

creative economy01

BACKGROUND PAPER
BALLARAT CREATIVE ECONOMY
SGS ECONOMICS & PLANNING
MAY 2018



Image: Ballarat Tech School

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The City of Ballarat acknowledges the Wadawurrung and Dja Dja Wurrung people as the traditional custodians of the land on which its community live. Our community has strengths and assets, and we seek to develop and build on these, taking into account the diversity of our community.

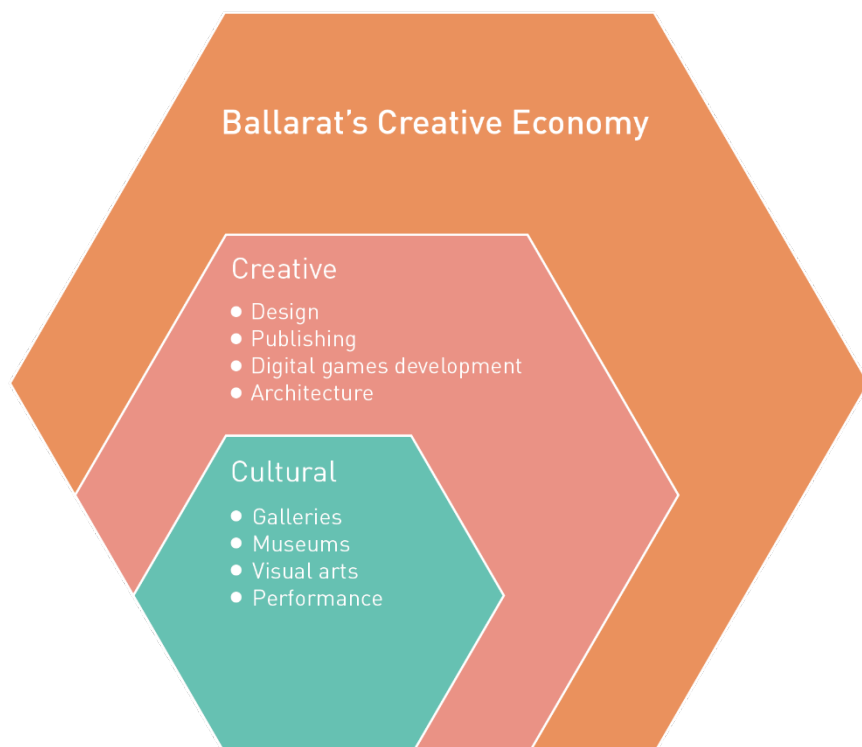


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EXECUTIVE SUMMARY

The City of Ballarat aspires to be Australia's leading regional creative city. This will improve the quality of life which the city offers its residents. Moreover, the city has a broader agenda to harness the potential of its cultural and creative industries to contribute to a stronger local economy and a more self-sustaining community.

Measuring the cultural and creative industries



Source; SGS Economics and Planning, 2018

Overview

A consultant team comprising SGS Economics & Planning Pty Ltd (SGS), MGS Architects, Left Bank Co and Eleni Arbus is working with The City of Ballarat to prepare a Creative City Strategy.

Overall, this effort is expected to deliver:

- An innovative and nimble **strategy** to steer the development of the arts and creative sector in the city;
- A **Master Plan** for the creative precinct centred on Lydiard Street in the city; and
- A feasibility study and **business case** for the expansion of the Art Gallery of Ballarat.

The City of Ballarat has embarked on an extensive program of community consultation, engaging with residents and businesses, creative practitioners, key organisations and industry leaders.

To date, the program of consultation has included:

- An online survey via The City of Ballarat's *Mysay* website
- A community drop in session
- Four stakeholder workshops with local creative practitioners and community groups
- Over 20 targeted interviews with key stakeholders

The team has compiled evidence around the themes of the Ballarat creative economy, its creative ecology and the structure and functionality of the creative precinct. This evidence base is documented in three background papers, of which the current report is one.

A focus of this paper has been the relationship between Ballarat's cultural core, its allied creative industries and the wider economy. SGS has explored the underlying thesis that art, culture and creative capacity can boost innovation across business and social endeavours.

Ballarat's history, culture, people and economy

In many respects, Ballarat is a 'regular' regional community with the usual array of challenges regarding the aging population, levels of social disadvantage and several identified social issues across health and education (see Section 2.1).

However, Ballarat is distinct in its heritage, with deep roots into Victoria's Indigenous culture and the nation's sense of democracy and social inclusion. The city's stories hold latent potential to propel and sustain creative activity. This, in turn, can be leveraged to build economic and wider community value.

Over the next decade, Ballarat's role as a regional service centre and provider will become increasingly important, with the population forecast to grow from 103,000 in 2016 to 136,900 in 2031, at an average annual growth rate of 1.9 per cent.

The city is seeing strong employment growth in Healthcare and Education, Accommodation, the Food Industry and Construction sectors. However, the economy faces significant challenges in terms of skill profile and limited scale in knowledge intensive industries.

Ballarat is home to several innovative and globally connected enterprises, including IBM, Gekko and Federation University. Government services also have a strong presence, with GovHub soon to significantly boost this critical mass in the central business district.

Furthermore, the city has several strategic projects in the pipeline which will see the CBD transform over coming years. The establishment of Ballarat's new Tech School, the launch of BILDS, and the appetite of Ballarat's business sector for partnerships and design thinking indicates a new era for creativity as a driving force for the local economy.

Previous plans and strategies did not fully embrace the cultural and creative industries as an economic driver for the Ballarat region. Stakeholder engagement and consultation with Ballarat's industry leaders indicates Ballarat is ready to elevate the cultural and creative industries in Ballarat to the benefit of the wider community and economy. This includes conversations regarding the extension of Science, Technology, Engineering and Maths (STEM) to include arts and the humanities or STEAM (see Section 1.4).

Examples of entrepreneurialism, partnership, commitment and investment in property in the core CBD precinct are already evident in Ballarat. Moreover, Ballarat is endowed with several innovative and resourceful players in the small to medium sector, who are taking the lead in promoting high quality events and initiatives. The demonstrated commitment and strength of Ballarat's local creative network and established community arts practice is a distinct competitive advantage.

Benchmarking Ballarat's cultural and creative industries

Cultural and Creative industries include disciplines as diverse as digital games development, software design and graphic design, fashion and filmmaking, performing arts and publishing, architecture, music, comedy, visual arts and craft.

This sector comprises a mix of artistic and non-artistic sectors, not for profit and community organisations (community arts practice), individual practitioners, commercially driven businesses and cultural institutions (Creative Victoria, 2018).

SGS has taken an expansive view of the cultural and creative industries and employed a best practice methodology in line with Creative Victoria's definition.

Using this definition, SGS has found Ballarat has a similar number of residents who work in creative industries as the number of creative industry jobs, with approximately 1,900 workers in 2016 (place of residence). This represents 1.9 per cent of the total resident workforce in Ballara (see Figure 23). A share of these workers access employment outside of the Ballarat region.

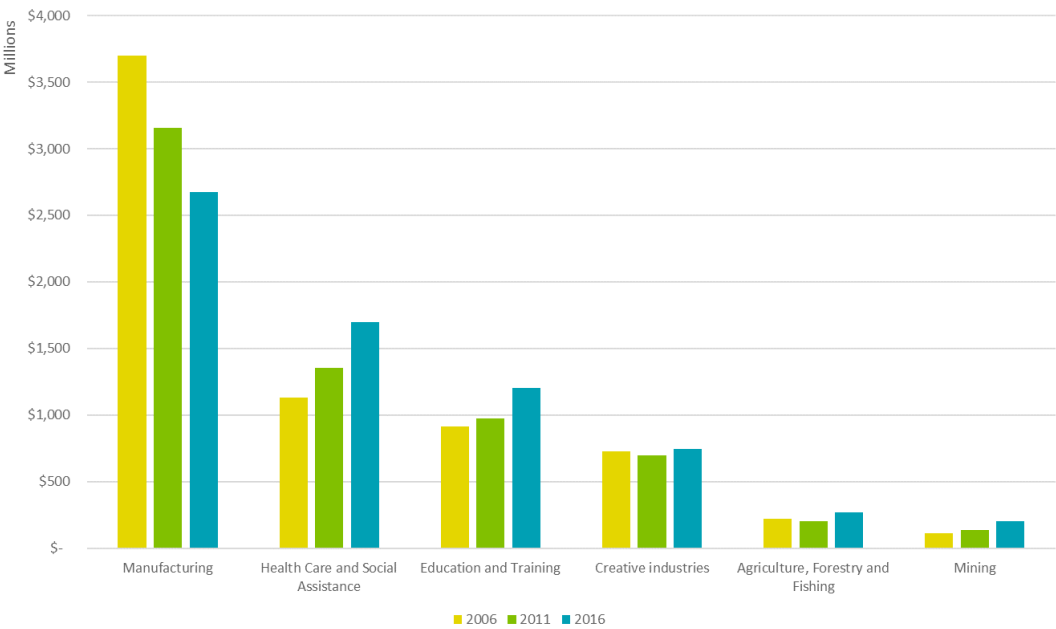
Ballarat and the broader Ballarat region share of creative workers is in line with the greater Melbourne average (3 per cent of resident workforce in the creative industries). Ballarat has a greater share of the resident workforce in creative industries compared to Bendigo, Geelong and Regional Victoria overall, but the differences are not compelling.

SGS has quantified the total economic output of key industry sectors in Ballarat. This includes the total value of the cultural and creative industries to the Ballarat economy, which is estimated at \$747million in 2016. Much of this is accounted for by 'Internet and Digital Services', likely reflecting IBM's presence in the city.

SGS's analysis shows the prevalence of cultural and creative industries in Ballarat in comparison to regional Victoria (see Section 4.1). It does this by disaggregating the industry groups (see the LQ chart on the page overleaf) and pulling out the small industries that are directly related to the creative economy. Once again, the size of the circles represents the numbers of workers in that industry, with the largest circle belonging to internet and digital services, (588 workers), and the smallest circle fashion (53 workers). The horizontal axis in the chart represents whether the industries have been growing, in terms of employment, in Ballarat between 2006 and 2016.

Compared to non-metropolitan Melbourne, every cultural and creative industry is more prevalent in Ballarat, with the exception of Music, Performance and Visual Arts. Nevertheless, this is the fastest growing of all the creative and cultural industries. Libraries, Archives and Museums has the highest LQ score or level of specialisation in Ballarat, followed by Internet and Digital Services and Arts Education.

Ballarat total output (direct and indirect) by industry group



Source: ABS Census Data for years 2006 – 2016

LQ Growth Rate – Ballarat Creative Industries



Source: SGS Economics and Planning, 2018. The teal coloured circles represent creative service industries, whilst the orange circle represents cultural production

Agglomeration modelling and benchmarks

SGS has scored and ranked the top 10 SA2s[1] for Greater Melbourne and the top 20 SA2s for Regional Victoria in terms of creative industries EJD (see Section 4.4).

With a creative industry EJD score of around 3,000, Ballarat offers only 5 per cent of the agglomeration benefit to firms in this sector that is available in Central Melbourne.

Compared to other Victorian regional centres, Ballarat has a modest ranking in terms of creative industry agglomeration economies and currently ranks 16th.

Conclusion

Ballarat has a solid cultural and creative industry presence. However, these industries currently perform a standard or expected role in the life of the City and its economy.

As things stand, Ballarat cannot claim any special competitive advantage in cultural and creative industries in comparison to peer cities. It also needs to be recognised that growing and leveraging the cultural and creative industries in Ballarat cannot rely on the critical mass of these activities. On this parameter, Central Melbourne clearly dominates the State.

Although Ballarat cannot currently claim any special competitive advantage in cultural and creative industries at present, Ballarat has strengths in its historic urban form, and a more nuanced and niche-oriented strategy will be required in Ballarat.

Strategic Directions

This paper introduced four conceptual building blocks of the creative city, comprising Ballarat’s **cultural core**, its allied **‘creative industries’**, the potential to promote innovation in Ballarat’s **wider industries** and the potential to apply creative strategies to the challenges and opportunities of Ballarat’s **wider community** (see Section 1.2).

The options presented overleaf are based on the successive layering of the four building blocks and include illustrative strategies for their realisation. The four options are ‘purist’ in their formulation and are presented here to promote discussion. Hybrid options are possible.

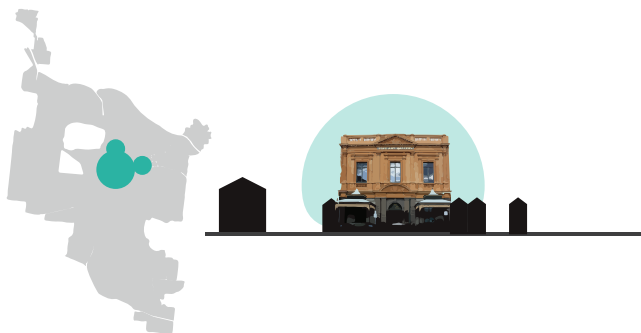
It can be seen that the breadth of the Creative City Strategy expands as one moves from a vision based solely on strengthening the cultural core of Ballarat to one that seeks to integrate art and culture in social and economic problem solving.

Ballarat’s relative CI EJD



1 Statistical Areas Level 2 (SA2s) are a medium-sized general-purpose area built up from whole Statistical Areas Level 1 (SA1s). They replace the Statistical Local Areas (SLAs) defined by the Australian Standard Geographical Classification (ASGC). Their aim is to represent a community that interacts together socially and economically. There are 2214 SA2s covering the whole of Australia without gaps or overlaps.

The four building blocks of a Creative City Strategy

Strategic Option A:**A city for art**

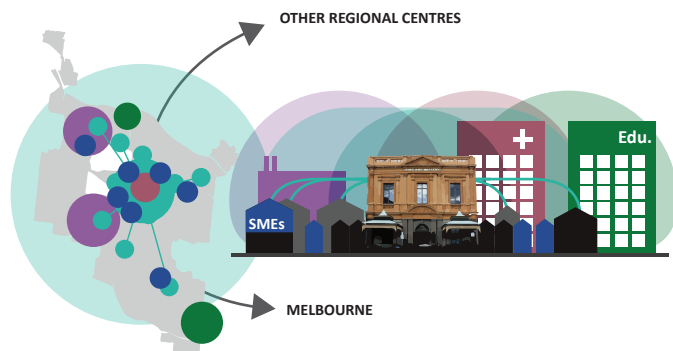
Build a strong arts and culture core

- Be clear and confident about what Ballarat's cultural significance and the stories it has to tell
- Ensure that Ballarat has leading flagship institutions
- Develop a strong network of complementary and ancillary cultural venues and making spaces
- Implement a leading calendar of events targeted at local, national and international audiences/participants
- Elevate the embeddedness of art and culture in the life of Ballarat
- Align school curriculums to this end
- Make adult education freely available to this end
- Establish a vibrant calendar of cultural talks, experiments and engagements

Strategic Option B:**A centre for creative industries**

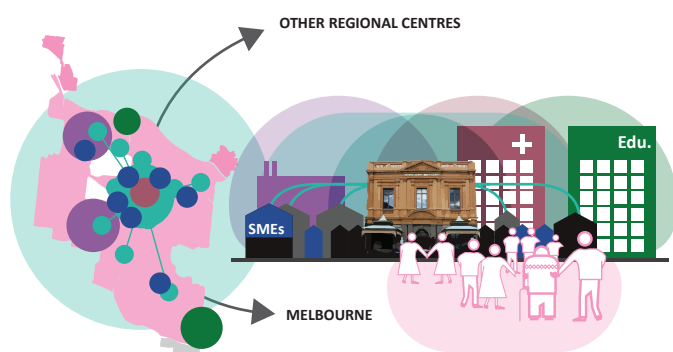
Build a strong arts and culture core

- Elevate the embeddedness of art and culture in the life of Ballarat
- Find, promote and deepen a competitive cluster of creative industries
- Agree target creative industries (for example, arts education)
- Establish a brand and marketing campaign around this emergent cluster
- Provide incentives and infrastructure to support and grow the cluster
- Undertake focussed investment recruitment

