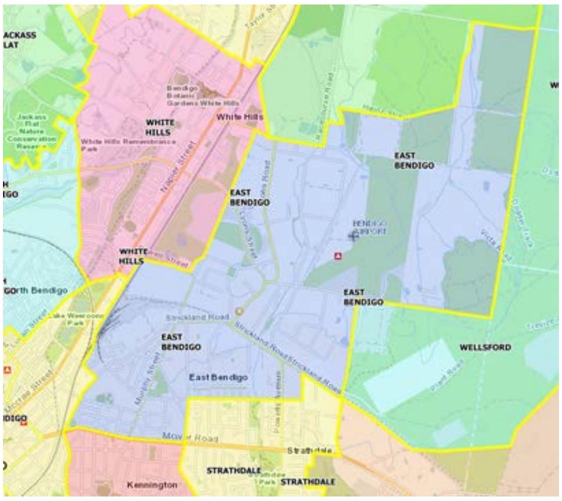


EAST BENDIGO
(2016 Census snapshot)

Total population	2,092
Median age	44
Total private dwellings	1,082
Household Composition	
Family	57.7%
Lone person	37.7%
Other	4.5%
Dwelling Structure	
Separate house	78.0%
Semi-detached	19.5%
Flat or apartment	1.8%
Other	0.3%

Number of bedrooms	
1 bedroom	3.2%
2 bedrooms	24.5%
3 bedrooms	51.9%
4+ bedrooms	18.4%
Not stated	2.0%
Number of vehicles	
None	6.9%
1	44.3%
2	31.2%
3+	13.8%
Not stated	3.9%

Top industries of employment	
Hospitals	5.4%
Other social assistance services	3.5%
Supermarket and grocery stores	3.3%
Banking	2.9%
Local government admin	2.4%

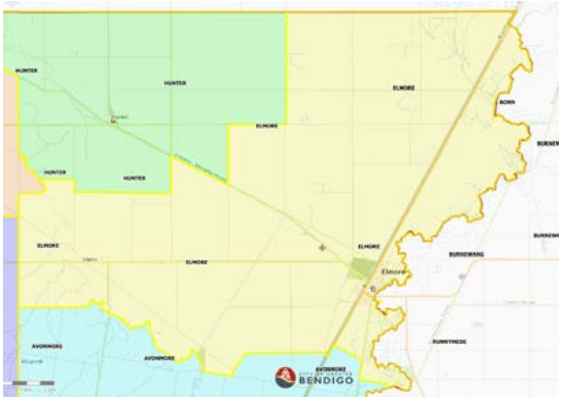


ELMORE
(2016 Census snapshot)

Total population	776
Median age	51
Total private dwellings	417
Household Composition	
Family	57.5%
Lone person	41.6%
Other	0.9%
Dwelling Structure	
Separate house	93.2%
Semi-detached	0.0%
Flat or apartment	0.9%
Other	5.9%

Number of bedrooms	
1 bedroom	7.5%
2 bedrooms	17.6%
3 bedrooms	45.7%
4+ bedrooms	23.6%
Not stated	4.5%
Number of vehicles	
None	6.8%
1	35.4%
2	30.4%
3+	20.1%
Not stated	7.4%

Top industries of employment	
Road freight transport	4.9%
Hospitals	4.9%
Other grain growing	4.5%
Other horse and dog racing activities	4.1%
Dairy cattle farming	3.7%



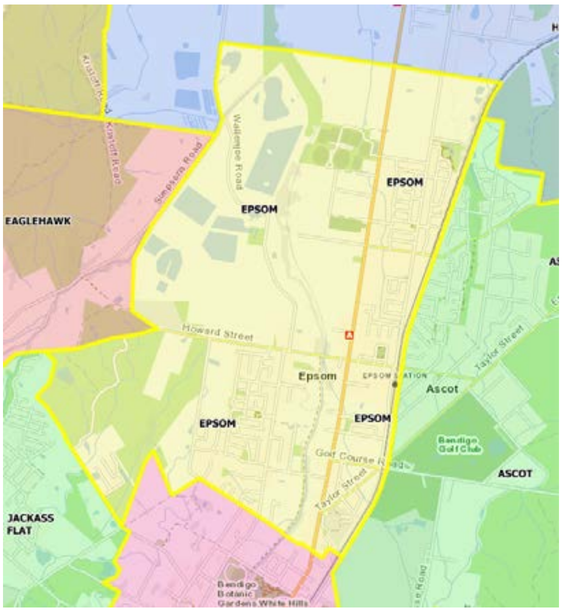
EPSOM

(2016 Census snapshot)

Total population	4,325
Median age	31
Total private dwellings	1,642
Household Composition	
Family	78.9%
Lone person	17.2%
Other	3.9%
Dwelling Structure	
Separate house	98.4%
Semi-detached	0%
Flat or apartment	0.2%
Other	1.2%

Number of bedrooms	
1 bedroom	0.3%
2 bedrooms	4.9%
3 bedrooms	52%
4+ bedrooms	40.8%
Not stated	1.8%
Number of vehicles	
None	2%
1	27.7%
2	48.1%
3+	18.8%
Not stated	3.3%

Top industries of employment	
Hospitals	6%
Banking	3.6%
Supermarket and grocery stores	2.9%
Aged care residential services	2.7%
Takeaway food services	2.5%



