



# Municipal Emergency Management Plan

## *Part 2: Background*

Version 4 – May 2020

## Document Control

### Amendment History

AMENDMENT			EFFECTED	
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1	01/09/2014	Complete Review of MEMP following audit	Director – City Infrastructure	1 September 2014
V2.1	31/03/2016	Update contact details & gov't department changes. Item 4.3 Prevention Plans – add flood plans. Item 8 – remove Red Cross as primary agency for catering.	Neil Holland	
V2.2	10/11/2016	Amendments identified through the annual review process, endorsed by the MEMPC	Justin Hinch	20 December 2016
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### Amendment Authorisations

NAME	POSITION	DATE
Sue Rondeau	Coordinator Emergency Management	23 August 2017
Mat Deans	Emergency Management Officer	May 2020

### Approved By:

TITLE	NAME	SIGNATURE	DATE
Chief Executive Officer	Peter Schneider		

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## 2 BACKGROUND

### 2.1 CONTEXT

Warrnambool City Council is located on the south-west coast of Victoria, about 260 kilometres west of Melbourne and is the largest coastal city outside Port Phillip. Warrnambool City is bounded by Moyne Shire in the north, east and west, and the Southern Ocean in the south.

European settlement dates from 1847 when the first land sales were made, with land used mainly for grazing. Growth took place in the 1850s, with the town developing as an important coastal port. Expansion took place from the 1870s into the early 1890s, mainly in the south, spurred by the opening of the railway line from Melbourne. Some growth took place in the interwar period, with the population reaching about 7,700 in the 1920s.

Significant development occurred during the post-war years, with the population doubling from about 10,000 in 1945 to about 20,000 in 1974. During the 1970s and 1980s the population continued to grow, although at a slower rate. The population continued to gradually increase from the early 1990s, rising from about 26,000 in 1991 to nearly 32,000 in 2011.

The 2015 estimated resident population for Warrnambool City is 33,644, with a population density of 2.79 persons per hectare.

### 2.2 AREA DESCRIPTION

Warrnambool City Council includes the major centre of Warrnambool (residential, commercial and industrial land use) and the surrounding rural hinterland. Warrnambool is the main service centre for south-western Victoria, as well as being a popular retirement and tourist destination. The City encompasses a total land area of 120 square kilometres. Much of the rural area is used for agriculture, particularly dairy farming.

#### 2.2.1 Map

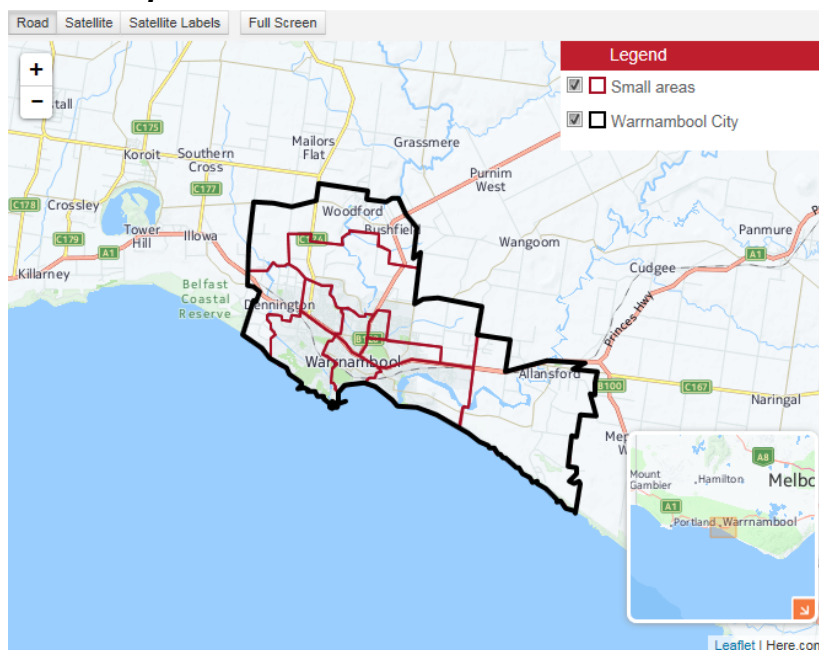


Figure 1: Map of Warrnambool City

### **2.2.2 Topography**

The area consists of undulating coastal dunes to undulating agricultural land on the northern boundary.

Warrnambool City includes the suburbs and localities of Allansford (part), Bushfield (part), Dennington (part), Illowa (part), Warrnambool, Woodford (part) and Yangery (part).

### **2.2.3 Rivers**

- Hopkins River,
- Merri River and its tributaries of Russell's Creek and the Yangery Creek

### **2.2.4 Land Use**

Much of the rural area (approximately 60% of the City's land area) is used for agriculture, particularly dairy farming<sup>1</sup>.

The majority of the City's population is concentrated in Warrnambool, Dennington, Allansford, Bushfield and Woodford.

Appendix 2: Map of Population Interface Areas

### **2.2.5 Indigenous Background**

Council acknowledges the Gunditj-mara and the Kirrae Whurrong people as the original custodians of the lands in the Warrnambool area. Council also acknowledges the descendants of the ancestors of Aboriginal nations within the lands forming the Great South Coast and particularly the elders of the indigenous communities within both Warrnambool and this region.

### **2.2.6 Climate**

The climate is moderate with an average summer temperature of 22°C and an average winter temperature of 14°C. The average annual rainfall is 690mm.

## **2.3 INFRASTRUCTURE**

### **2.3.1 Major Infrastructure Assets**

Located within Warrnambool City are the following major assets:

Facility	Address
AquaZone	Queens Rd, Warrnambool
Archie Graham Centre	118 Timor St, Warrnambool
Brierly Water Storage Dam	132 Moore St, Warrnambool
Bunnings Shopping Precinct	Cnr Raglan Pde and Horne Rd, Warrnambool
Civic Centre	25 Liebig St, Warrnambool
Deakin University	Princes Highway, Warrnambool
Dennington Shopping Precinct	Cnr Raglan Pde & Russell St, Dennington
Flagstaff Hill Maritime Village	89 Merri St, Warrnambool
Fonterra	Drummond St, Dennington

<sup>1</sup> Warrnambool City Wide Planning Strategy 2013

Gateway Plaza	154 Raglan Pde, Warrnambool
Homemaker Centre	Cnr Mahoneys Rd & Raglan Parade, Warrnambool
Lighthouse Theatre	185 Timor St, Warrnambool
Lyndoch – Aged Care	Hopkins Road, Warrnambool
Midfield Meats	McMeekin Rd, Warrnambool
Northpoint Shopping Centre	Hopkins Hwy (Mortlake Rd)
Port of Warrnambool & Breakwater	Viaduct Rd, Warrnambool
Rail freight terminal	Rooneys Rd, Warrnambool
Railway station	Merri St, Deakin, Allansford
Shipwreck Bay Holiday Park	Pertobe Rd, Warrnambool
South West Healthcare	Ryot St, Warrnambool
South West Institute of TAFE	24 Kepler St, Warrnambool
St John of God Hospital	136 Botanic Rd, Warrnambool
Sungold Stadium Premier Speedway	10275 Princes Highway, Allansford
Surf Side Holiday Park	Pertobe Rd, Warrnambool
Wannon Water - Water Treatment Plant	Grieve Street, Warrnambool
Warrnambool Water Reclamation Plant	55 Elliot Street, Warrnambool
Warrnambool Airport	16 Mailors-Flat Koroit Rd, Mailors Flat
Warrnambool Art Gallery	26 Liebig St, Warrnambool
Warrnambool Golf Course	Younger St, Warrnambool
Warrnambool Greyhound Track	Warrnambool Showgrounds, Koroit St, Warrnambool
Warrnambool Racecourse	2-64 Grafton Rd, Warrnambool
Warrnambool Sale Yards	71-99 Caramut Rd, Warrnambool
Warrnambool Stadium (ARC)	70 Caramut Rd, Warrnambool
Warrnambool Trotting Track	MacDonald Rd, Warrnambool
Waste Management Facilities	Koroit St

Table 1: Major Assets

### 2.3.2 Commerce

Warrnambool City's economy generates output of some \$3 billion accounting for over 20% of the region's economic output from less than 1% of the land area.

