Yarra DCP Background Paper No.1 - Demographics

2017

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2   BACKGROUND

The data used in this paper from 2006 to 2010 has been sourced from the 2006 Census and the Estimated Resident Population (ERP). The data from 2011 onwards has been sourced from Victoria in Future 2016 (VIF2016).

The base year for the calculation of VIF2016 projections is 2015 (as at 30 June), the most recent year for which the ABS has published the Estimated Resident Population (ERP) for both Victoria and for Local Government Areas (LGAs). VIF2016 results, however, include published or modelled estimates of population and components commencing with the year 2011.

VIF2016 states:

> *Victoria in Future 2016 population projections are not predictions of the future, nor are they targets. They analyse changing economic and social structures and other drivers of demographic trends to indicate possible future populations if the present identified demographic and social trends continue.*

> *Projections are based exclusively on demographic components at the state and regional level, while local level projections take account of current and future land use, dwelling capacity, and development opportunities in addition to local demographic factors.*

The community profile data has been taken from the work undertaken by .id Consulting and is based on the 2011 Census.   The ABS has commenced the progressive release of the 2016 Census community profile data from June 2017 onwards. The community profile data provided by .id will be available in mid-August. Population forecasts developed by .id will be updated from September 2017 and the forecasts reviewed in January 2018.

3   POPULATION

Based on the data from VIF2016, the population of the City of Yarra is predicted to grow from 92,610 in 2016 to 122,022 by 2031 which is an increase of 29,413 or 31.76% from 2016 and an average of 1.98% per annum. Over the same period the population of Melbourne is predicted to increase by an average of 1.79% and Victoria by an average of 1.66% per annum.   From 2016 to 2031, Yarra's population will increase at a faster rate than both the metropolitan area and the State as the following summary table shows.   The rate of population growth is expected to slow down in 2031.

Table 1: Population change 2011 to 2031

Location	2011	2016		2021		2026		2031	
	no	no	%	no	%	no	%	no	%
Yarra (C)	78,903	92,610	17.37%	103,830	12.12%	113,705	9.51%	122,022	7.31%
Melbourne	4,108,837	4,558,692	10.95%	5,025,182	10.23%	5,482,776	9.11%	5,931,007	8.18%
Victoria	5,537,817	6,048,767	9.23%	6,605,653	9.21%	7,170,957	8.56%	7,733,259	7.84%

Figure 1 displays the population numbers for each year in Yarra from 2006 to 2031 which shows continued growth in the population numbers in both the observed (pre 2016) and the projected (2016 and beyond).
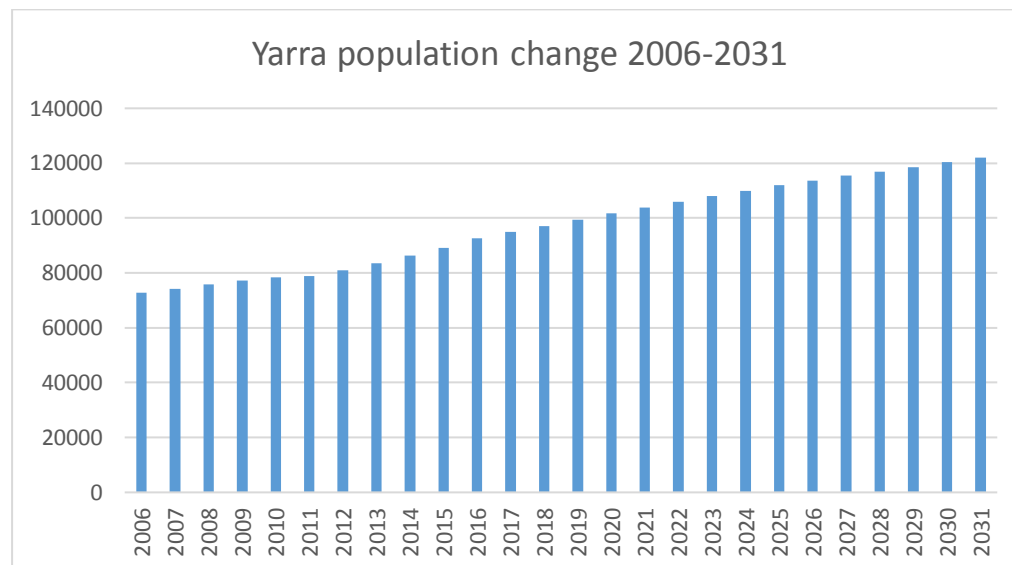
Figure 1: Yarra total population change 2006 to 2031 (VIF 2016)

Yarra's population is predicted to grow faster than the metropolitan area and the state until at least 2026. After 2026 Yarra's population will continue to grow, but at a rate below the metropolitan and state average. Figure 2 displays the observed and projected percentage rate of population growth from 2012 to 2031. The highest rates of growth were experienced from 2012 to 2017.
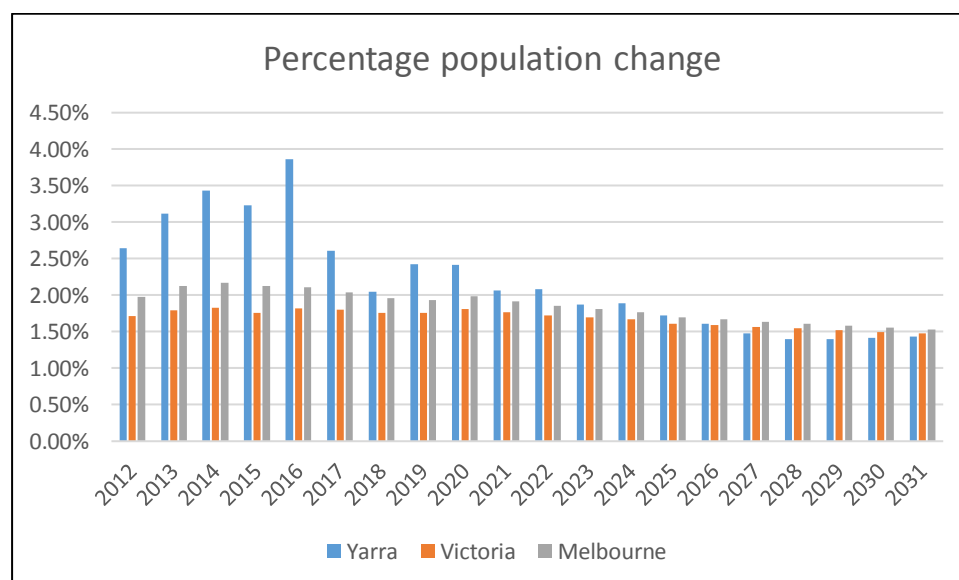
Figure 2: Percentage population changes 2012-2031 for Yarra, Melbourne and Victoria (VIF 2016)

The growth in the number of occupied private dwellings displays a similar pattern to population numbers with Yarra experiencing higher growth in the number of dwellings from 2016 to 2026 that both the metropolitan area and Victoria. Table 2 shows the observed and predicted numbers of occupied dwellings as well as the percentage change for Census years from 2016 to 2031 for Yarra, Melbourne and Victoria.

Table 2: Occupied dwellings numbers and percentage change 2011-2031 (VIF 2016)

Location	2011	2016		2021		2026		2031	
	no	no	%	no	%	no	%	no	%
Yarra (C)	36,534	42,593	16.58%	47,486	11.49%	51,884	9.26%	56,024	7.98%
Melbourne	1,588,009	1,778,420	11.99%	1,974,194	11.01%	2,167,352	9.78%	2,363,125	9.03%
Victoria	2,154,416	2,374,531	10.22%	2,609,887	9.91%	2,844,474	8.99%	3,082,661	8.37%

The percentage change is also displayed in Figure 3 which shows that the growth in the number of occupied private dwellings is higher in Yarra compared to Melbourne and Victoria, until 2031.

