

Melbourne Water

Demographic study: Yarra Strategic Plan



Project context

- ▶ Melbourne Water are producing a Land Use Framework for the Yarra River.
- ▶ In doing so, a demographic analysis is required to understand the communities and people who interact with the area.
- ▶ To plan for the future, an understanding of the future pressures that may face the communities nearby must be considered.
- ▶ This analysis assesses four reaches of the Yarra River to locate areas that may face considerable change into the future, putting pressure on the open space and river health.
- ▶ A series of reports have been developed to assess the reaches.
- ▶ This report summaries the reach outputs and compliments the resources provided.

Establishing an evidence base

Demographic profile information provided

Demographic profile - contents

1. Age structure
 - Service age groups
 - Forecast population
2. Housing supply
 - dwelling structure
 - forecast dwellings
3. How they live
 - Family and household type
 - Household income
 - SEIFA
 - Method of travel to work.

Individual reports have been supplied for each demographic indicator.

A folder per reach has been provided for analysis.

Age structure

Service age groups

When undertaking any demographic analysis, it is useful to begin by considering the age structure of the population. Age structure presents the share of a total population in each age group. This is valuable when it compares an area to a broader benchmark, indicating the likely household types present in a community and the role and function that area plays within its city or region.

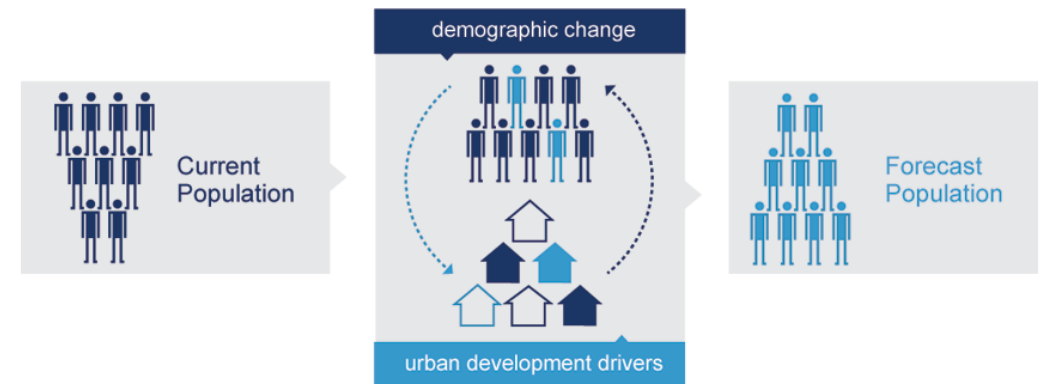
For example, a metropolitan growth area will likely have a high share of children, as young families move in search of large, affordable housing on the urban fringe. By contrast, it is more common to find an older age structure in regional and coastal areas, where a slower pace of life and attractive retirement living options draw people in their senior years.

Age structure provides key insights into the level of demand for age based services and facilities such as education and child care. .id's 'service age groups' divide the population into age categories that reflect typical life-stages. This assists decision-makers to understand the type and quantity of services required to meet a community's needs. Importantly, it also reveals how this may be changing over time, due to demographic ageing or environmental factors such as housing and infrastructure developments.

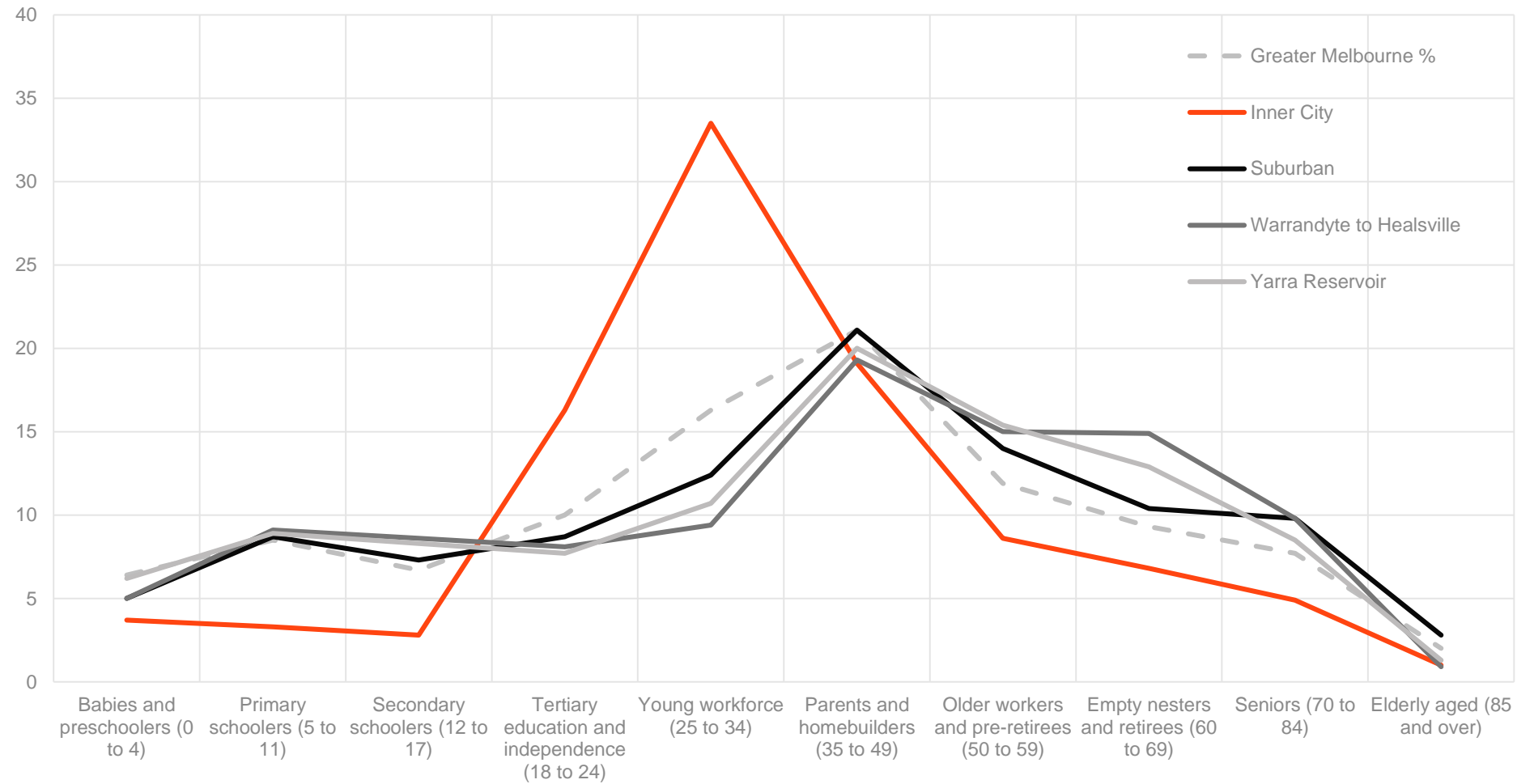
Population forecast

At .id we develop granular small area age-based forecasts to help plan for the future. Our methodology incorporates a tops-down and bottoms up approach, assessing the demographic typology of regions.

Population forecasts for the next 25 years have been provided.



Age Structure



Source: Australian Bureau of Statistics, Census of Population and Housing 2016.

Compiled and presented by .id, the population experts.

Housing supply

Dwelling structure

Dwelling structure classifies the housing stock of an area according to the physical occupied private structure. An increasingly trend in Sydney and Melbourne is the densification of inner and middle ring suburbs, marked by the development of multi-storey apartment and townhouses in place of detached dwellings.

The grouping of dwelling structure are defined as follows:

- **'Separate house'** includes all free-standing dwellings separated from neighbouring dwellings by a gap of at least half a metre.
- **'Medium density'** includes all semi-detached, row, terrace, townhouses and villa units, plus flats and apartments in blocks of 1 or 2 storeys, and flats attached to houses.
- **'High density'** includes flats and apartments in 3 storey and larger blocks.
- **'Caravans, cabins, houseboats'** includes all such mobile accommodation, both inside and outside caravan parks (including caravans in private backyards).
- **'Other'** includes houses and flats attached to shops or offices, and improvised homes, tents and sleepers out on Census night.

Dwelling structure is a reasonable measure of the changing household profile of a place, as well as its population density, providing useful information to a range of community, utilities and transport service providers.

