BASS COAST: State of the Shire

Final Report

Prepared for:
Bass Coast Shire Council

Prepared by
Geografia

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Geografia

BASS COAST

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Executive Summary

INTRODUCTION

- This report documents the state of the Shire of Bass Coast. It considers three dimensions: People, Business & Industry, and Land, Housing & Environment.

PEOPLE

- At the 2021 Census Bass Coast's resident population was 40,789. It has been growing at an average of 2.4% per annum for the last 2,0 years. The Shire benefits from its proximity to Greater Melbourne and its coastal setting, which attracts some higher-income workers as well as tourists and retirees.

- Notwithstanding the population g attracting some higher-income workers, tourists, ment low and there is the risk of a growing Jobs Deficit as Bass Coast exports skilled workers to the rest of Victoria.

Figure A: Consumer Economy Major Expenditure Flows
Source: Spendmapp by Geografia, 2022

- Compared with Gippsland and Victoria, Bass Coast's population skews slightly older, with a significantly lower share of residents aged 15-39.

- Bass Coast's consumer economy is worth around $800 million per annum (approximately 19% of Gippsland's consumer economy). However, Visitor Local Spend is extremely volatile. While winter months average $20M per month, spending peaks in December-January at $55M-$70M per month.

- By Victorian standards, Bass Coast's unemployment rate is high. As of December 2021, the smoothed unemployment rate was 5.7%, higher than for all of Victoria although within the expected range for the Gippsland region.

BUSINESS AND INDUSTRY

- In 2021, Bass Coast's Gross Regional Product (GRP) was $1.7 billion. Economic activity is dominated by tourism and industries servicing the growing population (e.g., health and education).

- At $529 million, tourism makes up around 32%[1] of the GRP of Bass Coast's economy. Tourism businesses have serviced an annual average of 2.4 million domestic and international visitors over the years up to the start of COVID-19 lockdowns.

- Most visitors to Bass Coast are day trippers. However, overnight visitors are more valuable. Matching East Gippsland's day tripper/overnight tripper ratio could bring in an additional $113 million per year. This equates to 80 more small tourism businesses in the Shire and approximately 400 additional jobs.

- Bass Coast also has room for growth in converting the inputs of innovation, (professional workers and their skills), into the outputs of innovation (measured by granted patent applications). Bass Coast can take advantage of work-from-home trends by encouraging more professional workers to both live and work locally.

HOUSING, LAND & THE ENVIRONMENT

- Bass Coast is characterised by high-value 'rural' land accommodating agribusiness, tourism, and conservation services.

- The Shire's residents mostly live on land zoned General Residential (GRZ), which accounts for 66% of all residential zoned land in the Shire and the residential footprint is contained, relative to the rest of Gippsland.

- The natural environment contributes significantly to the economy and climate change impacts will need to be managed to maintain economic resilience. In turn, a focus on impact mitigation may create opportunities for new local climate-conscious businesses to thrive.

[1] The 2019 estimate is used here. It is based on an estimated $529 million 2018-2019 tourism GRP (Tourism Research Australia) and $1.64 billion 2019 GRP (Remplan).

Contents

Page

Figures

Page

Tables

Page

1.0 Introduction

This report documents the current state of and trends in Bass Coast, looking at three dimensions of the economy. People; Business & Industry; and Housing, Land & Environment. The impact of COVID-19 lockdowns is considered, as well as the broader, longer-term trends and comparisons with Gippsland and Victoria. Given the volume of available information, Bass Coast's status as a peri-urban LGA has guided the selection and analysis of data. To assist in future iterations of this report, suggestions are included about how to use new, and more effective ways to monitor sustainable and resilient development.

1.1 Background

Bass Coast Shire is in a unique location. It includes tourism and lifestyle-dominated Phillip Island and retirement locations such as Inverloch. The Shire also hosts traditional rural activities such as farming (dominated by beef and dairy cattle) (Figure 1).

Bass Coast's uniqueness is due to its peri-urban setting (Figure 2). As one of the five official peri-urban council areas (only two of which are on the coast), Bass Coast is subject to development pressure that can create land-use conflicts between traditional industry and sea/tree change-led residential development. This pressure is increased because the Shire is coastal, and therefore, more desirable as a lifestyle residential destination.

Peri-urban regions are invariably faster growing than elsewhere in rural Australia. If Victoria's population continues to grow, Bass Coast's population is likely to absorb a growing share of that growth. This will be particularly significant if there is ongoing investment in transport connections.

Peri-urban regions can also struggle with economic challenges such as jobs deficits (i.e., an undersupply of higher income, skilled jobs for the, often, skilled resident workforce), but also declining labour force participation as the population shifts into retirement age. Bass Coast also faces the challenge of protecting its valuable agribusiness sector, as well as maintaining the rural amenity that is a major attractor for visitors.

This report evaluates key population and economic data and trends for Bass Coast in the context of the Shire's status as a peri-urban LGA, the potential vulnerabilities revealed in the data and its state relative to the rest of Gippsland and Victoria.

Data has been compiled from available public sources (e.g., the ABS and various Commonwealth and State agencies), the Council, and Spendmapp[2].

[2] A bank transaction analytics application for local government (spendmapp.com.au).

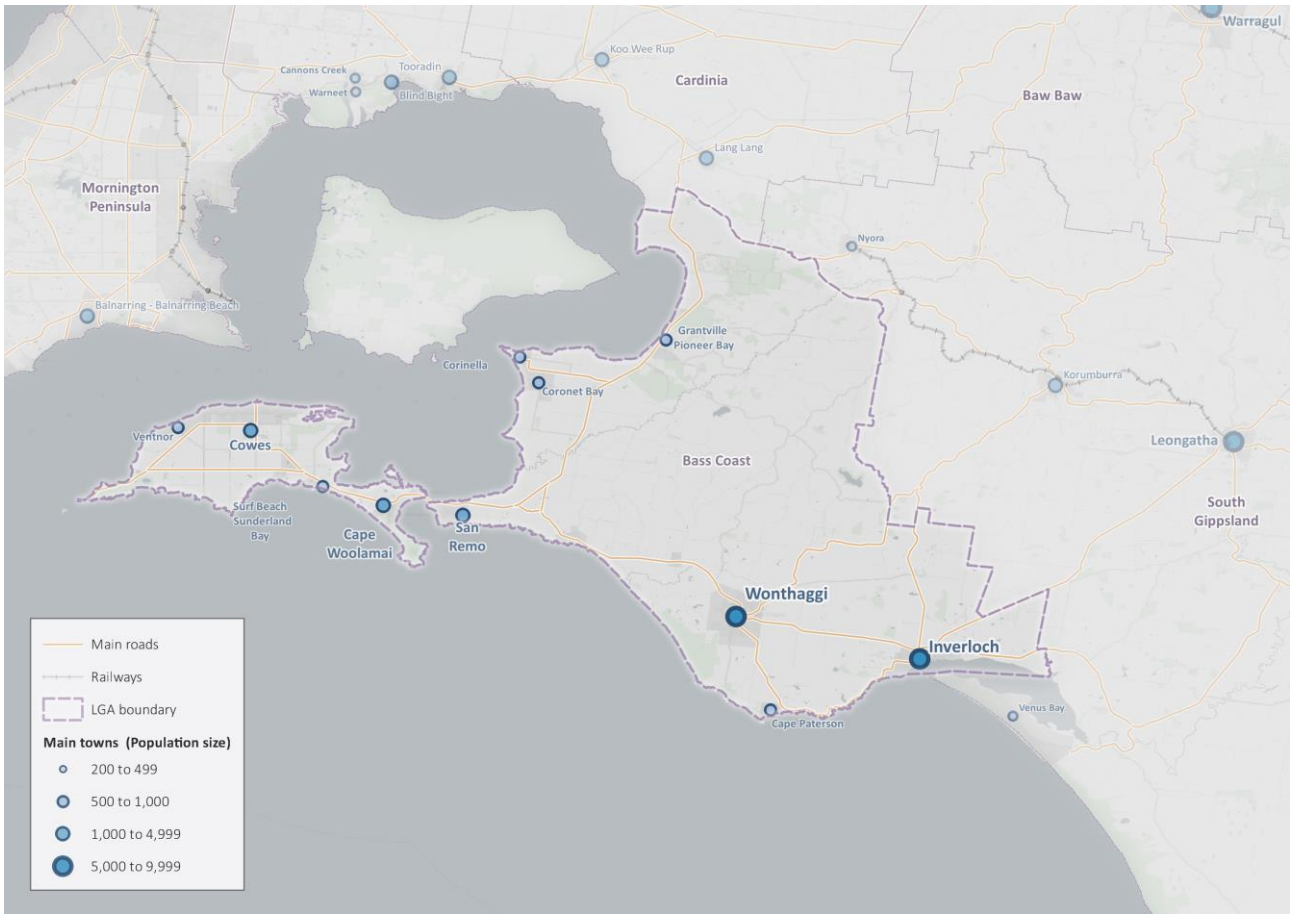

Figure 1: Study Area

Bass Coast LGA with major population centres. Source: Geografia, 2022

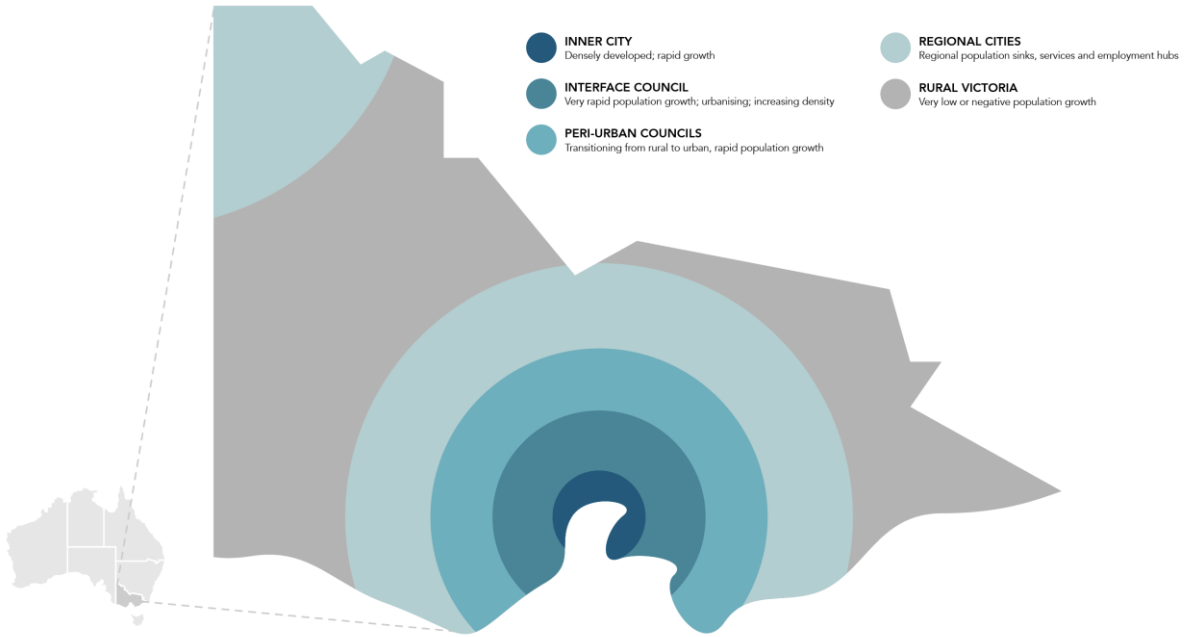

Figure 2: Victoria's Regions

A stylised image of Victorian LGAs grouped into primary locational classifications. Source: Geografia, 2022

1.2 Project Objective

This project has been commissioned to compile and report on data in a transparent and repeatable format. The information will be used by officers from different parts of the Shire Council.

The data will be used to inform Bass Coast Shire's work on a new Economic Development Framework. The expectation is that this work will be updated within the next two years.

Information has been gathered under the following sections:

1. People. This focuses on the resident population, it's demographic profile, workforce, education and spending habits.
2. Business and industry. This provides a profile of business and investment in the Shire.
3. Housing, land and environment. This covers housing, land, infrastructure and relevant environmental matters.

A brief conclusion is also provided. This makes suggestions in relation to future iterations of this study.

1.3 Benchmarking and Trend Analysis

Where possible and/or relevant each main dimension of Bass Coast's economy has been evaluated against benchmarks as well as with respect to economic (and other) trends.

BENCHMARKING

The comparative analysis benchmarked economic and population characteristics against the Gippsland and Victoria (where relevant and or possible). In some cases, comparisons are made with other geographies. Comparisons with Australia are not widely used as they do not provide any useful insights into the nature of Bass Coast's demography or economy.

In addition to this, nearest neighbour analysis will be performed where appropriate to determine other Local Government areas that are most similar to Bass Coast. Identifying other regions with which Bass Coast shares characteristics can provide insight into how Bass Coast could potentially change over time. This has been undertaken for selected metrics comparing Bass Coast with all Victorian LGAs and with Gippsland LGAs to identify the nearest neighbours in both regions.

TRENDS AND IMPACTS

As well as an evaluation of the current status in each domain, where time series data is available, trend analysis has been undertaken. This looks at both the longer-term trends as well as (where possible) the impact of COVID-19 lockdowns[3].

IDENTIFYING VULNERABILITIES

While the strengths of peri-urban settings like Bass Coast are well documented (e.g., solid population growth, high amenity landscapes and, generally, thriving economies), the Shire does have vulnerabilities and, like everywhere else, it will be impacted by larger macroeconomic and other trends.

One way to investigation the manner in which Bass Coast will be impacted by major trends is to use UN-Habitat's Global Urban Monitoring

[3] Regional comparisons and trend analysis is not included where no data is available, or it does not add useful insights to the narrative.

Framework (UMF[4]). This is a system designed to help local and regional governments to monitor their status, and identify weaknesses that undermine sustainability. It is a streamlined way of enabling local governments to align with the UN's Sustainable Development Goals. The UMF recommends collecting outcome-based metrics to track whether the economy, society, environment, culture and governance structures are becoming safer, more inclusive, resilient and sustainable.

Table 1 highlights the potential key vulnerabilities of Bass Coast using this Framework. Each element in the framework (an 'attribute') should be subject to a robust evaluation and selection of appropriate data to track change. For example, an inclusive society may track metrics such as homelessness, mortgage/rental stress or residential vacancy rates to determine whether sufficient housing is available across all socio-economic groups.

Table 1: Critical Potential Vulnerabilities

Domain	Vulnerability			
	Safe	Inclusive	Resilient	Sustainable
Society		Housing prices may exclude lower income residents from secure tenure.	Increase in lone person, older households may impact on household resilience.	An ageing population may create labour force and service supply issues
Economy			Visitor expenditure volatility undermines economic resilience through lack of consistent revenue flows.	Land use pressure due to low density residential development may undermine conservation land.
Environment	Climate change will impact on agribusiness and residential areas.			Land use pressure due to low density residential development may undermine conservation land.
Culture	Not addressed in this study			
Governance	Not addressed in this study			

[4] See Urban Monitoring Framework | Urban Indicators Database (unhabitat.org).

2.0 People

Bass Coast's resident population of 40,789 has been growing at an average of 2.4% per annum for the last 20 years. Older than the rest of Gippsland, the Shire benefits from its proximity to Greater Melbourne and its coastal setting, which attracts some higher income workers as well as tourists and retirees. However, Resident Escape Spend is high, Employment Self-Containment low and there is the risk of a growing Jobs Deficit. In simple terms, Bass Coast exports skilled workers to the rest of Victoria.

Key People Indicators	Bass Coast	Gippsland	Victoria
ERP (2021)	40,789	292,664	6,503,491
Median Age (2016)	51	45	37
Popn. growth to 2036 (%)	27.84%	17.95%	27.12%
No. Households (2021)	15,002	117,393	2,405,680
Main Household Type (%) (2016)	Lone Person (34%)	Lone Person (32%)	Couple with children (32%)
No. Residents in Labour Force (2021)	12,036 (31%)[4]	105,836 (36%)[4]	2,606,814 (39%)[5]
Total Local Spend[6] (2022)	$802,587,696	$4,117,920,871	N/A
Resident Local Spend (share of wallet) (2022)	$382,896,742 (43.7%)	$2,743,503,246 (48.6%)	N/A
Per Capita RLS (2022)	$9,718	$9,172	N/A
Resident Escape Spend share of wallet)	$239,867,571 (27.4%)	$1,307,074,205 (23.1%)	N/A
Resident Online Spend (share of wallet)	$252,953,153 (28.9%)	$1,601,347,307 (28.3%)	N/A
Visitor Local Spend	$419,690,952	$1,374,417,621	N/A

[5] As a percentage of ERP (2021)

[6] Spend data for Wellington LGA Is not Included In the consumer economy metrics for Gippsland.

2.1 Introduction

This section analyses the resident population of Bass Coast, growth trends, and the population's expenditure habits.

PERI-URBAN FEATURES

As a peri-urban LGA, the expectation is that Bass Coast's population will be:

- Somewhat younger than the rural Victorian median;
- Have a higher median income than rural Victoria;
- Faster growing than rural Victoria; and
- Spatially concentrated towards the metropolitan area.

NON-PERI-URBAN FEATURES

While this is mostly the case, Census data shows Bass Coast has a relatively high number of lower income households. This is because it attracts relatively more retirees than the rest of Gippsland. In turn, this means it has a high median age (50), when compared with Gippsland (45) and Victoria (37). The other Victorian peri-urban LGAs have median ages between 39 and 42 (ABS, 2016).

2.2 The Resident Population

The latest Estimated Resident Population for Bass Coast is 40,789, up by 7,985 from 2016[7]. As Figure 3 shows, Bass Coast has a significantly lower share of residents aged 15-39 than in Gippsland and Victoria.

This older age profile is reflected in the household mix. According to VIFSA2019, Bass Coast has a significantly lower share of 'Couple Family with Children' households (20% in 2021) compared with Gippsland (24%) and Victoria (32%). In fact, 'Couple Family without Children' and 'Lone Person' households make up 67% of all households in Bass Coast, compared with 61% in Gippsland and 51% in Victoria (Table 2).

A nearest neighbour analysis shows that Bass Coast is most like East Gippsland with respect to age profile and to Wellington when it comes to household mix (Table 3).

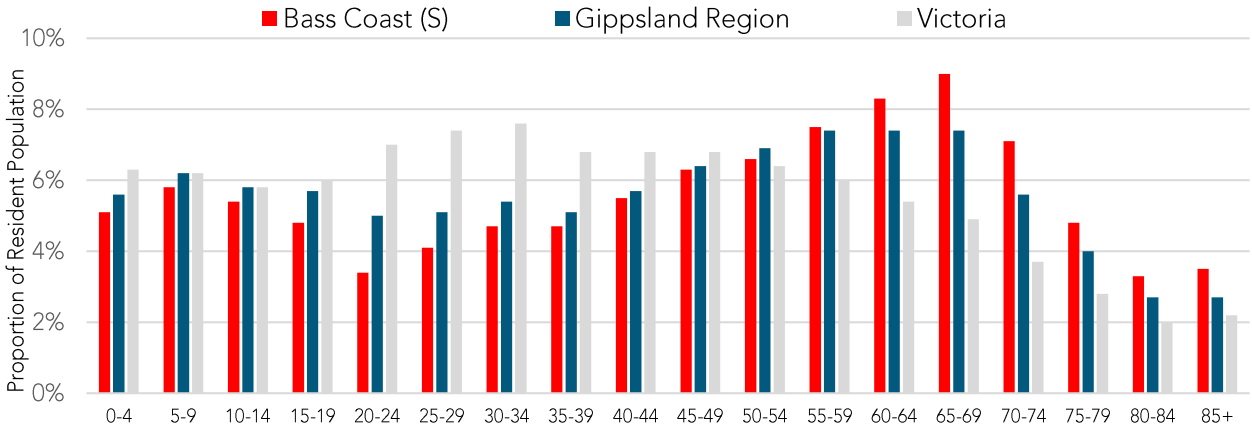

Figure 3: Population Share by Age Group, Bass Coast and Gippsland, 2021
Source: ABS, 2022

[7] There is some speculation that the high 2021 figure is due to metropolitan residents temporarily relocating to holiday homes during lockdown.

Table 2: Households by Household Type, 2021

Metric	Couple family with children	Couple family without children	One-parent family	Other family	Group household	Lone person	All Household Types
Count							
Bass Coast	3,432	5,689	1,741	117	472	5,980	17,430
Gippsland	30,923	40,222	13,208	850	3,317	39,773	128,291
Victoria	862,298	699,427	277,734	34,522	126,597	678,186	2,678,763
Proportion							
Bass Coast	20%	33%	10%	1%	3%	34%	100%
Gippsland	24%	31%	10%	1%	3%	31%	100%
Victoria	32%	26%	10%	1%	5%	25%	100%

Source: VIFSA, 2019

Table 3: Nearest Neighbour Analysis – Age Profile and Household Mix

Metric	Council	Comment
Age Profile		
Nearest Neighbour Overall	East Gippsland	The dominance of older age cohorts in both East Gippsland and Bass Coast mean they have the most similar age profiles.
Nearest Neighbour Gippsland	East Gippsland	
Household Mix		
Nearest Neighbour Overall	Wellington	Both LGAs have a high proportion of 'Couple Family without Children' and 'Lone Person' households. This is a consequence of the older age profiles of these two LGAs.
Nearest Neighbour Gippsland	Wellington	

Source: Geografia, 2022

TRENDS AND IMPACTS

Trends

Figure 4 shows the Estimated Resident Population for Bass Coast from 1991 and the VIFSA population forecast to 2036. It is plotted as a share of the population of Gippsland and Victoria in Figure 5. The notable trends are:

- An annual average population growth rate in Bass Coast of 2.4%, compared with 0.7% per annum for Gippsland and 1.4% for Victoria. In fact, Bass Coast's growth rate has been the highest of the six Gippsland LGAs.
- A 50% increase in Bass Coast's share of Gippsland's population (from 8 to 9% in the early 90s to 13.9% in 2021).

Current State Government population projections show Bass Coast adding almost 10,000 residents over the next 14 years. This is 20% of the forecast increase in numbers for Gippsland and is one of the highest rates of growth for Victorian LGAs. It means Bass Coast may absorb a growing share of

Gippsland's population reaching around 14% of the estimated 346,000 residents by 2036 (Table 4). This will have implications for housing supply (see Section 4.0).

In terms of household mix, the VIFSA forecast sees the share of 'Couple Family with Children' households in Bass Coast continue to drop at a faster rate than in Gippsland (from 20% in 2021 to 18% in 2036, compared with Gippsland, 24% to 22% and Victoria stable at 32%). The largest change is in 'Lone Person' and 'Couple Family without Children' Households up by 2,345 and 1,955 households respectively, which is almost 80% of the increase in households (Table 5).

Nearest neighbour analysis of historical population trends matches Bass Coast with South Gippsland (within Gippsland). This may reflect the earlier, slower period of growth in Bass Coast. Overall matching is with Moorabool, a faster growing peri-urban LGA. For the forecasts, Bass Coast is most like Yarra City (overall), or Baw Baw (within Gippsland). These latter comparisons show how Bass Coast has been transitioning from a slow growing rural LGA to a fast growing peri-urban LGA (Table 6).

In terms of the household mix, Bass Coast has been most like Wellington, having similar population age profiles. When looking at household mix growth forecasts, Bass Coast is more aligned with Macedon Ranges and Baw Baw. Both are expected to see strong growth in 'Couple Family without Children' and 'Lone Person' households. These are hallmarks of peri-urban areas that are popular with downshifters.

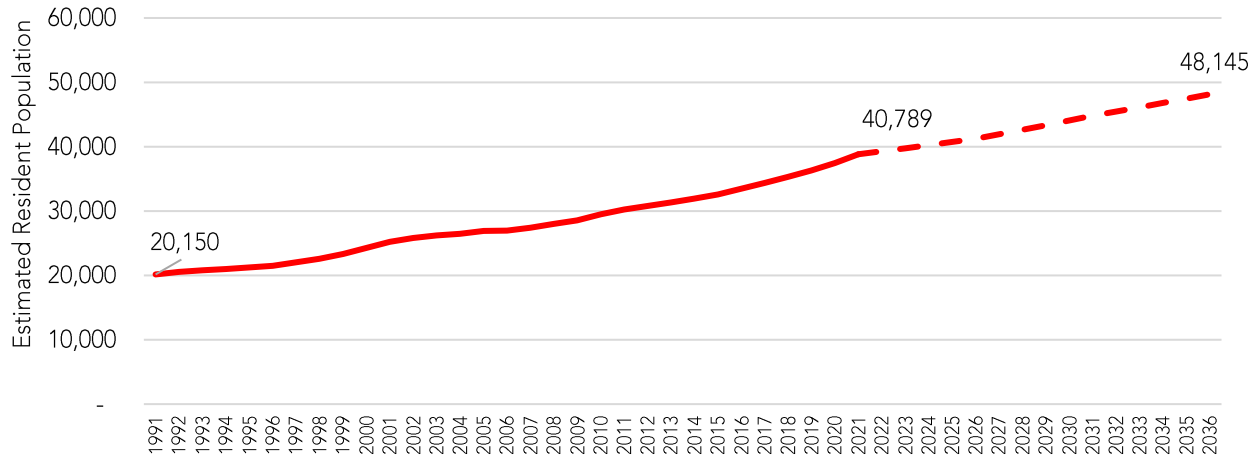

Figure 4: Estimated Resident Population and Projection, Bass Coast, 1991-2021
Source: ABS, 2022, VIFSA, 2019

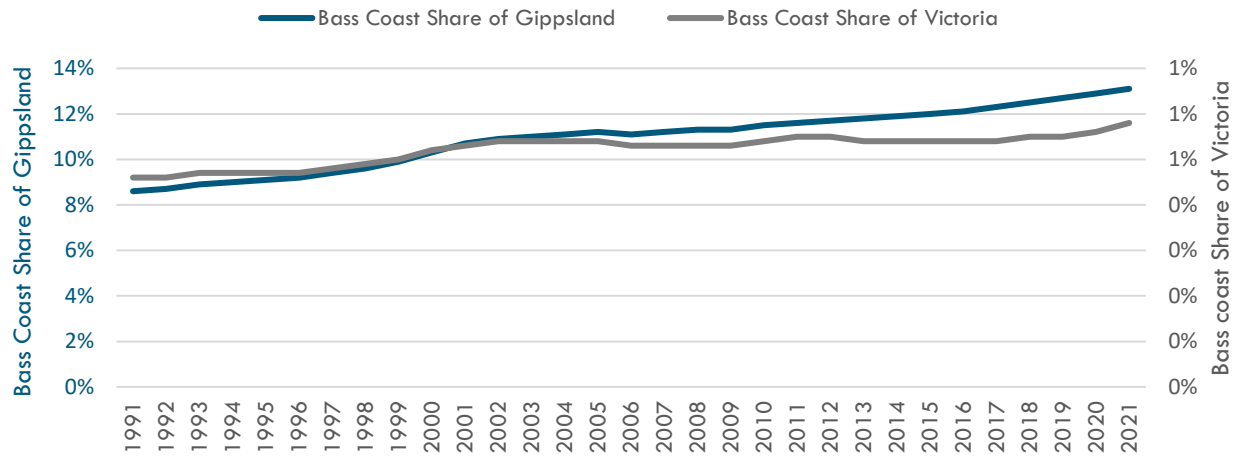

Figure 5: Estimated Resident Population (share of Gippsland and Victoria)
Source: ABS, 2022, VIFSA, 2019

Table 4: VIFSA Regional Projections

Year	Bass Coast	Gippsland	Bass Coast Share	Victoria	Bass Coast Share
2021	40,789	292,664	13.9%	6,649,066	0.58%
2026	41,212	310,623	13.3%	7,495,194	0.55%
2031	44,810	328,861	13.6%	8,114,286	0.55%
2036	48,145	346,098	13.9%	8,722,766	0.55%
Change '21-'36	10,486	52,680		1,860,841	

Note for 2021, the ABS ERP values are used. Source: ABS, 2022, VIFSA, 2019

Table 5: Households by Household Type, Bass Coast 2016-2036

Year	Couple family with children	Couple family without children	One-parent family	Other family	Group household	Lone person	All Household Types
Count							
2016	3,207	4,899	1,603	102	418	5,184	15,412
2021	3,432	5,689	1,741	117	472	5,980	17,430
2026	3,576	6,406	1,858	132	518	6,782	19,272
2031	3,789	7,070	2,006	148	581	7,586	21,180
2036	4,035	7,644	2,147	160	631	8,325	22,942
Change (21-36)	604	1,955	406	43	159	2,345	5,513
Proportion of Total							
2016	21%	32%	10%	1%	3%	34%	100%
2021	20%	33%	10%	1%	3%	34%	100%
2026	19%	33%	10%	1%	3%	35%	100%

Year	Couple family with children	Couple family without children	One-parent family	Other family	Group household	Lone person	All Household Types
Count							
2031	18%	33%	9%	1%	3%	36%	100%
2036	18% ⇩	33% ⇧	9% ⇩	1% ⇔	3% ⇔	36% ⇧	100%

Source: VIFSA, 2019

Table 6: Nearest Neighbour Analysis – Population Trends and Forecasts

Metric	Council	Comment
Historical Trend (ERP)		
Nearest Neighbour Overall	Moorabool	This may reflect Bass Coast's transition from a slow-growing rural to fast growing peri-urban LGA.
Nearest Neighbour Gippsland	South Gippsland	Extending the population time series back to 1986 matches Bass Coast with South Gippsland.
Forecast (VIFSA)		
Nearest Neighbour Overall	Yarra	VIFSA estimates match Bass Coast with Yarra City Council. This may be due to the rapid population growth in both.
Nearest Neighbour Gippsland	Baw Baw	As peri-urban LGAs, they share high population growth rates in common.
Household Mix Forecast (proportion by household type)		
Nearest Neighbour Overall	Macedon Ranges	Similar rates of growth for 'Couple Family without Children' and 'Lone Person' households.
Nearest Neighbour Gippsland	Baw Baw	Similar rates of growth for 'Couple Family without Children' and 'Lone Person' households.

Covid-19 Impacts

Lockdowns shut off interstate and international migration to Victoria. This means ERPs and data points from the 2021 Census may start to show variations in the growth, household and age structure of Bass Coast's population.

2.3 The Consumer Economy

Bass Coast's consumer economy is worth around $800 million per annum. This is around 19% of Gippsland's economy. Table 7 summarises key spend data points for Bass Coast and Gippsland[8].

A typical peri-urban LGA with a significant visitor economy, spending is characterised by three features:

1. A volatile annual spending pattern.
2. A dominant Visitor Local Spend economy.
3. A large share of Total Local Spend in Gippsland occurring in Bass Coast.
4. A high volume of Resident Escape Spend.

[8] Note that spend data for Gippsland excludes Wellington LGA, which is not currently available.

Table 7: Spend by Expenditure Type and Top 3 Categories (Bass Coast and Gippsland)

Expenditure Type	Bass Coast	Gippsland	BC Share
Total Local Spend	$803M	$4,118M	19%
Grocery Stores & Supermarkets	$213M	$953M	22%
Dining & Entertainment	$170M	$705M	24%
Specialised Food Retailing	$80M	$338M	24%
All other categories	$339M	$2,122M	16%
Resident Local Spend	$383M	$2,744M	14%
Grocery Stores & Supermarkets	$107M	$717M	15%
Dining & Entertainment	$55M	$382M	14%
Transport	$43M	$384M	11%
All other categories	$178M	$1,428M	12%
Visitor Local Spend	$420M	$1,374M	31%
Dining & Entertainment	$115M	n.a.	n.a.
Grocery Stores & Supermarkets	$107M	n.a.	n.a.
Specialised Food Retailing	$42M	n.a.	n.a.
All other categories	$155M	n.a.	n.a.
Resident Escape Spend	$240M	n.a.	n.a.
Consumer Staples	$108M	n.a.	n.a.
Discretionary Spend	$98M	n.a.	n.a.
Services & Other	$34M	n.a.	n.a.
All other categories	$M	n.a.	n.a.
Resident Online Spend	$253M	$1,601M	16%
Specialised & Luxury Goods	$47M	$329M	14%
Professional Services	$41M	$252M	16%
Dining & Entertainment	$29M	$228M	13%
All other categories	$136M	$1,282M	11%

This shows spending by expenditure type for the latest 12 months and includes the top three Expenditure Categories for each Type for Bass Coast. Note that Resident Escape Spend and Visitor Escape Spend are not included for Gippsland as this would count spending flowing between LGAs within Gippsland. Source: Spendmapp by Geografia, 2022

A VOLATILE ECONOMY

Total Local Spend has notable peaks coinciding with school and summer holidays. The contrast between trough and peak is significant (over 110% variation in spend).