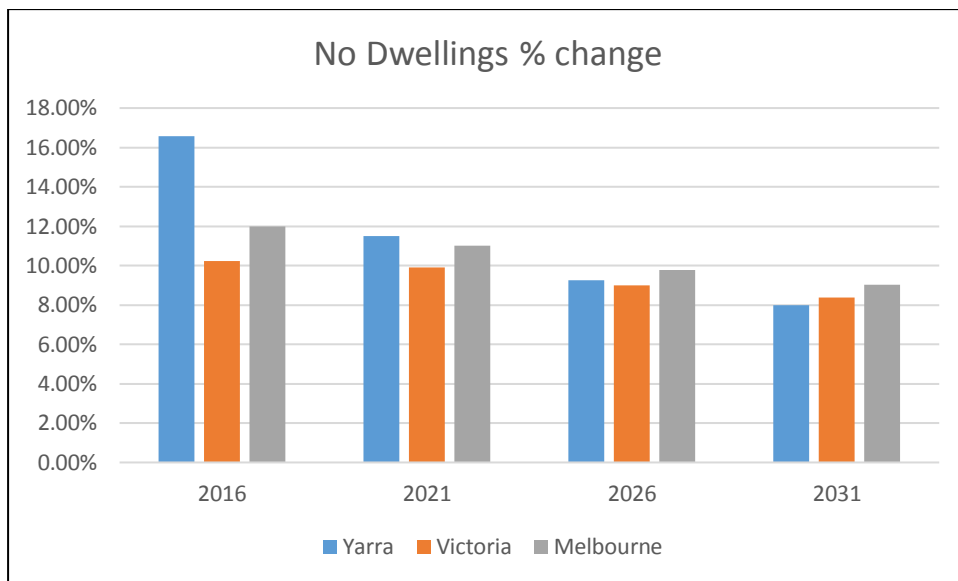*Figure 3: Change (%) in occupied private dwellings 2016-2031 Yarra, Melbourne and Victoria (VIF 2016)*

The increase in the number of dwellings is closely related to the growth in population as well as the average occupancy rate. As shown in Figure 4, Yarra has a lower observed and predicted occupancy rate for the period from 2011 to 2031 compared to Melbourne and Victoria
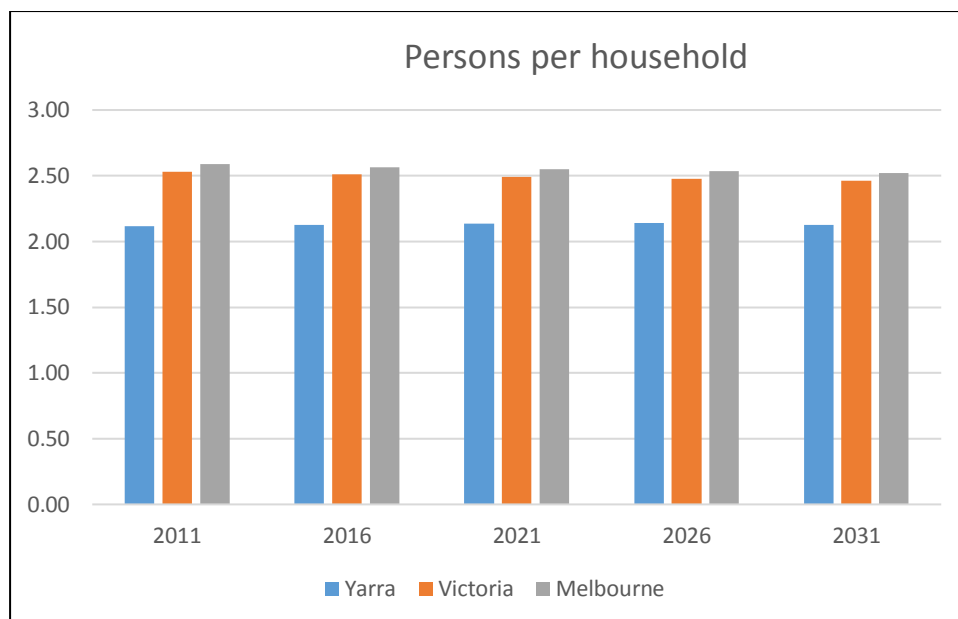
Figure 4: Average number of persons per household 2011-2031 for Yarra, Melbourne and Victoria (VIF 2016)

4 POPULATION PROFILE

The population profile is based on the work undertaken by .id Consulting for the City of Yarra.   This information is available on Council's website and is based on the 2011 Census as well as the early release data from the 2016 Census.   The following has been taken from the .id website to provide an explanation for the changes that occur in population profiles over time.

The dominant household types present in a suburb or town - where the majority of the populations sit in the household life path - dictate in part the role and function of the area. This is shown by its place in the "suburb life cycle".

New areas are typically settled by young households (young couples and young families, perhaps some mature families). As the families grow and mature, household size increases. After initial rapid development, most households "age in place", with slowly shifting demand for services, facilities and dwelling types.

As households age further and children begin to leave home, the average household size decreases, resulting in more empty nester (two person) households, often still living in large family homes. Family breakups can also result in single parent families and lone person households. If a suburb can't attract young families back to the area, it slowly becomes populated by older couples whose children have left home and older lone persons whose partners have died, resulting in declining population for some time.

Alternatively, if a suburb is in a location close to economic drivers of change, it may be able to attract families to move back into the older dwellings in the area, increasing household size and population again. This will generally happen sooner, with less loss of services if the area has a diversity of housing options suiting a wide variety of household types. Empty nesters are likely to downsize into lower maintenance properties, freeing up larger format housing for families to move into, and continue the cycle again. The loop in the diagram represents the process of sustainability of an area, if it can attract families back into older housing in the area. Depending on the proximity of an area to work and education it may also attract young

lone persons and group households. The attractiveness of an area to family groups, group and lone person households is shown in the migration assumptions section.

Generally, more diverse communities are more sustainable in the long term, as they are able to maintain a range of services and facilities useful to all age groups. Certain policy responses can influence the suburb life cycle in different directions.

The following discussion is focused on the Yarra population profile in 2016 with some comparisons of the change from 2011 where appropriate.

Yarra's population is heavily biased to young adults with just under 40% of the population in the 25 to 39 age groups. Figure 5 shows that compared to Melbourne Yarra had a lower proportion under 19 and a significantly higher proportion of the population in the 25 to 39 age groups.
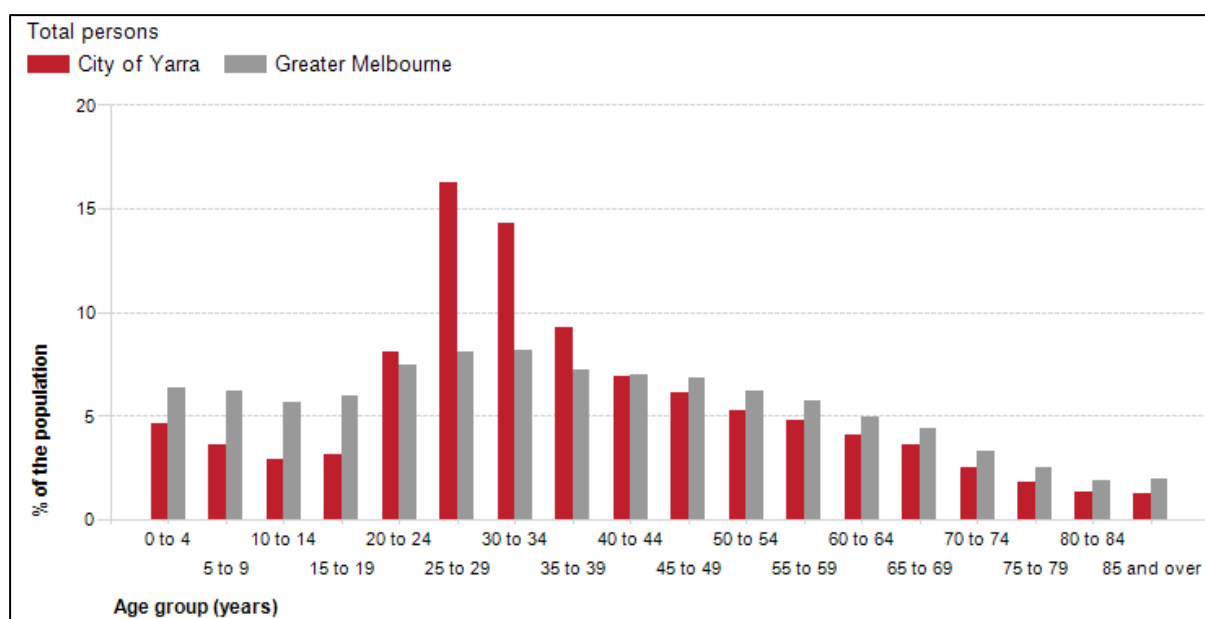