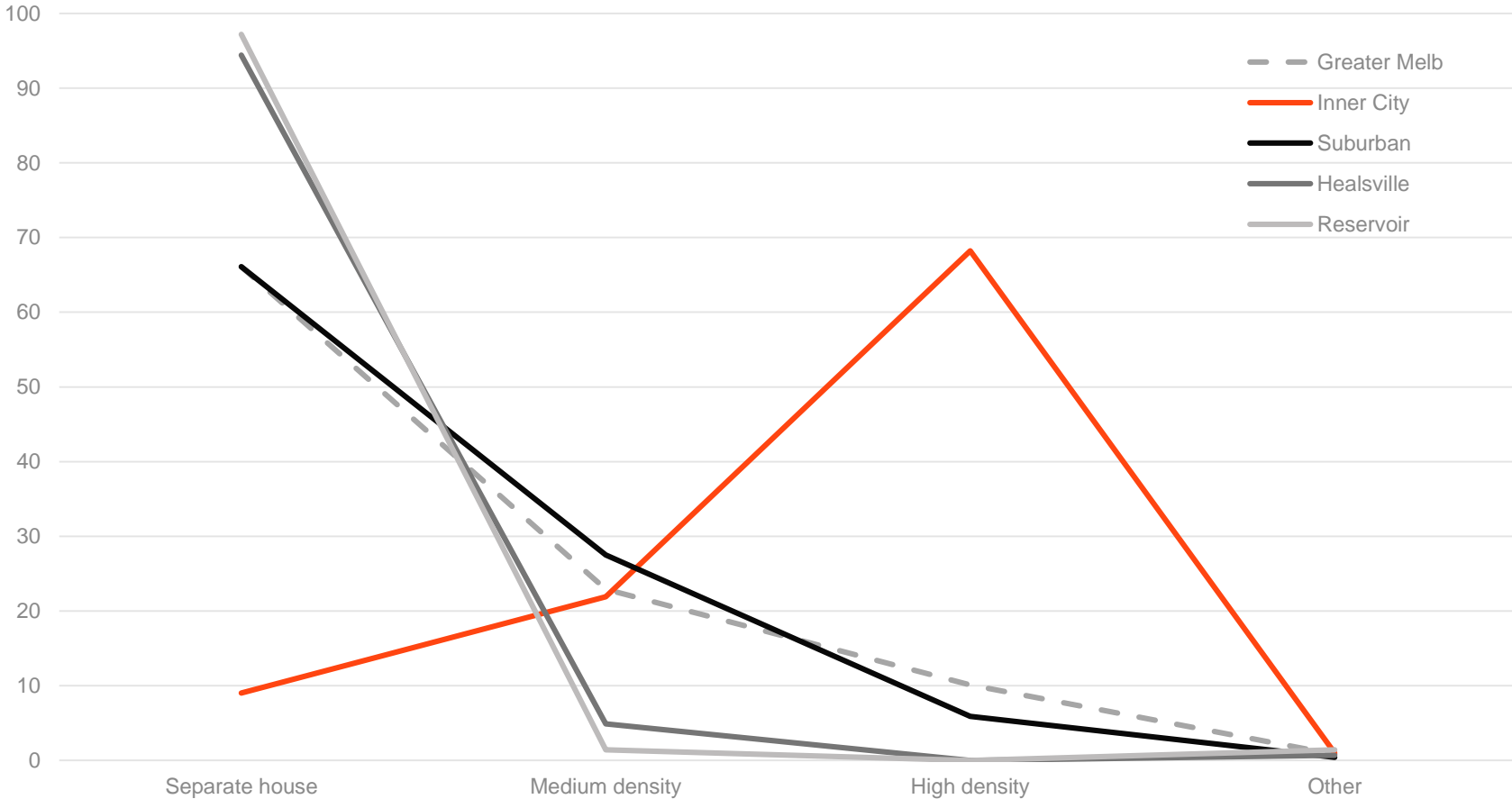
Forecast dwellings

Dwelling structure classifies the housing stock of an area according to the physical occupied private structure. An increasingly trend in Sydney and Melbourne is the densification of inner and middle ring suburbs.

To forecast dwellings, .id has developed a housing unit model. One of the inputs is the Urban Development Layer, that maps residential developments of 10 or more dwellings and forecasts their timing to be occupied.



Dwelling structure



Source: Australian Bureau of Statistics, Census of Population and Housing 2016.
Compiled and presented by .id, the population experts.

How do they live?

Suburb Lifecycle

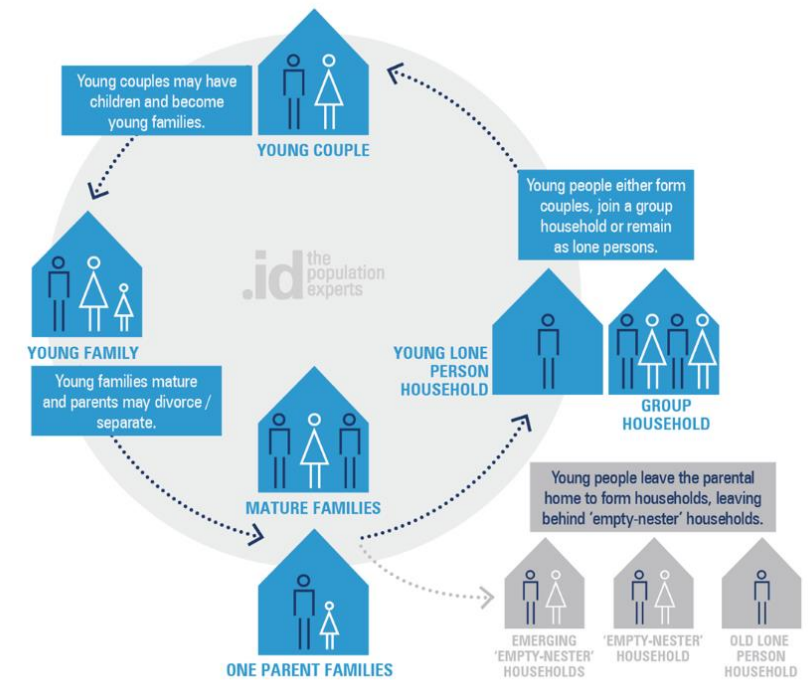
The suburb life cycle identifies the major household composition that is attracted to the suburb. The dominant household types present in a suburb or town dictate in part the role and function of the area.

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.

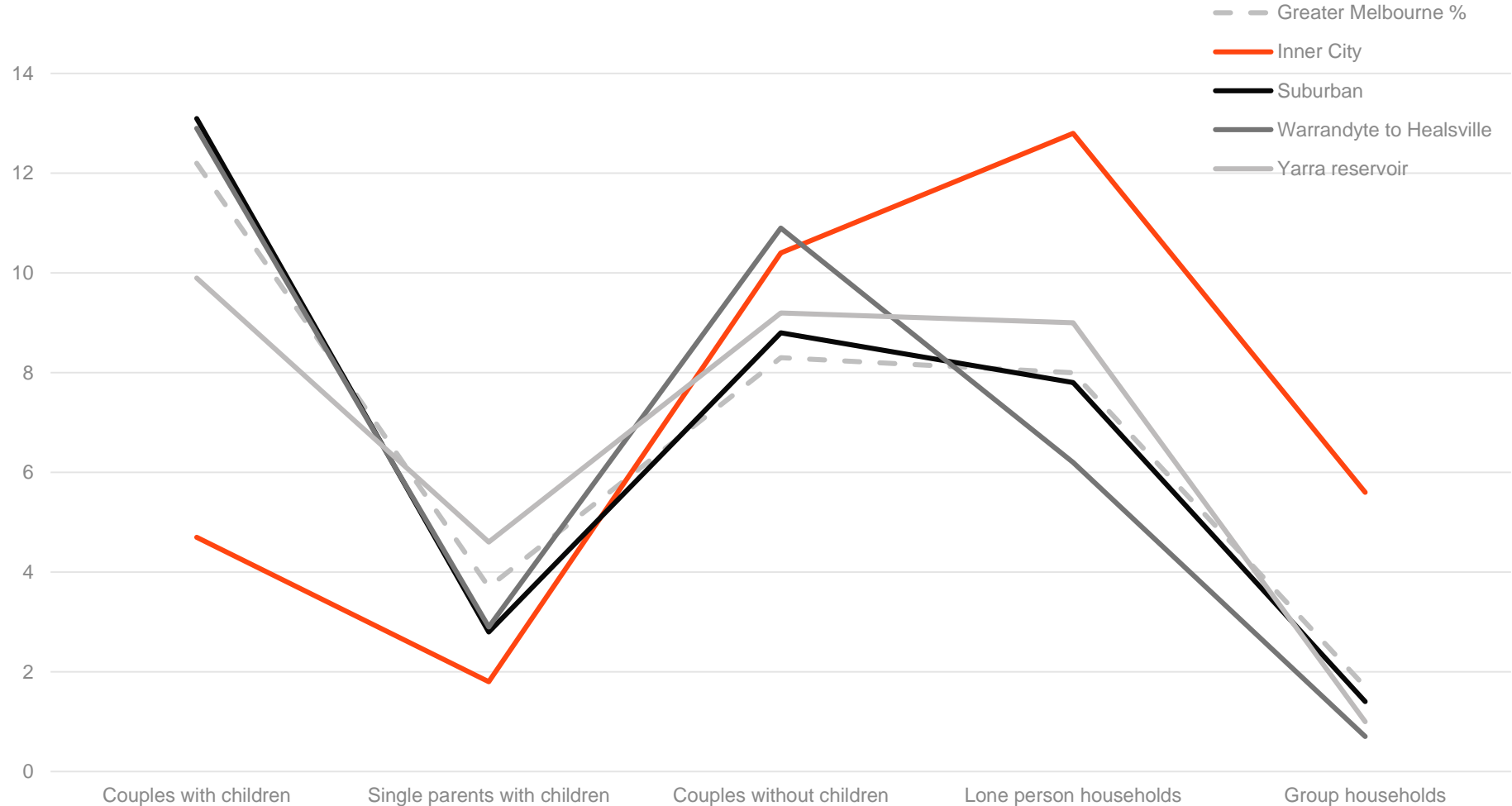
As households age further and children begin to leave home, the average household size decreases, resulting in more empty nester (two person) households, often still living in large family homes. Family breakups can also result in single parent families and lone person households. If a suburb can't attract 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.