A LARGE VISITOR ECONOMY

Visitor Local Spend[9] makes up a larger proportion of Total Local Spend than most

[9] There are five Expenditure Types used in Spendmapp: 1. Resident Local Spend (expenditure by Bass Coast residents with merchants in Bass Coast); 2. Visitor Local Spend (expenditure by non-residents of Bass Coast with merchants in Bass Coast); 3. Resident Escape Spend (expenditure by Bass Coast residents with merchants outside Bass Coast); 4. Resident Online Spend (expenditure by Bass Coast residents with online merchants); and 5. Total Local Spend (the sum of Resident Local Spend and Visitor Local Spend).

other LGAs (52% over the last 12 months, compared with 33% for Gippsland and 48% for Victoria – Figure 6). As a consequence, total spending in Bass Coast peaks in January, rather than December as it does in the rest of Gippsland (Figure 7). As Figure 8 shows, Visitor Local Spend is the primary cause of Bass Coast's volatility. While winter months average around $20M per month, it peaks in December-January at $55M-$70M per month (a 120% increase over the rest of the year).

In contrast to the visitor spend volatility, Resident Local Spend is relatively stable. In most months, spending ranges between $25M-$30M, with a December peak of $35M-$40M (a 37% over the rest of the year).

A LARGE CONSUMER ECONOMY

Excluding Wellington, Bass Coast accounts for some 15% of Gippsland's population. However, the Shire is worth close to 20% of Gippsland's consumer economy. This is due to its significant visitor economy.

A LEAKING ECONOMY

At 27%, Bass Coast residents spend a higher share of their wallet[10] outside the LGA when compared to Gippsland's 23% (Figure 9). Reducing Bass Coast's Resident Escape Spend to the Gippsland average would result in an additional $37 million per annum being spent locally.

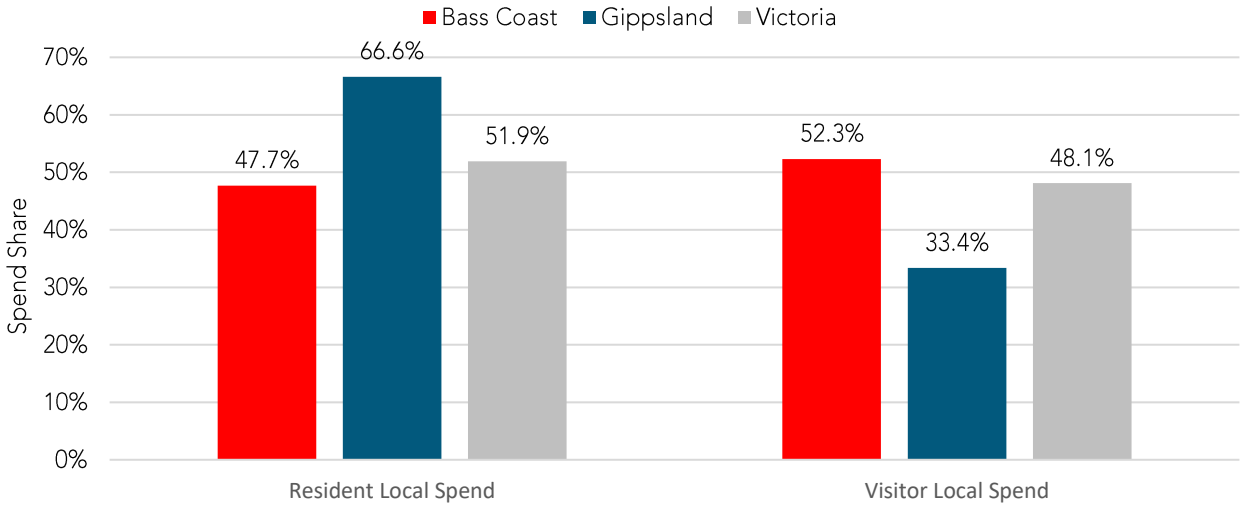

Figure 6: Total Local Spend by Spend Type Share, Latest 12 Months
Source: Spendmapp by Geografia, 2022

[10] Resident Wallet refers to the total spending by resident cardholders. The sum of Local, Online and Escape spend.

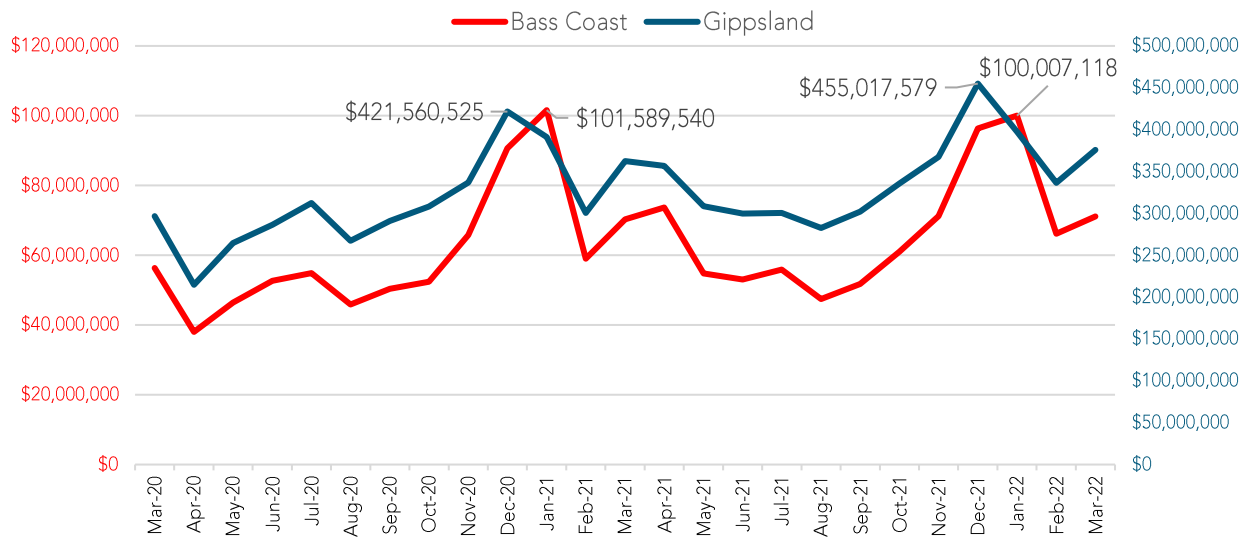

Figure 7: Total Local Spend, March 2020 – Bass Coast and Gippsland
This excludes Wellington in the Gippsland data. Source: Spendmapp by Geografia, 2022

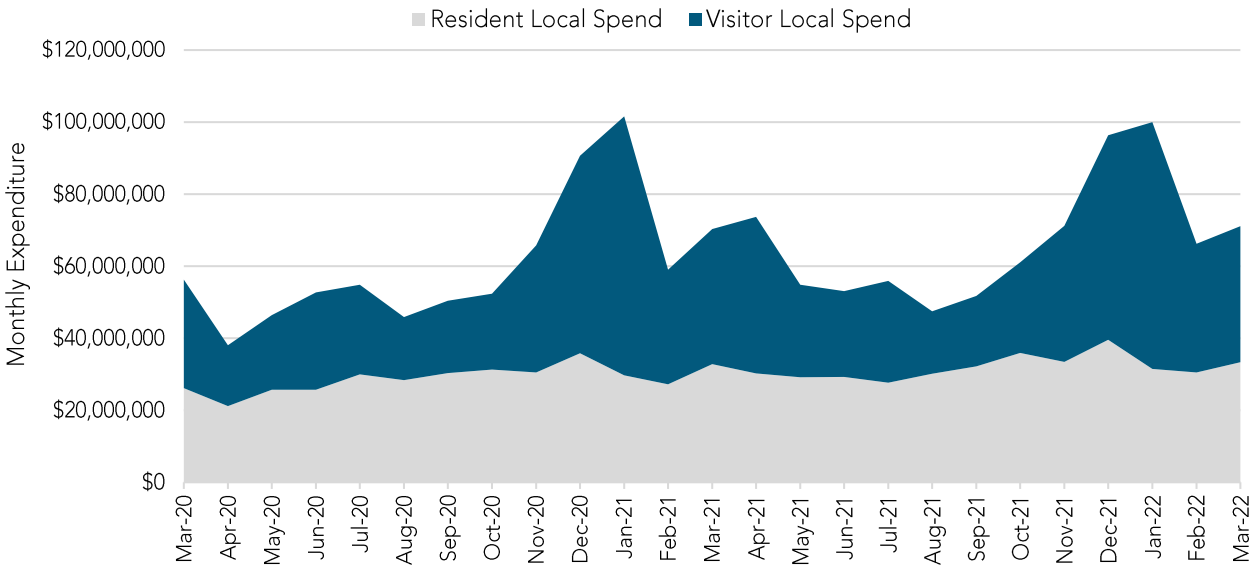

Figure 8: Total Local Spend, March 2020 – March 2022
Source: Spendmapp by Geografia, 2022

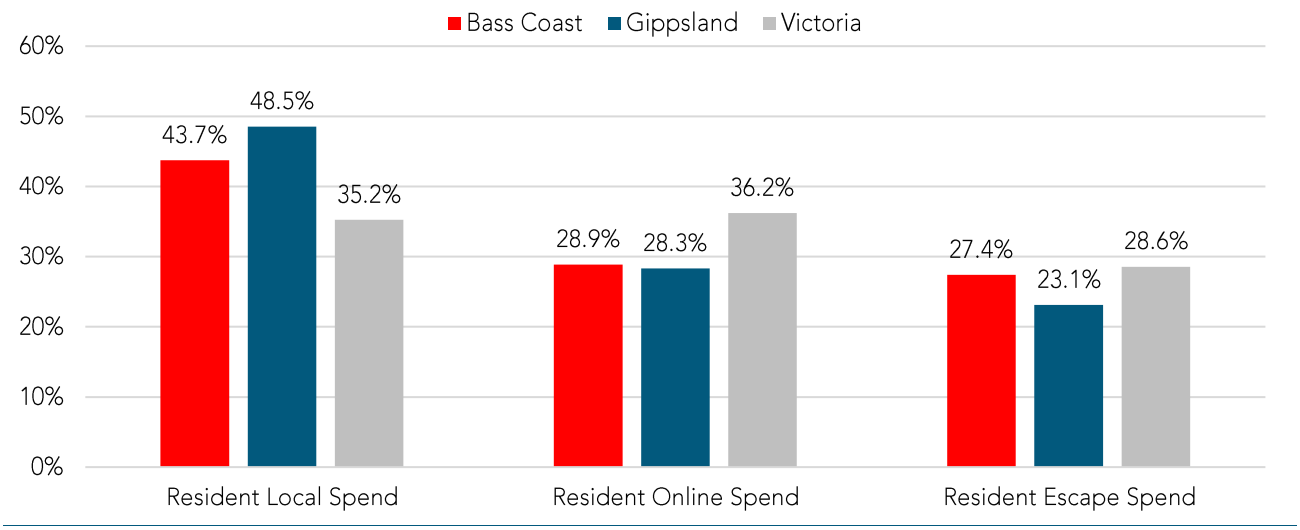

Figure 9: Resident Wallet Share, Latest 12 Months
Source: Spendmapp by Geografia, 2022

TRENDS AND IMPACTS

Trends

As well as the seasonal volatility component, the following can be said about Bass Coast spending trends:

1. Resident Local Spend is growing at a pace that is consistent with Victoria and Gippsland (Figure 10).
2. Visitor Local Spend also broadly trends along with Victoria and Gippsland, albeit with more significant spikes in key holiday periods (Figure 11).
3. Resident Escape Spend is growing at a faster rate than Gippsland and Victoria. This is a lost commercial opportunity for Bass Coast traders, and partly due to the high out-commute numbers (Figure 12).
4. Resident Online Spend is growing significantly faster than Gippsland and Victoria. As more retailers offer online purchasing options more Bass Coast residents are choosing to spend online rather than in physical stores (Figure 13). The rate of increase of spend share going online is consistent with the rest of Gippsland.

The figures below show comparative change from a start period of March 2020. Values have been indexed to a base of 100.

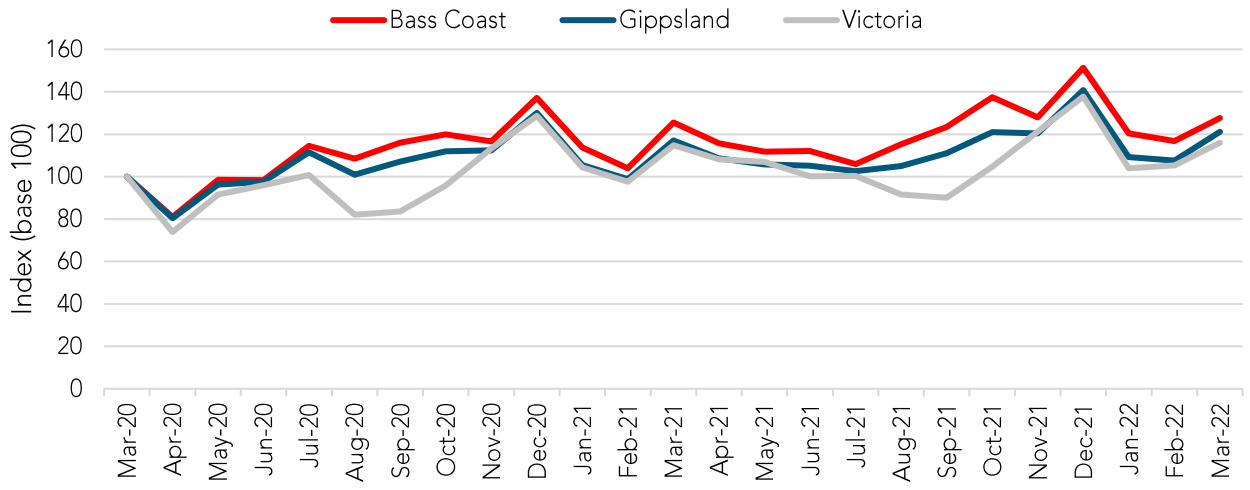

Figure 10: Comparative Resident Local Spend Trend Index

This shows the monthly change in spend from a Mar-20 base of 100. Source: Spendmapp by Geografia, 2022

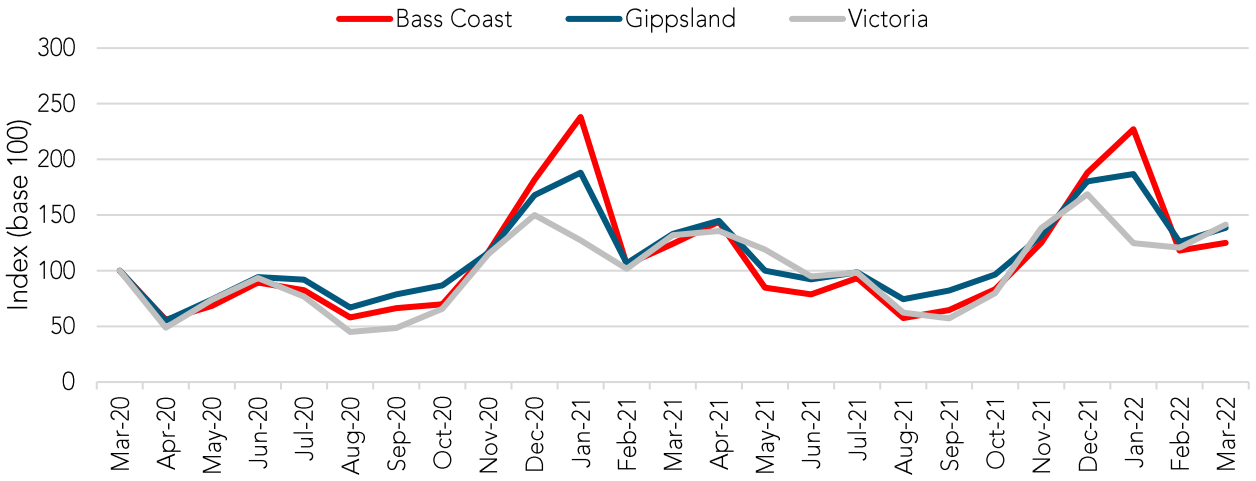

Figure 11: Comparative Visitor Local Spend Trend Index

This shows the monthly change in spend from c. Source: Spendmapp by Geografia, 2022

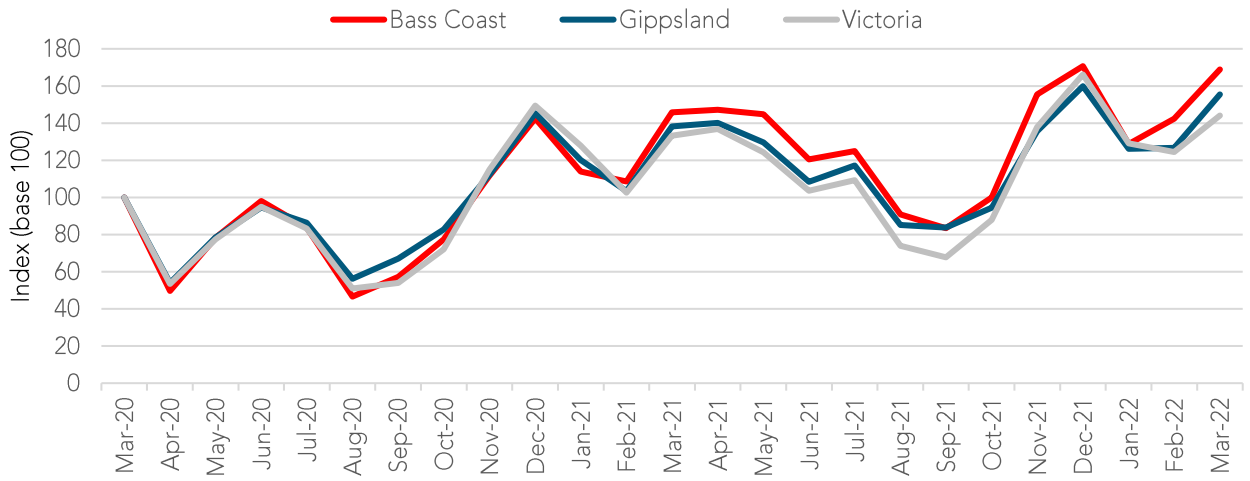

Figure 12: Comparative Resident Escape Spend Trends

This shows the monthly change in spend from Mar-20 base of 100. Source: Spendmapp by Geografia, 2022

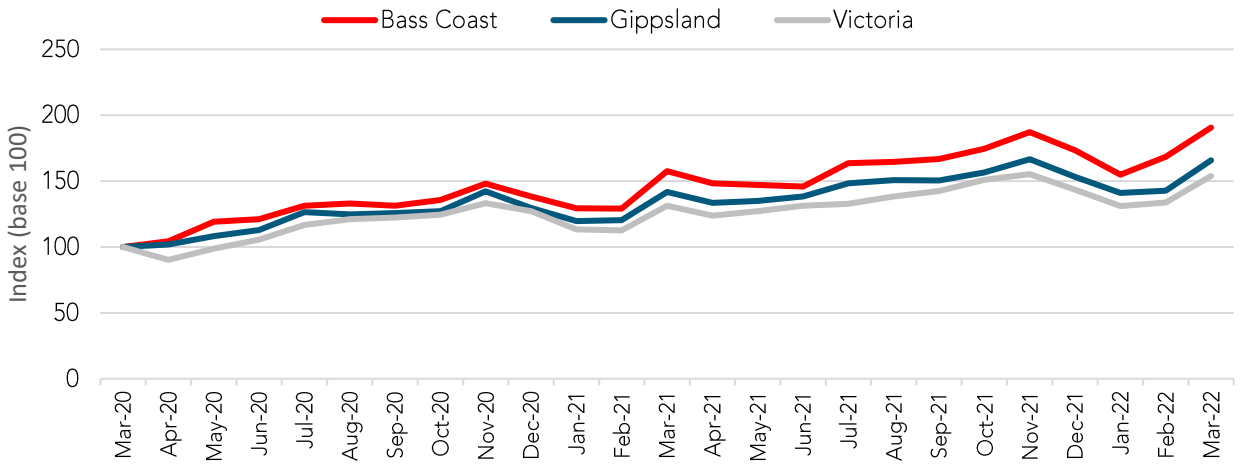

Figure 13: Comparative Resident Online Spend Trends
This shows the monthly change in spend from a base of 100 in March 2020. Source: Spendmapp by Geografia, 2022

In summary, recent consumer spending trends in Bass Coast are in line with Gippsland and Victoria. Given the population growth, Bass Coast is likely to absorb an increasing share of regional consumer spending.

Combining population numbers in Bass Coast with Resident Local Spend suggests a per capita annual spend of $9,717 (based on 2021 ERP and the latest 12 months of Resident Local Spend). On this basis, assuming a population estimate of 48,145 by 2036, Resident Local Spend may increase to $467.9M per year, or around $85M per annum more than the current expenditure level.

At an estimated average turnover/business[11] of $710,000 per annum, this may support an additional 130 businesses in Bass Coast by 2036. At an average of 6 FTEs per business, that is 780 FTE jobs[12]. These figures are highly speculative and assume a fixed economic structure to 2036. They are not provided as benchmarks but to demonstrate the benefit of increasing Resident Local Spend. The fastest mechanism to achieve that is through reduced Resident Escape Spend (e.g., with buy local campaigns). If Escape Spend decreased by $37 million, another 50 businesses and 310-320 FTE jobs could be supported.

Covid-19 Impacts

COVID-19 lockdown rules affected spending patterns across Victoria. In general, Resident Escape Spend and Visitor Local Spend dropped considerably, particularly in discretionary spending categories such as Dining & Entertainment. In some places (e.g., suburban Melbourne) Resident Local Spend increased significantly due to the higher than usual work-from-home daytime population. This was effectively a switch of Resident Escape Spend to Resident Local Spend. However, in many cases Resident Online Spend increased.

For Bass Coast during 2020 and 2021 (combined), there was:

1. $168M less Total Local Spend (around 10% down over the two years)

[11] Based on the ABS Count of Australian Businesses Entries and Exits by turnover and Industry Division (ABS, 2021).

[12] These numbers assume a fixed economic structure to 2036 and are merely provided as a means of demonstrating the significant of increasing Resident Local Spend.

2. $40M less Resident Local Spend (~5% down over the two years)
3. $128M less Visitor Local Spend (~15% down)
4. $46M more Resident Online Spend (~10% up)
5. $24M less Resident Escape Spend (~6% down).

While overall spending in Bass Coast was down, Figure 14 shows how the Resident Wallet Share changed during lockdowns, with a clear switch between Resident Local and Resident Escape spend shares. Table 8 expands on this, revealing the switch of wallet share from Resident Escape Spend to Resident Local Spend but more significantly to Resident Online Spend.

There may be scope to 'convert' more Resident Escape Spend to Resident Local Spend which could increase the size of the local consumer economy. Given resident spending is generally more consistent throughout the year than visitor spending, this would also smooth out the volatility in the local economy caused by tourism.

On the matter of visitor spend, unsurprisingly, it was the most significantly hit component of spending. Fortunately, though Bass Coast's peak spend periods (December and January) were largely unaffected by lockdowns which mostly occurred in winter months. This is discussed further in Section 0.

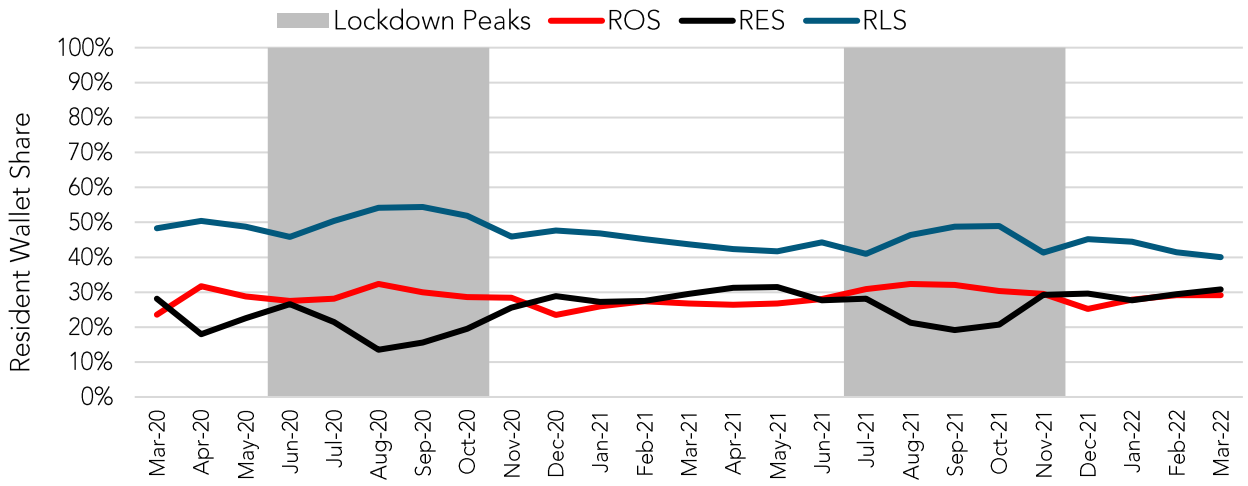

Figure 14: Monthly Resident Spend by Type, Bass Coast
ROS: Resident Online Spend; RES: Resident Escape Spend; RLS: Resident Local Spend. Source: Spendmapp by Geografia, 2022

Table 8: Bass Coast Resident Wallet Share Lockdown/Non Lockdown

Region	Lockdowns	No Lockdowns	Change During Lockdown
Resident Local Spend	48%	45%	+3%
Resident Escape Spend	22%	28%	-6%
Resident Online Spend	30%	27%	+3%

Source: Spendmapp by Geografia, 2022

2.4 The Labour Market

There are three main and distinct issues to consider when evaluating the labour market:

1. The resident labour force size and scope.
2. Unemployment rates
3. The labour force participation rate

Together these measures provide a useful description of the labour market in Bass Coast, how it is changing and the impacts the COVID-19 lockdowns have had.

JOBS AND WORKERS

At last count, Bass Coast Shire accommodated 12,036 jobs, 11% of Gippsland's (Remplan, 2022; EconomyID, 2022), with 15,311 resident workers (around 13% of Gippsland's) (Table 9)[13].

Those 12,000 or so Bass Coast jobs are mostly concentrated in a few industries, which are typically the dominant employers in almost all regional Victoria (with the exception of highly specialised regions such as tourism or mining dominated economies). This is a function of the labour intensity of service industries like health and education.

Combined the top five industries make up more than half (54%) of the total workforce (Table 10 and visualised in Figure 15).

The jobs are also spatially concentrated, with most in and around Wonthaggi, Inverloch and Phillip Island – particularly the north coast (Figure 16). These closely align with the population and tourist centres in Bass Coast.

Table 9: Jobs and Workers, 2021

Region	Local Jobs	Resident Workers
Bass Coast	12,036	15,311
Gippsland	107,982	118,510
Victoria	3,329,569	3,353,615

Source: ABS, 2022; Remplan, 2022, EconomyID, 2022

Table 10: Jobs by Industry, Bass Coast, 2016

Industry	Jobs	Percentage
Health Care & Social Assistance	1,560	14.4%
Retail Trade	1,523	14.1%
Accommodation & Food Services	1,294	11.9%
Construction	1,223	11.3%
Education & Training	777	7.2%
Agriculture, Forestry & Fishing	638	5.9%
Public Administration & Safety	507	4.7%
Arts & Recreation Services	479	4.4%

[13] Estimates for jobs and worker counts for each LGA In the region are provided by different companies. Comparisons should be treated cautiously.

Industry	Jobs	Percentage
Manufacturing	437	4.0%
Other Services	434	4.0%
Professional, Scientific & Technical Services	419	3.9%
Administrative & Support Services	385	3.6%
Wholesale Trade	273	2.5%
Transport, Postal & Warehousing	256	2.4%
Rental, Hiring & Real Estate Services	210	1.9%
Electricity, Gas, Water & Waste Services	186	1.7%
Financial & Insurance Services	127	1.2%
Information Media & Telecommunications	76	0.7%
Mining	35	0.3%
Total	10,839	

Note that the figures do not sum due to exclusion of jobs with unidentified industries. Source: ABS, 2016

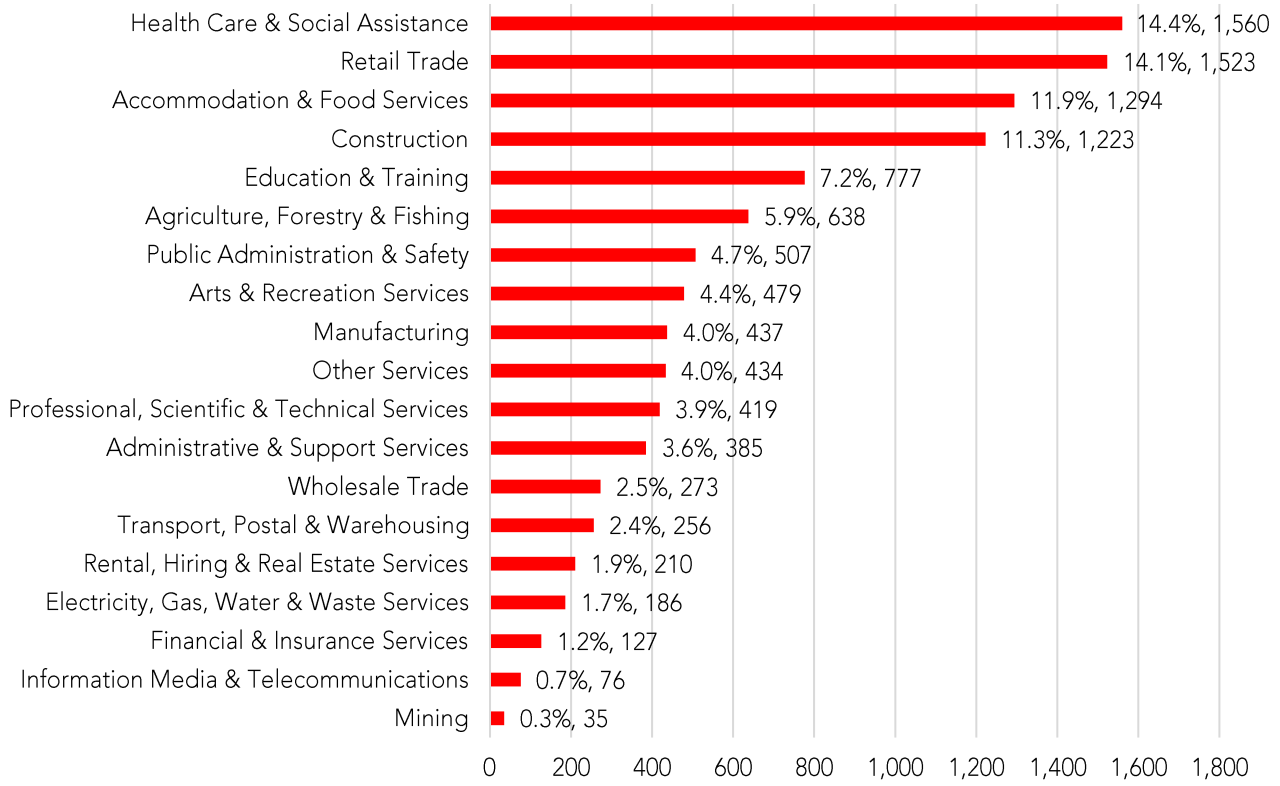

Figure 15: Jobs by Industry, Bass Coast, 2016

Note that the figures do not sum due to exclusion of jobs with unidentified industries. Source: ABS, 2016

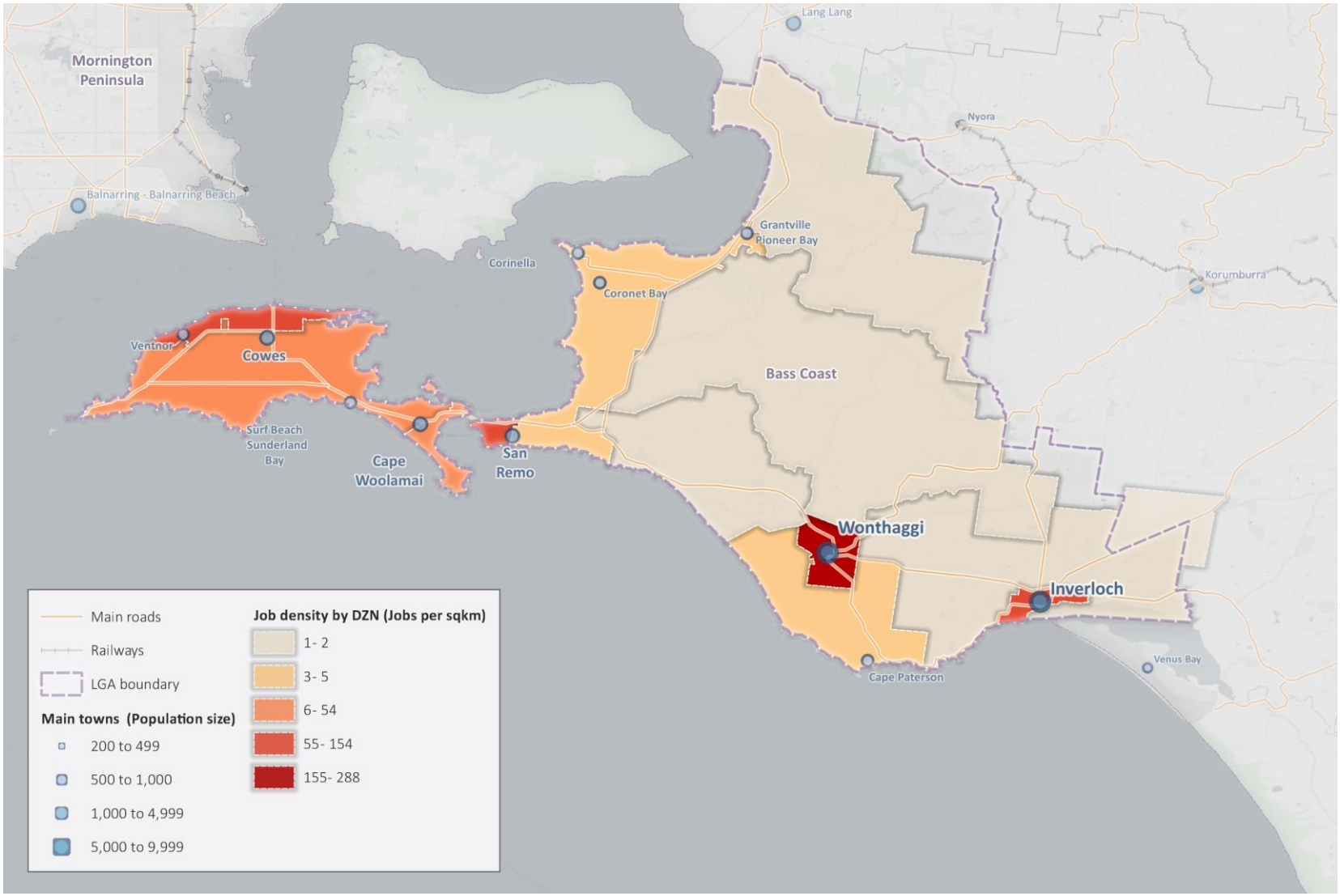

Figure 16: Job Density by DZN
Source: ABS Census. 2016

UNEMPLOYMENT AND WELFARE

By Victorian standards, Bass Coast's unemployment rate is high. As of December 2021, the smoothed unemployment rate was 5.7% (Figure 17); higher than for all of Victoria but within the range for the Gippsland region.