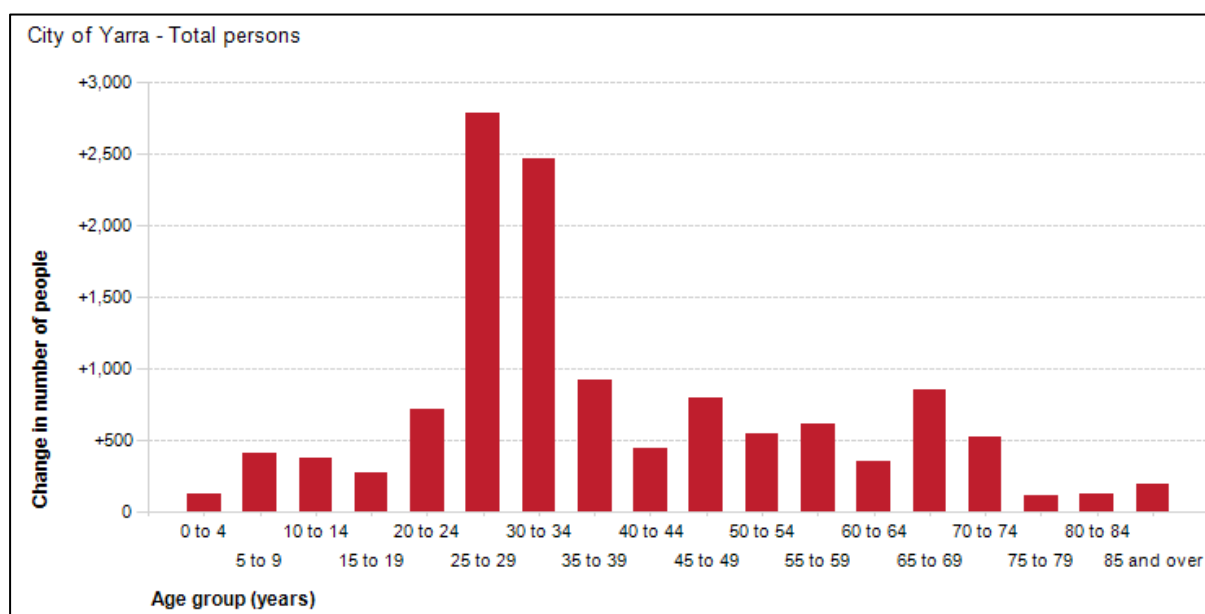*Figure 5: Age structure (five year age groups) Yarra and Melbourne (.id Consulting 2017)*

Figure 6: Change in five year age groups 2011-2016 (.id Consulting 2017)

This distribution is also reflected in Figure 6 which shows the predicted change **in** 5-year age groups from 2011 to 2036. Both these graphs display the numbers in each age group contained in Table 3. A common factor in in Figure 5 and Table 3 is the growth in the 35 to 34 age groups and the high proportional increase in the 70 to 79 year age groups.

Table 3: Forecast age structure - five year age groups (.id Consulting 2017)

City of Yarra - Total persons	2011		2026		2036		Change between 2011 and 2036	
Age group (years)	Number	%	Number	%	Number	%	Number	%
0 to 4	4,060	5.1	5,242	5.1	5,825	5	1,765	43.47%
5 to 9	2,831	3.6	3,588	3.5	4,018	3.4	1,187	41.93%
10 to 14	2,238	2.8	2,918	2.8	3,288	2.8	1,050	46.92%
15 to 19	2,643	3.3	3,804	3.7	4,291	3.7	1,648	62.35%
20 to 24	7,083	9	8,945	8.7	9,971	8.5	2,888	40.77%
25 to 29	12,371	15.7	14,370	13.9	16,047	13.7	3,676	29.71%
30 to 34	10,496	13.3	13,353	12.9	14,952	12.8	4,456	42.45%
35 to 39	7,456	9.4	10,174	9.9	11,436	9.8	3,980	53.38%
40 to 44	5,769	7.3	7,741	7.5	8,821	7.5	3,052	52.90%
45 to 49	4,711	6	6,290	6.1	7,360	6.3	2,649	56.23%
50 to 54	4,281	5.4	5,623	5.4	6,604	5.6	2,323	54.26%
55 to 59	3,811	4.8	5,128	5	5,872	5	2,061	54.08%
60 to 64	3,478	4.4	4,538	4.4	5,197	4.4	1,719	49.42%
65 to 69	2,474	3.1	3,811	3.7	4,429	3.8	1,955	79.02%
70 to 74	1,791	2.3	2,945	2.9	3,453	3	1,662	92.80%
75 to 79	1,527	1.9	2,276	2.2	2,664	2.3	1,137	74.46%
80 to 84	1,094	1.4	1,372	1.3	1,648	1.4	554	50.64%
85 and over	899	1.1	1,072	1	1,160	1	261	29.03%
Total persons	79,013	100	103,191	100	117,036	100	38,023	48.12%

Table 3 also displays the percentage change, which reveals that the 65 to 79 age group will experience the highest proportional growth from 2011 to 2036.   What this means is that is that it is likely that the largest number of users of Council's facilities will be in the 20 to 39 age group but that there will be a significant increase in demand in the 64 to 79 age groups.   This trend is likely to continue over the next 20 years as shown in Figure 7 which displays the total population in five year age groups projected from 2011 to 2036.
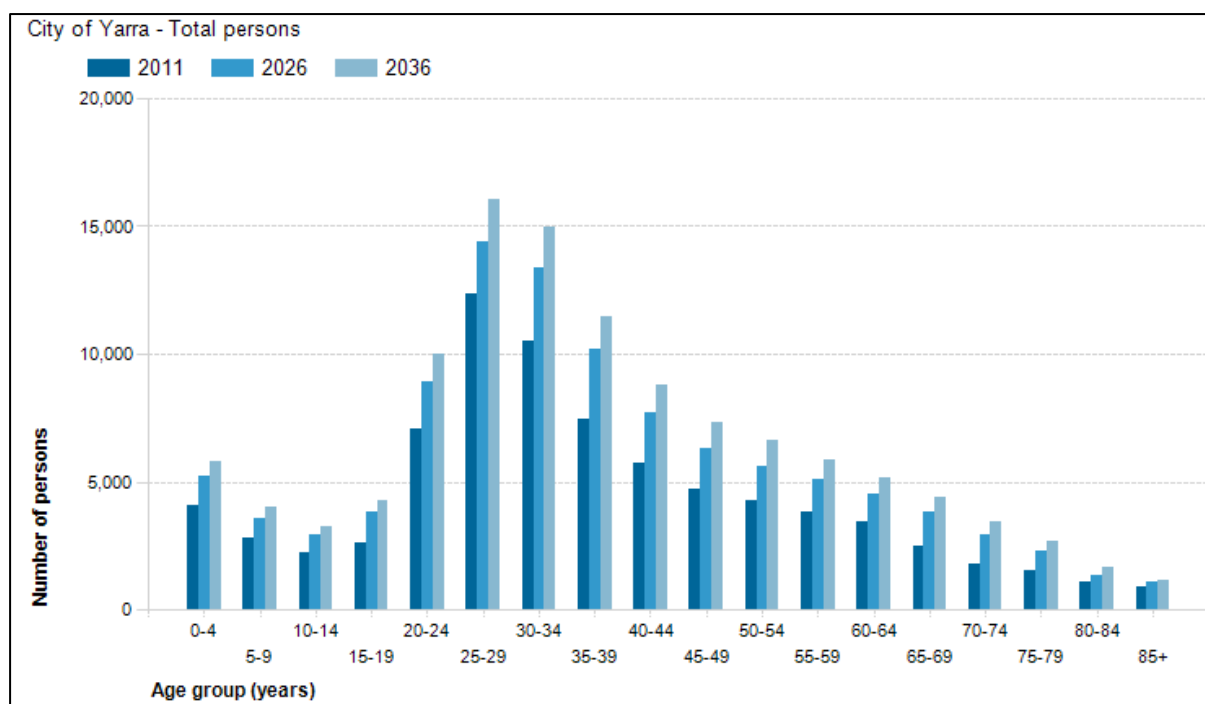
Figure 7: Yarra Forecast age structure - five year age groups (.id Consulting 2017)

This pattern is further reinforced by the Yarra household structure where most of the growth from 2011 to 2016 has been in lone person or childless couple households as shown in Figure 8. Yarra's household structure is markedly different from that of Melbourne where the proportion of couples with children is significantly higher and lone person and group households are lower as shown in Figure 9 and Table 4.

