



Bairnsdale 2050 Discussion Paper

Prepared for East Gippsland Shire Council
March 2024

Prepared by SGS Economics & Planning, CoFutures and
Hodyl & Co



CoFutures...

Hodyl & Co

© **SGS Economics and Planning Pty Ltd 2024**

This report has been prepared for East Gippsland Shire Council. SGS Economics and Planning has taken all due care in the preparation of this report. However, SGS and its associated consultants are not liable to any person or entity for any damage or loss that has occurred, or may occur, in relation to that person or entity taking or not taking action in respect of any representation, statement, opinion or advice referred to herein.

March 2024
Version 4

SGS Economics and Planning Pty Ltd
ACN 007 437 729
www.sgsep.com.au

Bairnsdale 2050 Discussion Paper

East Gippsland Shire Council acknowledges the Gunaikurnai, Monero and the Bidawel people as the Traditional Custodians of this land that encompasses East Gippsland Shire, and their enduring relationship with country. The Traditional Custodians have cared for and nurtured East Gippsland for tens of thousands of years. Council value their living culture and practices and their right to self-determination. Council pays respect to all Aboriginal and Torres Strait Islander people living in East Gippsland, their Elders, past, present, and future.



Introduction	4
Theme 1: Housing	10
Theme 2: Places and spaces	12
Theme 3: Industry	14
Theme 4: Shops and businesses	18
Theme 5: Movement and access	20
Theme 6: Sustainability and climate change	22
Theme 7: Community infrastructure	24
Developing Bairnsdale 2050 together – next steps	28

Introduction

Council invites the community to be part of an exciting new project to develop the Bairnsdale 2050 Strategy. Once complete, the Strategy will provide the blueprint for how Bairnsdale will grow and evolve in the future.

Consultation with our community is essential for the development of this Strategy.

This Discussion Paper outlines some of the key challenges that we may encounter across the next 25 years as our community continues to grow and change. This Paper poses some key questions across seven themes that we will need to carefully consider as we develop the Strategy together.

Introducing Bairnsdale 2050

Bairnsdale is the gateway to East Gippsland, a thriving Regional Centre home to more than 15,500 residents set on the banks of the picturesque Mitchell River. It's the largest settlement in East Gippsland and is the regional hub for shopping, health services, community support, education, arts and culture.

Over the next 25 years, Bairnsdale will face a range of complex challenges including sustaining population growth, generating new employment opportunities, supporting liveability and inclusivity, and planning for a changing climate. Bairnsdale needs a new vision for the future that responds to these challenges and provides clear directions to support urban development and economic vitality.

To develop this vision, Council is embarking on an exciting new project – Bairnsdale 2050. The project will replace the previous Bairnsdale Growth Strategy (prepared in 2009) and will provide the directions needed to guide a sustainable and prosperous future for our city.

We have an opportunity right now to build on the strengths of our City, identify the key challenges that lie ahead, and put in place the building blocks needed to enable Bairnsdale to flourish.

Bairnsdale 2050 will be a visionary roadmap that will set out a blueprint for how our City will grow and evolve over the next 30 years.

Building Bairnsdale 2050 together – developing a shared community vision

Bairnsdale 2050 is an exciting opportunity to be bold and to think outside the box. From the outset of this project, we are welcoming all community members to share their ideas and participate in this project.

Over the coming months we will be inviting the community to get involved in a range of activities and events that provide a platform to share your ideas, challenge your thinking and learn from others. Your feedback and inputs will directly shape and inform Bairnsdale 2050.

The development of the strategy will unfold across multiple stages, each underpinned by a genuine and collaborative community engagement process.

The Bairnsdale 2050 Community Panel, comprising a group of thirteen passionate community advocates, has been brought together through a public Expression of Interest process to provide guidance and insights at pivotal stages of the project.

Bairnsdale 2050 will not merely be a plan crafted behind closed doors; nor will it exclusively be a technical exercise. Rather, it will be developed through a collaborative process of codesign involving a wide spectrum of community interests, key stakeholders, organisations, Council, government agencies and specialist experts.

Your participation isn't just welcomed; it's pivotal. Together, let's create a Strategy that stands as a testament to our collective vision for Bairnsdale Outlined in Figure 1, the project stages sketch the roadmap ahead.

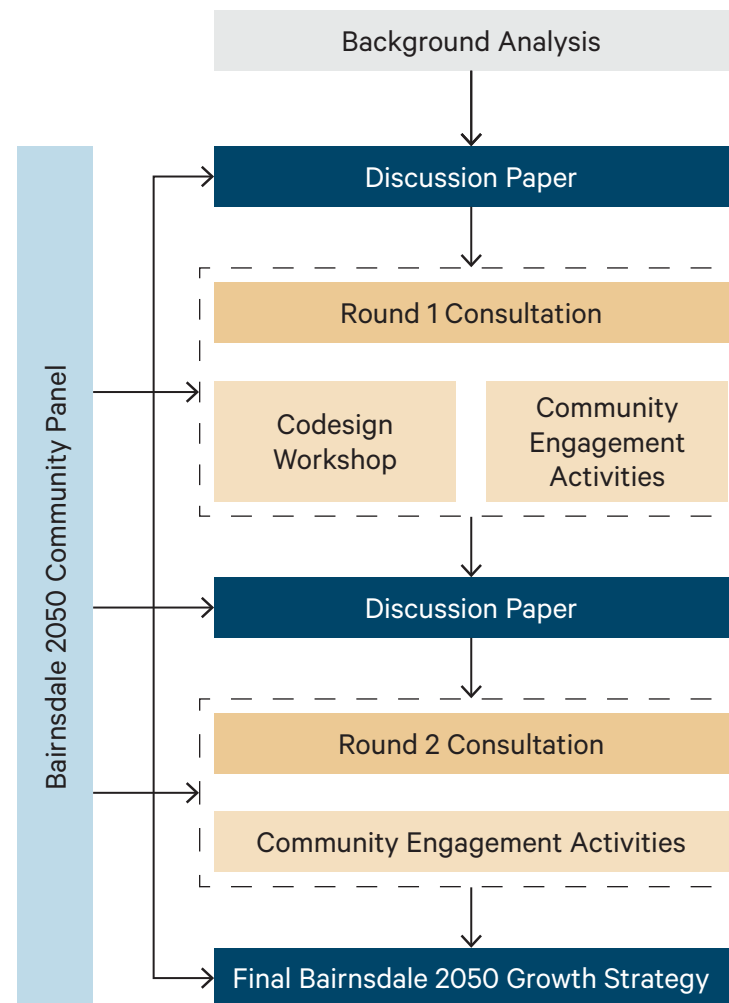


Figure 1. Process for preparing the Bairnsdale 2050 Strategy

How to engage with this Discussion Paper

This Discussion Paper brings together research undertaken by the project team to date. It sets the scene for a range of big questions and topics that we will need to grapple with in developing Bairnsdale 2050.

There are many ways to plan for growth and change and this Paper provides a series of questions and conversation topics to provoke your thinking, challenge the status quo and encourage deep deliberation.

The Discussion Paper is organised into seven key themes:

1. Housing
2. Place and spaces
3. Industry
4. Shops and businesses
5. Movement and access
6. Sustainability and climate change
7. Community infrastructure

The themes and topics outlined in this Paper provide a launchpad for the Community Codesign workshop which will be held in the coming months. The Community Codesign workshop will be an important cornerstone for the project, providing an opportunity for the Bairnsdale community to come together to discuss, debate and shape a draft Bairnsdale 2050 Strategy (more about this in the final section 'Developing Bairnsdale 2050 together – next steps').



Image 1. View looking north-west across Bairnsdale and over the river flats.

As we look ahead to the future, Bairnsdale remains well-poised to continue its vital role in catering to a growing population and economy. Yet, with this growth we will reach a critical juncture. Unplanned growth could pose significant challenges amidst the backdrop of climate change, a changing national economy and evolving technologies. There are many key drivers to change that are necessary to consider when developing a new blueprint for the future. Some key facts are presented on this page.