Strategic Option C:**An innovation city based on STEAM**

Build a strong arts and culture core

- Elevate the embeddedness of art and culture in the life of Ballarat
- Find, promote and deepen a competitive cluster of creative industries
- Develop a brokerage capacity to link arts/creativity to industry
- Commission industry led ambassadors to pursue arts/culture innovation in the manufacturing, health, retail, tourism and other industry sectors
- Establish the infrastructure for regular engagement between the cultural core and industry (eg innovation fairs)
- Establish accredited agents to facilitate two-way ideas transfer between industry and the cultural core, with a mandate to improve marketing, branding, strategic planning, problem solving and three horizon innovation

Strategic Option D:**A STEAM powered community**

Build a strong arts and culture core

- Elevate the embeddedness of art and culture in the life of Ballarat
- Find, promote and deepen a competitive cluster of creative industries
- Develop a brokerage capacity to link arts/creativity to industry
- Take art and culture to the social and sustainability challenges of Ballarat
- Institute regular community labs, where artists collaborate with the community and policy makers to develop innovative solution to the challenges and opportunities of Ballarat
- Establish artists' residencies with links to the challenges and opportunities of life in Ballarat

Based on the findings of the three background papers, The City of Ballarat has both a set of advantages and challenges in taking up any of these options. These are summarized in the following chart as follows:

Strategic Options	Advantages	Challenges
Strategic Option A: A city for art	<ul style="list-style-type: none"> – Strong flagship gallery – Strong brand based on heritage 	<ul style="list-style-type: none"> – Patchy supporting infrastructure for art and culture – Limited depth of audience and participation
Strategic Option B: A centre for creative industries	<ul style="list-style-type: none"> – Distinctive Ballarat brand – Independently governed local university – Connectivity to Melbourne's creative hub 	<ul style="list-style-type: none"> – Small creative industries sector – Limited depth of skills in labour market
Strategic Option C: An innovation city based on STEAM	<ul style="list-style-type: none"> – Presence of key employers with an interest in STEAM innovation – Good policy making around promotion of innovation 	<ul style="list-style-type: none"> – Limited business scale – Sporadic innovation behaviour
Strategic Option D: A STEAM powered community	<ul style="list-style-type: none"> – Strong cohesive community – Good local governance 	<ul style="list-style-type: none"> – Limited pool of leadership skills

The following are key questions for the community and upcoming charette participants:

Which of the strategic options for the creative city are practical/achievable in Ballarat?

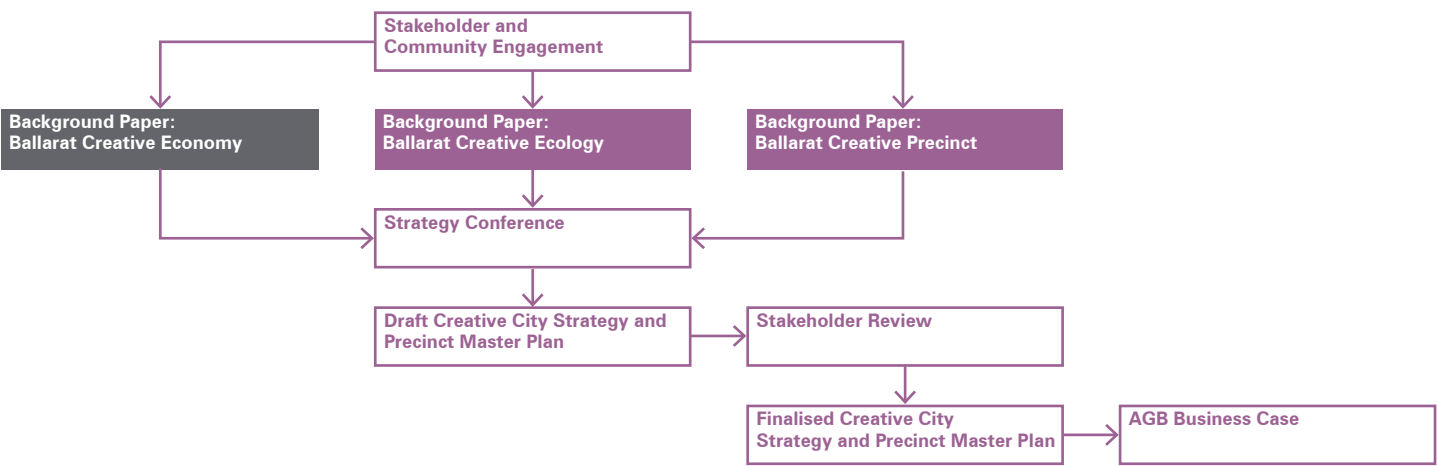
Which one is to be preferred from an economic development perspective?

What needs to be done to unlock this potential?

1.0_INTRODUCTION

This section discusses the purpose of the paper and introduces the four conceptual building blocks of a creative city for Ballarat.

Figure 1
Project Methodology - Ballarat Creative Economy Background Paper



Source: SGS Economics and Planning, 2018.

1.1 Project context

A consultant team comprising SGS Economics & Planning Pty Ltd (SGS), MGS Architects, Left Bank Co and Eleni Arbus is working with The City of Ballarat to prepare a Creative City Strategy.

This effort is expected to deliver:

- An innovative and nimble **strategy** to steer the development of the arts and creative sector in the city,
- A **Master Plan** for the creative precinct centred on Lydiard Street in the city, and
- A feasibility study and **business case** for the expansion of the Art Gallery of Ballarat.

Production of the Creative City Strategy involves several analytical and consultation steps as summarised in the chart opposite (Figure 1).

Following a period of stakeholder consultation and community engagement, the consultant team has compiled additional evidence around the themes of the Ballarat creative economy, its creative ecology and the structure and functionality of the creative precinct.

This evidence base is documented in three background papers, of which the current report is one. In addition, SGS has produced a fourth paper documenting the findings of the first round of community consultation expressed via The City of Ballarat's *Mysay* website.

The suite of three background papers and the Community Consultation paper will be distributed to a wide group of stakeholders who, in turn, will be invited to participate in a vision and strategy conference or 'charette'. [1]

In addition, the papers will go out to a second round of community consultation via The City of Ballarat's *Mysay* website. This presents a key opportunity for the community to provide further feedback on the findings presented ahead of the charette.

The upcoming charette will build on the options and questions raised in the background papers and generate a 'sketch' of the Creative City Strategy.

The consultant team will then develop this sketch into a fully specified strategy and Master Plan taking into account further feedback from stakeholders and the community.

1.2 Why a creative city?

The City of Ballarat aspires to be Australia's leading regional creative city. This will improve the quality of life which the city offers its residents. Moreover, the city has a broader agenda to harness the potential of its cultural and creative industries to contribute to a stronger local economy and a more self-sustaining community.

In line with global trends, Australian economies have been transformed in recent decades by interactive forces that include technological revolution, globalisation and reduced trade barriers. Globalisation has blurred national borders and increased competition for talent; freer trade has enhanced economic integration and the technological revolution has disrupted all industries.

In this new economy, growth and development is being driven by a complex structural realignment of business investment, the clustering of enterprises, the transformation of the production process and the adoption of niche marketing approaches.

Similar to the changes experienced by Melbourne, Ballarat's economy has also seen a broad decline in the relative importance of large scale manufacturing and a strong shift towards the knowledge economy, including health and education services.

Since the advent of Richard Florida's 'creative class' in 2002 [2], urban planners, designers, architects, economic development practitioners and government policy makers have become increasingly aware of the role that creativity and ideas generation play in attracting talent and encouraging vibrant and prosperous cities.

While there is consensus that the cultural and creative industries make an unrivalled contribution to the liveability of our cities, in a post-creative class paradigm, new challenges for the city have emerged. These challenges include rapid gentrification, rising unaffordability and social segregation (Florida, 2017).

SGS has carefully considered how a creative city for Ballarat might approach these challenges by exploring how cultural and creative industries can be positioned to play an integral role in driving innovation for a healthier and more equitable future. This includes the migration of aspects of the creative process and problem by design to other sectors such as healthcare, education, manufacturing, tourism and service industries for a more competitive economy.

Ballarat's aspirations for a creative city share a strong alignment with State Government policy, including the adoption of Creative State and the passing of the Creative Victoria Act (May 2017). These signalled a 'new era for creativity in Victoria' by expressing State Government's vision and support for a 'whole of sector approach to Creative Industries (Creative Victoria, 2017).

The Creative Victoria Act acknowledges the economic value of the creative industries, which currently make up eight per cent of the economy, contributing \$23 billion a year to gross state product (GSP) and generating around 220,000 jobs (Creative Victoria, 2017). The Act is underwritten by the principle that all individuals in Victoria are equally entitled to access opportunities in the arts and participate in the creative industries of Victoria.

In addition to acknowledging the sector's importance in terms of job creation and industry innovation, the strategy also promotes the sector's role in the delivery of 'wider community solutions' (Creative Victoria, 2017). Creative State indicates that to do so, creative industries will continue to engage with key sectors such as Education, Health and Human Services, Environment and Justice.

There is also alignment with the strategic directions of Regional Arts Victoria to focus on the links between creative and cultural industries and broader industry sectors in the regions (RAV, 2018).

The following chapters of this paper will explore and unpack opportunities for the cultural and creative sector to contribute to Ballarat's wider economy.

1 <https://en.wikipedia.org/wiki/Charrette>.

2 Richard Florida's book the 'Rise of the Creative Class' proposed that the presence and concentration of 'bohemians' or creatives in cities engenders an environment or milieu which in turn attracts the 'creative class', talented and educated professionals working in knowledge-based industries including business and finance, technology, healthcare, medicine, law and education.

1.3 Building blocks of a creative city

A range of visions for the development of Ballarat as a creative city can be discerned pending the consideration of four conceptual 'building blocks':

- 1 The **cultural core** of Ballarat, being its creative ecology (Flagship Institutions; Supporting Infrastructure, Organisations & Events; Constituencies for Art and Culture)
- 2 The allied '**creative industries**' in Ballarat that currently or potentially can draw capacity and/or a competitive advantage from an association with the cultural core
- 3 The **wider economy** of Ballarat, that can similarly draw strength from cultural core and/or the creative industries
- 4 The **wider community** of Ballarat, that can harness the creative capacity of the cultural core to address social opportunities and challenges beyond the enjoyment of artistic expression for its own sake, for example, social polarization, intolerance, disengaged youth, isolated aged, indigenous reconciliation and advancement etc.

Strategic directions for a creative city

Based on these building blocks, the strategic directions for Ballarat as a creative city can variously aspire to:

Strategic Option A

A nationally and internationally notable centre for arts and culture.

Strategic Option B

A nationally and internationally notable centre for arts and culture which has successfully harnessed this core strength to grow and support an allied cluster of creative industries.

Strategic Option C

A nationally and internationally notable centre for arts and culture that has developed creative industries and a more competitive wider economy by leveraging this core capacity for artistic expression.

Strategic Option D

A nationally and internationally notable centre for arts and culture that has not only leveraged this capability to grow creative industries and the wider economy but has successfully applied it to address broader issues of social inclusion and sustainability.

Intermediate and partial options are also possible, depending on the competitive advantages of the city and the determination of stakeholders. Following a high-level economic analysis, Section 5 of this report further evaluates these options.

1.4 The creative city and the economy

The focus of this background paper is the relationship between Ballarat's cultural core, its creative industries and the wider economy. An underlying thesis is that art, culture and creative capacity can boost innovation across both business and social endeavours.

Benefits of STEM to STEAM

In recent decades, the Commonwealth Government has come to recognise the importance of innovation for 'all sectors of the economy, from ICT to healthcare, education to agriculture and defence to transport' (Australian Government, 2018). In a bid to promote innovation, the National Innovation and Science Agenda has placed high priority on STEM education (Science, Technology, Engineering and Maths).

Across the literature, the argument for extending STEM to include the arts and humanities, or STEAM, is centred around harnessing the unique set of creative thinking skills associated with arts, design and the humanities, to respond to the challenges posed by an increasingly technology driven, complex and interconnected world (Land, 2013; Boy 2013; Maeda, 2013).

Creativity can also play a key role in communicating STEM, for example when addressing Climate change (Climarte <https://climarte.org/>); food security (<https://carltonconnect.com.au/absolutely-famished/>) and the intersection between science and technology and the body (<https://lucymcrae.net/about/>).

In the U.S., a number of higher education institutions are now focussing on 'broader interdisciplinary applications of arts and sciences to focus on problem solving' (Maddena et al. 2013).

The STEAM movement has been largely driven by the curriculum and partnerships developed by the Rhode Island School of Design (RISD), an institution with a staunch belief that innovation happens when convergent disciplines such as Engineering and Mathematics come together with divergent thinkers such as artists and designers (Maeda, 2013).

Maeda (2013) of the Rhode Island School of Design argues that 'design creates the innovative products and solutions that propel economies forward, while artists ask the deep questions about humanity that reveal which way forward actually is.'

The relationship between art and design and divergent thinking has been explored by Maddena et al. (2013) who undertook an extensive literature review on the nature of creativity and how to develop it.

An extensive literature review by Maddena et al. (2013) aligns with the findings of Scott (2004) and found most programs designed to promote creative thinking are often focussed on equipping students with 'strategies for divergent thinking'.

Across divergent thinking programs, three key types of creative thinking skills are typically encouraged (Madden et al. 2013):

- Fluency (number of responses to a problem)
- Flexibility (number of different types of responses)
- Originality of cognitive processes (Imagination and uniqueness of the approach)

Furthermore, creative programs are often reflective and iterative, involving both problem solving, and encouraging students to 'take ownership of ideas and process' (Maddena et al. 2013). In addition, students were found to possess the following:

- Advanced thinking skills
- Enhanced ability to cope with stress
- Enhanced self-awareness
- Social skills (i.e., communication, team work, confidence, autonomy, motivation)
- Connection to the community

1.5 Report structure

The remaining chapters of this report are structured as follows:

Section 2:

Ballarat's history, culture and people

This section considers what makes Ballarat's culture and history special, including reference to Indigenous heritage.

Section 3:

Economic analysis

This section provides an analysis of Ballarat's local economy, including, key industries, inter-regional exports and input output linkages, key firms and skill profile.

Section 4:

Benchmarking Ballarat's cultural and creative industries

The section zooms into the Cultural and Creative Industries to cover;

- Current contributions of the Cultural and Creative Industries to Ballarat's economy
- Competitive strengths and weaknesses of Ballarat's Cultural and Creative industries
- Agglomeration modelling and benchmarks against selected regional centres

Section 5:

Strategic directions

Based on the foregoing discussion, this section poses three key questions:

- Which of the visions for the creative city are practical and achievable for Ballarat?
- Which one is to be preferred from an economic development perspective?
- What needs to be done to unlock this potential?

Figure 2

The four building blocks of a creative city



Source: SGS Economics and Planning, 2018.

2.0 BALLARAT'S HISTORY, CULTURE AND PEOPLE

This section reviews Ballarat's unique and distinctive stories and attributes. These will ultimately form the city's points of difference and, therefore, competitive advantage.

2.1 Overview

A strategy to elevate Ballarat as a creative city should be cognisant of the city's distinguishing features, in terms of its history, culture and demography.

Ballarat is a regional city layered with a rich history that encompasses over 50,000 years of Aboriginal culture which continues to inform and shape the city's contemporary narrative. [3]

Furthermore, Ballarat's remarkable endowment of mid-19th Century built heritage is treasured by the local community and beyond. Ballarat has a unique history which remains woven through and deeply embedded in both the social fabric and the elegant streetscapes.