Figure 8: Changes in household type 2011-2016 (.id Consulting 2017)
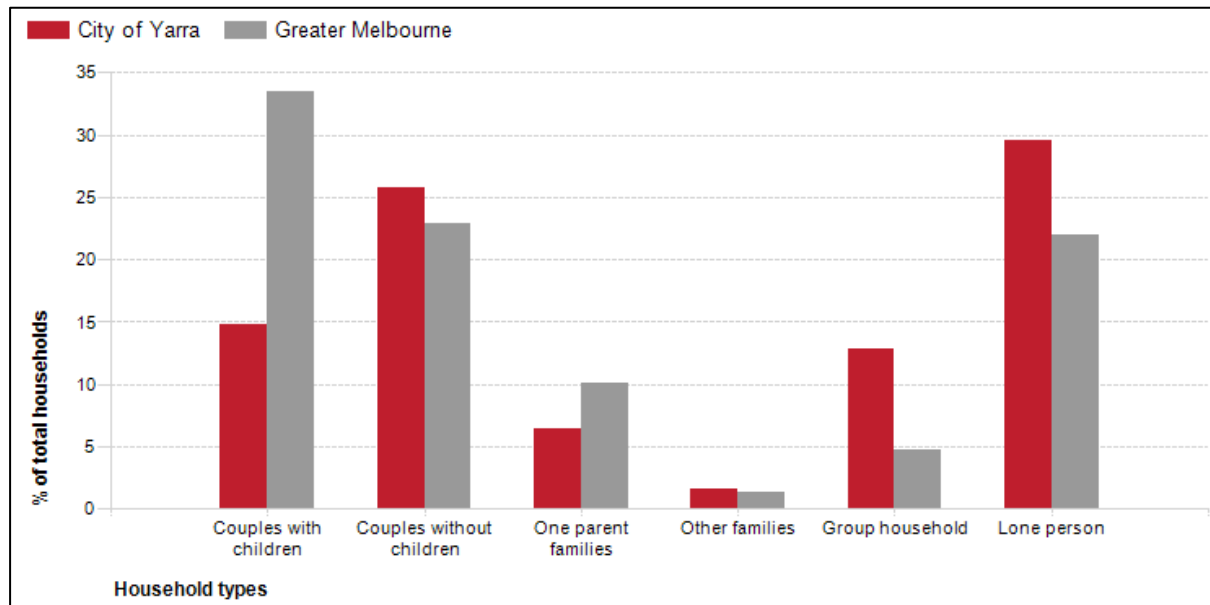
Figure 9: Household type 2016, Yarra and Melbourne (.id Consulting 2017)

Household type

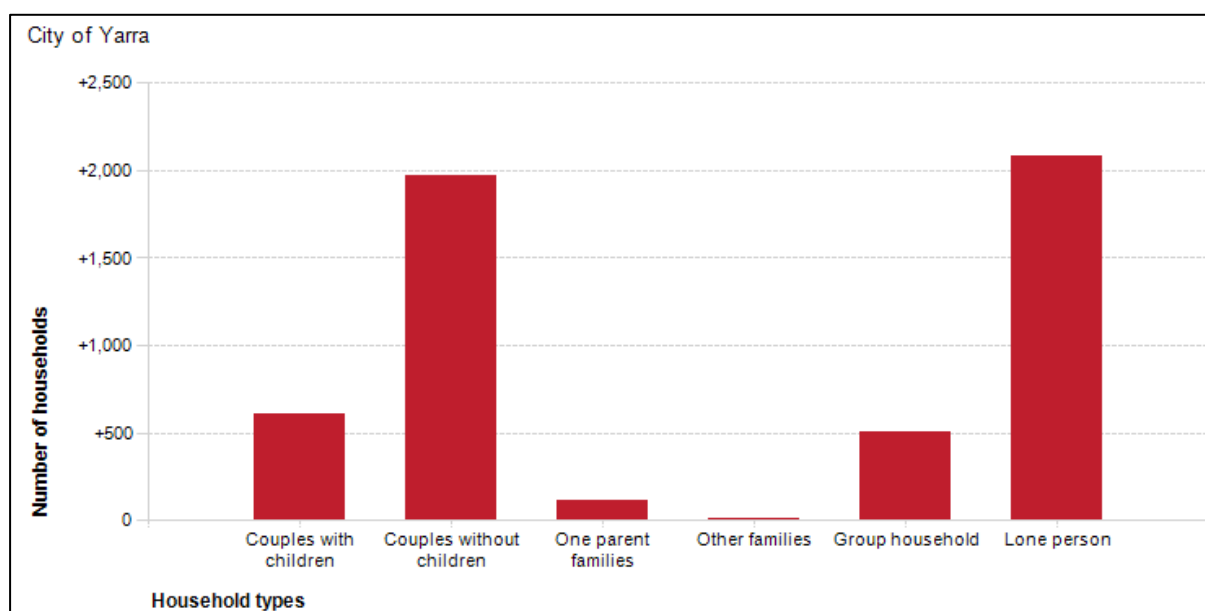| City of Yarra - Total households (Enumerated)	2016			2011			Change
Households by type	Number	%	Greater Melb %	Number	%	Greater Melb %	2011 to 2016
Couples with children	5,906	14.8	33.5	5,298	15.8	33.6	+608
Couples without children	10,251	25.7	22.9	8,279	24.7	23.5	+1,972
One parent families	2,574	6.5	10.1	2,458	7.3	10.4	+116
Other families	656	1.6	1.4	643	1.9	1.4	+13
Group household	5,104	12.8	4.7	4,599	13.7	4.5	+505
Lone person	11,762	29.5	22.0	9,683	28.9	22.3	+2,079
Other not classifiable household	3,030	7.6	4.5	2,039	6.1	3.4	+991
Visitor only households	584	1.5	0.9	524	1.6	0.9	+60
Total households	**39,867**	**100.0**	**100.0**	**33,523**	**100.0**	**100.0**	**+6,344**

Table 4: Household types Yarra and Melbourne 2011-2016 (.id Consulting 2017*)*

Figure 10: Birthplace Yarra and Melbourne 2016 (.id Consulting 2017)

City of Yarra - Overseas born (Usual residence)	2016			2011			Change
Birthplace	**Number**	**%**	**Greater Melb %**	**Number**	**%**	**Greater Melb %**	**2011 to 2016**
United Kingdom	3,970	4.6	3.6	3,289	4.4	4.1	+681
New Zealand	2,652	3.1	1.8	2,245	3.0	1.7	+407
Vietnam	2,619	3.0	1.8	2,634	3.6	1.7	-15
China	1,570	1.8	3.5	1,193	1.6	2.3	+377
Greece	1,133	1.3	1.0	1,305	1.8	1.2	-172
Italy	858	1.0	1.4	941	1.3	1.7	-83
United States of America	830	1.0	0.4	592	0.8	0.4	+238
Malaysia	741	0.9	1.1	582	0.8	1.0	+159
India	643	0.7	3.6	520	0.7	2.7	+123
Ireland	530	0.6	0.3	503	0.7	0.3	+27
Germany	411	0.5	0.5	390	0.5	0.5	+21
Canada	404	0.5	0.2	295	0.4	0.2	+109
South Africa	387	0.4	0.5	300	0.4	0.5	+87
Ethiopia	372	0.4	0.1	244	0.3	0.1	+128
East Timor	364	0.4	0.1	439	0.6	0.1	-75
Sudan	363	0.4	0.2	349	0.5	0.2	+14
France	356	0.4	0.1	212	0.3	0.1	+144
Philippines	315	0.4	1.0	230	0.3	0.8	+85
Thailand	303	0.3	0.3	219	0.3	0.2	+84
Hong Kong	302	0.3	0.5	238	0.3	0.4	+64
Singapore	263	0.3	0.3	170	0.2	0.3	+93
Indonesia	243	0.3	0.4	174	0.2	0.4	+69
Japan	242	0.3	0.2	223	0.3	0.2	+19
Somalia	224	0.3	0.1	169	0.2	0.1	+55
Sri Lanka	199	0.2	1.2	147	0.2	1.1	+52

Colombia	197	0.2	0.1	105	0.1	0.1	+92
Serbia / Montenegro (fmr Yugoslavia)	185	0.2	0.3	210	0.3	0.4	-25
Netherlands	183	0.2	0.3	137	0.2	0.3	+46
South Korea	180	0.2	0.3	119	0.2	0.2	+61
Taiwan	169	0.2	0.2	84	0.1	0.1	+85
Turkey	152	0.2	0.3	170	0.2	0.4	-18
Brazil	150	0.2	0.1	47	0.1	0.0	+103
Spain	150	0.2	0.1	93	0.1	0.1	+57
Iran	149	0.2	0.4	78	0.1	0.2	+71
Poland	148	0.2	0.3	145	0.2	0.4	+3
Chile	143	0.2	0.2	91	0.1	0.2	+52
Croatia	141	0.2	0.3	160	0.2	0.4	-19
Eritrea	130	0.2	0.0	101	0.1	0.0	+29
Egypt	109	0.1	0.3	136	0.2	0.3	-27
Kenya	102	0.1	0.1	68	0.1	0.1	+34
Sweden	93	0.1	0.0	58	0.1	0.0	+35
Former Yugoslav Republic of Macedonia	89	0.1	0.4	107	0.1	0.4	-18

Table 5: Yarra and Melbourne birthplace 2011 2016 numbers and percentage ranked by size (.id Consulting 2017)

The five most significant birthplaces for Yarra residents are, in order

- United Kingdom (same as 2011)
- New Zealand (same as 2011)
- Vietnam (Increase from 2011)
- China (same as 2011)
- Greece (decrease from 2011)

The five most significant birthplaces for Greater Melbourne residents are, in order