26,800

Residents forecast by 2050 compared to 15,500 residents in 2021

38

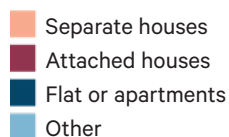
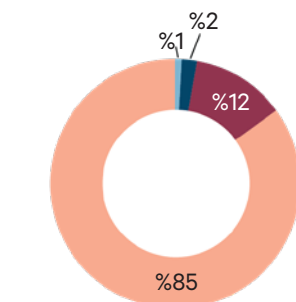
Is the average age in Bairnsdale compared to 44 in Victoria



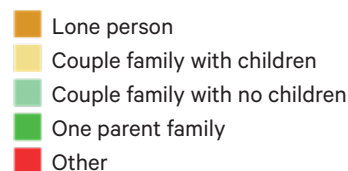
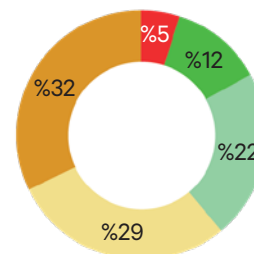
14,300

Dwellings forecast by 2050 compared to 9,600 dwellings in 2021

Dwelling Types



Household Types



13,708

Jobs forecast by 2050 compared to 10,412 jobs in 2021

1,179

Businesses in 2023

Top 3 Industries

by Gross Value Added, 2021



\$135,320

Health Care & Social Assistance



\$125,579

Manufacturing



\$112,113

Education & Training

Figure 2. Key facts about Bairnsdale

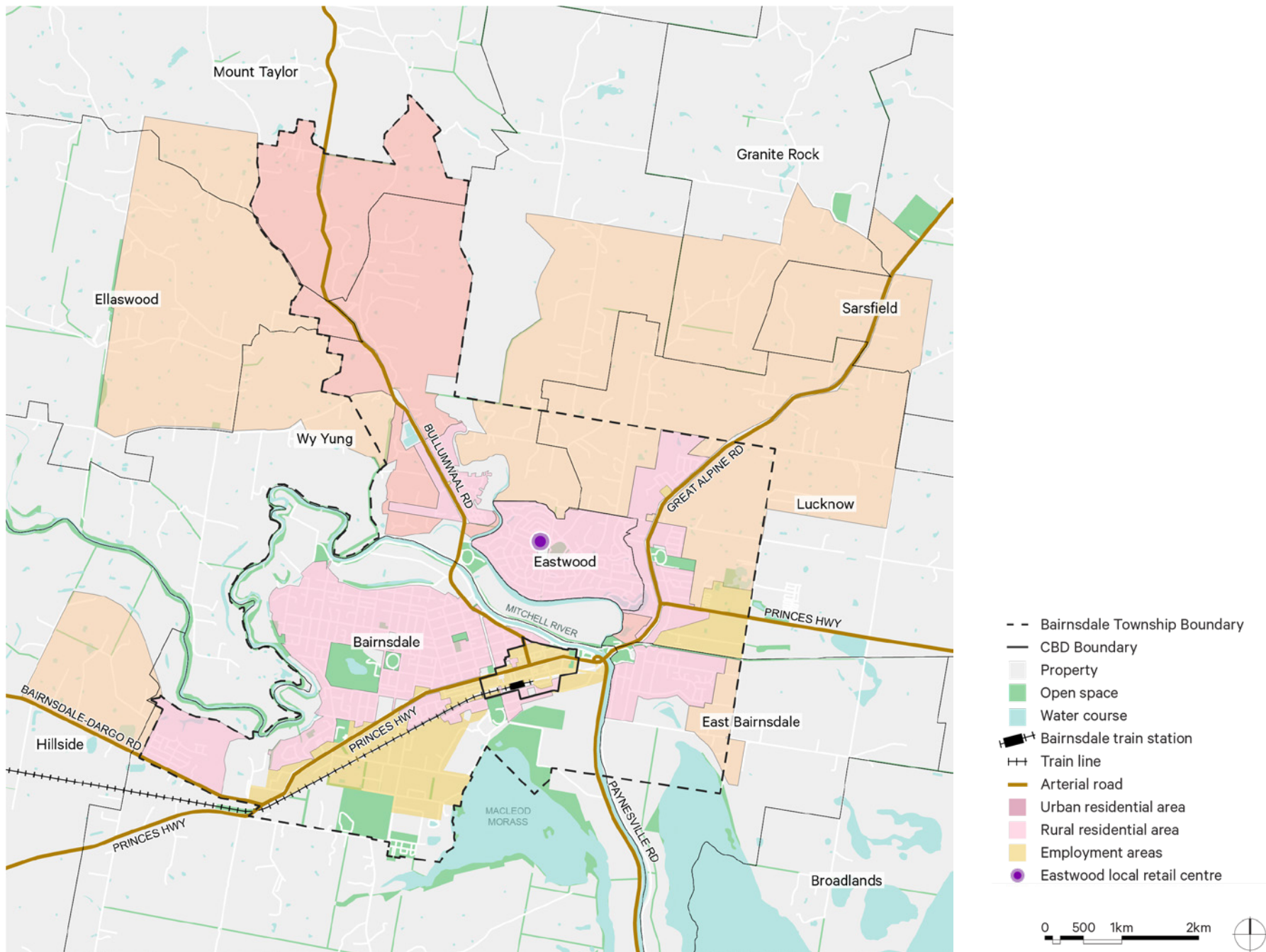


Figure 3. Bairnsdale context map



Image 2. View looking south-east along the Mitchell River and across the Bairnsdale CBD

Theme 1: Housing

What we know today

As the population of Bairnsdale grows and changes, it will be crucial to ensure that the supply, mix and location of new homes matches the needs of existing and future residents.

Key findings of the recently completed East Gippsland Housing and Settlement Strategy 2023 (HSS), relevant to Bairnsdale are:

- As an identified Regional Centre in Victorian Government policy, Bairnsdale is the preferred location for future population growth and new housing in East Gippsland.
- There is enough zoned residential land in the right locations to accommodate new homes in Bairnsdale over the long term.
- There is a need for more diverse and affordable housing types, particularly in central locations with good access to shops and services.
- New housing development should enhance the character of the City, provide high quality development outcomes and respond to the impacts of a changing climate.

More diverse and affordable housing is important for not only supporting existing residents, but also for attracting new residents to the City, including young people and essential workers.

Key challenges

- Addressing barriers to delivery of new housing supply in areas identified and zoned for growth.
- Ensuring growth is compatible with areas affected by natural hazards (flooding and bushfire), high quality farmland and environmental significance over the long term.
- Identifying a preferred future neighbourhood character in Bairnsdale.
- Limited policy tools to support delivery of diverse and affordable housing.

Opportunities for Bairnsdale 2050

- Encourage more and a greater variety of housing in areas with great access to shops and services.
- Redevelop key sites in the CBD and broader area to provide diverse and affordable housing options.
- Provide greater guidance to ensure new homes are well designed and well built.
- Consider emerging and innovative housing models such as tiny homes, cohousing and residential villages.

Questions for the Community

- What will attract people to live in Bairnsdale in the future?
- What types of homes do you think we need more of in Bairnsdale? What are the biggest challenges to improving housing choice and affordability?
- What do you value most about the character of Bairnsdale, and how can it best be protected?
- What characteristics do you think contribute to well-designed and well built homes?