Household and family type



Source: Australian Bureau of Statistics, Census of Population and Housing 2016.

Compiled and presented by .id, the population experts.

How do they live?

Household Income quartiles

Income quartiles are created for Australia by ranking individuals from the lowest incomes to the highest incomes and then dividing the list into four equal groups or quartiles, repeated for each Census period. The household income quartiles presents the share of all households in an area in each income quartile, providing a clear means of measuring the distribution of household incomes in the area relative to Australia. Importantly, the quartile method also enables analysis over time, as it removes the influences of economic changes such as inflation.

Clearly, variation in household size means income is earned and shared differently between households. The equivalised income approach puts all households on an equal footing regardless of household size and composition, to enable a true comparison between areas and over time.

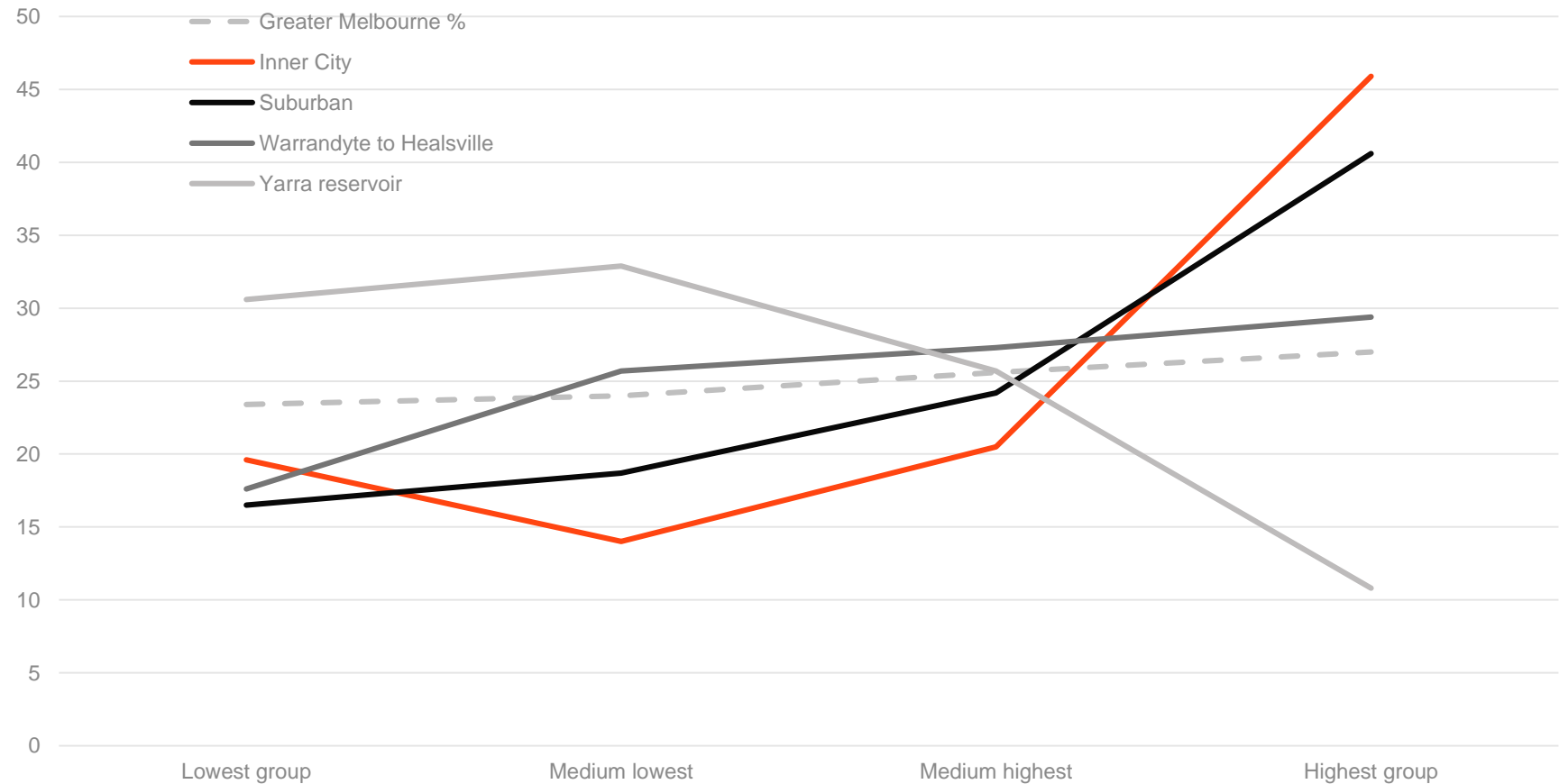
A spatial perspective on household income data enables us to understand how disparities in socio-economic status and advantage are distributed across a city. It provides us with a means of evaluating the impact of important processes such as gentrification and, when viewed alongside other census data sources, highlighting the profound connections between income, education, disability and cultural diversity.

Household income data helps government, community organisations and other service providers identify communities with the greatest need exists for social support and financial hardship programs.

Household income (equivalised) quartiles dollar ranges, Australia

| Quartile group dollar ranges | Weekly income data by Census year | | |
|------------------------------|-----------------------------------|------------------|----------------|
| | 2016 | 2011 | 2006 |
| Lowest group | \$0 to \$497 | \$0 to \$432 | \$0 to \$353 |
| Medium lowest | \$498 to \$877 | \$433 to \$763 | \$354 to \$607 |
| Medium highest | \$878 to \$1,420 | \$764 to \$1,230 | \$608 to \$982 |
| Highest group | \$1,421 and over | \$1,231 and over | \$983 and over |

Household Income quartiles



| Quartile group dollar ranges | 2016 Weekly household income |
|------------------------------|------------------------------|
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| Highest group | \$1,421 and over |

Source: Australian Bureau of Statistics, Census of Population and Housing 2016.
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How do they live?

SIEFA

The Socio-Economic Indexes for Areas (SEIFA) are a suite of four measures that rank areas according to their level of advantage, disadvantage and access to opportunities. Developed by the ABS, each index combines information from a number of census variables to produce a single score for an area. Some of the variables include income, educational attainment, employment status, unskilled occupations, English proficiency, single parent families, and tenure type.

SEIFA scores are a straightforward means of benchmarking areas against the rest of Australia, providing a single, clear indicator of the relative level of disadvantage experienced by that community. The Australian baseline is 1001. Areas with an index of greater than 1000 are more advantaged than those less than 1000.

SEIFA is useful as a starting point in identifying areas of disadvantage, and should be followed with a more detailed investigation of the underlying factors impacting each area.

