

City of Swan
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POPULATION AND HOUSEHOLD FORECASTS

Ellenbrook

City of Swan population and household forecasts are designed to inform community groups, Council, investors, business, students and the general public.

Forecasts have been produced for the years, 2006 to 2031.

The data in this report was last reviewed and updated on 8/04/2010.

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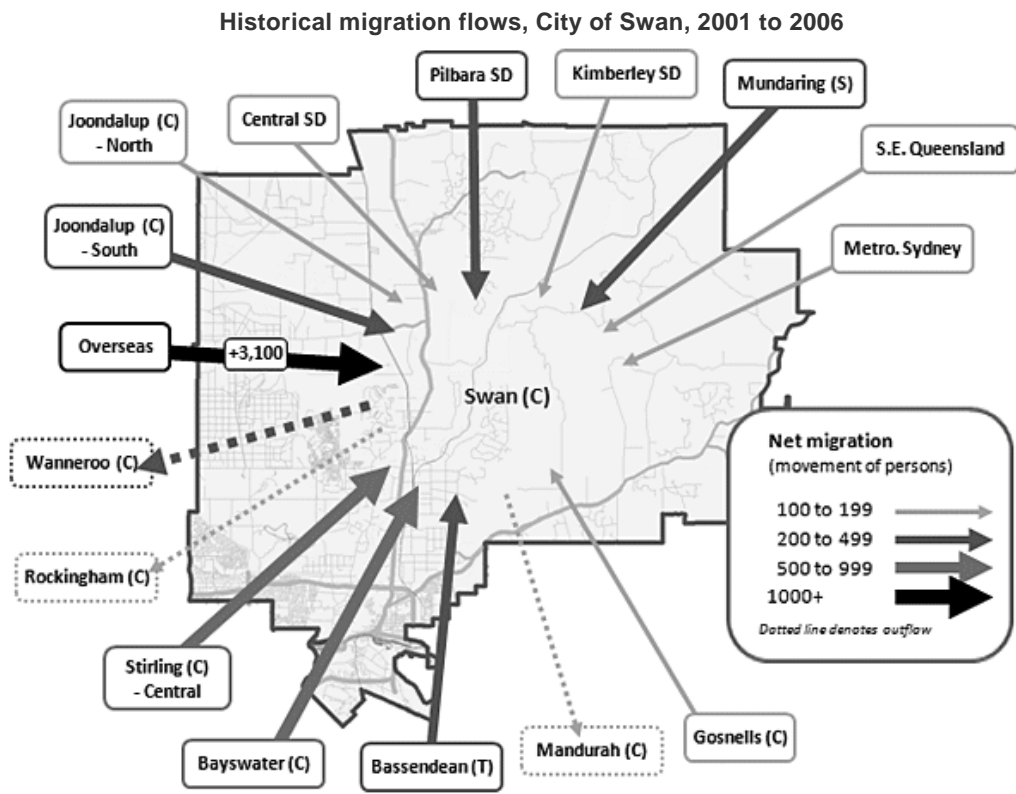
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Date created: 21/10/2010

Summary & key results

Key drivers of change



Note: The migration flows depicted above do not represent future or forecast migration flows. The arrows represent migration flows to the LGA/SLA as a whole and do not indicate an origin or destination for any specific localities within the LGA/SLA.

The City of Swan lies on the north-eastern fringe of the Perth metropolitan area, and combines a diverse range of land uses and economic activities. Much of the land in the north and east of the City remains rural in nature, and there is also significant parkland and forestry in the west of the City. The central areas are dominated by intensive agriculture - principally viticulture in the famed Swan Valley wine region. Urban development in the City dates to the establishment of the Guildford township in the 1830s, but apart from expansion around the railway town of Midland (formerly Midland Junction) from the 1880s, significant residential development in the City of Swan has been a relatively recent phenomenon.

The City's population growth in the last twenty years has focused around Ballajura and the Swan View area (Stratton and Jane Brook), with the most rapid recent expansion occurring in Ellenbrook.

The range of attractive lifestyles offered by the City, the declining amount of developable land in its neighbouring municipalities of Stirling, Bayswater and Bassendean, and the significant new supply of housing opportunities in the City of Swan are expected to be significant factors in its strong population growth in the next few years. The City has been successful in attracting significant numbers of new residents from surrounding areas, from overseas and from northern Perth in particular, and this is expected to continue. To this will be added significant demand from within the City itself: many of its areas were developed in the 1970s and 1980s, and children who have grown up in these areas are now forming their own households. To meet this demand, there will be a significant new supply of housing opportunities in the City, with development fronts opening in West Swan, Caversham and Albion, and the continuing development of Ellenbrook.

Because of the residential development of the City over many decades, the large size of the municipality and the wide

range of land uses across the City, its areas have developed distinctive characteristics and different roles in the housing market. Areas such as Ellenbrook, Altone (Beechboro in particular), Stratton and Jane Brook have had significant residential development in recent years, and they are attractive to couples and families seeking new housing opportunities. Many of the more rural parts of the City, such as Gidgegannup and Bullsbrook, are attractive to mature families seeking a rural environment and lifestyle. The historic country town character of Guildford and the semi-rural environment of Hazelmere are also attractive to mature families. Midland tends to attract young adults because of the range of services it provides - principally its education facilities, the large commercial area and the availability of rental housing.


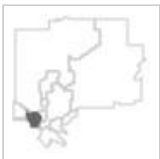
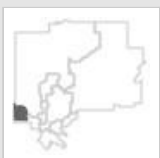

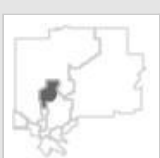
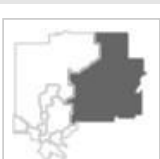
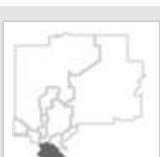
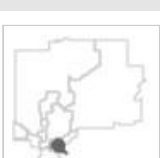
The Urban Growth Corridor is an 1,100-hectare area to the west of the Swan Valley which will be the major residential growth area in the City of Swan. This is likely to constituting a phase of unprecedented overall growth in the City.

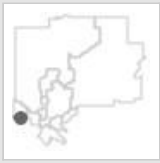
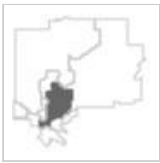
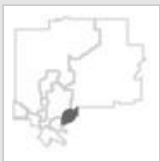

The City is fortunate in having a wide variety of function, character and role in its small areas, and this means that population projections differ significantly across the municipality. There are also significant differences in the supply of residential property within the City, and this will have a major influence in structuring different population and household types over the next 5-20 years.

There will also be significant redevelopment activity, notably in Midland (principally in the historic Railway Workshops precinct) and in the utilisation of remnant land in Swan View. In addition, the development of the Midland Health Campus will attract significant investment to Midland in particular and the City in general.

Summary & key results

Population summary

City of Swan's areas		Forecast year						Change between 2006 and 2031	
Location	Area name	2006	2011	2016	2021	2026	2031	number	Avg. annual % change
	City of Swan	97,445	114,560	134,039	153,642	172,562	190,235	92,790	2.7
	Altone	20,979	21,814	22,024	21,711	21,528	21,420	441	0.1
	Ballajura	19,983	19,865	19,785	19,772	19,640	19,394	-589	-0.1
	Bullsbrook	4,827	5,661	6,567	7,980	12,494	21,556	16,729	6.2
	Ellenbrook	15,025	27,557	37,150	44,185	47,401	47,060	32,035	4.7
	Gidgegannup	3,018	3,299	3,667	4,293	5,184	6,554	3,536	3.2
	Guildford	5,544	5,799	6,333	6,709	7,044	7,366	1,822	1.1
	Midland	10,717	12,318	13,466	14,668	16,033	17,404	6,687	2

	Noranda	1,456	1,461	1,470	1,482	1,492	1,506	50	0.1
	Swan Valley	5,594	5,539	5,558	5,628	5,645	5,683	89	0.1
	Swan View	9,852	10,493	11,596	12,472	13,079	12,849	2,997	1.1
	Urban Growth Corridor	450	754	6,423	14,742	23,022	29,443	28,993	18.2

This summary of population statistics for the period 2006 to 2021, as the short to medium term is most appropriate for planning purposes. Please note that these data are available for all years between 2006 and 2031.

In 2021, the population of the City of Swan will be 153,642, an increase of 56,197 persons (57.67%) from 2006. This represents an average annual growth rate of 3.1%.

Urban Growth Corridor is forecast to show the greatest percentage change in population to 2021, increasing by 98.5% from 2006, or an average annual growth rate of 18.2%.

In contrast, Ballajura is forecast to decrease by 3.0% by 2021.

By 2031, the population of the City of Swan is forecast to grow to 190,235, an increase of 92,790 persons from the 2006 population, and an increase of 36,593 persons from the 2021 population.

Summary & key results

Ellenbrook



Ellenbrook is bounded by Maralla Road in the north, Almeria Parade, the locality of Upper Swan, Ellen Brook, Ellen Brook Drive, Aveley Road, Chateau Place, Millhouse Road, West Swan Road and the locality of Henley Brook in the east, Gngalara Road, Henley Brook Avenue and Park Street in the south, and Lord Street, Gngalara Road and the proposed Perth-Darwin Highway in the west.