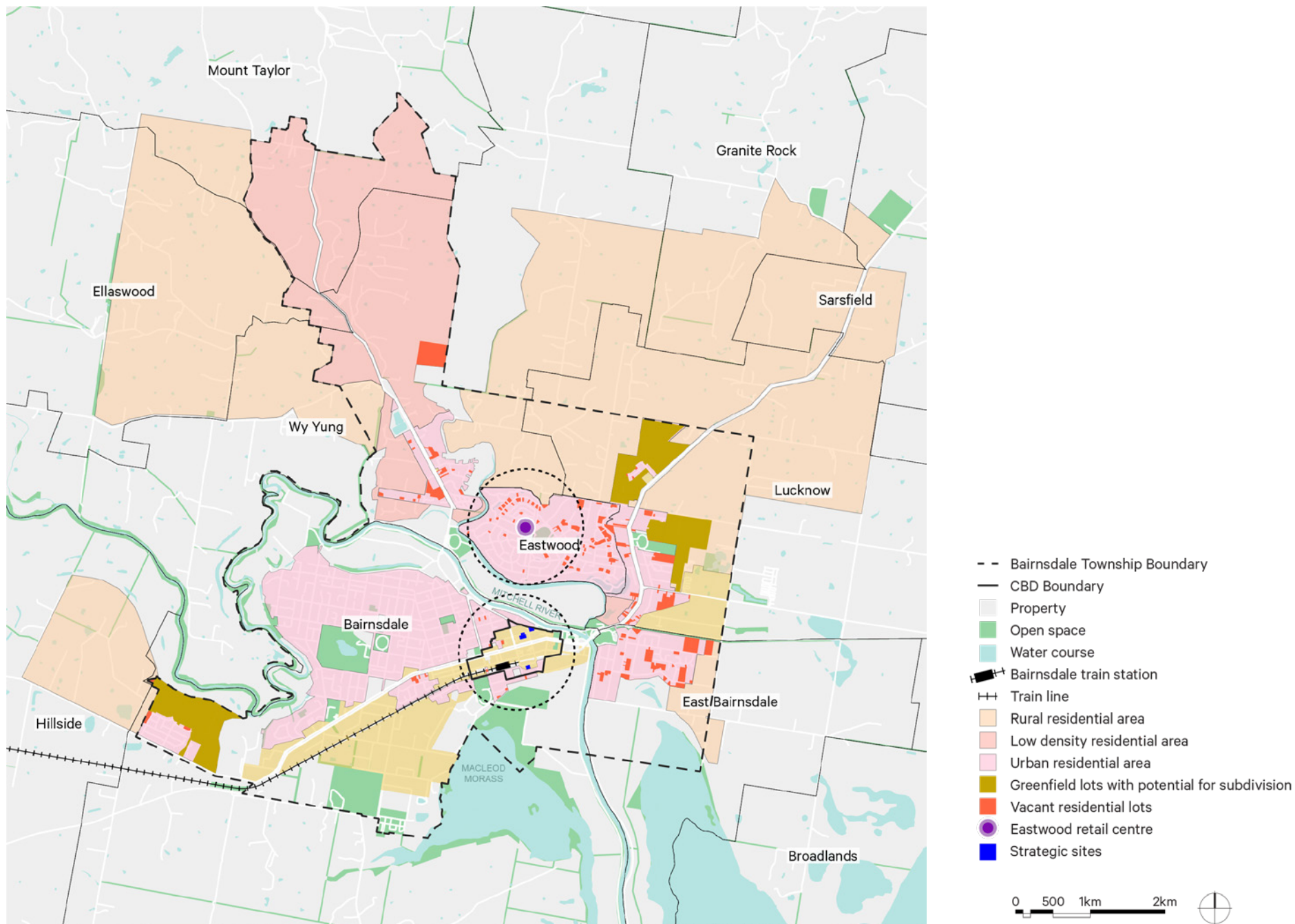


Figure 4. Residential areas with potential to meet housing needs

Theme 2: Places and spaces

What we know today

The landscape and topography of Bairnsdale and its surrounds are shaped by the low-lying areas along the river flats of the Mitchell River and Clifton Creek, and the water bodies of Macleod Morass and Jones Bay. The township developed around the old Port on the Mitchell River which is now a key recreational asset.

The CBD of Bairnsdale is the central hub for retail and commercial activity, as well as community services. The character of the CBD is defined by low rise buildings, large canopy trees, and wide thoroughfares connected by a network of smaller streets and laneways.

Within the CBD, the forecourt of the East Gippsland Shire Library, the Nicholson Street pedestrian mall and the gardens along the central median of the Princes Highway are key local places for people to meet and gather. Schools, community facilities and local services are dispersed across the city with a concentration of facilities located in west Bairnsdale including the Regional Health Service, primary and secondary schools, the Bairnsdale Aquatic and Recreation Reserve, Arts Hub and the Women's Organisation for Recreation, Leisure and Development (WORLD) Sporting Precinct Redevelopment.

Commercial and business activity extends along the Princes Highway, while other key activity areas include the local retail centre in Eastwood and the health services precinct located approximately two kilometres west of the CBD. Beyond the central core of the CBD, the low-rise pattern of development extends into the surrounding suburbs.

Key challenges

- The Princes Highway cuts through the middle of the CBD, splitting the centre into two halves and restricting connectivity.
- Large areas of surface car parking create a poor quality pedestrian environment in some areas.
- During the day, the CBD is a buzz of activity however lacks vibrancy and activity at night.
- There are limited public spaces in the CBD that encourage people to gather and meet.
- Access to the Mitchell River is restricted by steep topography with limited public access points.

Opportunities for Bairnsdale 2050

- Activate and connect the City's streets and laneways to create more vibrant public spaces for community and social gatherings.
- Promote the revitalisation of strategic sites in the CBD as exemplar opportunities to activate the CBD.
- Define a clear role and opportunities to connect each side of the CBD (north and south of the Princes Highway) that builds on existing strengths of the centre and creates a sense of identity.

Questions for the Community

- What improvements are needed to make Bairnsdale's CBD a more attractive and vibrant place to visit?
- What types of spaces would encourage more people to spend time in Bairnsdale?
- What types of activities and events would you like to see more of in Bairnsdale?

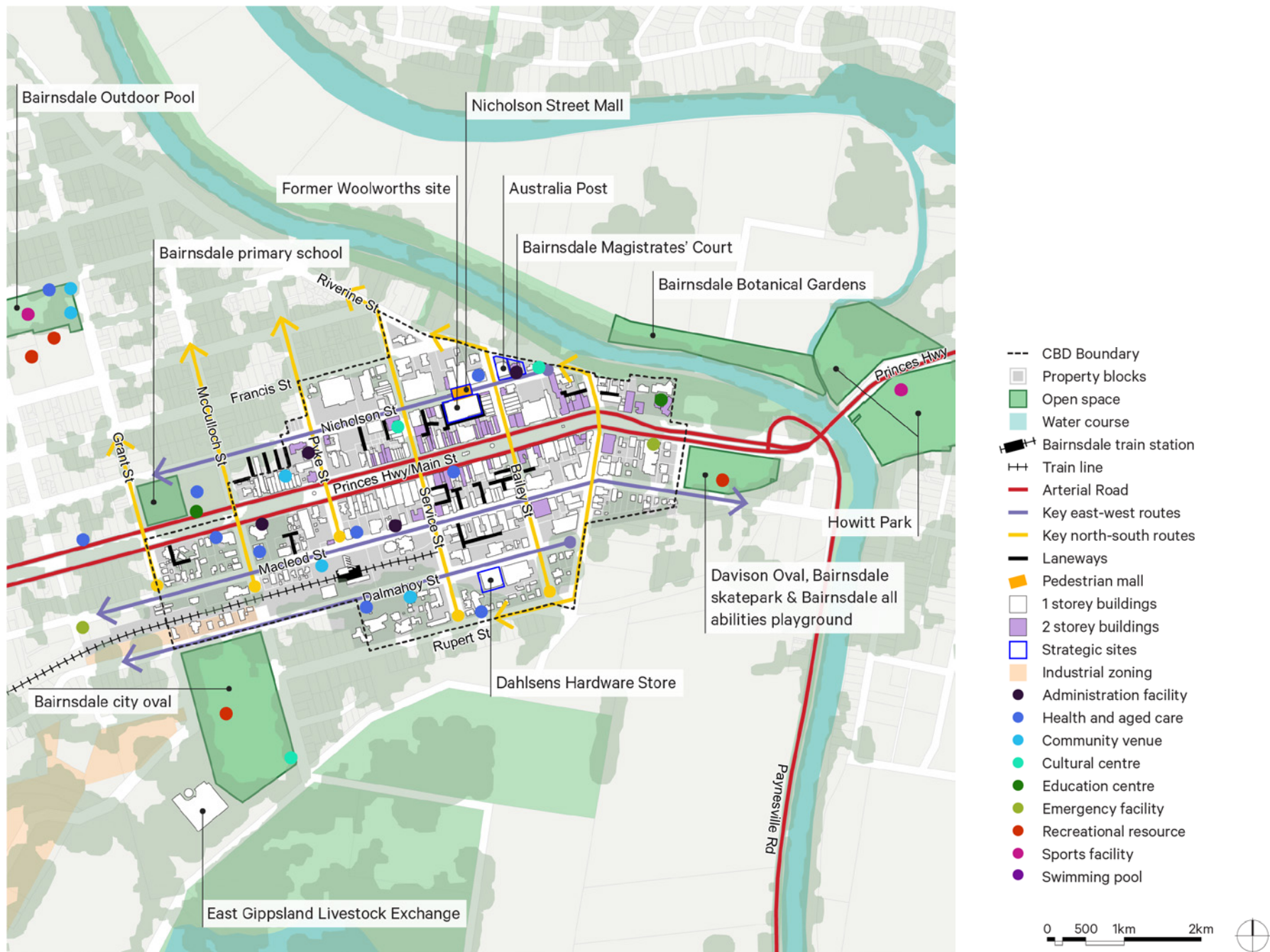


Figure 5. Places and spaces within and around the Bairnsdale CBD

Theme 3: Industry

What we know today

Bairnsdale's industrial areas support some of the region's most productive and top earning industries. While manufacturing has experienced a slight decline in recent years it is still a major contributor to Bairnsdale's economy. The supply of industrial land is vital to accommodate the growth of businesses and allow new and emerging industries to establish in the Bairnsdale.

The decline of manufacturing is a common trend across Australia but not an inevitable outcome. Manufacturing is transitioning from traditional methods to 'Industry 4.0', where advanced technologies are integrated in processes and often require higher skilled workers.