- United Kingdom (decrease from 2011)
- India (Increase from 2011)
- China (Increase from 2011)
- New Zealand (same as 2011)
- Vietnam (same as 2011)

The major difference between greater Melbourne and Yarra in terms of birthplace are:

- A *larger* percentage of people born in New Zealand (3.1% compared to 1.8%)
- A *larger* percentage of people born in Vietnam (3.0% compared to 1.8%)
- A *smaller* percentage of people born in India (0.7% compared to 3.6%)
- A *smaller* percentage of people born in China (1.8% compared to 3.5%)

In 2011 29.0% of the Yarra population were born overseas (31.4% for Melbourne). By 2016 28.9% of the Yarra population were born overseas (33.8% for Melbourne).
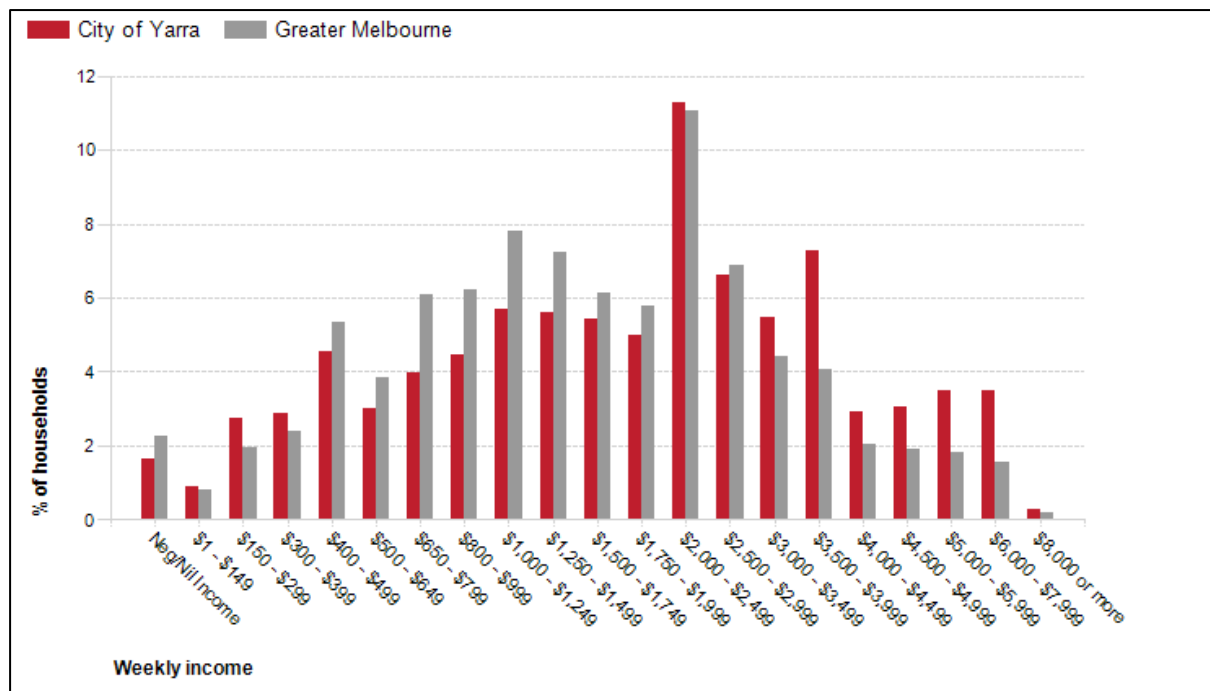
Figure 11: Weekly household income Yarra and Melbourne 2016 (.id Consulting 2017*)*

Household income levels in the City of Yarra in 2016 compared to Greater Melbourne shows that there was a larger proportion of high income households (those earning $2,500 per week or more) and a lower proportion of low income households (those earning less than $650 per week).

Overall, 32.6% of the households earned a high income and 15.7% were low income households, compared with 22.9% and 16.7% respectively for Greater Melbourne.   These differences are shown graphically in Figure 12 and the changes in Yarra from 2011 to 2016 in Figure 13
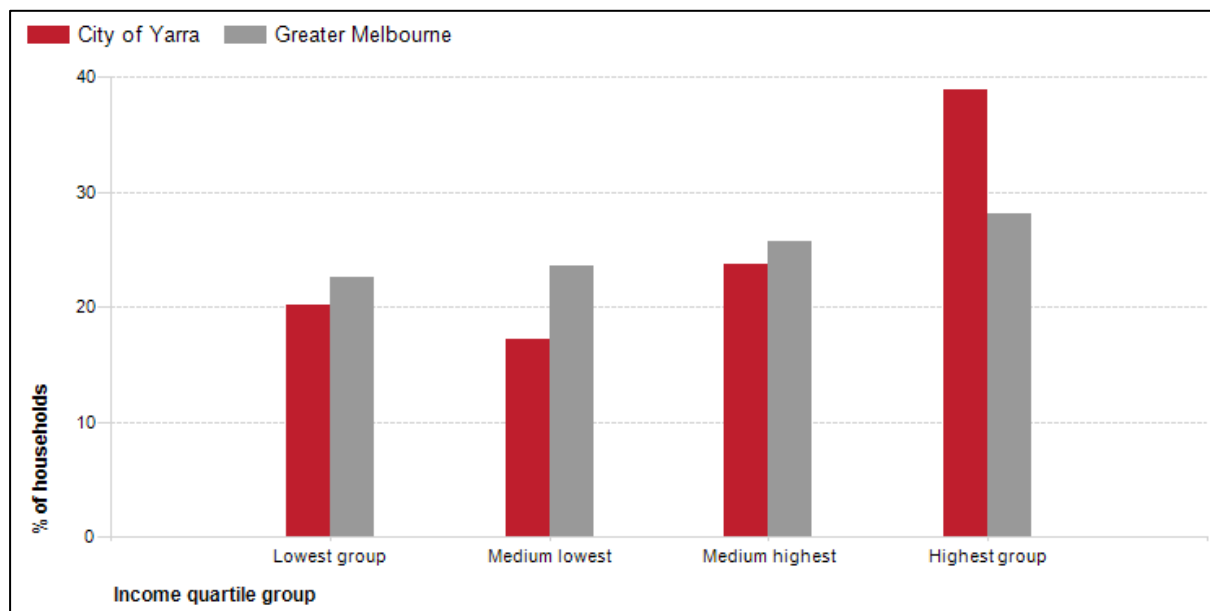

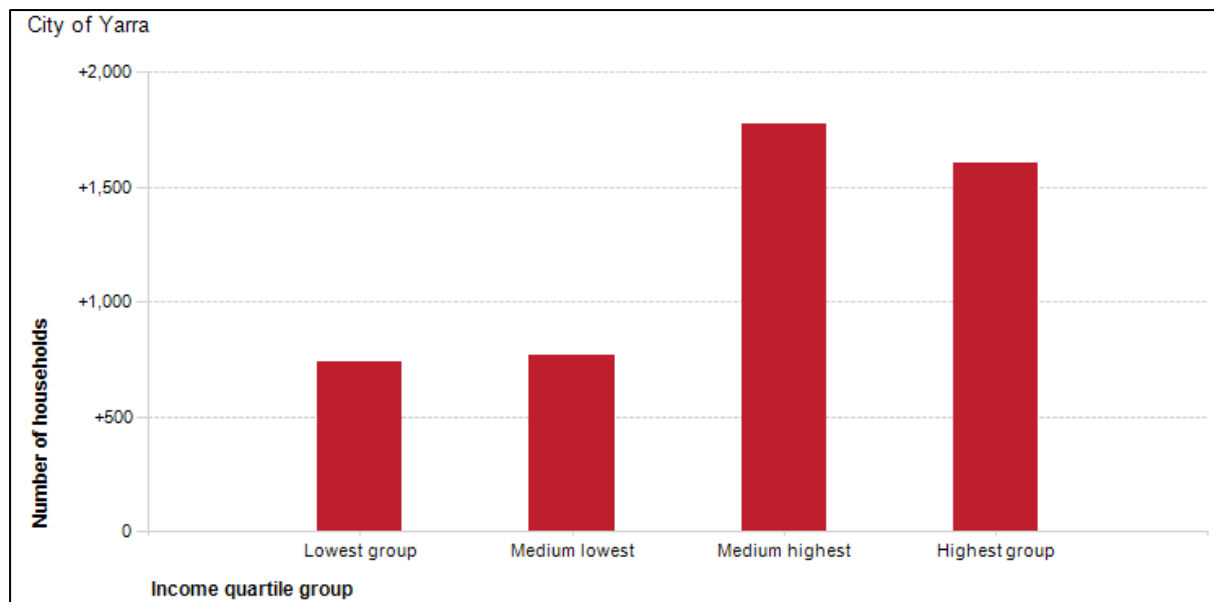*Figure 12: Household income quartiles Yarra and Melbourne 2016* (.id Consulting 2017*)*

