South West Group

population forecast
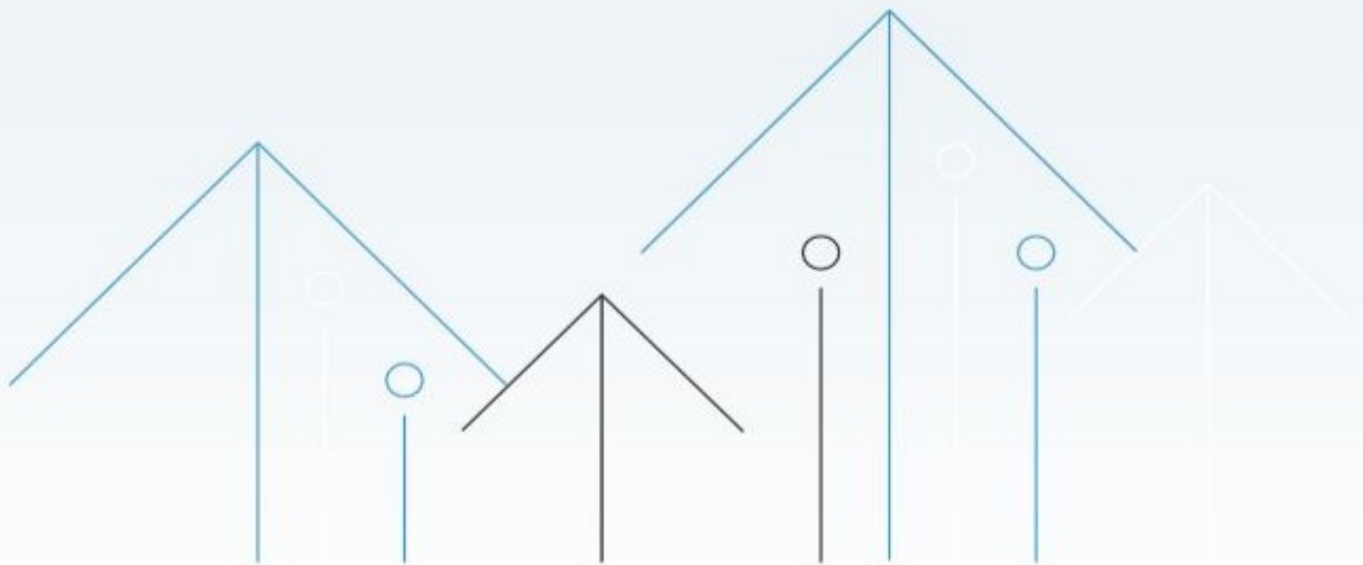
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Welcome to the South West Group population forecasts

The South West Group population and household forecasts present what is driving population change in the community and how the population, age structure and household types will change each year between 2016 and 2036.

The forecasts are designed to provide community groups, Council, investors, business, students and the general public with knowledge to make confident decisions about the future.

These forecasts were last updated in December 2017 by .id, the population experts, on behalf of South West Group. Forecasts are available for each year from 2016 to 2036.

Population 2020
474,438
forecast.id

Population 2036
625,562
forecast.id

Change 2020-36
31.85%
forecast.id

Source: Population and household forecasts, 2016 to 2036, prepared by .id, the population experts, December 2017.

Forecast population

South West Group

Population and household forecasts, 2016 to 2036, prepared by .id, December 2017.

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South West Group

About the forecast areas

The South West Group is comprised of six Local Government Areas - the Cities of Cockburn, Fremantle, Kwinana, Melville and Rockingham, and the Town of East Fremantle. It is bounded by the Town of Mosman Park and the Swan and Canning Rivers in the north, the Cities of Canning and Armadale and the Serpentine Jarrahdale Shire in the east, the Shire of Murray and the City of Mandurah in the south, and the Indian Ocean in the west.