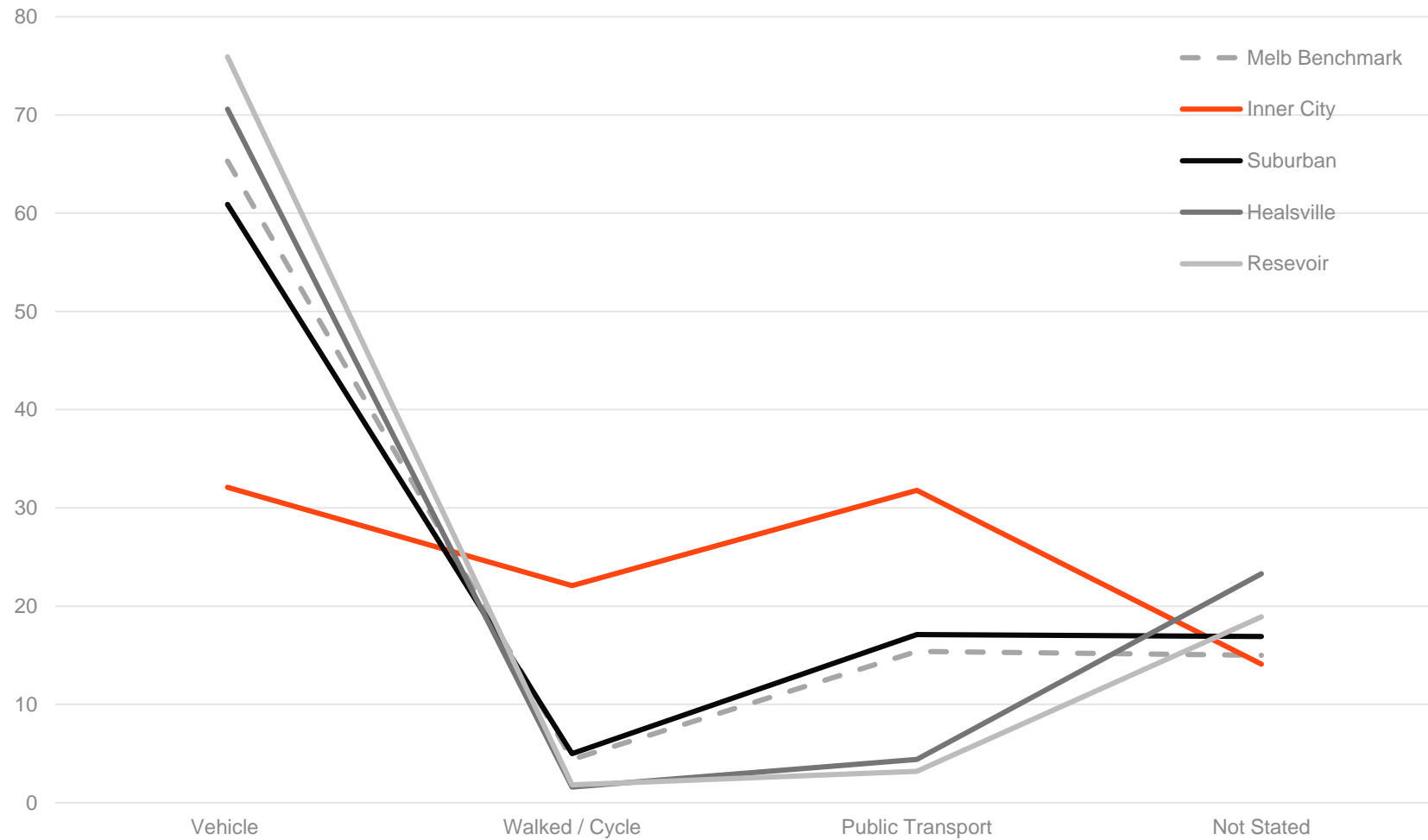
Method of travel to work

This dataset classifies the population aged 15+ according to the mode of transport people used to travel to work. It captures the dominant mode of transport used on the day of the census, providing a snapshot of the preferred methods of travelling in each area. The dataset also counts those who did not go to work.

Method of travel to work data highlights variations in the availability of different types of transport infrastructure between places. It also demonstrates the propensity of a community to use public or active transport modes. Clearly locational factors play a critical role here, although variables such as income, occupation and dwelling structure type will also influence a person's transport preferences.

Interestingly, across Australia the 'transport' grouping that increased by the most between 2011 and 2016, in terms of its share of total persons, was 'Worked at home'. This trend provides some indication of a modern shift in the organisation of our economy, driven by technological advancements and changes to our working culture.

Method of travel to work



Source: Australian Bureau of Statistics, Census of Population and Housing 2016.

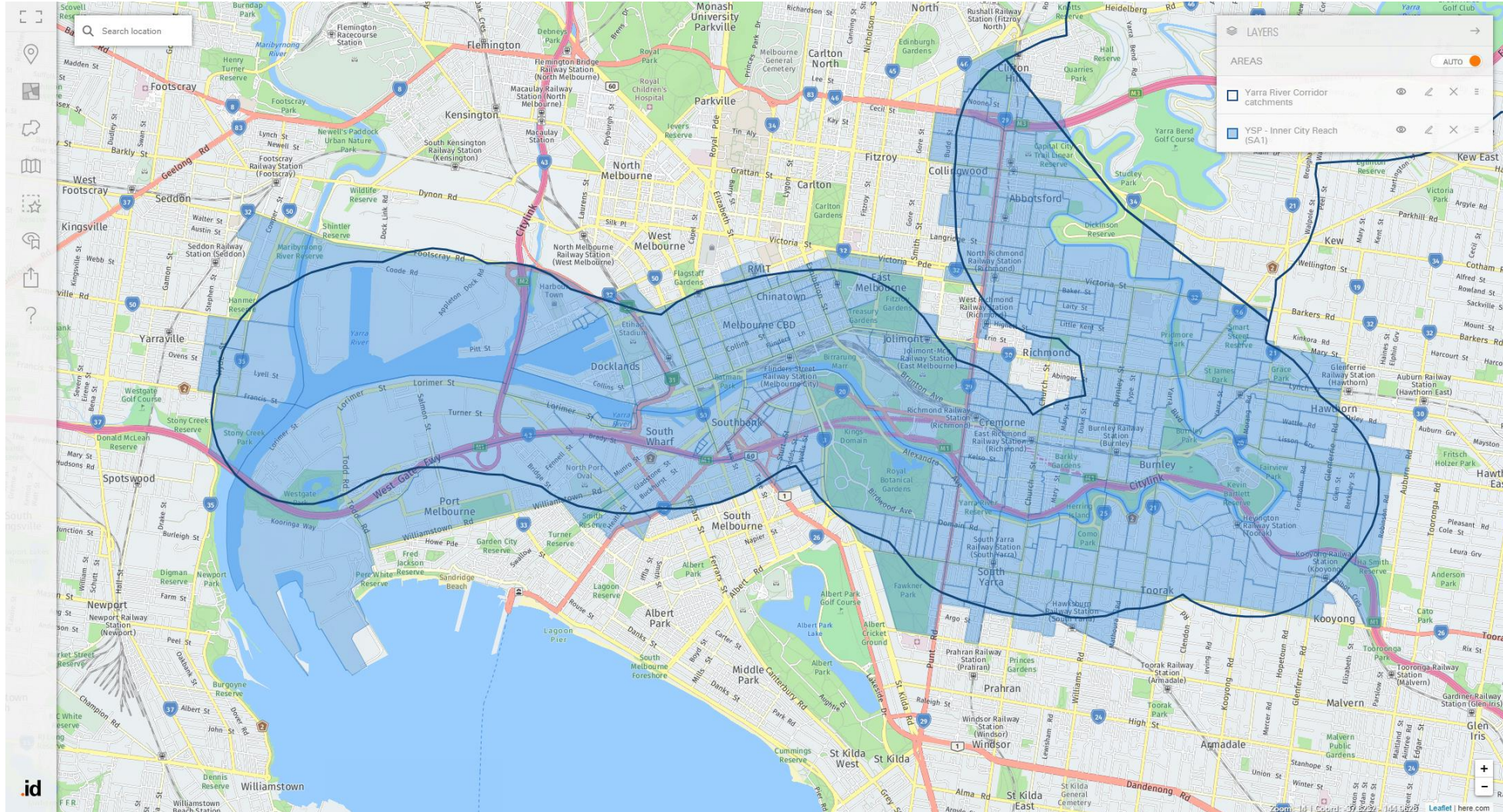
Compiled and presented by .id, the population experts.