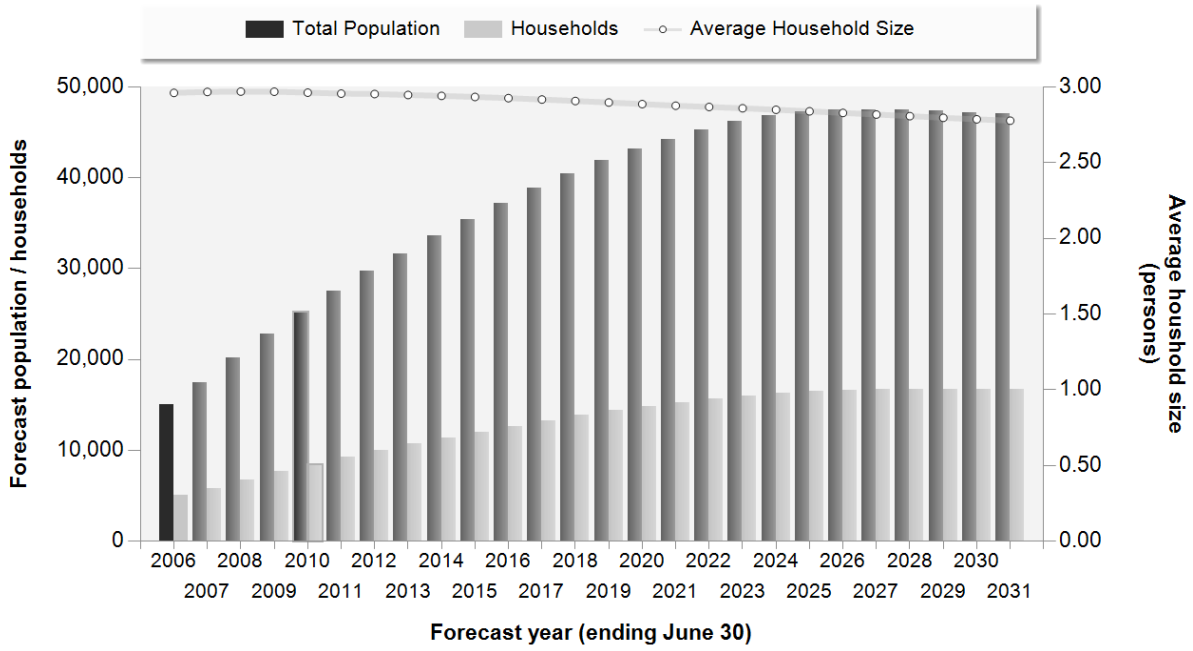
How many will live here in future? - Ellenbrook

Ellenbrook	Forecast year					
	2006	2011	2016	2021	2026	2031
Population	15,025	27,557	37,150	44,185	47,401	47,060
Change in Population (5yrs)		12,532	9,593	7,035	3,216	-341
Average Annual Change (%)		12.9	6.16	3.53	1.42	-0.14
Households	5,045	9,260	12,619	15,251	16,601	16,740
Average Household Size (persons)	2.96	2.96	2.93	2.87	2.83	2.78

This summary analyses data for the period 2006 to 2021, as the short to medium term is most appropriate for planning purposes. Please note that this data is available for all years between 2006 and 2031.

In 2006, the total population of Ellenbrook was estimated at 15,025 people. It is expected to experience an increase of over 29,100 people to 44,185 by 2021, at an average annual growth rate of 7.46% per annum over 15 years. This is based on experience an increase of over 10,200 households during the period, with the average number of persons per household falling from 2.96 to 2.87 by 2021.

Forecast population, households and average household size, Ellenbrook



Summary & key results

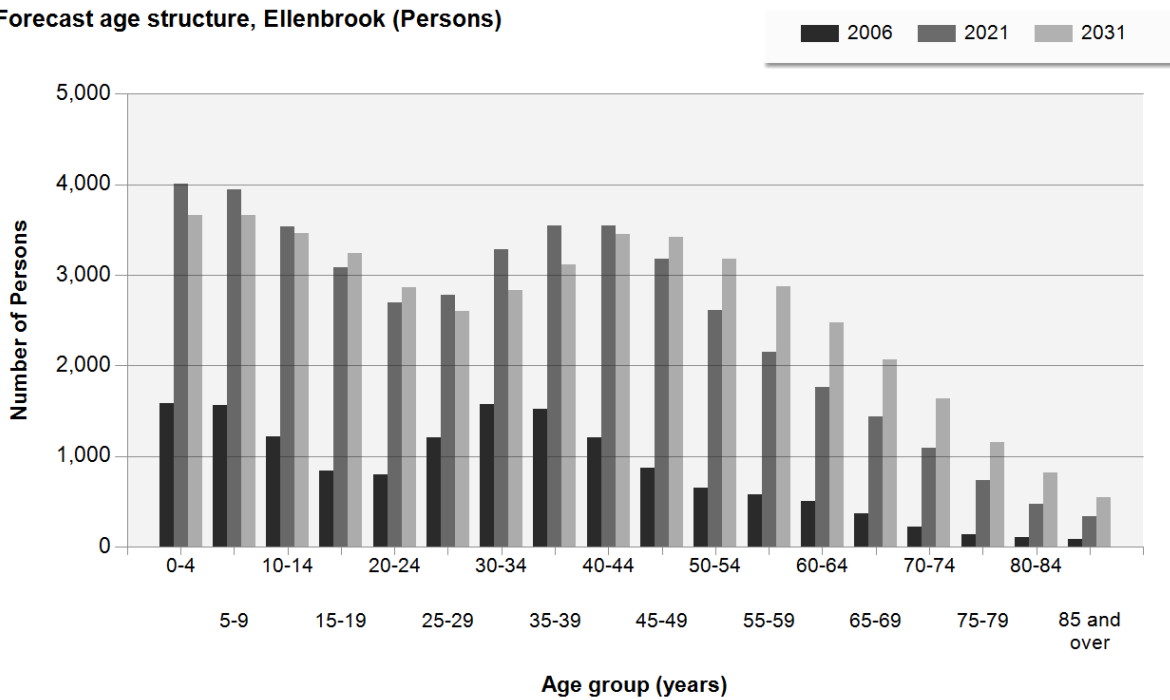
How old will we be?

In 2006, the most populous age group in Ellenbrook was 0-4 year olds, with 1,588 persons. In 2021 the most populous forecast age group will continue to be 0-4 year olds, with 4,010 persons.

The number of people aged under 15 is forecast to increase by 7,126 (163.1%), representing a rise in the proportion of the population to 26.0%. The number of people aged over 65 is expected to increase by 3,163 (350.3%), and represent 9.2% of the population by 2021.

The age group which is forecast to have the largest proportional increase (relative to its population size) by 2021 is 75-79 year olds, who are forecast to increase by 448.1% to 729 persons.

Forecast age structure, Ellenbrook (Persons)



Summary & key results

What type of households will we live in?

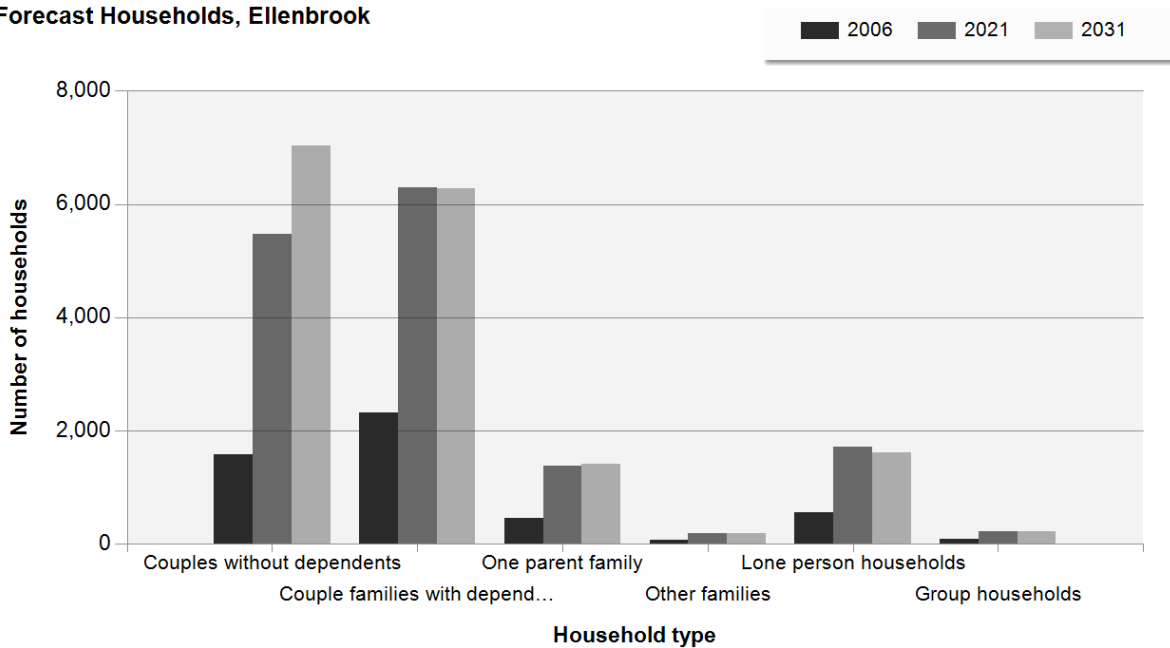
In 2006, the dominant household type in Ellenbrook was Couple families with dependents, which accounted for 46.0% of all households.

The main changes in household type between 2006 and 2021 are forecast to be:

The largest increase is forecast to be in Couples without dependents, which will increase by 3,896 households, comprising 35.9% of all households, compared to 31.4% in 2006.

In contrast Couple families with dependents is forecast to increase by 3,964 households, to comprise 41.2% of all households in 2021, compared to 46.0% in 2006.