In recent years, Ballarat has come to approach and embrace its unique heritage as a 'rare legacy and living resource' and interprets heritage as natural, cultural and historic. This holistic definition includes Aboriginal cultural heritage, cultural landscapes (including intangible elements) and the built and created environment. [4]

To this day, the city remains awash with the shades of the gold rush, a legacy draped with promise and prosperity, but also steeped in hardship, resistance, and ultimately rebellion. As the birthplace of Australian democracy and the Eureka Rebellion of 1854, a century and a half on, Ballarat continues to evoke and embody resilience and a fighting spirit.

As a city founded on the discovery of gold and recognised for having the richest alluvial gold fields in the world in the 1850s, the stakes have always been high in Ballarat. Stakeholder engagement revealed that the community continues to grapple with a highly complex socio-political environment.

Community consultation described Ballarat as a place at the intersection of old and new or a 'city of contradictions' where the push and pull between conservative and progressive views and values continues to unfold.

Stakeholder engagement also highlighted that Ballarat is a regional city embarking on the conversations that matter in a national and global context. Moreover, these conversations are often difficult and include the challenging of traditional gender roles in local politics, to the history of the Catholic Church and clergy abuse and the enduring impacts of the stolen generation.

While such conversations are inherently challenging and may hold tension for community members, emerging community voices offer opportunities for reinvention, fresh leadership, healing and reconciliation.

Conversations which embrace change and strong leadership will be important, as Ballarat's role as a regional centre over the next ten years becomes increasingly significant.

The city is forecast to grow from 103,000 in 2016 up to 136,900 in 2031, at an average annual growth rate of 1.9 per cent. In addition to unprecedented growth, Ballarat has several strategic projects in the pipeline which will see the CBD transform [5]. The redevelopment of the Ballarat Station Precinct, planned rail upgrades and the realisation of Ballarat GovHub [6] is expected to not only revitalise the city centre but better connect Ballarat to metropolitan Melbourne and the growing west.

As Ballarat grows, it will continue to progress towards the realisation of the three themes at the core of the City of Ballarat's economic policy and program, including Ballarat's confirmation as the capital of Western Victoria. The City of Ballarat has expressed aspirations to leverage population growth and pursue economic growth and diversification and establish Ballarat as 'Australia's premier high technology and knowledge based regional economy' (City of Ballarat, 2015).

Previous plans and strategies did not fully embrace the cultural and creative industries as an economic driver for the Ballarat region. Feedback from stakeholder engagement suggests that Ballarat is ready to elevate the cultural and creative industries in Ballarat to the benefit of the wider community and economy. This includes conversations regarding the extension of Science, Technology, Engineering and Maths (STEM) to include arts and the humanities or STEAM.

The establishment of Ballarat's new Tech School and the commitment to industry partnerships and design thinking, also flags a new era for creativity as a driving force for the local economy (see page overleaf) [7].

Furthermore, the Ballarat Tech School is a positive step towards addressing identified issues for jobs and connectivity in Ballarat, which include addressing gaps in the current education offering due to the changing nature of industry and jobs, and a 'lack of meaningful high-level career pathways for youth' (Committee of Ballarat, 2018).

The launch of BILDS High-tech start up incubator's Innovation Lab and Digital space by State Government, Federation University and Runway [8] and the redevelopment of the Flecknoe building is another exciting opportunity for creative enterprise in Ballarat. Examples of entrepreneurialism, partnership, commitment and investment in property in the core CBD precinct are already evident.

Moreover, Ballarat is endowed with several innovative and resourceful players in the small to medium sector, who are taking the lead in promoting high quality events and initiatives.

For example, targeted interviews revealed the following:

- The recent launch of Lost Ones Gallery Evolve program which will link artists and landlords. The Lost Ones Gallery also facilitates a regular creative industry meet up group.
- Ballarat International Foto Biennale have purchased real estate for permanent space in Lydiard Street.
- Upcoming Biennale of Australian Art (BOOA) will see a whole of town activation with contemporary art and a selection of artists from every state and territory. Plans for a BOOA architecture and BOOA music are also in the pipeline.

The ambition of the city's citizen led development today could be said to echo the same drive which led to the founding of the Art Gallery of Ballarat (AGB) in the 1880's [9]. In 1885, the 'Father of Ballarat' James Oddie, asked how the city's population might look to Fine Art as an inspiring and edifying force within the community. The AGB continues to be a source of pride and inspiration for the community, as an institution which differentiates and distinguishes Ballarat from other localities as a place for arts and culture.

Today, City of Ballarat is asking how we might elevate the conversation about the cultural and creative industries in Ballarat to the benefit of the wider community and economy.

Community consultation via the Mysay online survey told us the community places high value on its creative community, which are described as "hardworking" "thinkers and doers" and "friendly, supportive, vibrant and brimming with ideas".

Overall, the responses conveyed a sense of Ballarat's latent potential to realise a practical vision for a creative city. There was a sense of a burgeoning network, benefiting from an influx of artists and creative professionals moving to and working in Ballarat.

"In recent times creativity has flourished and is now changing the face of Ballarat to the world."

The demonstrated commitment and strength of Ballarat's local creative network is a competitive advantage which should not be overlooked.

3 The region extending over parts of the Traditional Country of the Wadawurrung and Dia Dia Wurrung peoples (City of Ballarat, 2015).
 4 In 2015 The City of Ballarat joined an international pilot programme to implement UNESCO's Recommendation on the Historic Urban Landscape (HUL). For more information see <http://www.ballarat.vic.gov.au/sh/heritage/historic-urban-landscape-approach.aspx>
 5 <https://www.premier.vic.gov.au/getting-it-done-for-ballarat/>
 6 Ballarat GovHub will be home to up to 1000 government employees, including 600 public sector positions new to the city, consolidated with 400 Ballarat-based positions.
 7 Ballarat Tech School is a high-tech learning environment hosted by Federation University and will be a shared learning centre established by a partnership of 15 local schools, industry partners, higher education providers and other stakeholders in the region. <http://www.education.vic.gov.au/about/programs/learningdev/techschools/Pages/ballarattechschool.aspx>
 8 <http://runwaygeelong.com.au/the-team/geelong/>
 9 In the 1880s, citizens viewed an art gallery as an 'essential element of a civilised and modern society'. James Oddie the 'Father of Ballarat' gifted one of the first works to the gallery, a commission by artist Eugene von Guerard. Oddie believed in the power of the gallery as an avenue for his fellow citizens to look beyond their everyday lives and be inspired and edified by the Fine Arts' (AGB, 2018).

2.2 Ballarat's Indigenous story

The Ballarat region is home to the Wathaurung (Wadda – Warrung) people, a 'recognised tribe (community) which consisted of some 25 clans (family groups)' and forms part of the Kulin Nation of Aboriginal people (Wathaurong, 2018).

The Wathaurung have had a presence in the region for over 25,000 years. The 'traditional boundaries of the Wathaurung people span the coastline from the Werribee River to Lorne peninsula and traverse inland in a north westerly direction towards Ballarat' (Wathaurong, 2018).

Ballarat is thought to be named after two Aboriginal words, the first 'balla' meaning elbow or reclining elbow, and 'arat' meaning place (City of Ballarat, 2018). The region 'embodies stories and songlines that connect Wadawurrung and Dja Dja Wurrung people to places for hunting, fishing and harvesting' as well as places for 'large gatherings and spiritual and ceremonial locations' (City of Ballarat, 2018).

The Wathaurung Co-operative Ltd holds an important place in the Ballarat community. It was established in 1978 to 'support the social, economic and cultural development of Aboriginal people 'particularly within the Geelong and surrounding areas' (Wathaurong, 2018). The Co-operative delivers a range of services across health, welfare, art, culture, education and social well-being (Culture Victoria, 2018).

The Ballarat and District Aboriginal Cooperative (BADAC) also provide a range of health and wellbeing services to the local community with a vision to "achieve self-determination for the Aboriginal community, enabling stronger families by ensuring equal opportunities in health, housing, education, employment and justice through a holistic and culturally relevant approach."

City of Ballarat has commenced conversations with the city's founding families regarding next steps forward to ensure important attributes such as significant meeting places, vital song lines and distinctive cultural practices, which resonate with the city's contemporary creative potential are acknowledged and celebrated.

Case study: Ballarat Tech School

The Ballarat Tech School is providing access to STEAM subjects for secondary students and has an industry partnership with creative industries, as one of six industries predicted to experience economic and employment growth.

The Ballarat Tech School understands "creativity and design, are at the forefront of a rapidly changing world with creativity being highly valued by individuals, society and employers."

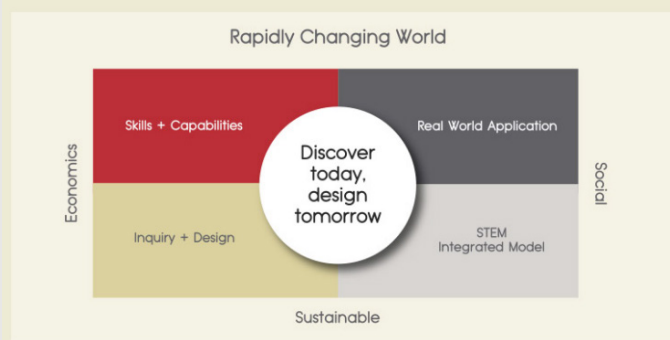
The School's approach embraces the linking of creativity with commercial markets and promotes the way in which these industries use "creativity is a source of value, generating ideas into new intellectual property (IP) and then using and commercialising IP in innovative ways."

The School is committed to developing partnerships with the community, education providers and industry and see the Creative City Strategy as a "timely opportunity for greater interconnectedness."

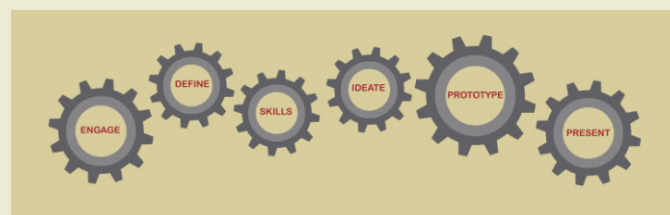
Curriculum offered by the school focuses on Technology and Design Solutions and develops capabilities for critical and creative thinking while building skills across communication, creativity, self-management, innovation, teamwork and design thinking.

The School sees a unique opportunity to offer support and mentorship to young people and use STEAM to work towards establishing ethical ways to move forward as a community.

Learning model

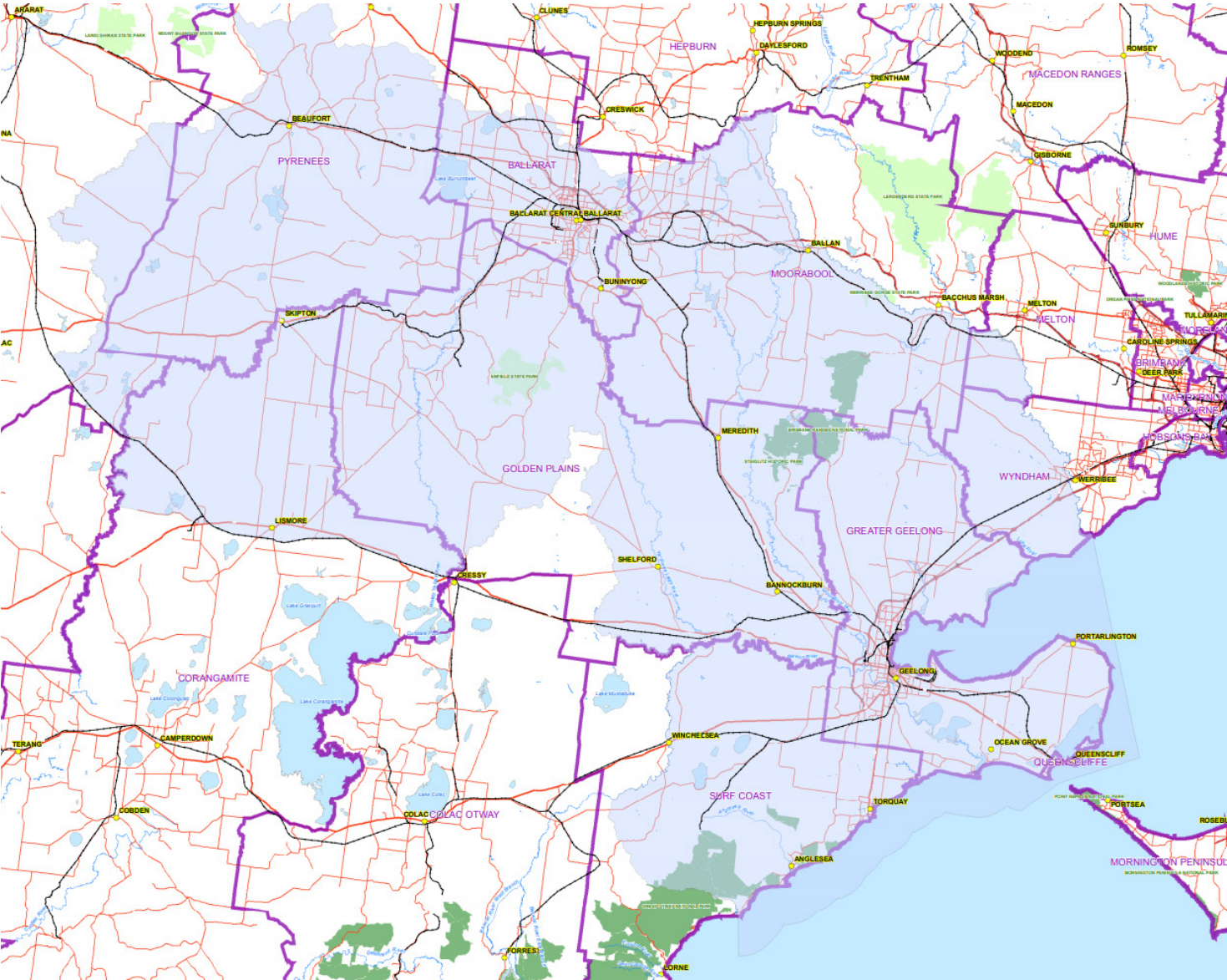


Design-thinking process



Our design thinking process is focused on collaboration between industry and education, with an emphasis on bringing ideas to life based on solving problems and developing new opportunities. Students use innovation and partnerships to integrate the needs of the community, with the possibilities of technology, to create new outcomes.

Figure 3
Wathaurung cultural boundaries



2.3 Ballarat’s demographic profile

The Ballarat local government area (LGA) had a population of just over 100,000 residents in 2016, up from 86,000 in 2006. The broader Ballarat region had 190,000 residents in 2016.

Population growth in Ballarat over the last 10 years was 1.8 per cent per year, in line with the Victorian average, higher than growth in Regional Victoria, but lower than growth in Greater Melbourne.

Ballarat has an aging population, with a higher proportion of people aged 55 years and over compared to the Victorian average. Ballarat also has a smaller proportion of people aged 20-55. This reflects the fact that young people have tended to leave the area in their late teens and early twenties in search of employment and education opportunities elsewhere.

Table 2 presents a range of demographic indicators for Ballarat, as compared to Victoria and Regional Victoria. The median age in Ballarat was 38 years, which, notwithstanding the ageing population, is lower than that of Regional Victoria (43 years).

Median weekly household income was lower in Ballarat compared to the Victorian average, as was median weekly rent.

The majority of residents in Ballarat were born in Australia (94 per cent), much higher than the Victorian average of 65 per cent. The Indigenous population in Ballarat is small in numbers, but on par with, or greater than, regional and state comparators. 1.5 per cent of total resident population are Aboriginal or Torres Strait Islanders, compared to 0.8 per cent in Victoria and 1.6 per cent in Regional Victoria.