Catchment areas

Overview

Inner City Reach

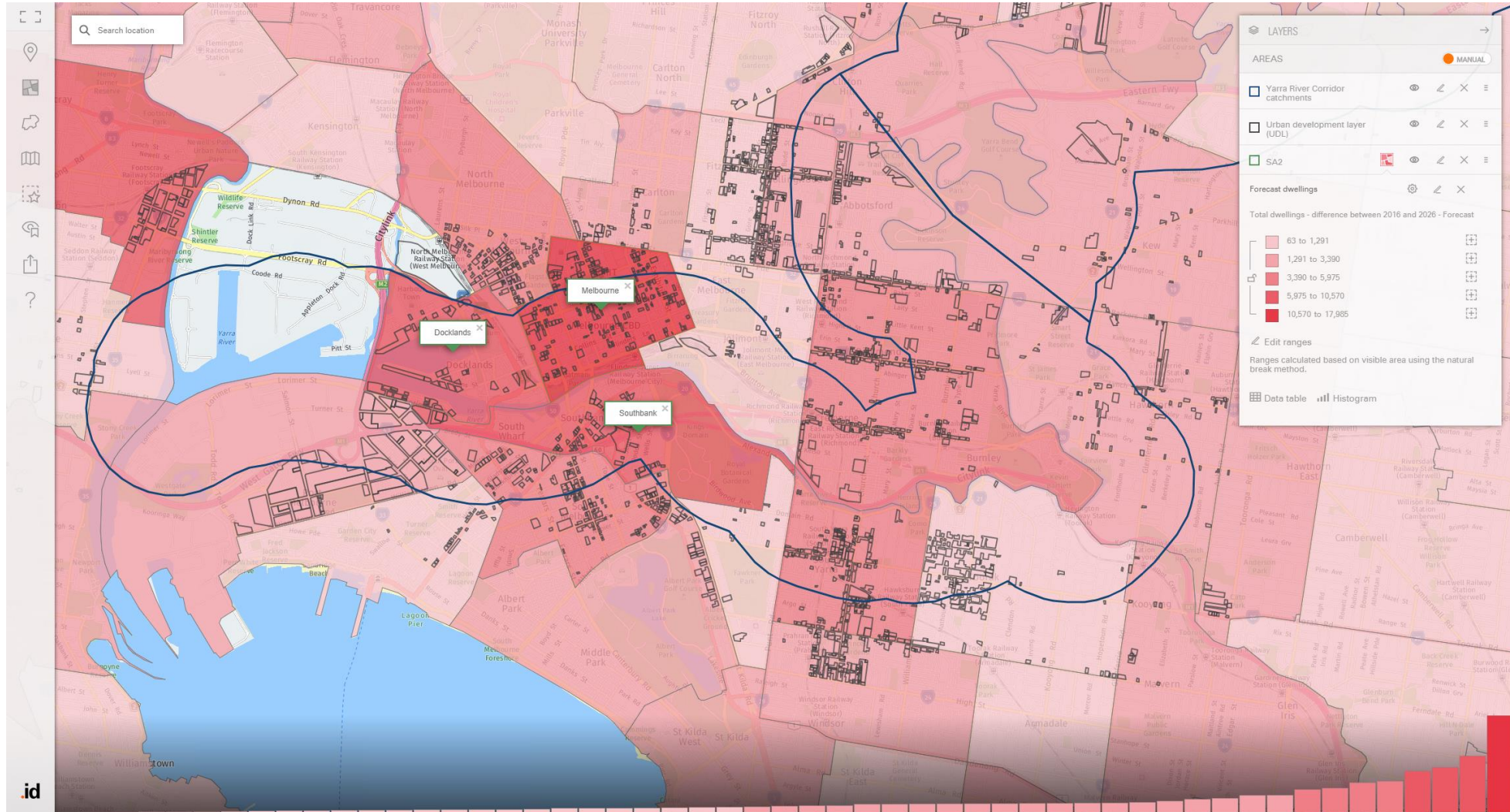
- The Inner City Reach includes much of the CBD of Melbourne and has a high percentage (68%) of high-density dwellings.
- The overall population of the Inner City Reach is 149,534 and is expected to increase to over 400,000 persons by 2041 as apartments continue to be built and high density living increases.
- The reach has a high proportion of young people and this is expected to continue due to the housing stock that typically attracts those in younger age groups.
- Due to the proximity to the city, 53.9% people use active transport (public transport, cycling or walking) to get to work.



Housing supply

Inner City Reach

- Melbourne, Southbank and the Docklands have the greatest increase in dwelling supply over the next 10 years.
- This will create higher usage of public open space within the area due to an increased population density.
- As high density apartment living increases, it is expected that the independent and young workforce will continue to reside in these areas.



Key Insights

Inner City Reach






This reach provides have a unique profile to the rest of the Yarra River with a high proportion of young adults, and high density housing. 68.2% of housing stock is classified as high density, in contrast to the Victorian benchmark of 7.4%. Over the next 10 years, an extra 52,900 dwellings will become available within this reach which will increase pressure on land use. Areas of high intensification are Melbourne CBD, Southbank and the Docklands as shown in the tables below.

The current profile of the community living within this reach are high income earners, with 48% of the people in the Inner City Reach within the highest income group, compared to 27% of persons in the Greater Melbourne area.






The primary household type are young lone persons households and group households, suggesting that the key role and function of this area is to cater for young adults who have not yet started families. This area is well established to cater for young adults and will continue to attract this cohort due to the proximity to the city and high levels on gentrification that have occurred along this corridor.

Top 3 areas of change






1. Melbourne

| Melbourne | | |
|---------------|--------|---|
| Forecast year | No. | Change from previous year |
| 2016 | 21,973 | |
| 2021 | 32,269 | +10,296  |
| 2026 | 39,957 | +7,688  |
| 2031 | 46,224 | +6,267  |
| 2036 | 53,731 | +7,507  |
| 2041 | 60,086 | +6,355  |

2. Southbank

| Southbank | | |
|---------------|--------|--|
| Forecast year | No. | Change from previous year |
| 2016 | 11,620 | |
| 2021 | 16,569 | +4,949  |
| 2026 | 22,190 | +5,621  |
| 2031 | 27,459 | +5,269  |
| 2036 | 30,191 | +2,732  |
| 2041 | 32,691 | +2,500  |

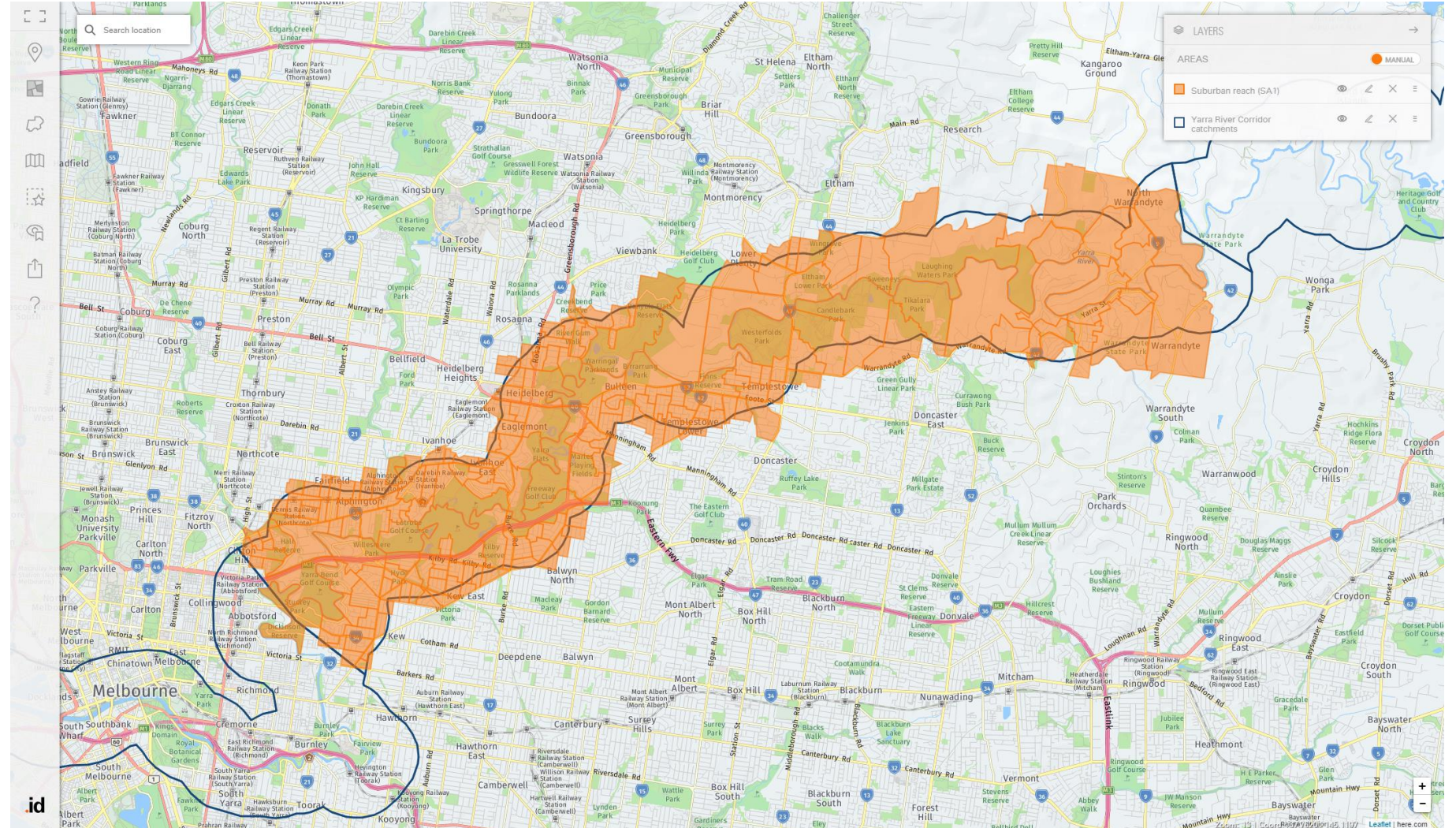
3. Docklands

| Docklands | | |
|---------------|--------|--|
| Forecast year | No. | Change from previous year |
| 2016 | 6,721 | |
| 2021 | 10,688 | +3,967  |
| 2026 | 14,544 | +3,856  |
| 2031 | 18,086 | +3,542  |
| 2036 | 19,712 | +1,626  |
| 2041 | 19,712 | +0  |