Forecast Households, Ellenbrook

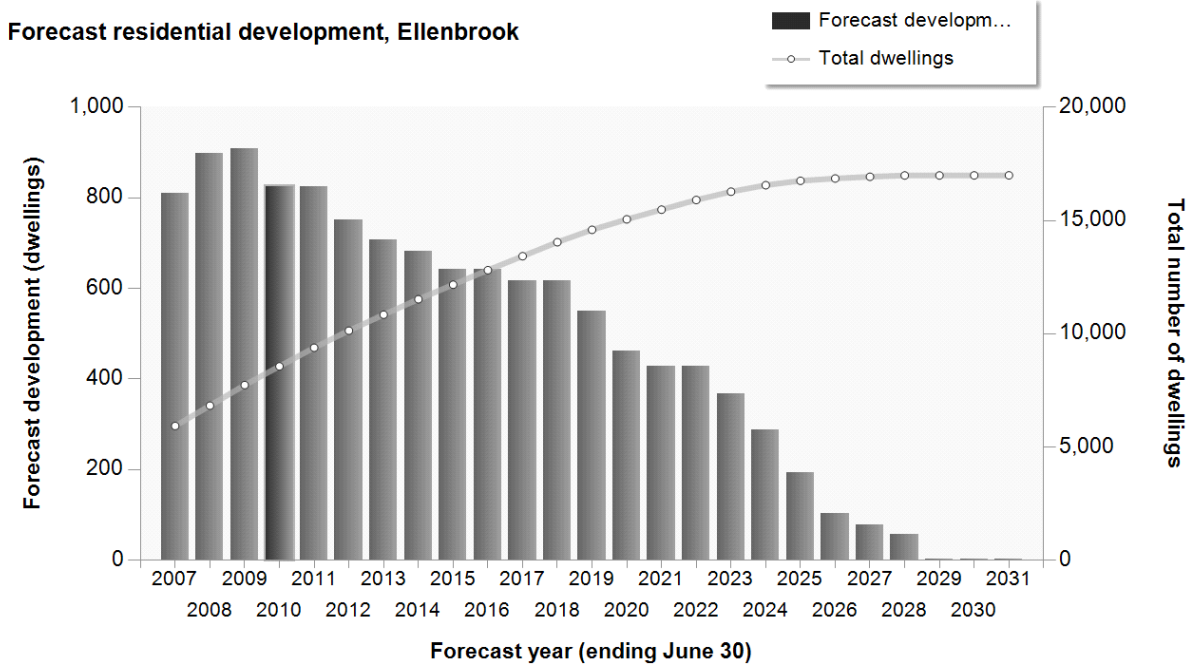


Assumptions

Residential development

List of forecast land developments and infill assumptions:

- 2006-8 dwelling additions are based on building approvals, lagged by 12-24 months. from 2008 onwards:
- Roxburghe Avenue-Portmarnock Drive - 298 dwellings (2008-2016)
- Woburn Park - 392 dwellings (2008-2019)
- Burgundy Lane - 114 dwellings (2008-2012)
- Ellenbrook Town Centre - 1,584 dwellings (2008-2028)
- Arbor Grove area - 437 dwellings (2008-2011)
- Coolamon Area - 239 dwellings (2008-2011)
- Ellenbrook North - 3,292 dwellings (2010-2025)
- The Vale (Stage 1) - 158 dwellings (2008-2011)
- The Vale (Stages 2-3) - 3,610 dwellings (2008-2024)
- Low level of infill development (1-2 dwellings per annum)



Assumptions

Births and deaths

Fertility (birth) rates:

The fertility rate in Ellenbrook is derived from historic age-specific birth rates in the area, modified based on the forecast age structure at each year of the forecast.

Death rates

The death rates are based on historical estimates for the City of Swan, which have been extrapolated into the future, assuming an increase in expectation of life in all age groups (except 85+). Although women are still forecast to outlive men, the increase in expectation of life over time for men is expected to be higher.

Assumptions

Non-private dwellings

The overall number of persons in non-private dwellings is assumed to increase from 89 in 2006 to 589 in 2031.

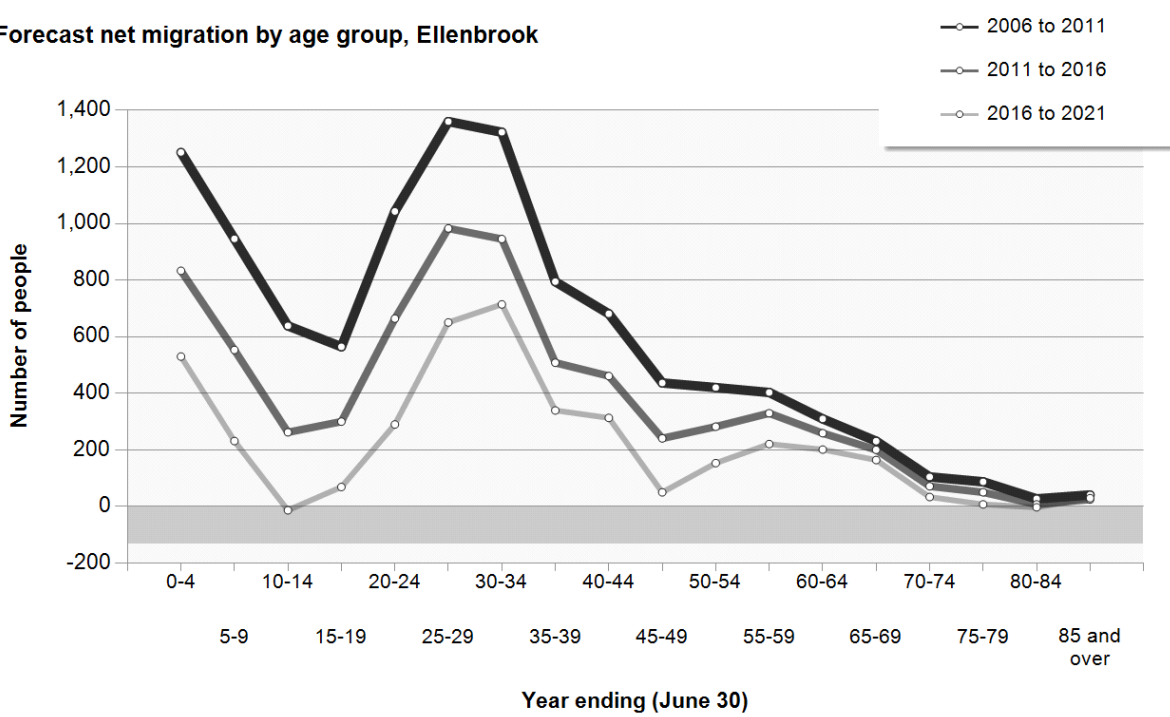
Assumptions

Migration

Major migration assumptions:

- Relatively stable migration profile expected across the 2006-2021 period
- Migration gain is expected in all age groups
- The largest migration gains are expected in couples and families (20-44 years) with children (0-9 years)