Bairnsdale has two existing industrial precincts. The first, being located west of the CBD which hosts a diverse range of businesses, often occupying smaller lots. One of its key advantages is its close location to the CBD. The second industrial precinct extends from the East Gippsland Rail Trail in East Bairnsdale, north over the Princes Highway into Lucknow. This industrial precinct is characterised by larger lot sizes with many traditional manufacturing and construction related businesses. Patties Foods is a prominent use in this area.

Over the last nine years, Bairnsdale's industrial sector has been consuming around 3.2ha of industrial land per year. At this rate, Bairnsdale will need to provide more industrial land than what is currently available to accommodate future growth.

Key challenges

- Declining employment in 'traditional' industrial sectors, such as manufacturing.
- Business capability to adopt and implement new technologies to keep up with industry growth and transitions.
- Inefficient use of existing industrial land, and a need for more industrial land soon.

Opportunities for Bairnsdale 2050

- Explore appropriate locations for future industrial growth in Bairnsdale.
- Capitalise on Bairnsdale's central role in the agricultural industry, especially food and fibre, and identify emerging industries that could complement or enhance the traditional industrial sectors, such as renewable energy, bioproducts, or eco-tourism.
- Enhance infrastructure to support a range of industrial activities, including transportation (roads, rail, ports), utilities (water, energy, waste management), and digital connectivity.

Questions for the Community

- In identifying future industrial land, what's most important to consider?
- What infrastructure (including transport infrastructure) will be needed to support a more diversified economy in 2050?
- How can Bairnsdale's existing industrial areas be enhanced to support ongoing investment?

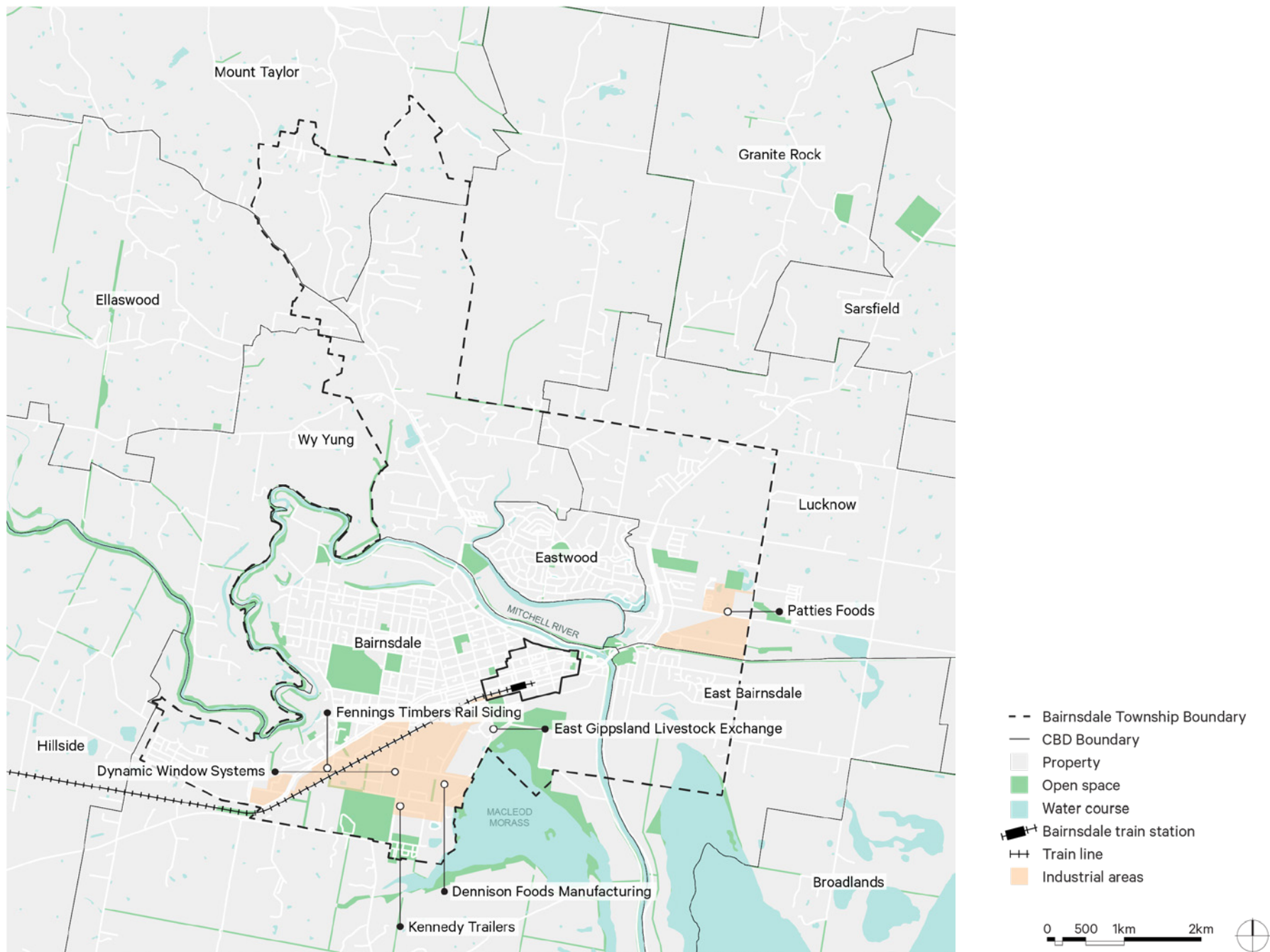


Figure 6. Industrial land

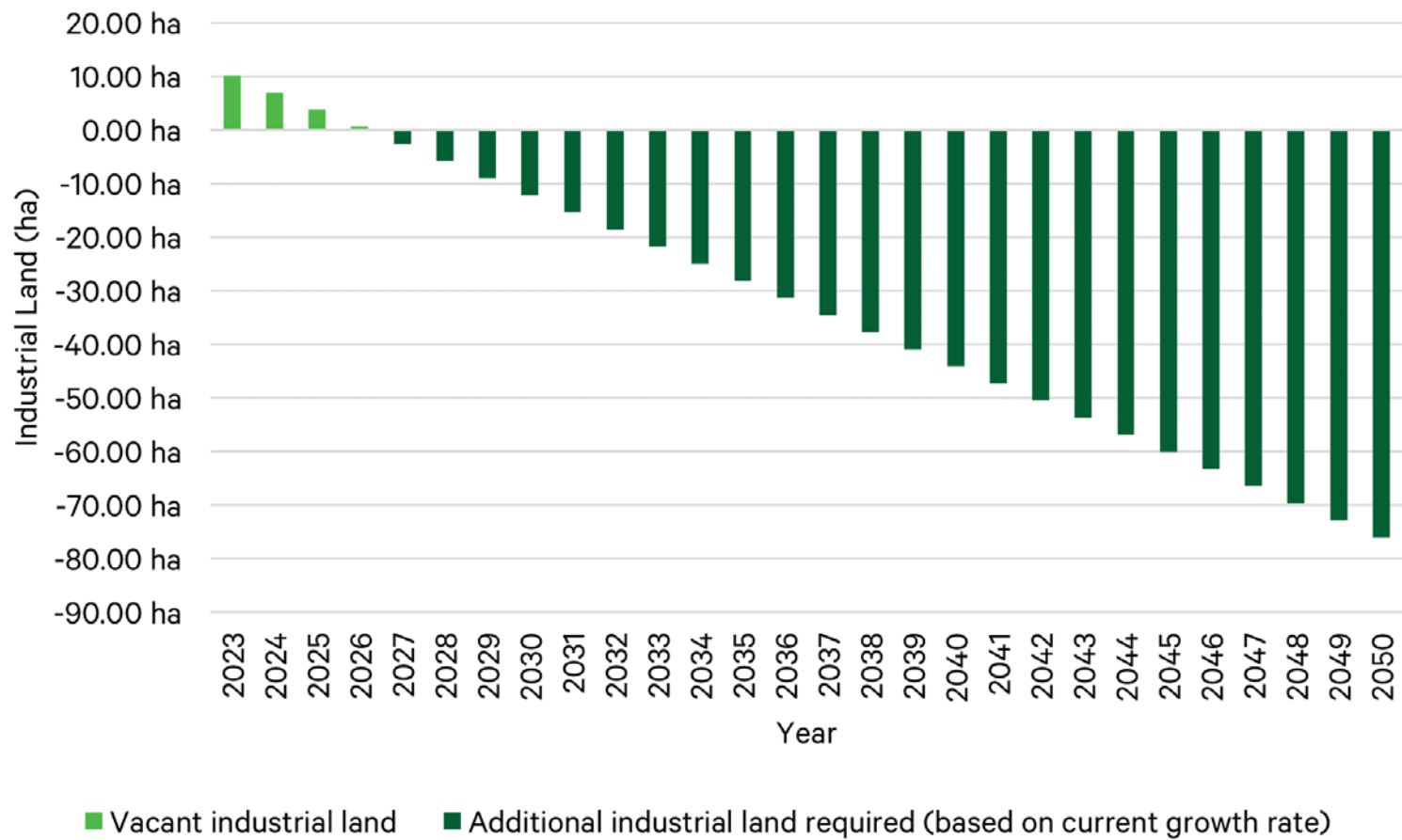


Figure 7. Bairnsdale's forecast industrial land supply to 2050



Image 3. Businesses in the south Bairnsdale industrial area

Theme 4: Shops and businesses

What we know today

Bairnsdale's offering of shops and businesses reflects the City's role as a Regional Centre, which supports and attracts both local residents and people from surrounding places.