Population 2020
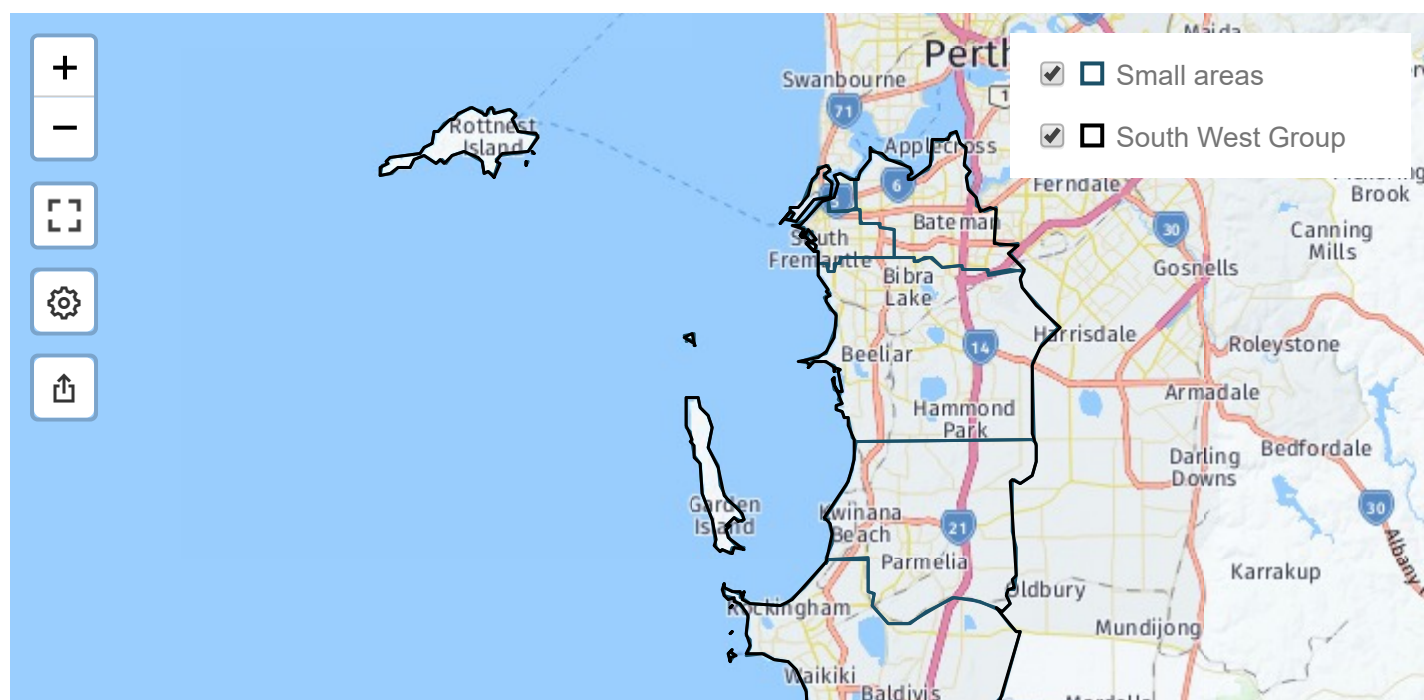
474,438

forecast.id

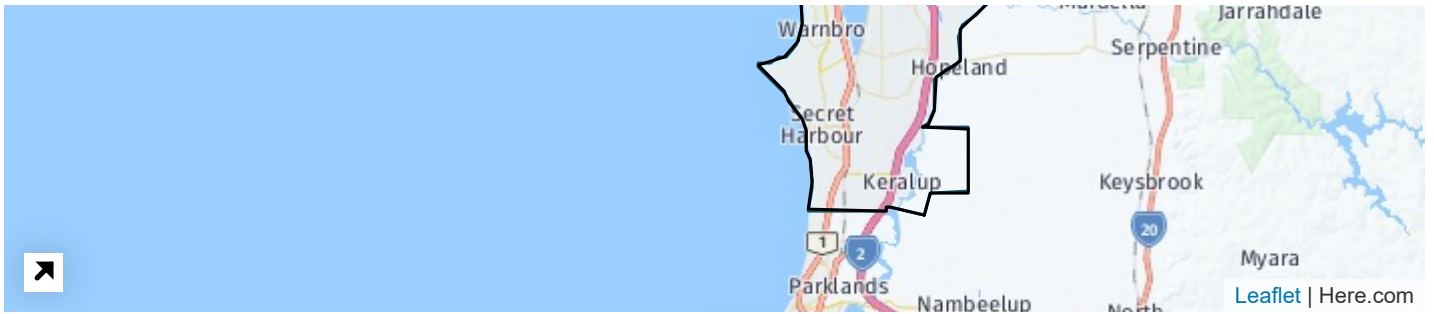### Population 2036

625,562

forecast.id

Change 2020-36

31.85%

forecast.id
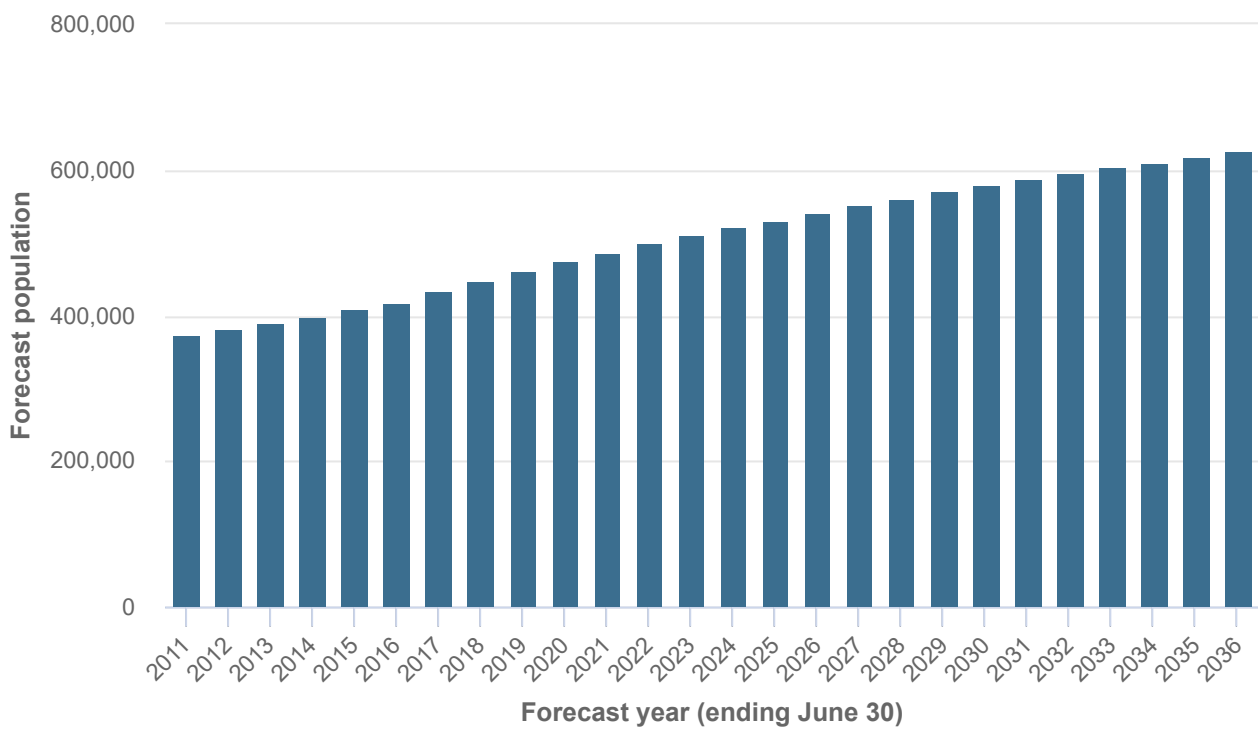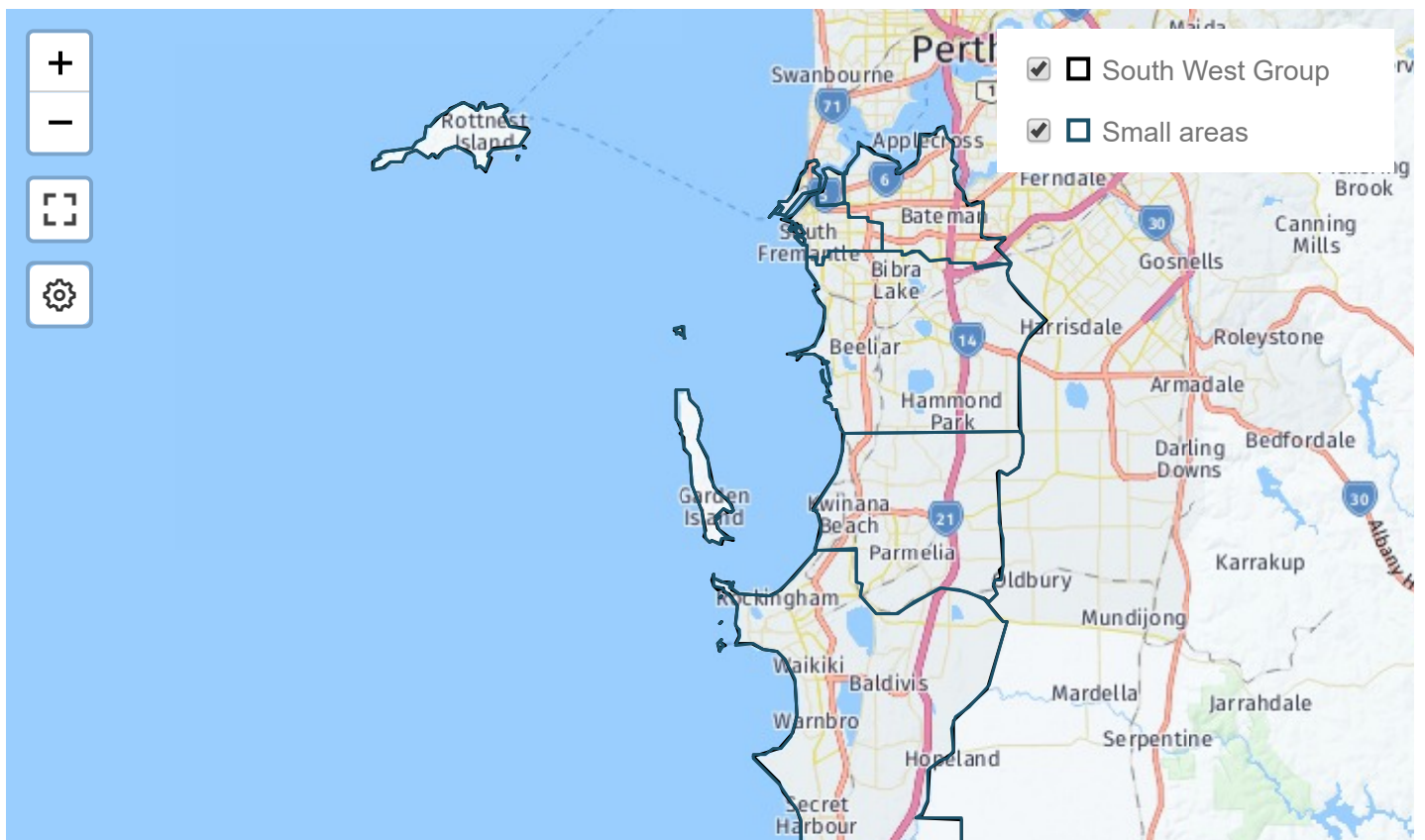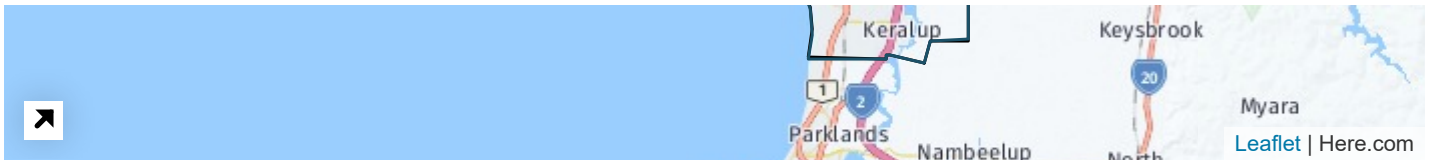
Source: Population and household forecasts, 2016 to 2036, prepared by .id, the population experts, December 2017.

South West Group

Drivers of population change

The South West Group is located to the south west of the Perth CBD, and comprises six local government areas – the Cities of Cockburn, Fremantle, Kwinana, Melville and Rockingham, and the Town of East Fremantle. It is bounded by the Town of Mosman Park and the Swan and Canning Rivers in the north, the Cities of Canning and Armadale and the Serpentine Jarrahdale Shire in the east, the Shire of Murray and the City of Mandurah in the south, and the Indian Ocean in the west. It has a diverse range of land uses and covers established, maturing and growing parts of the Perth metropolitan area. There are substantial tracts of land devoted to maritime and heavy industrial functions, particularly around Fremantle and Kwinana. Residential areas include the established suburbs around Fremantle, to the newly developing suburbs of Baldivis and Keralup on the southern metropolitan fringe.
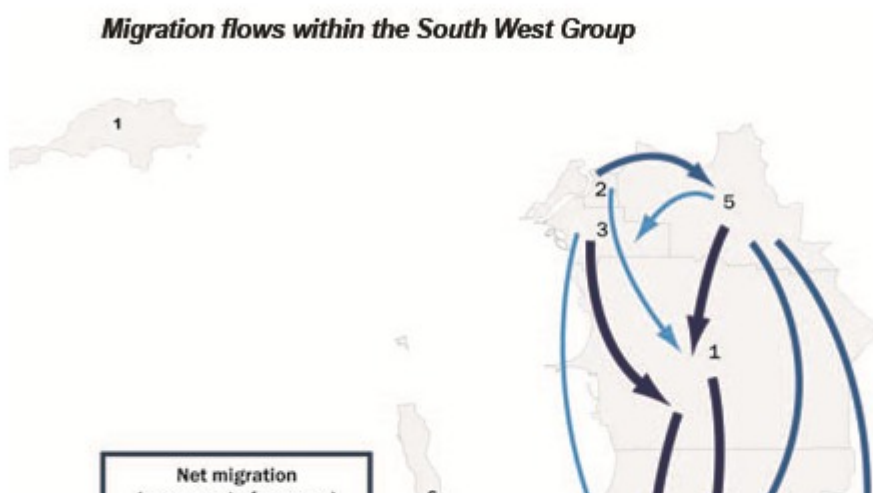
Development history

European settlement dates from 1829 when a port was established for the Swan River Colony at Fremantle. Gradual growth took place during the mid 1800s, with more rapid growth from the late 1800s into the early 1900s, spurred by the opening of the railway line from Perth and the gold rush. Land was used mainly for farming, market gardening and orcharding, with some fishing and shipping. Significant residential development occurred from the post-war years, particularly from the 1950s, accompanied by industrial growth. Rapid growth took place in the southern areas from the 1980s, and continues to this day. The population of the region increased from about 234,760 in 1991 to about 373,380 in 2011. About three quarters of the growth between 1991 and 2011 occurred in the Cities of Cockburn and Rockingham.