Forecast net migration by age group, Ellenbrook

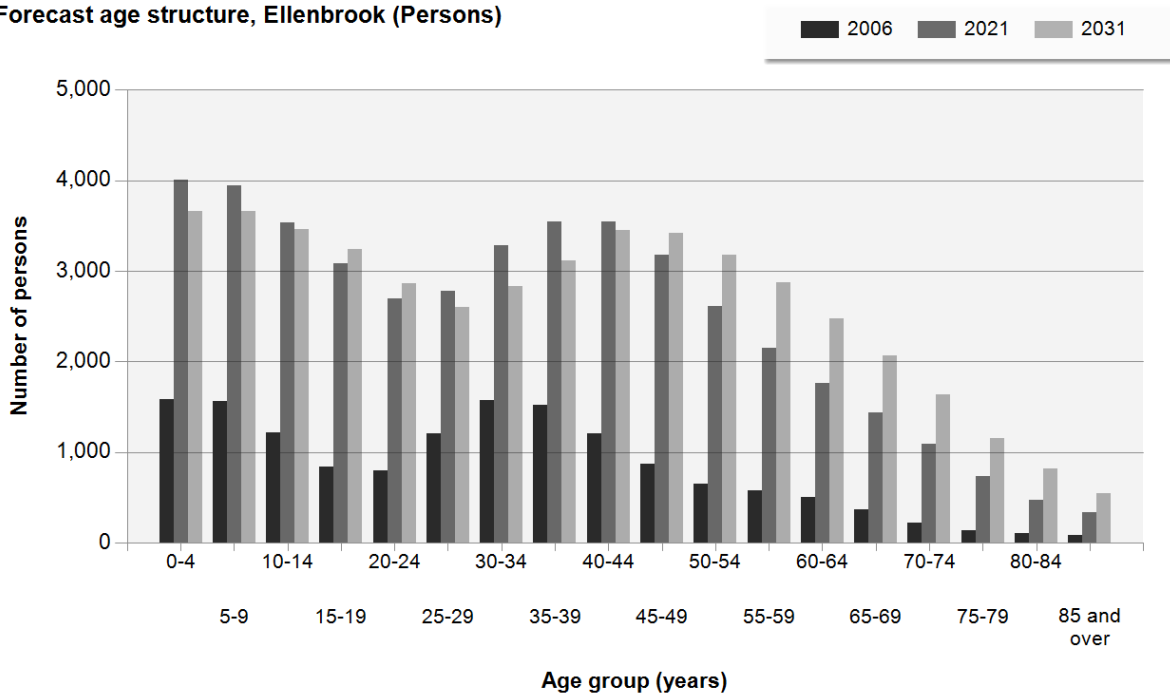


Detailed data

Age structure

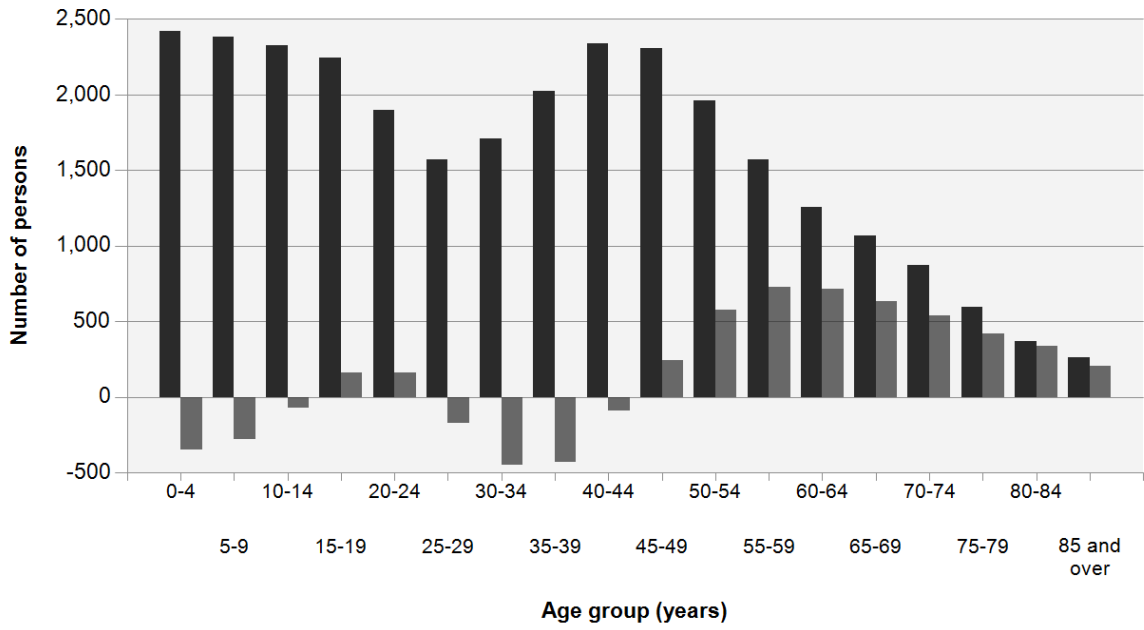
Forecast age structure, Ellenbrook (Persons)	2006		2021		2031		Change
Age group	number	%	number	%	number	%	2006 to 2031
0-4 years	1,588	10.6	4,010	9.1	3,659	7.8	2,071
5-9 years	1,568	10.4	3,948	8.9	3,665	7.8	2,097
10-14 years	1,213	8.1	3,537	8.0	3,466	7.4	2,253
15-19 years	839	5.6	3,081	7.0	3,241	6.9	2,402
20-24 years	800	5.3	2,701	6.1	2,863	6.1	2,063
25-29 years	1,208	8.0	2,778	6.3	2,603	5.5	1,395
30-34 years	1,571	10.5	3,279	7.4	2,832	6.0	1,261
35-39 years	1,518	10.1	3,542	8.0	3,112	6.6	1,594
40-44 years	1,208	8.0	3,549	8.0	3,456	7.3	2,248
45-49 years	875	5.8	3,180	7.2	3,423	7.3	2,548
50-54 years	650	4.3	2,608	5.9	3,182	6.8	2,532
55-59 years	579	3.9	2,148	4.9	2,878	6.1	2,299
60-64 years	504	3.4	1,758	4.0	2,474	5.3	1,970
65-69 years	366	2.4	1,433	3.2	2,068	4.4	1,702
70-74 years	221	1.5	1,092	2.5	1,631	3.5	1,410
75-79 years	133	0.9	729	1.6	1,150	2.4	1,017
80-84 years	104	0.7	474	1.1	813	1.7	709
85 years and over	79	0.5	338	0.8	544	1.2	465
Total Persons	15,024	100.0	44,185	100.0	47,060	100.0	32,036

Forecast age structure, Ellenbrook (Persons)



Forecast change in age structure, Ellenbrook (Persons)

2006 to 2021 2021 to 2031

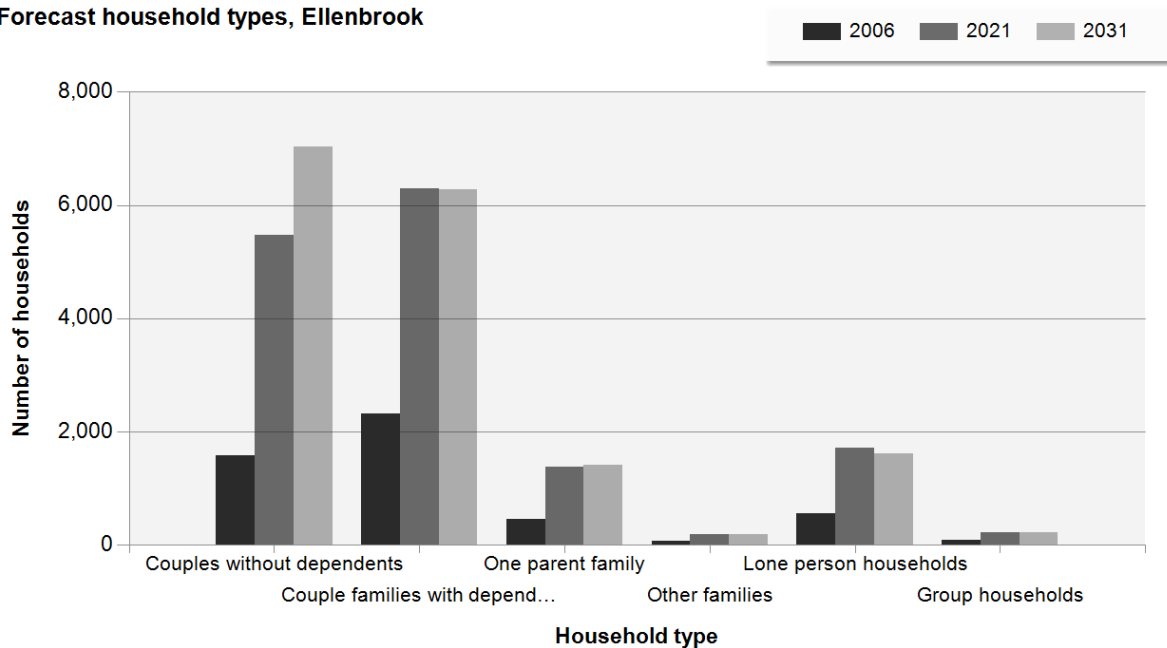


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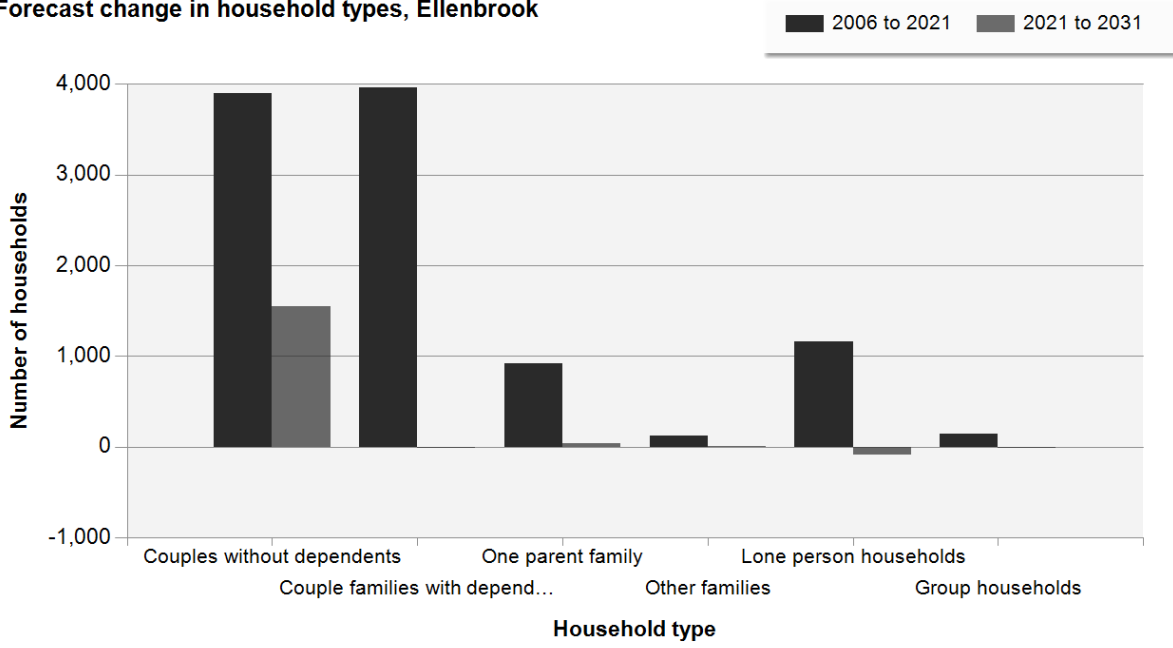
Households

Forecast households, Ellenbrook		2006		2021		2031		Change
Type	number	%	number	%	number	%	2006 to 2031	
Couples without dependents	1,584	31.4	5,480	35.9	7,032	42.0	5,448	
Couple families with dependents	2,322	46.0	6,286	41.2	6,269	37.5	3,947	
One parent family	451	8.9	1,372	9.0	1,412	8.4	961	
Other families	60	1.2	184	1.2	192	1.1	132	
Lone person households	553	11.0	1,709	11.2	1,619	9.7	1,066	
Group households	77	1.5	218	1.4	214	1.3	137	
Total households	5,047	100.0	15,249	100.0	16,738	100.0	11,691	