Bairnsdale's commercial centres and their retail and commercial offerings are dispersed across the city:

- The CBD is the commercial hub with a mix of retail, hospitality, professional services and other population serving industries.
- Big box retail lines the Princes Highway corridor.
- The Eastwood local activity centre provides a limited offering of a supermarket and a few other services.

By 2050, Bairnsdale's commercial and retail industries will have demand for an additional 67.3ha of floorspace. Bairnsdale has around 100ha of land that can either be developed, or accommodate higher densities meaning there is no need for additional commercial or retail land before 2050.

There are several key strategic sites located within the CBD including the vacant Dahlsen site and the vacant Woolworths site. The potential redevelopment of these key sites will set the tone for future development and provide significant opportunities to revitalise the CBD.

While there were 1,494 registered businesses operating in Bairnsdale in 2023, this is an overall decline of 23 businesses compared to 2022. Business vitality can often pose a challenge to many regional areas where there are limited market sizes, increased labour shortages and seasonal reliant industries.

The East Gippsland Economic Development Strategy 2022-32 also provides detailed analysis of the local economy and includes issues and opportunities to boost economic wellbeing in the Shire.

Key challenges

- Decreased economic outputs associated with declines in Accommodation and Food Services, Retail Trade and Arts and Recreation Services industries.
- An ongoing challenge of retaining and attracting young people, who are choosing to move, live and work outside the region.
- Fragmentation of land has resulted in inefficient land uses and disconnection within the CBD.
- Managing landowner and developer expectations while also achieving positive outcomes and social benefits for the community.
- Poor configuration of commercial land can lead to inefficient use of space.
- Dispersed and fragmented centres can be less accessible and attractive to consumers and create difficulties in expanding existing businesses or developing new ones.

Opportunities for Bairnsdale 2050

- Create a vibrant 24 hour economy that attracts and retains a diverse range of workers, including young workers.
- Encourage the diversification of the local economy to build on existing and emerging business opportunities.
- Collaborate and engage with landowners to help guide high quality development outcomes that provide benefits to the community, the local economy and the developer.
- Implement the East Gippsland Economic Development Strategy to support social/ community enterprises, tourism, food entrepreneurship and quality health/education services, with robust physical and digital infrastructure.

Questions for the Community

- How can we support local shops and businesses to thrive and adapt in changing economic times?
- What would help to make Bairnsdale's CBD a more vibrant place after 5pm?
- How can we encourage redevelopment and greater density in commercial and retail areas to accommodate growth and activate the CBD?
- What can we learn from other towns and cities that have faced similar challenges?

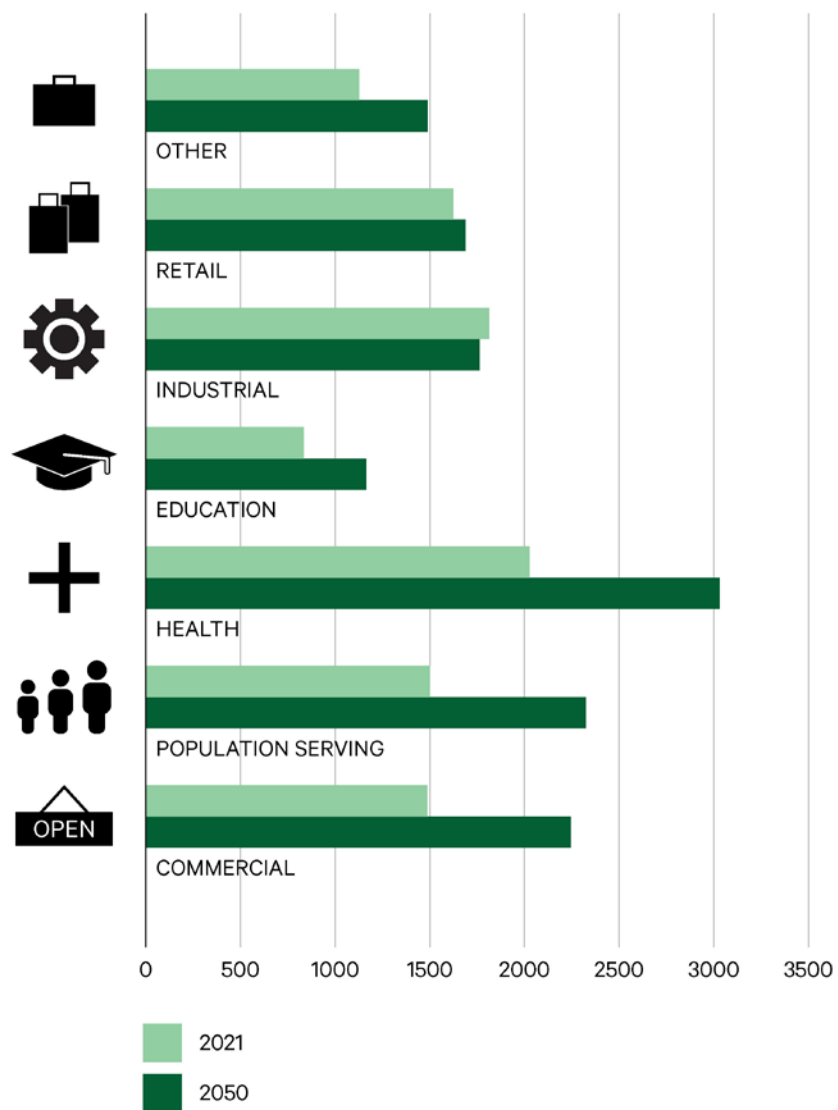


Figure 8. Employment forecast by broad industry, Bairnsdale 2021 to 2050

Theme 5: Movement and access

What we know today

The Princes Highway passes through the centre of Bairnsdale, connecting to the Latrobe Valley and Melbourne in the west, and East Gippsland further to the east. To the south of the centre, the V/Line train service has its final stop in Bairnsdale. Multiple services run to and from Melbourne throughout the week. A bus interchange at the station connects to local and regional bus services.

The compact size of Bairnsdale means that driving trips between the CBD and surrounding suburbs and employment areas take around five to ten minutes.

Within the CBD, the regular grid of short east-west blocks, wide footpaths, weather protection provided by awnings, and smaller shop fronts provide for a comfortable and accessible place to navigate on foot. Walkability has been enhanced by recent upgrades to key public spaces including street tree and ground-level planting, new kerb outstands, footpath expansions and clearer designation of crossing points.

Painted bicycle lanes are provided on several streets in the CBD with the newly completed shared path along the Princes Highway providing safer access for the community to walk and cycle to and from the centre. Recreational walking and cycling trails along the Mitchell River are only a short distance from the CBD.