Unemployment is one of several welfare-related issues in Bass Coast. A more notable one, and tied to the age profile, is the Department of Social Security (DSS) payment mix. According to 2020 DSS data, there were some 38,000 payments made to Bass Coast residents (around 14% of Gippsland's total). As Figure 18 shows, in Bass Coast it is concentrated in Pension Concession Cards and the Aged Pension. Table 11 summarises a nearest neighbour analysis of the payment mix data, showing Bass Coast is most similar to East Gippsland both when compared with all Victorian LGAs and within the Gippsland region.

LABOUR FORCE PARTICIPATION

The Labour Force Participation (LFP) rate is calculated as the labour force divided by the working-age population (15-64). As expected for a peri-urban LGA that is a holiday and retirement destination, the participation rate is lower than the State participation rate (Figure 19). This can be explained in part by the pronounced peak in the 55 to 69 years old age group (recall Figure 3). This group could be retirees who are not in the workforce but are in the working-age population 15-64.

HOUSEHOLD INCOME

Bass Coast's household income profile falls within the expected range for Gippsland (Figure 20). However, there is a slightly lower than expected proportion on higher incomes and a higher proportion on middle and lower incomes. This may be a result of the number of households on pensions, or with householders working in lower paid sectors such as tourism. Table 12 shows that, in 'nearest neighbour' terms Bass Coast is most like Campaspe Shire in this respect, and within Gippsland, it is most like South Gippsland.

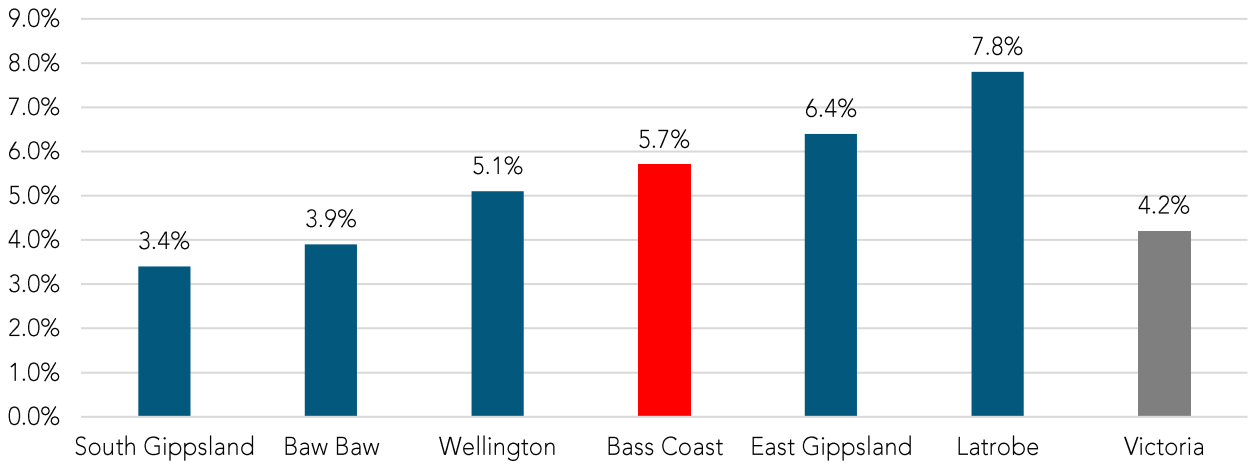

Figure 17: Unemployment Rate December 2021
Source: National Skills Commission, ABS

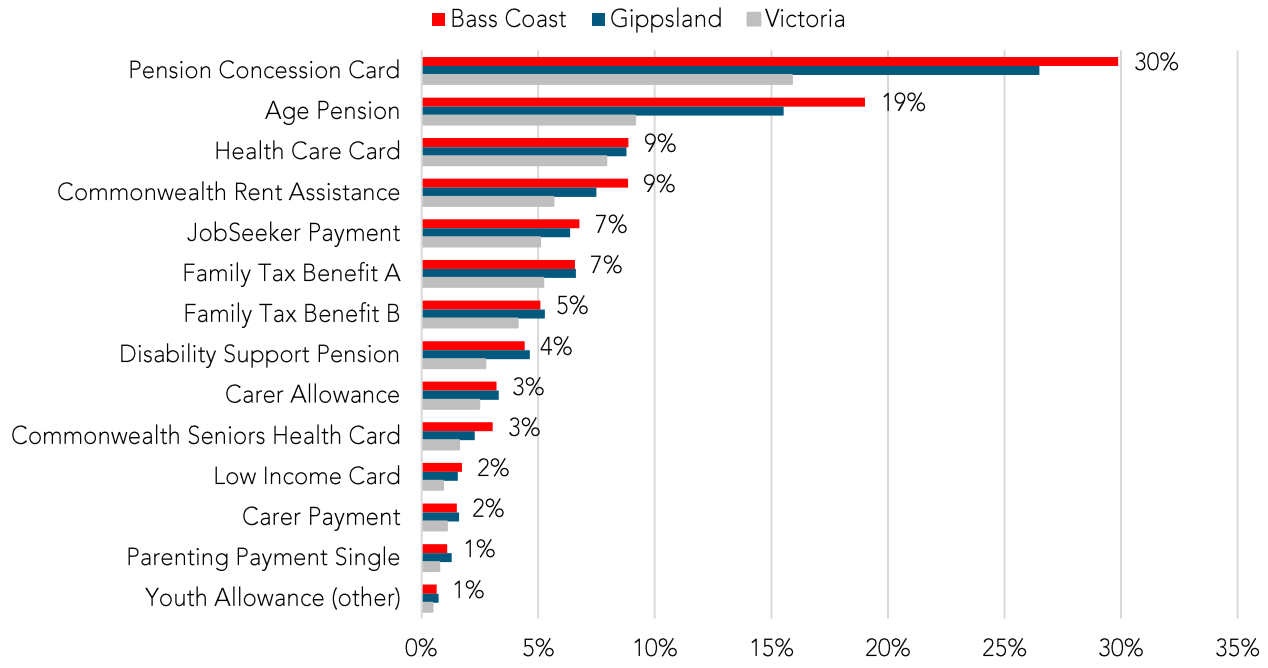

Figure 18: DSS Payment Mix, 2020
Source: Department of Social Security, 2020

Table 11: Nearest Neighbour Analysis – DSS Payment Mix

Metric	Council	Comment
Nearest Neighbour Overall	East Gippsland	Both Bass Coast and East Gippsland are coastal destinations popular with retirees. This is reflected in the DSS payments mix.
Nearest Neighbour Gippsland	East Gippsland	

Source: Geografia, 2022

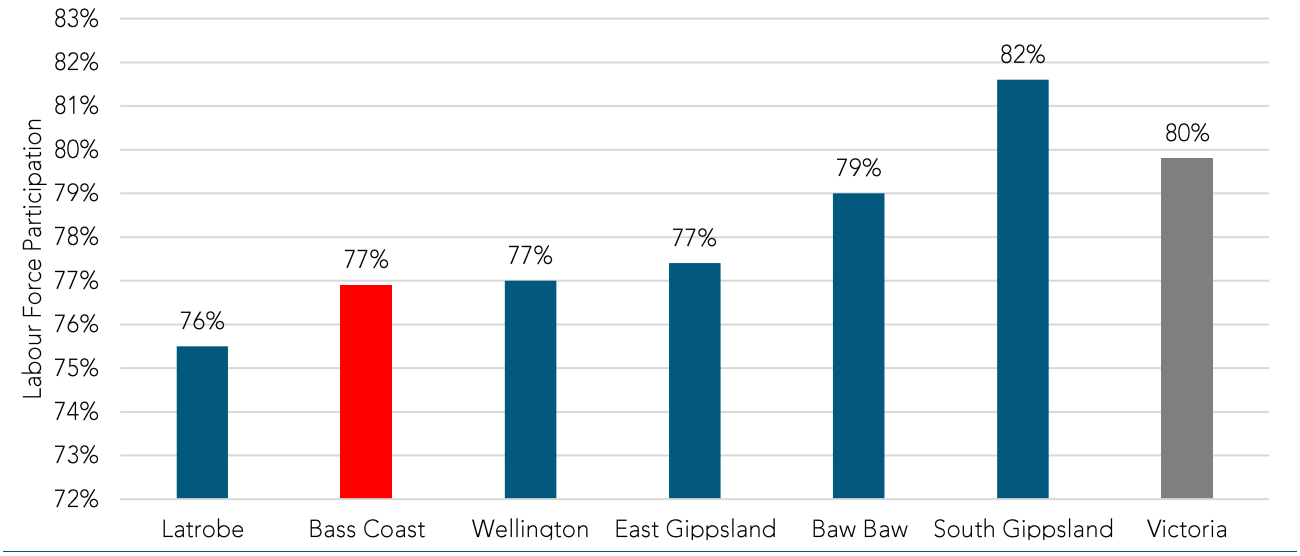

Figure 19: Labour Force Participation Rate, 2021
Source: Victoria in Future, National Skills Commission

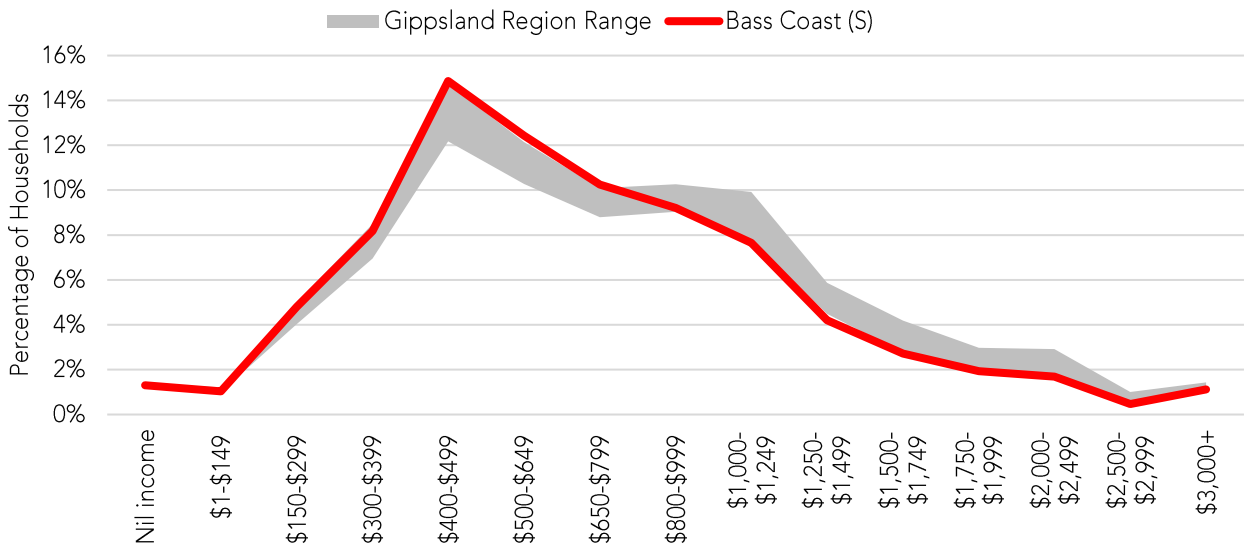

Figure 20: Equivalised Household Income Share, 2016
The expected range covers the mean and standard deviation for the distribution of incomes by households for Gippsland. Source: ABS, 2016

Table 12: Nearest Neighbour Analysis – Household Income

Metric	Council	Comment
Nearest Neighbour Overall	Campaspe	Bass Coast's household income is likely to be influenced by multiple factors making it difficult to determine any unique characteristics.
Nearest Neighbour Gippsland	South Gippsland	

Source: Geografia, 2022

TRENDS AND IMPACTS

Trends

Looking at labour market participation over time provides some insight into the structural nature of Bass Coast's workforce. From 2001 to 2016 Bass Coast sat at the lower end of the Gippsland region for Labour Force Participation (Figure 21). The release of the 2021 Census data may contradict this, but it may be reasonable to conclude this is a consequence of attractiveness of Bass Coast to people moving into retirement.

The time series of unemployment data shows that Bass Coast has tracked consistently with the Victoria rate, but with significantly more volatility. That is, when the Victorian unemployment rate rises and falls, Bass Coast often sees a greater rise or fall (and from a higher rate to begin with) (Figure 22).

A nearest neighbour analysis of historical unemployment rate trends indicates that East Gippsland is the most similar LGA (Table 13 and Figure 23) Economic conditions tend to affect the labour market in these LGAs in a similar way. This may be a consequence of both being coastal holiday destinations that are popular with retirees. .

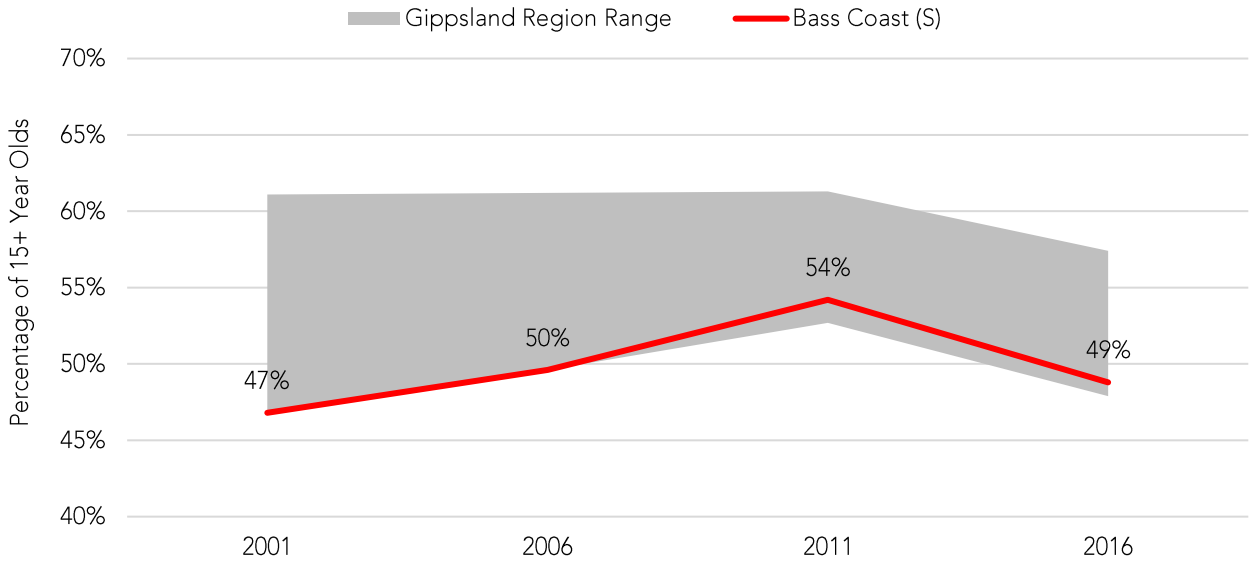

Figure 21: Labour Force Participation Rate Over Time
Source: ABS Census, 2016

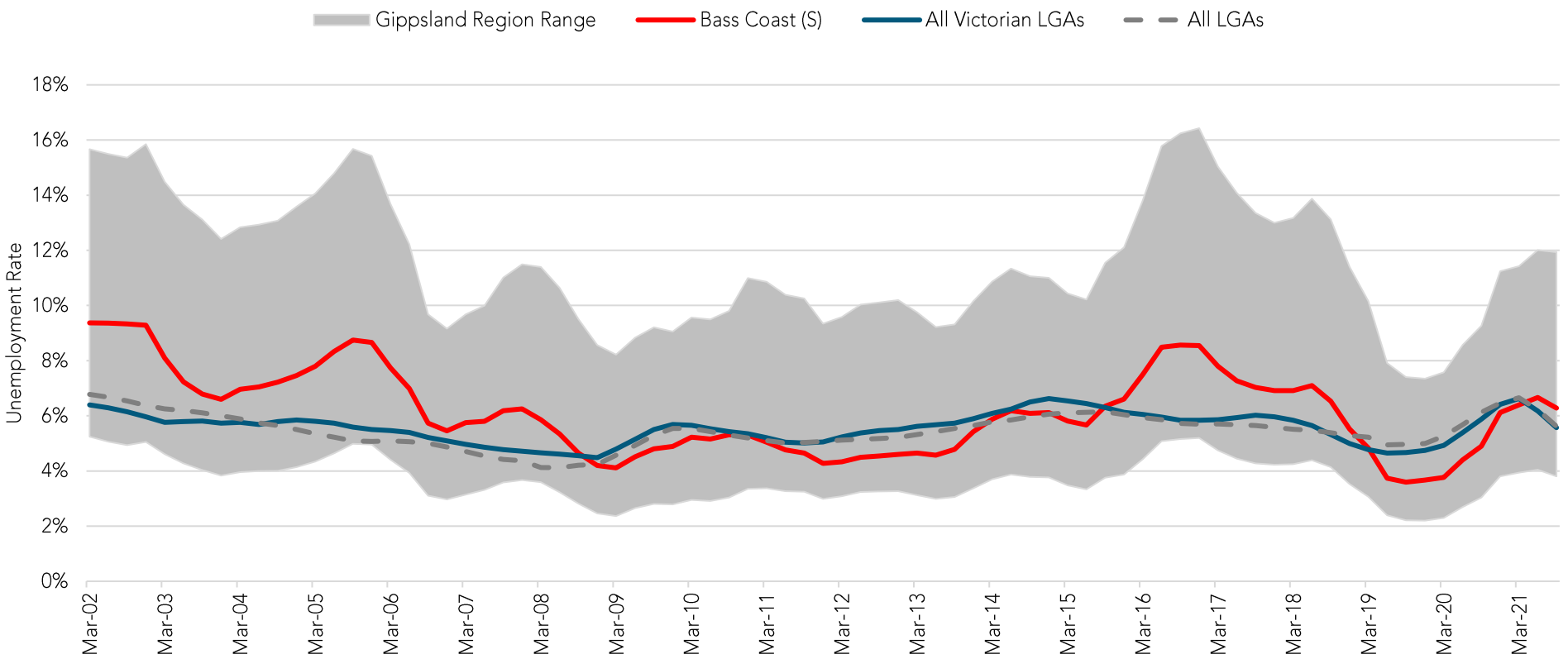

Figure 22: Quarterly Comparative Unemployment Rates

NOTE: Unemployment rates are derived and smoothed by the National Skills Commission and will be slightly different to the ABS reported number. They are calculated from summed unemployment and labour force numbers. Source: National Skills Commission. 2022

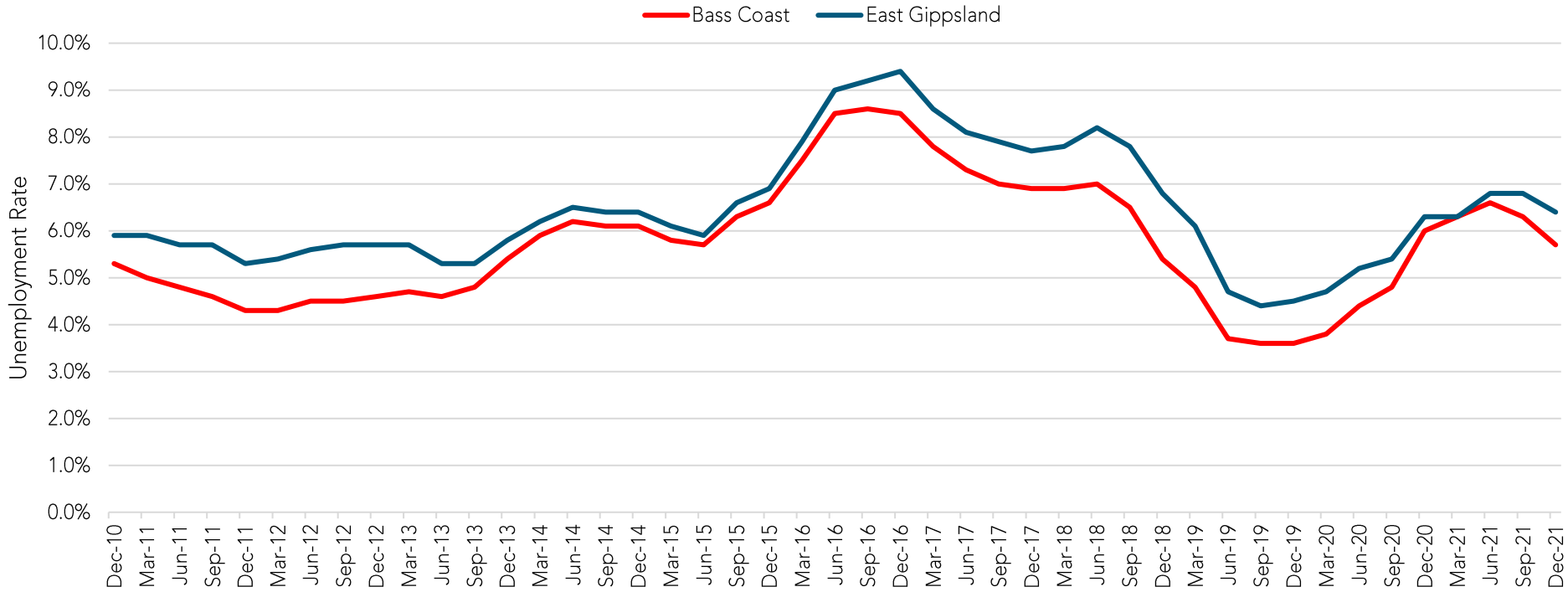

Figure 23: Quarterly Comparative Unemployment Rates, Bass Coast and East Gippsland
Source: National Skills Commission. 2022

Table 13: Nearest Neighbour Analysis – Unemployment

Metric	Council	Comment
Nearest Neighbour Overall	East Gippsland	The coastal holiday/retiree character may be the cause of this similarity.
Nearest Neighbour Gippsland	East Gippsland	

Source: Geografia, 2022

Covid-19 Impacts

COVID-19 impacts on the labour market can be measured using JobKeeper data. Not all industries were eligible to receive JobKeeper payments and so to derive a meaningful comparative Jobkeeper rate, the following sectors are excluded: education, healthcare and public administration. Workers in these sectors were either ineligible for Jobkeeper or considered essential workers and maintained employment during the lockdowns[14].

During the initial stages of the Pandemic, Bass Coast's effective JobKeeper rate remained higher than the Victorian level but well within the range for Gippsland (Figure 24).

There were around 1,200-1,400 applicants per month in the early lockdown period (from April to September 2020). Towards the later stage of the lockdowns, the effective JobKeeper rate dipped below the Victorian rate but was nearer the upper end of the Gippsland range. Unsurprisingly in January, February, and March 2021, which are peak months for tourism in Bass Coast, the effective JobKeeper rate trended below Victoria's and the count dropped to around 500 per month.

Again, this is a function of Bass Coast's peri-urban character, which includes a summer holiday destination function. With the opening up of the economy in summer, Jobkeeper numbers declined, relative to the rest of Victoria.

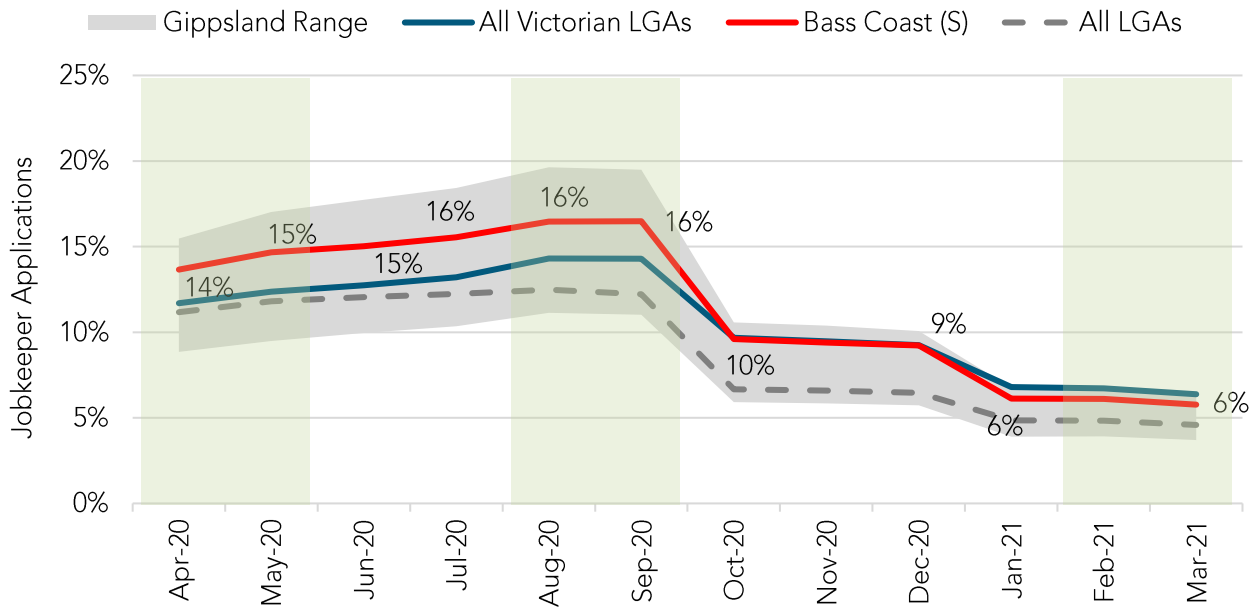

Figure 24: Effective JobKeeper Rate

Percentages are Jobkeeper applications as a share of the sum of total resident workers by eligible industry (using 2016 Census industry of employment data). Jobkeeper counts are provided by Postcode. These have been recalibrated to LGA-level. The green shading shows the key lockdown periods. Source: ATO, 2022

[14] It should be acknowledged that not all employed in these industries were ineligible for JobKeeper.

2.5 Workforce, Education and Skills

THE JOBS AND SKILLS DEFICITS

In terms of education and skills, the key feature is the relatively high Jobs Deficit Index and low Skills Deficit Index[15] (Table 14). This means the overall skill level of the resident workforce is higher than the skills required from the available jobs in the Shire. Figure 25 plots the Jobs and Skills Deficit Indexes for the Gippsland LGAs, as well as Victoria. It highlights the unique position of Bass Coast compared with the rest of the region.

Typically for high amenity peri-urban regions, Bass Coast has an undersupply of white-collar jobs relative to the size of the resident white collar labour force. The result is a substantial daily out-commute of residents. As Table 14 shows, employment self-containment figures confirm this, with Bass Coast having a lower level than the rest of Gippsland, excluding the other peri-urban LGA, Baw Baw Shire.

When taking into account Employment Self-Sufficiency as well, we can take from this that:

1. As at the last Census, Bass Coast did not have enough skilled jobs to match the skills base of the resident workforce.
2. Overall, Bass Coast lacked a sufficient total number of jobs to meet the requirements of the resident workforce.

In summary, Bass Coast is an 'exporter' of skilled workers.

Table 14: Jobs and Skills Deficits Indices

Region	Jobs Deficit Index	Skills Deficit Index	Employment Self-Containment	Employment Self-Sufficiency
Bass Coast	0.33	0.19	82%	70%
Baw Baw	0.38	0.16	74%	60%
East Gippsland	0.15	0.25	92%	88%
Latrobe City	0.03	0.23	104%	84%
South Gippsland	0.15	0.23	88%	71%
Wellington	0.06	0.24	95%	82%
Victorian LGA Avg	0.54	0.26	106%	63%

Source: ABS, 2016; Geografia, 2022

[15] These are statistical measures of the gap between the skill level of the resident workforce and the local job mix. A high Jobs Deficit Index means the resident workforce Is 'overqualified' for the jobs locally available. A high Skills Deficit Index Is where the resident workforce Is underqualified. The Indexes have been composed by Geografia to provide an effective way to evaluate the critical skills and education Issues In the Shire.

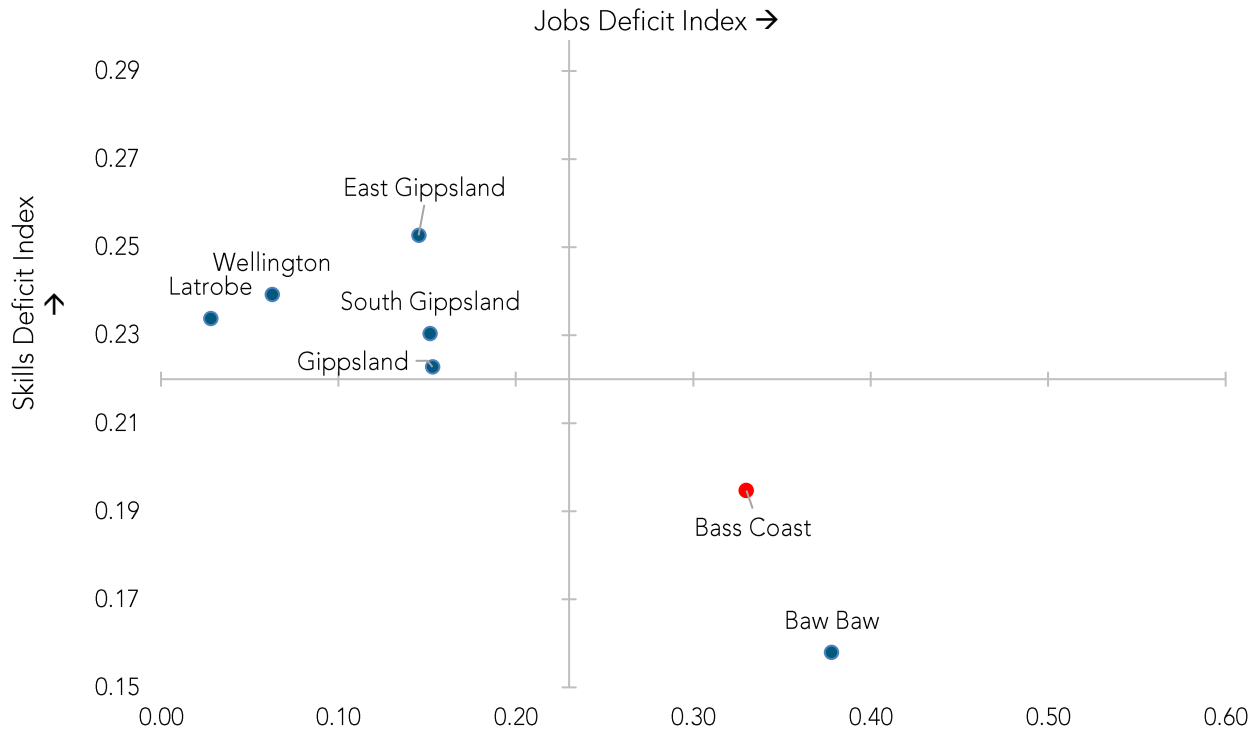

Figure 25: Gippsland Jobs and Skills Deficits

The bottom right quadrant shows LGAs with high Jobs Deficit Indexes, but low Skills Deficits. Source: ABS, 2016; Geografia, 2022

EDUCATIONAL ATTAINMENT

Almost one quarter of Bass Coast's 15+ population had a tertiary qualification at the 2016 Census. While significantly less than the Victoria-wide level of 40%, along with Baw Baw Shire, it is at the upper bound for Gippsland (Figure 26). This is essentially why there is a Jobs Deficit in Bass Coast.