Forecast household types, Ellenbrook



Forecast change in household types, Ellenbrook



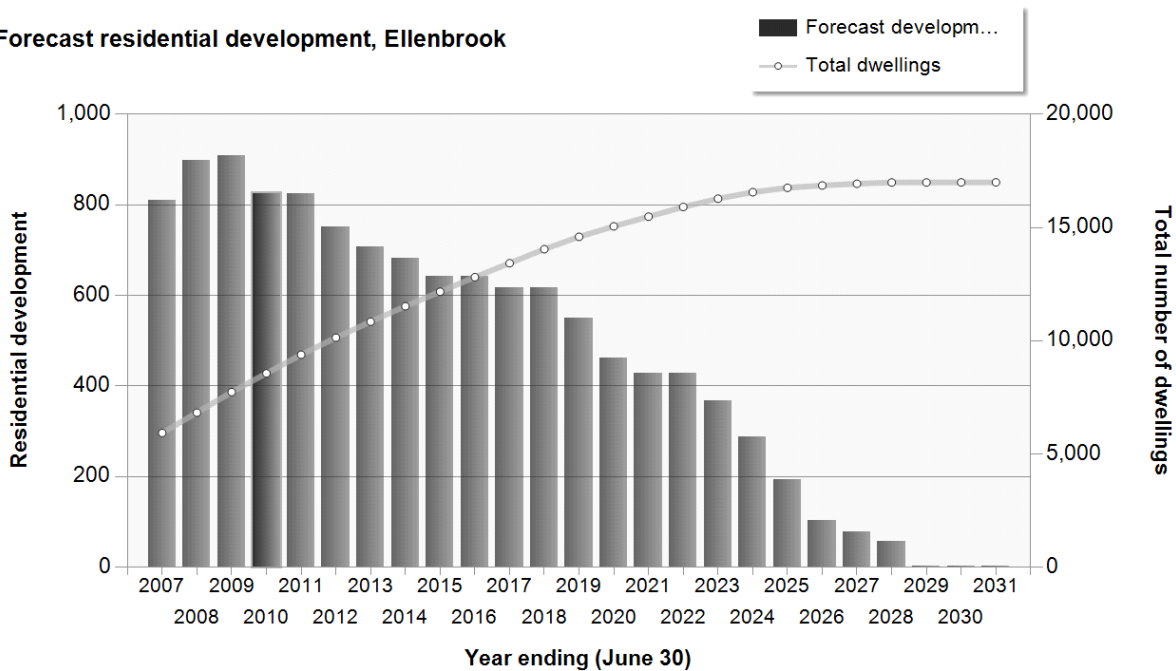
Detailed data

Residential development

Year	Dwelling commencements	Structural private dwellings (inc. commencements)	% change from previous year
2007	810	5,926	15.8
2008	897	6,823	15.1
2009	908	7,731	13.3
2010	827	8,558	10.7
2011	825	9,383	9.6
2012	751	10,134	8.0
2013	707	10,841	7.0
2014	682	11,523	6.3
2015	643	12,166	5.6
2016	642	12,808	5.3
2017	617	13,425	4.8
2018	617	14,042	4.6
2019	549	14,591	3.9

Year	Dwelling commencements	Structural private dwellings (inc. commencements)	% change from previous year
2020	462	15,053	3.2
2021	427	15,480	2.8
2022	427	15,907	2.8
2023	367	16,274	2.3
2024	287	16,561	1.8
2025	194	16,755	1.2
2026	102	16,857	0.6
2027	77	16,934	0.5
2028	56	16,990	0.3
2029	2	16,992	0.0
2030	2	16,994	0.0
2031	2	16,996	0.0

Forecast residential development, Ellenbrook

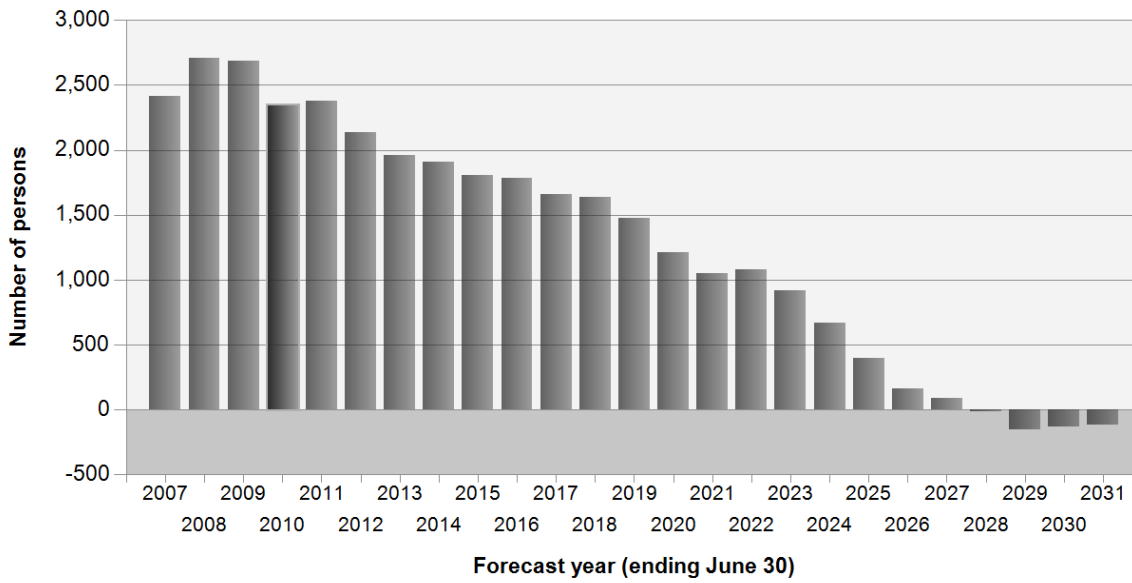


Detailed data

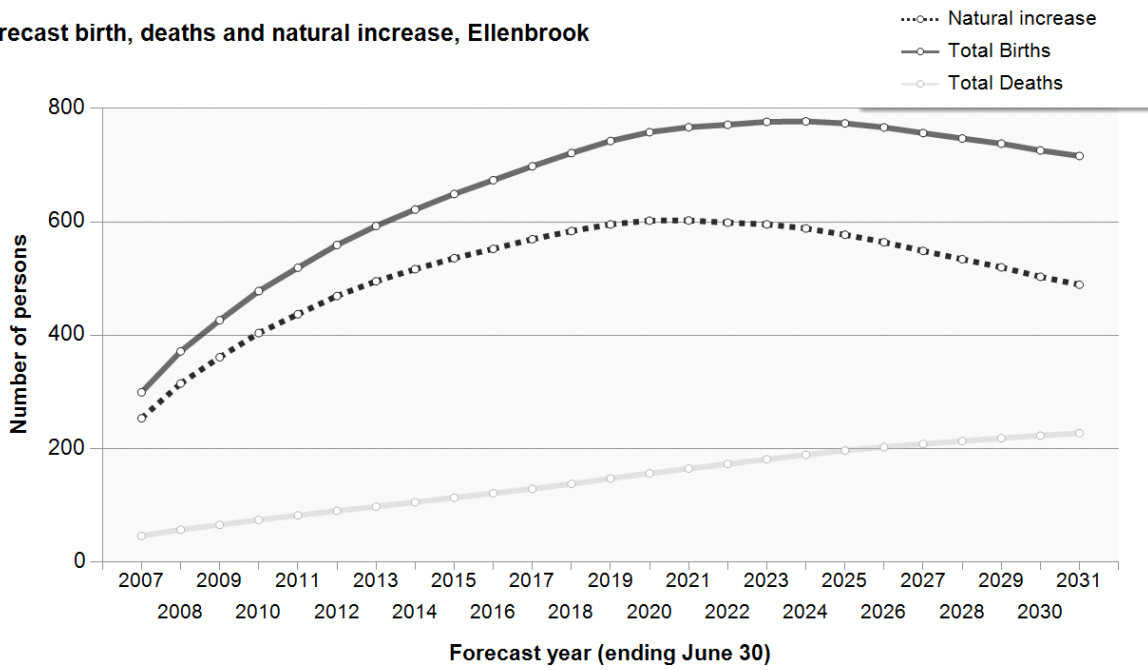
Components of population change

Components of population change, Ellenbrook	Forecast period				
	2007 to 2011	2012 to 2016	2017 to 2021	2022 to 2026	2027 to 2031
Births	2,094	3,096	3,687	3,865	3,684
Deaths	324	527	734	942	1,089
Net Migration	10,662	6,976	3,981	168	-3,060
Net Population Change	12,531	9,595	7,034	3,217	-341