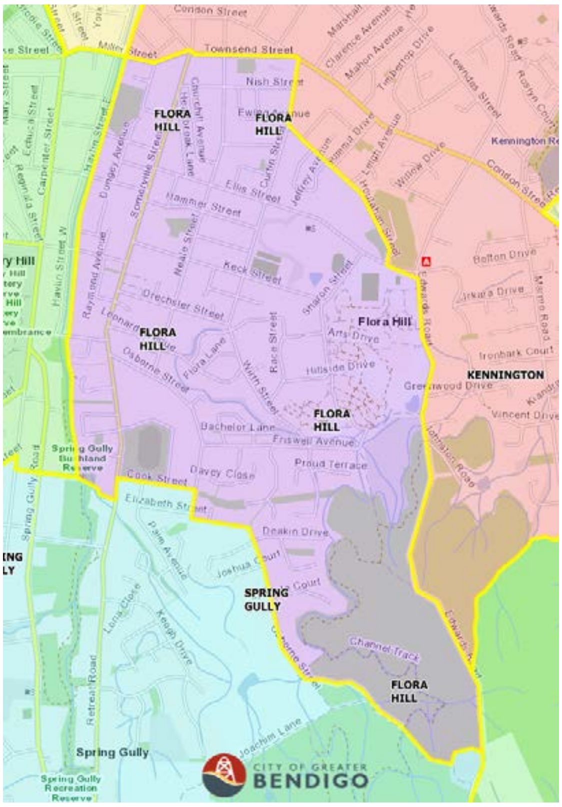
FLORA HILL

(2016 Census snapshot)

Total population	3,955
Median age	27
Total private dwellings	1,788
Household Composition	
Family	55.1%
Lone person	32.3%
Other	12.6%
Dwelling Structure	
Separate house	77.5%
Semi-detached	21.8%
Flat or apartment	0.3%
Other	0.0%

Number of bedrooms	
1 bedroom	3.4%
2 bedrooms	25.1%
3 bedrooms	52.9%
4+ bedrooms	16.2%
Not stated	2.4%
Number of vehicles	
None	8.6%
1	41.4%
2	32.2%
3+	13.9%
Not stated	3.8%

Top industries of employment	
Hospitals	6.5%
Cafes and restaurants	4.3%
Supermarket and grocery stores	4%
Takeaway food services	3.3%
Other social assistance services	2.8%

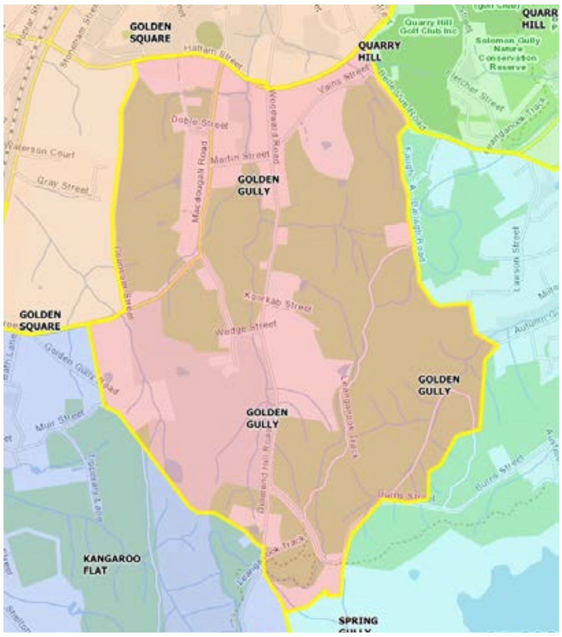


GOLDEN GULLY (2016 Census snapshot)

Total population	211
Median age	38
Total private dwellings	85
Household Composition	
Family	78.9%
Lone person	16.9%
Other	4.2%
Dwelling Structure	
Separate house	100.0%
Semi-detached	0.0%
Flat or apartment	0.0%
Other	0.0%

Number of bedrooms	
1 bedroom	0.0%
2 bedrooms	7.5%
3 bedrooms	53.7%
4+ bedrooms	38.8%
Not stated	0.0%
Number of vehicles	
None	4.1%
1	18.9%
2	29.7%
3+	36.5%
Not stated	10.8%

Top industries of employment	
Takeaway food services	14%
Road freight transport	10%
Hospitals	10%
Beekeeping	6%
Poultry processing	6%

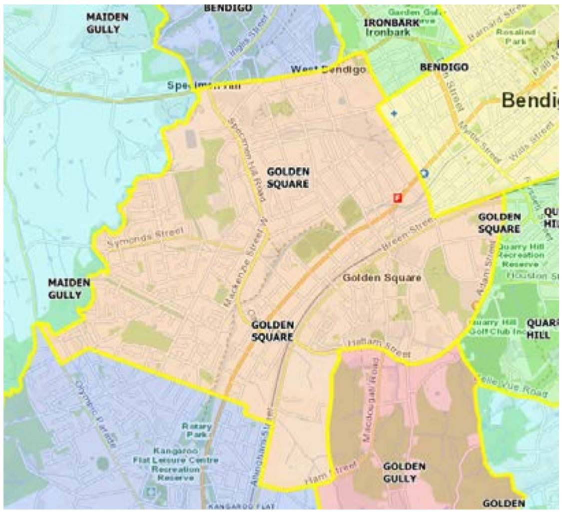


GOLDEN SQUARE (2016 Census snapshot)

Total population	8,820
Median age	38
Total private dwellings	4,071
Household Composition	
Family	63.9%
Lone person	31.7%
Other	4.3%
Dwelling Structure	
Separate house	88.6%
Semi-detached	4.5%
Flat or apartment	4.6%
Other	1.9%

Number of bedrooms	
1 bedroom	3.9%
2 bedrooms	16.8%
3 bedrooms	55.6%
4+ bedrooms	20.2%
Not stated	3%
Number of vehicles	
None	6.3%
1	36.0%
2	38.2%
3+	15.7%
Not stated	3.8%

Top industries of employment	
Hospitals	6.3%
Banking	3%
Supermarket and grocery stores	2.7%
Primary education	2.4%
Other social assistance services	2.3%