Table 1

Population in Ballarat and surrounding areas			
	2006	2016	2006-16 Annual Growth
Ballarat (LGA)	86,600	103,200	1.8%
Share of Regional Victoria	7.0%	7.6%	
Ballarat Region*	162,400	190,900	1.6%
Regional Victoria	1,245,500	1,358,200	0.9%
Greater Melbourne	3,815,800	4,690,500	2.1%
Victoria	5,061,300	6,048,800	1.8%

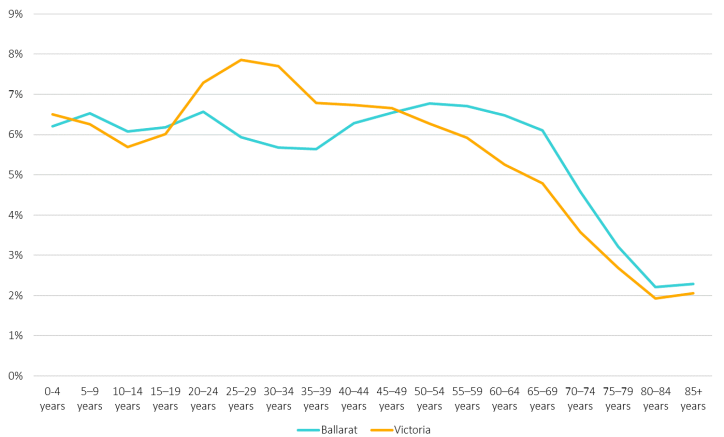
Source: ABS Estimated Resident Population Cat. No. 3218.0 and VIF 2016 Forecasts.
*Note: Ballarat Region includes the LGAs of Ballarat, Pyrenees, Hepburn, Moorabool and Golden Plains

Table 2

Ballarat demographic indicators, 2016			
	Ballarat	Victoria	Regional Victoria
Median age	38	37	43
Median weekly household income	\$1,160	\$1,419	\$1,124
Median weekly rent	\$250	\$325	\$231
Born in Australia (% of total population)	94%	65%	81%
Indigenous population (% of total population)	1.5%	0.8%	1.6%

Source: ABS Census 2016. Note: Indigenous population is classified as those identifying as Aboriginal and/or Torres Strait Islander

Figure 4
Population age profile of Ballarat in comparison to Victoria



Source: ABS Estimated Resident Population Cat. No. 3235.0

2.4 Identified social issues

There are a number of social issues present in Ballarat that impact the local community. Figure 5 and Figure 6 highlight the major issues compared to Victoria and Regional Victoria.

Health

Ballarat has higher rates of obesity, high blood pressure, high alcohol consumption, and current smokers than Victoria. There are also higher rates of psychological distress and mental and behavioural problems for residents in Ballarat.

The most notable difference to Victoria is the high rates of smoking during pregnancy, where almost 42 per cent of pregnant women in Ballarat smoked at some point during pregnancy, compared to 15 per cent across Victoria.

2.4 per cent of residents in Ballarat noted cost as a barrier to accessing healthcare due to cost, compared to the Victorian average of 1.6 per cent.

Income

Ballarat has a large number of low income and welfare dependent households compared to Victoria overall. However, when compared to Regional Victoria, Ballarat has slightly lower rates of low income households.

Community

There is also a degree of intolerance evident in the community, with a higher proportion of residents disagreeing with acceptance of other cultures, 4.8 per cent in Ballarat compared to 3.7 per cent in Victoria.

Safety and crime are also issues in Ballarat, with 46 per cent of the residents feeling safe when walking alone in their local area after dark in Ballarat compared to the Victoria average of 53 per cent.

Ballarat does, however, exhibit higher rates of community cohesion and support. An indicator of this is the proportion of residents reporting that they are able to get support in times of crisis. This measure was higher in Ballarat than Victoria, 96 per cent compared to 95.3 per cent.

Education

Ballarat residents have lower levels of education, with almost 30 per cent of people having left school at year 10 or below, not having gone to school. This creates some degree of youth disengagement, if they are unable to find suitable work or apprenticeships after they leave school. This trend is present across Regional Victoria, where 32 per cent of residents left school at year 10 or below.

2.5 Conclusion

In many respects, Ballarat is a ‘regular’ regional community with the usual array of challenges. It is distinctive, however, in its heritage, with deep roots into Victoria’s indigenous culture and the nation’s sense of democracy and social inclusion.

The city’s stories hold latent potential to propel and sustain creative activity. This, in turn, can be leveraged to build economic and wider community value.

Figure 5
Health indicators in Ballarat

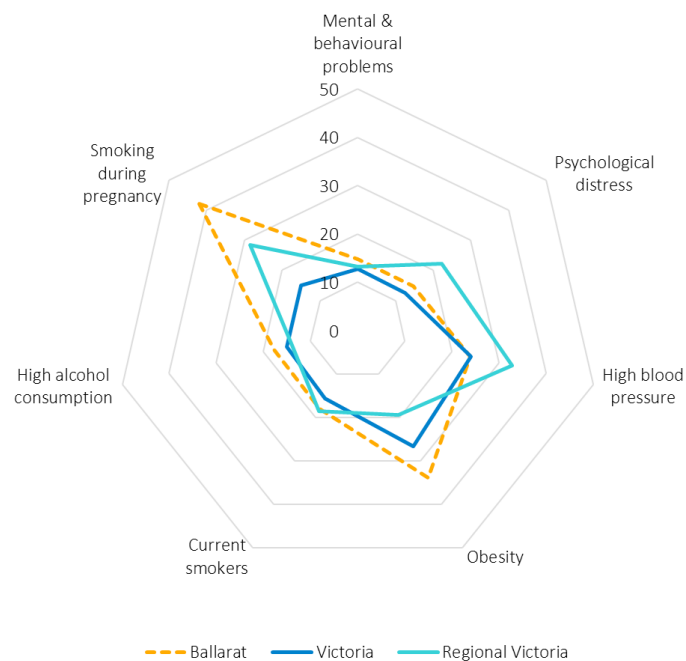
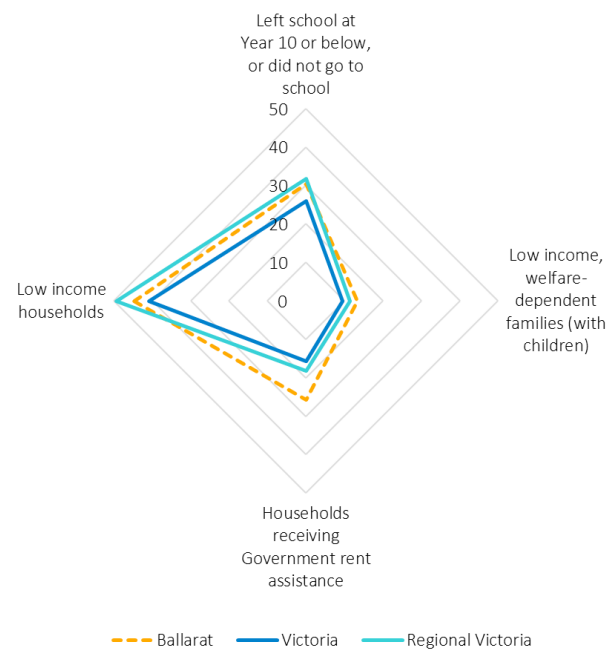


Figure 6
Education and income levels in Ballarat



Source: Social Health Atlas of Australia, PHIDU 2017



Image: Ballarat Tech School

Thinkers, Innovators

the future is to invent it – Steve Jobs, Founder of Apple Inc



3.0_ECONOMIC ANALYSIS

This section presents a full analysis of Ballarat’s local economy, including key industries, inter-regional exports and input output linkages, key firms and skill profile.

3.1 Ballarat’s future population growth

As discussed, Ballarat is growing reasonably strongly, official forecasts suggest the population is set to increase from 103,000 in 2016 up to 136,900 in 2031, at an average annual growth rate of 1.9 per cent. This forecast is in line with historical growth rates and average growth rates for Victoria. Ballarat’s population is forecast to grow at a faster rate than the rest of Regional Victoria. However, as a result, Ballarat’s share of Regional Victoria’s population is forecast to increase to 8.5 per cent in 2031, up from 7.6 per cent currently.

Most of the population growth forecast for Ballarat is in the centre, close to the train station and major highways. Also noteworthy is the significant population growth expected to occur for the west of Melbourne in areas well connected to Ballarat.

The population growth forecast for Ballarat to 2031 brings significant opportunities for both the CBD and wider region. The City of Ballarat is considering how to best leverage this growth, and work towards the realisation of Ballarat’s economic policy and program.

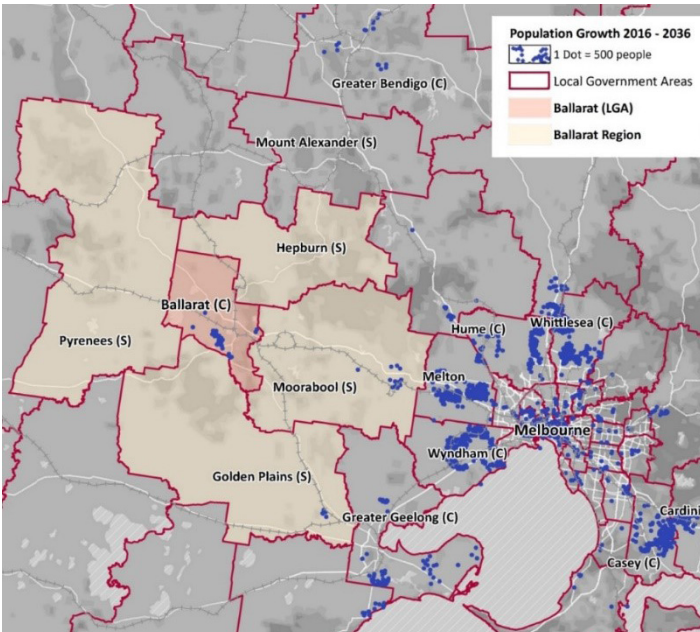
3.2 Ballarat’s exports

Ballarat’s economy generates regional exports to the value of an estimated \$3.859 billion (Remplan, 2018). This represents the sales which Ballarat businesses make to customers outside the city’s boundaries.

These exports are key drivers of jobs and income growth in Ballarat. They spark a multiplier effect as businesses fulfilling export orders in turn draw on suppliers and Ballarat workers.

Manufacturing, healthcare, construction and education are in this sense Ballarat’s principal ‘bread winners’. Arts and recreation generate a modest export contribution of less than \$40m per year.

Figure 7
Forecast population growth 2011–2031



Source: SGS Economics and Planning, using VIF 2016 Forecasts

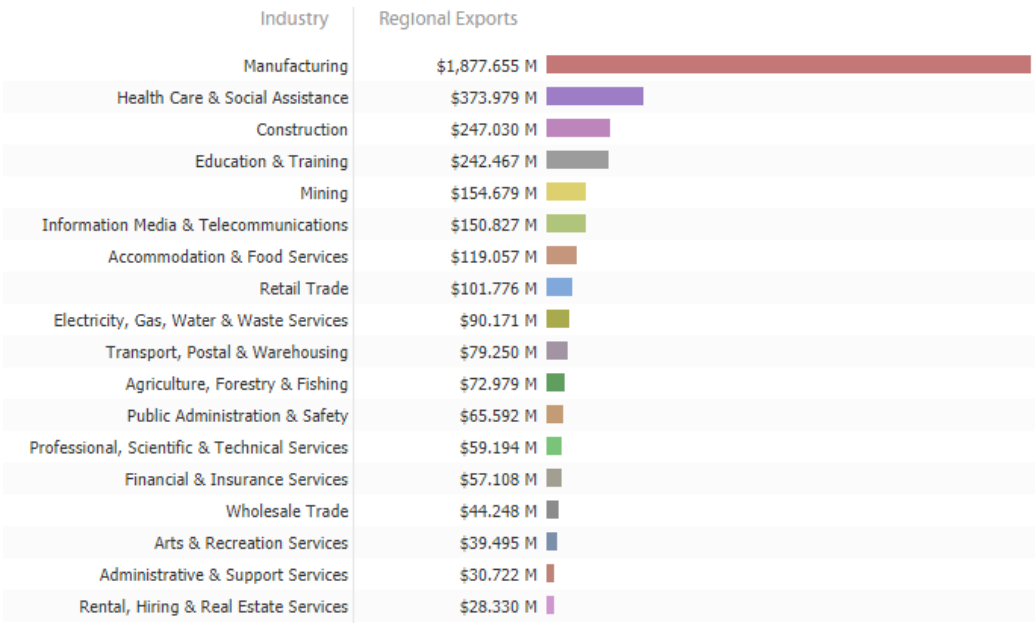
Table 3

Population forecast for Ballarat and surrounding regions

	2006	2016	2031	2006–2016 Annual Growth	2016–31 Annual Growth
Ballarat (LGA)	86,600	103,200	136,900	1.8%	1.9%
Share of Regional Victoria	7.0%	7.6%	8.5%		
Ballarat Region*	162,400	190,900	248,900	1.6%	1.8%
Regional Victoria	1,245,500	1,358,200	1,601,500	0.9%	1.1%
Greater Melbourne	3,815,800	4,690,500	6,131,800	2.1%	1.8%
Victoria	5,061,300	6,048,800	7,733,300	1.8%	1.7%

Source: ABS Estimated Resident Population Cat. No. 3218.0 and VIF 2016 Forecasts
*Note: Ballarat Region includes the LGAs of Ballarat, Pyrenees, Hepburn, Moorabool and Golden Plains

Figure 8
Ballarat’s regional exports



Source: Remplan Economy, 2018

3.3 Ballarat's economic structure

Ballarat's industry profile

In 2016, the healthcare and social assistance industry was the largest employer in Ballarat, followed by retail trade and education and training (see Figure 10).

Healthcare and education have experienced strong employment growth over the last ten years, along with accommodation and food industry and construction.

Figure 11 presents the average annual growth rates for each industry of employment in Ballarat.

Manufacturing, although declining in terms of employment, remains the predominant export industry in the municipality, followed by tourism. As noted, these export industries provide new injections of income to the Ballarat region.

Location quotient and LQ change

LQ analysis measures the comparative strengths of a city or regional economy. Comparative strategic advantages are widely considered to be the key drivers of regional economic growth. For more details on LQ analysis (see Appendix 03).

An industry with an LQ value greater than 1 indicates that a region is relatively specialised in that particular economic activity pointing to a comparative advantage versus other regions.

Figure 12 (overleaf) brings together the LQ of industries (on the vertical axis) and the LQ change (on the horizontal axis) to show which industries are growing in comparative prominence. The size of the bubbles indicates the size of the industry in terms of employment.

This analysis reveals that Ballarat has the following key industry groups:

- Information media and telecommunications (LQ score of 2.28)
- Arts and recreation services (LQ score of 1.44)
- Professional, scientific and technical services (LQ score of 1.29)
- Health care and social assistance (LQ score of 1.22)
- Education and training (LQ score of 1.22)

Health care and social assistance is one of the more striking industries in this analysis, being a large employer (large bubble size) with a high LQ or comparative advantage score (to the top of the chart). The prominence of this industry in comparison to regional Victoria has not grown between 2006 and 2016 though. In some contrast, Education and training has been growing in prominence as has Tourism.

Arts and recreation services, Information Media and Telecommunications, Manufacturing, and Professional, Scientific and Technical services have high LQ scores but have been decreasing in prominence.

Construction and Transport, Postal and Warehousing are less concentrated in Ballarat, but their LQ score is increasing meaning that they are developing industries.

The Tourism industry is slightly more prevalent in Ballarat compared to regional Victoria. Tourism's LQ score has increased slightly between 2006 and 2016, indicating some success in developing the industry in Ballarat.

Case Study: Gekko Systems

Gekko Systems is a Ballarat based company considered a global leader in the field of mineral processing, with an interest in enhancing worldwide knowledge of energy-efficient mining techniques. The company was launched by Elizabeth Lewis-Gray and her partner Sandy Gray in 1996, after securing government funding for further research into assisting mining companies reduce their environmental impact.

The company has a dedicated, collaborative team of technical experts that concentrate solely on process design and engineering studies for clients.

Discussions with Elizabeth Lewis-Gray highlighted the potential for partnership and building stronger linkages between Ballarat's creative industries and broader industry sectors such as manufacturing, as well as globally connected businesses such as IBM.