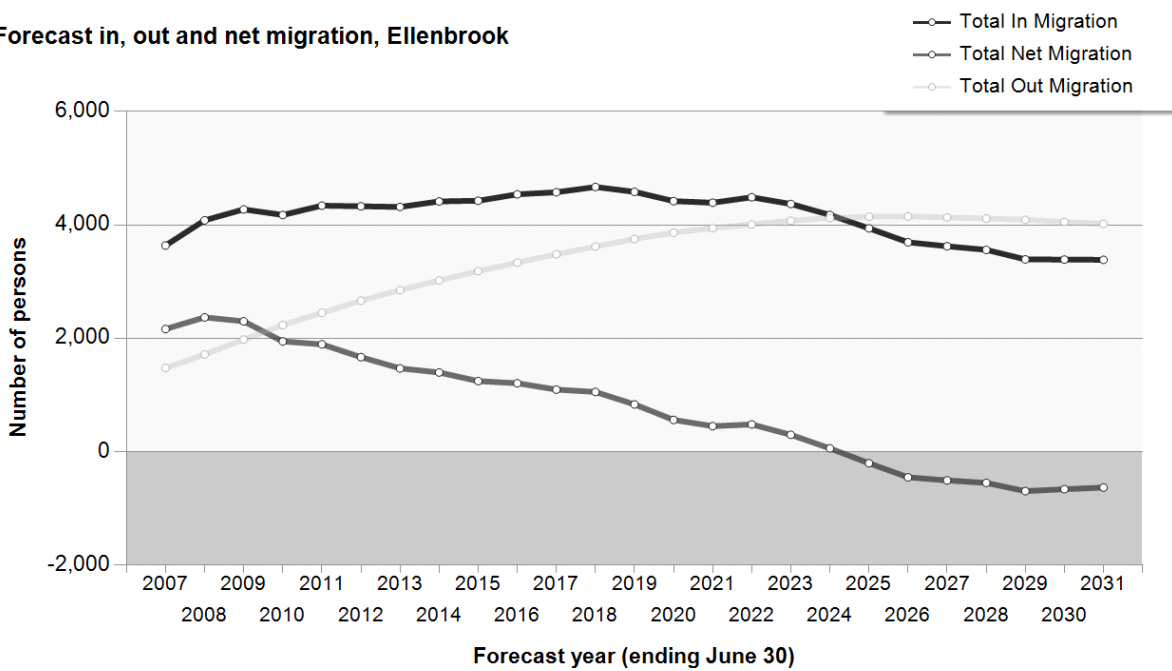
Forecast population change, Ellenbrook



Forecast birth, deaths and natural increase, Ellenbrook



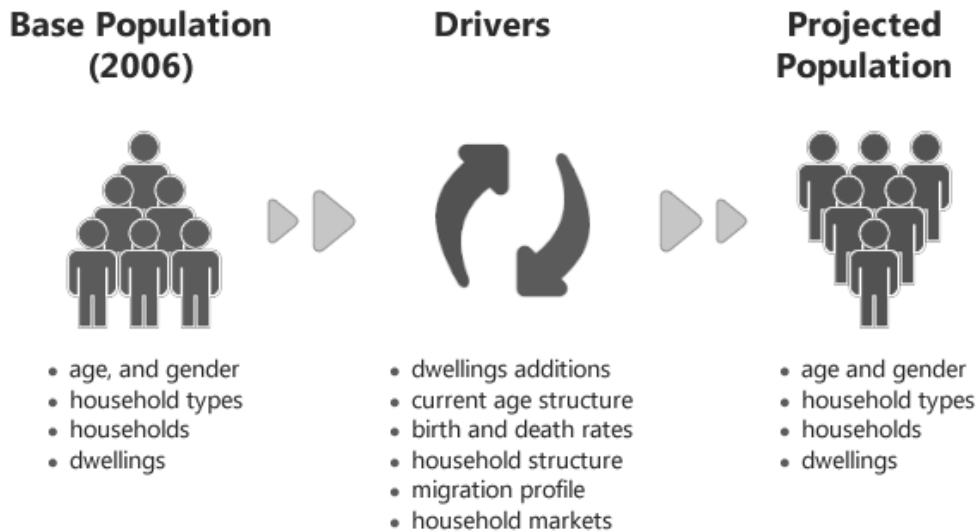
Forecast in, out and net migration, Ellenbrook



Supporting info

What factors contribute to population change?

At the small area level, the primary drivers of population change are the age structure of the existing population, the housing markets attracted to and away from an area and their associated demographic characteristics (fertility patterns, household types etc.) and the supply of dwellings and mix of housing stock in the area.



Dwelling additions

The addition of dwellings is the major driver of population growth, providing opportunities for new households (such as young people leaving the family home and divorces) or households relocating from other areas.

Current age structure

The age structure of the local population impacts on the City of Swan's household types and size, the likelihood of the local population having children and to die, as well as the propensity for people to move. Age specific propensities for a population to have children or die are applied to each small area's base population. An older population will have fewer births, more deaths, while a younger population will have vice versa.

Birth rates

Birth rates are especially influential in determining the number of children in an area, with most inner urban areas having very low birth rates, compared to outer suburban or rural and regional areas. Birth rates have been changing, with a greater share of women bearing children at older ages or not at all. This can have a large impact on the population profile with comparatively fewer children than in previous periods.

Death rates

Death rates are influential in shaping the numbers of older people in an area's population. Death rates too have been changing with higher life expectancy at most ages, with men gaining on women's greater life chances.

Migration

Migration is one of the most important components of population change. While births and deaths are relatively easy to predict due to reliable age specific behaviour, migration is volatile, often changing due to housing market preferences, economic opportunities and changing household circumstances. Migration patterns vary across Australia and change across time, but most moves tend to be short and incremental in nature. Regional areas have

larger moves due to the distances between towns and cities, where people often move for economic reasons, mainly the availability of employment or education and training opportunities.

The most mobile age groups in the population are the young adults. They tend to move to attend educational institutions, seek work and express a change in lifestyle. It is for this reason that young people often move the greatest distances and sometimes move against pre-established patterns. Market research has shown that empty nesters are more likely to move to smaller accommodation if appropriate and affordable alternative housing is supplied in the local area that is accessible to established social networks.

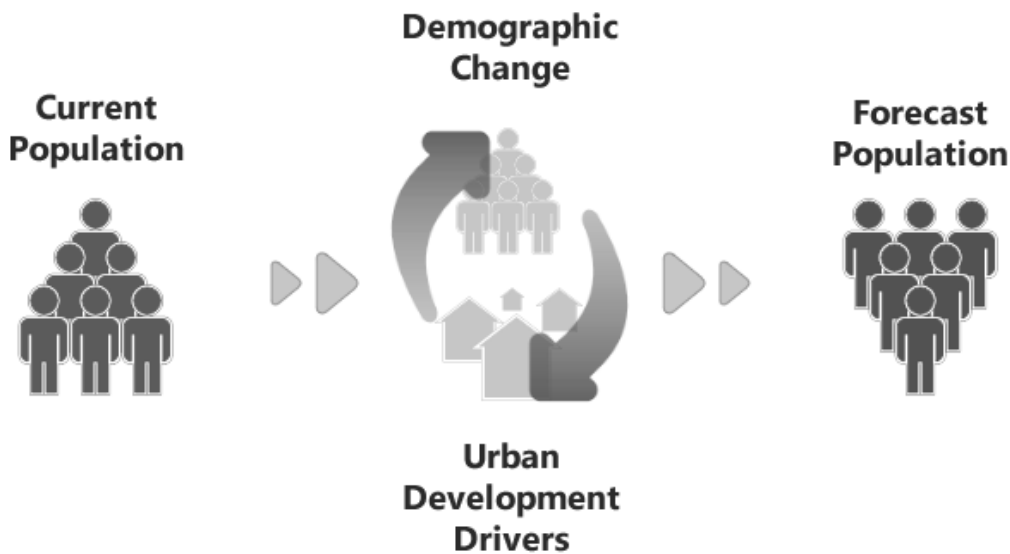
Supporting info

How did we do the forecasts?

Approach

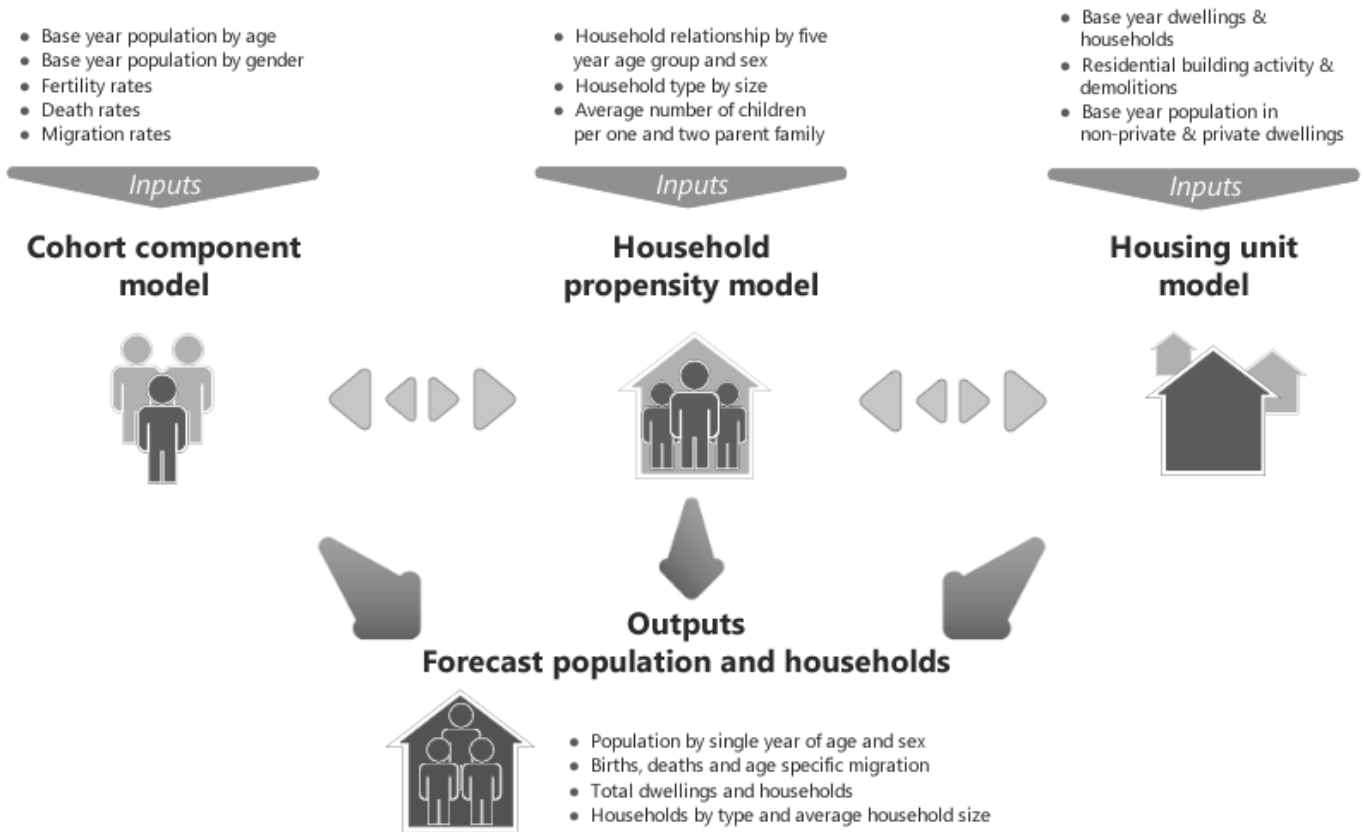
The diagram below describes the general approach used by .id in its population and household forecasts. An analysis of the current population and household structure often reveals the role and function of an area and the degree to which an area may be going through some form of demographic transition.