Key challenges

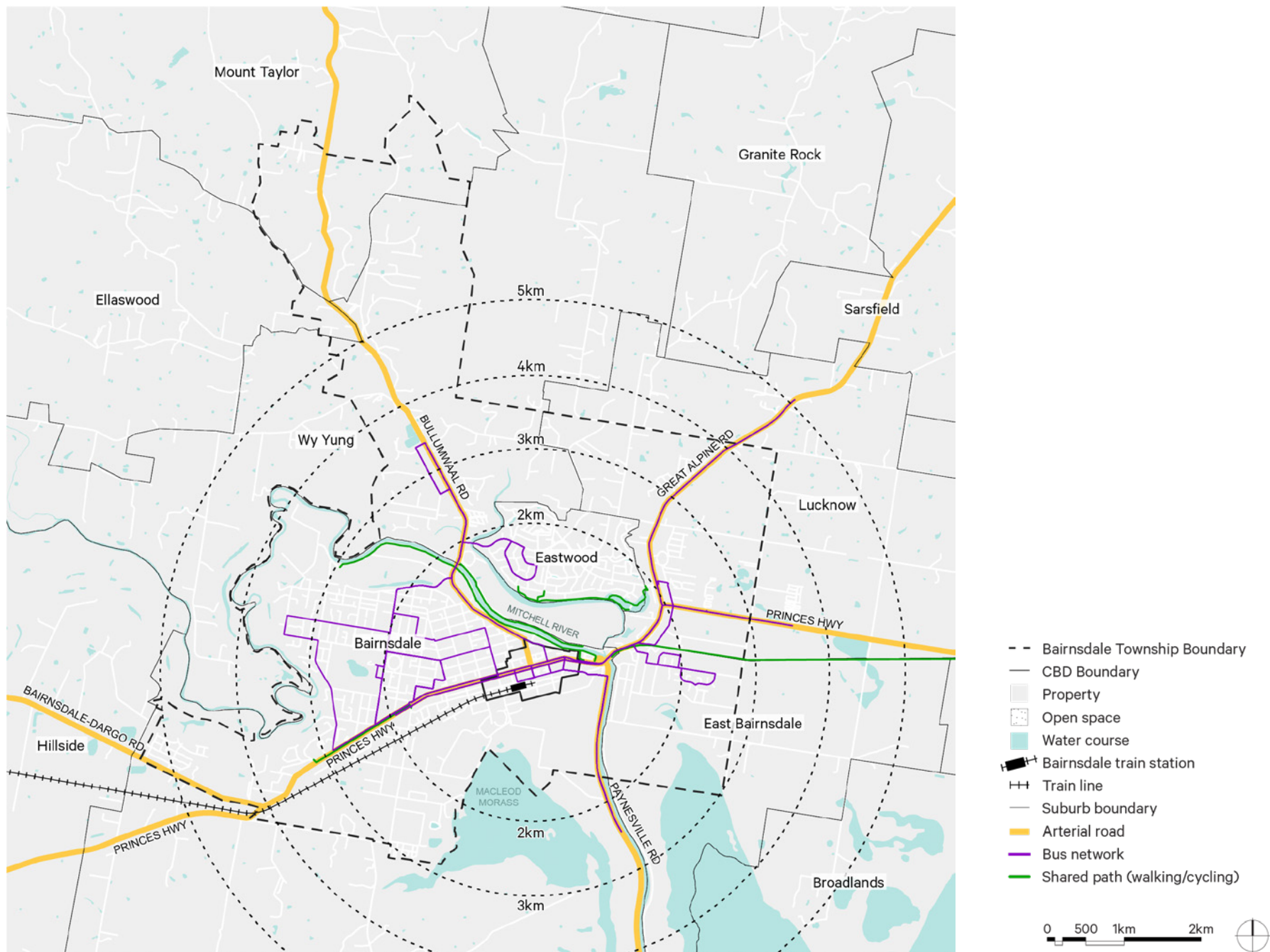
- The Princes Highway carries significant volumes of traffic at high speeds creating a barrier to pedestrian movement between the north and south of the CBD.
- Limited bicycle infrastructure such as protected bike lanes, bike hoops, repair stations and charging points for micromobility vehicles such as e-bikes, scooters and mobility scooters.
- Limited footpaths or narrow footpath widths impact connections beyond the CBD, for example between schools, recreation and community facilities.
- Limited frequency of V/Line train and bus services can make accessing services and opportunities in Bairnsdale, Melbourne and other parts of regional Victoria difficult.

Opportunities for Bairnsdale 2050

- Identify a network of commuter cycling paths across Bairnsdale that connect key locations, supported by improved cycling infrastructure.
- Promote a greater share of journeys within Bairnsdale using active transport (walking, bike riding and micromobility).
- Continue to improve safety for people walking, bike riding and using micromobility vehicles.
- Advocate to the Victorian Government for more frequent regional public transport connections from Bairnsdale.
- Consider the future of the Nicholson Street pedestrian mall as a shared zone that enables some level of vehicle movements.
- Continue to improve the current approach to car parking in the CBD by providing parking for workers on the outer edges of the centre, improved lighting for safety at night and changes to parking time limits.

Questions for the Community

- What places or destinations would you like to be able to get to more easily in and around Bairnsdale?
- How can we make it easier for you to move around the CBD by walking or cycling?



Theme 6: Sustainability and climate change

What we know today

The Gippsland region is continuing to become warmer and drier. Over the next 25 years, it can be expected that Bairnsdale will experience:

- More days of extreme heat
- Harsher bushfires
- An increase in storm surges causing inundation, flooding and other climate-related impacts
- More frequent and intense heavy rainfall and hailstorms causing flooding
- More common drought periods

The natural environment is a significant asset which underpins key aspects of our economy, health, tourism and wellbeing. We must strike the right balance between protecting and enhancing our environment and sustainably planning for our future growth.

East Gippsland Shire prepared the Environmental Sustainability Strategy to outline a comprehensive plan for Council's role in maintaining, protecting and enhancing the region's natural environment. Bairnsdale 2050 will look at how the actions outlined in this Strategy can be expressed and extended upon further at the local level.

Key challenges

- Protecting our natural environment from the impacts of unplanned growth, urban sprawl and our changing climate.
- A need to increase capacity across individuals, organisations and institutions to address sustainability and climate change.
- Collaboration will need to occur with other governments, Traditional Owners, business and community groups etc.

Opportunities for Bairnsdale 2050

- Work with and learn from Traditional Owners to create a shared understanding of how to best care for Country and promote self-management and self-determination.
- Incorporate measures which reduce our emissions, use resources more efficiently and reduce everyday impacts (for example, actively supporting renewable energy generation, storage and distributions projects).
- Promote initiatives that support a circular economy (reuse, repair and recycle).
- Identify the quantity and quality of biodiversity assets across Bairnsdale, as well as gaps in the protection of these assets and actively seeks to resolve them.
- Incorporate Environmentally Sustainable Design (ESD) principles into new development, particularly on large redevelopment sites.
- Continue to green the City's streets through tree and vegetation planting.

Questions for the Community

- What concerns you most about the future impacts of climate change?
- What are the most important actions we need to take to mitigate and reduce the impacts of climate change and natural hazards?
- How could we better support local residents, businesses and organisations to live and work more sustainably?
- Should all buildings in the future incorporate ecologically sustainable design?