In recent decades, Gekko has observed the benefits of brokering relationships between the creative industries and broader industry sectors in places such as Scandinavia and the dramatic impact on the social and business fabric. As a result, Gekko views design thinking as a "powerful tool" and sees a place for migrating elements of design thinking across to other industry growth sectors in Ballarat.

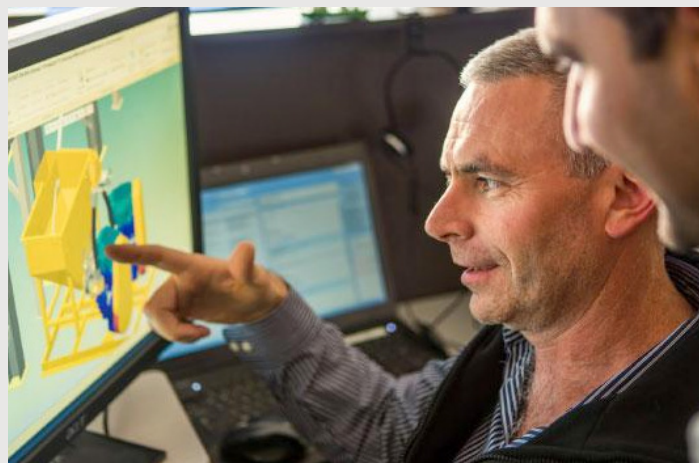


Figure 9
LQ map explained

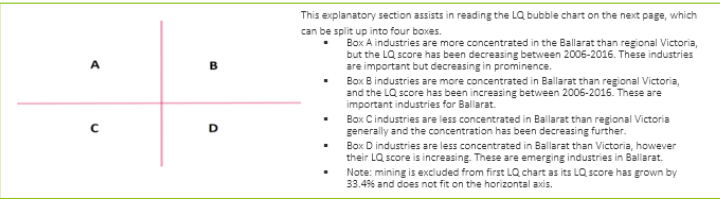
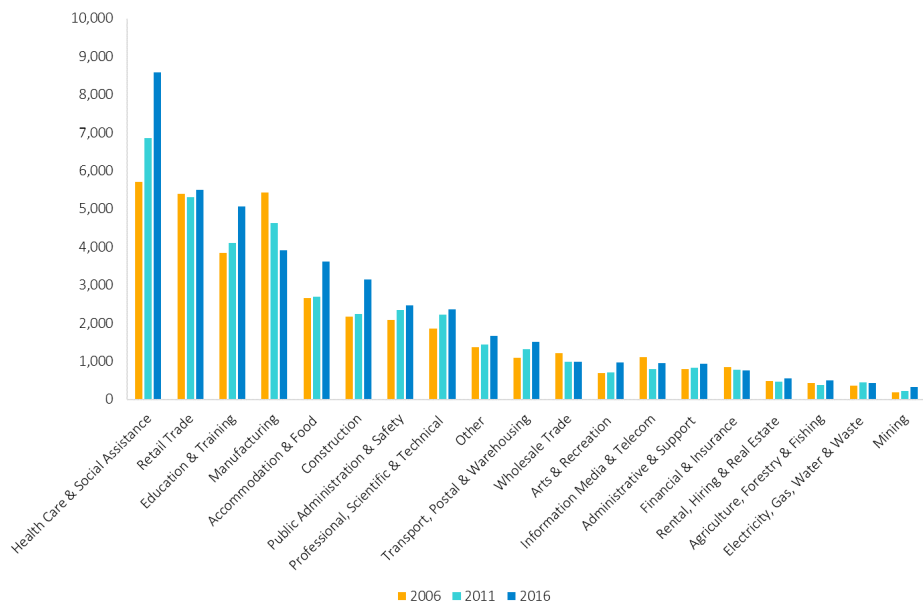
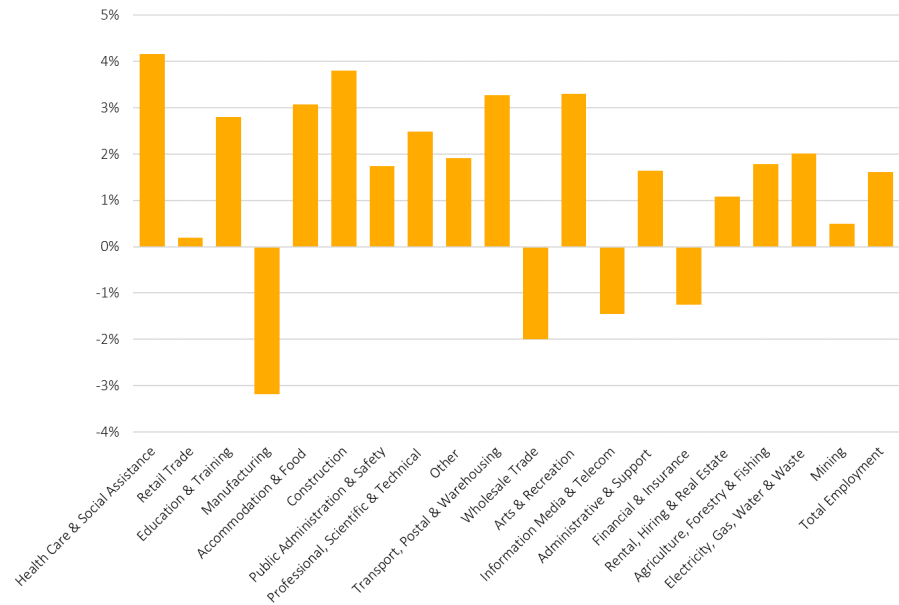


Figure 10
Ballarat LGA employment by industry



Source: ABS Census Data 2006, 2011, 2016

Figure 11
Ballarat LGA employment growth rates by industry, 2006 - 2016



Source: ABS Census Data 2006, 2016

Figure 12
Ballarat LQ change (2006-2016)



Source: SGS Economics and Planning, 2018. Export industry = green; pop serving industry = yellow; combination = blue

Figure 13
Ballarat LQ score and AAGR of employment (2006-2016) bubble map



Source: SGS Economics and Planning, 2018. Export industry = green; pop serving industry = yellow; combination = blue

3.4 Ballarat's skill force

Ballarat's economy employed 46,000 workers in 2016, comprising 1.7 per cent of Regional Victoria's workforce. Employment growth since 2006 was slower in Ballarat compared to Greater Melbourne and Victoria overall.

Participation

Ballarat has a higher unemployment rate than the Victorian average, and a lower participation rate. Youth unemployment was in line with the Victorian average, at 15 per cent unemployed people age 15 to 24 years.

Place of work

The majority (87.5 per cent) of Ballarat residents also work within the Ballarat LGA (see Table 6). Approximately 1,000 residents travel to Melbourne for work (2.4 per cent of total), and between 300 and 680 residents travel to neighboring LGAs for work. A small number of residents travel to Greater Geelong for work (0.7 per cent of total).

Workforce education

The resident workforce in Ballarat is mainly comprised of certificate level educated people, with 15 per cent of the population having bachelor's degree level qualifications. Compared to Victoria, Ballarat has a higher proportion of residents with certificate and secondary education levels, i.e. lower education levels. However, this is not as pronounced as Regional Victoria, which has a higher proportion of residents with lower education levels.

3.5 Conclusion

Ballarat has a distinct role as a regional service centre and provider and is home to key enterprises such as IBM, Gekko and Federation University. Government services also have a strong presence in Ballarat with the State Revenue office located at Mt Helen and GovHub soon to significantly boost this critical mass in the central business district.

The city's economy faces significant challenges in terms of skill profile and limited scale in knowledge intensive industries (see Figure 15).

Table 4

Employment in Ballarat

	2006	2016	2006-16 Annual Growth
Ballarat (LGA)	38,000	46,000	1.9%
Share of Regional Victoria	1.8%	1.7%	
Regional Victoria	610,000	565,000	-0.8%
Greater Melbourne	1,550,000	2,046,000	2.8%
Victoria	2,160,000	2,730,000	2.4%

Source: ABS Census Data, Place of Work

Table 5

Labour force statistics, 2016

	Ballarat	Victoria	Regional Victoria	Greater Melbourne
Participation rate	62%	65%	61%	66%
Unemployment rate	7.1%	6.6%	6.0%	6.8%
Youth unemployment rate	610,000	565,000		-0.8%

Source: ABS Census 2016

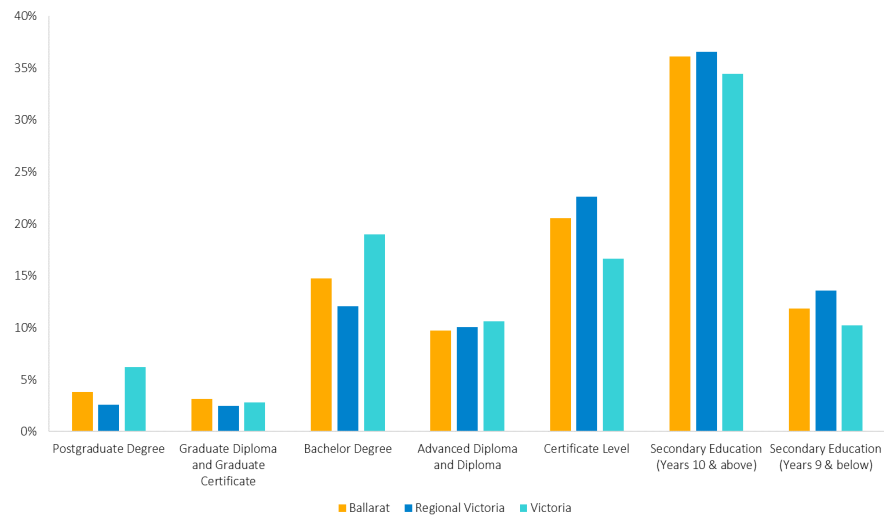
Table 6

Place of work for Ballarat resident workforce, 2016

Place of Work (LGA)	Ballarat Resident Workforce	Share of Total Ballarat Workforce
Ballarat	37,255	87.5%
Melbourne	1,012	2.4%
Hepburn	682	1.6%
Moorabool	469	1.1%
Pyrenees	345	0.8%
Golden Plains	320	0.8%
Greater Geelong	296	0.7%
Ararat	227	0.5%

Source: ABS Census 2016. Note: No fixed address category has been removed from total workforce number

Figure 14
Highest level of qualification, Ballarat and Victoria 2016



Source: ABS Census Data 2016

Figure 15
SWOT Analysis of the local economy

<p>Strengths:</p> <ul style="list-style-type: none">• Proximity to Melbourne• Local workforce• Established presence of primary through to tertiary education (Private secondary schools, Ballarat Tech School, Federation University and CERDI)• Local economic policy which understands the role of agglomeration & clustering• Growing retail and food and beverage offer• Key firms partnering with education (ie. Federation University and IBM)• Interest from the business sector in design thinking• Innovative and globally connected industry leaders• Heritage	<p>Weaknesses:</p> <ul style="list-style-type: none">• Relatively siloed cultural and creative sector and institutions• Disconnect between the cultural and creative industries• Not yet a critical mass of creative industries• Talent retention• Lack of accommodation and conference venue options to accommodate GovHub and business events• Heritage costs and constraints on the flexibility of the built environment• Lower education levels
<p>Opportunities:</p> <ul style="list-style-type: none">• Forecast population growth• Further establish Ballarat as a service centre for the wider region• Ballarat Station Precinct Redevelopment Project• GovHub – critical mass of government services in a central location and co-located with the arts precinct and cultural core• Appetite for partnerships between the cultural core and broader industry sectors• Scope to increase the resident population in the CBD• Strong and growing Healthcare and Social Assistance and Education and Training sectors	<p>Threats:</p> <ul style="list-style-type: none">• Declining manufacturing sector• Lack of career pathways for youth• Risk of population growth outpacing infrastructure provision (including social infrastructure)

Source: SGS Economics and Planning, 2018



Image: Thinkstock



4.0_BENCHMARKING BALLARAT’S CULTURAL AND CREATIVE INDUSTRIES

This section looks more closely at the economic profile and contribution of the cultural and creative industries in Ballarat.

4.1 Overview

Cultural and Creative industries include disciplines as diverse as digital games development, software design and graphic design, fashion and filmmaking, performing arts and publishing, architecture, music, comedy, visual arts and craft.

This sector comprises a mix of artistic and non-artistic sectors, not for profit and community organisations, individual practitioners, commercially driven businesses and cultural institutions (Creative Victoria, 2018).

SGS has taken an expansive view to the cultural and creative industries and employed a best practice methodology in line with Creative Victoria’s definition (see Appendix 02 for expanded methodology and definition).

Total economic value by industry

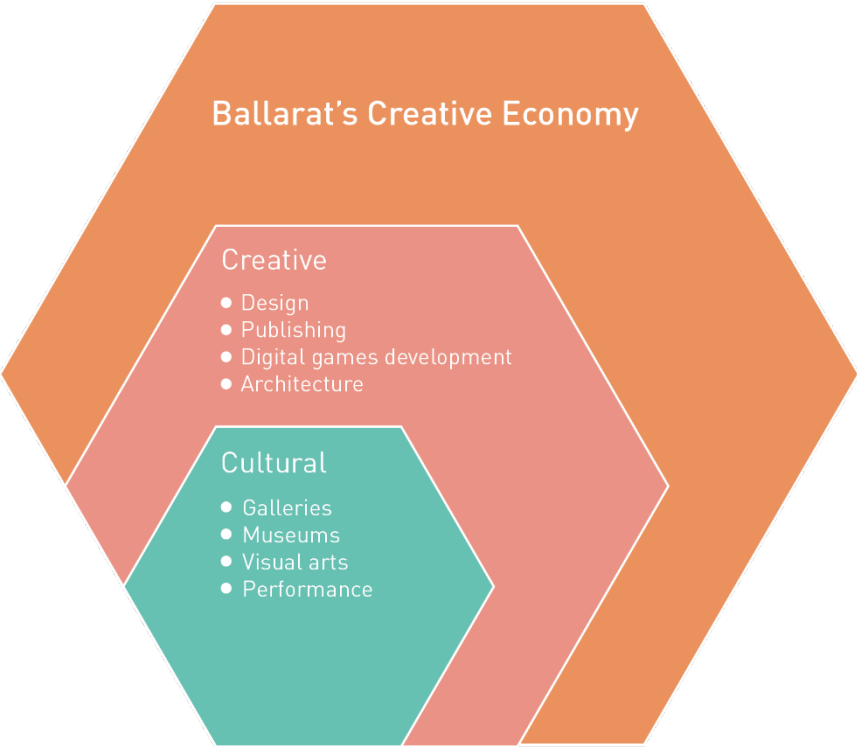
Using this definition, SGS has quantified the total economic output of key industry sectors in Ballarat and the creative industries and found the total economic value of the creative industries to the Ballarat economy was \$747 million in 2016.

Economic contribution (value-added) of creative arts to Ballarat

SGS has also quantified the economic contribution (value – added) of cultural and creative industries to Ballarat.

Value-added includes the wages & salaries paid to local employees, the gross operating surplus and taxes on products and production. Value-Added is the major element in the calculation of Gross Regional Product (see Figure 17).

Figure 16
Measuring the cultural and creative industries



Source; SGS Economics and Planning, 2018

Figure 18 shows the estimated direct annual economic value-added generated by different creative industries in Ballarat. The impacts were calculated using ABS employment census data for 2006, 2011 and 2016 and SGS's in-house input-output model. Industries are ranked by 2016 impact size.

The value-added of creative industries in the Ballarat economy is estimated at \$268 million in 2016. Much of this is accounted for by 'Internet and Digital Services', possibly reflecting IBM's presence in the city.

Value added by industry

Figure 19 shows the estimated annual value-added generated by creative industries in Ballarat in comparison to more traditional export orientated industries – namely manufacturing, agriculture and mining.

Value-added includes the wages and salaries paid to local employees, the gross operating surplus and taxes on products and production. Value-Added is the major element in the calculation of Gross Regional Product.