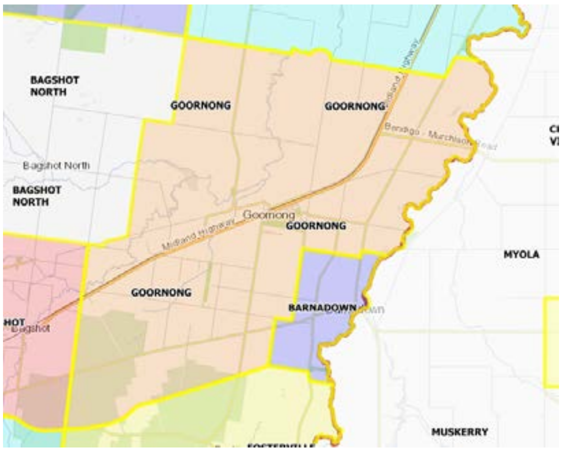
GOORNONG

(2016 Census snapshot)

Total population	654
Median age	39
Total private dwellings	270
Household Composition	
Family	76.9%
Lone person	19.9%
Other	3.2%
Dwelling Structure	
Separate house	98.6%
Semi-detached	1.4%
Flat or apartment	0.0%
Other	0.0%

Number of bedrooms	
1 bedroom	1.8%
2 bedrooms	8.5%
3 bedrooms	47.3%
4+ bedrooms	41.1%
Not stated	1.3%
Number of vehicles	
None	1.8%
1	16.7%
2	41.2%
3+	38.5%
Not stated	1.8%

Top industries of employment	
Hospitals	5.3%
Other grain growing	4.5%
Primary education	4.5%
Gold ore mining	4.2%
Supermarket and grocery stores	3.8%



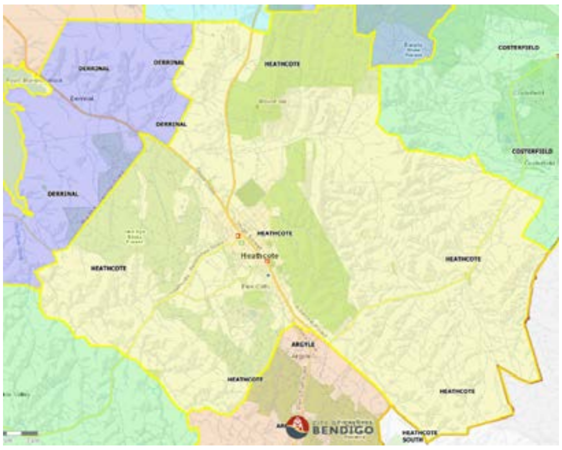
HEATHCOTE & ARGYLE

(2016 Census snapshot)

Total population	2,793
Median age	56
Total private dwellings	1,577
Household Composition	
Family	63.3%
Lone person	33.1%
Other	3.6%
Dwelling Structure	
Separate house	95.2%
Semi-detached	0.3%
Flat or apartment	1.4%
Other	1.7%

Number of bedrooms	
1 bedroom	3.9%
2 bedrooms	22.9%
3 bedrooms	49.8%
4+ bedrooms	17.2%
Not stated	5.7%
Number of vehicles	
None	5.4%
1	32%
2	36.7%
3+	17.7%
Not stated	8.3%

Top industries of employment	
Hospitals	5.3%
Gold ore mining	4.1%
Supermarket and grocery stores	4.1%
Wine and other alcoholic beverage manufacturing	3.2%
Defence	3.1%



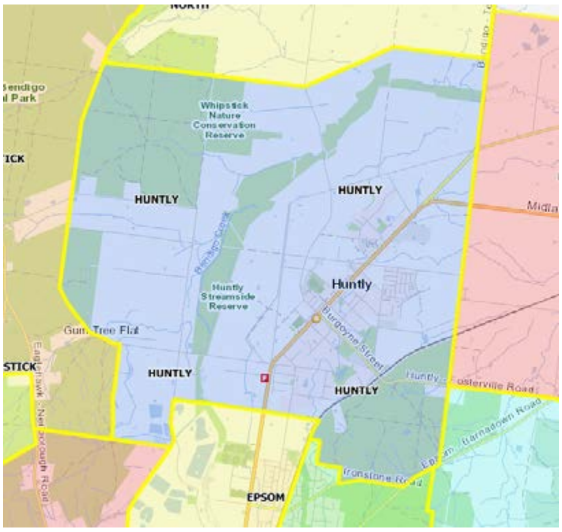
HUNTLY

(2016 Census snapshot)

Total population	2,379
Median age	32
Total private dwellings	872
Household Composition	
Family	80.3%
Lone person	16.7%
Other	3.0%
Dwelling Structure	
Separate house	99.1%
Semi-detached	0.5%
Flat or apartment	0.0%
Other	0.0%

Number of bedrooms	
1 bedroom	1.0%
2 bedrooms	4.3%
3 bedrooms	45.4%
4+ bedrooms	47.2%
Not stated	2.1%
Number of vehicles	
None	0.9%
1	20.2%
2	44.9%
3+	30.4%
Not stated	3.7%

Top industries of employment	
Hospitals	5.9%
Supermarket and grocery stores	3.4%
Other social assistance services	3.1%
Takeaway food services	2.9%
Other automotive repair and maintenance	2.4%



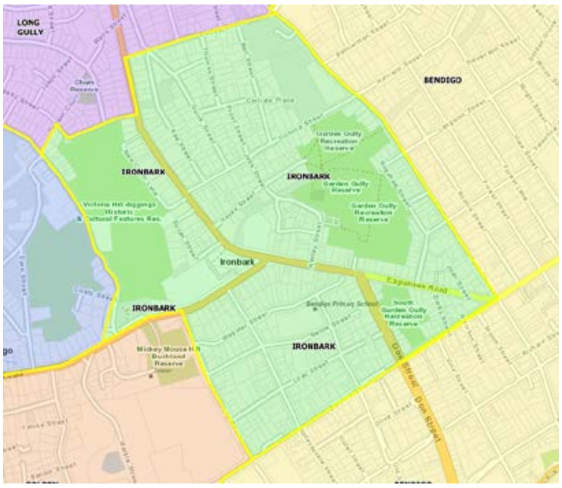
IRONBARK

(2016 Census snapshot)