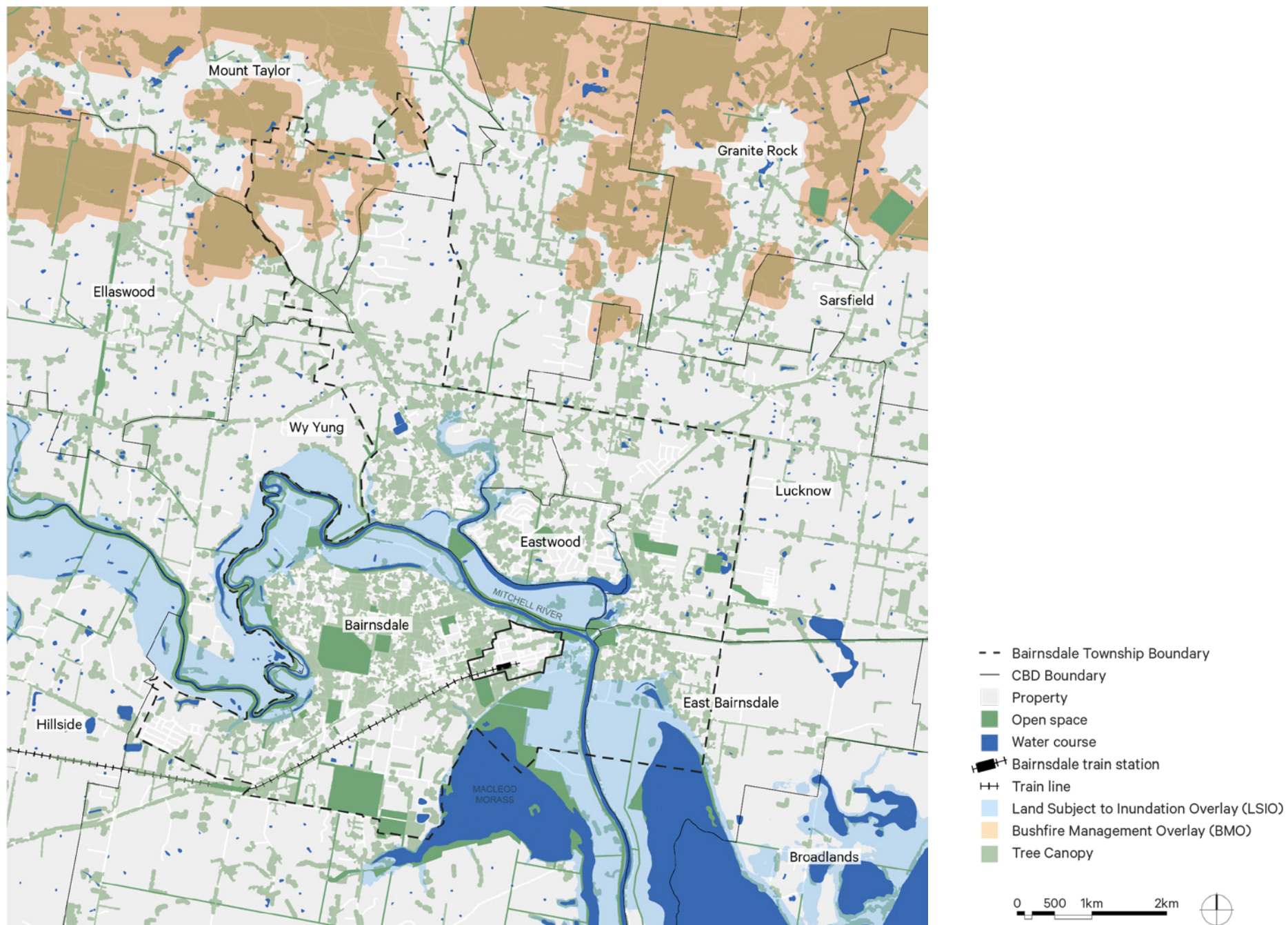


Figure 10. Environment

Theme 7: Community infrastructure

What we know today

Bairnsdale is a Regional Centre, servicing the local needs of its 15,500+ residents as well as the broader East Gippsland catchment of almost 50,000 people.

Bairnsdale has a range of regional- level community infrastructure including sports and aquatic facilities, arts and cultural facilities, community health and education facilities. Currently most of these facilities are located within the CBD area.

Additional infrastructure and upgrades to existing infrastructure will be required to keep pace with demographic change and population growth over time across the region.

A preliminary assessment of Bairnsdale's existing community infrastructure* has identified a significant future need for early years, education, aged care facilities and indoor courts. Additionally, it found that much of the City's existing community infrastructure is ageing and no longer fit for purpose.

Council has also recently completed the 'Culture and Creativity Strategy' and 'Bairnsdale Arts Precinct Feasibility Report'. These documents identify the need and potential options for creating new maker, exhibition and performance spaces.

* Community infrastructure refers primarily to Council owned and operated facilities including civic/community facilities, early years, schools, arts and culture, and sports and recreation facilities.

Key challenges

- Upgrades to existing infrastructure and provision of new facilities will be required to keep pace with population growth.
- Challenges regarding to access and equity of service provision and investment.
- Ongoing policy reform in key sectors (for example, aged care and child care) is driving an increase in future demand for certain types of infrastructure and services.
- Ongoing challenges in retaining qualified staff within the services sector (i.e. education and early years services).

Opportunities for Bairnsdale 2050

- Improve access to existing community infrastructure, including to and from surrounding towns.
- Repurpose, reuse or consolidate existing infrastructure to activate the City centre, specifically the Art Gallery and Bairnsdale Aquatic & Recreation Centre (BARC).
- Improve the design of community infrastructure to be more flexible and adaptable to meet changing needs over time.
- Explore partnerships and innovative models with different service providers to improve gaps in service delivery.
- Explore city-shaping projects to connect the City Centre with the river frontage and arts and cultural precinct.

Questions for the Community

- What community facilities do you use the most in Bairnsdale? What do you like about them?
- What services and facilities do you travel to outside of Bairnsdale to access?
- What community facilities do you think are most needed in the future to support our growing population?
- How can we better use and design our community facilities to be more flexible and adaptable to changing needs?