Location Quotient for the creative industries

This sub-section considers the prevalence of creative industries in Ballarat, in comparison to regional Victoria. It does this by disaggregating the industry groups of the previous LQ charts and pulling out the small industries that are directly related to the creative economy (see Figure 20).

The teal coloured circles represent creative service industries, whilst the orange circle represents cultural production. Once again, the size of the circles represents the numbers of workers in that industry, with the largest circle belonging to internet and digital services, (588 workers), and the smallest circle fashion (53 workers). The horizontal axis in the chart represents whether the industries have been growing, in terms of employment, in Ballarat between 2006 and 2016.

Compared to non-metropolitan Melbourne Victoria, every creative industry is more prevalent in Ballarat, apart from music, performing & visual arts which has an LQ score of 0.99. Nevertheless, this is the fastest growing of the creative industries in Ballarat. Libraries, archives and museums has the highest LQ (3.28), followed by internet and digital services (2.68) and arts education (1.7)

Figure 17
Total output (direct and indirect) by industry group – Ballarat

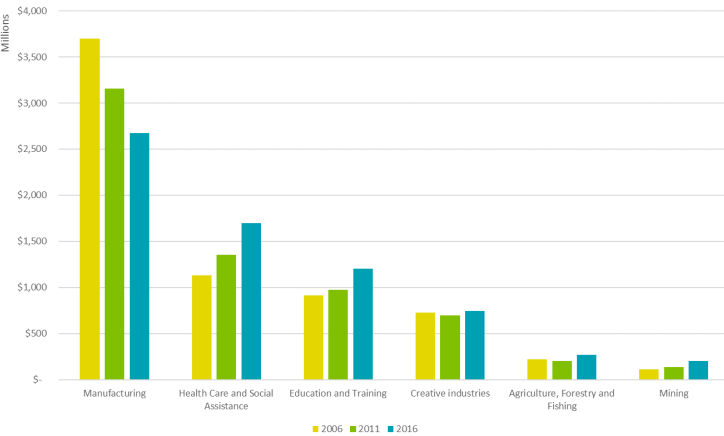


Figure 18
Value-added by cultural and creative diversity

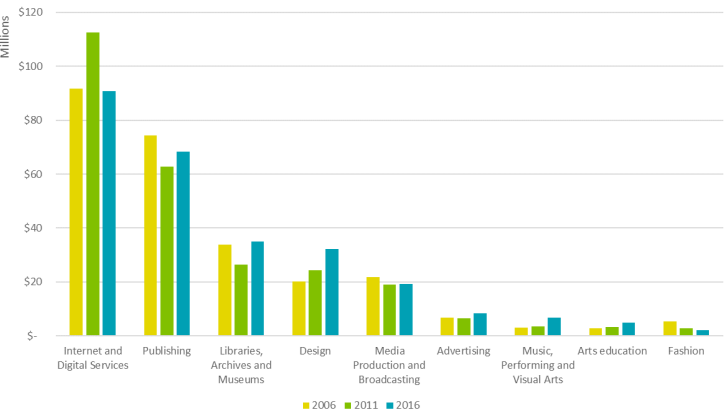
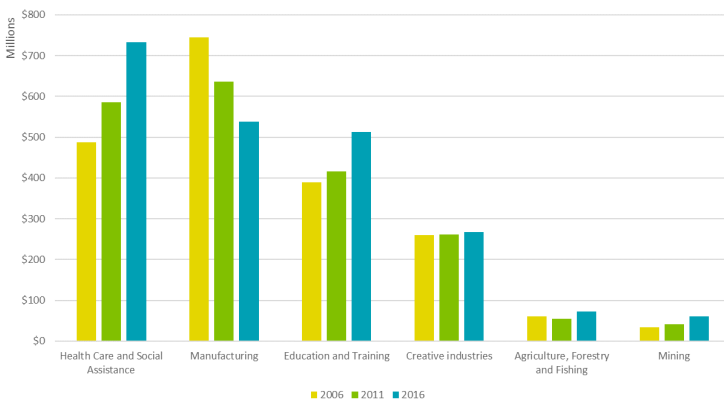


Figure 19
Economic value-added by industry group – Ballarat



Source: ABS Census Data for years 2006 – 2016



Image: City of Ballarat

Figure 20
LQ Growth Rate – Ballarat Creative Industries



Source: SGS Economics and Planning, 2018. The teal coloured circles represent creative service industries, whilst the orange circle represents cultural production

4.2 Ballarat in the creative industries

Employment in creative industries

Figure 21 shows the share of total jobs in creative industries in Ballarat and Melbourne.

There were almost 2,000 creative industry jobs in 2016 located in Ballarat (place of work data). This made up only a small share of total employment in the city, at 4.2 per cent of all jobs in Ballarat. This is slightly below the Victorian average of 5 per cent creative industry jobs. The City of Melbourne has an especially high share of creative industry jobs at 9 per cent.

Across Regional Victoria there were 14,000 creative industry jobs in 2016, 13.9 per cent of which are in Ballarat. Reflecting its regional service centre role, Ballarat has a greater share of Regional Victoria's creative industry jobs than share of total jobs.

4.3 Jobs growth in creative industries

Growth in creative industries as a whole in Ballarat has been slow, especially compared to total employment growth over the same period. Growth in creative industries in Ballarat is comparable to growth in creative industries across Regional Victoria, but much lower than Greater Melbourne and Victoria as a whole.

Creative industry specialisation

Returning to LQ indices, Figure 23 shows the degree of creative industry concentration in Ballarat as compared to Greater Melbourne or Regional Victoria. When compared to Regional Victoria, Ballarat has a LQ of almost 2, indicating that compared to regional areas, Ballarat has a greater concentration of creative industries.

Table 7

Creative industry jobs

LGA	Creative Industry Employment			Total Employment		
	2006	2011	2016	2006	2011	2016
Ballarat (C)	1,870	1,840	1,940	37,970	39,010	45,790
Share of Regional Victoria	13.6%	13.6%	13.8%	7.1%	7.2%	7.8%
Regional Victoria	13,710	13,510	14,020	535,380	545,510	588,870
Greater Melbourne	96,530	106,420	122,660	1,509,850	1,646,440	1,991,670
Victoria	113,940	128,540	141,210	2,159,950	2,451,870	2,730,340

Source: ABS Census Data, Place of Work

Figure 21
Creative industry share of total jobs, 2016

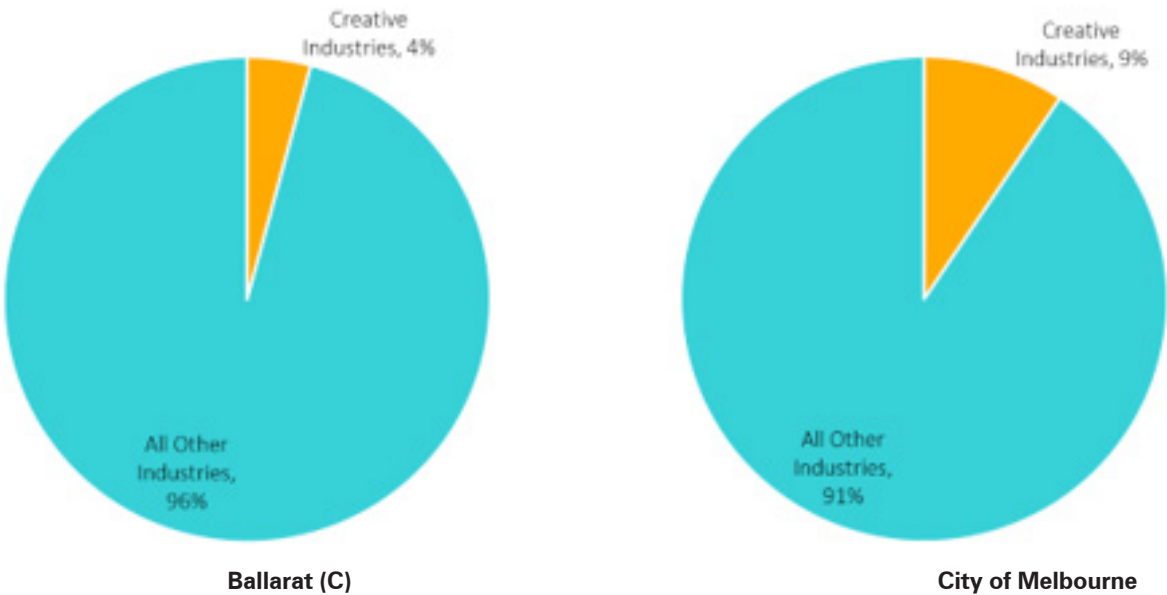
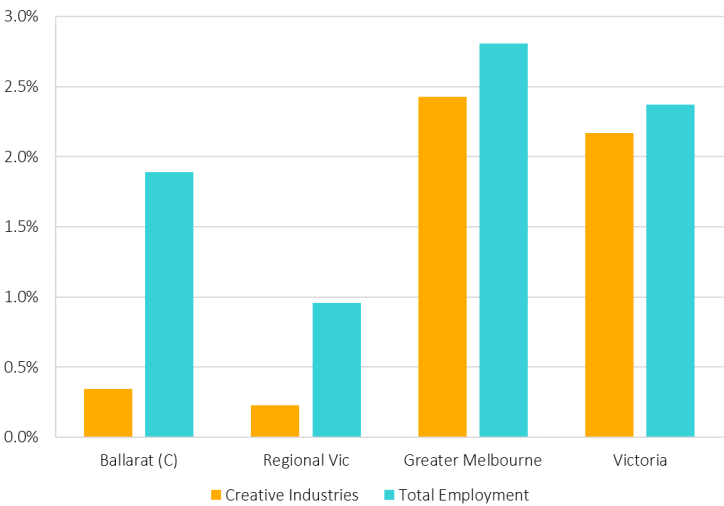
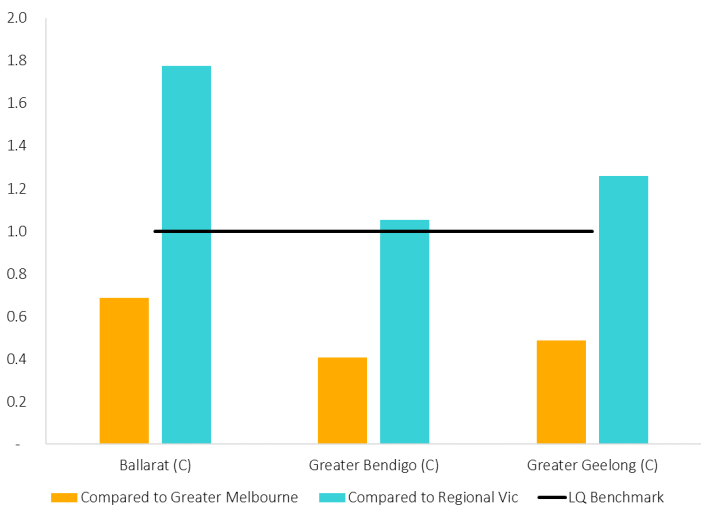


Figure 22
Average annual growth rate 2006 – 2016 creative industry vs total employment



Source: ABS Census, place of work data
Note: Creative industry definition is in Appendix 02

Figure 23
Creative industry location quotient 2016



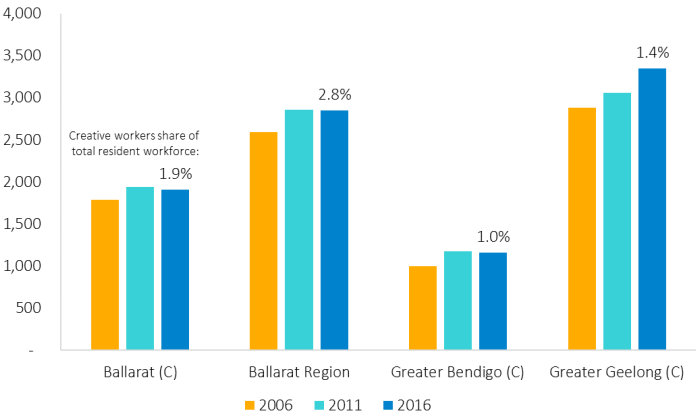
Creative workers

Ballarat has a similar number of residents who work in creative industries as the number of creative industry jobs, with approximately 1,900 workers in 2016 (place of residence). This represents 1.9 per cent of the total resident workforce in Ballarat (Figure 24). A share of these workers access employment outside of the Ballarat region.

Figure 24 shows the share of creative workers in Ballarat against benchmark cities Bendigo and Geelong. Ballarat and the broader Ballarat region share of creative workers is in line with the greater Melbourne average (3 per cent of resident workforce in the creative industries).

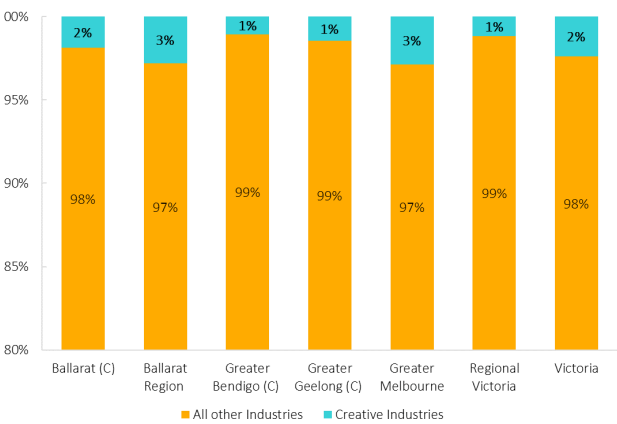
Ballarat has a greater share of the resident workforce in creative industries compared to Bendigo, Geelong and Regional Victoria overall, but the differences are not compelling.

Figure 24
Creative industry workers



Source: ABS Census, place of usual residence data.
Note: Creative industry definition is in Appendix 02.

Figure 25
Creative workers share of total resident workforce



Creative industry sectors

As discussed earlier, the creative industry sector has been defined according to the Creative Victoria classification (see Appendix 02 for detailed industry categories). The industry can be grouped into broad sectors, as shown in Figure 26. Ballarat’s cultural and creative industries profile is similar to that of Regional Victoria overall.

Internet and digital services is largest sector of creative industries in Ballarat (30 per cent of total creative industry jobs in 2016). This may be inflated by the presence of IBM Service Centre at the Ballarat Technology Park.

Libraries, archives and museums is second largest (14 per cent in 2016). This was the largest share for this sector compared to Greater Melbourne, Regional Victoria and Victoria overall, again indicating Ballarat has a level of specialisation or concentration of employment in this industry.

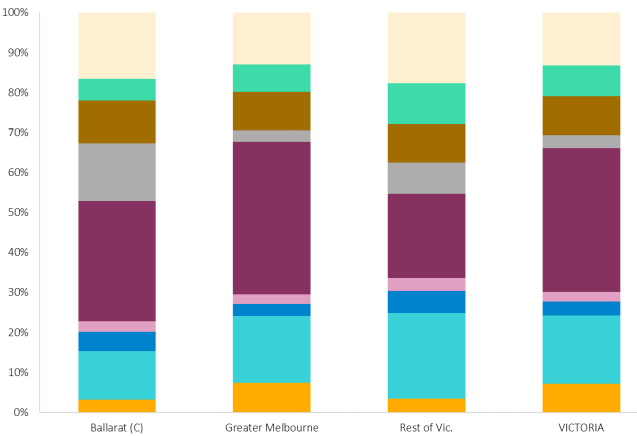
Compared to other regions, Ballarat has a smaller proportion of design, advertising and music, performing and visual arts.