Total population	1,095
Median age	44
Total private dwellings	561
Household Composition	
Family	56.8%
Lone person	38.9%
Other	4.3%
Dwelling Structure	
Separate house	87.7%
Semi-detached	11.0%
Flat or apartment	1.3%
Other	0.0%

Number of bedrooms	
1 bedroom	4.7%
2 bedrooms	29.8%
3 bedrooms	46.8%
4+ bedrooms	17.0%
Not stated	1.7%
Number of vehicles	
None	9.2%
1	44.7%
2	28.2%
3+	14.0%
Not stated	3.9%

Top industries of employment	
Secondary education	5.8%
Cafes and restaurants	4.1%
Hospitals	3.8%
Aged care residential services	3.6%
Other social assistance services	3.4%



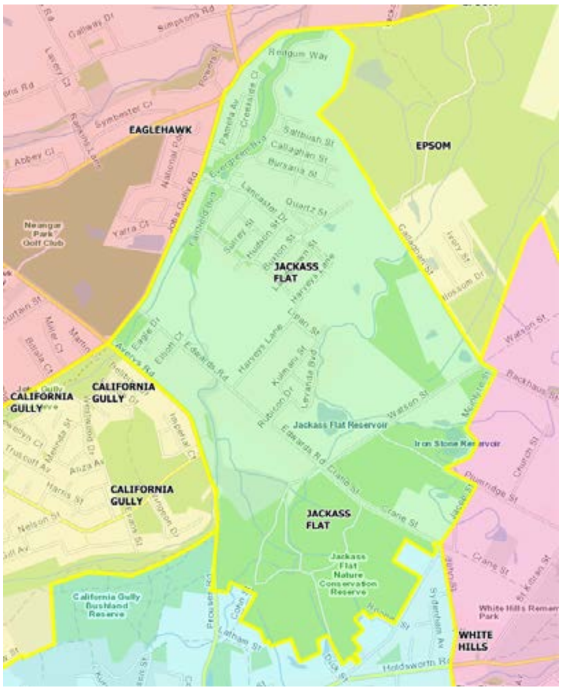
JACKASS FLAT

(2016 Census snapshot)

Total population	1,141
Median age	26
Total private dwellings	453
Household Composition	
Family	74.2%
Lone person	18.3%
Other	7.5%
Dwelling Structure	
Separate house	99.0%
Semi-detached	1.0%
Flat or apartment	0.0%
Other	0.0%

Number of bedrooms	
1 bedroom	0.0%
2 bedrooms	1.3%
3 bedrooms	27.3%
4+ bedrooms	69.4%
Not stated	2.1%
Number of vehicles	
None	2.1%
1	27.0%
2	49.1%
3+	18.7%
Not stated	3.1%

Top industries of employment	
Hospitals	8.7%
Supermarket and grocery stores	5.2%
Aged care residential services	3.3%
Secondary education	3.1%
Road freight transport	2.3%



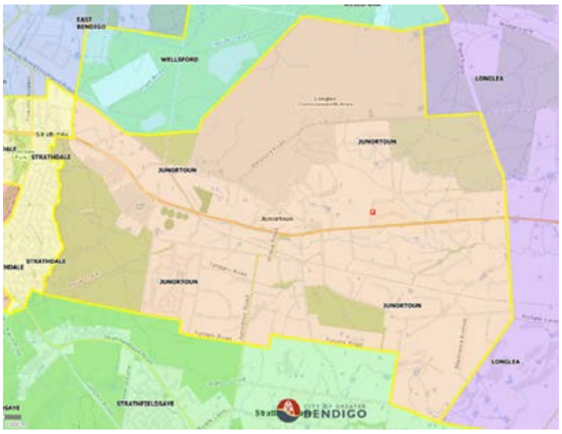
JUNORTOUN

(2016 Census snapshot)

Total population	3,201
Median age	41
Total private dwellings	1,136
Household Composition	
Family	84.7%
Lone person	14.3%
Other	1.0%
Dwelling Structure	
Separate house	97.8%
Semi-detached	0.4%
Flat or apartment	0.0%
Other	1.5%

Number of bedrooms	
1 bedroom	1.7%
2 bedrooms	9.1%
3 bedrooms	30.2%
4+ bedrooms	57.4%
Not stated	1.2%
Number of vehicles	
None	0.9%
1	20.7%
2	47.2%
3+	28.4%
Not stated	2.8%

Top industries of employment	
Hospitals	8.1%
Banking	5%
Primary education	4.3%
Secondary education	3.2%
Takeaway food services	2.9%

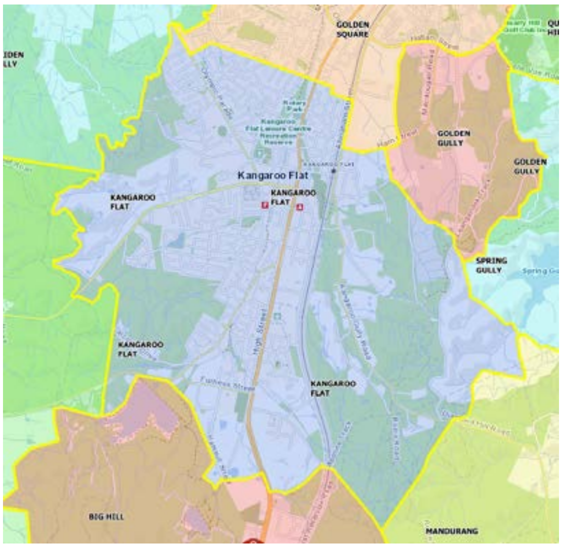


KANGAROO FLAT (2016 Census snapshot)