The following sectors account for over two thirds of employees whose place of work is located within Warrnambool:

- Healthcare and Social Assistance;
- Retail trade;
- Education and Training;
- Accommodation and Food Services;
- Construction and Manufacturing.

Warrnambool City is a popular and expanding tourism destination which draws around 700,000 visitors each year with the majority of visitors arriving over the summer period. Over 13,000 people are employed in the tourism industry and it is worth an estimated \$188 million<sup>2</sup>.

Being located at the end of the Great Ocean Road Warrnambool is viewed as a major hub for regional tourism with links to the Great Southern Touring Route allowing visitors to enter from Melbourne, Adelaide, the Grampians and the Goldfields region.

Tourism is vital to the local economy with over 205,000 people a year visiting the Warrnambool Information Centre located at the Flagstaff Hill Maritime Village Precinct. During summer months particularly from late December until Australia Day at the end of January numbers increase by at least 10,000 people per month. These numbers are influenced by a number of factors, for example a cooler summer will decrease tourism numbers and a lack of whales during whale season from May-September will have the same affect. However, a warm dry summer will drive visitation and an abundance of whales will bump up our winter numbers.

Events are popular in Warrnambool City with summer events attracting large crowds.

Key annual events include:

Summer	Lake Pertobe: Carnival rides, weekly markets and twilight movies
	Beach Fest
	WUNTA Lake Pertobe and Botanic gardens
	SurferFest
	Carols on the Merri
	Speedway Sprint cars and championships
	Warrnambool Surf T Surf
	Sungold Field Days
Autumn	South West Regatta
	State Nippers Championships/Carnival
	May Racing Carnival
Winter	
Spring	October Fest

Table 2: Key annual events

### 2.3.3 Education

Warrnambool City has:

- 10 childcare centres,
- 11 kindergartens and pre-schools,
- 5 Government and 4 Independent primary schools,
- 2 Government and 3 Independent secondary schools
- 1 special school and
- 10 occasional care services.

A complete list of the child care centres, kindergartens and schools can be found in Part 6: Appendix 49.

<sup>2</sup> Remplan <http://www.economicprofile.com.au/warrnambool/tourism/output>

Warrnambool City also has extensive after school care and vacation care programs.

In the 2009 Victorian Bushfires Royal Commission's Interim Report, the Department of Education and Early Childhood Development conducted a review of all schools (government and non-government), kindergartens and child care facilities determined by the Department to be at high-risk of fire danger. These facilities have been placed on a Bushfire At-Risk Register and will be pre-emptively closed on days when a Code Red (catastrophic) fire danger warning is issued.

Woodford Primary School is a designated Bushfire at Risk school.

Warrnambool City also contains two large educational facilities that employ a significant number of people and generate a substantial amount of economic activity within the City. These institutions include the South West Institute of TAFE and Deakin University all of which have experienced considerable growth over recent years.

### **2.3.4 Transport Connections**

#### **2.3.4.1 Road**

The main road network consists of the Princes Highway, running east and west from the City Centre and Hopkins Highway (Mortlake Road) running to the north.

Public Transport Victoria (PTV) via Warrnambool Bus Lines, provide a local bus service with 9 routes throughout Warrnambool.

Appendix 3: Local Bus Routes

#### **2.3.4.2 Rail**

Public Transport Victoria provides passenger coach and rail services from Warrnambool to Melbourne, Ballarat and Geelong.

Appendix 4: Regional Train and Coach Network

Freight trains also depart from the rail freight terminal and are managed by WestVic Freight.

#### **2.3.4.3 Air**

The Warrnambool Aerodrome is a licensed aerodrome located approximately 10 kilometres by road from the City Centre and is controlled by the Warrnambool City Council.

The airport is home to Ambulance Victoria's Helicopter Emergency Medical Services (HEMS 4) and other leaseholders including Bristow who have daily movements. The airport averages approximately 40 aircraft movements daily with General Aviation Maintenance (Courier Service) and Ambulance Victoria fixed wing aircraft daily users.

#### **2.3.4.4 Sea**

Council manages the Port of Warrnambool on behalf of the Department of Transport. The Port of Warrnambool has 18 moorings, 2 jetties, breakwater, a boat ramp and cafe. Users of the Port include professional fisherman, amateur fishermen, general public, swimmers, tourists, and the yacht club. When the weather is favourable, there are high numbers using the boat ramp.

There are also a large number of horse trainers swimming their horses from the carpark from sunrise until 10:00am.

The Australian Volunteer Coast Guard launch their vessel's from the Port of Warrnambool.

### **2.3.5 Facilities and Services Infrastructure**

The following facilities and service infrastructure exist in Warrnambool City:

- Water reclamation including sewer network, sewer pump stations and water reclamation plant
- Water treatment including storage, pumping, treatment and distribution
- Railway
- Telecommunications towers & exchanges
- Electricity sub-stations
- Natural Gas network
- 265km of urban Council Roads
- 79km of rural roads
- 271kmn of drainage pipes (excluding tunnels)
- 10,000 + pits

### **2.3.6 Health**

South West Healthcare and St John of God Hospitals provide a comprehensive range of services within the City. There are numerous counselling support and self-help services aimed at particular illnesses and needs.

Epworth Healthcare manages the South West Regional Cancer Centre located on Ryot St opposite South West Healthcare.

The Council provides an extensive range of Environmental Health Services such as food hygiene, immunisation, hygiene standards, education and promotion and pest control.

A complete list of facilities can be found in Part 6: Appendix 49

## 2.4 DEMOGRAPHY AND COMMUNITY PROFILE<sup>3</sup>

### 2.4.1 Population

The Census usual resident population of Warrnambool City in 2016 was 33,655, living in 15,188 dwellings with an average household size of 2.36.

ABS estimated resident population for 2019 is 35,181.<sup>4</sup>

The City's population growth is expected to continue into the future with the population forecast to reach over 46,210 by 2036.<sup>5</sup> The Great South Coast Regional Growth Plan projects the population of Warrnambool City to reach 55,000 people by 2041.

Population density is 2.91 persons per hectare.

### 2.4.2 Age Profile

Analysis of the service age groups of Warrnambool City in 2016 compared to Regional VIC shows that there was a similar proportion of people in the younger age groups (0 to 17 years) and a lower proportion of people in the older age groups (60+ years).

Overall, 22.1% of the population was aged between 0 and 17, and 25.0% were aged 60 years and over, compared with 21.9% and 27.3% respectively for Regional VIC. (see figure 1 below)

The major differences between the age structure of Warrnambool City and Regional VIC were:

- A *larger* percentage of 'Tertiary education & independence' (9.3% compared to 7.9%)
- A *larger* percentage of 'Young workforce' (12.1% compared to 10.9%)
- A *smaller* percentage of 'Empty nesters and retirees' (11.8% compared to 13.4%) A *smaller* percentage of 'Seniors' (10.3% compared to 11.1%)

## EMERGING GROUPS

From 2011 to 2016, Warrnambool City's population increased by 1,616 people (5.0%). This represents an average annual population change of 0.99% per year over the period.