Migration patterns

Migration patterns within and to/from the South West Group are typical of those found in major Australian cities. There is a dominance of local moves, as evidenced by the strong flows between neighbouring LGAs. There is also a strong movement outward in a sectoral direction, whereby LGAs further south typically gain new residents from those closer to the CBD. For example, Kwinana gains significant population from Cockburn, Fremantle and Melville.

In terms of flows in and out of the SW Group, there is a predominance of moves to and from other parts of the Perth metropolitan area, particularly LGAs south of the Swan River. Between 2006 and 2011, the SW Group gained significant population from neighbouring Gosnells, as well as Joondalup and Stirling. The most significant outflows in this period were to neighbouring Serpentine-Jarrahdale and Mandurah, as well as further south to Murray and Busselton.

Historical migration flows, South West Group, 2011-2016

Migration flows within the South West Group
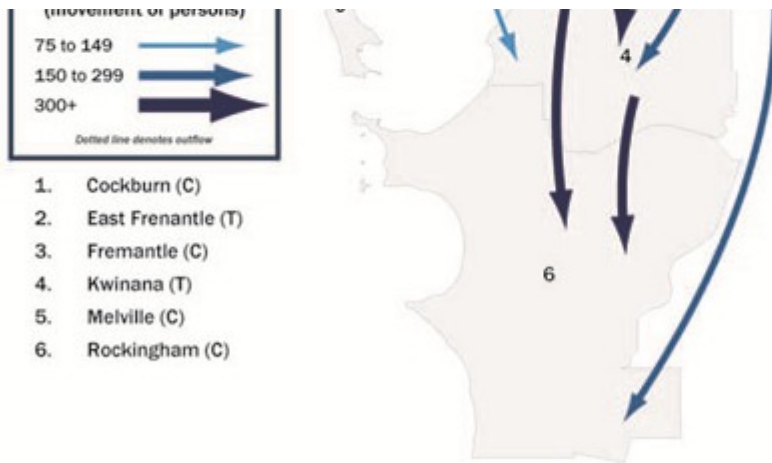
Migration flows to and from outside the South West Group
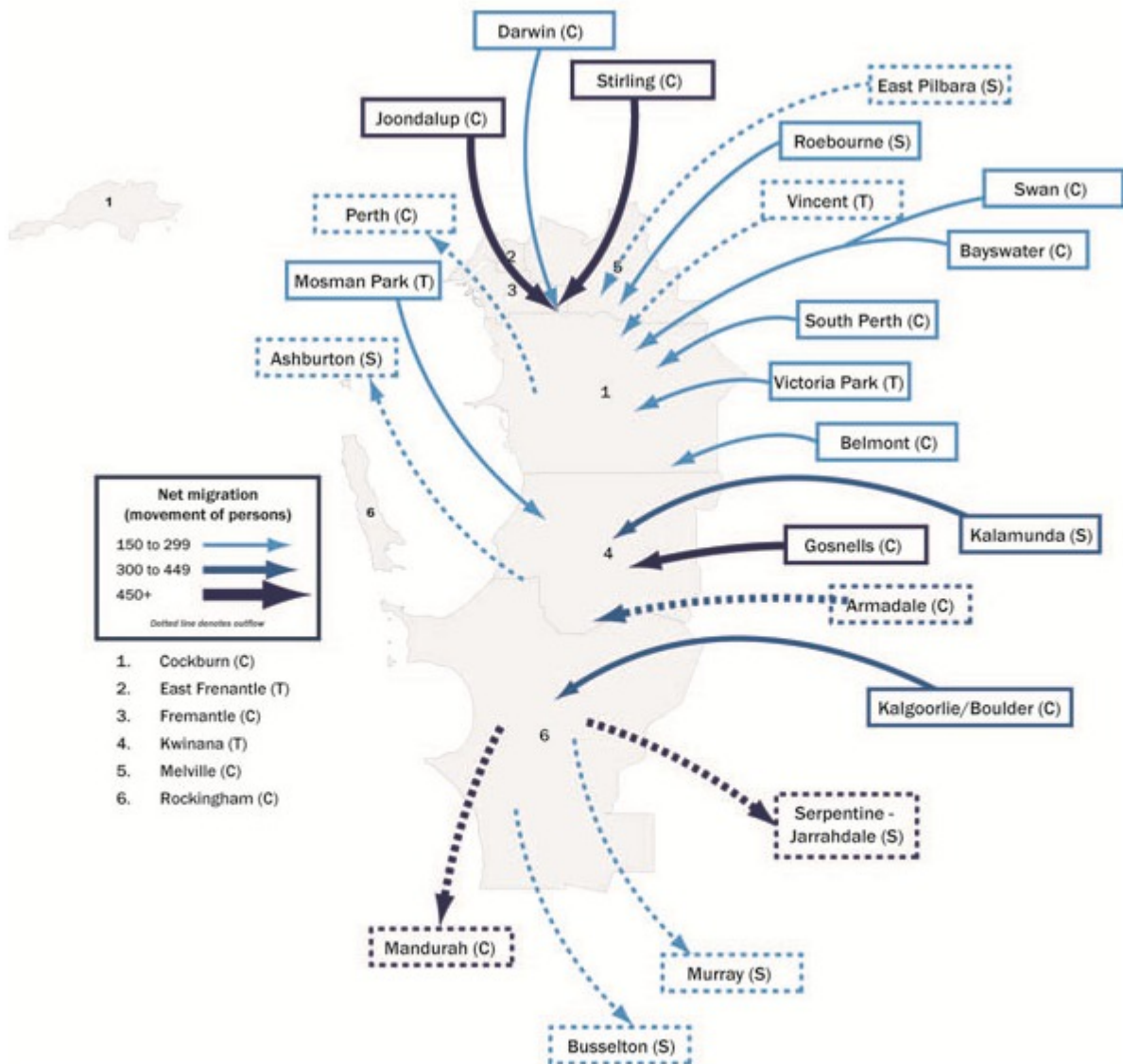
Darwin (C)

Stirling (C)

East Pilbara (S)

Joondalup (C)

Roebourne (S)

Swan (C)

Vincent (T)

Perth (C)

Bayswater (C)

Mosman Park (T)

South Perth (C)

Ashburton (S)

Victoria Park (T)

Belmont (C)

Net migration
(movement of persons)

150 to 299

300 to 449

450+

Dotted line denotes outflow

1. Cockburn (C)
2. East Frenantle (T)
3. Fremantle (C)
4. Kwinana (T)
5. Melville (C)
6. Rockingham (C)

Gosnells (C)

Kalamunda (S)

Armadale (C)

Kalgoorlie/Boulder (C)

Serpentine - Jarrahdale (S)

Mandurah (C)

Murray (S)

Busselton (S)

Population and household forecasts, 2016 to 2036, prepared by .id the population experts, December 2017.

.id the population experts

Note: The migration flows depicted above are historical and do not represent future or forecast migration flows or subsequent council boundary changes. The arrows represent migration flows to the area as a whole and do not indicate an origin or destination for any specific localities within the area. Overseas flow shows overseas arrivals only, based on answers to the census question "where did the person usually live 5-years ago.

Housing role and function

The size of the South West Group, the diversity of land uses and development over many decades, all influence the housing market role and suburban life cycle stage. In a general sense, the South West has provided housing opportunities for families, and as the transport infrastructure has improved, new areas for development have opened up as the metropolitan area has expanded southwards. Employment in the maritime and heavy industry sectors has also influenced the housing market role as people have been able to live close to their place of employment, rather than commuting into central Perth.

The expansion of the Perth metropolitan area further southwards over the decades has resulted in considerable diversity in the suburban life cycle stage. Greenfield developments on the fringe, particularly in Kwinana and Rockingham, are attractive to young families seeking relatively affordable home owning opportunities. More mature suburbs, which occur across all six LGAs, have stable and even declining populations as family households decline in number and the population ages. In some areas, opportunities for infill development in the form of medium and high density development attract young adults, particularly where they are located close to education facilities or have a lifestyle amenity factor. Examples of this include Fremantle and parts of Cockburn.