Total population	10,394
Median age	42
Total private dwellings	4,782
Household Composition	
Family	64.6%
Lone person	32.1%
Other	3.3%
Dwelling Structure	
Separate house	88.3%
Semi-detached	10.4%
Flat or apartment	1.1%
Other	0.0%

Number of bedrooms	
1 bedroom	2.7%
2 bedrooms	17.0%
3 bedrooms	57.2%
4+ bedrooms	19.9%
Not stated	3%
Number of vehicles	
None	6.7%
1	38.3%
2	35.1%
3+	15.3%
Not stated	4.5%

Top industries of employment	
Hospitals	5.4%
Supermarket and grocery stores	4.3%
Poultry processing	3.3%
Cured meat and smallgoods manufacturing	2.7%
Takeaway food services	2.6%

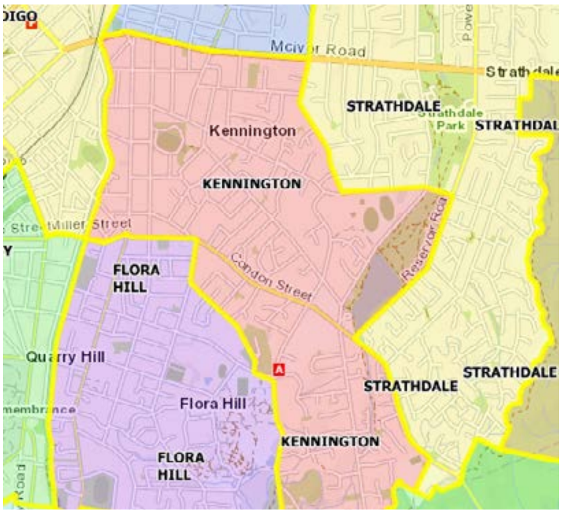


KENNINGTON (2016 Census snapshot)

Total population	5,649
Median age	42
Total private dwellings	2,710
Household Composition	
Family	59.1%
Lone person	35.0%
Other	6.0%
Dwelling Structure	
Separate house	77.1%
Semi-detached	21.4%
Flat or apartment	1.1%
Other	0.1%

Number of bedrooms	
1 bedroom	2.3%
2 bedrooms	24.1%
3 bedrooms	48.9%
4+ bedrooms	22.6%
Not stated	2.1%
Number of vehicles	
None	7.2%
1	41.4%
2	34.6%
3+	13.2%
Not stated	3.6%

Top industries of employment	
Hospitals	8%
Takeaway food services	3.6%
Banking	3.4%
Secondary education	3.3%
Primary education	2.9%

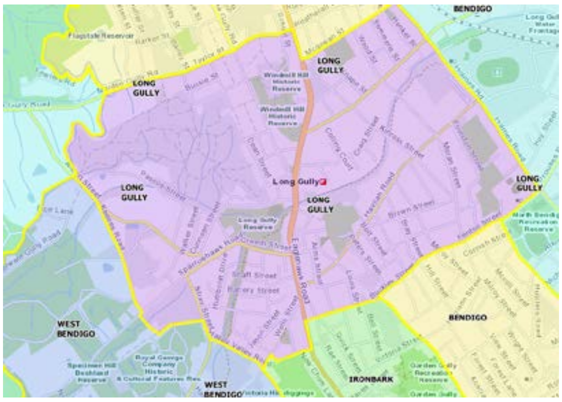


LONG GULLY

(2016 Census snapshot)

Total population	3,383	**Number of bedrooms**	
Median age	36	1 bedroom	5.0%
Total private dwellings	1,590	2 bedrooms	20.5%
Household Composition		3 bedrooms	59.4%
Family	62.5%	4+ bedrooms	11.5%
Lone person	32.8%	Not stated	3.6%
Other	4.7%	**Number of vehicles**	
Dwelling Structure		None	10.6%
Separate house	91.0%	1	40.6%
Semi-detached	6.2%	2	30.8%
Flat or apartment	2.3%	3+	12.2%
Other	0.2%	Not stated	5.9%

Top industries of employment	
Hospitals	5.9%
Supermarket and grocery stores	4.6%
Aged care residential services	4.1%
Other social assistance services	3.7%
Building and other industrial cleaning services	3.1%

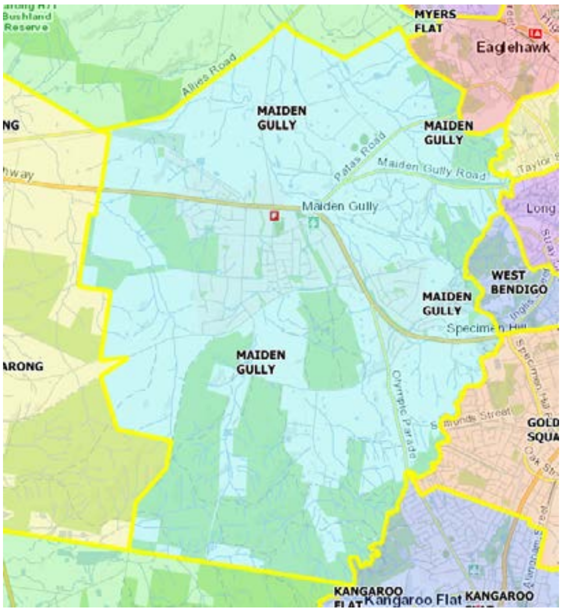


MAIDEN GULLY

(2016 Census snapshot)