The largest changes in the age structure in this area between 2011 and 2016 were in the age groups:

- Empty nesters and retirees (60 to 69) (+772 people)
  - Seniors (70 to 84) (+537 people)
  - Older workers and pre-retirees (50 to 59) (+332 people)
- (see figure 2 below)

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<sup>4</sup> <https://profile.id.com.au/warrnambool/population>

<sup>5</sup> <https://forecast.id.com.au/warrnambool>

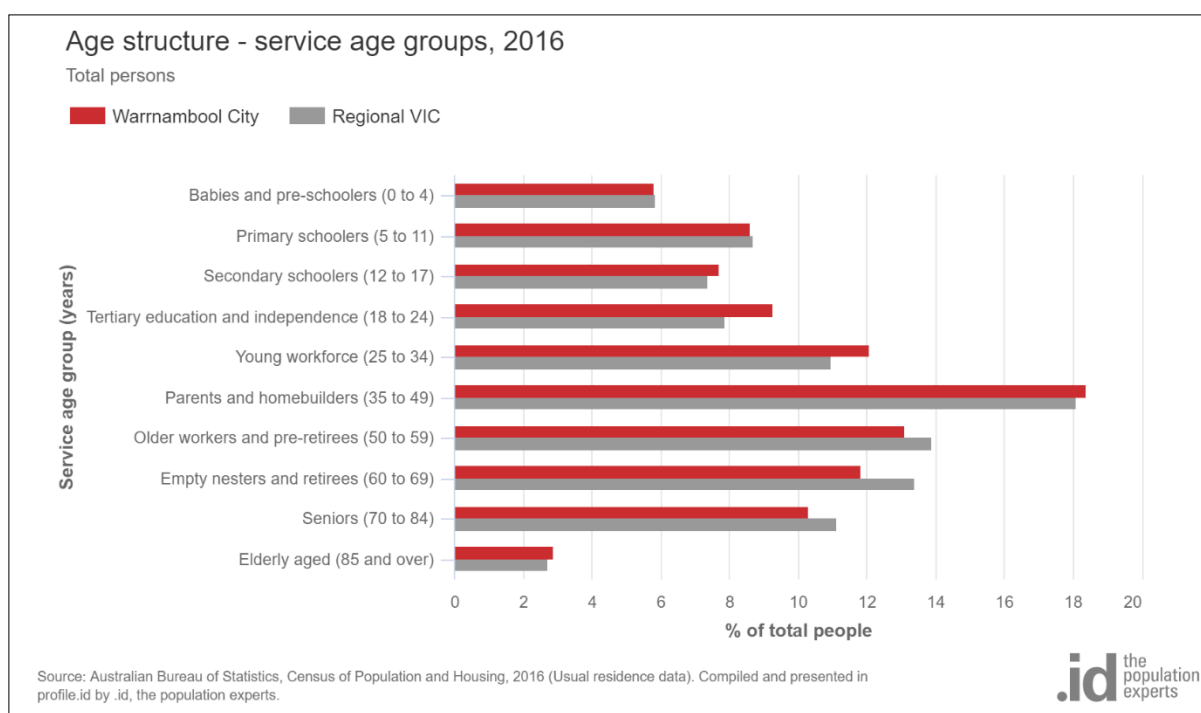


Figure 1. Age Structure – Service age groups, 2016 <sup>6</sup>

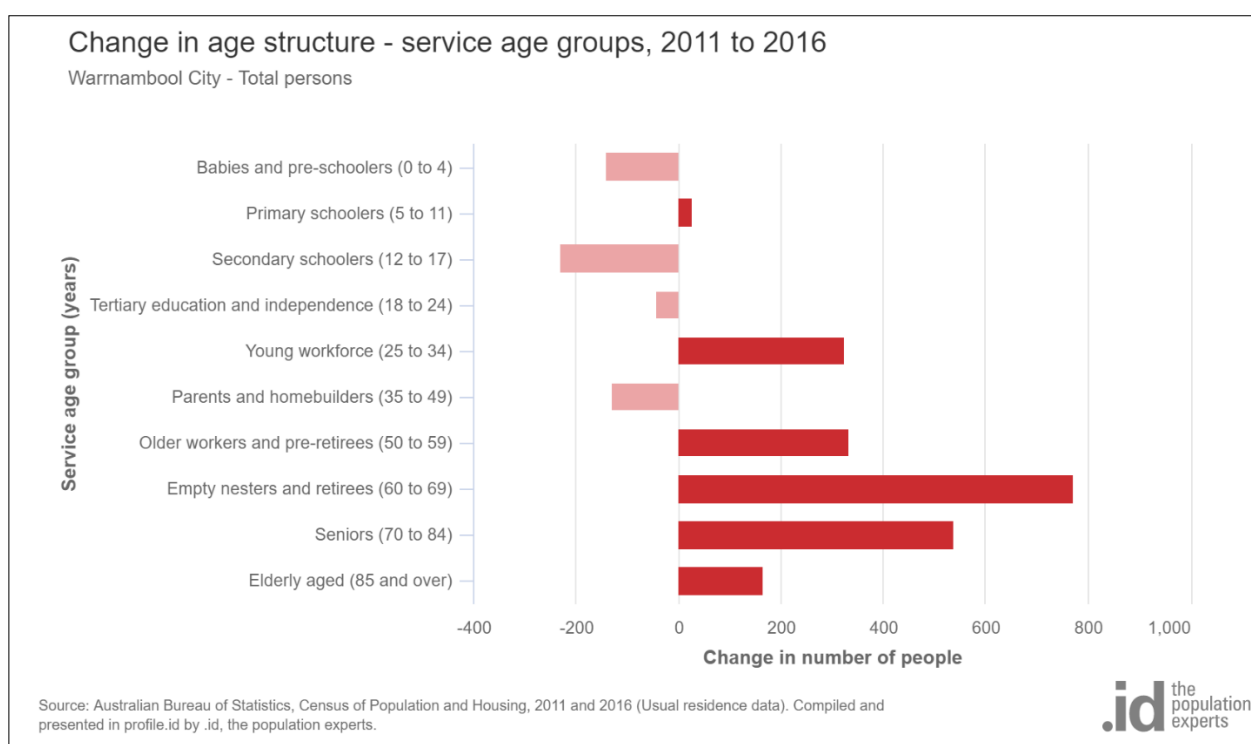


Figure 2: Change in Age Structure – service age groups 2011 to 2016 <sup>7</sup>

<sup>6</sup> <https://profile.id.com.au/warrnambool/service-age-groups>

<sup>7</sup> <https://profile.id.com.au/warrnambool/service-age-groups>



### 2.4.3 Cultural Diversity

Analysis of the country of birth of the population in Warrnambool City in 2016 compared to Regional VIC shows that there was a smaller proportion of people born overseas.

Overall, 8.1% of the population was born overseas, compared with 11.0% for Regional VIC.

Overall, 6.9% of the population was born overseas and 2.9% were from a non-English speaking background, compared with 26.2% and 19.5% respectively for Victoria. Whilst the number of people from non-English speaking backgrounds is increasing, only 0.4% of the population or 144 people who speak another language report difficulty with speaking English.

The largest changes in birthplace countries of the population in this area between 2011 and 2016 were for those born in: Taiwan (+138 persons), China (+67 persons), South Korea (+57 persons)<sup>8</sup>

### 2.4.4 Employment

The size of Warrnambool City's labour force in 2016 was 16,471, of which 6,665 were employed part-time and 8,645 were full time workers.