Overview

Suburban reach

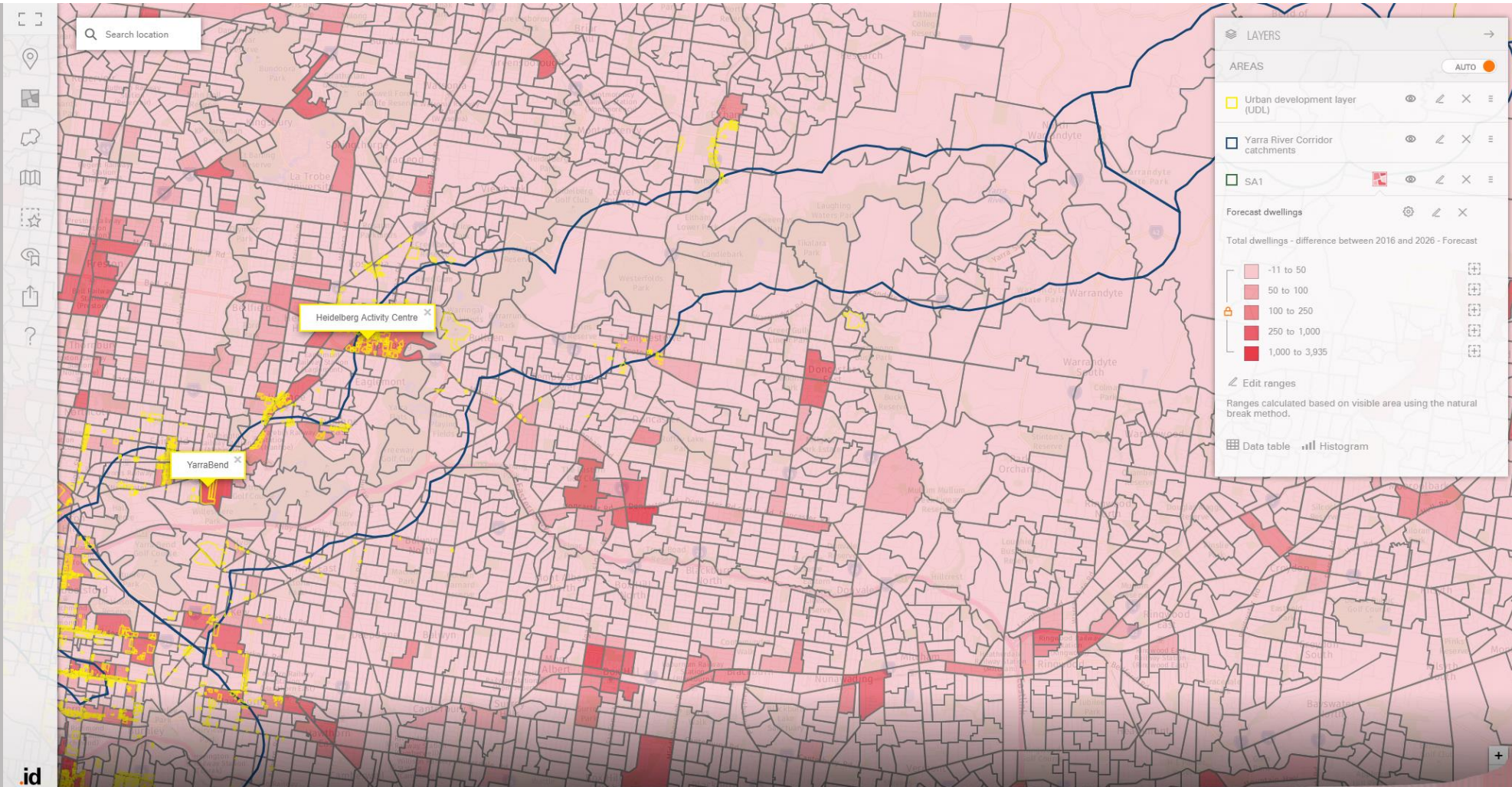
- The suburban reach extends from Abbotsford through to Warrandyte.
- There are many parks that meander along the river and provide good access to public open space.
- The total population for the Suburban Reach in 2016 was 80,912 and expected to grow to 113,000 persons by 2041.
- The age profile is similar to the Greater Melbourne trend, with a slightly older distribution of persons of 50+, and fewer persons in the young workforce.
- The major household type is couples with children (13%), followed by couples without children (8%).



Housing supply

Suburban Reach

- The Suburban reach has 66% of housing stock as separate housing, and moderate levels of medium density housing (27%)
- The low level of high density housing (6%) is concentrated towards the city.
- Looking into the future the Yarra Bend and the Heidelberg Activity Centre are areas of high change with large residential developments are underway.
- This growth is represented by an additional 3,000 dwellings in the next 5 years.
- The major growth will occur in the next 5 years with 11% growth, concentrated closer to the city.



Key Insights

Suburban Reach

The suburban reach crosses an inner suburb typology and outer suburb typology. As you move further away from the CBD, the housing stock changes as does the role and function of the area. The major household type is couples with children, followed by couples without children. Unsurprisingly, this supports parents and homebuilders from 35 to 49 years old being the prominent age cohort within this area.






Being within commuting distance from the city, 20% of the population use active transport to work which includes walking, cycling and public transport. 60% of the population drive to work.

With regards to areas of most change, Yarra Bend development and the Heidelberg Activity Centre will have the most impact on the Yarra in the near future with the increased population. The introduction of new housing stock, a different demographic profile may be attracted to the area.






The outer suburbs have minimal growth expected in the next 10 years with a low level of infill occurring.

Top 3 areas of change






1

| Yarra Bend, Heidelberg Rd | | |
|---------------------------|-------|---|
| Forecast year | No. | Change from previous year |
| 2016 | 544 | |
| 2021 | 802 | +258  |
| 2026 | 2,113 | +1,311  |
| 2031 | 3,018 | +905  |
| 2036 | 3,186 | +168  |
| 2041 | 3,191 | +5  |

2

| Heidelberg Activity Centre | | |
|----------------------------|-------|--|
| Forecast year | No. | Change from previous year |
| 2016 | 981 | |
| 2021 | 1,476 | +495  |
| 2026 | 1,921 | +445  |
| 2031 | 2,232 | +311  |
| 2036 | 2,596 | +364  |
| 2041 | 2,956 | +360  |