Total population	4,992	**Number of bedrooms**	
Median age	35	1 bedroom	1.1%
Total private dwellings	1,633	2 bedrooms	2.8%
Household Composition		3 bedrooms	35.3%
Family	88.4%	4+ bedrooms	59.7%
Lone person	10.4%	Not stated	0.9%
Other	1.2%	**Number of vehicles**	
Dwelling Structure		None	0.9%
Separate house	98.7%	1	11.3%
Semi-detached	0.0%	2	50.6%
Flat or apartment	0.3%	3+	34.7%
Other	0.8%	Not stated	2.5%

Top industries of employment	
Hospitals	7.2%
Banking	3.4%
Supermarket and grocery stores	3.3%
Primary education	2.9%
Takeaway food services	2.1%



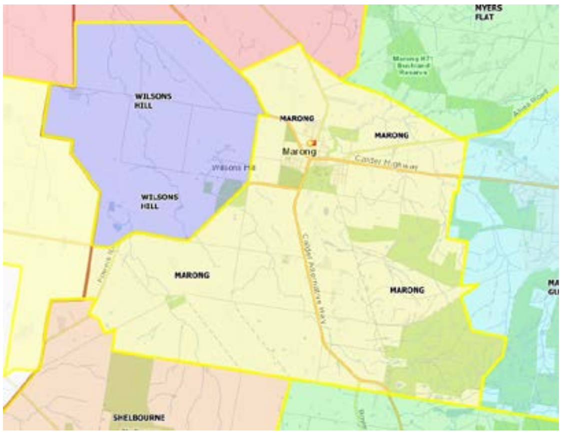
MARONG

(2016 Census snapshot)

Total population	1,416
Median age	31
Total private dwellings	535
Household Composition	
Family	81.6%
Lone person	16.0%
Other	2.4%
Dwelling Structure	
Separate house	96.1%
Semi-detached	0.0%
Flat or apartment	0.0%
Other	3.3%

Number of bedrooms	
1 bedroom	1.9%
2 bedrooms	6.0%
3 bedrooms	43.3%
4+ bedrooms	46.6%
Not stated	2.2%
Number of vehicles	
None	0.7%
1	17.2%
2	48.9%
3+	30.7%
Not stated	2.6%

Top industries of employment	
Hospitals	6.6%
Banking	4.5%
Primary education	4.3%
Supermarket and grocery stores	3.5%
Poultry processing	3.3%



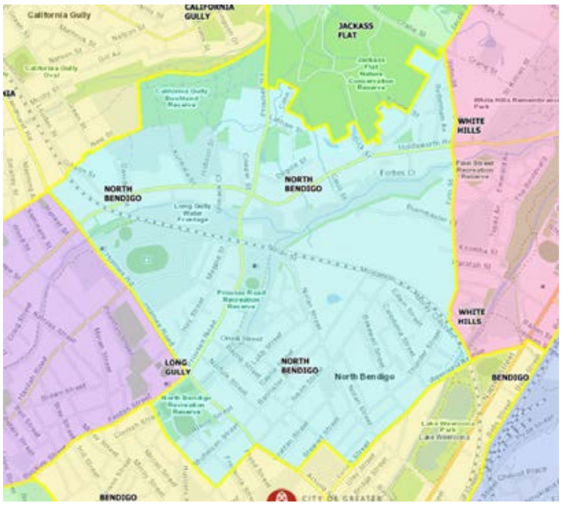
NORTH BENDIGO

(2016 Census snapshot)

Total population	4,059
Median age	39
Total private dwellings	1,993
Household Composition	
Family	57.3%
Lone person	36.0%
Other	6.7%
Dwelling Structure	
Separate house	81.2%
Semi-detached	11.5%
Flat or apartment	6.8%
Other	0.0%

Number of bedrooms	
1 bedroom	3.9%
2 bedrooms	20.0%
3 bedrooms	59.0%
4+ bedrooms	13.7%
Not stated	3.2%
Number of vehicles	
None	8.8%
1	42.1%
2	31.4%
3+	12.6%
Not stated	5.0%

Top industries of employment	
Hospitals	13.8%
Aged care residential services	3.2%
Banking	2.8%
Supermarket and grocery stores	2.3%
Takeaway food services	2.3%



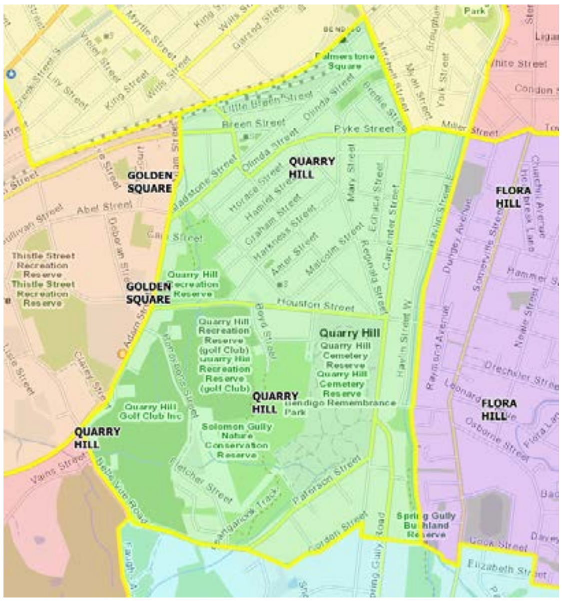
QUARRY HILL

(2016 Census snapshot)

Total population	2,339
Median age	37
Total private dwellings	1,118
Household Composition	
Family	63.7%
Lone person	30.9%
Other	5.4%
Dwelling Structure	
Separate house	85.3%
Semi-detached	13.6%
Flat or apartment	1.2%
Other	0.0%

Number of bedrooms	
1 bedroom	4.2%
2 bedrooms	23.4%
3 bedrooms	49.4%
4+ bedrooms	20.9%
Not stated	2.2%
Number of vehicles	
None	6.0%
1	40.2%
2	37.1%
3+	13.5%
Not stated	3.1%