Demographic changes, such as birth, death and migration rates are applied to the base population. At the same time, scrutiny of urban development drivers is undertaken (residential development opportunities, vacancy rates etc.). The combination of varied assumptions about these inputs results in forecast population and households by type.



Modelling process

The modelling process used for producing the small-area forecasts is based on a 'bottom-up' approach, with all assumptions being derived from a local perspective. The components of the model are derived exclusively from housing and demographic assumptions. The drivers of the forecasts are predominantly based on levels of new residential development and demographic assumptions, such as in and out migration rates from the local areas. The diagram below describes the detail of the modelling process used by .id in its population and household forecasts.



The population forecasts are based on a combination of three statistical models. They include a cohort component model, a housing unit model and a household propensity model. Each of the models has a series of inputs, which when linked to the other models gives the forecast outputs. The models are further explained below.

Cohort Component Model

The cohort component model is a standard demographic model used for population forecasts. It takes a base population by single year of age and sex and makes assumptions about future levels of births, deaths and migration, with the result being a forecast population by age and sex.

Each year the population ages by one year, with additions to population through in-migration and births. Births are derived by multiplying age specific fertility rates of women aged 15-44 by the female population in these age groups for all years during the forecast period. The population decreases are based on out-migration and deaths. Deaths are derived by multiplying age and sex specific mortality rates for all age groups for all years during the forecast period.

In and out migration is based on multiplying the population in each age group by a migration matrix. The base year population is derived from 2006 Census counts and then adjusted to an estimated resident population by small area. Each year through the forecast period, the population is run against age-specific birth, death and migration rates to create new population figures.

Housing Unit Model

The housing unit model is used to forecast future levels of residential development in areas and the resulting impact on the total population and the number of households. This model is critical in giving population forecasts credibility, especially in areas where there are residential development constraints and where historical migration patterns would be expected to change.

The housing unit model is based on forecasting a number of variables. These include total population living in private and non-private dwellings, the number of households and the number of dwellings. The share of housing stock that does not contain households is known as the vacancy rate. The population living in private dwellings divided by the

number of households is known as the average household size.

These variables have changing relationships over time, as households undergo normal demographic processes, such as family formation and ageing. Levels of residential development, vacancy rates and average household size (see housing propensity model below) are used as the drivers of the model. Every year there is an assumption about the level of residential development activity, which adds to the stock of dwellings in an area. This stock of dwellings is multiplied by the vacancy rate, which gives the total number of vacant dwellings and the total number of occupied private dwellings (households). Households are multiplied by the assumed average household size for the year to derive the new number of persons living in private dwellings. The average household size is derived from the household propensity model (see below).

Population in non-private dwellings is modelled separately. A non-private dwelling is a form of housing, which is communal in nature. Examples of non-private dwellings include nursing homes, student accommodation, nursing quarters, military barracks and prisons. In forecasting the number of persons in non-private dwellings, the population is analysed according to the different types of living arrangements. Decisions about future changes may be based on local knowledge through consultation with institutions or local government if there are a large number of people living in non-private dwellings.

Household Propensity Model

This model is used to integrate the cohort component and housing unit models to ensure consistency between the outputs of both models. The model works by assuming that the age structure of the population is an indicator of household size and type. These differences are assumed at the local area based on the household type and size from the 2006 Census.

The population is divided into household types based on five year age groups and sex. Each of these household types has an associated household size. From this relationship, all the household forming population (adults and any non-dependents) effectively represent a share of a household. Dependents in a household (children) represent no share of a household, although their departure frequently drives demand for housing in the region. Lone persons represent 1 or 100% of a household. Couples with dependents represent 50% of household. Couples without dependents represent almost 50% of a household (as they can include related adults). Lone parents represent 100% of a household. Group household members' and other household members' shares vary according to the region (20%-45%, 5 persons to 2.5 persons per household)

These relationships are extrapolated forward from 2006 with some adjustments, depending on the type of area. While the overall trend assumes that a greater share of the population will live in smaller households at all age groups in the future, many areas will go against this trend, depending on their place within the life cycle of suburbs. The projected decrease in the fertility rate and resulting likelihood of smaller families reinforces the assumption that a greater share of the population will live as couples and alone in the future.

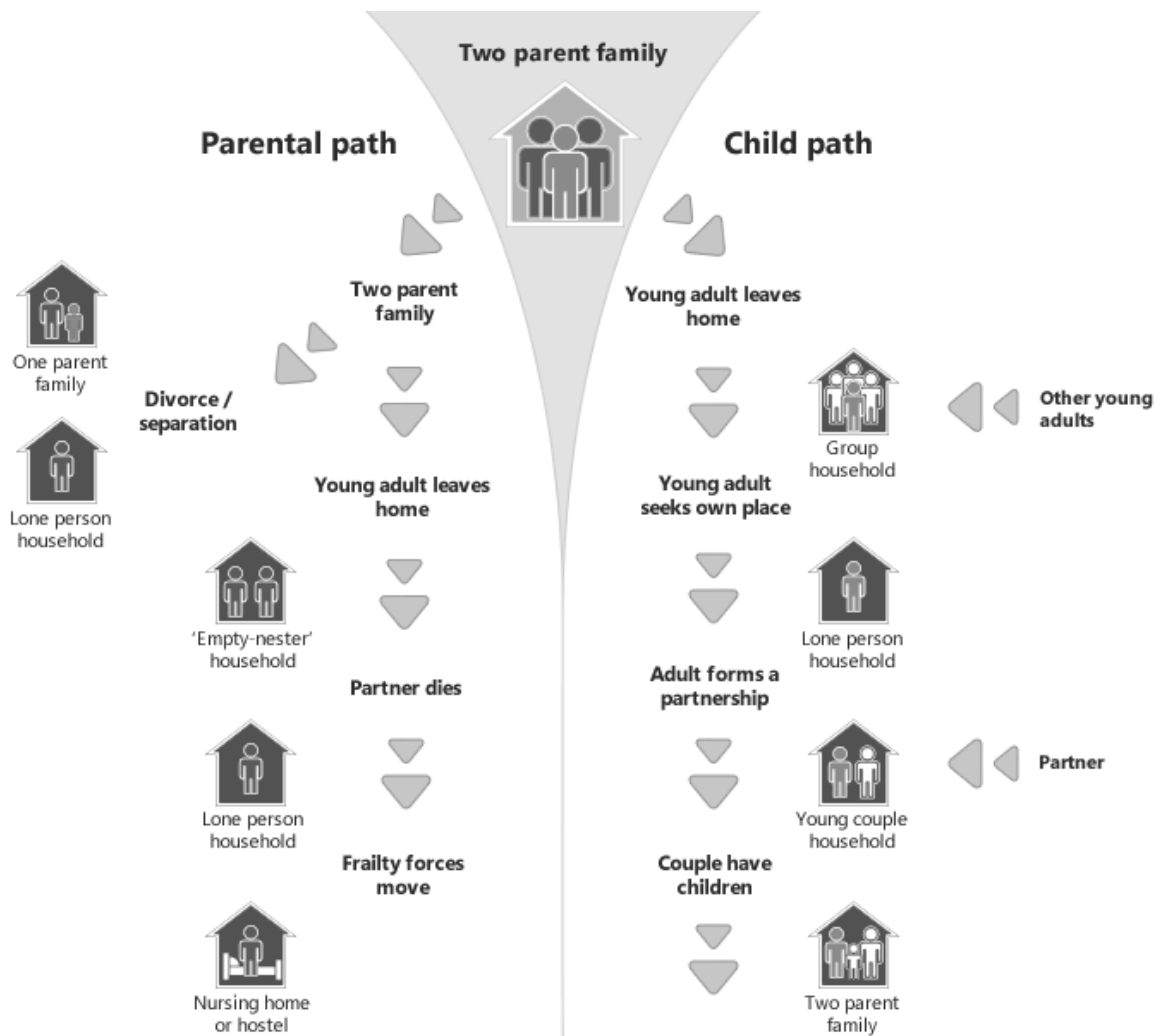
Supporting info

Household & suburb life cycle

Household life cycles

The sorts of households that people live in and changing preferences over time affects the way in which a population changes. As people grow from children to adults and into old age, they change the sorts of households that they live in. The traditional path has been to start as a child in a family household, move into a group or lone person household as a youth, becoming a part of a couple relationship within 5-10 years. Rearing of children is followed by an 'empty-nester' period and ultimately being a lone person, as partners die.

Understanding the changes that people make at different ages in their life, and the different types of housing they are likely to consume at those life stages is an important factor in forecasting future population and household types. The life stage which the majority of households in an area are going through gives an insight into its location in the suburb life-cycle (see below), and the likely life-path of those households in the future.



Suburb life cycles

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".