Analysis of the employment status (as a percentage of the labour force) in Warrnambool City in 2016 compared to Regional VIC shows that there was a higher proportion in employment, and a lower proportion unemployed.

Overall, 94.7% of the labour force was employed (0.0% of the population aged 15+), and 5.3% unemployed (0.0% of the population aged 15+), compared with 94.0% and 6.0% respectively for Regional VIC.

The labour force participation rate refers to the proportion of the population aged 15 years and over that was employed or actively looking for work. *"The labour force is a fundamental input to domestic production. Its size and composition are therefore crucial factors in economic growth. From the viewpoint of social development, earnings from paid work are a major influence on levels of economic well-being."* (Australian Social Trends 1995).

Analysis of the labour force participation rate of the population in Warrnambool City in 2016 shows that there was a higher proportion in the labour force (59.8%) compared with Regional VIC (56.1%).<sup>9</sup>

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<sup>8</sup> Australian Bureau of Statistics, Census of Population and Housing, 2011 and 2016 (Usual residence data). Compiled and presented in profile.id by .id, the population experts.

<sup>9</sup> Australian Bureau of Statistics, Census of Population and Housing, 2011 and 2016 (Usual residence data). Compiled and presented in profile.id by .id, the population experts

#### **2.4.5 Level of Education**

Analysis of the share of the population attending educational institutions in Warrnambool City in 2016 compared to Regional VIC shows that there was a similar proportion attending primary school, a similar proportion attending secondary school, and a similar proportion engaged in tertiary level education.

Overall, 8.1% of the population were attending primary school, 6.6% of the population were attending secondary institutions, and 4.6% were learning at a tertiary level, compared with 8.0%, 6.3% and 4.2% respectively for Regional VIC.

Analysis of the highest level of schooling attained by the population in Warrnambool City in 2016 compared to Regional VIC shows that there was a lower proportion of people who had left school at an early level (Year 10 or less) and a higher proportion of people who completed Year 12 or equivalent.

Overall, 32.1% of the population left school at Year 10 or below, and 41.0% went on to complete Year 12 or equivalent, compared with 34.7% and 38.9% respectively for Regional VIC.

#### **2.4.6 Access to motor vehicle**

Analysis of the car ownership of the households in Warrnambool City in 2016 compared to Regional VIC shows that 84.6% of the households owned at least one car, while 5.6% did not, compared with 85.3% and 5.1% respectively in Regional VIC.

Of those that owned at least one vehicle, there was a larger proportion who owned just one car; a larger proportion who owned two cars; and a smaller proportion who owned three cars or more.

Overall, 33.9% of the households owned one car; 36.0% owned two cars; and 14.8% owned three cars or more, compared with 31.1%; 34.9% and 19.2% respectively for Regional VIC.

#### **2.4.7 Access to information via the internet**

Analysis of the type of internet connection of households in Warrnambool City compared to Victoria shows that there was a higher proportion of households with either no internet connection or a dial up connection.

Overall 29.1% of households had no internet connection or a dial up connection, and 59.3% had broadband connectivity, compared with 28.8% and 60.9% respectively in Regional VIC.

#### **2.4.8 Household type**

Analysis of the household/family types in Warrnambool City in 2011 compared to Regional VIC shows that there was a similar proportion of couple families with child(ren) as well as a higher proportion of one-parent families. Overall, 27.1% of total families were couple families with child(ren), and 11.4% were one-parent families, compared with 26.9% and 10.5% respectively for Regional VIC.

There were a similar proportion of lone person households and a lower proportion of couples without children. Overall, the proportion of lone person households was 26.8% compared to 26.8% in Regional VIC while the proportion of couples without children was 25.2% compared to 27.8% in Regional VIC.

#### **2.4.9 Dwelling type**

In 2011, there were 11,150 separate houses in the area, 2,468 medium density dwellings, and 130 high density dwellings.

Analysis of the types of dwellings in Warrnambool City in 2011 shows that 80.0% of all dwellings were separate houses; 17.7% were medium density dwellings, and 0.9% were in high density dwellings, compared with 87.8%, 10.4%, and 0.3% in the Regional VIC respectively.

In 2011, a total of 90.0% of the dwellings in Warrnambool City were occupied on Census night, compared to 83.3% in Regional VIC. The proportion of unoccupied dwellings was 9.7%, which is smaller compared to that found in Regional VIC (16.3%).

#### **2.4.10 Socioeconomic Profile**

The Socio-Economic Indexes for Areas (SEIFA) Index of Relative Socio-economic Disadvantage (IRSD) ranks areas according to their relative socio-economic disadvantage.

The index is derived from attributes that reflect disadvantage such as low income, low educational attainment, high unemployment, and jobs in relatively unskilled occupations. When targeting services to disadvantaged communities, it is important to also look at these underlying characteristics as they can differ markedly between areas with similar SEIFA scores and shed light on the type of disadvantage being experienced.

The average score for areas across Australia is 1,000 and areas with a score below 1,000 are more disadvantaged than the national average. Those areas with a score above 1,000 are less disadvantaged.

In 2016, Warrnambool City scored 988.0 on the SEIFA index of disadvantage

## 2.5 NATURAL ENVIRONMENT

### 2.5.1 Plant species

A total of 98 indigenous and 105 introduced plant species are recorded from the Warrnambool Coast by the Biosis Research conducted in 2012<sup>10</sup>, indicating a diverse coastal flora.

Six recorded species are listed as rare or threatened in Victoria and accordingly have state significance (DEPI 2005). Three of these were located during the present study, while the others are old records from the Warrnambool area without precise location details (DEPI Flora Information System):

Status in Victoria	Scientific name	Common name	Location
Vulnerable	<i>Adriana quadripartita</i>	Coast Bitter-bush	Occurs in Grannys Grave area
Rare	<i>Austrofestuca littoralis</i>	Coast Fescue 1900 and 1903 herbarium records	Warrnambool area (FIS)
Rare	<i>Lachnagrostis robusta</i>	Salt Blown-grass 1997 herbarium record	Warrnambool area (FIS)
Rare	<i>Pultenaea canaliculata</i>	Coast Bush-pea 1893 to 1904 herbarium records	Warrnambool area (FIS)
Rare	<i>Zygophyllum billardierei</i>	Coast Twin-leaf	Hopkins River (this study)
Poorly known	<i>Stackhousia spathulata</i>	Coast Stackhousia	Widespread and common on rocky coastline (this study)

Table 3: Plant species of state significance<sup>11</sup>.

### 2.5.2 Open Space

Warrnambool City offers a large and well-used network of parks and reserves. There are 209 open spaces in Warrnambool totalling 1,025 hectares, or 8.8% of the municipality. A total of 465 hectares (113 sites) are available for recreation without restriction. The remainder of sites include restricted access sports reserves, and reserves primarily for conservation or drainage. Examples of restricted sports reserves include the Warrnambool Golf Course and Warrnambool Racecourse<sup>12</sup>.

#### Appendix 5: Existing Open Space Network

##### 2.5.2.1 Port Fairy to Warrnambool Rail Trail

The Port Fairy - Warrnambool Rail Trail links the historic townships of Port Fairy and Koroit with the regional city of Warrnambool. The trail covers 32 kilometres with trail heads at Port Fairy, Warrnambool and Koroit.