Top industries of employment	
Hospitals	8.8%
Secondary education	4.1%
Cafes and restaurants	3.1%
Banking	3.1%
Other social assistance services	3.1%



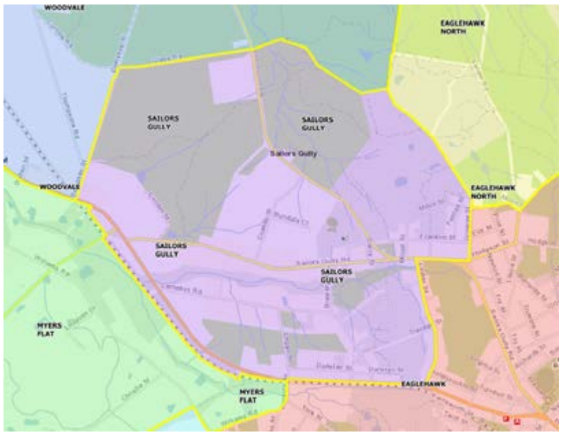
SAILORS GULLY

(2016 Census snapshot)

Total population	711
Median age	46
Total private dwellings	303
Household Composition	
Family	74.5%
Lone person	21.7%
Other	3.7%
Dwelling Structure	
Separate house	100.0%
Semi-detached	0.0%
Flat or apartment	0.0%
Other	0.0%

Number of bedrooms	
1 bedroom	1.1%
2 bedrooms	14.0%
3 bedrooms	57.2%
4+ bedrooms	25.8%
Not stated	1.8%
Number of vehicles	
None	1.5%
1	25.6%
2	35.3%
3+	35.0%
Not stated	2.6%

Top industries of employment	
Hospitals	8.1%
Supermarket and grocery stores	5.3%
Takeaway food services	4.5%
Road freight transport	4.5%
State government administation	4.1%

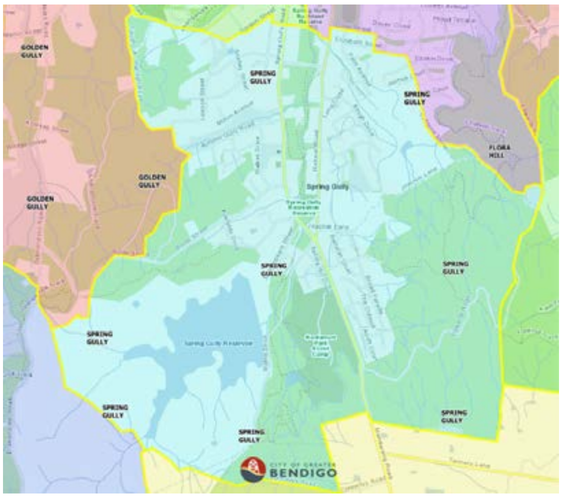


SPRING GULLY (2016 Census snapshot)

Total population	3,000
Median age	43
Total private dwellings	1,413
Household Composition	
Family	64.3%
Lone person	31.5%
Other	4.3%
Dwelling Structure	
Separate house	86.1%
Semi-detached	12.8%
Flat or apartment	0.8%
Other	0.0%

Number of bedrooms	
1 bedroom	2.9%
2 bedrooms	18.1%
3 bedrooms	46.1%
4+ bedrooms	29.2%
Not stated	2.7%
Number of vehicles	
None	5.9%
1	35.5%
2	37.3%
3+	17.4%
Not stated	4.9%

Top industries of employment	
Hospitals	8.1%
Banking	4.2%
Primary education	4.2%
Secondary education	3.6%
Higher education	2.9%

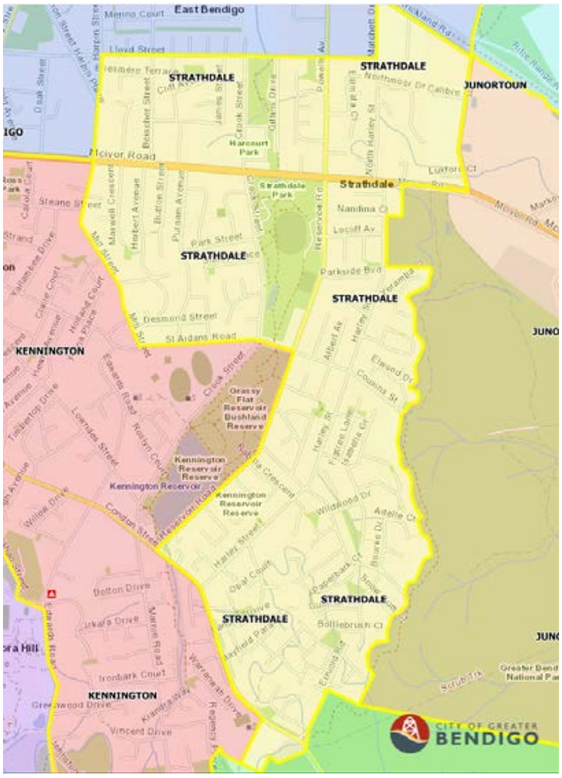


STRATHDALE (2016 Census snapshot)

Total population	5,663
Median age	45
Total private dwellings	2,509
Household Composition	
Family	68.8%
Lone person	27.7%
Other	3.5%
Dwelling Structure	
Separate house	86.4%
Semi-detached	13%
Flat or apartment	0.4%
Other	0%