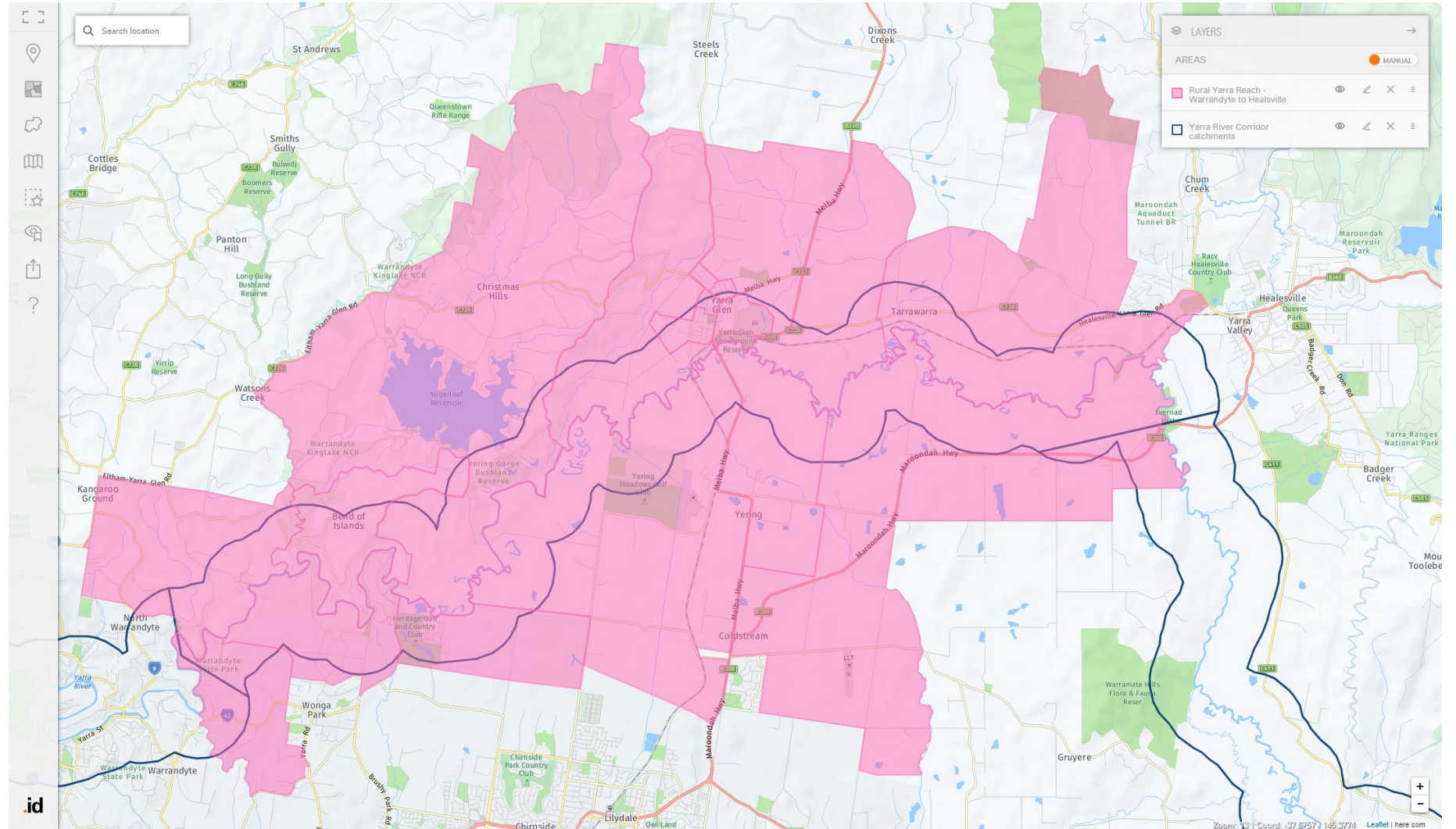
3

| Fairfield Village | | |
|-------------------|-----|--|
| Forecast year | No. | Change from previous year |
| 2016 | 307 | |
| 2021 | 420 | +113  |
| 2026 | 527 | +108  |
| 2031 | 603 | +76  |
| 2036 | 750 | +147  |
| 2041 | 977 | +227  |

Overview

Rural Yarra Reach – Warrandyte to Healesville Reach

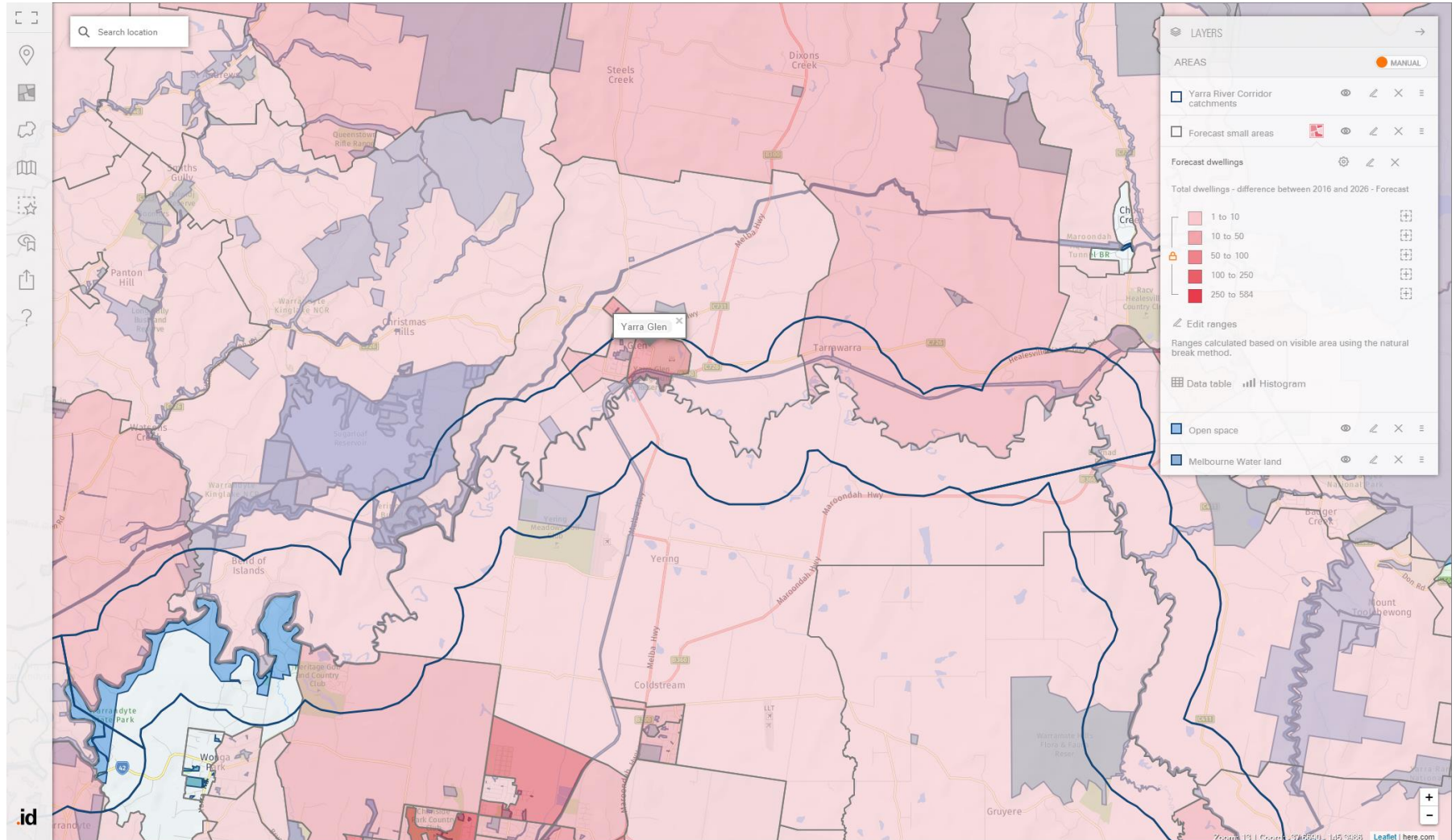
- The Rural Reach extends from Warrandyte to Healesville and can be classified as an urban fringe / peri-urban suburb typology.
- The total population for the Warrandyte to Healesville reach in 2016 was 5,439, and is expected to increase to 6000 persons in 2041.
- The age profile has a higher proportion than the Melbourne benchmark of older workers and retirees (50 – 70 year old's)
- Of all reaches, this has the lowest proportion of young workforce cohort, who live closer to the city.
- Couples (with and without children) primarily live in this reach.



Housing supply

Rural Yarra Reach – Warrandyte to Healesville Reach

- 94% of the housing stock is separate houses, and there are no high density lots within this area.
- Yarra Glen is the only town within this reach, and can expect growth of 85 new dwellings in the next 5 years.
- The majority of growth is expected in the next 5 years with 7.9% growth, before reducing back to 1% growth.



Key Insights

Rural Yarra Reach – Warrandyte to Healesville Reach

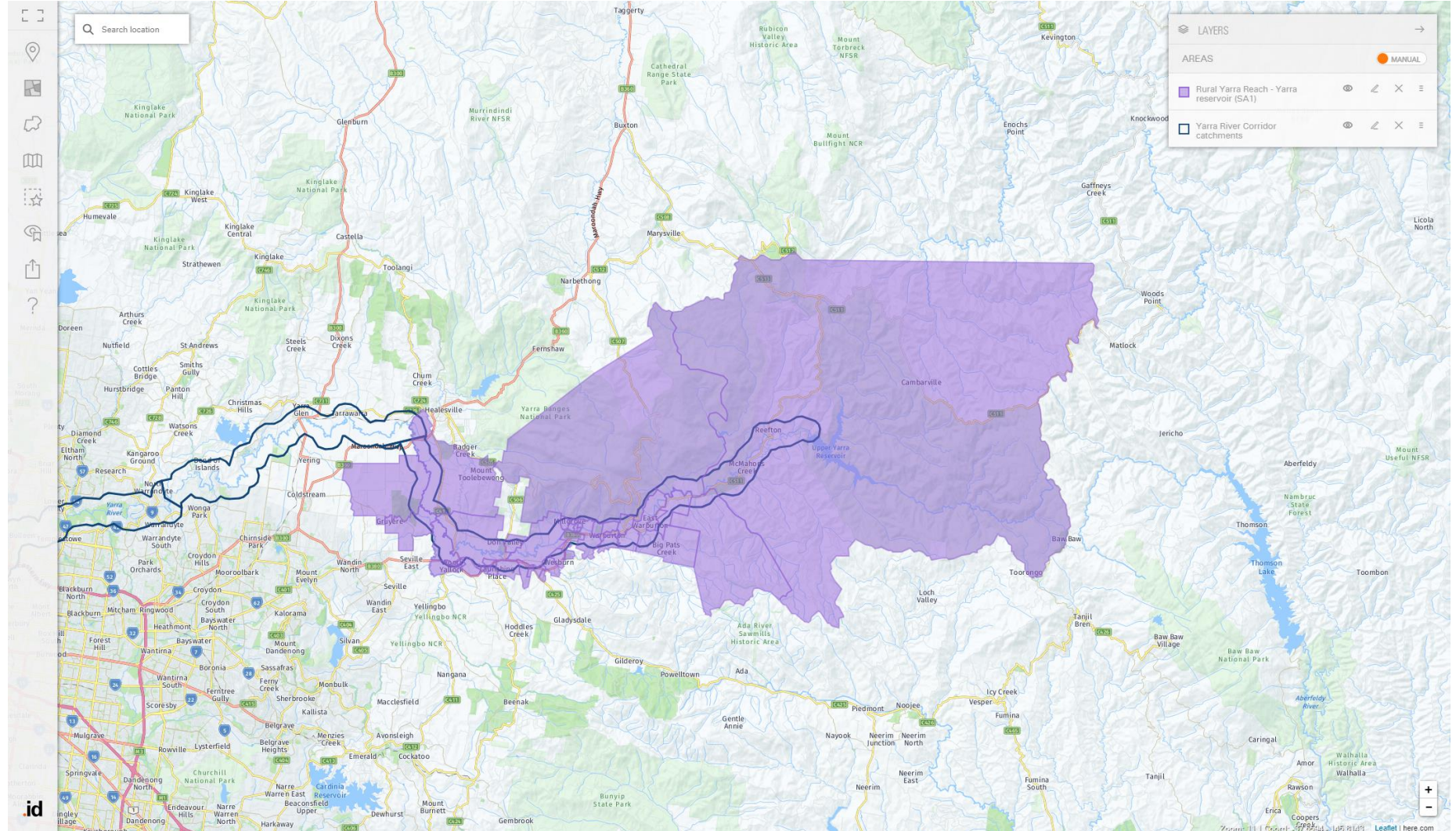
- The Warrandyte to Healesville reach has a smallest population within this study.
- Yarra Glen is the only town within this reach, with the remaining area providing rural housing options as seen by the satellite imagery.
- 38% of homes are fully owned and 42% hold mortgages on their homes, representing an area with high levels of owner/occupier.
- This area is slightly advantaged based on the SEIFA index. Each SA1 has a Index score of greater than 100.