It is important to bear in mind that residents with tertiary qualifications make up a small proportion of the total population of Bass Coast. The traditional rural, older demography is obvious in the mix of educational attainment, which is dominated by non-tertiary qualifications, particularly Certificate 3 VET and Year 10 completion (Figure 27). Certificate I through to Advanced Diploma and Diploma level qualifications are possessed by 35% of those that reported a level of education. Not surprisingly, then, the nearest neighbour analysis found that Bass Coast is most like South Gippsland (Table 15).

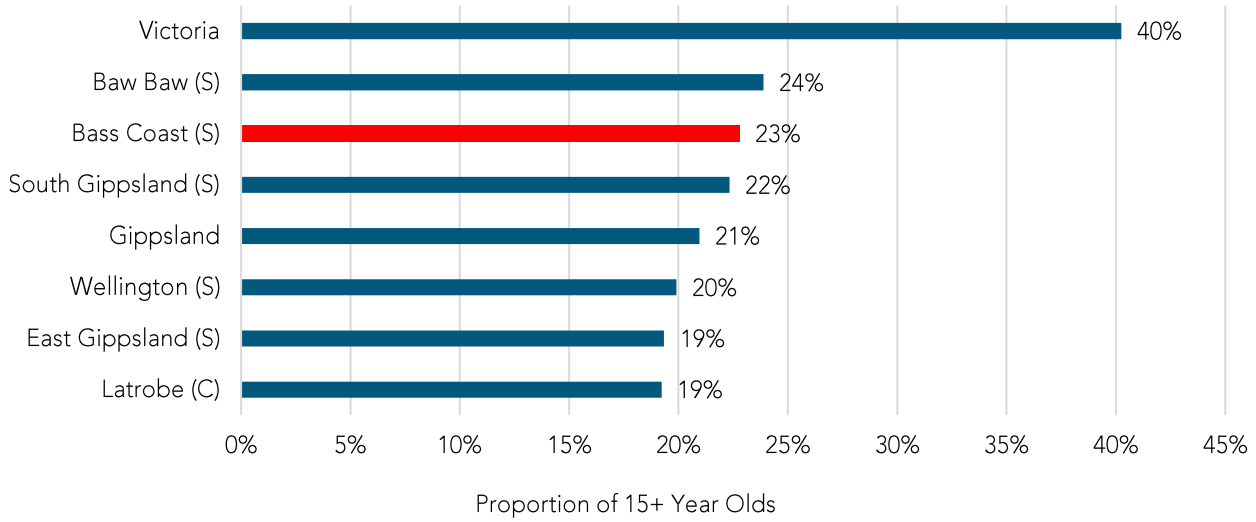

Figure 26: Proportion with Tertiary Qualifications, 2016
Source: ABS, 2016

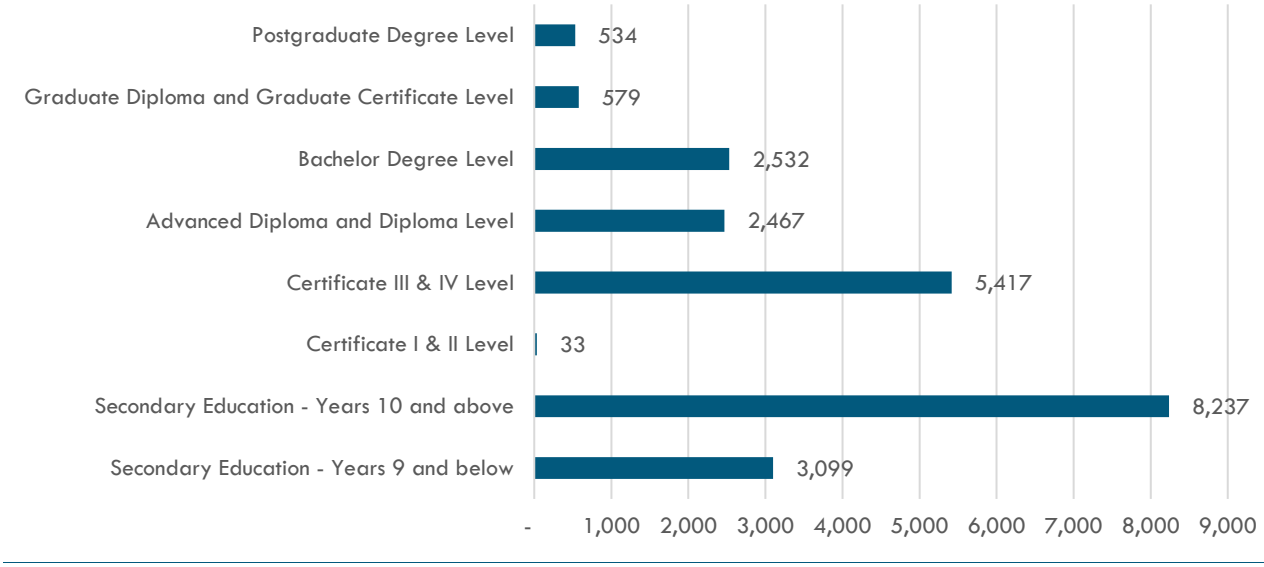

Figure 27: Highest Educational Attainment, 2016
Source: ABS, 2016

Table 15: Nearest Neighbour Analysis – Highest Educational Attainment

Metric	Council	Comment
Nearest Neighbour Overall	South Gippsland	This reflects Bass Coast's long history as a Primary Producer location.
Nearest Neighbour Gippsland	South Gippsland	

TRENDS AND IMPACTS

Trends

Bass Coast's resident workforce has grown by over one third since 2006 (Table 16) and its local job count by over one fifth (Table 17). This growth has meant Bass Coast has shifted from accommodating 10% of jobs and workers in Gippsland in 2006 to 11% of jobs and almost 13% of workers in 2021. This pattern of change has been increasing the size of the gap between resident workers and local jobs in Bass Coast. Combined Bass Coast and Baw Baw Shire have accounted for 73% of the growth in resident workers in Gippsland and 58% of local jobs during this period.

This pattern of change has been increasing the size of the gap between resident worker numbers and local jobs.

Looking at the proportion of residents with tertiary qualifications from the 2001 to 2016 Censuses shows the Bass Coast figure has increased at a faster rate than Gippsland or Victoria (Figure 28). While a positive outcome for the community, it, along with the growing gap between resident workers and local jobs, suggest the Jobs Deficit in Bass Coast may continue to increase. As the data shows, Baw Baw Shire has the same challenge.

It is worth noting that the older age profile of the Bass Coast population may, in time, create a longer-term skills replenishment issue for the Shire. At the 2016 Census, there were 1,095 residents attending post-compulsory educational institutions (around 3.3% of the population). For Gippsland, the share ranged from 1.8% in South Gippsland to 4.8% in Baw Baw Shire. By contrast, for Victoria it was 8%.

Assuming the population continues to age, Bass Coast may eventually face a Skills Deficit as it runs out of younger skilled workers available to take up local jobs. This capacity to replenish the local labour market is a key attribute of a resilient economy.

Table 16: Resident Labour Force, 2006-2021

Region	2006	2011	2016	2021	# Change	% Change
Bass Coast	**11,172**	**13,212**	**13,784**	**15,311**	**4,139**	**37%**
Baw Baw	18,519	21,156	22,630	25,257	6,738	36%
East Gippsland	17,610	18,896	18,870	19,130	1,520	9%
Latrobe City	29,074	32,852	30,908	30,059	985	3%
South Gippsland	12,606	13,638	13,428	13,501	895	7%
Wellington	18,658	19,688	19,820	19,790	1,132	6%
Gippsland Region	107,639	119,442	119,440	123,048	15,409	14%

Source: ABS, 2016, EconomyID, 2022

Table 17: Local Jobs, 2006-2021

Region	2006	2011	2016	2021	# Change	% Change
Bass Coast	**9,576**	**13,463**	**11,823**	**12,036**	**2,460**	**26%**

Region	2006	2011	2016	2021	# Change	% Change
Baw Baw	14,595	16,751	17,446	19,270	4,675	32%
East Gippsland	16,559	17,806	17,851	17,284	725	4%
Latrobe City	27,613	25,817	30,606	32,389	4,776	17%
South Gippsland	11,273	12,086	12,221	11,419	146	1%
Wellington	17,057	18,101	19,021	18,212	1,155	7%
Gippsland Region	96,673	104,024	108,968	110,610	13,937	14%

Source: ABS, 2016; EconomyID, 2022

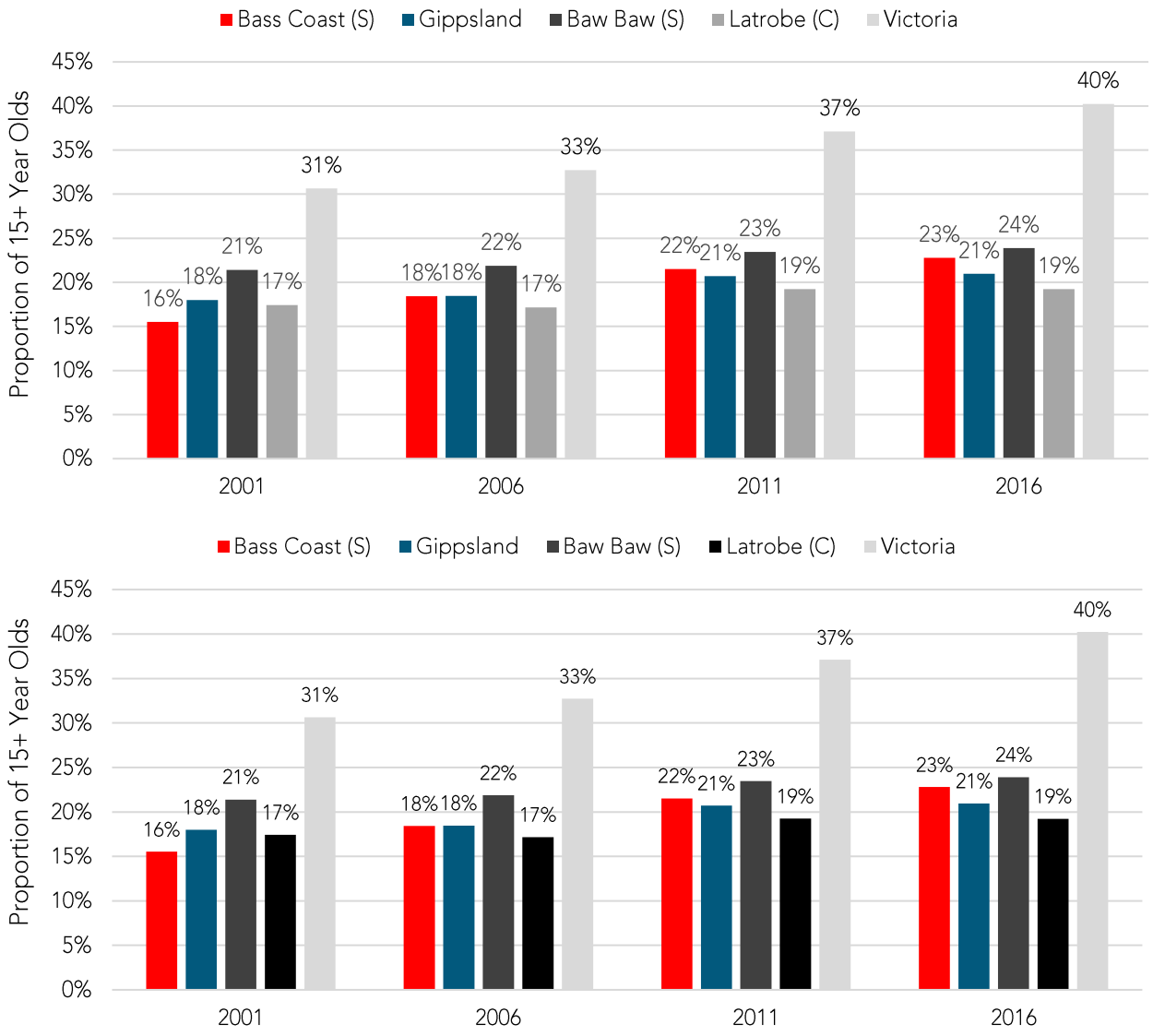

Figure 28: Proportion with Tertiary Qualifications, 2001-2016

Source: ABS, 2016

Covid-19 Impacts

One of the more obvious manifestations of COVID-19 lockdown impacts on Bass Coast is in the way it enabled working from home. The Productivity Commission undertook research to estimate the capacity to work from home by ANZSIC Industry of employment[16]. Using this data, we can calculate the net loss or gain in local jobs as follows:

1. The gain in 'local jobs' due to out-commuters required to work from home in Bass Coast.
2. Less the loss of local jobs shut down by lockdown restrictions, for both residents and in-commuting non-residents.

This is essentially measuring the net change in local jobs (i.e., the job count by Place of Work). The results are shown in Table 18. Bass Coast was at the lower end of the impact, meaning a slightly higher proportion of local jobs may have been retained during lockdowns than elsewhere in Gippsland or Victoria.

Table 18: Net Job Change due to Lockdowns

Region	Net Change	% of Local Jobs
Bass Coast	-5,397	45%
Gippsland	-54,542	49%
Victoria	-1,513,693	58%
Australia	-5,932,197	58%

Source: Geografia, 2022 from Productivity Commission, 2021

Another aspect of this is the potential increase in the daily resident population of Bass Coast because of out-commuters working from home. By using the same Productivity Commission research, we can estimate the potential number of residents who started remote working from within Bass Coast instead of commuting. Figure 29 plots this for Bass Coast, the Gippsland LGAs and Victoria. It shows the share of the total resident working population potentially working from home and the count for each region. estimates that Bass Coast's daytime workforce may have increased by around 7% or 900 people.

[16] That is, the proportion of jobs in each industry that it is likely can be carried out from home.

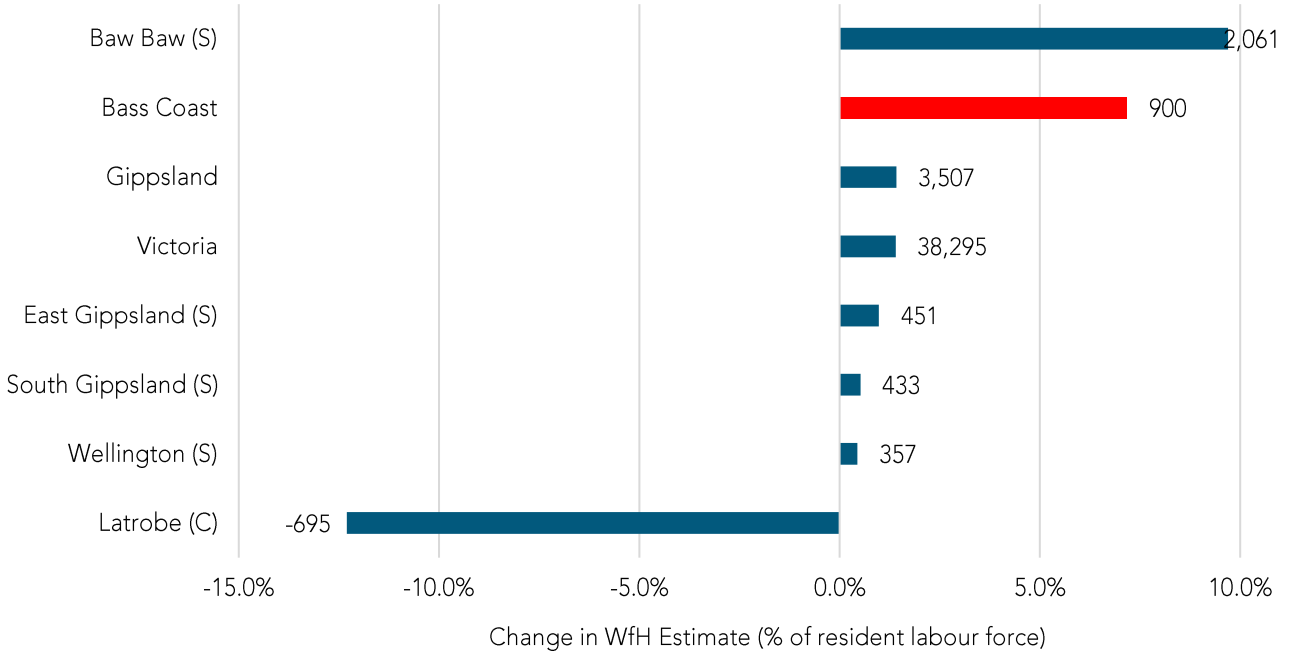

Figure 29: Net Change in Remote Worker Resident Population
Source: Geografia, 2022

3.0 BUSINESS AND INDUSTRY

Bass Coast's economy is worth some $1.7 billion in Gross Regional Product. Its 3,240 businesses support slightly over 12,000 jobs. The major industries providing employment and driving growth are mostly servicing the population (e.g., health and education). However, tourism and agribusiness are also critical and Bass Coast exports agricultural products and tourism experiences to the world, while providing valuable recreational and conservation services to Victorians.

Key Business & Industry Indicators	Bass Coast	Gippsland	Victoria
GRP (2021)[17]	$1.707B	$19.1B	$474.16B
Count of businesses (2021)	3,240	25,397	654,661
No. of jobs (2021)	12,036	110,610	3,329,569
Biggest employer (2016)	Health Care and Social Assistance	Health Care and Social Assistance	Health Care and Social Assistance
No. employed (health care) (2016)	1,560	15,326	358,390
Most common occupation (2016)	Technicians and Trades Workers	Professionals	Professionals
Biggest industry by output (2021)	Construction	Construction	Manufacturing
Output of biggest industry (construction) (2021)	$612m	$5,093m	$119.8b
Avg. Ann. Total Visitors (2019)	2,392,000	8,045,681	84,894,000
Tourism output (2019)	$164.6m	$818.3m	$17.5b
Tourism businesses (2021)	442	3,097	95,943

[17] Sourced from a combination of Remplan and .id depending on availability of data.

3.1 The Scale of the Economy

As noted in Section 2.0, Bass Coast has at least an $800 million consumer economy[18]. The scale of this activity is apparent when we consider Gross Regional Product is estimated at $1.7b.

According to Remplan, Bass Coast's GRP is a little under 8% of Gippsland's $19 billion (Remplan, 2021) (recall it accommodates around 13% of residents and businesses and about 10% of Gippsland jobs). Table 19 shows Gross Regional Product and Total Local Spend for the Gippsland LGAs. Per capita values are also included. The most notable conclusions[19] from this are:

- Per capita GRP is low by Gippsland standards. This is likely a result of the high proportion of retirees living in the Shire.
- At one end of the distribution, the economies of Bass Coast and East Gippsland are dominated by consumer expenditure, making up 47% and 40% of GRP respectively. We know from Section 2.0 in Bass Coast's case it is mostly because of its significant visitor economy.
- At the other end, the economies of Baw Baw and South Gippsland are influenced by significant Escape Spend, which is why Total Local Spend makes up a much smaller share of Gross Regional Product.

Again, the characteristics of peri-urban regions dominates the economy. This means that population servicing industries and the consumer economy underpin the local economy. That is, service sectors such as retail, education and health, as well as Accommodation & Food Services.

Table 19: Gross Regional Product, by LGA

Region	GRP	Per Capita GRP	Total Local Spend (TLS)**	Per Capita TLS	TLS Share of GRP
Bass Coast	$1.7b	$44,000	$803m	$21,430	47%
Baw Baw	$5.3b	$96,280	$905m	$16,500	17%
East Gippsland	$2.1b	$45,030	$860m	$18,020	40%
Latrobe City	$4.9b	$64,150	$1,230m	$16,220	25%
South Gippsland	$1.4b	$47,240	$318m	$10,530	22%
Wellington	$3.2b	$71,700	n.a.	n.a.	n.a.
Gippsland	$19b*	$64,300	$4,117m	$16,720	26%

Source: Spendmapp by Geografia, 2022; Remplan, 2022, EconomyID, 2022; ABS, 2022

* This figure is from Remplan's estimation and is not the sum of the individual estimates, which are from different sources.

** This Is Total Local Spend for the latest 12 months to March 2022. As data is not available for Wellington, it is excluded from TLS calculations.

[18] Bass Coast Shire currently does not have access to pre-Covid data consumer expenditure data and this estimate is derived from the latest 12 months - at the time of preparing this report - up to and including March 2022.

[19] This analysis assumes the GRP values are good estimates of actual economic activity in the respective LGAs. However, there is no data source available that can be used to validate this assumption.

ENGINES OF THE ECONOMY

While it is true that population servicing and consumer economy activity dominates, as Figure 30 shows, in terms of total output, Bass Coast accounts for:

- 28% of Gippsland's Arts & Recreation output value;
- 20% of Tourism;
- 18% of Accommodation & Food Services; and
- 13% of Retail Trade.

The Shire also has other important industries for both job generation and output. This includes Construction, Agriculture, Forestry & Fishing and Manufacturing. Figure 31 compares local job count with total output by industry (bubble size indicates the share of Gippsland's total output by industry). Industries in the top right quadrant generate high output and are labour intensive. Those in the top left are high output labour extensive.

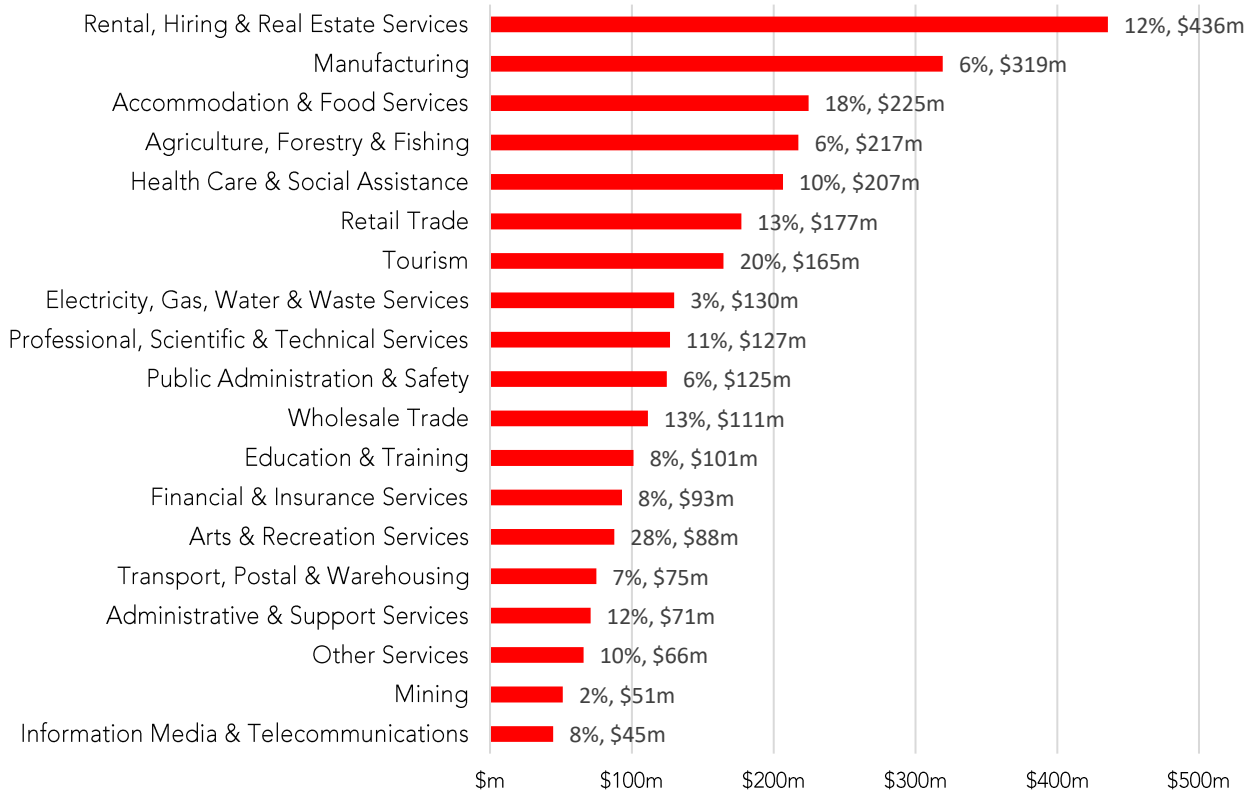

Figure 30: Total Output by Industry

This shows the total output value for each industry and its share of the Gippsland total. Source: Remplan, 2022

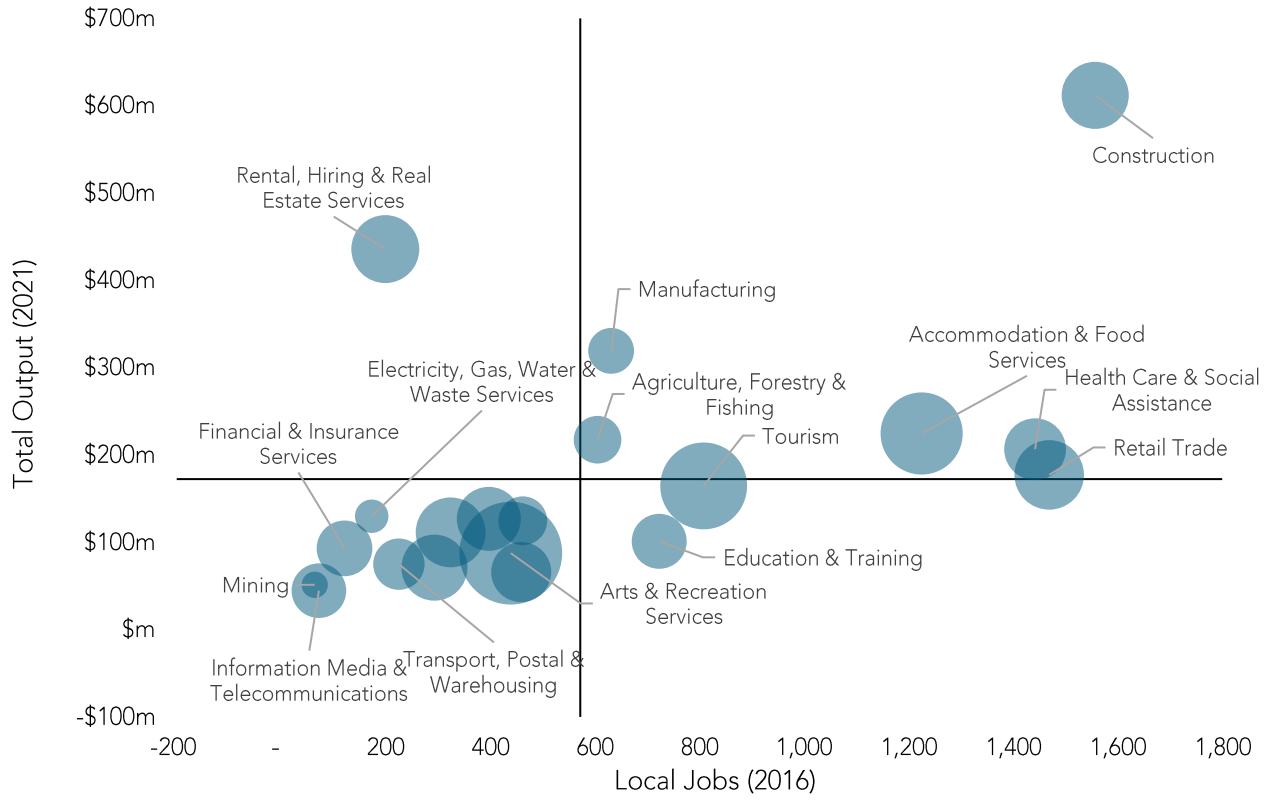

Figure 31: Output and Local Jobs

This plots the count of local jobs against total output for Bass Coast. The size of the bubbles shows the share of Gippsland's total output by industry. Source: ABS, 2016; Remplan, 2022

3.2 Businesses

Bass Coast's business and industry landscape reflects the population characteristics and those outlined above. That is, it is one dominated by population and visitor servicing industries with its greatest 'exports' its skilled workforce and visitor experiences.

At last count there were 3,246 businesses in Bass Coast[20] (Figure 32). This is 15% of the 25,426 Gippsland businesses.

Of these, around 60% are non-employing and a further 38% employ from 1-19 people. This is similar to Gippsland and Victoria (Figure 33).

[20] The 2021 ABS Count of business entries and exits.

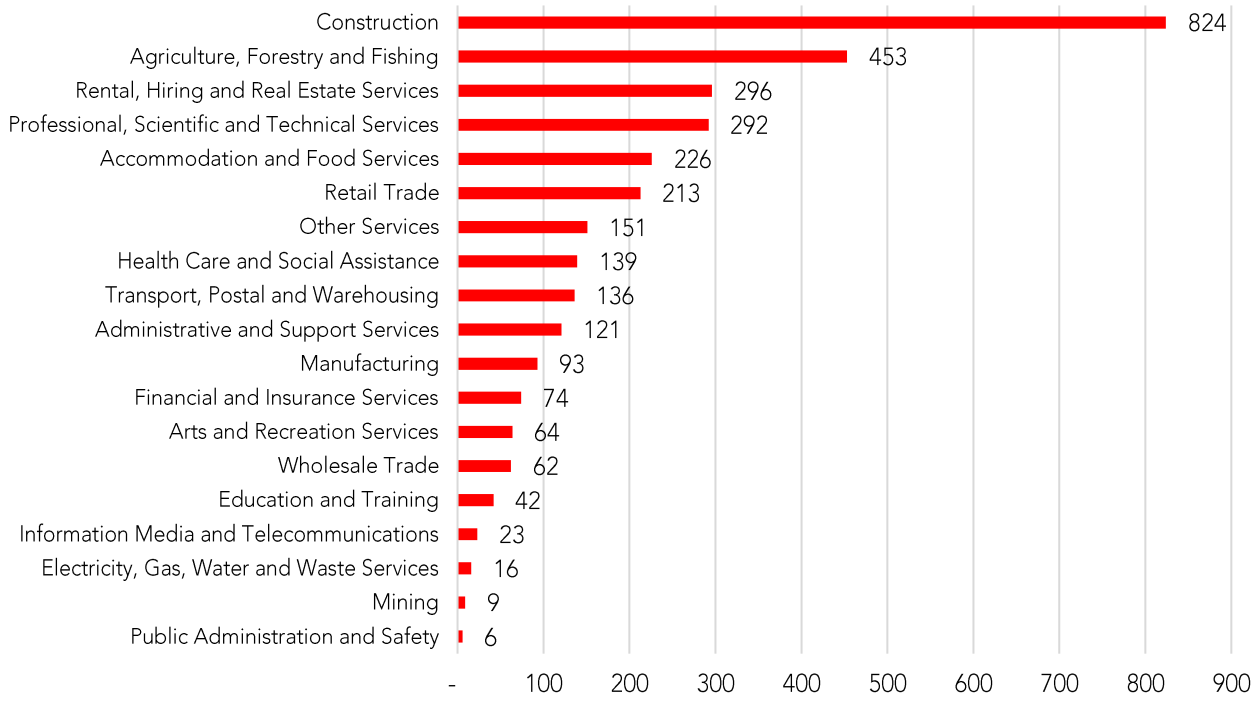

Figure 32: Count of Businesses by Industry
Source: ABS, 2021[21]

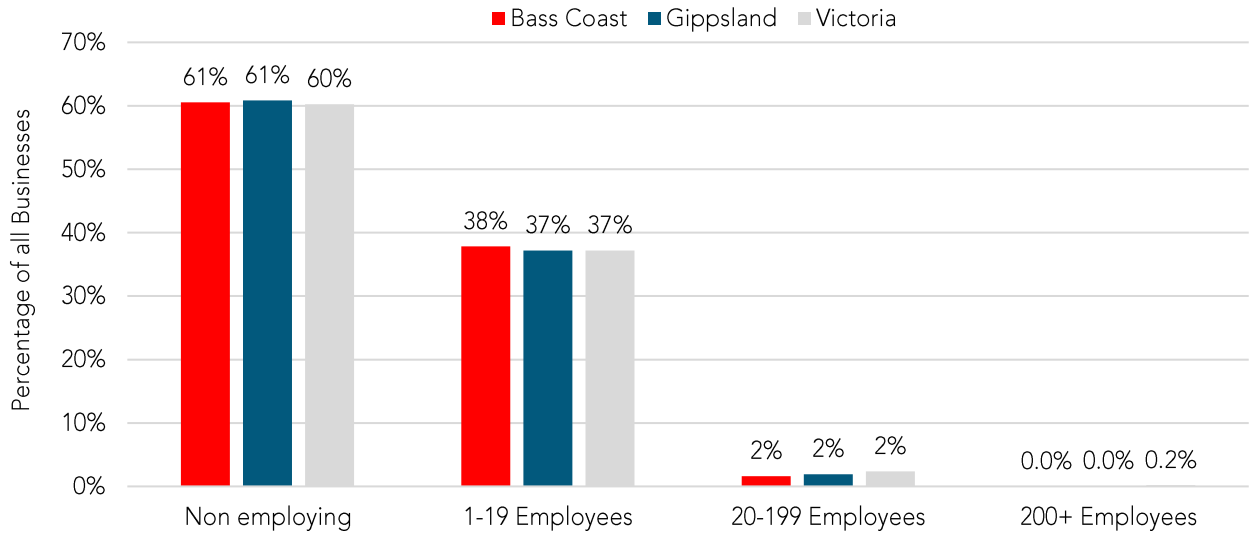

Figure 33: Businesses by Employee Size
Source: ABS, 2021

[21] Business Counts by Experimental Point In Time Employment Size Ranges (see https://www.abs.gov.au/methodologies/counts-australian-businesses-including-entries-and-exits-methodology/jul2017-jun2021 for description

INDUSTRY CONCENTRATION

Combining the data from Figure 32 and Figure 33 produces a size weighted distribution of businesses by industry. Comparing with distributions for Gippsland and Victoria highlights the dominant and subordinate industries in Bass Coast. These are plotted in Figure 34 and Figure 35. Where the red columns fall outside the blue band are the outlier industries.