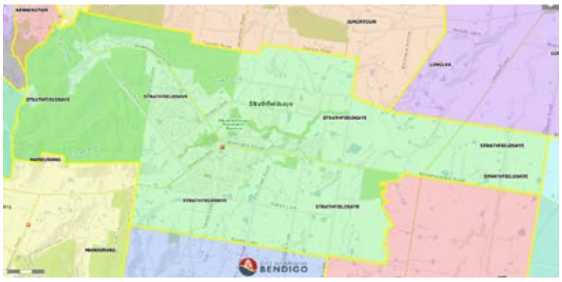
Number of bedrooms	
1 bedroom	0.8%
2 bedrooms	14.3%
3 bedrooms	47.9%
4+ bedrooms	34.9%
Not stated	2.2%
Number of vehicles	
None	4.2%
1	35.2%
2	40.5%
3+	16.9%
Not stated	3.1%

Top industries of employment	
Hospitals	6.9%
Takeaway food services	4.4%
Primary education	3.7%
Banking	3.7%
Supermarket and grocery stores	2.9%



STRATHFIELDSAYE

(2016 Census snapshot)



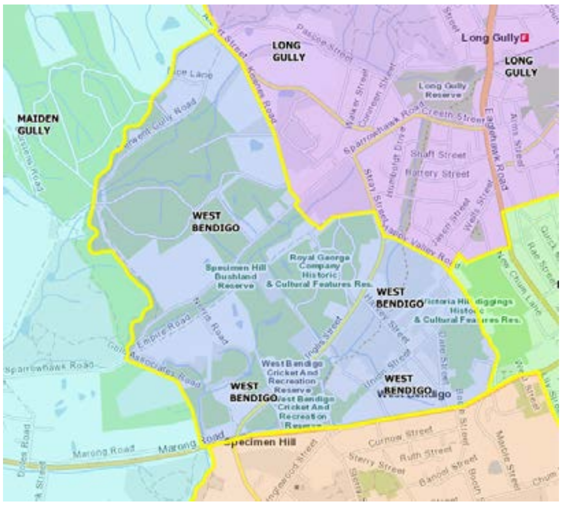
Total population	5,428
Median age	35
Total private dwellings	1,864
Household Composition	
Family	88%
Lone person	10.6%
Other	1.4%
Dwelling Structure	
Separate house	99.4%
Semi-detached	0.2%
Flat or apartment	0.2%
Other	0%

Number of bedrooms	
1 bedroom	
2 bedrooms	
3 bedrooms	
4+ bedrooms	
Not stated	
Number of vehicles	
None	
1	
2	
3+	
Not stated	

Top industries of employment	
Hospitals	8.1%
Primary education	4.7%
Banking	4.7%
Supermarket and grocery stores	3.9%
Secondary education	3.1%

WEST BENDIGO

(2016 Census snapshot)



Total population	375
Median age	42
Total private dwellings	169
Household Composition	
Family	69.6%
Lone person	26.1%
Other	4.3%
Dwelling Structure	
Separate house	100.0%
Semi-detached	0.0%
Flat or apartment	0.0%
Other	0.0%

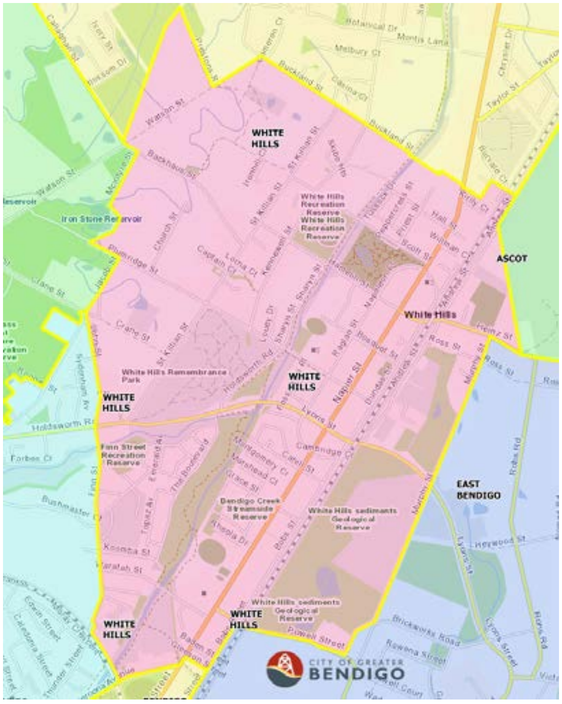
Number of bedrooms	
1 bedroom	0%
2 bedrooms	15.7%
3 bedrooms	54.3%
4+ bedrooms	25%
Not stated	5%
Number of vehicles	
None	5%
1	28.4%
2	36.2%
3+	26.2%
Not stated	4.3%

Top industries of employment	
Supermarket and grocery stores	11.4%
Hospitals	11.4%
Aged care residential services	6.1%
Accomodation	5.3%
Building and other industrial cleaning services	5.3%

WHITE HILLS	(2016 Census snapshot)
Total population	3,219
Median age	37
Total private dwellings	1,444
Household Composition	
Family	66.2%
Lone person	29.5%
Other	4.3%
Dwelling Structure	
Separate house	89.9%
Semi-detached	8.8%
Flat or apartment	0.4%
Other	0.3%

Number of bedrooms	
1 bedroom	1.9%
2 bedrooms	15.8%
3 bedrooms	54.2%
4+ bedrooms	24.7%
Not stated	3.5%
Number of vehicles	
None	7.6%
1	35.2%
2	34.6%
3+	17.5%
Not stated	5.1%

Top industries of employment	
Hospitals	7.6%
Takeaway food services	4.4%
Supermarket and grocery stores	3.2%
Primary education	3.1%
Banking	2.8%



NOTES

City of Greater Bendigo

A: 15 Hopetoun Street, Bendigo

M: PO Box 733, Bendigo VIC 3552

P: 1300 00 2642 or (03) 5434 6000

E: requests@bendigo.vic.gov.au

W: www.bendigo.vic.gov.au

CITY OF GREATER
BENDIGO