Housing supply

There are significant differences in the supply of residential land that will have an influence on population and household futures over the 2011-2036 period. Again, this relates to the diversity of land uses and urban development over many decades. More than 105,000 dwellings have been assumed over the period 2016-2036. Significant land supply has been identified in Rockingham (34,714 dwellings) and Cockburn (32,560 dwellings), which include a mix of greenfield and strategic development sites. In contrast, smaller councils such as Fremantle, which have important tourism and economic functions, rely on strategic infill developments and conversion of land uses to residential in order to accommodation dwelling growth. Overall, the population of the South West Group is forecast to reach more than 637,000 at 2036.

South West Group

Population summary

This table summarises the population for South West Group and each of its small areas. This enables you to see how population change is affecting different parts of the LGA in different ways. Some small areas may be rapidly growing whilst others are stable or even declining in population.

Continue to the forecast results section to see detailed forecasts of population, households, and dwellings for each of the small areas.

Please note that population numbers in forecast.id for the 2016 base year are derived from Estimated Resident Population from the Australian Bureau of Statistics. These differ from (and are usually higher than) Census counts as they factor in population missed by the Census and population overseas on Census night. They are generally considered a more accurate measure of population size than Census counts.

Population summary

South West Group	Forecast year					Change between 2016 and 2036	
Area	2016	2021	2026	2031	2036	Total change	Avg. annual % change
South West Group	419,109	487,209	541,808	588,435	625,562	+206,453	+2.02
Town of East Fremantle	7,765	8,227	9,523	10,403	10,654	+2,889	+1.59
City of Fremantle	30,572	34,844	37,986	40,481	42,440	+11,868	+1.65
City of Kwinana	40,305	51,746	62,902	75,270	85,158	+44,853	+3.81
City of Melville	102,389	109,198	115,324	121,097	126,754	+24,365	+1.07
City of Rockingham	129,308	153,886	171,763	184,165	192,805	+63,497	+2.02
City of Cockburn	108,770	129,308	144,310	157,019	167,751	+58,981	+2.19

Population and household forecasts, 2016 to 2036, prepared by .id , the population experts, December 2017.

South West Group

Population, households and dwellings

This summary shows the results of the forecasts for population, households and dwellings in South West Group. The period 2016 to 2026, as the short to medium term, is likely to be the most accurate and useful forecast information for immediate planning purposes.

It is important to look at the relationship between population and average household size. If the average household size is falling, then there will need to be growth in the number of households (and dwellings for them to live in) to maintain or grow the population.

Forecast population, households and dwellings

South West Group	Forecast year				
Summary	**2016**	**2021**	**2026**	**2031**	**2036**
Population	419,109	487,209	541,808	588,435	625,562
Change in population (5yrs)	--	68,100	54,599	46,626	37,127
Average annual change	--	3.06%	2.15%	1.66%	1.23%
Households	158,449	182,508	203,489	222,065	237,886
Average household size	2.61	2.64	2.63	2.62	2.60
Population in non private dwellings	5,421	5,975	6,581	7,052	7,210
Dwellings	170,117	195,577	217,252	236,133	252,177
Dwelling occupancy rate	93.14	93.32	93.66	94.04	94.33

Population and household forecasts, 2016 to 2036, prepared by .id , the population experts, December 2017.

Forecast population, households and average household size

South West Group
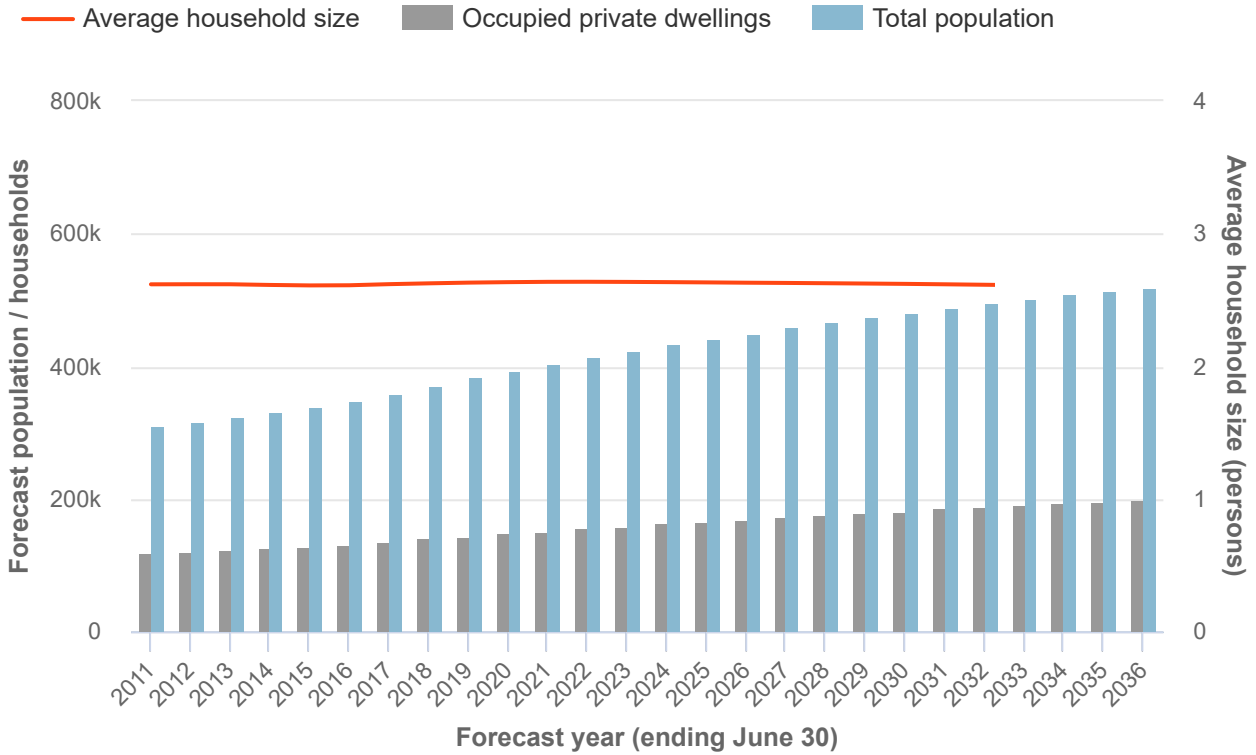
— Average household size   ▬ Occupied private dwellings   ▮ Total population

Population and household forecasts, 2016 to 2036, prepared by .id the population experts, December 2017.

Key findings

In 2016, the total population of South West Group was estimated to be 419,109 people. It is expected to increase by over 169,326 people to 588,435 by 2026, at an average annual growth rate of 3.45%. This is based on an increase of over 63,616 households during the period, with the average number of persons per household rising from 2.61 to 2.62 by 2026.

South West Group
Components of population change

There are two ways in which populations can change, through net migration and/or through natural increase (births minus deaths). Some areas are more driven by one or other of these factors. Migration is largely driven by housing development, whereas natural increase is a function of the age of the population.

Components of population change

South West Group	Forecast period				
Component	**2017 to 2021**	**2022 to 2026**	**2027 to 2031**	**2032 to 2036**	**2037 to 2041**
Births	34,724	38,368	41,145	43,545	--
Change in persons in non-private dwellings	555	606	471	158	--
Deaths	13,072	14,376	16,051	17,797	--
Natural increase/decrease	21,652	23,992	25,094	25,748	--
Net migration	45,893	30,002	21,062	11,222	--
Total population change	68,100	54,599	46,626	37,127	--

Population and household forecasts, 2016 to 2036, prepared by .id , the population experts, December 2017.