Ballarat’s growing sectors within the creative industries include:

- Design
- Music, performing and visual arts
- Education

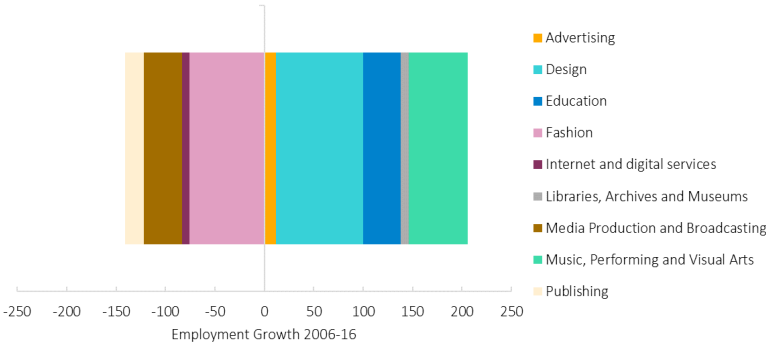
Figure 27 shows employment growth in each creative industry sector between 2006 and 2016. In Ballarat, creative industry employment growth was largely driven by design, music, performing and visual arts, and to a lesser extent, education. Two sectors detracted from growth in Ballarat, namely, fashion and publishing.

Figure 26
Creative industry sectors, 2016



Source: ABS Census, place of work data

Figure 27
Creative industry sector employment growth, 2006 – 2016



4.4 Agglomeration modelling and benchmarks

Ballarat’s Creative Effective Job Density (EJD)

To evaluate the strength of an industry cluster, otherwise known as agglomeration economies, SGS estimates effective job density (EJD). EJD is a proxy measure for agglomeration economies (see Appendix 04 for details).

At its essence, EJD measures the ease with which a specific geographic area can access all other economic activity within a wider region.

Across Victoria, a higher EJD is found within the confines of the CBD and inner-city areas. This is due to both their well-connected transport links and historic concentration of employment.

This is the case when looking at both total employment and employment related to creative industries (Creative Industries EJD). As such, the relative EJD scores for areas outside of these confines tend to be significantly lower, especially within Regional Victoria, where mass concentrations of employment and transport links are not as strong as those seen within the Metropolitan region.

Like its regional comparators Bendigo and Geelong, Ballarat has the strongest creative industry and employment cluster measured in EJD terms in its central business district.

Figure 28 highlights the strength added to the creative industry sector by the Mt Helen Federation University Campus (home to CERDI) and the Ballarat Technology Park and IBM. This indicates an opportunity to encourage a stronger connection between the creative industry activity within central Ballarat and the Mt Helen Federation University campus to strengthen Ballarat’s creative industry sector in the future.

Benchmarking Ballarat against Greater Melbourne and Regional Victoria

SGS has scored and ranked the top 10 SA2s [10] for Greater Melbourne and the top 20 SA2s for Regional Victoria in terms of Creative Industry EJD. Table 7 illustrates the high levels of agglomeration and advantage for creative industries located in Greater Melbourne and inner Melbourne in particular.

Central Melbourne has pre-eminence in Victoria for creative industry agglomeration. This concentration, indicated by an EJD score of more than 60,000, gives creative industries in the heart of the metropolitan area a great productivity advantage. This stems from access to a broad and deep pool of competencies and opportunities for partnership.

With a creative industry EJD score of around 3,000 (see Table 9), Ballarat offers only 5 per cent of the agglomeration benefit to firms in this sector that is available in Central Melbourne.

Benchmarking Ballarat against Greater Melbourne and Regional Victoria

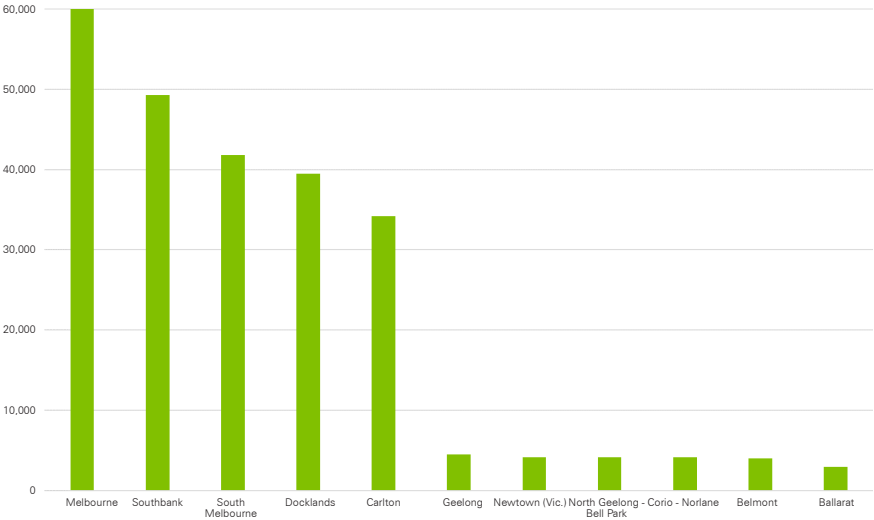
SGS has scored and ranked the top 10 SA2s for Greater Melbourne and the top 20 SA2s for Regional Victoria in terms of Creative Industry EJD. Table 8 illustrates the high levels of agglomeration and advantage for creative industries located in Greater Melbourne and inner Melbourne in particular.

Central Melbourne has pre-eminence in Victoria for creative industry agglomeration. This concentration, indicated by an EJD score of more than 60,000, gives creative industries in the heart of the metropolitan area a great productivity advantage. This stems from access to a broad and deep pool of competencies and opportunities for partnership.

With a creative industry EJD score of around 3,000 (see Table 9), Ballarat offers only 5 per cent of the agglomeration benefit to firms in this sector that is available in Central Melbourne.

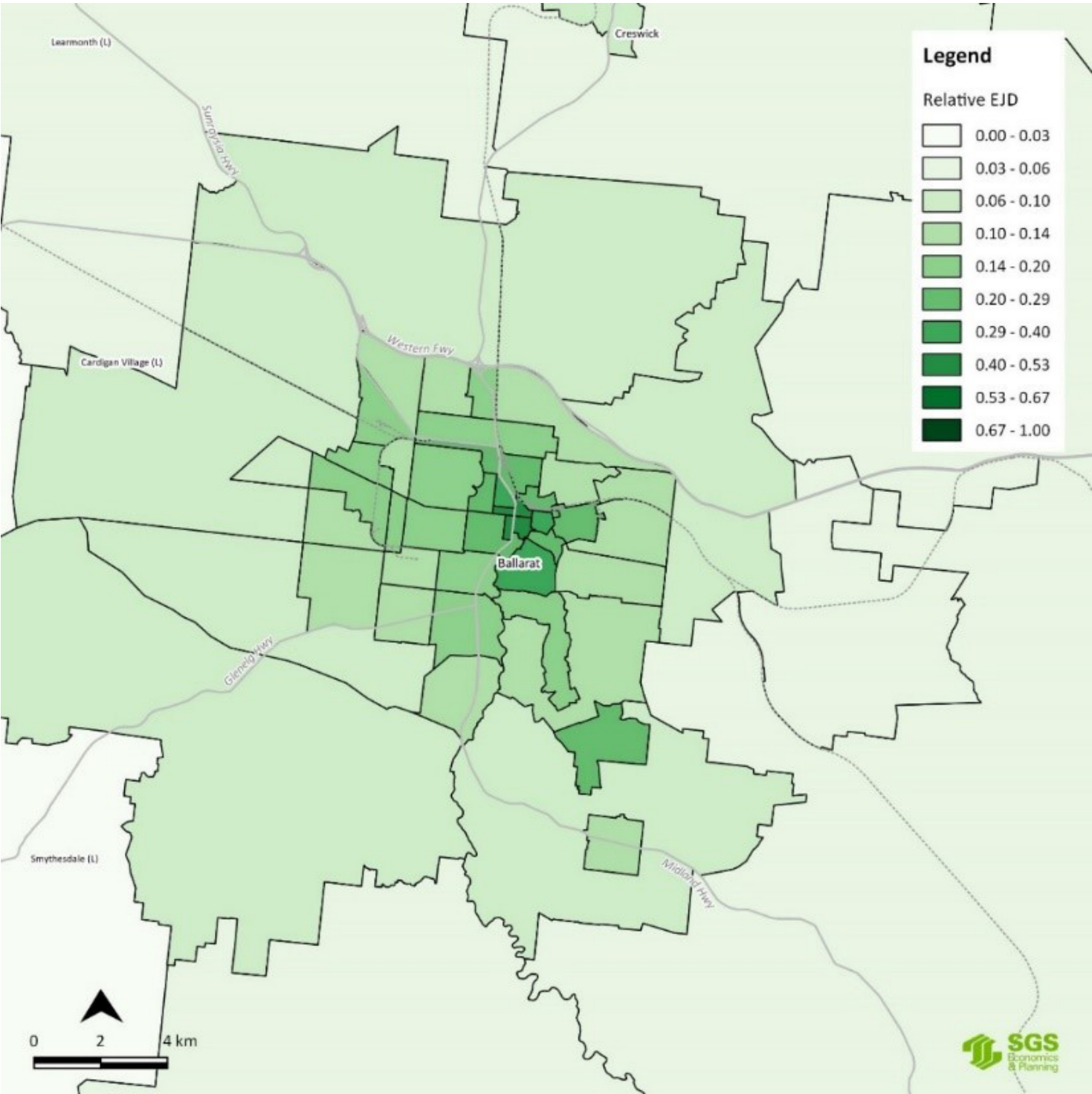
[10] Statistical Areas Level 2 (SA2s) are a medium-sized general-purpose area built up from whole Statistical Areas Level 1 (SA1s). They replace the Statistical Local Areas (SLAs) defined by the Australian Standard Geographical Classification (ASGC). Their aim is to represent a community that interacts together socially and economically. There are 2214 SA2s covering the whole of Australia without gaps or overlaps.

Figure 29
Metro – Regional Victoria ranking



Source: SGS Economics and Planning, 2018

Figure 28
Relative EJD Ballarat



Source: ABS Census, place of work data, 2016

4.5 Conclusion

Ballarat has a solid cultural and creative industry presence. However, these industries currently perform a standard or expected role in the life of the City and its economy.

As things stand, Ballarat cannot claim any special competitive advantage in creative industries in comparison to peer cities. It also needs to be recognised that growing and leveraging the cultural and creative industries in Ballarat cannot rely on the critical mass of these activities. On this parameter, Central Melbourne clearly dominates the State. A more nuanced and niche-oriented strategy will be required in Ballarat.

Table 8

Top 10 SA2s for Greater Melbourne

GCCSA	EJD Creative Industries 2016 Within the GCCSA Rank	SA2_Name 2016	EJD Creative Industries 2016 Score	EJD
Creative Industries	1	Melbourne	60,024	100.0%
(Proportion % of Melbourne CBD)	2	Southbank	49,267	82.1%
Greater Melbourne	3	South Melbourne	41,798	69.6%
Greater Melbourne	4	Docklands	39,491	65.8%
Greater Melbourne	5	Carlton	34,227	57.0%
Greater Melbourne	6	North Melbourne	34,114	56.8%
Greater Melbourne	7	Fitzroy	33,596	56.0%
Greater Melbourne	8	South Yarra - East	32,950	54.9%
Greater Melbourne	9	Collingwood	32,512	54.2%
Greater Melbourne	10	Richmond (Vic.)	30,272	50.4%

Source: SGS Economics and Planning, 2018

Table 9

Top 20 SA2s for Regional Victoria

GCCSA	EJD Creative Industries 2016 Within the GCCSA Rank	SA2_Name 2016	EJD Creative Industries 2016 Score	EJD Creative Industries (Proportion % of Melbourne CBD)
Rest of Victoria	1	Geelong	4,474	Creative
Rest of Victoria	2	Newtown (Victoria)	4,180	Industries
Rest of Victoria	3	North Geelong Bell Park	4,156	(Proportion % of Melbourne CBD)
Rest of Victoria	4	Corio Norlane	4,149	6.9%
Rest of Victoria	5	Belmont	3,983	6.6%
Rest of Victoria	6	Geelong West Hamlyn Heights	3,968	6.6%
Rest of Victoria	7	Grovedale	3,614	6.0%
Rest of Victoria	8	Highton	3,529	5.9%
Rest of Victoria	9	Woodend	3,510	5.8%
Rest of Victoria	10	Leopold	3,455	5.8%
Rest of Victoria	11	Kilmore Broadford	3,242	5.4%
Rest of Victoria	12	Lara	3,232	5.4%
Rest of Victoria	13	Bacchus Marsh Region	3,111	5.2%
Rest of Victoria	14	Kyneton	3,044	5.1%
Rest of Victoria	15	Drouin	3,016	5.0%
Rest of Victoria	16	Ballarat	2,951	4.9%
Rest of Victoria	17	Torquay	2,934	4.9%
Rest of Victoria	18	Bannockburn	2,917	4.9%
Rest of Victoria	19	Warragul	2,783	4.6%
Rest of Victoria	20	Ocean Grove Barwon Heads	2,738	4.6%

Source: SGS Economics and Planning, 2018.



Image: Thinkstock



5.0_STRATEGIC DIRECTIONS

This section outlines strategic options and associated directions for the City of Ballarat.

5.1 Strategic options for Ballarat

In Section 1.2 we introduced four strategic options for Ballarat as a creative city. These were based on successive layering of four building blocks comprising Ballarat's cultural core, its allied 'creative industries', the potential to promote innovation in Ballarat's wider industries and the potential to apply creative strategies to the challenges and opportunities of Ballarat's wider community.

These options are reproduced in Figure 30 overleaf, including illustrative strategies for their realization. It can be seen that the breadth of the Creative City Strategy expands as one moves from an option based solely on strengthening the cultural core of Ballarat to one that seeks to integrate art and culture in social and economic problem solving.

5.2 Which option is best for Ballarat?

As illustrated in this background paper, and the accompanying papers on Ballarat's creative ecology and creative precinct, the City has both a set of advantages and challenges in taking up any of these vision options. These are summarized in the following table to the right.

The four options are 'purist' in their formulation and are presented here to promote discussion. Hybrid options are possible. For example, new options which link elements of Option A and Options C and D, without relying on a large local sector of creative industries could be identified.

5.3 Questions

The following are key questions for the community and upcoming charette participants:

- Which of the strategic options for the creative city are practical/achievable in Ballarat?
- Which one is to be preferred from an economic development perspective?
- What needs to be done to unlock this potential?