Figure 13: Change in household income quartiles Yarra 2011-2016 (.id Consulting 2017*)*
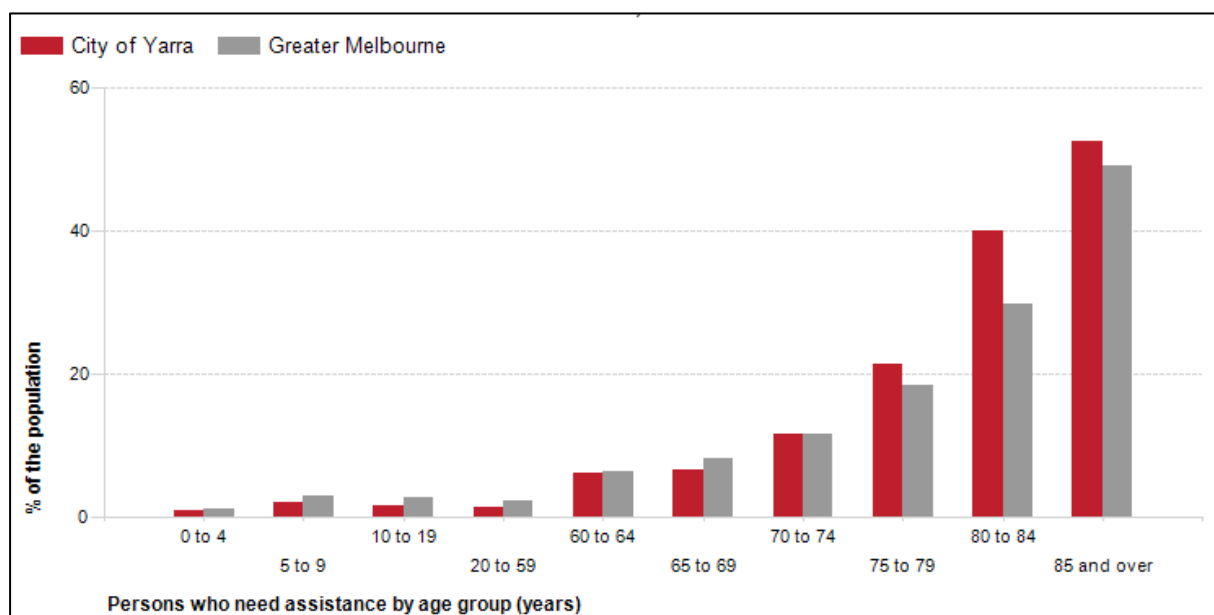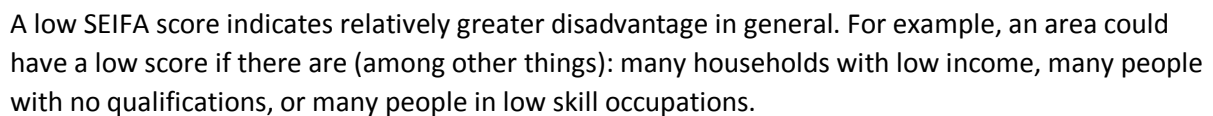

Figure 14: Need assistance with core activities age groups Yarra and Melbourne 2016 (.id Consulting 2017*)*

Overall, 3.5% of the population reported needing assistance with core activities, compared with 4.9% for Greater Melbourne. However, as Figure 14 shows a larger proportion of those over 75 in Yarra needed assistance compared to greater Melbourne.

Figure 15: SEIFA index of relative disadvantage 2011 (.id Consulting 2017*)*

The Index of Relative Socio-economic Disadvantage (SEIFA) is shown in Figure 15 and is a general socio-economic index that summarises a range of information about the economic and social conditions of people and households within an area. Unlike the other indexes, this index includes only measures of relative disadvantage.

Interpretation of Index Scores

A low SEIFA score indicates relatively greater disadvantage in general. For example, an area could have a low score if there are (among other things): many households with low income, many people with no qualifications, or many people in low skill occupations.

A high SEIFA score indicates a relative lack of disadvantage in general. For example, an area may have a high score if there are (among other things): few households with low incomes, few people with no qualifications, and few people in low skilled

Of all municipalities, the SEIFA index for Yarra is 1019.1 in a range of 894.9 to 1098.3 and ranks 23rd from the highest index.
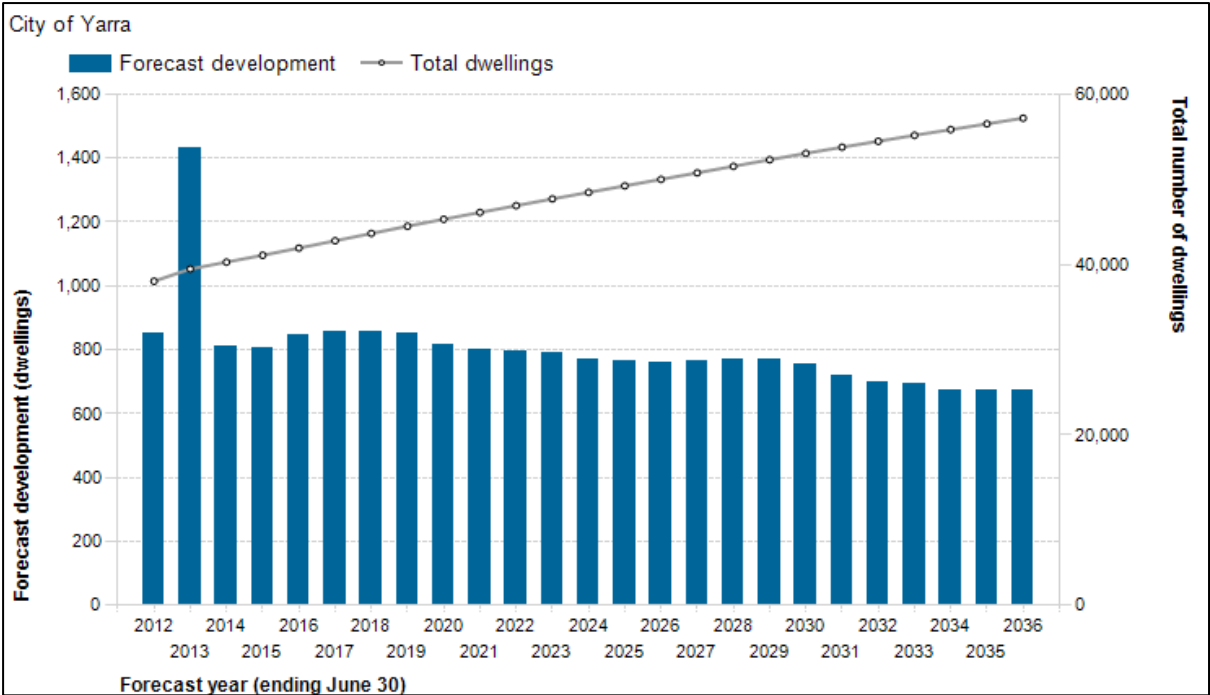
Figure 16: Forecast residential development (.id Consulting 2017)