Forecast population change
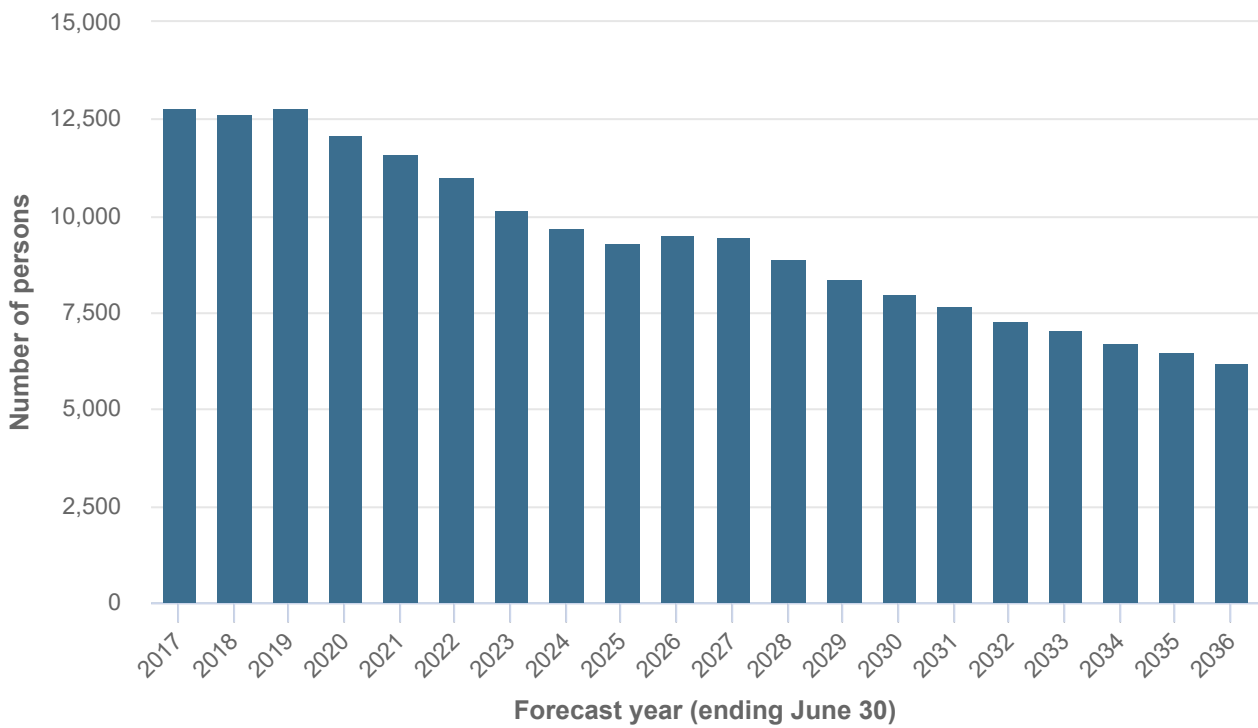
South West Group

Population and household forecasts, 2016 to 2036, prepared by .id the population experts, December 2017.

Forecast births, deaths and natural increase/decrease

South West Group

— Natural increase   — Total births   — Total deaths

Population and household forecasts, 2016 to 2036, prepared by .id the population experts, December 2017.

Forecast in, out and net migration
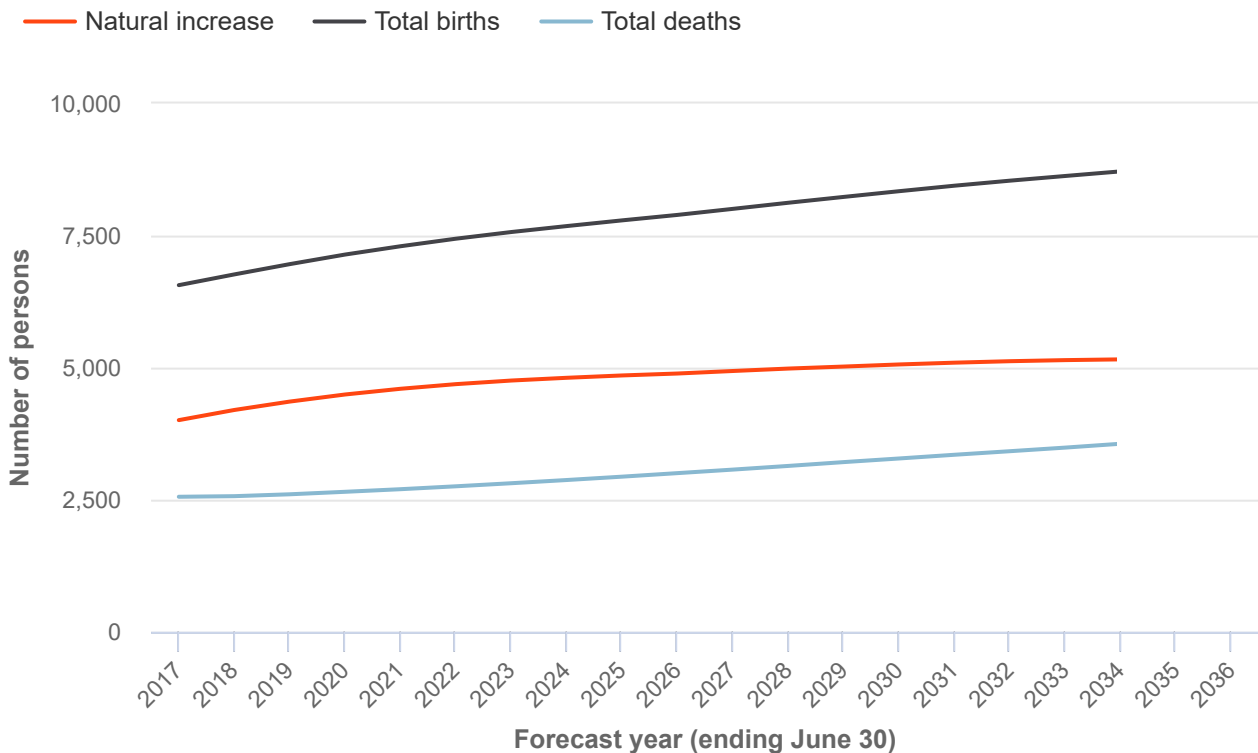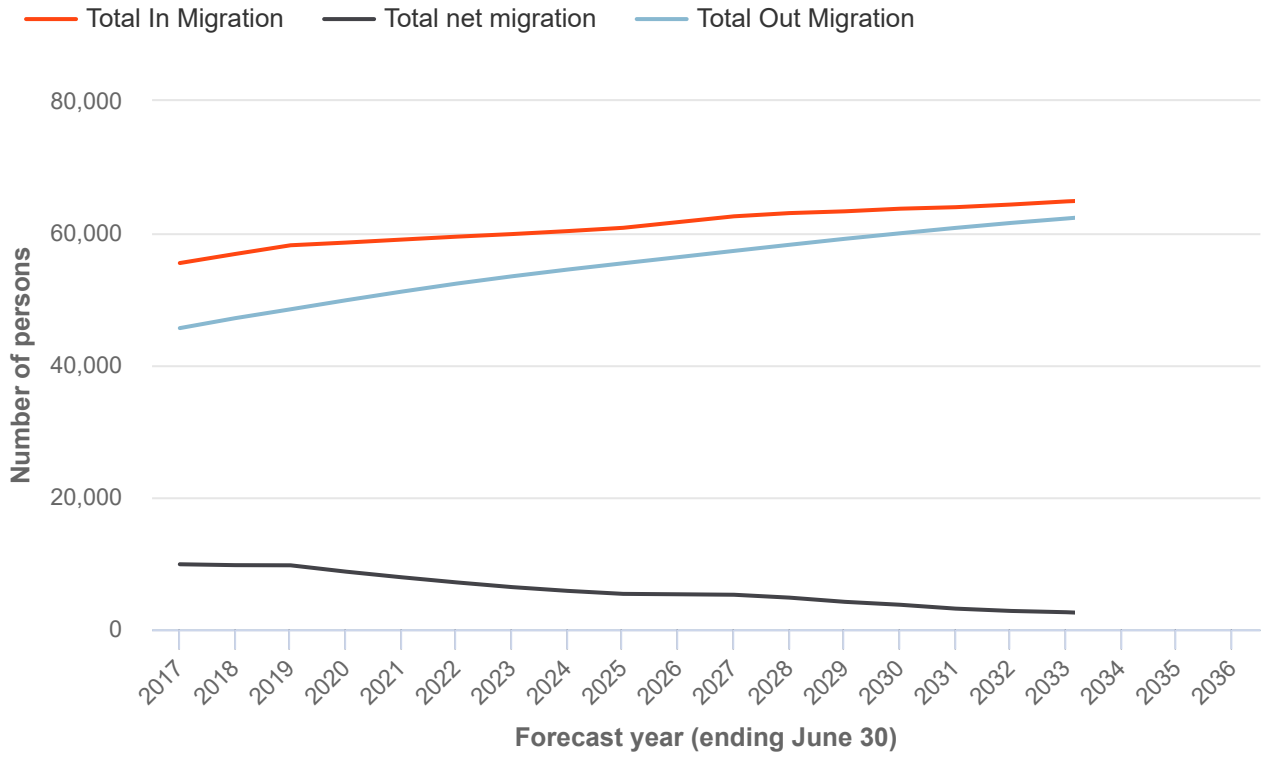
South West Group

Population and household forecasts, 2016 to 2036, prepared by .id the population experts, December 2017.

South West Group

Population and age structure

Knowledge of how the age structure of the population is changing is essential for planning age-based facilities and services, such as child care, recreation and aged care.