Overview

Rural Yarra Reach – Yarra Reservoir Reach

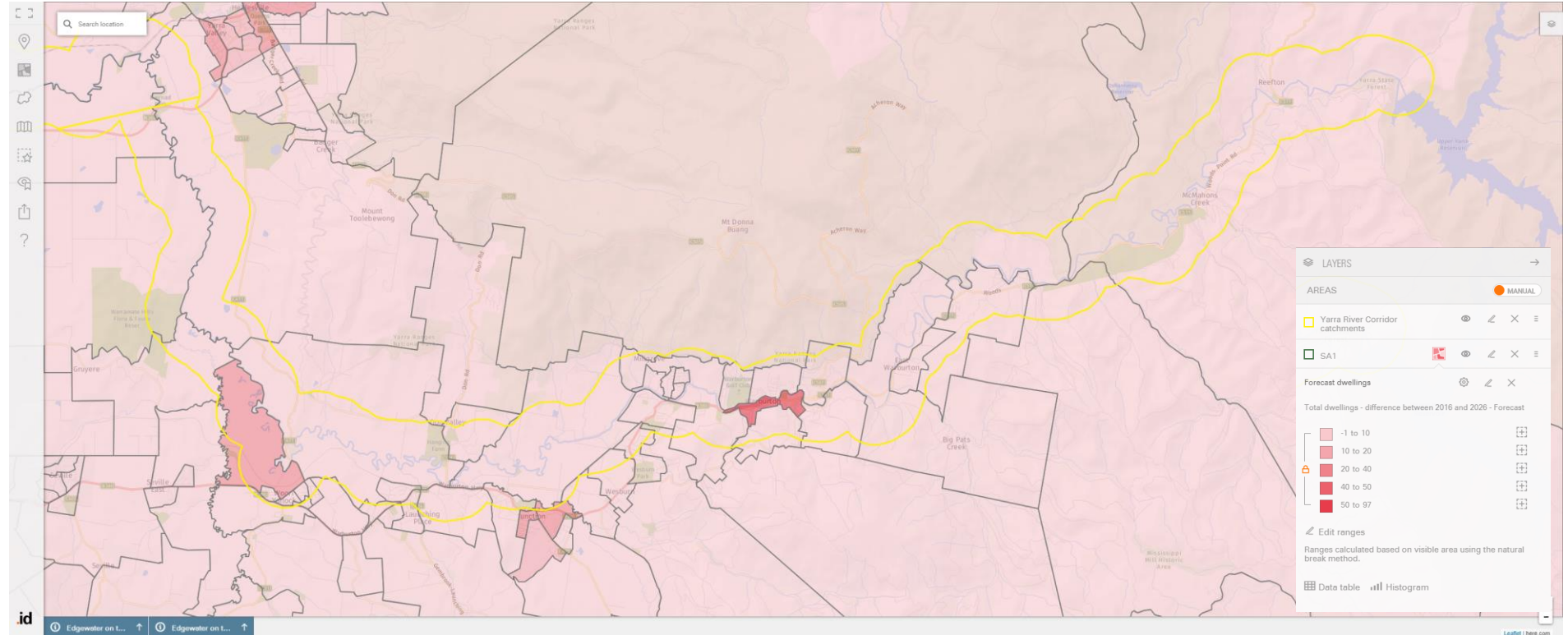
- The Yarra reservoir includes land on the urban fringe and peri-urban.
- The total population in 2016 was 13,399 and is expected to remain fairly constant with a rise of 500 people to 2021 and stabilising.
- Compared to the Warrandyte to Healesville reach, there are more small towns situated along the river, including Woori Yallock, Yarra Junction, and Warburton.
- 77% of homes in this area are fully owned or have a mortgage, with 13% renting.
- This reach caters for older persons from parents and homebuilders to retirees. Couples (with and without) children and lone persons are the highest.



Housing supply

Rural Yarra Reach – Yarra Reservoir Reach

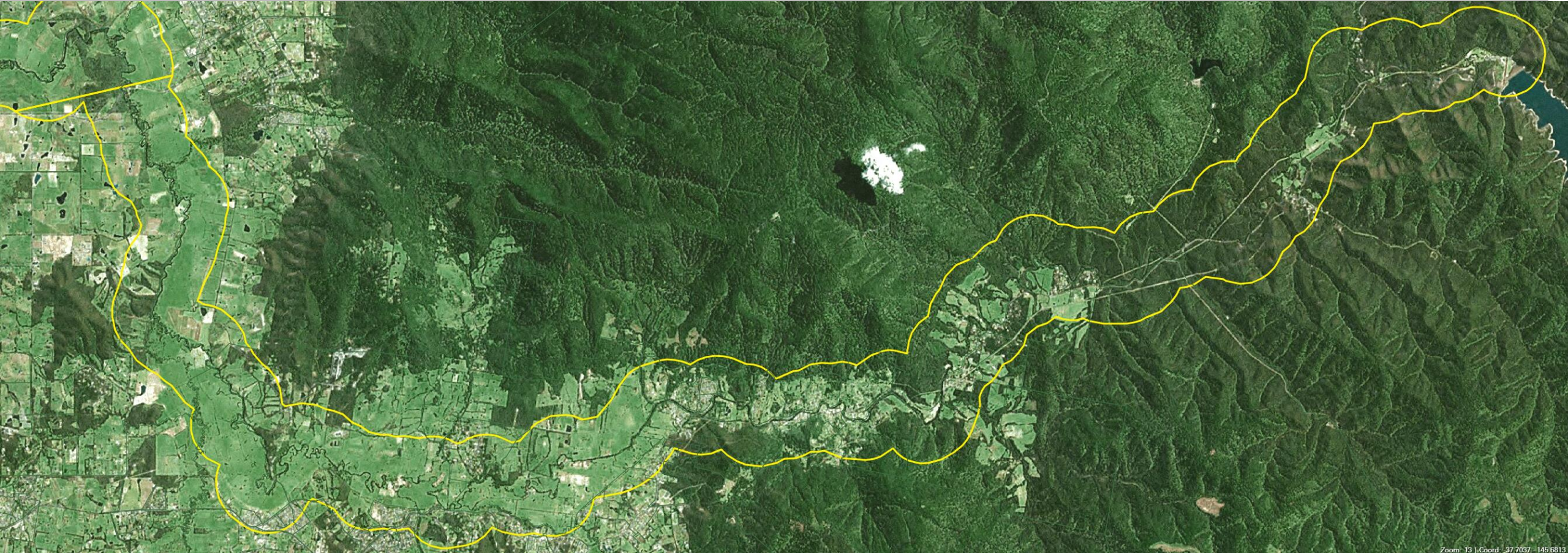
- 97% of the dwellings structure are separate house, with large lot sizes.
- There are no high density lots in this region.
- Few residential developments have been identified over the next 10 years.
- Edgewater on the Yarra, the redevelopment of the Sanitarium factory and sawmill will provide capacity for 95 dwellings in the next 10 years.
- Woori Yallock will have a small increase in dwellings
- The remainder of the area will remain constant with little change to housing stock.



Key Insights

Rural Yarra Reach – Yarra Reservoir Reach

- 75% drive to work, the highest of all reaches.
- There is an older demographic profile within the Yarra Reservoir, and whilst the majority of homes are fully owned or have a mortgage, this area has 63% of household with the lowest to medium lowest household income.



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