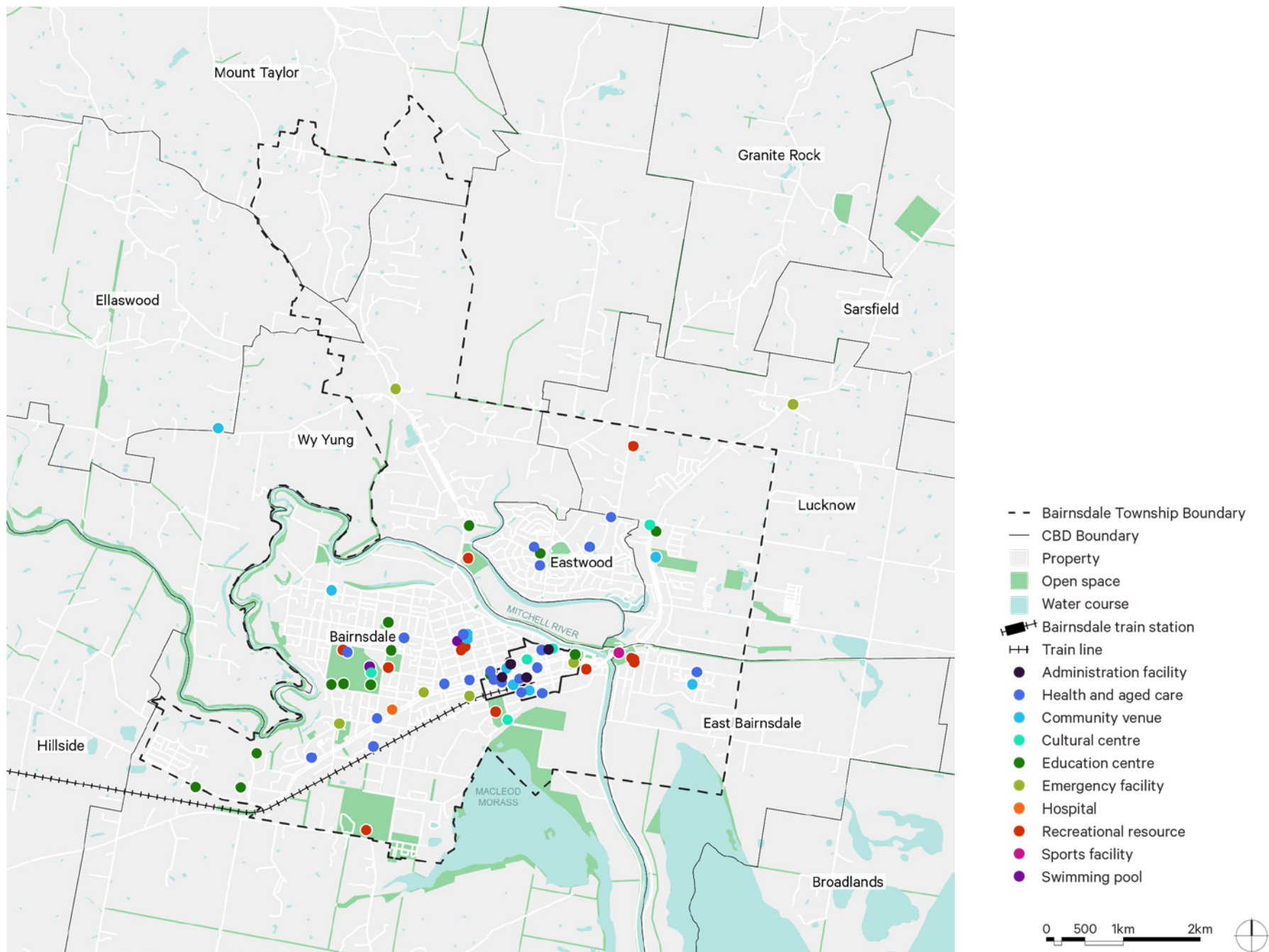


Figure 11. Community infrastructure across the township

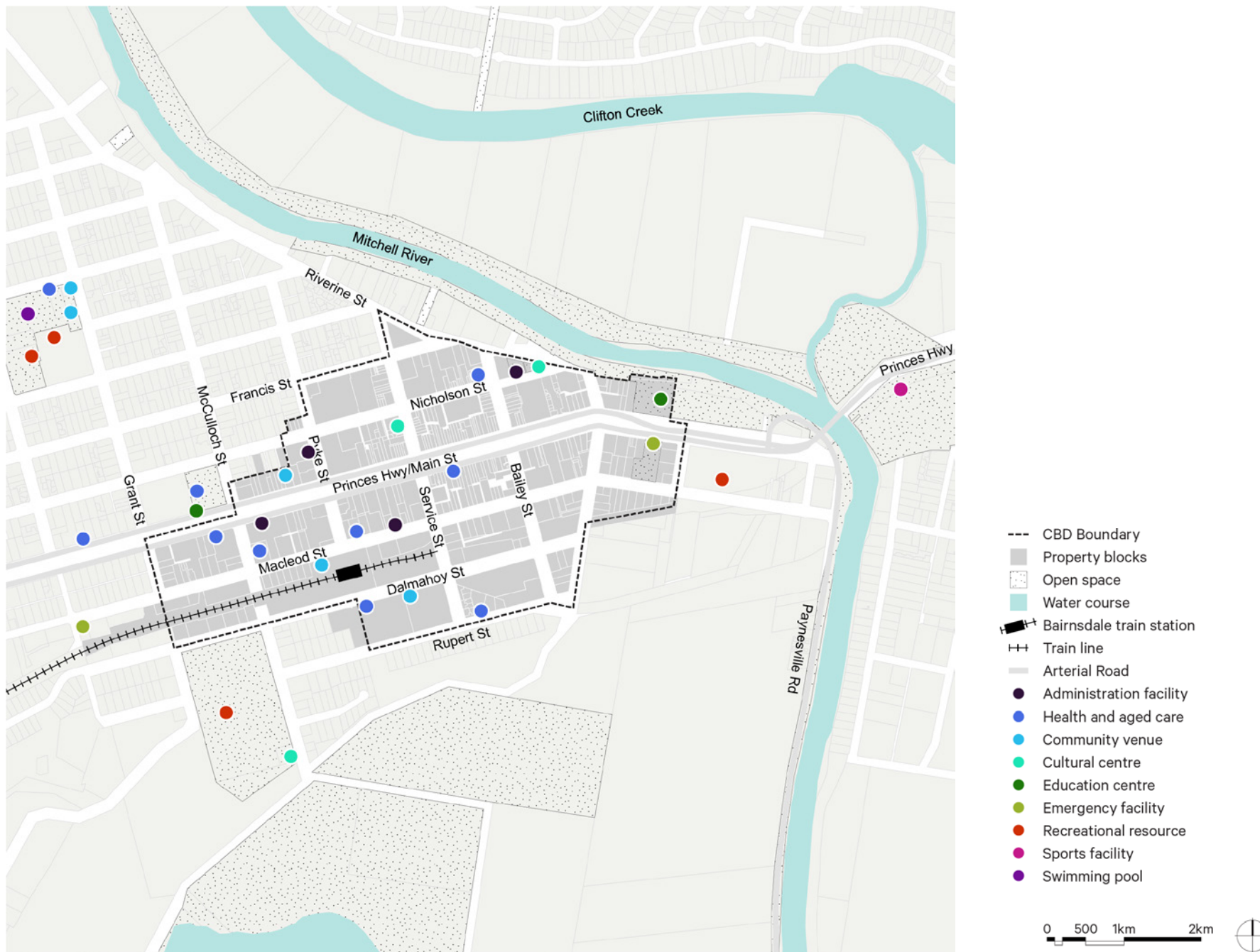


Figure 12. Community infrastructure within the CBD



Image 4. View over the north-west of Bairnsdale towards the flats of the Mitchell River

Developing Bairnsdale 2050 together – next steps

This Discussion Paper has set out a range of key challenges and opportunities that we need to consider and plan for.

There's lots of work ahead for us to develop a robust strategy that will guide our future growth and provide both the certainty and flexibility needed to adapt to changing times. We have created the Bairnsdale Horizons Framework, which we will use to help structure our conversations.

How we'll get there

In 2024 we will be running an extensive community consultation program to engage with you about the big ideas and opportunities presented in this Discussion Paper.

One of the first engagement activities planned will be a Community Codesign workshop, to be held in the coming months. The purpose of the Community Codesign workshop will be to share ideas, discuss key topics and develop solutions to address the future challenges and opportunities set out in this paper.

To help guide our thinking and to prepare you for this day, we have developed a simple framework – we call it the 'Bairnsdale Horizons Framework'. This framework will help to shape our conversations in a productive manner and challenge us to think across different timespans and priorities.

As we develop Bairnsdale 2050, we will be asking you and the community to consider the following three horizons:

- **Horizon 1: Getting the basic building blocks right.** How can we leverage our current assets, skills and capabilities to strengthen our foundations that will support our future growth? This could include catalysing development in areas flagged for housing, meeting employment needs and maximising how we use and invest in existing infrastructure and services.
- **Horizon 2: Building on existing strengths.** How can we further leverage our existing strengths and introduce new innovations that will set us up for the future and lead to tangible benefits and outcomes for the community? This horizon

may involve Council and community taking a more proactive role in fostering partnerships or leveraging resources to advance more ambitious initiatives – for example strategies to active the CBD day and night.

- **Horizon 3: Transformative growth.** What are the pioneering new opportunities that will set Bairnsdale up for success in the future? These ideas need to have maximum reach and impact and will lead to transformative changes that pave the way for doing things differently. This horizon requires reimagining the future and will likely require significant discussion and deep deliberation across the course of the project. Transformative change could include things like restructuring of the CBD and creating strengths-based precincts across the City (arts and culture, education, health).

Using the Bairnsdale Horizons Framework as a tool to help develop Bairnsdale 2050 provides a structured pathway for continual evolution toward transformative change. It is not the expectation (or desire) that community consensus of every action will be reached throughout the course of the project. It is hoped however that we can strike the right balance of actions across each horizon through meaningful community engagement, information and knowledge sharing.

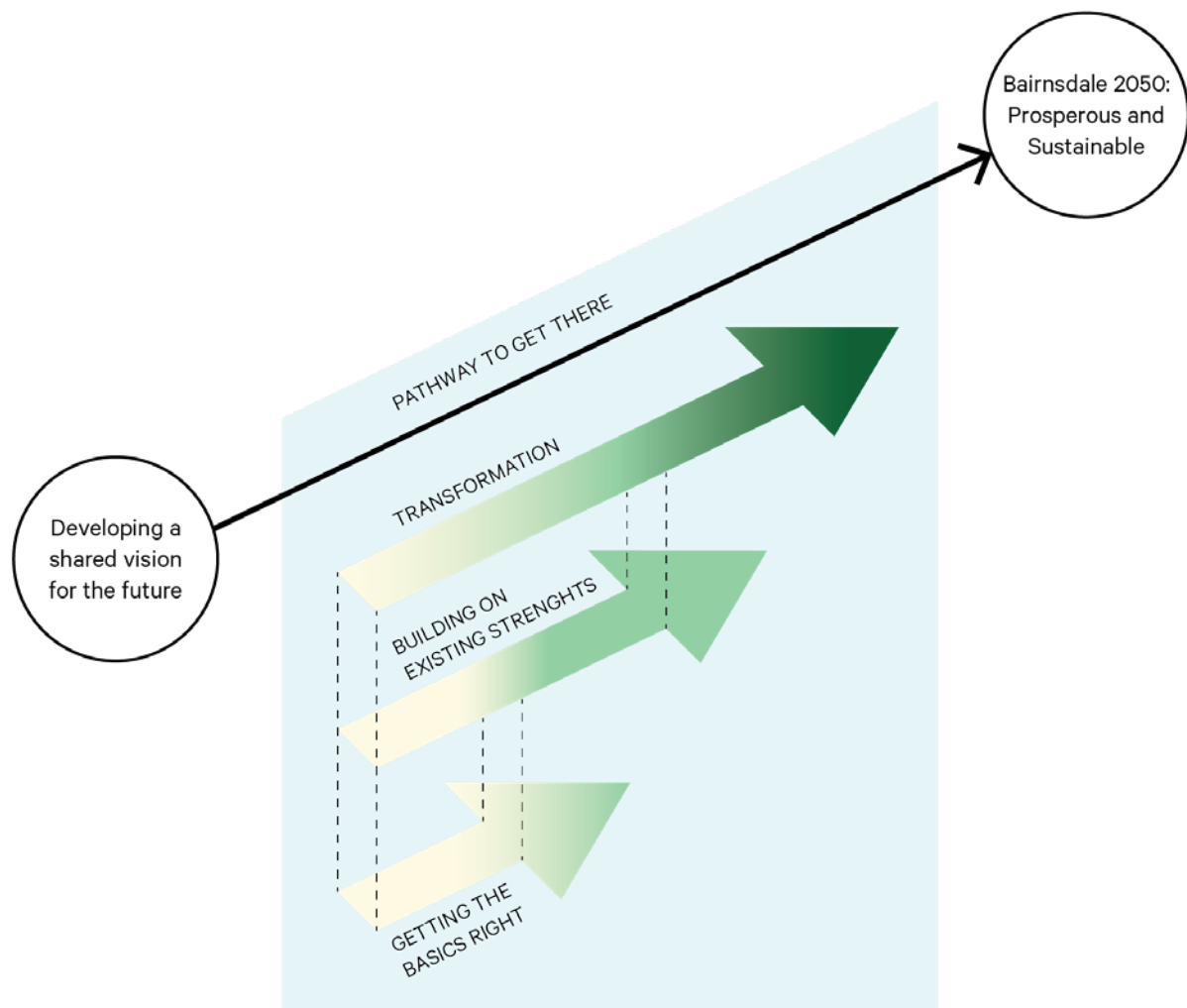


Figure 13. Bairnsdale 2050 horizons framework