The forecast age groups of South West Group is a function of the current age of the population (people aging each year, being born and dying) as well as the age of people migrating into and out of the area. This in turn is driven by location (fringe, city centre, regional or rural) the existing housing stock (separate dwellings, medium or high density), the amount and type of new residential development (same as existing stock, or diversifying) and where the area is in a cycle of change. We call this the area's residential role and function. You can learn more about this in the section household and suburb life cycles.
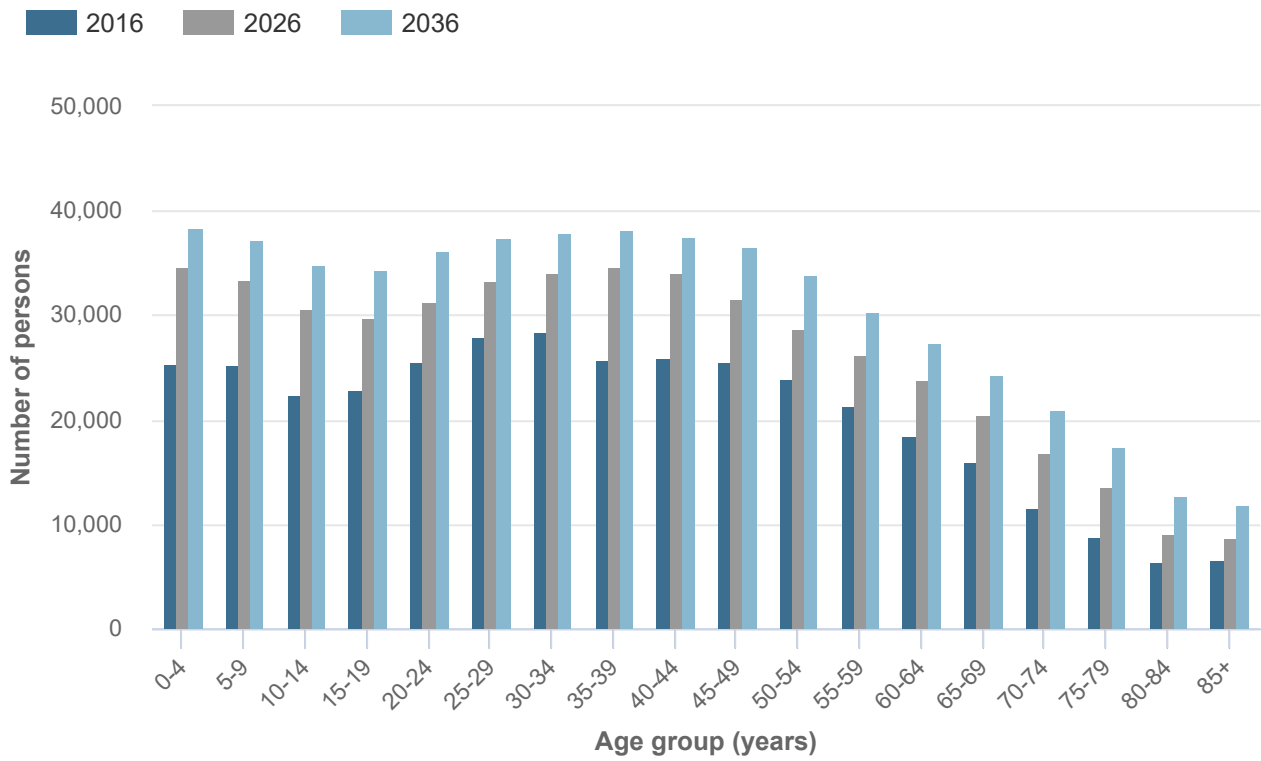
Forecast age structure - 5 year age groups

South West Group - Total persons	2016		2026		2036		Change between 2016 and 2036
Age group (years)	Number	%	Number	%	Number	%	Number
0 to 4	29,004	6.9	39,512	7.3	43,896	7.0	+14,892
5 to 9	28,694	6.8	38,111	7.0	42,461	6.8	+13,767
10 to 14	25,392	6.1	34,792	6.4	39,847	6.4	+14,455
15 to 19	25,997	6.2	33,985	6.3	39,260	6.3	+13,263
20 to 24	29,122	6.9	35,719	6.6	41,302	6.6	+12,180
25 to 29	31,763	7.6	37,988	7.0	42,737	6.8	+10,974
30 to 34	32,354	7.7	38,934	7.2	43,338	6.9	+10,984
35 to 39	29,224	7.0	39,549	7.3	43,748	7.0	+14,524
40 to 44	29,458	7.0	38,845	7.2	42,913	6.9	+13,455
45 to 49	29,114	6.9	36,025	6.6	41,687	6.7	+12,573
50 to 54	27,237	6.5	32,822	6.1	38,784	6.2	+11,547
55 to 59	24,361	5.8	29,959	5.5	34,650	5.5	+10,289
60 to 64	21,012	5.0	27,198	5.0	31,252	5.0	+10,240
65 to 69	18,222	4.3	23,419	4.3	27,709	4.4	+9,487
70 to 74	13,227	3.2	19,071	3.5	24,034	3.8	+10,807
75 to 79	10,035	2.4	15,502	2.9	19,883	3.2	+9,848
80 to 84	7,366	1.8	10,385	1.9	14,495	2.3	+7,129
85 and over	7,527	1.8	9,992	1.8	13,566	2.2	+6,039
Total persons	419,109	100.0	541,808	100.0	625,562	100.0	+206,453

Population and household forecasts, 2016 to 2036, prepared by .id , the population experts, December 2017.

Forecast age structure - 5 year age groups

South West Group - Total persons

■ 2016 ■ 2026 ■ 2036

Population and household forecasts, 2016 to 2036, prepared by .id the population experts, December 2017.

Forecast change in age structure - 5 year age groups

South West Group - Total persons

■ 2016 to 2026   ■ 2026 to 2036

Population and household forecasts, 2016 to 2036, prepared by .id the population experts, December 2017.

Key findings

In 2016, the dominant age structure for persons in South West Group was ages 30 to 34, which accounted for 7.7% of the total persons.

The largest increase in persons between 2016 and 2026 is forecast to be in ages 0 to 4, which is expected to increase by 10,508 and account for 7.3% of the total persons.

The largest 5 year age group in 2026 is 35 to 39 years, with a total of 39,549 persons.

South West Group

Household types

Analysing the future household structure in South West Group, especially in conjunction with age structure, provides insight to the role the area plays in the housing market. Some areas, usually with separate housing stock, are dominated by families. Others, with more dense housing in inner city locations have significant numbers of lone person households and couples without dependents.

Forecast household types

South West Group	2016		2026		2036		Change between 2016 and 2036
Type	Number	%	Number	%	Number	%	Number
Couple families with dependents	53,628	33.8	68,351	33.6	77,860	32.7	+24,232
Couples without dependents	44,460	28.1	58,698	28.8	69,720	29.3	+25,260
Group households	5,447	3.4	6,769	3.3	7,641	3.2	+2,194
Lone person households	35,635	22.5	45,620	22.4	54,966	23.1	+19,331
One parent family	15,826	10.0	19,543	9.6	22,247	9.4	+6,421
Other families	3,454	2.2	4,517	2.2	5,444	2.3	+1,990

Population and household forecasts, 2016 to 2036, prepared by .id , the population experts, December 2017.
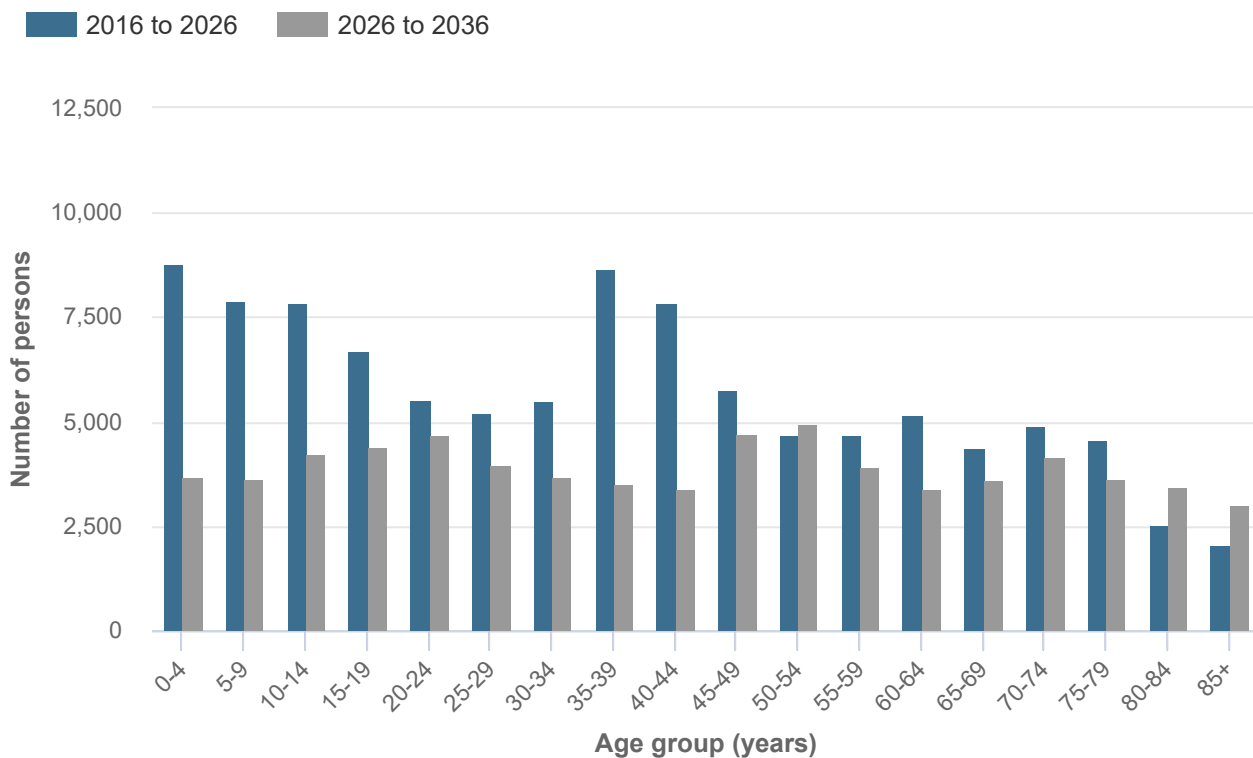
Forecast household types