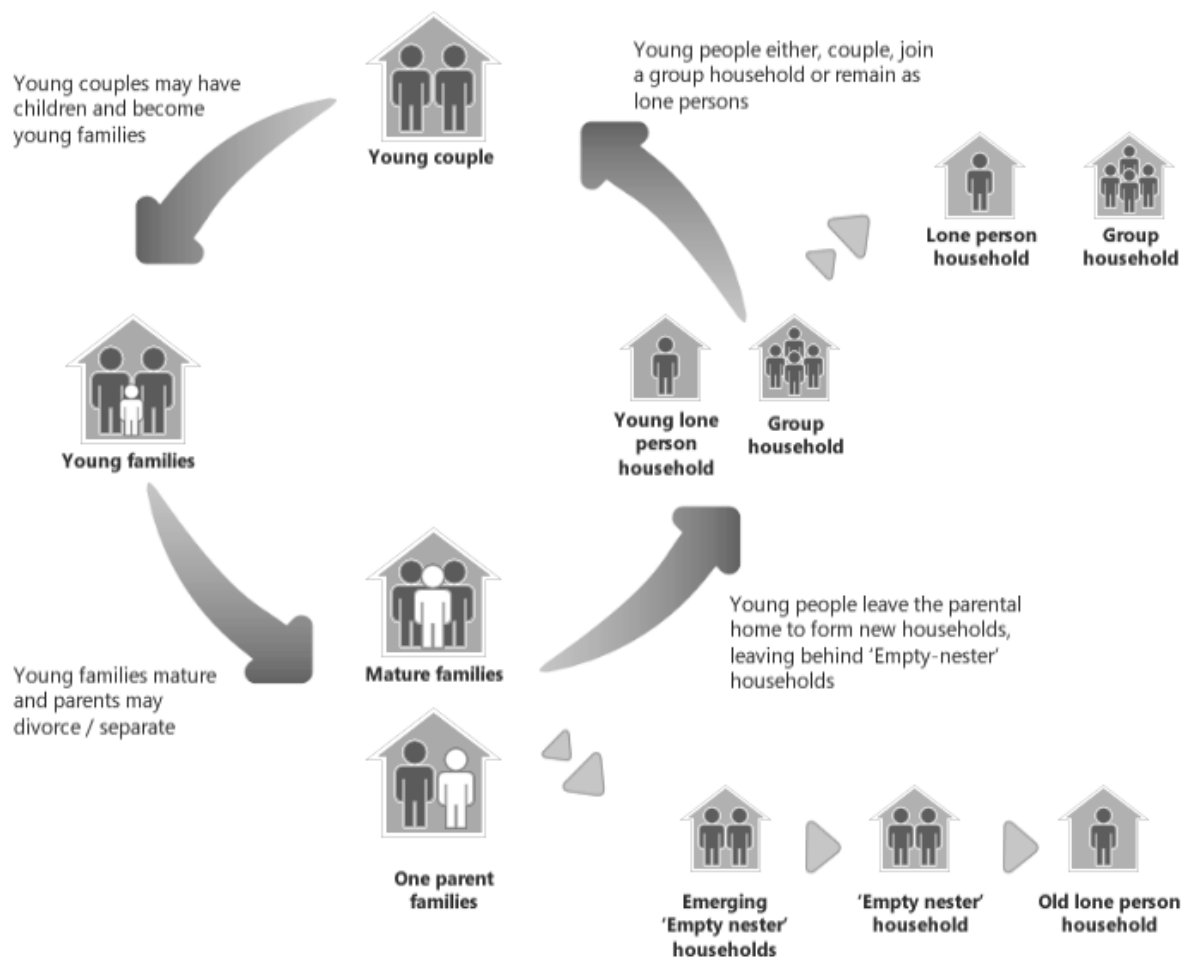
New areas are typically settled by young households (young couples and young families, perhaps some mature

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 LGA (or suburb), 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.



Supporting info

Data notes & references

Base population estimates

The population figures used in the forecasts for 2006 are derived from estimated resident population from the Australian Bureau of Statistics. These figures are published at the Statistical Local Area level, which are extrapolated to Census Collection District (CCDs) and then aggregated to the chosen small area, sometime splitting CCDs if necessary.

These figures are subject to change or updating from time to time, most notably after census release (usually one to two years after the census is conducted).

Base household estimates

The household estimates used in the forecasts for 2006 were based on age and sex-specific population propensities by different household types. Usual residents' estimates by Census Collection District were extrapolated to Estimated Resident Population and then multiplied by household factors to give estimated 'Resident Households'.

The multiplying factor varies depending on the household type (and the area), such as a factor of 1 for persons living in lone person households to 0.5 for an adult in couple families with dependent households. Children and other dependents, such as elderly parents, are not assumed to 'form' households.

- Australian Bureau of Statistics, 2006 Census of Population and Housing.
- Australian Bureau of Statistics, 2006 Estimated Resident Population (preliminary), June 30 2006, Cat. No: 3235.0.

Supporting info

Glossary

- ▶ **Age Specific Propensities (birth and death)**

This relates to the modelling of births and deaths. At each year of age, there is a certain statistical likelihood of a person dying or giving birth. These age specific propensity rates are applied to the base and forecast population for each year of the forecast period.
- ▶ **Ageing in Place**

This refers to an existing resident population ageing in their current location, as distinct from other impacts on future population such as births, deaths and in and out migration.
- ▶ **Average annual percentage change**

A calculation of the average change in total population for each individual year.
- ▶ **Average household size**

The average number of persons resident in each occupied private dwelling. Calculated as the number of persons in occupied private dwellings divided by the number of occupied private dwellings. This excludes persons living in non-private dwellings, such as prisons, military bases, nursing homes etc.
- ▶ **'Bottom up' forecast**

Population forecast based on assumptions made at the local area level. Local drivers of change such as land stocks and local area migration form the basis.
- ▶ **Broadhectare Land or Sites**

Broadhectare land refers to undeveloped land zoned for residential development on the fringe of the established metropolitan area. These areas are generally used for rural purposes until residential subdivision takes place. This type of land is also referred to as 'greenfield'.
- ▶ **Commencement**

The construction of a new dwelling (or beginning of).
- ▶ **Dwelling**

A habitable residential building.
- ▶ **Dwelling Stock**

The supply of dwellings (either occupied or unoccupied) in a given geographic area.
- ▶ **Empty Nesters**

Parents whose children have left the family home to establish new households elsewhere.
- ▶ **Estimated Resident Occupied Private Dwellings (EROPD)**

This measure attempts to increase the scope of Occupied Private Dwellings definition to include an estimate of SPD's that were temporarily unoccupied at the time of the Census (i.e. the resident was away for an extended period of time and did not fill in a Census form). This measure is not available from the Census and is estimated through the processes described in the most recent Victorian Department of Planning & Community Development population forecasts for Victoria. This measure yields much higher estimates of occupancy rates than the usual OPD measure.
- ▶ **Estimated Resident Population (ERP)**

This is the estimate of the population based on their usual residence. The ERP at the time of the Census is calculated as the sum of the enumerated (counted) population plus persons temporarily absent less persons who are non-permanent (visitor) residents. An undercount of population by small area at Census time is also accounted for. The ERP used in these forecasts is then backdated to June 30. The ERP for forecast years are based on adding to the estimated population the components of natural increase and net migration.
- ▶ **Forecast Period**

In this report, the forecast period is from 2006 to 2031. Most data on the website has focused on the period from 2006 to 2021.
- ▶ **Household**

One or more persons living in a structural private dwelling.

▶ **In-centre development**

Residential development based on increasing dwelling densities around suburb and town centres. Usually around existing transport nodes and service infrastructure, rather than developing previously undeveloped land on the urban fringe.

▶ **'Infill' Development**

Residential development, usually of a relatively small scale, on redevelopment sites in established urban areas. This usually takes place on land previously used for another urban purpose such as industry or schools. Also referred to as 'intensification' of existing areas.

▶ **Mature families**

One and two parent families with older children, generally of secondary and tertiary school age.

▶ **Migration**

The movement of people or households from one location to another.

▶ **Natural Increase**

The increase in population based on the births minus deaths, not including the impact of migration.

▶ **Net Household Additions**

The overall increase in occupied dwellings, determined by the level of new dwelling construction that is permanently occupied, or conversion of non-permanently occupied dwellings to permanently occupied minus demolitions.

▶ **Non-private dwellings**

These dwellings include persons resident in establishments such as prisons, student or nurses' accommodation, nursing homes, military facilities, and hospitals.

▶ **Occupancy Rate**

The proportion of structural private dwellings that are occupied by a household.

▶ **Occupied Private Dwellings (OPD)**

These are all Structural Private Dwellings (SPD's) that are occupied by a household. Excluded are dwellings that were under construction, being demolished or where the house was temporarily vacant.

▶ **Private dwellings**

Self contained dwelling including houses (attached or detached), flats, townhouses etc. Retirement village units are also private dwellings as are houses or flats rented from the government.

▶ **Redevelopment Sites**

These are sites in already established areas not originally developed for residential uses, but identified for conversion to residential use. Examples include former school sites, quarries, derelict industrial land, former petrol stations and the like.

▶ **Structural Private Dwellings (SPD)**

This is the stock of houses, flats, and other dwelling types. The SPD is the usual base stock from which commencements are added and demolitions deducted.

▶ **'Top down' forecast**

Population forecast based on assumptions made at the State and National level and allocated into smaller regions e.g. Local Government Areas, suburbs.

▶ **Visitor population forecasts**

Visitor population forecasts are based on 'non-event' affected, mid-week visitor levels. The 2006 base figures are sourced from Census, with an adjustment for undercount similar to that applied to the resident population (see Estimated Resident Population). Overall forecast levels are based on long term trends in visitor population growth in the Shire, with specific reference to current proposals for the purposes of allocation in the short-term. Visitor population forecasts have been included as they are a significant component of total population and may require specific servicing arrangements pertinent to resource allocation within Council.

▶ **Young families**

One and two parent families with young children, generally of pre and primary school age.