While some concentration is to be expected and even useful for economies of scale, it can also reveal low economic resilience as it means the economy may be particularly vulnerable to economic downturns that affect individual industries, or even enterprises.

In the case of Bass Coast, its business concentrations relative to the rest of Gippsland and even Victoria show the dominance of its tourism sector (e.g., Accommodation & Food Services and Arts & Recreation Services). It is also strong in Electricity, Gas, Water & Waste Services.

Equally, Bass Coast has fewer businesses in IT, Public Administration, and Manufacturing.

On balance, the business mix is reasonably robust. A further analysis, using the Herfindahl Index[22], confirms this. Figure 36 plots the values for the Gippsland LGAs, Gippsland overall and Victoria. This reveals the extent to which a single industry dominates the local job mix. When compared with agribusiness dominated places such as South Gippsland and Wellington, Bass Coast has a relatively unconcentrated economy on this measure.

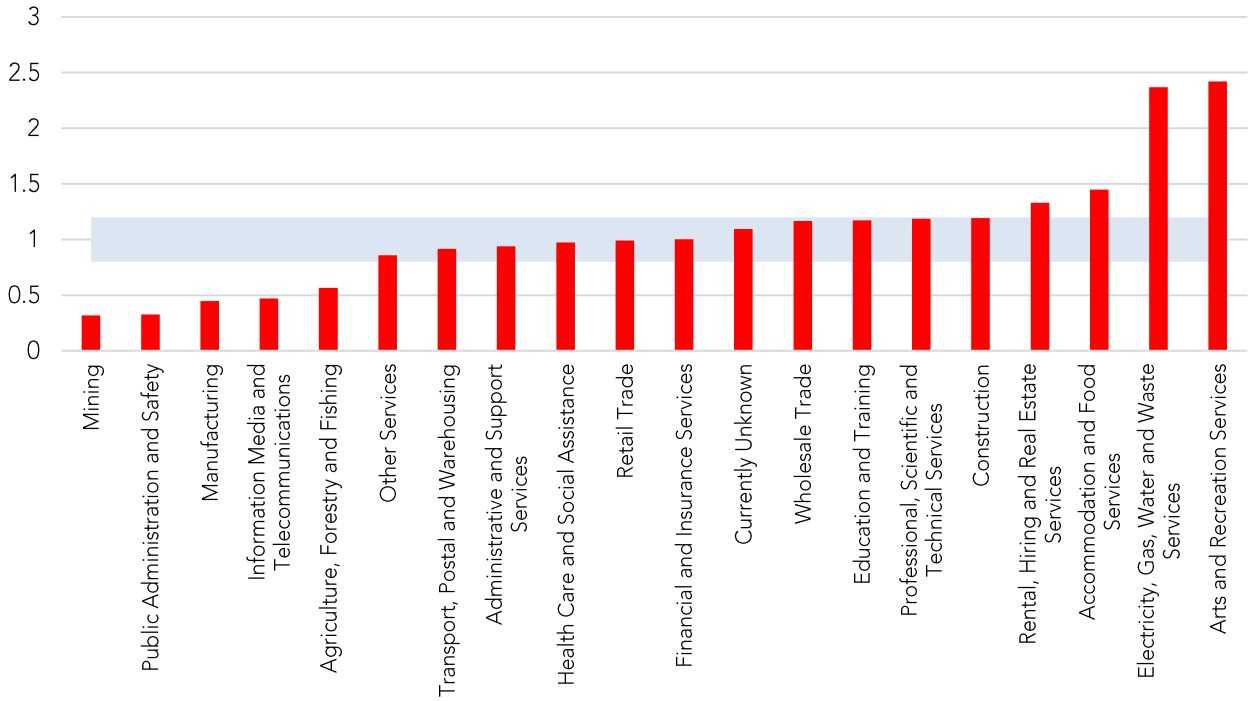

Figure 34: Industry Location Quotient (Relative to Gippsland)
Source: ABS, 2021

[22] A single index value that indicates where there is a 'monopoly' held by one industry.

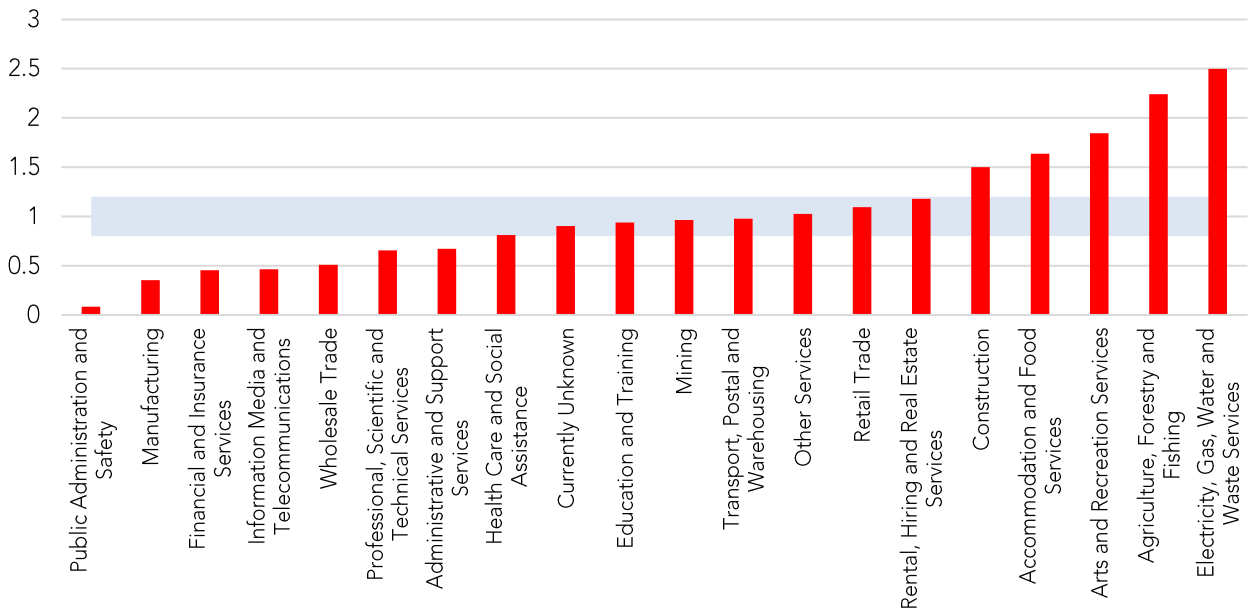

Figure 35: Industry Location Quotient (Relative to Victoria)
Source: ABS, 2021

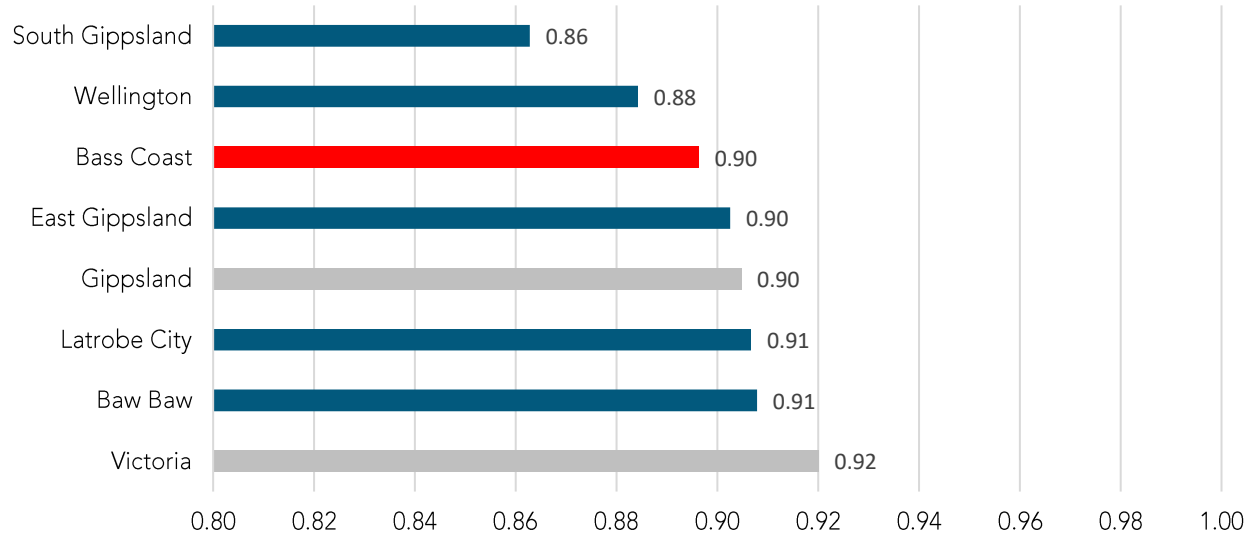

Figure 36: Herfindahl Index, Gippsland LGA (Local Jobs)
This shows how concentrated Bass Coast's job mix is relative to the benchmark regions. The higher the number, the less concentrated. Source: ABS, 2016

TRENDS AND IMPACTS

Trends

According to the ABS Business Entries and Exits survey, from the 2019 to 2021, Bass Coast gained around 308 businesses. Almost 80% of this was in six industries:

1. Professional, Scientific & Technical Services (+56)
2. Construction (+52)
3. Health Care & Social Assistance (+41)

4. Rental, Hiring & Real Estate Services (+35)
5. Accommodation & Food Services (+30)
6. Administrative & Support Services (+23)

Declines in business counts were negligible (e.g., nine fewer Agricultural enterprises).

From 2011 to 2016, the local job mix changed considerably, dropping by almost 2,000. However, as Figure 37 shows, this was almost entirely due to a drop in the total number of construction jobs as the Victorian Desalination Plant was completed in 2012.

Small area industry growth projections (from usually provided by the National Skills Commission) are currently not available, but at the national level, the biggest increases over the next five years are expected in:

- Professional, Scientific & Technical Services (+16.8%)
- Health Care & Social Assistance (+15.8%)
- Accommodation & Food Services (+13.2%)
- Arts & Recreational Services (+10.1%)

Most of which are already significant industries in Bass Coast and speak to the expected growth in the visitor economy, as well as population servicing activities.

Covid-19 Impacts

As noted in Section 2.0, using 2019 as a base, Bass Coast's consumer economy decreased by some 10% over the two years of lockdowns. According to one estimate (EconomyID), GRP dropped from $1.51 billion in 2019 to $1.46 billion in 2021 (down 3%), although another estimate (Remplan) saw it increase each year from 2019 ($1.64B), through 2020 ($1.68B) to 2021 ($1.7B).

In terms of employment there was a relatively short, but very severe shock in April 2020, where employment as measured by the ABS (using the payroll index) dropped as low as 10.9% early in the month. A steady recovery since then has been broken by subsequent lockdowns (Figure 38).

The release of 2021 Census data and the resumption of the National Skills Commission's small area labour market forecasts will provide information on the medium to longer term impacts of the lockdowns. Given the likely highly industry specific shocks (particularly to industries reliant on in-place work and visitors), future analysis may require some qualitative research via a local business survey.

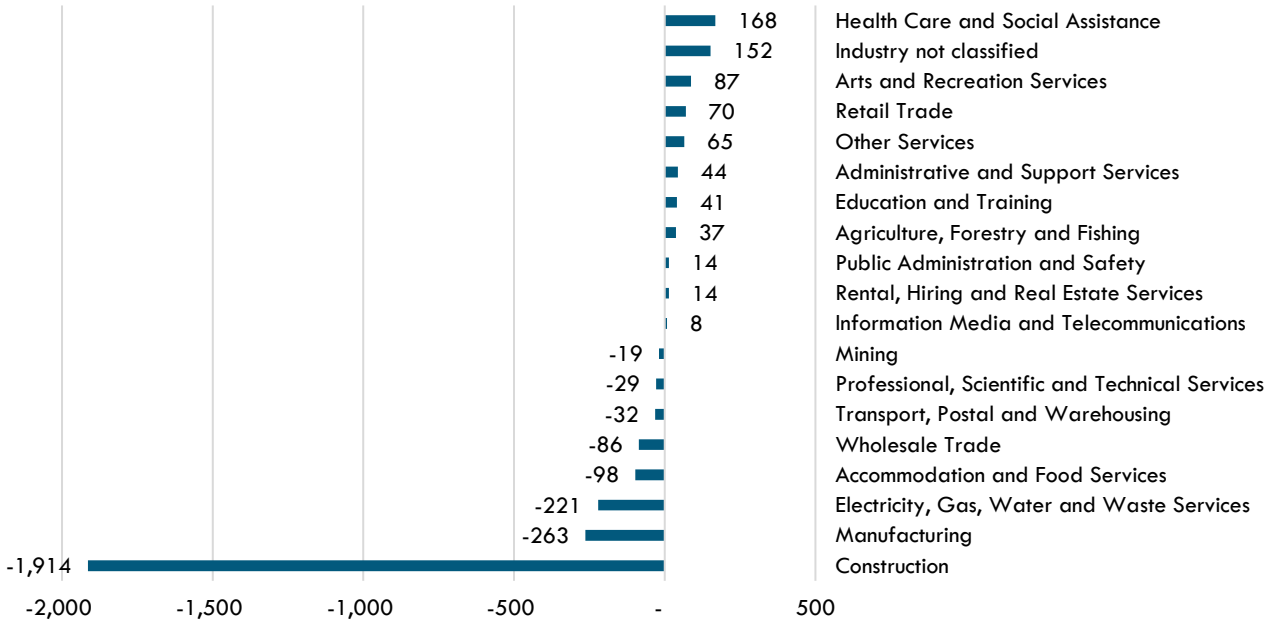

Figure 37: Change in Employment 2011 to 2016
Source: ABS 2011, 2016

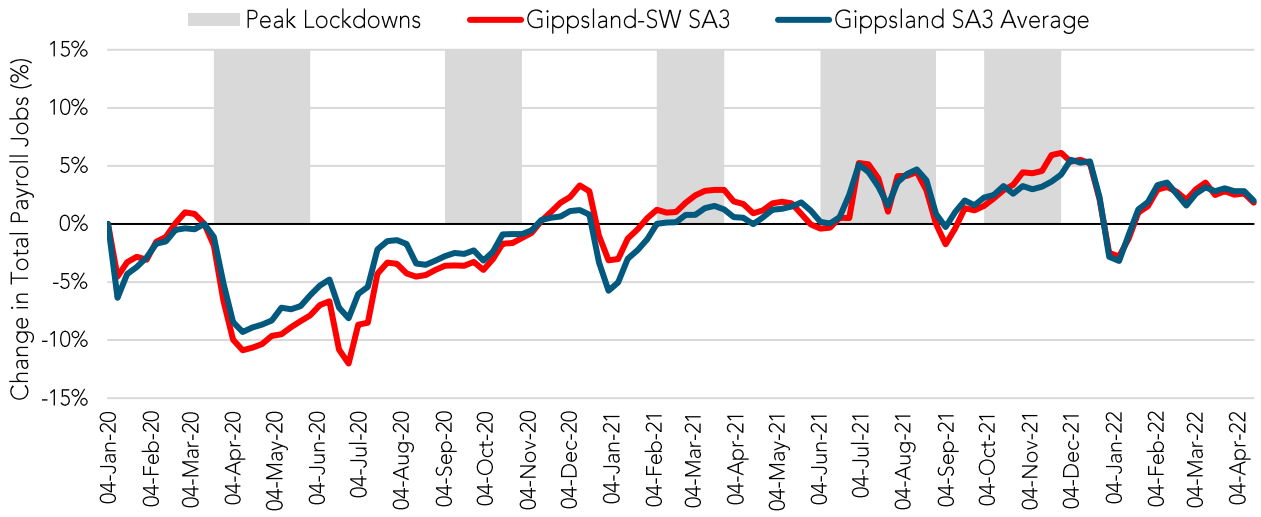

Figure 38: Percentage Change in Total Payroll Jobs
This shows change in job count for the Gippsland-South West SA3, which encompasses Bass Coast and South Gippsland. Major lockdown periods are shaded in grey. Source: ABS Payroll Job Index

3.3 The Visitor Economy

Three factors define tourism in Bass Coast:

1. **The scale of the tourism.** It is important to Bass Coast's economy, bringing in valuable 'export' revenue that is not dependent on population growth.
2. **The volatility of tourism.** As part of the consumer economy, it is volatile, which creates challenges for long-term planning and business viability.
3. **The potential for tourism.** Tourism Research Australia data suggests there is potential to increase the sum of visitor spending.

THE SCALE OF TOURISM

Tourism has supported an average of 808 jobs (~7.5% of the total count of local jobs) in around 442 businesses in the Shire (TRA, 2021). Combined these businesses have serviced an annual average of 2.4 million domestic and international visitors over the years up to the start of lockdowns (Table 20).

In fact, Bass Coast dominates Gippsland tourism. Each year it hosts approximately 1.4 million domestic day visitors (28% of visitors to all of Gippsland) and 950,00 domestic overnight visitors, which is 32% of Gippsland's (Figure 39).

Bass Coast shares dominance of international visitors with East Gippsland, hosting an average of 53,263 each year over the four-year period to 2019, which is 37% of Gippsland's total (Figure 40).

According to TRA data, domestic visitors to the Shire spend approximately $480 million each year (Figure 41). This is around 39% of all domestic visitor spending in Gippsland. International visitors spend around $20 million per year, which is 35% of international visitor spending in Gippsland and about twice that of East Gippsland's (Figure 42).

The Tourism Satellite Accounts data for Gippsland shows that tourism businesses are generally small. Micro-enterprises (those employing fewer than five), together with non-employing businesses make up 75% of tourism businesses in the region. This is the same for most tourism regions in Victoria.

As micro-enterprises and SMEs make up most of the tourism sector there is limited monopoly control of the sector. This means it has the *potential* for economic resilience, efficiency and innovation. However, the scale of businesses combined with the relatively low margins in the sector mean it can be vulnerable to economic shocks, such as border closures and travel restrictions.

Table 20: Key Tourism Metrics

Region	Total Visitors (4-yr avg)	Tourism Output	Tourism Jobs (% of total)	Tourism Businesses (Avg '16-'19)
Bass Coast	2,391,827	$164.6m	808 (7.5%)	442
Gippsland	8,045,681	$818.4m	4,207 (4%)	3,097
Victoria	84,893,984	$17.5b	87,536 (3.2%)	95,943

Source: Tourism Research Australia, 2021; Remplan, 2022

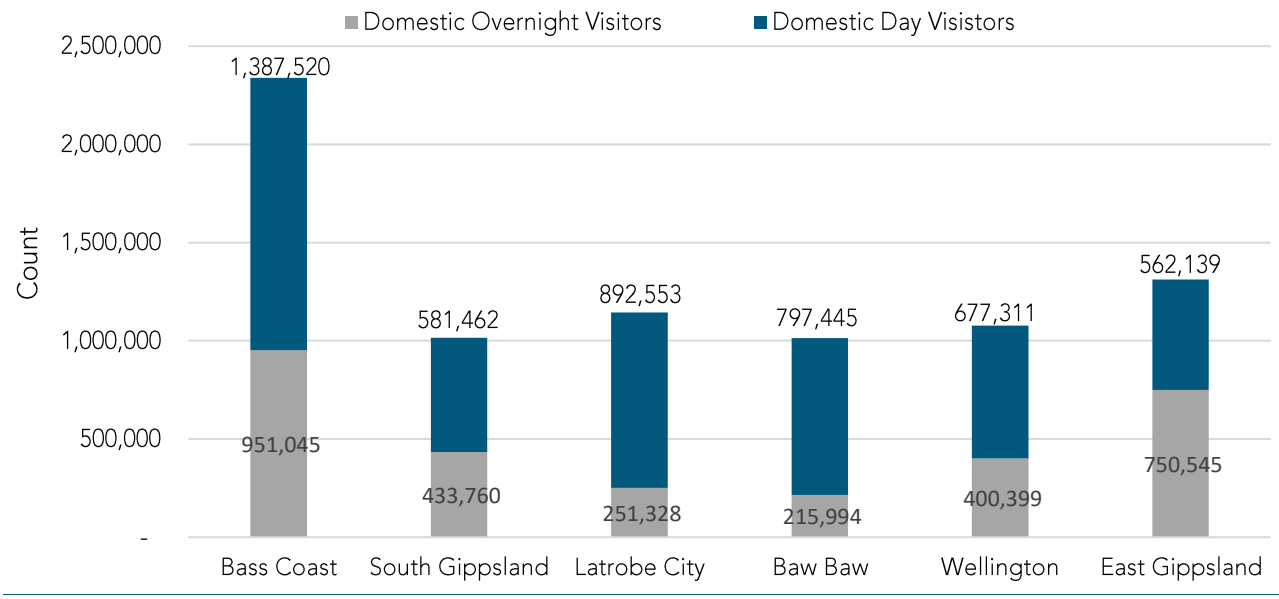

Figure 39: Domestic Visitors (2016-2019 Average)
Source: Tourism Research Australia, 2022

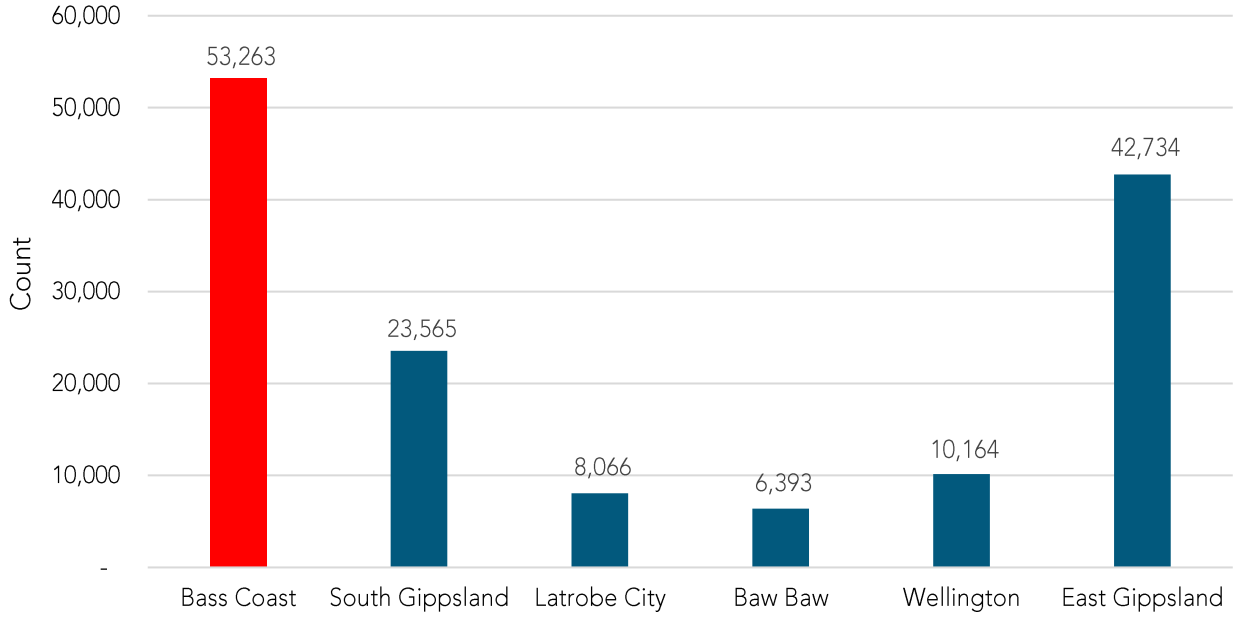

Figure 40: International Visitors (2016-2019 Average)
Source: Tourism Research Australia, 2022

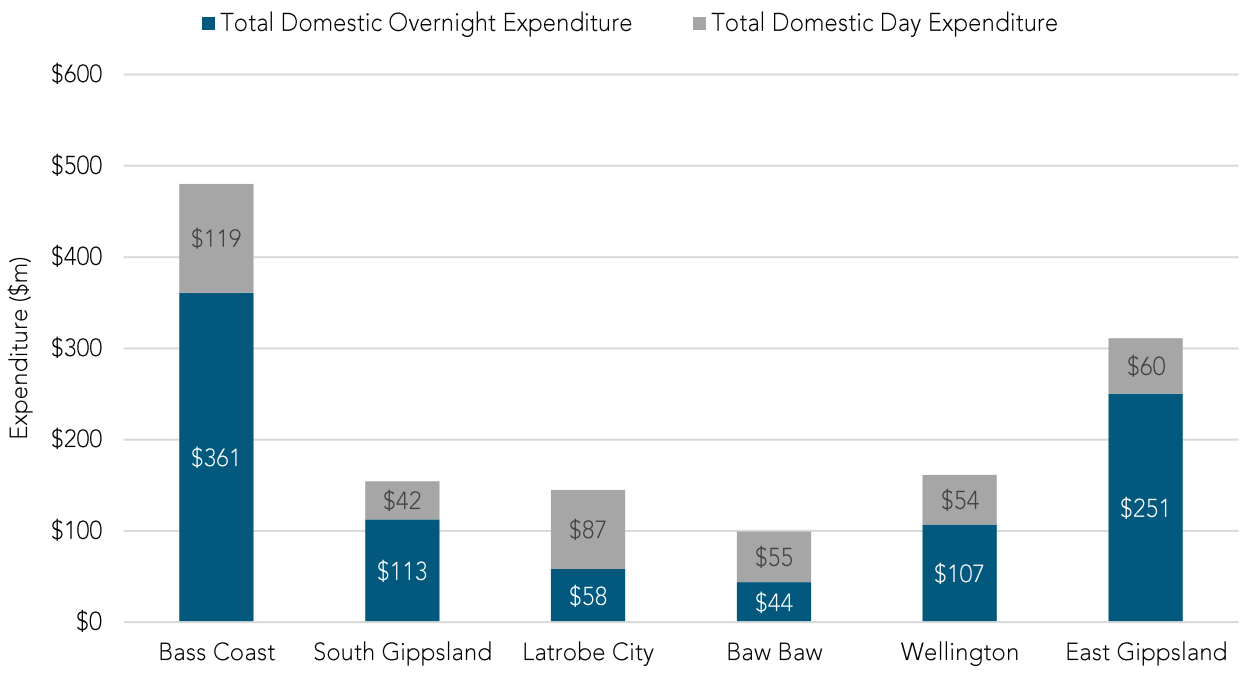

Figure 41: Domestic Expenditure (2016-2019 Average)
Source: Tourism Research Australia, 2022

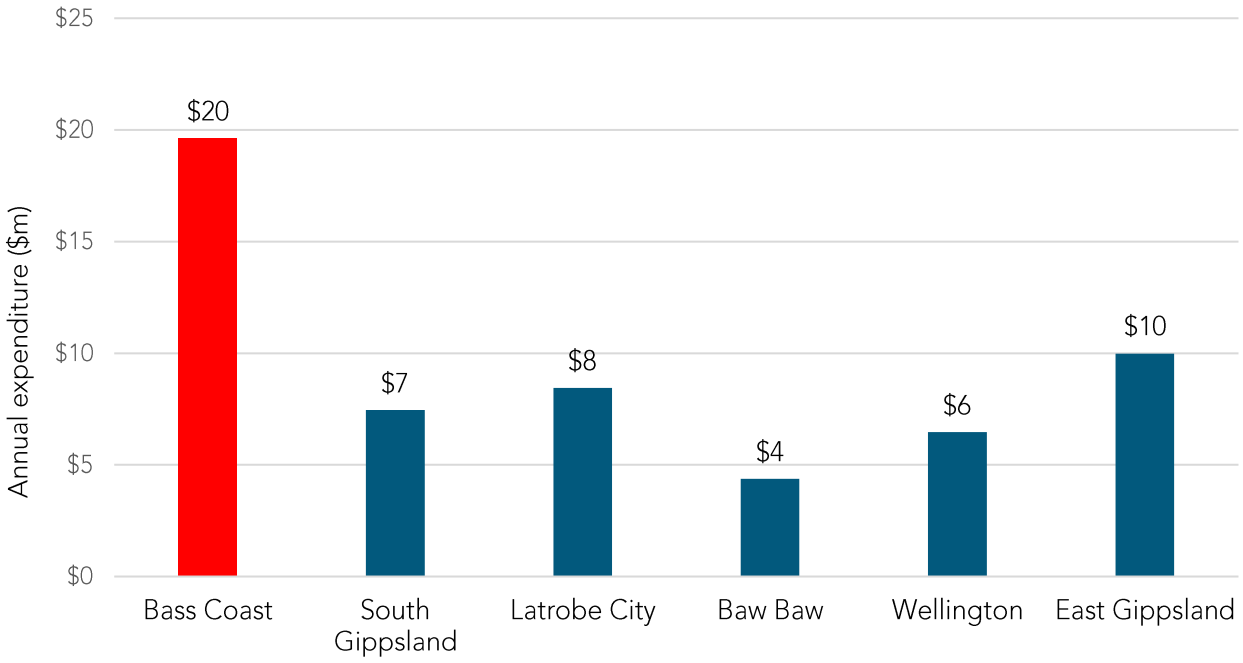

Figure 42: International Expenditure (2016-2019 Average)
Source: Tourism Research Australia, 2022

THE VOLATILITY OF TOURISM

The scale of tourism (particularly domestic) in Bass Coast is, clearly, significant. However, visitor spend in Bass Coast is highly volatile through the year with significant peaks over summer and a trough in winter. Even daily spending (which can be noisy) is volatile compared with resident spending, regardless of the season. Figure 43 plots daily Resident Local Spend and Visitor Local Spend for Bass Coast. The contrast in volatility is very noticeable.

Volatility can extend beyond weekly or seasonal cycles into multi-year patterns (which is why four-year averages of the TRA data was used earlier). Figure 44 and Figure 45 compare daily averages for Resident Local and Visitor Local Spend for days of the week and seasons. Standard deviation bars are included.

Analysis of this data shows that visitor spending by day of week is three times as volatile as resident spending and, by season it is twice as volatile. The combination creates highly uncertain turnover volumes for the 442 tourism businesses in the Shire.

THE POTENTIAL FOR TOURISM

According to the TRA, domestic day trip spending in Bass Coast averages $86 per trip, which is well within the expected range for Gippsland LGAs. By contrast, domestic overnight spend per trip is at the upper bound of Gippsland spending (Figure 46). Assuming the data is reliable (and the regional consistency in the disparity between day and overnight spending provides some assurance of this), then overnight domestic visitors are particularly valuable to the economy, at an average of $293 per trip.

Over the four-year period 2016-2019, domestic overnight trippers made up 41% of all domestic visitors to Bass Coast. For East Gippsland it was 57%. Notwithstanding that, unlike Bass Coast, East Gippsland is too far to be a popular day trip destination, if Bass Coast *could* match East Gippsland's overnight share, this would possibly generate up to an additional $113 million per year for the local economy. Using a variation of the turnover analysis from Section 2.0[23], this would equate to around 80 more small tourism businesses in the Shire. Using the Tourism Satellite Account estimate of tourism business size for Gippsland, these businesses would employ an average of 5 people (including owners). Which means some 400 additional jobs.