Image: Thinkstock

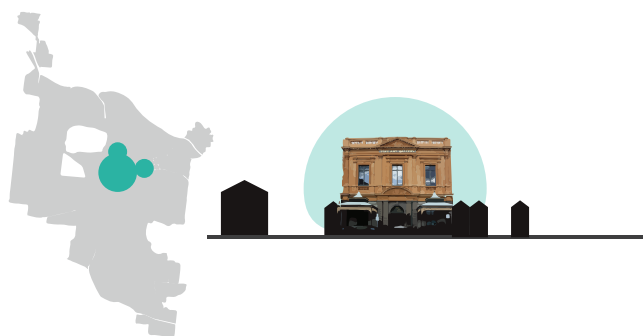
Strategic Options	Advantages	Challenges
Strategic Option A: A city for art	<ul style="list-style-type: none"> – Strong flagship gallery – Strong brand based on heritage 	<ul style="list-style-type: none"> – Patchy supporting infrastructure for art and culture – Limited depth of audience and participation
Strategic Option B: A centre for creative industries	<ul style="list-style-type: none"> – Distinctive Ballarat brand – Independently governed local university – Connectivity to Melbourne's creative hub 	<ul style="list-style-type: none"> – Small creative industries sector – Limited depth of skills in labour market
Strategic Option C: An innovation city based on STEAM	<ul style="list-style-type: none"> – Presence of key employers with an interest in STEAM innovation – Good policy making around promotion of innovation 	<ul style="list-style-type: none"> – Limited business scale – Sporadic innovation behaviour
Strategic Option D: A STEAM powered community	<ul style="list-style-type: none"> – Strong cohesive community – Good local governance 	<ul style="list-style-type: none"> – Limited pool of leadership skills



Image: Ballarat Tech School

Figure 30

The four building blocks of a Creative City Strategy

Strategic Option A:**A city for art**

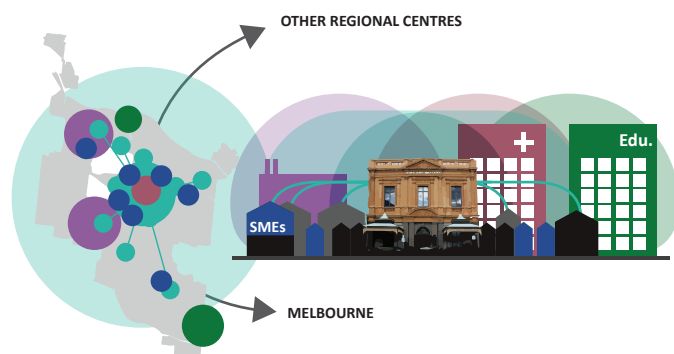
Build a strong arts and culture core

- Be clear and confident about what Ballarat's cultural significance and the stories it has to tell
- Ensure that Ballarat has leading flagship institutions
- Develop a strong network of complementary and ancillary cultural venues and making spaces
- Implement a leading calendar of events targeted at local, national and international audiences/participants
- Elevate the embeddedness of art and culture in the life of Ballarat
- Align school curriculums to this end
- Make adult education freely available to this end
- Establish a vibrant calendar of cultural talks, experiments and engagements

Strategic Option B:**A centre for creative industries**

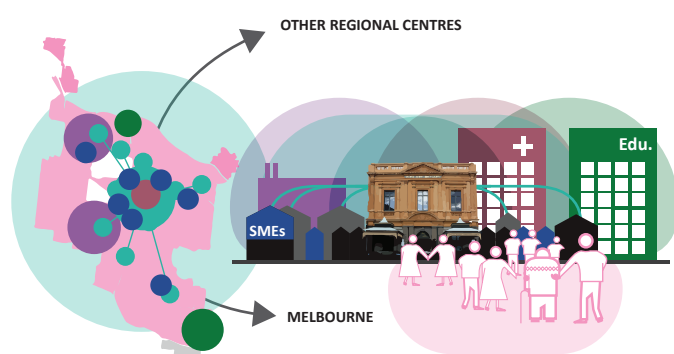
Build a strong arts and culture core

- Elevate the embeddedness of art and culture in the life of Ballarat
- Find, promote and deepen a competitive cluster of creative industries
- Agree target creative industries (for example, arts education)
- Establish a brand and marketing campaign around this emergent cluster
- Provide incentives and infrastructure to support and grow the cluster
- Undertake focussed investment recruitment

Strategic Option C:**An innovation city based on STEAM**

Build a strong arts and culture core

- Elevate the embeddedness of art and culture in the life of Ballarat
- Find, promote and deepen a competitive cluster of creative industries
- Develop a brokerage capacity to link arts/creativity to industry
- Commission industry led ambassadors to pursue arts/culture innovation in the manufacturing, health, retail, tourism and other industry sectors
- Establish the infrastructure for regular engagement between the cultural core and industry (eg innovation fairs)
- Establish accredited agents to facilitate two-way ideas transfer between industry and the cultural core, with a mandate to improve marketing, branding, strategic planning, problem solving and three horizon innovation

Strategic Option D:**A STEAM powered community**

Build a strong arts and culture core

- Elevate the embeddedness of art and culture in the life of Ballarat
- Find, promote and deepen a competitive cluster of creative industries
- Develop a brokerage capacity to link arts/creativity to industry
- Take art and culture to the social and sustainability challenges of Ballarat
- Institute regular community labs, where artists collaborate with the community and policy makers to develop innovative solution to the challenges and opportunities of Ballarat
- Establish artists' residencies with links to the challenges and opportunities of life in Ballarat

APPENDIX 01: REFERENCES

- Ballarat Tech School (2018)
Available online: <https://www.google.com.au/search?q=Ballarat+tech+school&oeq=Ballarat+Tec&saqs=chrome.0.69i59l2j69i57j0l3.8021j0j8&sourceid=chrome&ie=UTF-8>
- Boy (2013). From STEM to STEAM: Towards a Human Centred Education, Creativity and Learning Thinking. Florida Institute of Technology. Available online: <https://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/20130011666.pdf>
- City of Ballarat (2015). City of Ballarat Economic Program 2015 – 2019. Available online: <https://www.rdv.vic.gov.au/news/government-jobs-for-ballarat/ballarat-govhub-q-and-a>
- City of Ballarat (2010) City of Ballarat Economic Strategy 2010 – 2014. Available online: <http://www.ballarat.vic.gov.au/media/351501/es%202010%20-%202014%20-%20final.pdf>
- City of Ballarat (2010) Making Ballarat Central – The CBD Strategy.
- City of Ballarat (2015) Today Tomorrow Together, The Ballarat Strategy – Our vision for 2040.
- City of Ballarat (2016) City of Ballarat Council Plan 2017 – 2021.
- City of Ballarat (2018) The UNESCO Historic Urban Landscape. Available online: <http://www.ballarat.vic.gov.au/sh/heritage/historic-urban-landscape-approach/about-unesco's-historic-urban-landscape.aspx>
- City of Ballarat (2018) Historic Urban Landscape Ballarat. Available online http://www.hulballarat.org.au/cb_pages/about.php
- City of Ballarat (2016) A Plan to Sustain Ballarat's Heritage 2017 – 2030. Our people, culture and place. Available online: <https://mysay.ballarat.vic.gov.au/ballarat-heritage-plan>
- Committee for Ballarat (2018) Jobs and connectivity. Available online: <http://www.committeeforballarat.com/jobs-connectivity.php>
- Creative Victoria, Creative State, Victoria's first creative industries strategy. Available online: <https://creative.vic.gov.au/about/creative-state>
- Florida R. (2017). The New Urban Crisis: How our cities are increasing inequality, deepening segregation and failing the middle class and what can we do about it.
- Gekko Systems (2018) About Gekko Systems. Available online: <http://www.gekkos.com/about-gekkosystems>
- IBM (2018). Available online: <https://www.ibm.com/au-en/>
- Land (2013) Full STEAM Ahead: The benefits of integrating the Arts into STEM. Complex Adaptive Systems, Publications 3.
- Madden M., Baxter M., Beauchamp H., Bouchard K., Habermas D., Huff M., Ladd B., Pearson J., Plague G. (2013) Rethinking STEM Education: An interdisciplinary STEAM Curriculum. State University of New York Potsdam.
- Meada J., (2013) STEM + ART = STEAM. The STEAM Journal, Volume 1 Issue 1 Lumiere. <http://scholarship.claremont.edu/steam/vol1/iss1/34/>
- Moodysson, Coenen and Asheim (2008) Explaining the spatial patterns of innovation: analytical and synthetic modes of knowledge creation in the Medicon Valley life-science cluster. Department of Social and Economic Geography, Lund University.
- Regional Development Victoria (2018). Ballarat GovHub Questions and Answers. Available online: <https://www.rdv.vic.gov.au/news/government-jobs-for-ballarat/ballarat-govhub-q-and-a>
- Runway Geelong (2018) Accelerator program. Available online: <http://runwaygeelong.com.au/>
- Scott G., Leritz LE., Mumford MD., (2004). Types of creativity training: Approaches and their effectiveness. The Journal of Creative Behaviour, Creative Education Foundation.
- Smith M. (2018) Building up to the BILDS high-tech start up incubator. Available online: <http://www.thecourier.com.au/story/5261767/building-up-to-the-bilds-high-tech-start-up-incubator/>
- State Revenue Office (2018). Ballarat Office. Available online: <https://www.sro.vic.gov.au/ballarat-office>
- Victorian Government (2016). Getting it done for Ballarat. Available online: <https://www.premier.vic.gov.au/getting-it-done-for-ballarat/>
- Victorian School Building Authority (2018). Ballarat Tech School. Available online: <http://www.schoolbuildings.vic.gov.au/Pages/Schools/Ballarat-Tech-School.aspx>

APPENDIX 02: CULTURAL & CREATIVE INDUSTRIES MEASUREMENT AND DEFINITION

Best practice approach to definition and measurement (the ‘Nesta method’)

A number of different models have been put forward in recent years as a means of providing an understanding of the creative economy. To really understand the creative economy, we must first understand the nature of the creative workforce.

The creative workforce represents a combination of employment within creative industries and creative occupations. The Creative Trident is Queensland University of Technology Centre of Excellence for Creative Industries and Innovation (QUT CCI)’s methodology for expressing the different metrics of the creative occupations and creative segments and sectors (refer to Figure 1).

The creative workforce includes specialist creatives, support workers and embedded creatives (the creative trident – refer to):

- Specialist creatives: those who are creatively occupied and work within the creative industries.
- Support workers: those who are not creatively occupied but do work within the creative industries.
- Embedded creatives: those who are creatively occupied but work outside the creative industries.

Building on the UK Department of Culture Media and Sport (DCMS)’s work and the concept of the creative trident, the National Endowment for Science, Technology and the Arts (NESTA) conducted a dynamic mapping of the UK’s creative industries in 2013.

The method builds on the DCMS approach but focuses on creative intensity, that is, the proportion of total employment within an industry that is engaged in creative occupations. We found the Nesta method to be current best practice and have applied this approach to the most recent Australian data.

Figure 31
The creative trident

		Industries		
		Employed in creative industries	Employed in non-creative industries	
Occupations	Employed in creative occupations	Specialist creatives	Embedded creatives	Total employment in creative occupations
	Employed in non-creative occupations	Support workers	Non-creative occupations in non-creative industries	
		Total employment in creative industries		Total creative workforce

Creative Industries Definition

Broad Sectors	Industry Segments	
Cultural Production		
Music, Performing and Visual Arts	5522	Music and other sound recording activities
	9001	Performing arts operations
	9002	Creative artists, musicians, writers and performers
	9003	Performing arts venue operation
	9000	Creative and performing arts activities, nfd
	R000	Arts and recreation services, nfd
Libraries, Archives and Museums	6010	Libraries and archives
	8910	Museum operation
Publishing	5521	Music publishing
	5414	Directory and mail list publishing
	5411	Newspaper publishing
	5412	Magazine and other periodical publishing
	5413	Book publishing
	5419	Other publishing (except software, music, internet)
	1611	Printing
	1612	Printing support services.
	5400	Publishing (except internet and music publishing), nfd
	5410	Newspaper, periodical, book and directory publishing, nfd
	5520	Sound recording and music publishing, nfd
Media Production and Broadcasting	5511	Motion picture and video production
	5514	Post-production services & other motion picture and video activities
	5621	Free to air television broadcasting
	5622	Cable and other subscription broadcasting
	5610	Radio broadcasting
	1620	Reproduction of recorded media
	5500	Motion picture and sound recording activities, nfd
	5510	Motion picture and video activities, nfd
	5512	Motion picture and video distribution
	5513	Motion picture exhibition
	5600	Broadcasting (except internet), nfd
	5620	Television broadcasting, nfd
	6632	Video and other electronic media rental and hiring
	J000	Information media and telecommunications, nfd
Fashion	1351	Clothing manufacturing
	1352	Footwear manufacturing
Creative services		
Internet and Digital Services	7000	Computer system design and related services
	5420	Software publishing
	5700	Internet publishing and broadcasting
	5900	Internet service providers, search portals and data processing services, nfd
Advertising	6940	Advertising services
Design	2591	Jewellery and silverware manufacturing
	6921	Architectural services
	6924	Other specialised design services
	6991	Professional photographic services
Education	8212	Arts education

APPENDIX 03: LQ ANALYSIS

Location quotient (LQ) analysis is a valuable statistical tool for quantifying the comparative strengths of a region’s economy. It can reveal what makes a region ‘unique’. Due to their physical, technological and intellectual characteristics, particular regions like Ballarat’s can have cost, productivity and other strategic advantages relative to other economies. Comparative strategic advantages are widely considered to be the key drivers of regional economic growth, especially in an increasingly global economy. The theory of comparative advantage can be applied at the national, state, regional and local level.

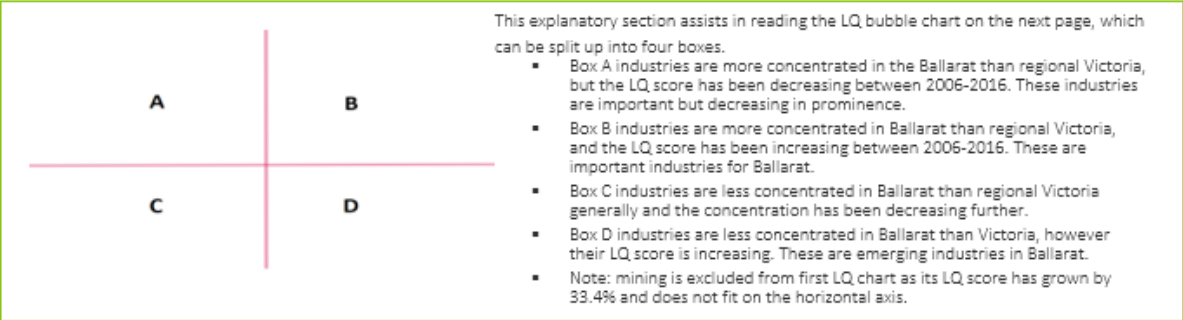
Comparative strategic advantages result in high levels of employment in industries that benefit from these strengths, and this is revealed through the LQ analysis. When the LQ value is greater than one, it is an indication that a region is relatively specialised and has a competitive advantage in that field of industry over other regions. Typically, a region is a net exporter if the location quotient is high (that is >1), and a net importer if the location quotient is low (that is <1).

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Re Figure 22, a location quotient is calculated by dividing the share of jobs in an industry in the study region (Ballarat) by the share of that industry in a benchmark region (Greater Melbourne/ Regional Victoria).

Where the LQ value is close to, or equal to 1, it suggests that the local industry sector produces sufficient employment to satisfy local demand for the products of that industry. An LQ value greater than 1 suggests that the local industry produces more than what is required to satisfy local demand and therefore some goods and services will be exported to other regions. An LQ value less than 1 suggests the local industry produces insufficient goods and services to satisfy local demand, meaning imported goods and services are required.

Figure 32
LQ map explained



Source: SGS Economics and Planning, 2018

APPENDIX 04: EJD EXPLAINED

Effective Job Density (EJD) Explained

To evaluate the strength of an industry cluster, otherwise known as agglomeration economies, SGS estimates effective job density (EJD), which is often considered a proxy measure for agglomeration economies.

At its essence, EJD measures the ease in which a specific geographical area can access all other economic activity within a wider-spanning geographical region. The formula to estimate EJD is as follows:

Where:

EJD_i = Effective Job Density for zone i

Emp_j = number of jobs/employment within zone j

$PV\ Travel\ Cost_{ij}$ = time it takes to travel by private vehicle from zone i to zone j

As such, there are two means for a region to achieve a higher level of EJD; it can either house a large concentration of employment or have well-connected transport links to other areas of employment across the wider-geographical region.

$$EJD_i = \sum_j \left(\frac{Emp_j}{PV\ Travel\ Cost_{ij}} \right)$$

Relative Effective Job Density

Given that EJD indicates the level of agglomeration economies across a spatial dimension, these scores were indexed from 0 to 1 to clearly illustrate the spatial difference in agglomeration economies across Victoria.

The index was created by using the destination zone with the highest EJD measure and assigning it a ceiling of 1.

Conversely, the destination zone with the lowest EJD measure was assigned a floor of 0 for the index. This index is otherwise known as Relative EJD.

The equation used to calculate the relative EJD index is as follows:

Where:

EJD_i = Effective Job Density for Destination Zone i

$Min\ EJD$ = The Destination Zone found to have the lowest EJD amongst all Destination Zones in the wider-geographical region.

$Max\ EJD$ = The Destination Zone found to have the highest EJD amongst all Destination Zones in the wider-geographical region.

$$Relative\ EJD_i = \frac{EJD_i - Min\ EJD}{Max\ EJD - Min\ EJD}$$



Image: Thinkstock