<sup>10</sup> Warrnambool Coast Vegetation Management Plan 2012

<sup>11</sup> Warrnambool Coast Vegetation Management Plan 2012

<sup>12</sup> Warrnambool Open Space Strategy 2014

## Appendix 6: Port Fairy to Warrnambool Rail Trail Map

### 2.5.3 Coastline

Warrnambool City is the Committee of Management (CoM) established under the Crown Land (Reserves) Act 1978 to manage Warrnambool's coastline which stretches approximately 12.7 km from Levy's Point Coastal Reserve in the west, to Logans Beach in the east.

Warrnambool's coastal environment exists within close proximity to, or integrated within the urban environment and is arguably one of the city's most valuable assets, supporting a diverse range of environmental, cultural and recreational values and is arguably one of the city's most valuable assets, supporting a diverse range of environmental, cultural and recreational values.

Warrnambool's coastline supports an impressive range of environmental values and landscape features, with a concentration of natural values found in the western reaches of the coastline, known as the Wild Coast. Biosis Research recorded a total of 98 indigenous plant species from over fifteen Ecological Vegetation Classes within the area managed by Council<sup>13</sup>.

These areas of coastal vegetation provide important wildlife corridors and biological hotspots for vulnerable and threatened flora and fauna species. In addition, Warrnambool's coastline adjoins a number of ecologically important areas including the Southern Right Whale nursery off Logans Beach and Merri Marine Sanctuary.



Figure 4: Warrnambool's Coastline

Logans Beach is an area of particular environmental significance due to its visual beauty and ecological sensitivity. This is due particularly to its visiting population of Southern Right Whales who: give birth, and nurse their calves in the shallow, sheltered waters visit in numbers of between 4 and 21 individuals between May and October provide Victoria with the main site for land-based whale watching and one of only ten main calving areas identified for Southern Right Whales in Australia.

<sup>13</sup> Warrnambool Coastal Management Plan 2013

The mouth of the Hopkins River estuary is also a key feature of the Warrnambool's coastline where sand deposits at the estuary mouth form a barrier to the ocean; breached either naturally or artificially by WCC in consultation with Glenelg Hopkins Catchment Management Authority (GHCMA). The semi-permanent sand bar on the eastern side of the river mouth and vegetation surrounding the river mouth provides important habitat for species including the Hooded Plover, which nest above the high tide mark. Unlike the eastern side of the Hopkins River mouth, the western side consists of the moderately high sandstone cliffs of Point Ritchie. Lady Bay is dominated by high wave action and strong undertow.

The fore dune surrounding Lady Bay supports a relatively large area of corridor habitat, containing numerous indigenous flora species from ecological vegetation classes including modified Coastal Dune Scrub and significant patches of Coastal Dune Grassland. This strip of vegetation provides an important wildlife corridor along the coastline. Warrnambool's coastline adjoins the Merri Marine Sanctuary which is of significant environmental value; situated at the mouth of the Merri River it is one of Victoria's few Marine Sanctuaries located in an urban environment. This site is managed by Parks Victoria in close consultation with the WCC and its health is closely linked to the management of the surrounding coastal environment. Middle Island, located within the mouth of the Merri River is particularly significant, providing nesting areas for Little Penguins, Little Pied Cormorants, Short-tailed Shearwaters and roosting areas for transient seabirds such as the Pacific Gull.

Middle Island's Little Penguin population was nearly decimated by fox predation with an estimated 600 individuals in 1999 reduced to less than 10 by 2005. Today the population is over 100 due to the Maremma Guardian Dogs project, which has resulted in the Little Penguin population being protected from foxes, improving habitat through revegetation and monitoring population numbers.

Merri River estuary and adjacent Brackish Wetlands also provided important habitat and feeding grounds for many native animal species, including some migratory birds. The coastline west of the Merri River estuary to the western boundary of the management area comprises a highly scenic and wild landscape. It is largely undeveloped and is characterised by its remote nature and is both visually and ecologically interesting.

The high wave energy and limited public access provide an ideal receiving environment and sustainable solution for the EPA regulated release to the ocean of reclaimed water from the Warrnambool Water Reclamation Plant (WRP) which occurs within the Warrnambool coastal Crown land. Appropriate management of the WRP provides a low total community cost outcome and would provide for predicted expansion of Warrnambool's population and commercial base.

The environmental value of the coastline between Pickering Point and the far western boundary exceed the eastern areas in terms of remnant native vegetation, due to the size of the area and condition of remnant vegetation present. Extensive communities of modified Coastal Dune Scrub and wetland vegetation associated with the prior course of the Merri River are supported within the western reaches of Warrnambool's coastline.

Appendix 7: Logans Beach Precinct Map  
Appendix 8: Lady Bay West Precinct Map  
Appendix 9: Lady Bay East Precinct Map  
Appendix 10: South Warrnambool Crown Land Precinct  
Appendix 11: Wild Coast Precinct  
Appendix 12: Coast Walking Trails

As location information is particularly difficult for spaces with no addresses, emergency markers have been installed at the entrances and exits of all the beaches within

Warrnambool City. Emergency markers look like street signs with white text on a green background. Each has a unique alphanumeric code made up of three letters and three numbers. This code is linked to the Emergency Services Telecommunications Authority (ESTA). ESTA receives all the triple zero calls in Victoria and dispatches emergency services.

A complete list of the ESTA emergency markers is available here:

<http://www.esta.vic.gov.au/Our+Role/Our+Services/Emergency+Markers>

## **2.6 VULNERABLE PERSONS: COMMUNITY ORGANISATIONS AND FACILITIES**

Vulnerable populations who are isolated due to their geographic location, socioeconomic situation, and/or their mental or physical state, adds another dimension of complexity to the development and implementation of prevention and preparedness activities.

Recommendation 3 from the 2009 Victorian Bushfires Royal Commission (VBRC), states that:

*“The state establish mechanisms for helping municipal councils to undertake local planning that tailors bushfire safety options to the needs of individual communities. In doing this planning, councils should:*

*3.1 urgently develop for communities at risk of bushfire local plans that contain contingency options such as evacuation and shelter*

*3.2 document in municipal emergency management plans and other relevant plans facilities where vulnerable people are likely to be situated – for example, aged care facilities, hospitals, schools and child care centres*

*3.3 compile and maintain a list of vulnerable residents who need tailored advice of a recommendation to evacuate*

*3.4 provide this list to local police and anyone else with pre-arranged responsibility for helping vulnerable residents evacuate.”*

Consistent with Recommendation 3 and the *Vulnerable People in Emergencies Policy* (May 2015) Warrnambool City has:

- Developed a comprehensive list of facilities where vulnerable people may be located including aged care facilities, hospitals, schools and child care centres has been prepared and can be seen in Part 6: Appendix 49.
- Updated processes to identify vulnerable persons within the City and entering that information into the Vulnerable Persons Register (VPR). The VPR was developed, and operates at a local level, to securely track vulnerable individuals. It also provides a searchable database for Police during emergencies.

## **2.7 AREAS OF CULTURAL AND HERITAGE SENSITIVITY**

Appendix 13 highlights the areas of heritage sensitivity within Warrnambool City. Areas of cultural heritage sensitivity are registered Aboriginal cultural heritage places, as well as landforms and land categories that are generally regarded as more likely to contain Aboriginal cultural heritage.