In the number of new dwellings constructed in Yarra from 2012 to 2036 is not predicted to fall below 700 per annum (Figure 16) and, as expected, the level of change is not spread evenly throughout the municipality (Figure 17).
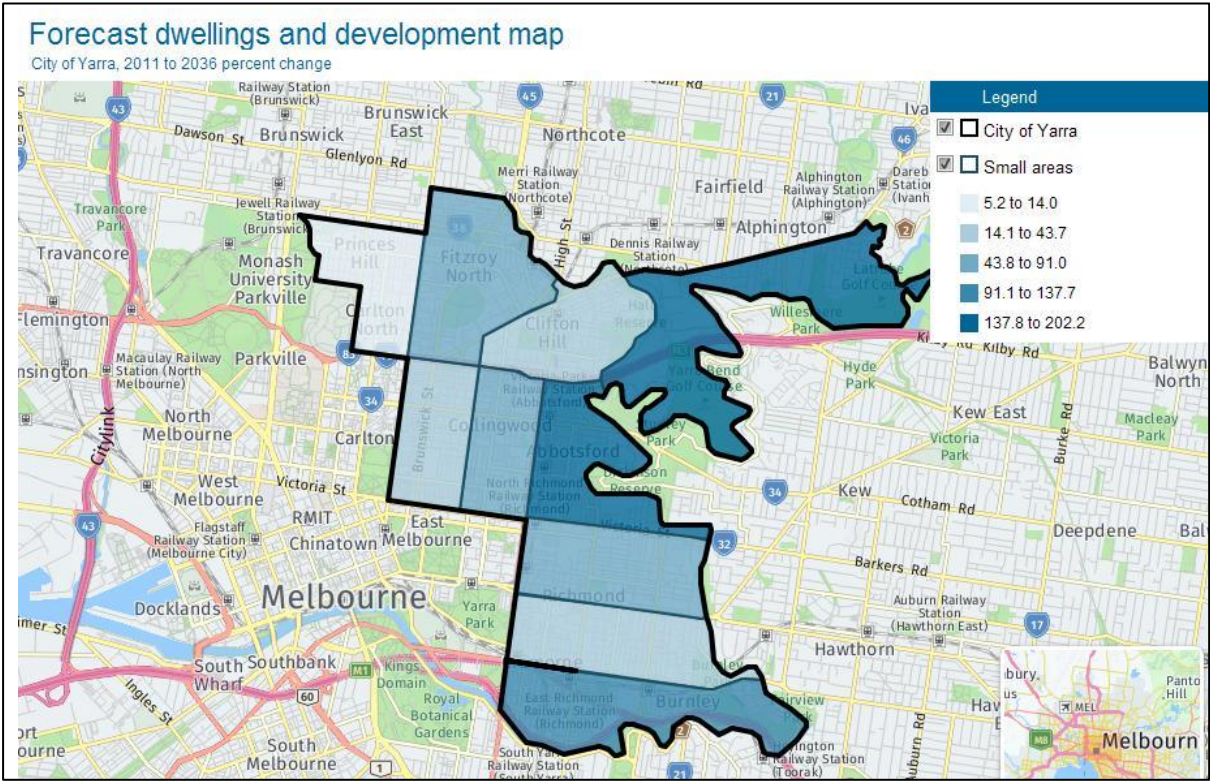

Figure 17: forecast dwellings and development map - percentage change 2011-2016 (City of Yarra 2017)
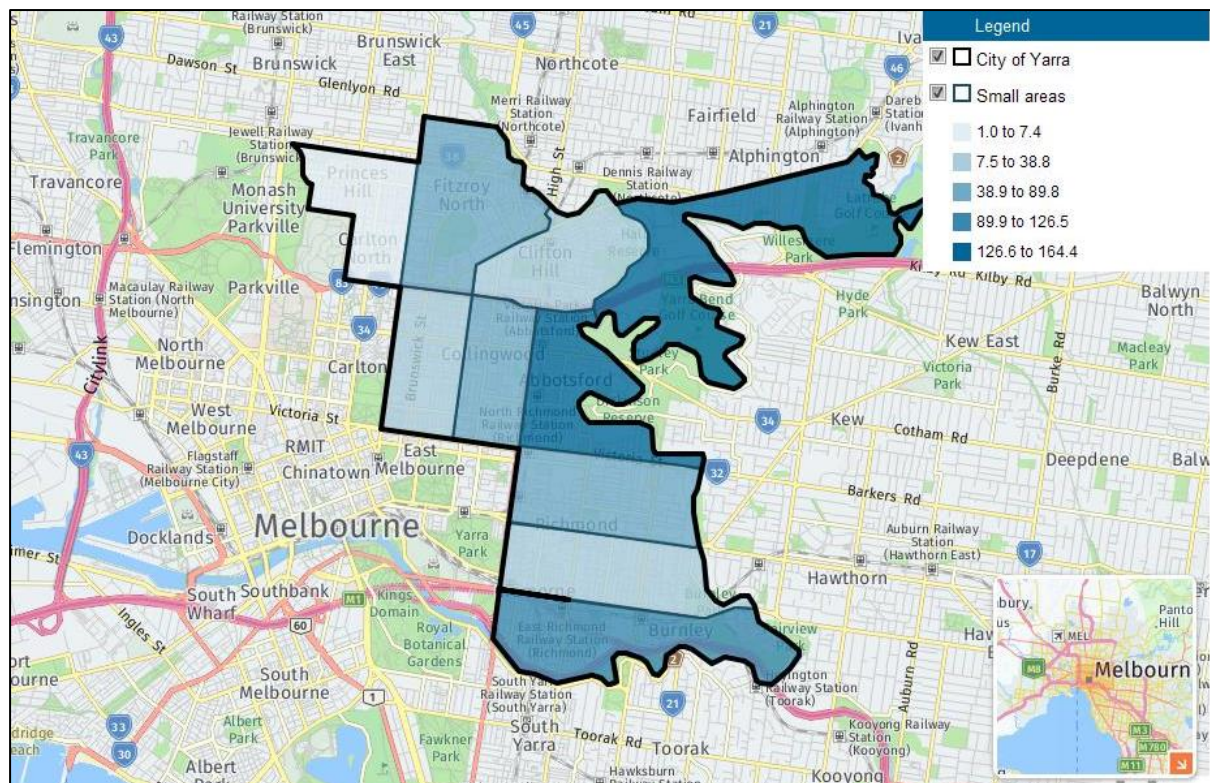
Figure 18: Percentage change in population 2011 to 2036 (City of Yarra 2017)

5   SMALL AREA POPULATION CHANGE

An analysis of small area (ABS Census SA1) population has been undertaken using MapInfo and the ABS population small area population projections for 2016 to 2027.

The ABS uses the cohort-component method which begins with a base population for each sex by single years of age and advances it year by year by applying assumptions regarding future mortality and migration. Assumed age-specific fertility rates are applied to the female population of child-bearing ages (15 to 49 years) to provide the new cohort of births. This procedure is repeated for each year in the projection period for each State and Territory and for Australia. The resulting population projections for each year for the States and Territories, by sex and single years of age, are adjusted to sum to the Australian results.

The projection results published by the ABS are not intended as predictions or forecasts, but are illustrations of growth and change in the population which would occur if the assumptions about future demographic trends prevail over the projection period. As such, it is the assumptions used which have the greatest baring on the final projected outcomes.

While the assumptions for the projections are formulated on the basis of an assessment of past demographic trends, both in Australia and overseas, and their likely future dynamics, there is no certainty that any of the assumptions will or will not be realised. In addition, no assessment has been made of changes in non-demographic conditions.

Nevertheless this top-down demographic projection a useful basis to likely changes to the Yarra population using a small area geography.
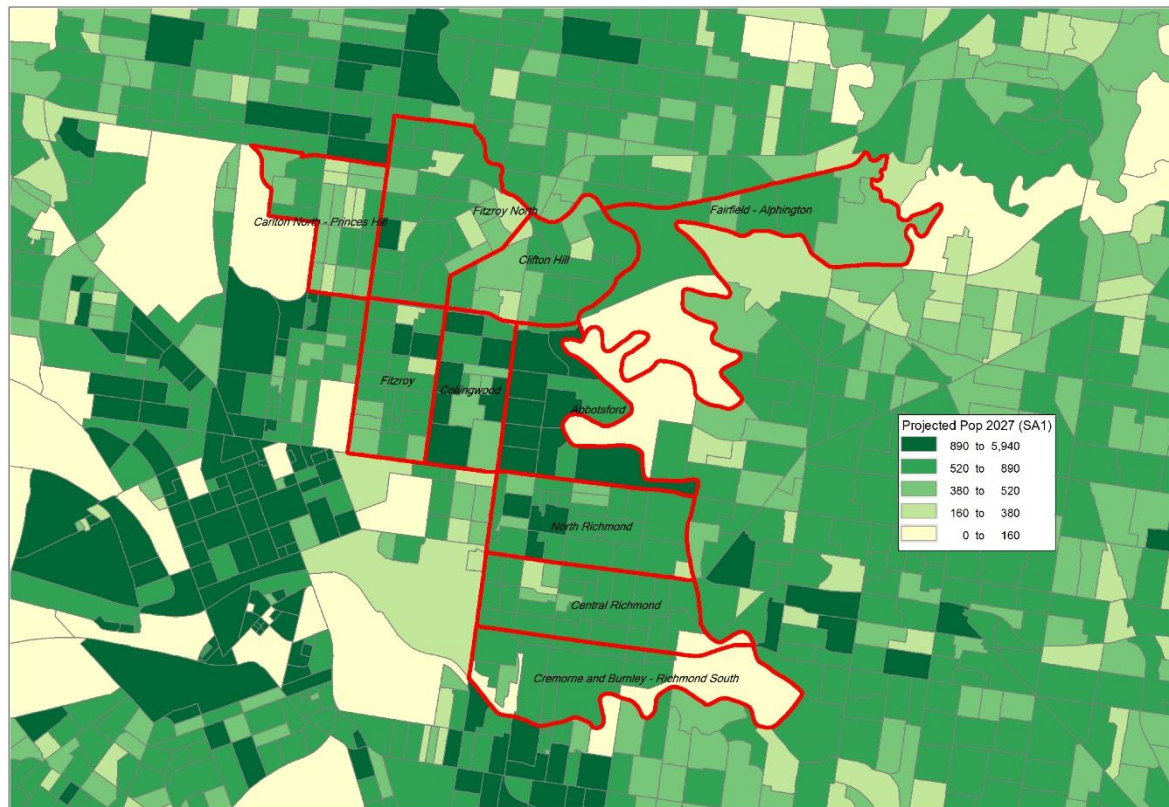

Figure 19: Population change (numbers) 2017-2027 by SA1 natural break (City of Yarra 2017*)*

Figure 19 shows the change in population from 2017 to 2027 as well as the Yarra suburbs (in red). The map shows some distinctive clustering of population growth in some suburbs including Abbotsford and Collingwood. The remaining suburbs show a considerable measure of uniformity in the quantum of change.