Given the importance of tourism to the local economy, the potential for growth, but also the uncertainty about TRA data at LGA level, this examination warrants further scrutiny[24].

In relation to international spend per trip, spend per trip for Bass Coast averages $368. This is significantly lower than Latrobe City at $1,048 and even Baw Baw ($684) and Wellington ($636) (Figure 47). Given the wide disparity and the likely very small sample size from which it is based, it is not recommended that any conclusions are drawn from this.

[23] Here we estimate $1.4m in turnover per tourism enterprise. This is twice the overall turnover as tourism enterprises are assumed to rely almost 100% on visitors to the Shire, with little to no resident spend.

[24] While Tourism Research Australia data is shown in this report it must be noted their data is considered unreliable at LGA level. Caution is advised when interpreting the data.

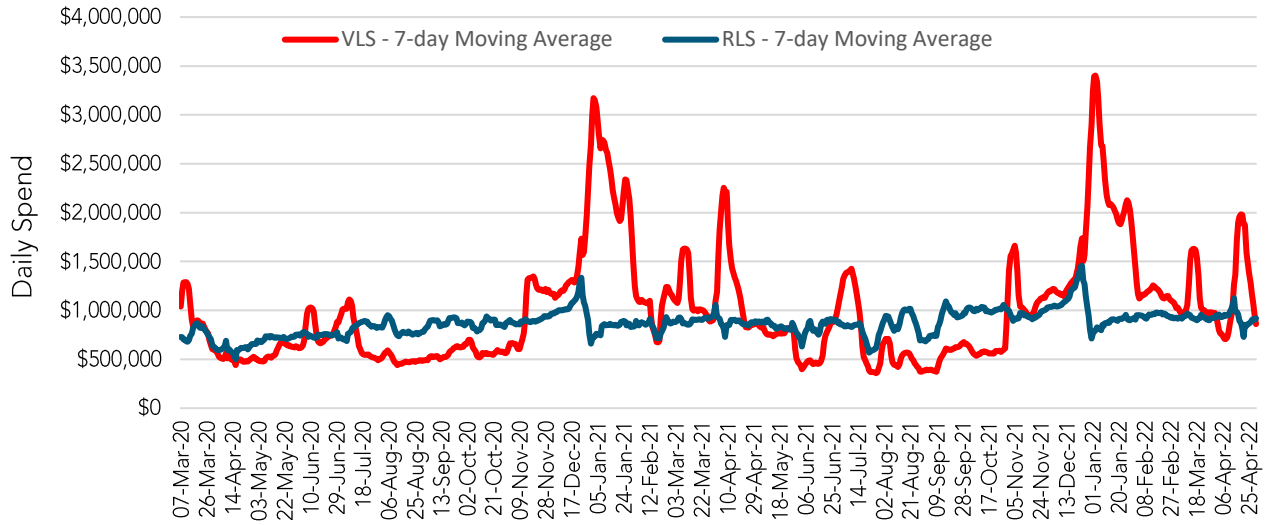

Figure 43: Daily Visitor and Resident Spend, Bass Coast
The 7-day moving average has been used to make the data series easier to visualise. Source: Spendmapp by Geografia, 2022

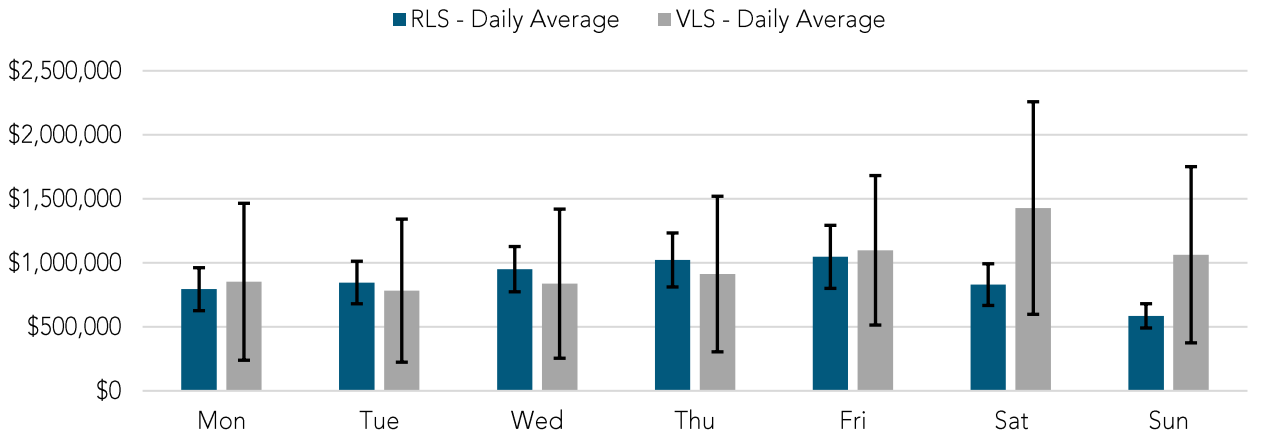

Figure 44: Daily Visitor and Resident Spend by Day of Week, Bass Coast, 2021
This shows the average daily spend by day of week with the standard deviation bars to indicate the variability. Source: Spendmapp by Geografia, 2022

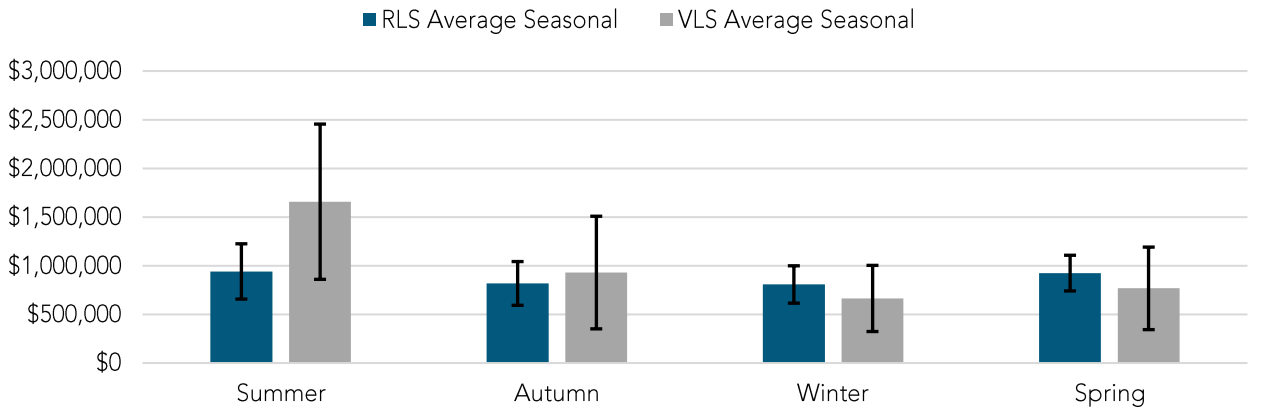

Figure 45: Daily Visitor and Resident Spend by Season, Bass Coast, 2021
This shows the average daily spend by day of week with the standard deviation bars to indicate the variability. Source: Spendmapp by Geografia, 2022

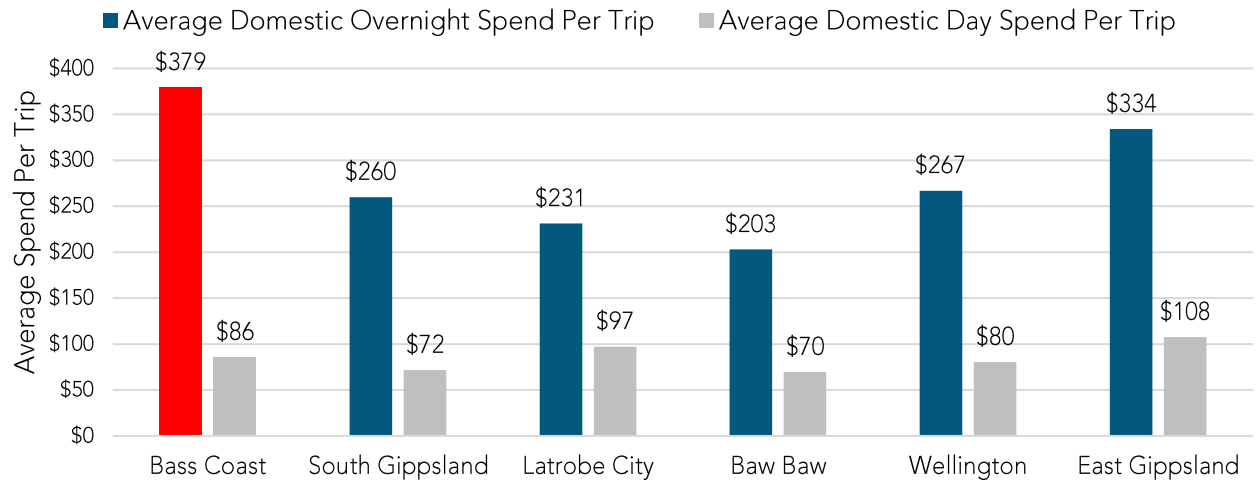

Figure 46: Domestic Expenditure per Trip (2016-2019 Average)
Source: Tourism Research Australia, 2022

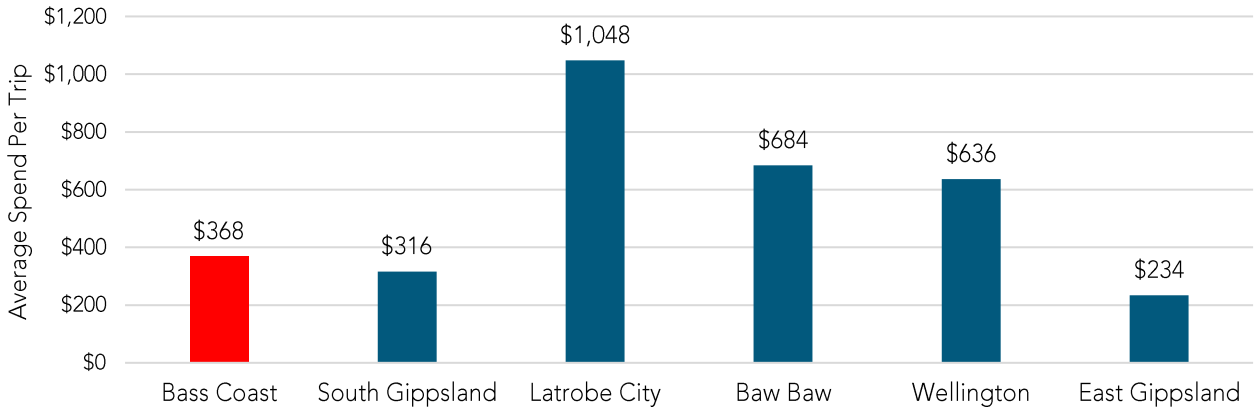

Figure 47: International Expenditure per Trip (2016-2019 Average)
Source: Tourism Research Australia, 2022

TRENDS AND IMPACTS

Trends

Over the period 2006 to 2019, Bass Coast saw significant and continued growth in both domestic and international visitor numbers. In fact, it was at the top of the Gippsland range for totals numbers and rate of growth (Figure 48). The 2016-19 average count was 29% higher (+541,000) than 2006-09, which was 23% of the growth for Gippsland. The distribution of visitors between the three types (domestic day, domestic overnight and international) remained constant through this period suggesting similar influences.

Over the same period, total expenditure grew by half as much again as visitor count, increasing by 43% (an additional $149 million per annum). Most of that growth occurred after 2016 (Figure 49). Up until 2019, then, the indications were positive, with more visitors and higher spending. As Figure 50 shows, average spending per trip to Bass Coast has been climbing relative to the rest of Gippsland and is now at $200 per trip, second only to East Gippsland ($234), which has a much higher share of domestic overnight and international visitors.

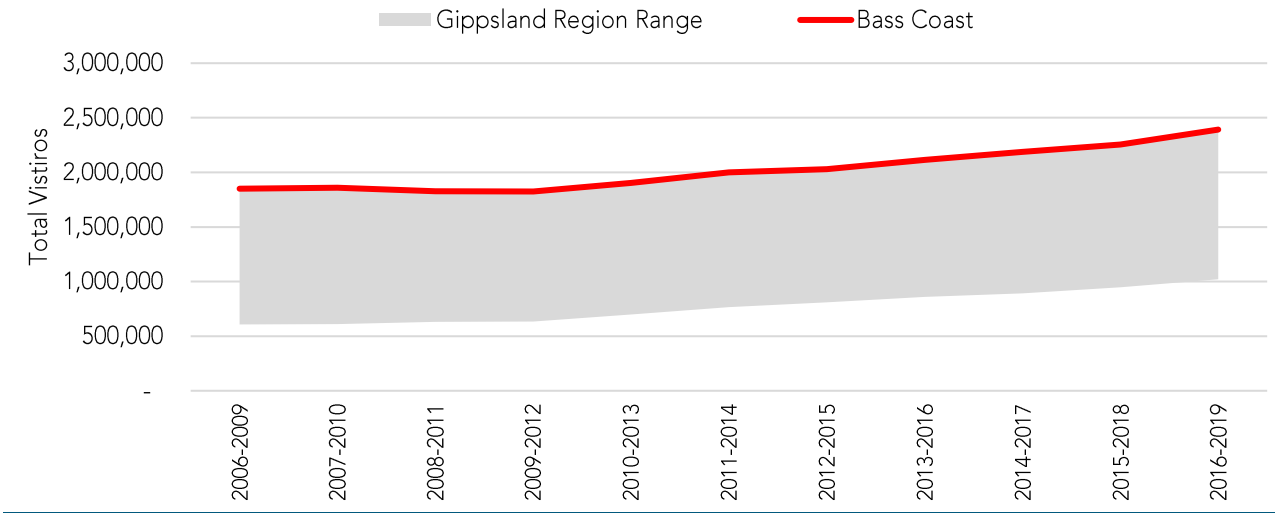

Figure 48: Total Visitors, 2006-2019
Source: Tourism Research Australia, 2022

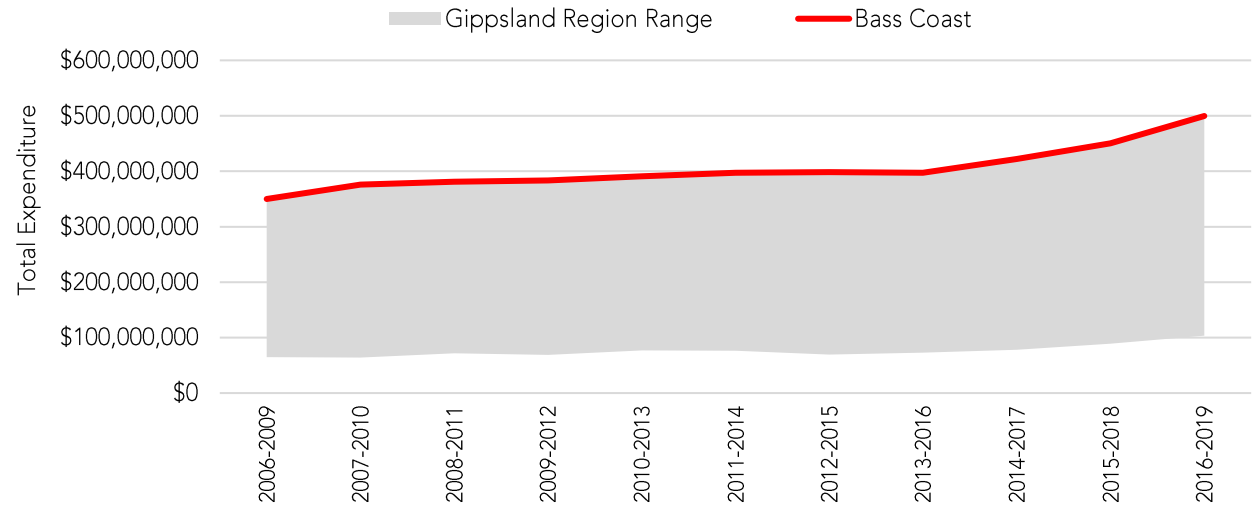

Figure 49: Total Expenditure
Source: Tourism Research Australia, 2022

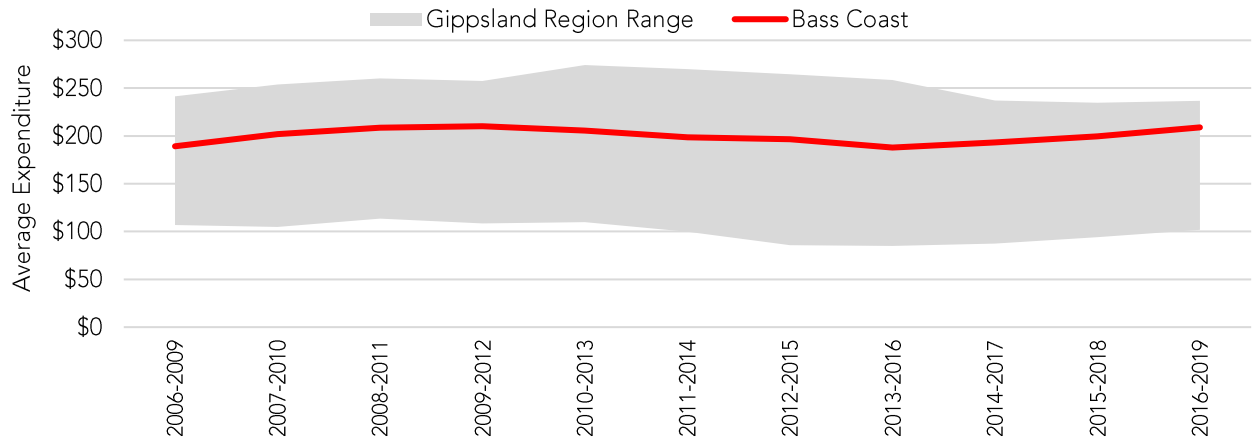

Figure 50: Average Spend per Trip
Source: Tourism Research Australia, 2022

Covid-19 Impacts

COVID-19 lockdowns significantly affected the visitor economy in Victoria. International visitor numbers dropped to zero and even domestic visitors declined during the various lockdown periods. TRA data is not available post 2019, however, we can assume that this has resulted in a loss of $40 million in international visitor spend over the last two years. Given the estimated 15% loss in Visitor Local Spend (from Section 2.3), it may have also resulted in a loss of a further $144 million in lost turnover for tourism businesses (15% of the sum of two years of average domestic day and overnight expenditure). While significant, the Spendmapp data has shown that, because the hardest lockdown periods occurred during Bass Coast's off-peak seasons, the impact on domestic spending at least, was relatively modest.

In fact, schemes such as the Victorian Regional Travel Voucher scheme, coupled with locked international borders and a desire to leave the metropolitan area may have helped buoy the industry over the last two years.

3.4 Technology and Innovation

Technology (in the sense meant here of 'high technology') is an important, but not essential ingredient for innovation. While technology is driving innovation in sectors such as agribusiness (e.g., with IoT devices), innovation in concepts such as circular economy initiatives can be very low-tech. In fact, the creative re-use of waste outputs is one of the defining characteristics of the circular economy.

A more efficient way to consider the status of, and trends for technology and innovation in Bass Coast, is to consider them as goods that are produced by people. These goods can be analysed by measuring the inputs and the outputs of their production.

INPUTS TO INNOVATION

Inputs to innovation are usually human capital. That is, the number and skills of the people who typically produce innovation. It has already been noted that Bass Coast has a high Jobs Deficit Index. That is, there are more highly skilled workers living in the Shire than there are jobs requiring those skills. We should, therefore, expect at least the capacity to innovate in Bass Coast.

Mindful of the limited data available, for the purposes of this analysis, innovation is assumed to be produced by those who are employed as "Professionals" in Bass Coast, of which there were 1,912 in 2016 (Figure 51). They made up around 14% of the resident workforce and 7% of the 15+ population in the Shire, in both cases, consistent with the rest of Gippsland[25]. Latrobe and Baw Baw have higher numbers mostly due to the presence of large health and education workforces.

In fact, most Professionals are employed in the Education and Training and Health Care and Social Assistance (Figure 52). As a percentage of workers in each industry, Bass Coast falls mostly within the average figures for Gippsland, with some notable exceptions (Figure 53). As well as Education & Training (which is mostly teachers), the higher number of resident workers professionals in Information, Media & Telecommunications, Arts & Recreation and Professional, Scientific & Technical Services, speaks to some local capacity for innovation.

[25] Measuring the resident workforce, rather than local jobs provides a better measure of the local capacity for innovation.

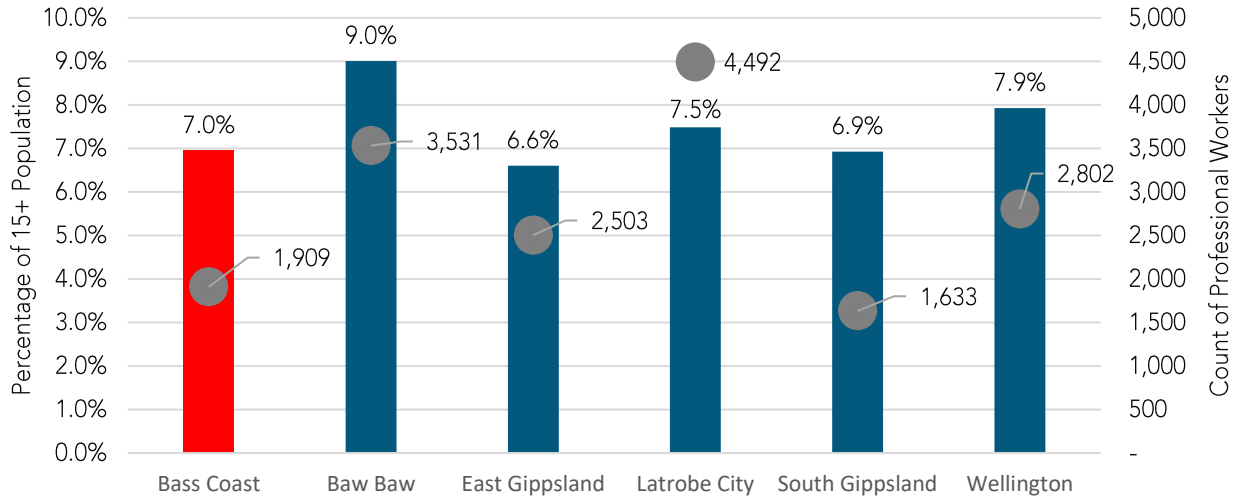

Figure 51: Number and Percentage of Professional Workers by LGA
This shows the count and the percentage (of 15+ population) of Professional Workers in each LGA. Source: ABS Census, 2016

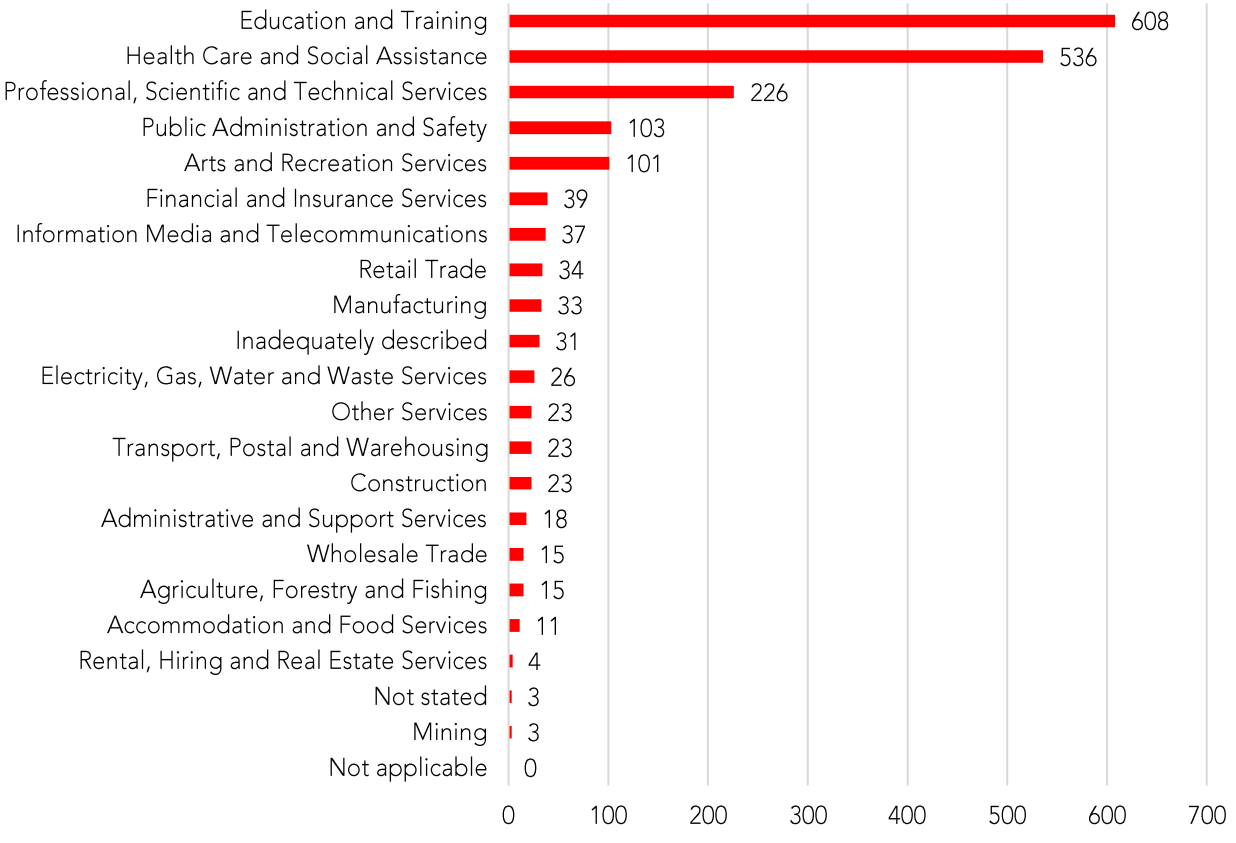

Figure 52: Professionals by Industry of Employment, Bass Coast
Source: ABS Census, 2016

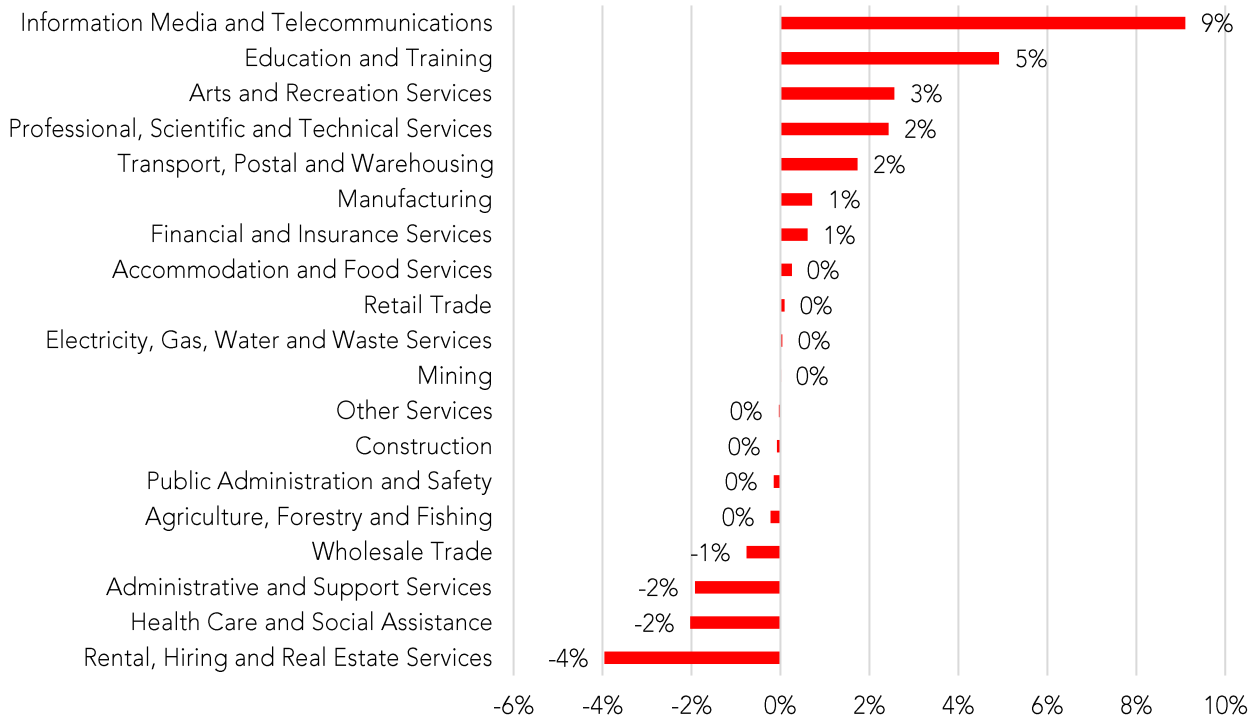

Figure 53: Difference in Share of Professionals by Industry, Bass Coast
This shows the difference between the average for Gippsland and Bass Coast. Positive numbers indicate a higher presence of professionals in that industry in Bass Coast. Source: ABS Census, 2016

OUTPUTS TO INNOVATION

One way to measure the outputs to innovation is by counting the number of granted patent applications.

There have only been three patent applications made from Bass Coast since 2000. These were in:

- Aquaculture: Artificial Reef Modules
- Construction: Improved edge protection brackets
- Professional, Scientific, and Technical: Advanced Security Lighting System

Notwithstanding this paucity of activity, combining the inputs and outputs shows how efficient each LGA economy is at converting inputs (people and their skills) to outputs (patent applications).

Figure 54 shows granted patent applications plotted against the number of Professional workers, with a line of best fit. LGAs above the line are comparatively better than average at transforming human capital into innovation and LGAs below the line of best fit are below average.

Bass Coast sits below the line of best fit. This can be explained in part by the concentration of Professional workers in Education and Training and Health Care and Social Assistance (recall Figure 52). In Bass Coast, most of the Professionals in Health Care and Social Assistance are Registered Nurses, many of whom work in Aged Care (ABS, 2016). In Education and Training most Professionals are Primary and Secondary Teachers (ABS, 2016). While being highly trained, these occupations are not often associated with innovation.

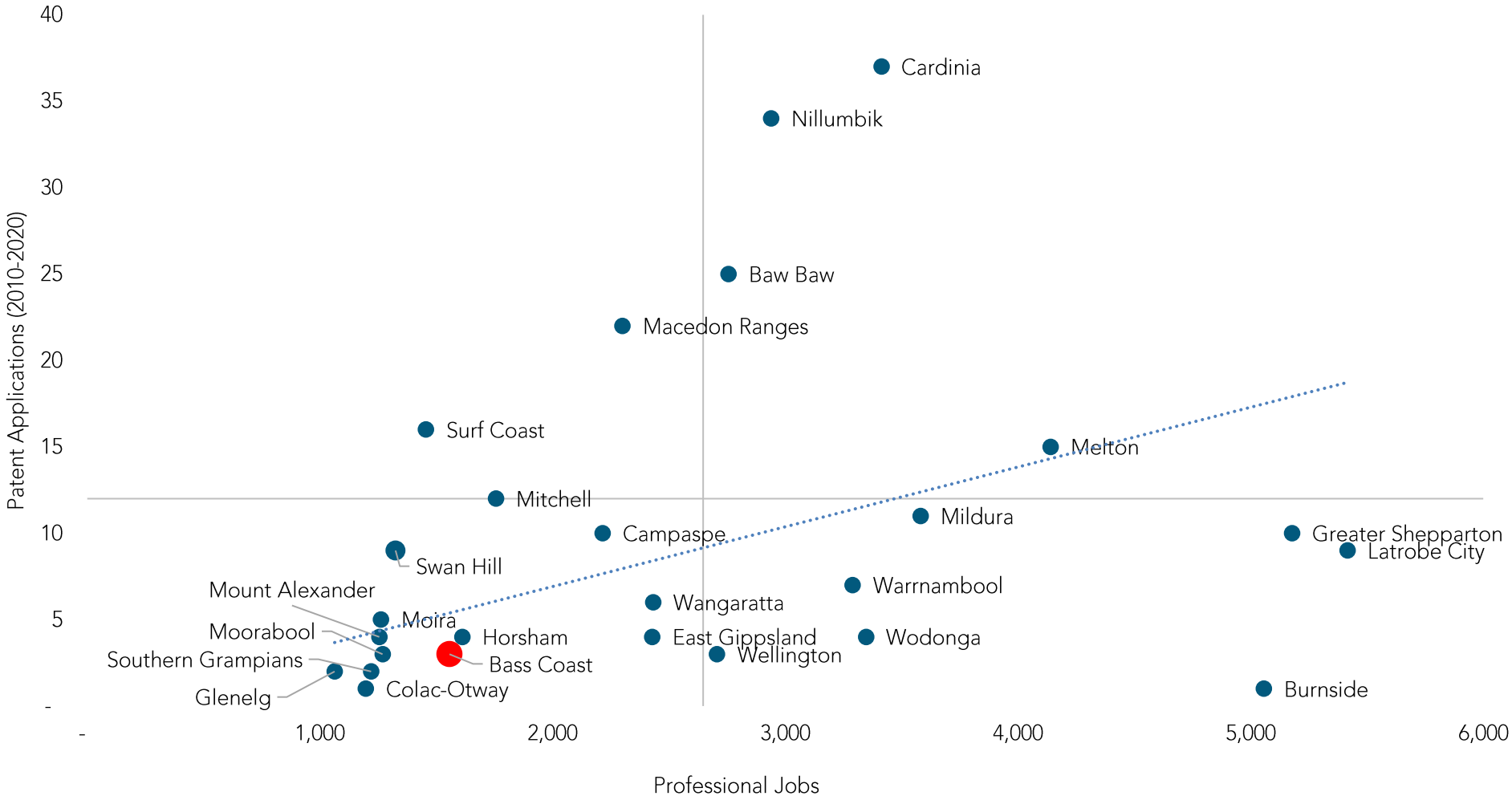

Figure 54: Granted Patent Applications and Professional Workers

This excludes LGAs with more than 6,000 professional workers and more than 40 patents as these skew the results. Source: ABS Census, 2016; IP Australia, 2022

NEW INITIATIVES IN INNOVATION

Most of Bass Coast Shire's major strategies have implicit objectives for innovation. For example, the Climate Change Action Plan references reducing the volume of waste sent to landfill by borrowing a Circular Economy concept and separating food and garden organics in waste collection. It has been estimated that globally, the circular economy could generate $4.5 trillion of additional economic output by 2030. By playing a part of that transition, Bass Coast can not only benefit by reducing its environmental impact but also gain significant economic benefits as well.