## 2.8 HISTORY OF EMERGENCIES

The table below provides details of the emergencies that have occurred within Warrnambool City:

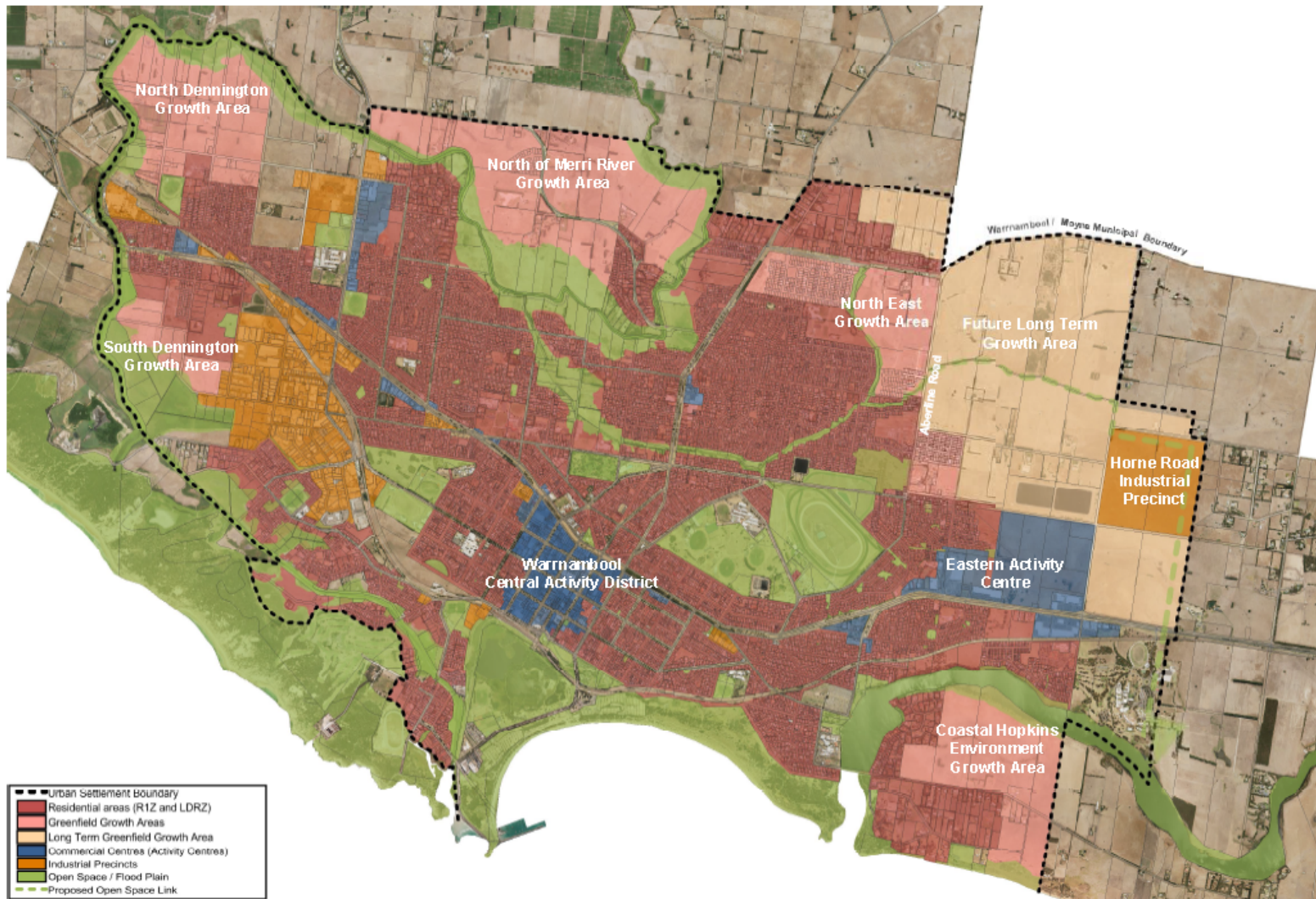
Date	Incident	Outcome
Apr/Jul 1903	Earthquake	Property Damage, social effects
March 1946	Flood	Evacuations, Drowning in district
February 1983	Ash Wednesday Bushfires (Cudgee / Ballengeich)	50,000 Ha, 9 Deaths, 872 buildings
1995	High Seas Warrnambool	Flooding South Warrnambool
25 January 2005	Mass Drowning at Stingray Bay	5 Deaths
January 2011	Flooding of Merri River & Russells Creek	Flooding in Allansford
22 November 2012	Telstra Exchange Fire	Economic & Social effects
July 2014	Storm Surge	Merri River mouth flooding and damage to Viaduct Rd
September 2016	Flooding Merri & Hopkins River & Russells Creek	Roads closed
November 2017	Nurdle Spill – from treatment plant into Ocean	Class 2 Emergency Response, EPA investigation and Volunteer Beach Clean up
March 2018	St.Patricks Day Bushfires	Large Bushfires in Moyne & Corangamite Shires. Warrnambool Relief Centre Open, Warrnambool ICC above capacity.
March 2020	COVID-19 Pandemic	Significant social and economic impacts

Table 4: History of Emergencies

This table will be further developed by the Municipal Emergency Management Planning Committee as information becomes available.