South West Group

■ 2016　■ 2026　■ 2036
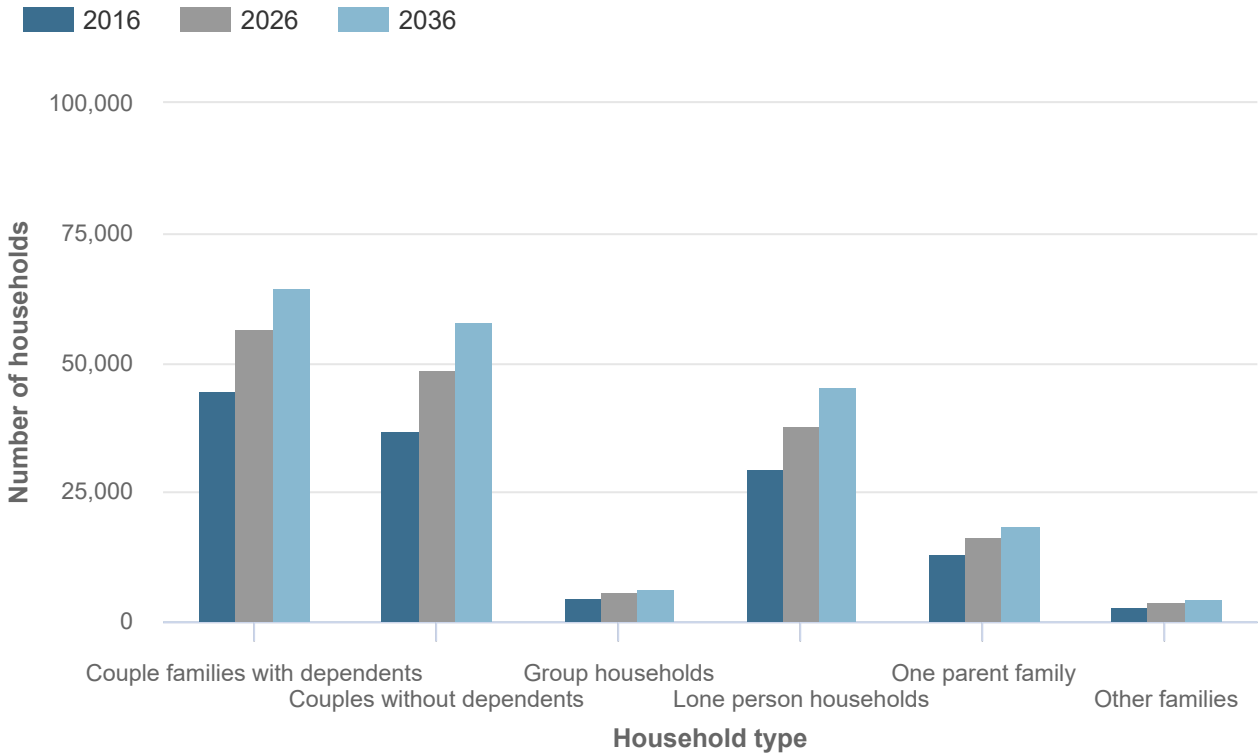
Population and household forecasts, 2016 to 2036, prepared by .id the population experts, December 2017.

Forecast change in household types, 2016 to 2036

South West Group

■ 2016 to 2026　■ 2026 to 2036

Population and household forecasts, 2016 to 2036, prepared by .id the population experts, December 2017.

Key findings

In 2016, the dominant household type in South West Group was Couple families with dependents, which accounted for 33.8% of all households.

The largest increase between 2016 and 2026 is forecast to be in Couple families with dependents, which will increase by 14,723 households and account for 33.6% of all households.

In contrast Other families is forecast to increase by 1,063 households, to comprise 2.2% of all households in 2026, compared to 2.2% in 2016.

South West Group

Dwellings and development map

Visualising the geographic pattern of growth in dwelling stock across South West Group is a good starting point for assessing the scale and type of change each part of the area is undergoing. Some areas will be experiencing significant growth in new dwellings, either through greenfield development or densification and renewal.

However it would be a mistake to assume that areas not experiencing significant housing development are not undergoing change. Other processes will be at work such as the aging-in-place of the existing population and changing household structures. The age structure and household type maps will uncover these population shifts.
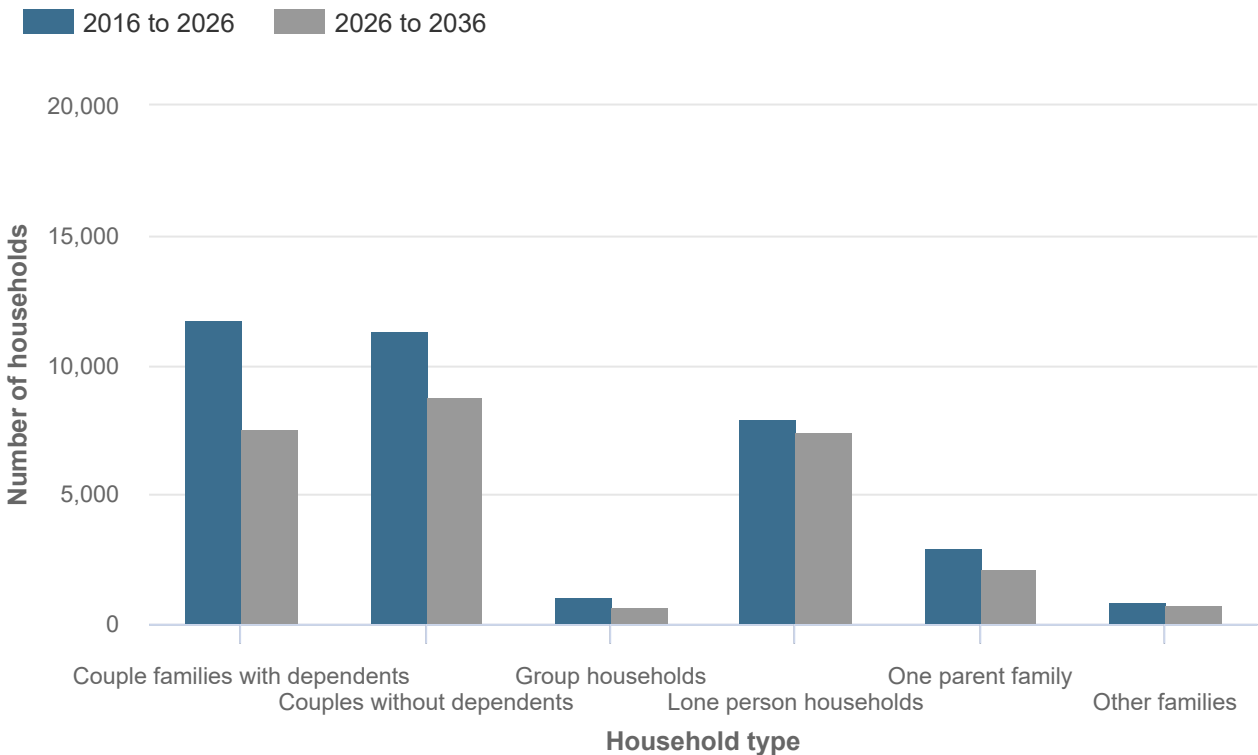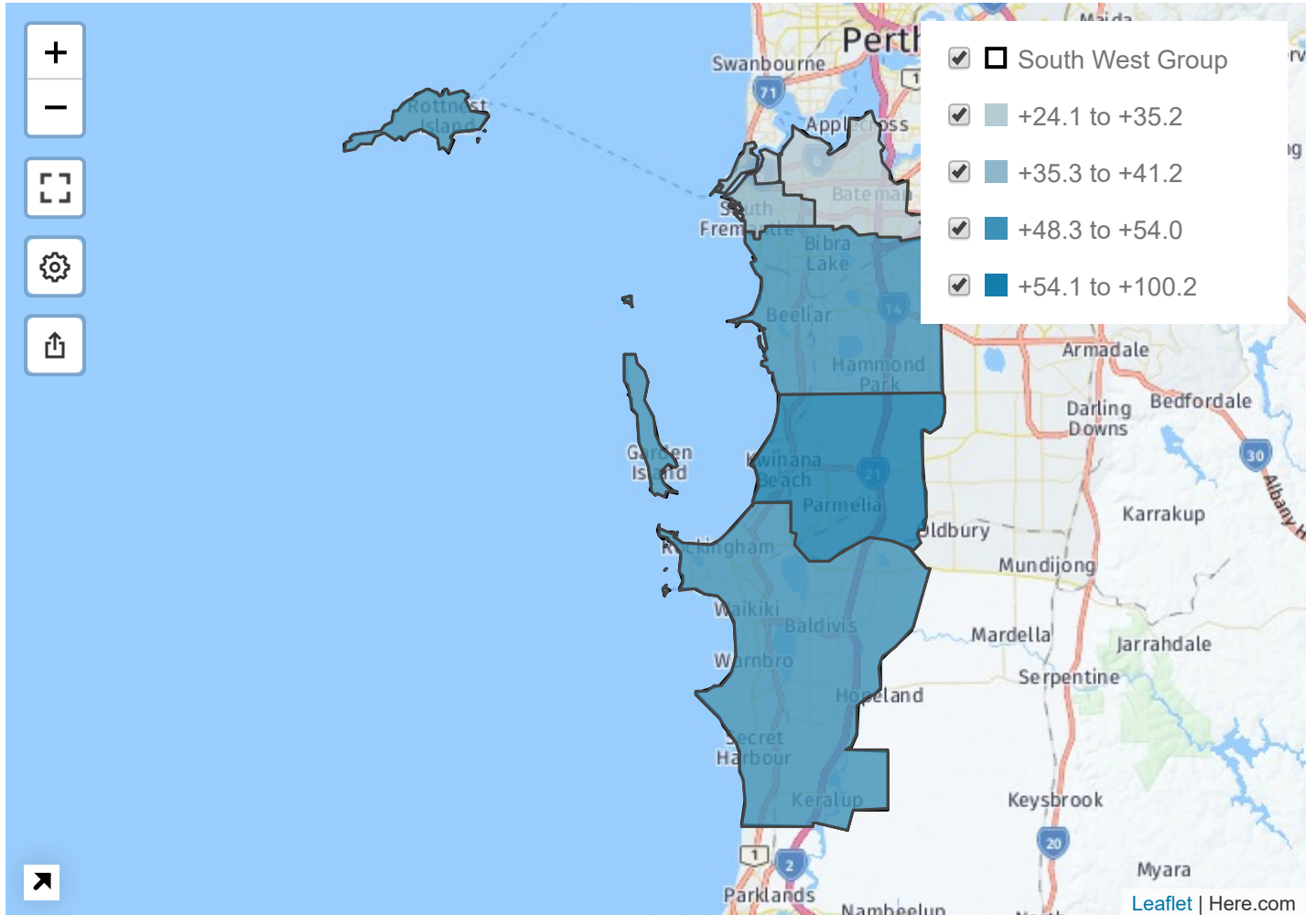