This pattern is also reflected in Figure 20 which shows the change in population that occurred from 2011 to 2016 although there was also significant change in parts of North and Central Richmond.
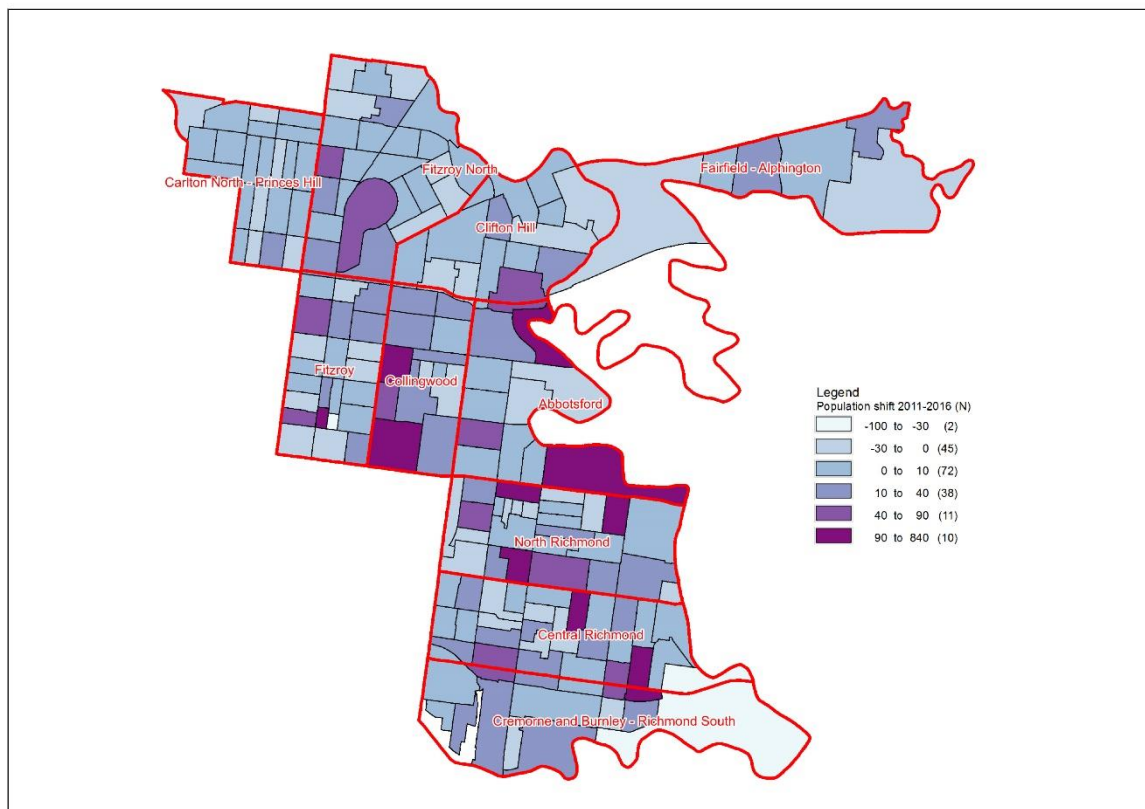
Figure 20: Changes in population (numbers) by SA1 2011-2016 (City of Yarra 2017*)*

The percentage change in population from 2011 to 2016 shows a similar clustering. Figure 21 displays the percentage change. From 2011 to 2026 the population of Yarra increased by 44%. Consequently the categories in the map have been drawn in progressions of 22% to grade the categories in multiples of half the total increase in Yarra.

The percentage in population map intensifies the clustering within the suburbs identified in the previous two maps. The map also shows that with the exception of Alphington, Clifton Hill and Cremorne/Burnley the relative rate of growth has been higher than the Yarra Average
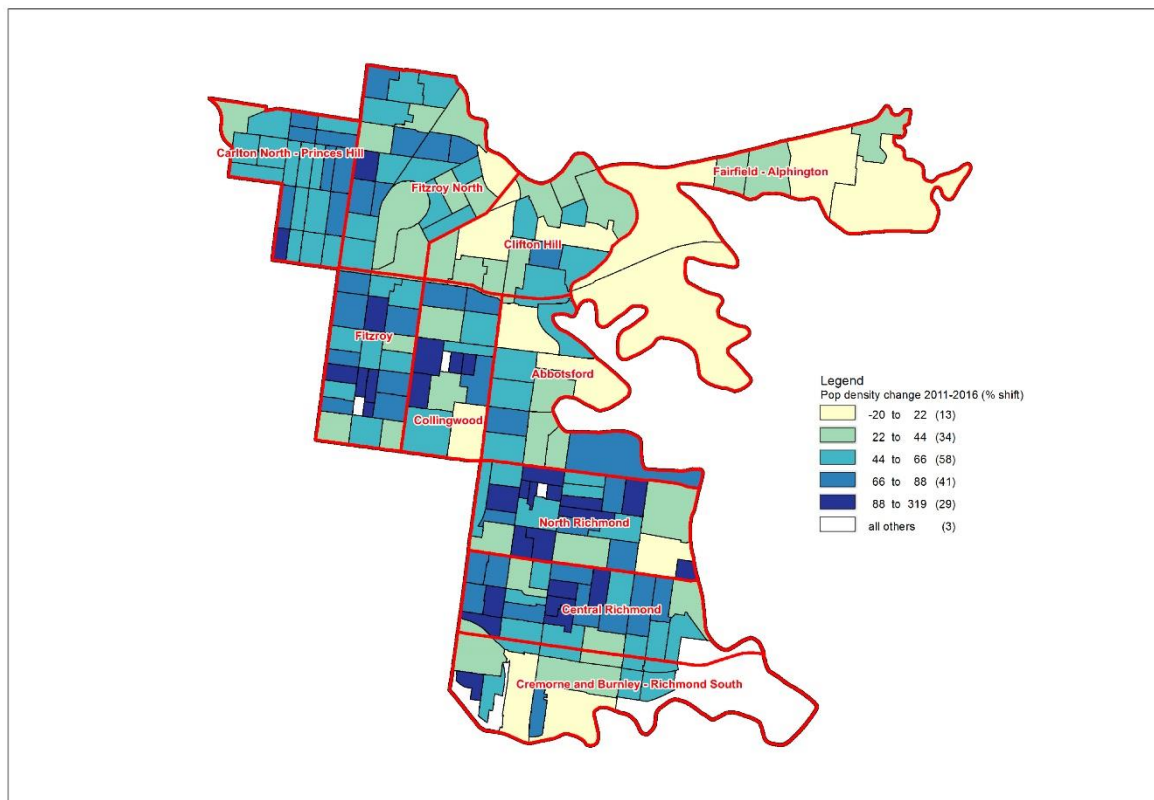
Figure 21: Percentage change in population SA1 2011-2016 (City of Yarra 2017*)*

6 SUMMARY

Over the next 10 to 15 years the City of Yarra will experience rates of population growth that are higher than those of the Melbourne Metropolitan Area or the State of Victoria. A substantial proportion of this growth will be in the 25 to 34 and 65 to 74 year age groups and will be mostly lone person or childless couple households. Yarra's lower occupancy rates will mean a greater number of dwellings will be needed to accommodate this population. Average household incomes are higher in Yarra than the Melbourne Metropolitan Area or the State of Victoria which is a trend that is expected to continue over the next 10-15 years.

The growth in the young adult and over 60s populations will place differing demands on Yarra's infrastructure and service delivery. The facilities needed by each age group are diverse and often not compatible.

Likewise, the diversity in Yarra's population from a birth place, language and socio-economic status will place additional demands on the municipality to accommodate this growing and diverse population.

Managing this growth is not simply a matter of approving new developments in the best location. It also means the provision of transport and access by a variety of means, open space and recreation facilities and community and cultural facilities to meet the needs of the existing and growing communities.

The above analysis shows that there is some locational clustering of the demographic characteristics discussed in this report. This clustering is based around the changes in land use and tends to be focused within the existing Yarra suburbs