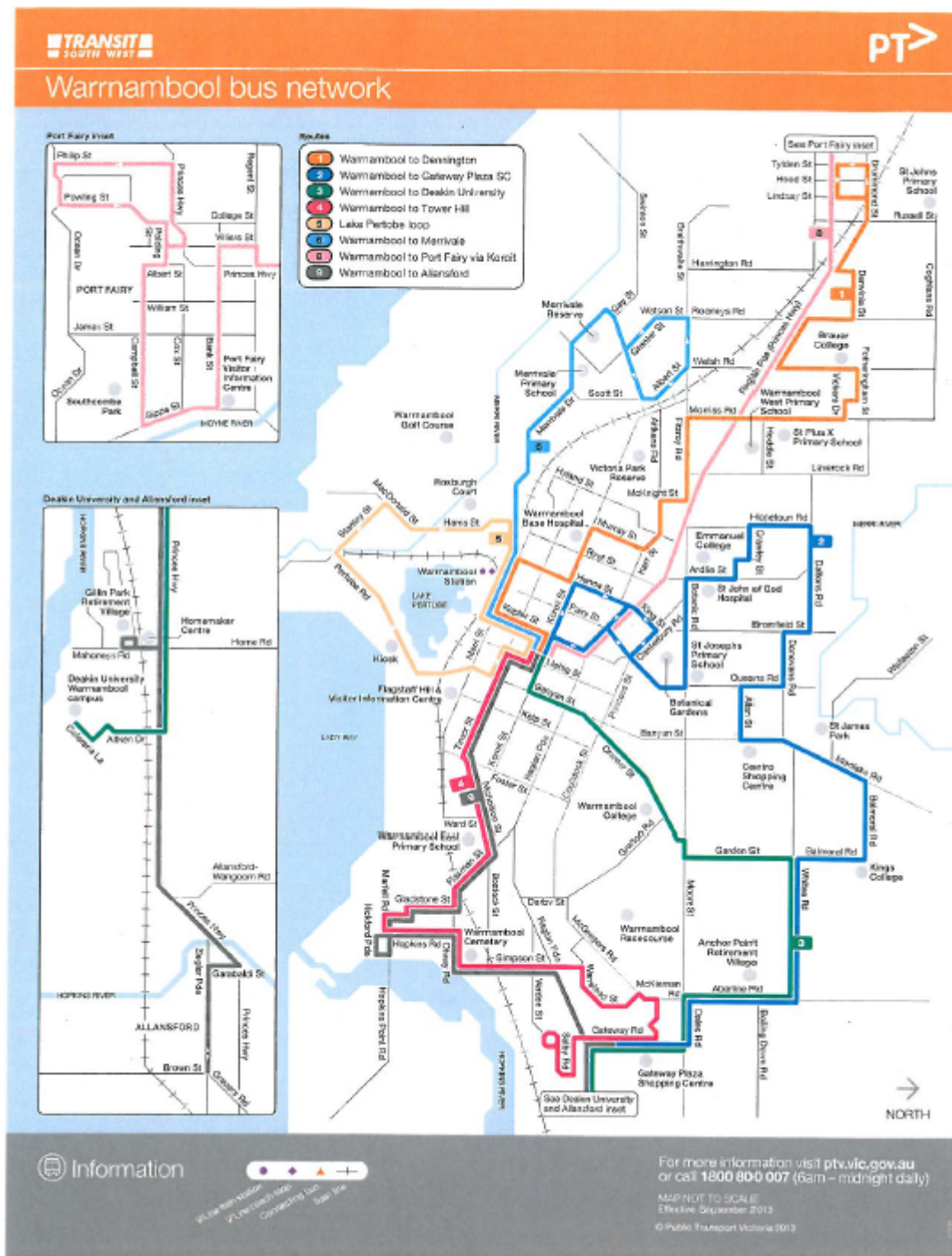


## APPENDIX 2: POPULATION INTERFACE AREAS

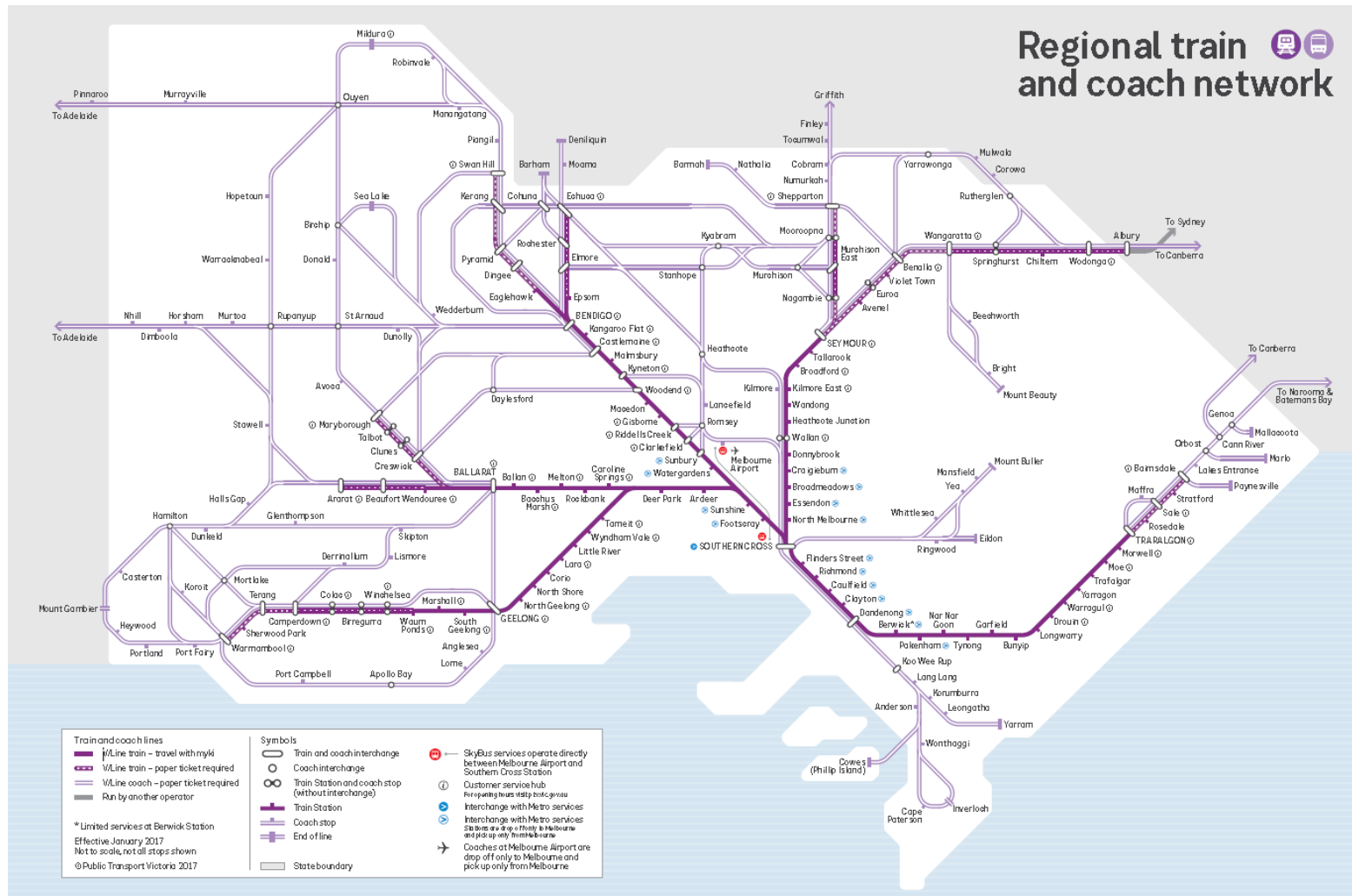


WARRNAMBOOL CITY-WIDE HOUSING STRATEGY 2013

## APPENDIX 3: LOCAL BUS ROUTES



## APPENDIX 4: REGIONAL TRAIN AND COACH NETWORK

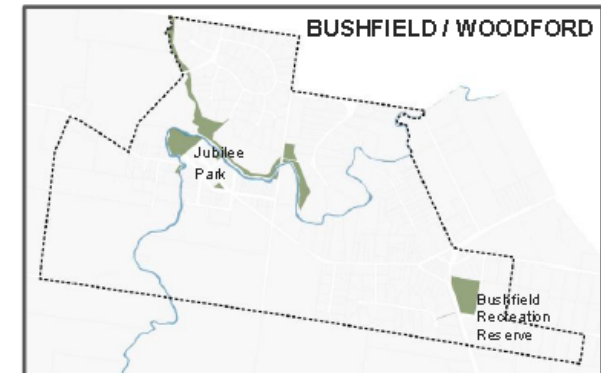
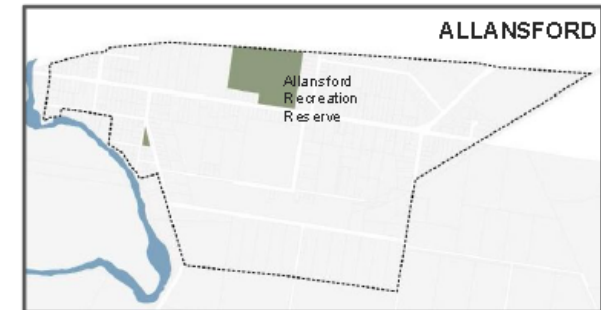
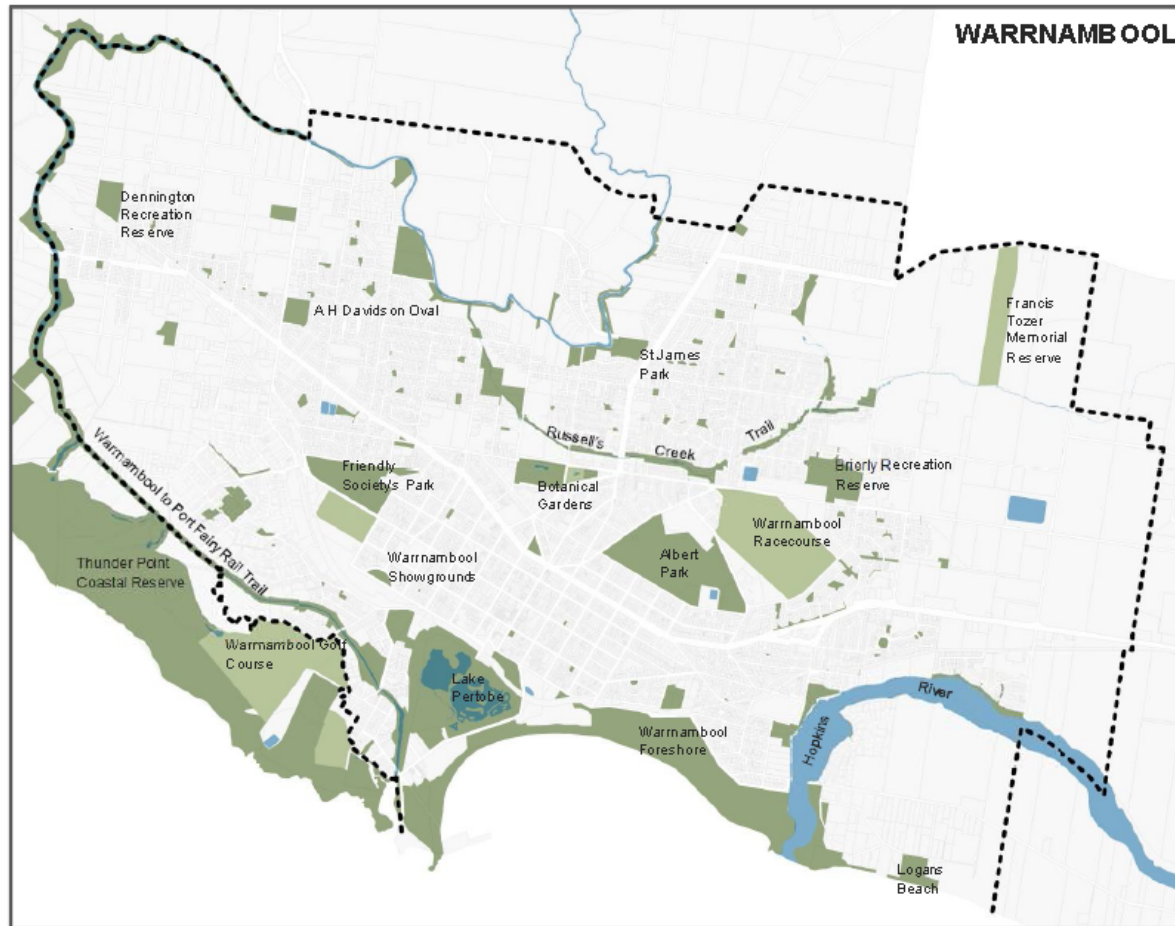


PTV/H2321/17. Authorised by Public Transport Victoria, 750 Collins Street, Docklands

For more public transport information visit [ptv.vic.gov.au](http://ptv.vic.gov.au) or call 1800 800 007.