DIGITAL CONNECTIVITY

There are reasonable levels of wired and wireless connectivity in Bass Coast Shire.

Telstra provides the most comprehensive wireless coverage of the Shire with large portions of Phillip Island, San Remo, Wonthaggi and Inverloch covered by 5G (Figure 55).

There is fixed line NBN access in the major townships with a fixed wireless connection being available in most other places. A satellite connection is available in the most remote areas.

Eastern Victoria, which includes Bass Coast, scores a 55.9 on the digital inclusion index compared to 63.1 for all of Victoria[26].

[26] Source: www.digitalinclusionindex.org.au/

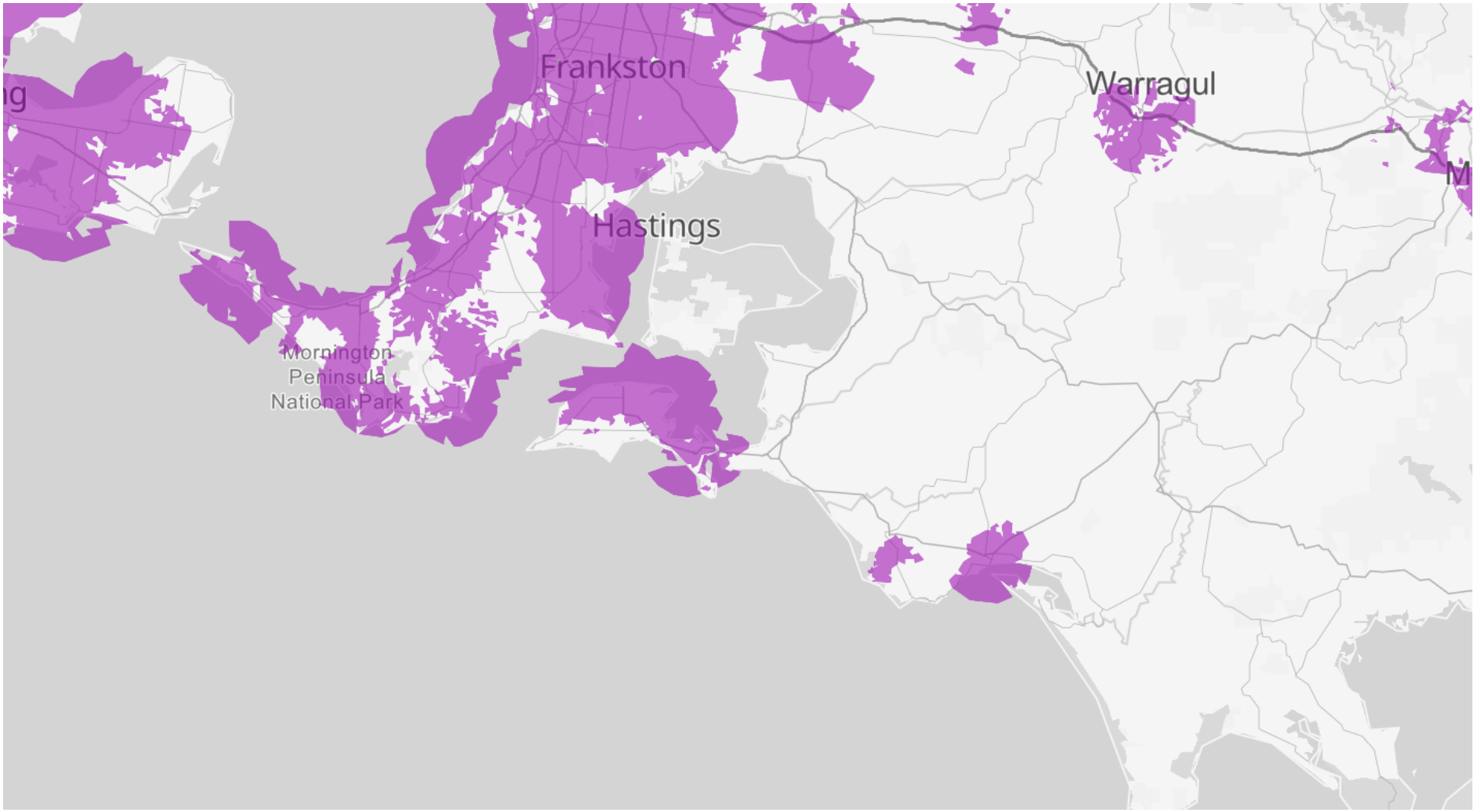

Figure 55: Telstra 5G coverage
Source: Telstra.com.au

TRENDS AND IMPACTS

Trends

There are too few patent applications in Bass Coast to make any meaningful conclusions about long term trends on the outputs of innovation. However, input changes do provide some useful insights. As more of the Victorian population undertakes higher education and enters the workforce as professionals, the number of professionals as a percentage of the total jobs in Victoria has increased from 21.3% in 2006 to 23.2% in 2016 (Figure 56). Notably, the Gippsland and Bass Coast economies have not captured this increase in Professional jobs to the same extent.

Covid-19 Impacts

Innovation output is often slow to change as the inputs - skilled workers - change along with demographic trends, access to higher education and overall migration trends. This means the impacts of COVID-19 lockdowns will not be felt for some time.

One potential benefit is that 'work from home' options might attract new highly skilled residents to the Shire. Initially they are likely to be tied to metropolitan employers. However, there is a generally held view that some small proportion of these workers will eventually set up local businesses and play a larger role in the local economy. Consequently, attracting younger, highly skilled workers may increase innovation output over the long run.

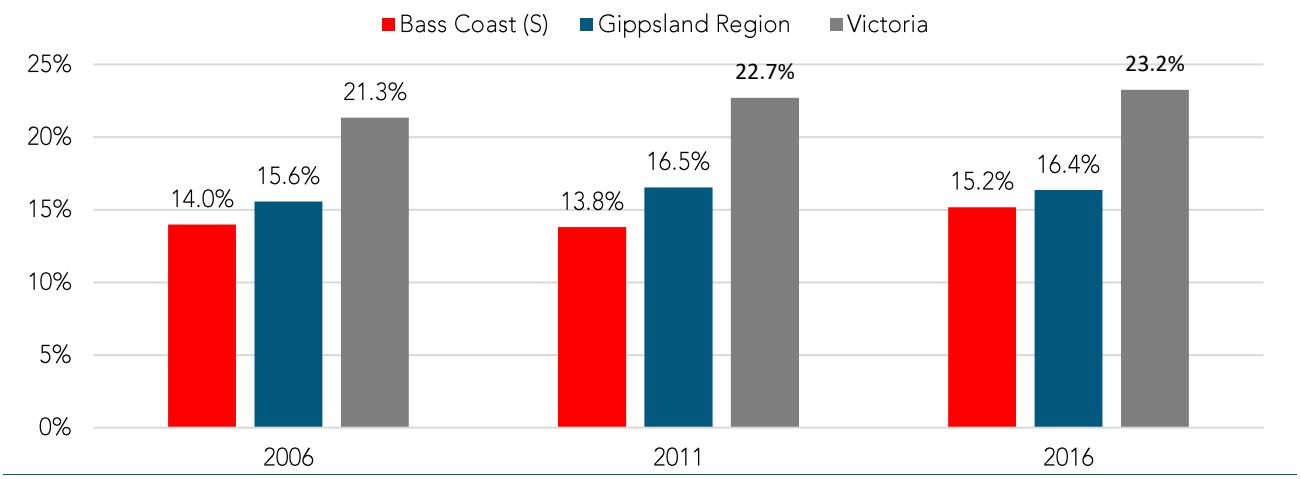

Figure 56: Professional Jobs as Proportion of Local Jobs
Source: ABS Census, 2006, 2011, 2016

4.0 HOUSING, LAND & ENVIRONMENT

Bass Coast is characterised by high-value 'rural' land accommodating agribusiness, tourism and conservation services to Victoria. Residential development is relatively compact, reflecting high land prices. These prices and the household income profile has resulted in a high level of housing stress by Gippsland standards. The natural environment contributes significantly to the local economy and impacts from climate change must be managed so ensure that the economy stays resilient.

Key Housing, Land and Environment Indicators	Bass Coast	Gippsland	Victoria
Total Residential Land	44.6 sqkm	521.4 sqkm	4,744.0 sqkm
Total GRZ Land	29.5 sqkm	135.5 sqkm	1,514.2 sqkm
Total Industrial Land	0.82 sqkm	46 sqkm	399.9 sqkm
Total Dwellings	25,831	143,266	2,525,539
Mortgage Stress (%)	7%	6%	8%
Rental Stress (%)	10.9%	8.3%	10.4%
Median House Price (Dec 2021)	$820,000	N/A	N/A
Median House Price Increase (Dec 2020 – Dec 2021)	$239,500	N/A	N/A
Median Unit Price (Dec 2021)	$550,000	N/A	N/A
Median Unit Price Increase (Dec 2020 – Dec 2021)	$120,000	N/A	N/A

4.1 Introduction

The characteristics of housing, land and the environment in Bass Coast should be viewed through the lens of the Shire as a peri-urban LGA[27]. That is:

- Fast growing, with a commuter population;
- Popular with retirees;
- A large, albeit seasonal tourism market; and
- An important agribusiness sector that creates careful husbanding of agricultural land.

These are often competing demands and put pressure on land use as agribusiness activity clashes with tourism and lifestyle residential development.

Amongst the peri-urban LGAs, Bass Coast is particularly interesting as it is retaining a high share of its rural and conservation land, with urbanisation relatively concentrated. For most of the last 30 years, its growth rate has been at the lower end of the peri-urban range (Figure 57).

The consequence of this is that, as well as a peri-urban lens, we need to evaluate housing, land and the environment in the context of Bass Coast's high value regional status; identifying strengths and weaknesses relating to the importance of retaining its capacity to accommodate rural activities.

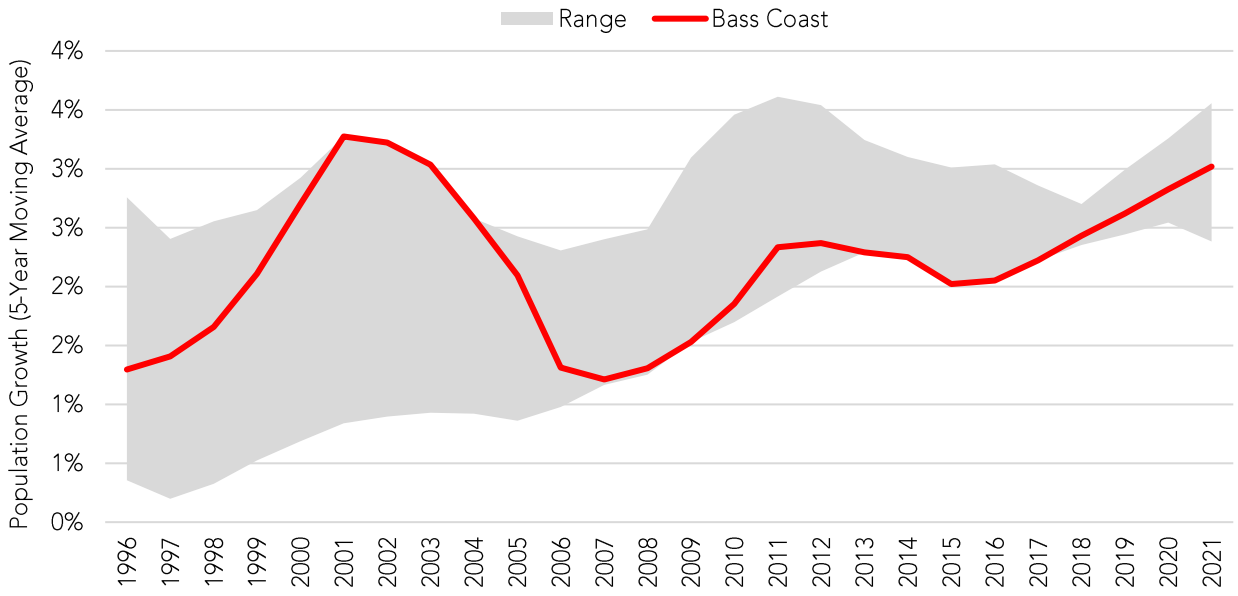

Figure 57: Peri-Urban LGA Population Growth, 1991-2021
This shows the 5-year moving average growth rate range for the five peri-urban LGAs and Bass Coast. Source: ABS, 2021

[27] Statistical techniques such as nearest neighbour analysis cannot be deployed in this section due to the lack of data.

4.2 Housing and Land

The key considerations for evaluating the status of housing and land in Bass Coast are:

- The value generated in the land from rural activity. While there is abundant land available and, consequently, it should be affordable, the relatively high output from rural activities (tourism, farming and conservation) has increased its value.
- How zoning has shaped the development patterns, which is compact by regional standards.
- Key housing metrics, including the number of dwellings, the mix, and housing stress.

HIGH VALUE REGIONAL STATUS

Although part of the peri-urban group of councils, Bass Coast still retains distinctive characteristics that set it apart. This is why, for example, it shares features with South Gippsland (a rural area) as much as it does with Moorabool (a peri-urban area) and even Yarra City (an urban area).

Four data sets can be used to identify high value regions in Victoria. That is, rural/regional settings, but with land values more common in urban areas. These are:

1. Agricultural output by value.
2. Total volume of conservation land.
3. Volume of tourism activity.
4. Total capital land value.

Areas with high agricultural output value, extensive areas of conservation land, and high volumes of tourism activity are typically regional in nature[28]. By adding (improved) land value we also factor in the high value of the current use of that land. The result provides a measure of the 'regional' value of land.

Table 21 summarises the results of this analysis derived using SA1 level data. It shows that about 93% of land Bass Coast can be defined as high value 'rural' land. That is, land that generates agricultural, conservation or tourism value. When compared with the rest of Gippsland, an average parcel (SA1) of land in Bass Coast ranks 1st in terms of its overall land value, its tourism value and its conservation value and 5th in agricultural output value.

The location of the high value agricultural land is mapped in Figure 58. The highest value land is concentrated around Jam Jerrup in the north and Ryanston in central Bass Coast. This land is dominated by livestock and dairy farming.

Table 21: Gippsland Region Rural Land -Generated Value Ranking

			Rank			
Region	High Value Regional Land (sqkm)	%	Land Value	Agricultural Value	Tourism Value	Conservation Land Value
Bass Coast	801	93%	1	5	1	1
Baw Baw	2,190	54%	4	3	2	5
East Gippsland	19,218	89%	5	4	3	2
South Gippsland	2,638	79%	6	6	4	6

28

			Rank			
Region	High Value Regional Land (sqkm)	%	Land Value	Agricultural Value	Tourism Value	Conservation Land Value
Wellington	6,236	62%	2	1	5	3
Latrobe City	683	50%	3	2	6	4

Source: ABS, 2021, Geografia, 2022, Geoscience Nexus, ABS Agricultural Census 2016-17, Tourism Research Australia, 2019, ABS Experimental Land Account, 2016

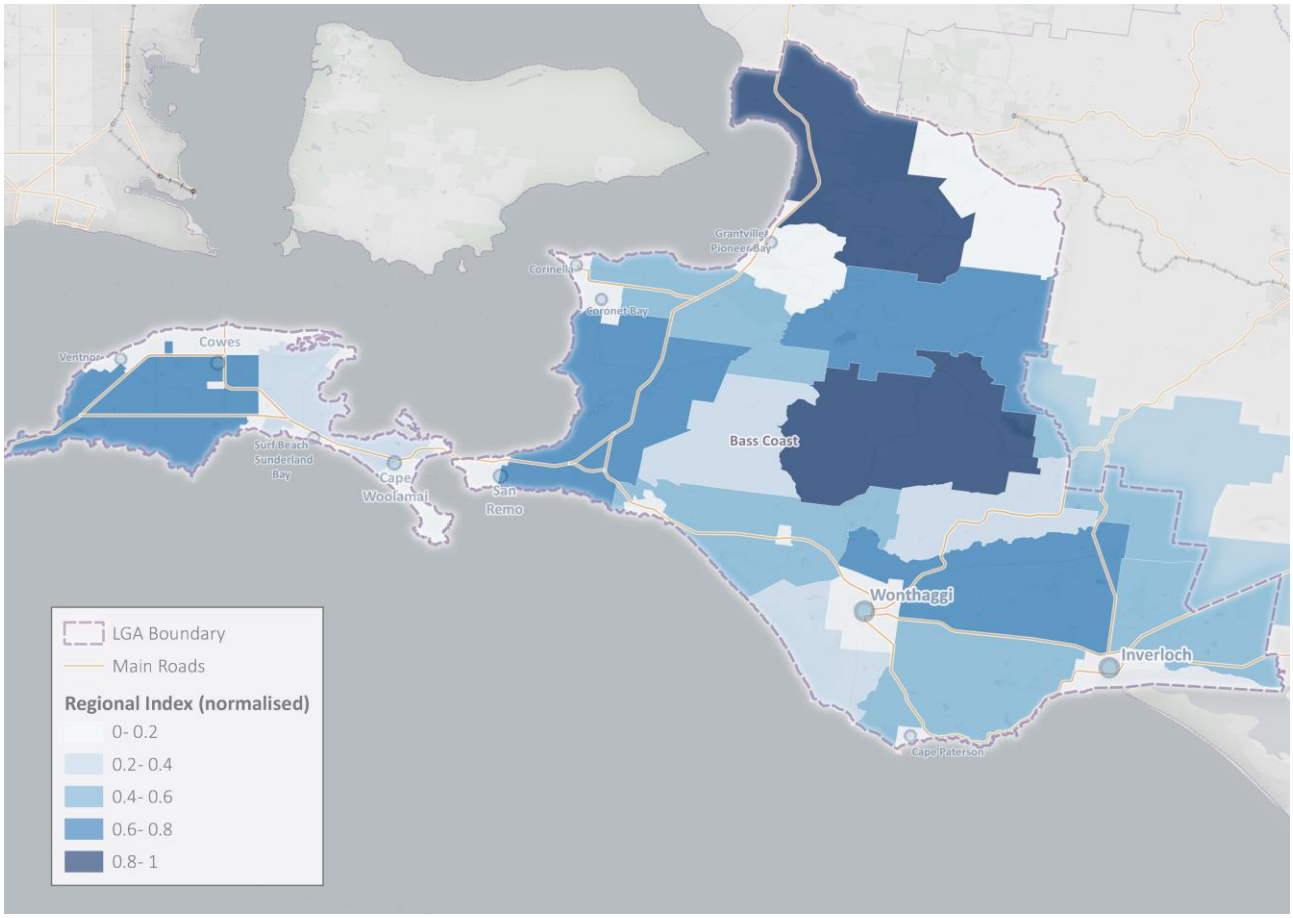

Figure 58: High Value Rural Land

Source: ABS, 2021, Geografia, 2022, Geoscience Nexus, ABS Agricultural Census 2016-17, Tourism Research Australia, 2019, ABS Experimental Land Account, 2016

ZONING AS A MECHANISM FOR RESILIENCE

In relation to its compact form, Bass Coast's residents mostly live on land zoned General Residential (GRZ). This zone accounts for 66% of all residential zoned land in the Shire (Figure 59) and is concentrated in the population centres – the north side of Phillip Island, Cape Woolamai and San Remo, Wonthaggi and Inverloch (Figure 60).

This contrasts with other Gippsland LGAs. It means that the Shire is more economically, and socially sustainable as residential development is more compact, creating better access for residents and more efficient service delivery for the Shire and other service providers.

More compact development also protects productive farmland, tourism, and conservation areas, which aligns with Bass Coast's Council Plan.

HOUSING METRICS

The housing market in Bass Coast can be defined by a few key characteristics:

- Steady growth, but expected in smaller households;
- Relative housing stress; and
- A high (but possibly decreasing) proportion of non-local owners.

Recent analysis of the residential land and housing market in Bass Coast[29] noted that housing development in Bass Coast has been robust and steady at an average of 597 dwelling approvals per year, with most being new separate dwellings. With around 8,000 potential lots (in 2018), this equates to approximately 11 years of supply[30].

Notwithstanding the steady flow of new housing, it is a tight market with high prices. Related to this is the high proportion of households experiencing housing stress (both mortgage and rental) (Table 22).

Table 22: Housing Stress

Region	Propn. Mortgage Stress	Propn. Rental Stress
Bass Coast	7%	10.9%
Gippsland	6%	8.3%
Victoria	8%	10.4%

Source: ABS, 2021

Part of the reason for tight supply is likely due to the high proportion of non-resident ownership, with around 74% of residential properties owned by non-residents. This may, though, be decreasing. Household and dwelling forecasts for Bass Coast suggest a convergence of dwelling and household numbers (see Trends section).

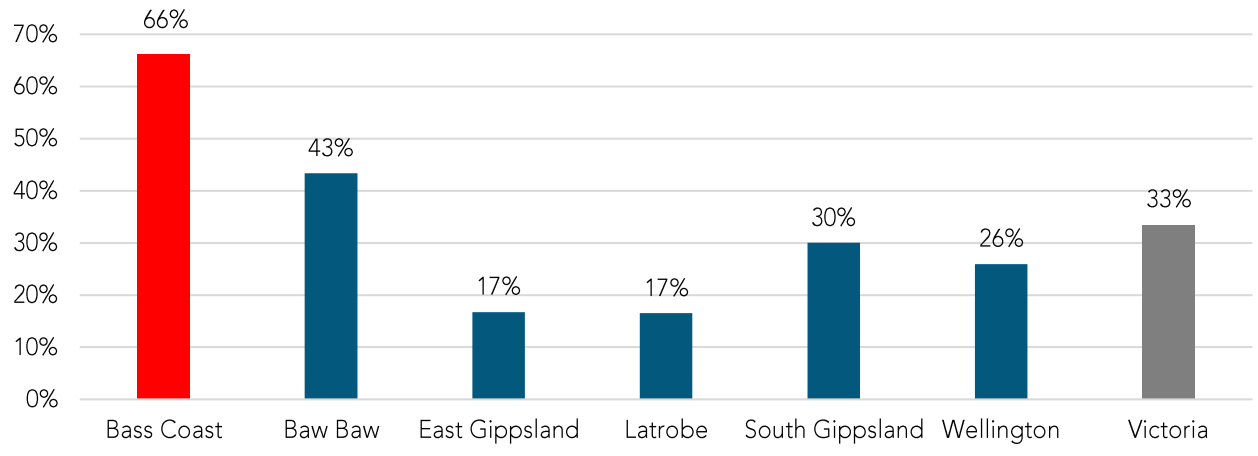

Figure 59: General Residential Zone (GRZ) as a Proportion of all Residential Land
Source: Department of Environment, Land, Water & Planning, 2022

[29] Data sourced from the ABS, 2021 and Urban Enterprize, 2022, Bass Coast Residential Assessment, Presentation to Bass Coast Shire Council

[30] Bass Coast Residential Land Supply & Demand Assessment, 2017/18, Bass Coast Shire Council

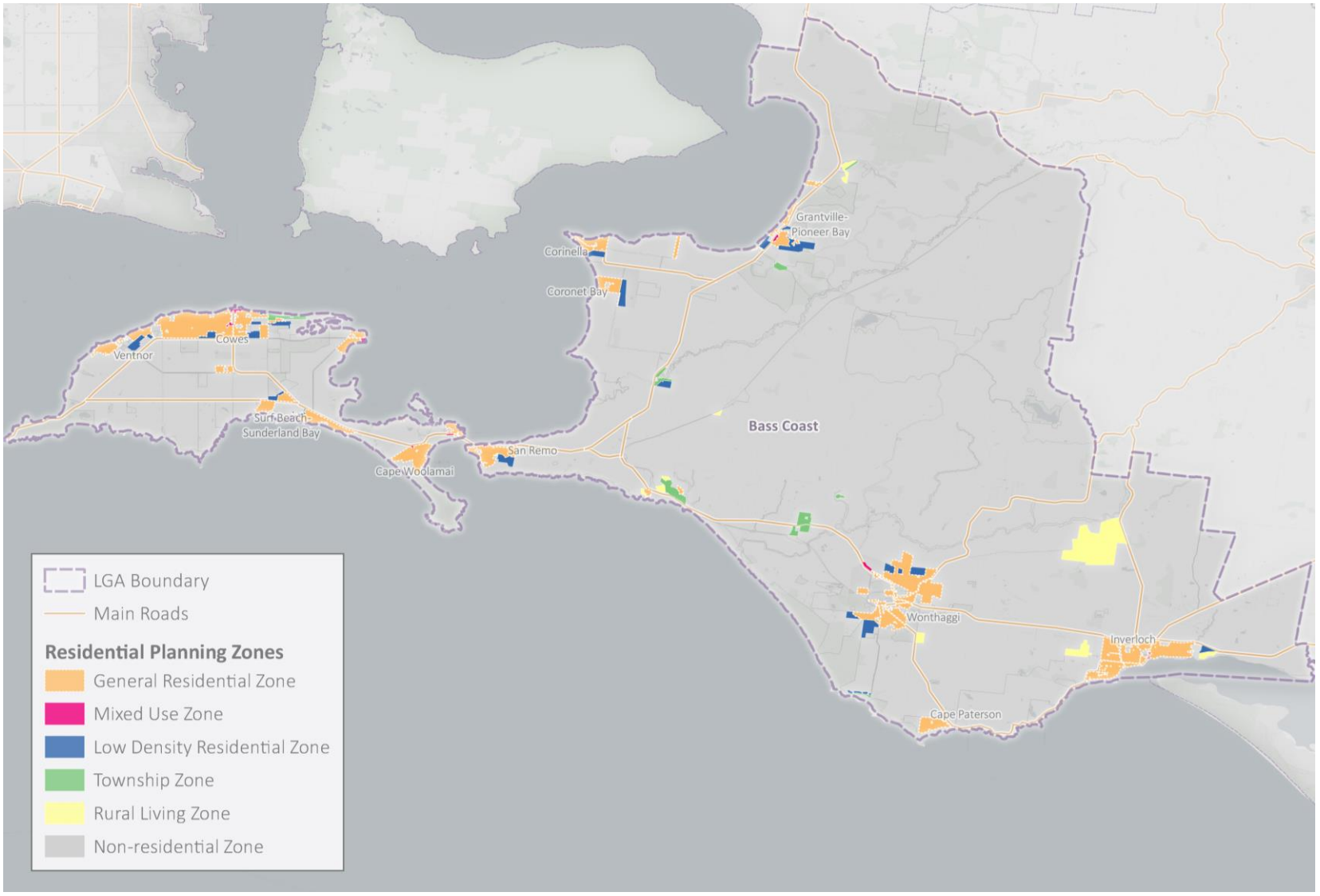

Figure 60: Residential Planning Zones
Source: Bass Coast Shire Council

INDUSTRIAL LAND

Industrial land is concentrated into seven precincts with the 'Wonthaggi (Inverloch Road Precinct)' accounting for approximately 40% of available industrial land (Figure 61).

When broken down by ANZSIC code, industrial land is primarily used by Transport, Postal and Warehousing type businesses (26%) (of which about 16% is self-storage) followed by Retail Trade (8.7%) and Construction (8.5%) (Figure 62).

These are generally population servicing, lower value industrial land uses. Additionally, vacant land makes up about 29% of the supply. This obviates the need to divert valuable conservation or productive farmland for industrial development.

It may be difficult to develop this vacant land for established industrial activities as Bass Coast is effectively competing with larger manufacturing and industrial clusters in Gippsland, many of which have excellent access to road and rail infrastructure. Additionally, current State Government policy has an emphasis on the growth of jobs in other areas of Gippsland which could limit access to funding support. More innovative industrial activity in which Bass Coast can find a niche may be a better prospect and will be an important consideration for the Shire's next Economic Development Framework.

One potential example of a niche for Bass Coast is the medicinal cannabis industry. MediPharm Australia's recent investment in Wonthaggi (the construction of a new factory), could be the start of a new and growing medicinal cannabis industry hub for the region. Moreover, the region's "green image" can be leveraged by medicinal cannabis producers to better market their products.

HOUSING AFFORDABILITY

The recent post COVID-19 growth in asset values has seen house prices in Bass Coast's towns increase significantly. Median prices in Wonthaggi have increased 39.5% over the past 12 months to $613,750 (Figure 63). Other townships have seen similar increases with Cowes up 37.2% to $845,000 and Inverloch up 22% to $970,000[31]. This creates affordability issues within the Shire as many workers, particularly lower income workers that are essential for sectors such as tourism, are likely to find it difficult to purchase their own properties within Bass Coast.

Rental affordability is also declining. Assuming an affordability threshold of 30% of gross household income, "Very Low Income" and "Low Income Households" are finding it difficult to obtain rental properties with entry level units and houses out of reach (Figure 64). The number of available affordable properties for rent has also declined significantly since 2019 with the number of affordable rental listings dropping by 496 (Figure 65). This was particularly pronounced for the moderate-income household group.