## APPENDIX 5: EXISTING OPEN SPACE NETWORK



## APPENDIX 6: PORT FAIRY TO WARRNAMBOOL RAIL TRAIL





## APPENDIX 7: LOGANS BEACH PRECINCT



## APPENDIX 8: LADY BAY WEST PRECINCT





## APPENDIX 9: LADY BAY EAST PRECINCT





## APPENDIX 10: SOUTH WARRNAMBOOL CROWN LAND PRECINCT





## APPENDIX 11: WILD COAST PRECINCT



# APPENDIX 12: COAST WALKING TRAILS



## APPENDIX 13: MAP OF CULTURAL HERITAGE AREAS WITHIN WARRNAMBOOL CITY

The areas highlighted green in the map below are areas of heritage sensitivity.

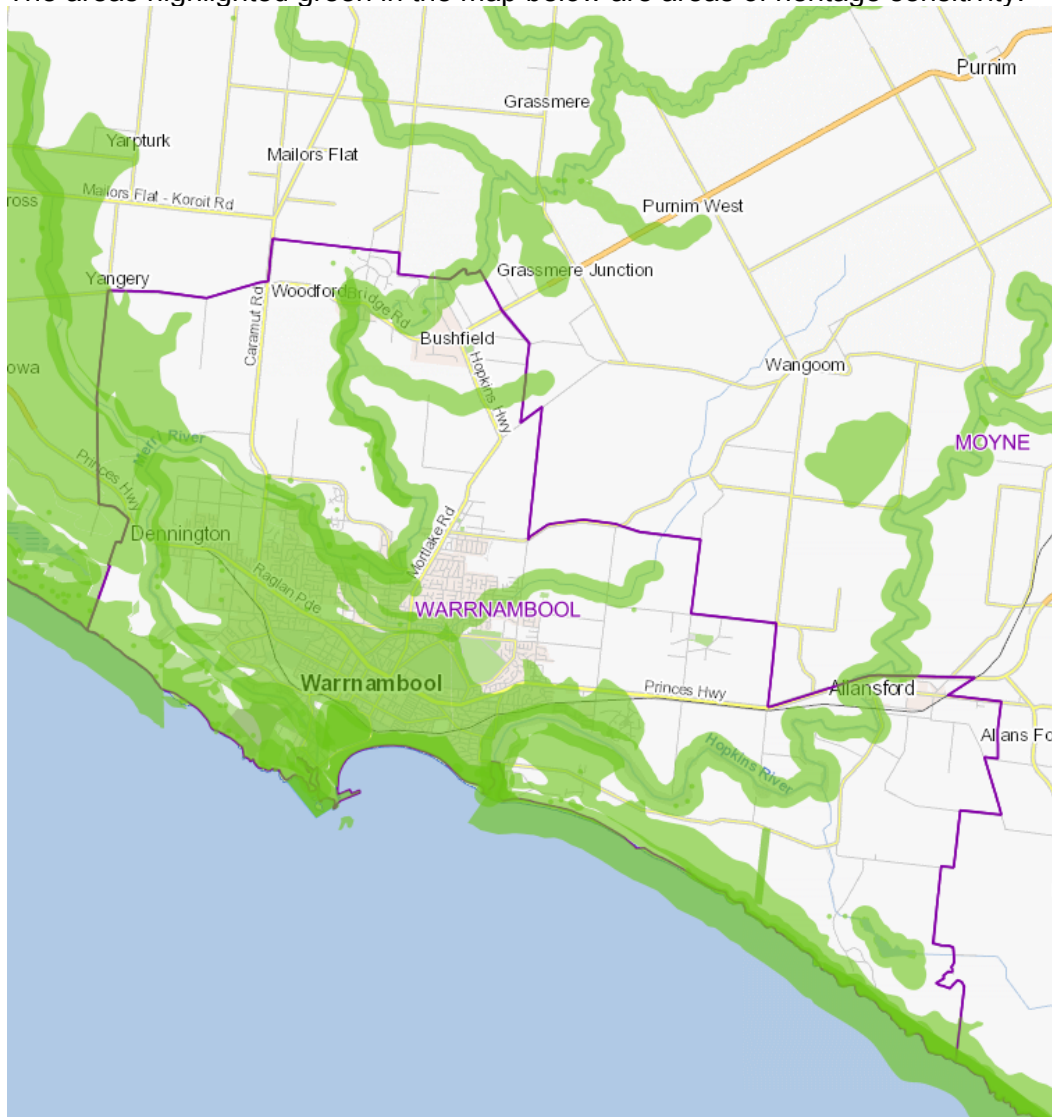


Figure XX: Map of cultural heritage areas within Warrnambool City  
(<https://applications.vic.gov.au/apps/achris/public/public-registry/home>)