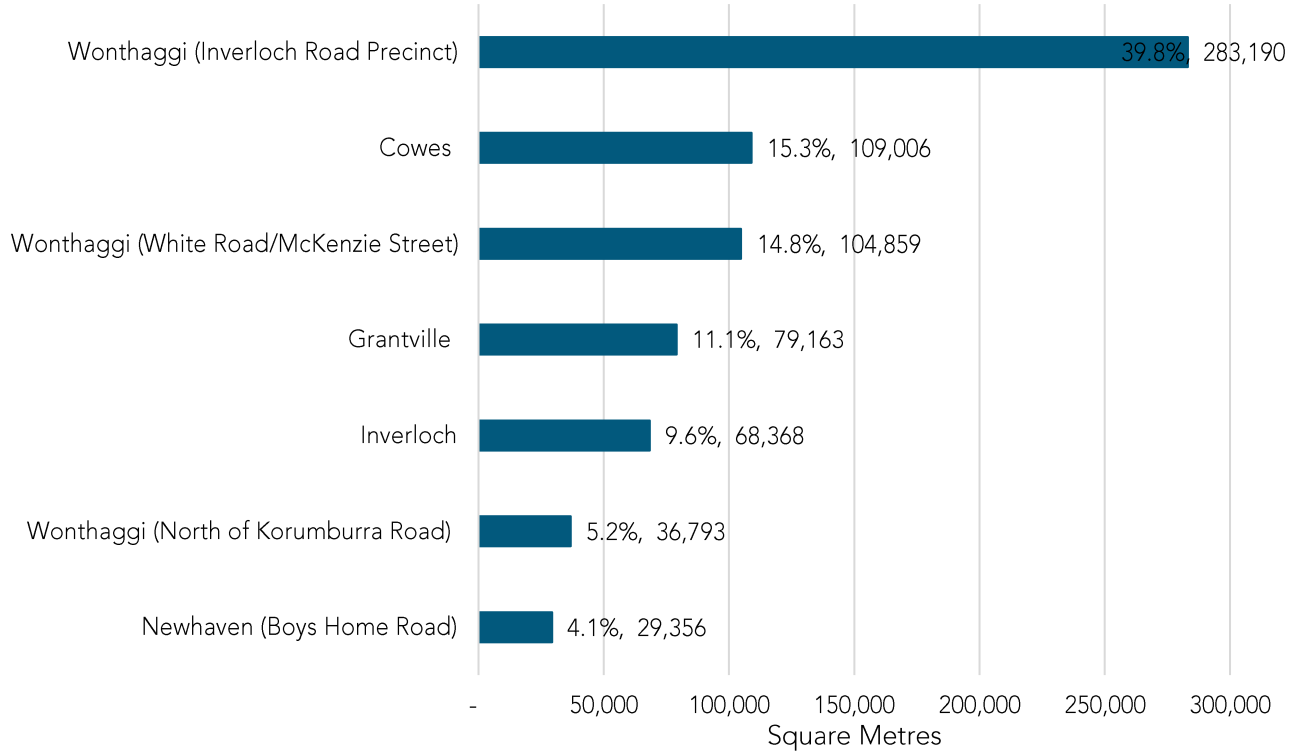

Figure 61: Industrial Land by Precinct

This excludes Government Services, which encompass a very large share of total land. Source: Bass Coast Shire Council Industrial Land Use and Register Tracker

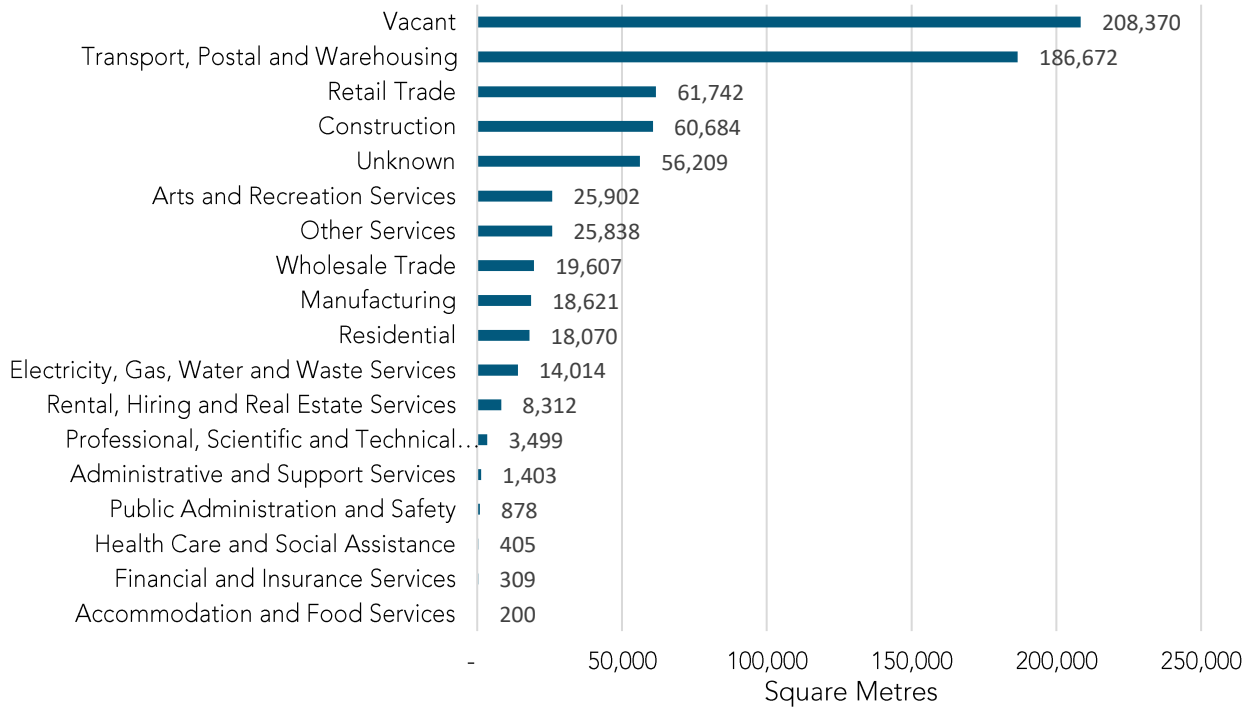

Figure 62: Industrial Land by ANZSIC Category

This excludes Government Services, which encompass a very large share of total land. Source: Bass Coast Shire Council Industrial Land Use and Register Tracker

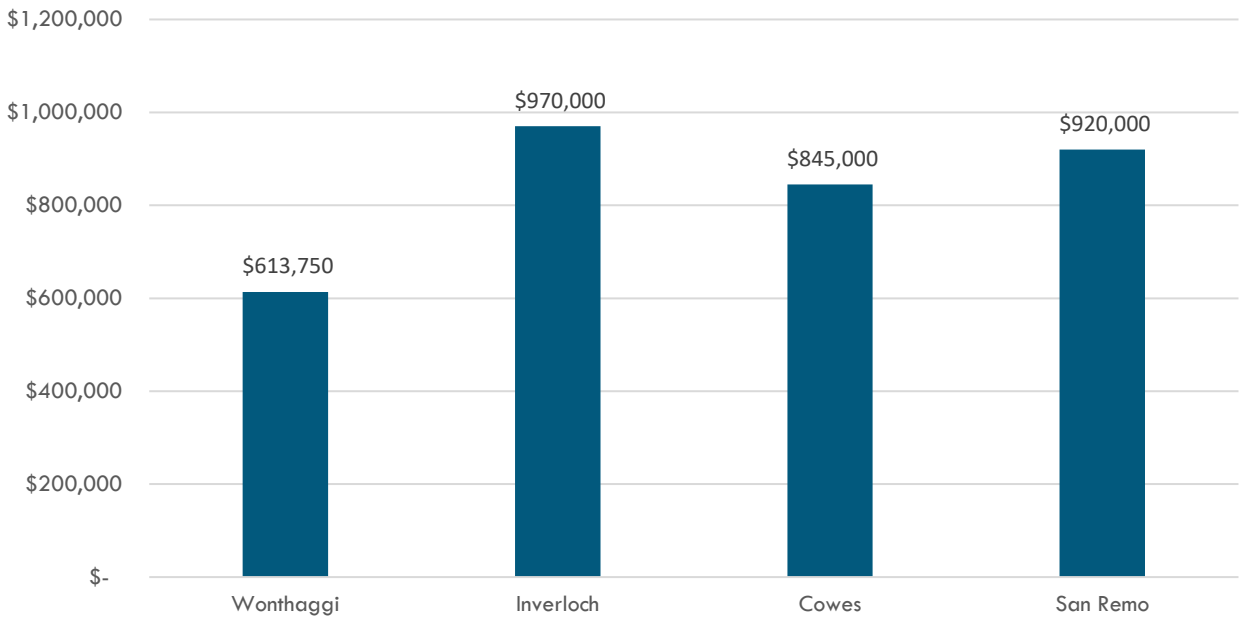

Figure 63: Median House Prices June 2022
Source: realestate.com.au

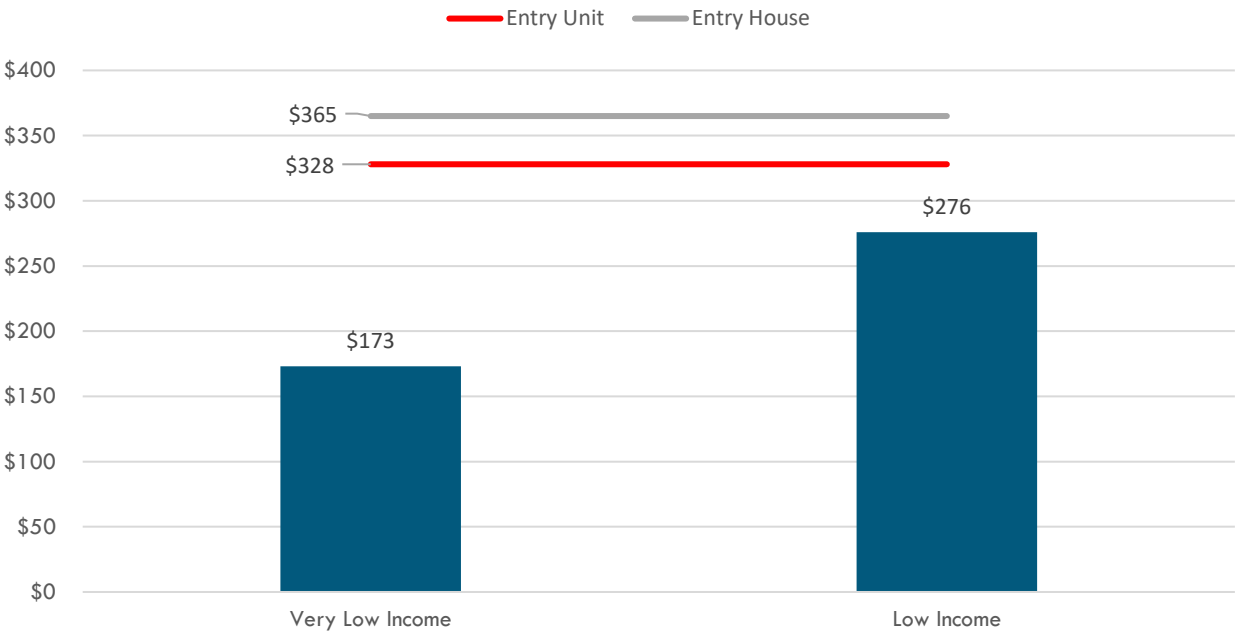

Figure 64: Rental Affordability
Source: PropTrack (REA Group Listings)

Figure 65: Change in Affordable Rental Listings, Dec19-to Dec-21
Source: PropTrack (REA Group Listings)

TRENDS AND IMPACTS

Trends

Housing and land trends are generally slow moving and without extensive historical data it is difficult to determine an overall trend unless it is a simple linear trajectory. VIFSA 2019 forecasts estimate by 2036:

- A population of 48,145 (up by 24% from 2021)
- in 22,942 households (up by 32% from 2021); and
- 37,038 dwellings (up by 27% from 2021)

The forecasts suggest there are two countervailing trends that make it difficult to determine whether housing supply will last the estimated 11 years. On the one hand, as was pointed out in Section 2.0, households are getting smaller. On the other hand, more dwellings are being taken up by owner-occupiers, slightly closing the scale of the gap between dwelling and household count (Figure 66). This gap is, however, still significant, and so there is likely to be continued development pressure. Seeking out options for more compact development will avoid undermining the economic value of the land and creating less sustainable, lower density communities.

Covid-19 Impacts

To date, there has been insufficient time (and data) to identify any empirically robust and sustained impacts of COVID-19 lockdowns on the housing market.

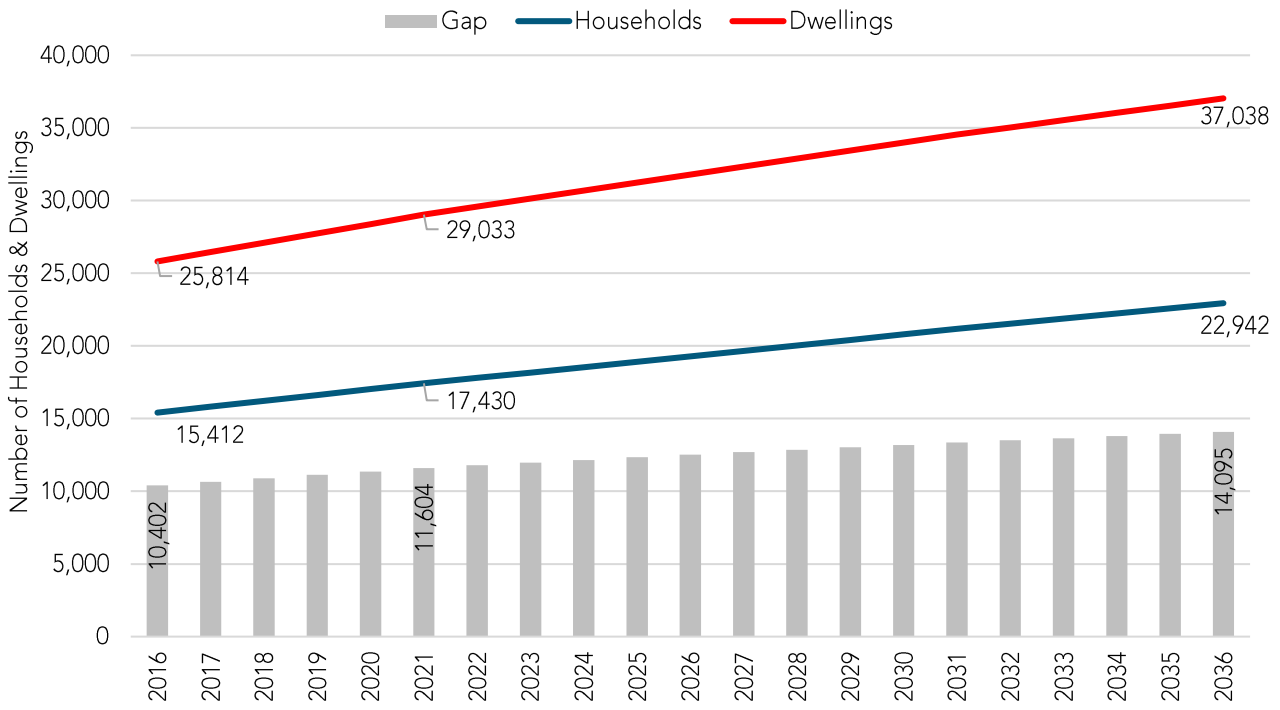

Figure 66: Estimated Households and Dwellings Growth
Source: VIF2019

4.3 The Environment

The natural environment is a key part of Bass Coast's identity and economy. From the beaches and penguins on Phillip Island to the high value rural land and local produce, the environment sustains multiple industries within the LGA. Protecting the environment as well as mitigating any effects of climate change will be key challenges going forward.

While calculating the economic cost of climate change in Bass Coast is outside the scope of this report, we can identify which industries are most likely to be affected and the ways this might happen.

CLIMATE CHANGE

The Bass Coast Climate Change Action Plan identified five key climate change hazards for the Bass Coast Region as shown in Table 23.

1. Increased average temperatures and solar radiation
2. Increased extreme heat days
3. More extreme storm events
4. Decreased annual rainfall
5. Rising sea levels and ocean acidification

Specific effects of these hazards are documented in Table 23.

Table 23: Climate Change Hazards - Economic Consequences

Climate Change Hazard	Directly Affected Industries	Combined Output of Affected Industries	Identified Risks	Comments
Increased average temperatures and solar radiation	• Retail Trade • Accommodation and Food Services • Agriculture, Forestry and Fishing	$402M	Increased household spending on cooling reduces discretionary spend	Bass Coast residents are likely to spend more on cooling their dwellings, especially the elderly. This will result in a smaller share of household budgets being available for discretionary spending in the LGA. At higher temperatures cows eat less feed which leads to a fall in milk production.
Increased extreme heat days	• Health Care and Social Assistance	$207M	Strain on Health Care and Social Assistance industry	Bass Coast is currently seen as a retirement destination, and this is reflected in the population distribution with a significant peak in the 55 to 75-year-old age group (Figure 3). Excess mortality during heat waves is greatest in the elderly and people with pre-existing illness as noted by the IPCC[32]. Apart from the obvious human cost, this is likely to place acute strain on one of the largest employing industries in Bass Coast, Health Care and Social Assistance which employs 1,442 people and makes up 14.1% of the workforce (Table ***10***).
More extreme storm events	• Rental, Hiring and Real Estate Services • Accommodation and Food Services • Tourism • Retail Trade	$1,003M	Storm surges, and riverine flooding of the Powlett and Bass Rivers Flooding and closure of Bass Highway	There is little recognised riverine flooding risk in Bass Coast with the majority of impact on low lying rural land and roads. Economic damage could be significant however if storm events coincide with peak tourist times. The Bass Highway was closed due to flooding in May 2012[33] and these kinds of events are likely to result in lower tourist numbers and spending.
Decreased annual rainfall	• Agriculture, Forestry and Fishing	$217M	Fall in farm profitability and agricultural income Increased feed costs for dairy farmers	The Climate Council's 2019 report Compound Costs[34] notes that the droughts in the 2000s saw agricultural yields fall by about 20%, agricultural income fell by 42%, and agricultural employment fell by 15%. Decreased farm incomes also lead to rural outmigration. A general decrease in rainfall can reduce the ability of dairy farmers to grow feed and can also impact the availability and cost of purchased feed.

[32] https://archive.ipcc.ch/ipccreports/tar/wg2/index.php?idp=353

[33] Bass Coast Municipal Flood & Storm Emergency Plan

[34] https://www.climatecouncil.org.au/wp-content/uploads/2019/05/Costs-of-climate-change-report.pdf

Climate Change Hazard	Directly Affected Industries	Combined Output of Affected Industries	Identified Risks	Comments
Rising sea levels and ocean acidification	• Rental, Hiring and Real Estate Services • Accommodation and Food Services • Tourism	$826M	Major tourist attractions at risk from rising sea levels and acidification	Increasing acidity of oceans could reduce available food for penguins[35] impacting the number of penguins on Phillip Island and the number and spending of tourists. Increasing acidity could also affect the availability of fish for the recreational fishing industry. Beach profiles could change significantly with rising sea levels and coastal erosion.

Source: IPCC, Bass Coast Municipal Flood & Storm Emergency Plan, Climate Council, South East Councils Climate Change Alliance, Bass Coast Climate Change Action Plan 2020-2030

[35]Impacts of Climate Change on Phillip Island Little Penguins, South East Councils Climate Change Alliance

RESPONSES TO ENVIRONMENTAL CHALLENGES

Bass Coast's Climate Action Plan 'actions' are likely to have a positive effect on the economy. Adding a shop local theme to the 'actions' could inject significant cash into local businesses and material suppliers.

Examples Include:

- Sourcing PV and insulation installations from local suppliers
- Buying energy efficient appliances from local retailers
- Adding conditions to council Climate Emergency Community Grants so that more grant money is spent with local businesses

Embracing principles of the circular economy can also allow new industries and businesses in the re-use, re-purposing and recycling to flourish in Bass Coast.

TRENDS AND IMPACTS

There is currently not enough data to reliably assess the long-term trends of climate change impacts on Bass Coast's economy. Similarly, a lack of data also prevents meaningful conclusions to be drawn from any COVID-19 impacts.

5.0 Going Forward

There is an abundance of data that can be used to analyse and project economic and population trends at the LGA level. Often there is no clear optimum set of data as it is largely dependent on the specific objective. One option, however, is to start to pivot towards use of indicators identified by UN-Habitat as the ideal metrics for local government to use to evaluate the sustainable development progress in their municipalities. This is the Global Urban Monitoring Framework. As an adaptable framework it allows for some flexibility in the actual set of measures, but with firm principles relating to the use of new and innovative data; taking a people-centric (rather than infrastructure-centric) approach to measurement; and focusing on outcome measures, instead of output measures.

5.1 Introduction

There is a significant and growing volume of data that can be used to measure and monitor population and economic dimensions of a local area. This can create uncertainty around what measures to use and the reliability of the story they tell. In fact, several factors are making it more important than ever to carefully consider what can and should be used. These factors are:

- A greater resource demand on local governments requiring better metrics to measure actual positive outcomes.
- Once costly data that, in the past, was only available to large government agencies or corporations becoming more affordable
- More and better data making it easier (but also more confusing) to build monitoring tools.
- A recognition that many traditional sources of data have serious deficiencies in terms of their capacity to measure actual demographic, social, economic or environmental attributes.

With this in mind, this section outlines some options for the Shire to develop a forward-looking monitoring framework.

5.2 Data Updates

The 2021 Census data will start to be released from June 2022. This will provide a much-needed update on many key metrics. In addition, the latest available TRA data is only for 2019. As of yet 2020 and 2021 data has not been released yet.

Points to note are:

1. The release of the 2021 Census data will provide most LGAs with a sufficiently long times series of reliable, relatively consistent data (for Bass Coast, data will be available for 1996, 2001, 2006, 2011, 2016 and 2021. Trend analysis can then rely on accurate data points, rather than intercensal or modelled estimates.
2. TRA data is recognised as unreliable at LGA level. However, tourism region level analysis is sufficient for the Shire to analyse the visitor economy context.

5.3 New Data

Relatively new data sources are proving to be more effective at measuring actual economic and social conditions in local areas than the traditional micro-simulated estimates. The latter suffers from significant accuracy problems as they have typically been developed for much larger geographical analyses where the margin of error is less noticeable. Examples include:

- The Tourism Research Australia national (NVS) and international (IVS) visitor survey data, which, while useful at the national or state level, is acknowledged as being unreliable at LGA level due to sample size[36].
- Local economic models based on the ABS National Accounts tables. While useful survey-based inputs to national and state-level economic modelling, the margin of error at LGA level can be large (and uncertain). In addition, as the model assumes no labour shortages in response to major new projects, impact analysis can be problematic. Outputs such as GRP do not assist in measuring important economic factors such as sustainability, resilience, or economic wellbeing.
- Inter-censal Estimated Resident Population (ERP). Local area population estimates (including at sub-LGA level) are typically derived from the ABS SA1 ERP estimates. The BS acknowledge that these are unreliable estimates.

There are numerous new data sources that can replace these older sources, providing more timely and accurate information, which is particularly useful for performance monitoring of local policy and strategy implementation. Table 24 lists a small selection of new data sources and their potential use. In addition to these, there are datasets that can provide a more robust evaluation of environmental factors and trends. This could include:

- Change in tree cover;
- CO_2-e emissions;
- Heat impacts and light pollution; and
- Transport modal split.

Table 24: Example New Data Sources Pros and Cons

Data	Pros	Cons
Mobile phone ping data	Can be used to observe and analyse the actual movement of people in time and space. This is useful for everything from validating small area population estimates to planning for major events, or adjusting public open space policies	100% coverage of all mobile users is costly
Satellite and/or aerial imagery	High resolution imagery with an increasing number of AI-driven analytical outputs	Cost.
Bank transaction data	Effective, up-to-date data for analysing actual local economic activity, leakage and visitor spend. These metrics can be used to monitor economic development investments, and early warning for household and local business stress.	100% coverage of all transactions is costly

[36] Geografia completed a Proof of Concept study for TRA in 2019 which identified the shortcomings of the current survey for local area analysis and the options for deploying new data streams to complement and eventually replace the current NVS and IVS.

5.4 The UN Sustainable Development Goals and the UMF

The UN Sustainable Development Goals SDGs) are a set of 17 high level goals for humanity[37]. Endorsed by UN member states they define the broad development objectives for all countries. Under these 17 SDGs, over 240 specific targets were agreed to. These are the benchmarks for achieving specific sustainable development outcomes by 2030.

In 2020 it was recognised that:

- Cities and towns accommodate an increasing share of the global population,
- Most of the SDG targets could not be easily influenced at the local level;
- Local and regional governments have an important role to play in ensuring the sustainable development goals are met in their jurisdictions; and
- There was a confusing abundance of measurement frameworks for sustainable development, making it particularly challenging for subnational governments to implement any framework to monitor progress.

In response, the UN commissioned UN-Habitat to prepare a single, uniform monitoring framework for local sustainable development. This is the Global Urban Monitoring Framework (UMF). It draws on the SDGs and other measurement tools (such as the UNICEF Child Wellbeing Index, New Urban Agenda and the City Prosperity Index) and uses a simple structure to facilitate efficient and effective monitoring by local and regional governments.

The UMF uses the intrinsic objectives of SDG11: Make cities and human settlements **inclusive, safe, resilient and sustainable.** It then matches these with the standard domains used to analyse human settlements[38]. Each of these cross-tabulations defines an attribute of a local area (e.g., an inclusive economy). There are a set of recommended metrics for measuring each attribute, with the intention that local governments can select one or more metric for each attribute and commence annual monitoring.

The UMF requires a more modest investment in performance monitoring than the primary implementation method for the SDG-measurement framework: the Voluntary National or Voluntary Local Reviews. These typically require a significant resource investment to capture and analyse extensive datasets and are typically rolled out at the national, state or regional level.

Implementing the UMF involves the identification and collection of a set of data using UN-Habitat's recommended methodology. As an adaptable framework, it can be implemented with as few as 20 metrics (one for each attributed identified in Table 25) although currently there is a recommended set of 71.

As of May 2022, local governments in Spain, China, the USA, Bolivia, and New South Wales are implementing the UMF. The expectation is that it will take several iterations over several years before these jurisdictions have a comprehensive and optimised UMF rollout.

Information on the challenges and opportunities should become available over the next 12 to 24 months.

[37] See un.org/sustainabledevelopment for more information.

[38] The standard practice of analysing settlements within the domains of society, economy, environment and governance (implementation) was modified at the behest of UNESCO to include culture as a separate domain (Geografia, 2020, Global Urban Monitoring Framework: Background Report to UN-Habitat, Nairobi).

WHY IS THIS RELEVANT TO BASS COAST?

There are three primary reasons why the UMF may be a useful tool for Bass Coast Shire:

1. As more local governments get engaged with the SDGs, the UMF is expected to become a common feature of local reporting efforts. While there is no indication of this occurring yet, it may become a formalised part of local accountability reporting.
2. The process of implementing the UMF reminds stakeholders what the key local challenges of long-term sustainable development are. It also provides an easy-to-follow mechanism to ensure the focus remains on collecting meaningful social, economic, environmental, cultural and governance data.
3. Involvement with the UMF (particularly early adoption) can be promoted by the Shire as a demonstration of commitment to sustainable development generally and the UN SDGs in particular. As more individuals and businesses accept the importance of the SDGs, this will become a valuable asset for attracting investment.

Table 25: Global Urban Monitoring Framework

		OBJECTIVE			
		Safe and Peaceful	Inclusive	Resilient	Sustainable
DOMAIN	Society	Safe and peaceful society	Inclusive society	Resilient society	Sustainable society
	Economy	Safe and peaceful economy	Inclusive economy	Resilient economy	Sustainable economy
	Culture	Safe and peaceful culture	Inclusive culture	Resilient culture	Sustainable culture
	Environment	Safe and peaceful environment	Inclusive environment	Resilient environment	Sustainable environment
	Governance	Safe and peaceful governance	Inclusive governance	Resilient governance	Sustainable governance

5.5 Benchmarking

The inclusion of these new data sets opens up new opportunities for sophisticated, but still relatively cost-effective benchmarking. Nearest neighbour analysis consistently demonstrated that Bass Coast Shire's economic and demographic characteristics are most closely aligned with other Gippsland LGAs, particularly East Gippsland. This suggests that there could be opportunities for collaboration with neighbours when formulating and implementing economic development strategies.

OPTIONS FOR BASS COAST

By adopting the UMF, Bass Coast Shire can both monitor population and economic conditions as well as participate in the global sustainable development monitoring efforts. This will require an investment in investigating access to, and then collecting data for the UMF. The current set of indicators are listed in the Appendix.

6.0 Appendix

6.1 Methodology

As well as the cleaning, compilation and analysis of available data, several methods were used to analyse data to identify unique conditions and trends. These are described below.

NEAREST NEIGHBOUR ANALYSIS

This method aims to find, amongst all other LGAs, which are most similar to Bass Coast for a given set of data points. By using an algorithm to find the nearest neighbour we exclude human opinions and instead rely on the data alone to tell us which other LGA is most like Bass Coast.

Our algorithm uses the 'Euclidean distance' to find the distance between Bass Coast and all other LGAs and then selects the LGA with the smallest distance between the LGAs respective data points.

Knowing which LGAs are most similar to Bass Coast can help us gain a better perspective of the LGAs economic, population and environmental profile. It can also assist in the development of the Economic Development Strategy by pointing us toward similar LGAs which are facing similar issues and are implementing strategies that Bass Coast could include in its own set of strategies.

TIME SERIES IMPACT ANALYSIS

Spendmapp data was used to analyse the impacts of the COVID-19 lockdowns. The impact was calculated by first excluding months where a lockdown occurred and then fitting a 'line of best fit' to the remaining data points. After excluding the months containing lockdowns the line of best fit can capture the overall trends and monthly averages if there had been no lockdown. The impact of COVID-19 is then simply the difference between the actual spending during the lockdown months and the calculated line of best fit.

JOBS AND SKILLS DEFICITS

These metrics use Census data to compile indices based on unweighted characteristics of the resident skilled workforce and local jobs requiring higher level skills. The deficit identifies whether there is an undersupply of either skilled jobs (relative to the resident workforce) or local skills (relative to the local jobs). The components of the indices are listed in Table 26.

Table ***26***: Jobs and Skills Deficits

Index	Components
Skilled workers	• Proportion of residents employed in professional jobs • Employment self-containment of professional workers • Proportion of resident workers who have completed Year 12 (if above the state average) • Proportion of resident workers who have completed A Diploma or Higher (if above the state average)

Index	Components
Skilled jobs	• Employment self-sufficiency of professional workers • Overall employment self-sufficiency (all jobs) • Proportion of professional jobs • Concentration (Herfindahl index) of place of residence workers • Concentration (Herfindahl index) of place of work jobs • Labour force participation • Overall unemployment • Youth (15-19) unemployment • Change in overall unemployment

HEADROOM ANALYSIS

This uses the ABS business turnover by ANZSIC Division and employee size range by ANZSIC Division survey data to estimate, firstly, the average turnover by business in each industry and the average number of employees. These averages can then be used to provide a rough estimate of the 'headroom' (or additional turnover) required in the local economy to support another business in a particular industry.

HERFINDAHL INDEX

This can be used to determine whether a particular feature is concentrated into one component. For example, using industry of employment, we can determine if one industry dominates the local economy by having an unusually high proportion of workers from the local economy. It is calculated by summing the square of each proportion.

LOCATION QUOTIENT

This is a well-established, simple metric usually used to identify concentrations in one or more industries. It divides the local share of a particular industry (e.g. of employment or GRP) by the regional benchmark share. Values above one show a local concentration. Typically, values will range between 0.8 and 1.2 unless there is a particular local strength or weakness.

LOCKDOWN DATES VICTORIA

Table 27 lists the dates used when quantifying the COVID-19 lockdown impacts.

Table ***27***: Covid-19 Lockdown Dates

Period	Lockdown Status
31/03/2020 – 12/05/2020	(Stage 3) no official distance limit
9/7/2020 – 1/8/2020	(Stage 3) no official distance limit
2/8/2020 – 18/10/2020	(Stage 4) 5km Limit on travel
19/10/2020 – 26/10/2020	(Stage 2) Reduction in lockdown level from Stage 4
12/02/2021 – 17/02/2021	(Stage 4) Snap lockdown

6.2 UMF Indicator List

Table 20 lists the current set of UMF indicators. There is an expectation that some of these may change in the next 12-24 months as early adopters implement and report back on its effectiveness. More details on the recommended methodology for collecting and evaluating each indicator can be sourced from UN-Habitat, or, in the case of the Cultural Indicators, from UNESCO.

Table ***28***: Global Urban Monitoring Framework Indicators

Attribute	Indicator
Safe and peaceful society	Under-5 mortality rate Safely managed drinking water services Safely managed sanitation services and hand-washing facility with soap and water Proportion of births in all health facilities Proportion of vaccinated children Life expectancy at birth Neighborhood safety Adolescent birth rate Traffic fatalities
Inclusive society	Basic services Access to public transport Education completion rate Secure tenure rights to land Prevalence of malnutrition in children under 5 Multilingual education Welfare of migrants
Resilient society	Population affected by hazardous events Mortgage debt relative to GDP Mortality rate (diseases) Suicide mortality rate
Sustainable society	Slum population Gini coefficient
Safe and peaceful economy	Children engaged in child labor Time spent on unpaid domestic and care work
Inclusive economy	Youth not in education, employment or training (NEET) Unemployment Rate Internet use Use of Public transport
Resilient economy	Fixed Internet broadband subscriptions Youth and adults in formal and non-formal education and training Small-scale industries in total industry value added Days to start a business Patent application Adult population with a qualification from a recognized tertiary education institution City product (GDP) per Capita (PPP)
Sustainable economy	Sub-national debt Mean household income
Safe and peaceful environment	Wastewater safely treated Solid Waste Collection and Disposal Air quality Hazardous waste
Inclusive environment	Access to Open Public Spaces Legislative, administrative and policy frameworks

Attribute	Indicator
Resilient environment	Renewable energy share Change in tree cover Efficient land use Green area per capita
Sustainable environment	Material Footprint Total greenhouse gas emissions per year
Safe and peaceful culture	Culture for social cohesion
Inclusive culture	Access to culture Cultural participation
Resilient culture	Cultural employment Expenditure on heritage
Sustainable culture	Sustainable management of heritage Climate adaptation and resilience Open space for culture
Safe and peaceful governance	Victims of violence by reporting rate Victims of physical or sexual harassment Bribery Financial autonomy
Inclusive governance	Efficiency in urban governance Proportion of seats held by women in sub-national/ local governments Legal frameworks for equality Intimate partner violence
Resilient governance	Own Revenue Collection Local disaster risk reduction strategies
Sustainable governance	Governance of culture Adolescent birth rate National urban policies