Source: Population and household forecasts, 2016 to 2036, prepared by .id, the population experts, December 2017.

Forecast dwellings and development

South West Group	2016		2036		Change between 2016 and 2036	
Area	Number	%	Number	%	Number	%
South West Group	170,119	100.0	252,179	100.0	+82,060	+48.2
Town of East Fremantle	3,314	1.9	4,480	1.8	+1,166	+35.2
City of Fremantle	14,689	8.6	20,747	8.2	+6,058	+41.2
City of Kwinana	15,480	9.1	30,989	12.3	+15,509	+100.2
City of Melville	41,785	24.6	51,856	20.6	+10,071	+24.1
City of Rockingham	51,517	30.3	77,371	30.7	+25,854	+50.2
City of Cockburn	43,334	25.5	66,736	26.5	+23,402	+54.0

Population and household forecasts, 2016 to 2036, prepared by .id , the population experts, December 2017.

South West Group

Population and age structure map

Knowing when and where to deliver age-based services is an essential part of local government planning. Mapping the distribution of selected age groups across South West Group provides the evidence-base for efficiently targeting and delivering these services. You can learn more about how places move through cycles of change which affect their age by visiting population and age structure.

Source: Population and household forecasts, 2016 to 2036, prepared by .id, the population experts, December 2017.
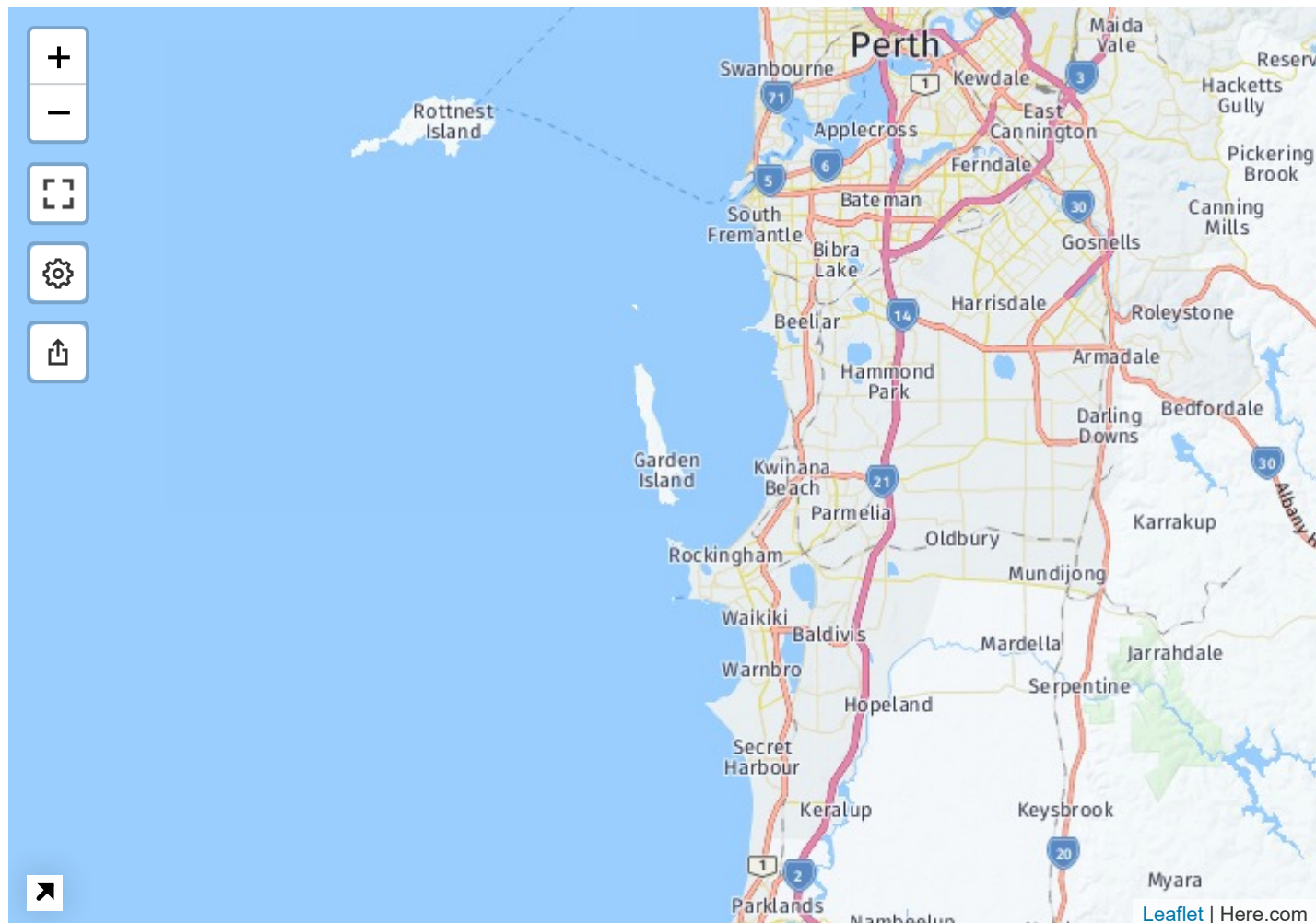
Population and age structure - persons aged 0 to 16 years

South West Group	2016		2036		Change between 2016 and 2036	
Area	Number	%	Number	%	Number	%
South West Group	93,246	22.2	141,774	22.7	+48,528	+52.0
Town of East Fremantle	1,616	20.8	2,055	19.3	+439	+27.2
City of Fremantle	4,861	15.9	7,089	16.7	+2,228	+45.8
City of Kwinana	9,885	24.5	21,946	25.8	+12,061	+122.0
City of Melville	20,181	19.7	23,636	18.6	+3,455	+17.1
City of Rockingham	32,346	25.0	47,391	24.6	+15,045	+46.5
City of Cockburn	24,357	22.4	39,657	23.6	+15,300	+62.8

Population and household forecasts, 2016 to 2036, prepared by .id , the population experts, December 2017.

South West Group

Household types map

Mapping the distribution of different household types across the South West Group provides insight into the roles that different areas play in the housing market and how these are changing. It also identifies where there are concentrations of households which have specific service requirements. You can learn more about how places move through cycles of change which affect their household structure by visiting household types.
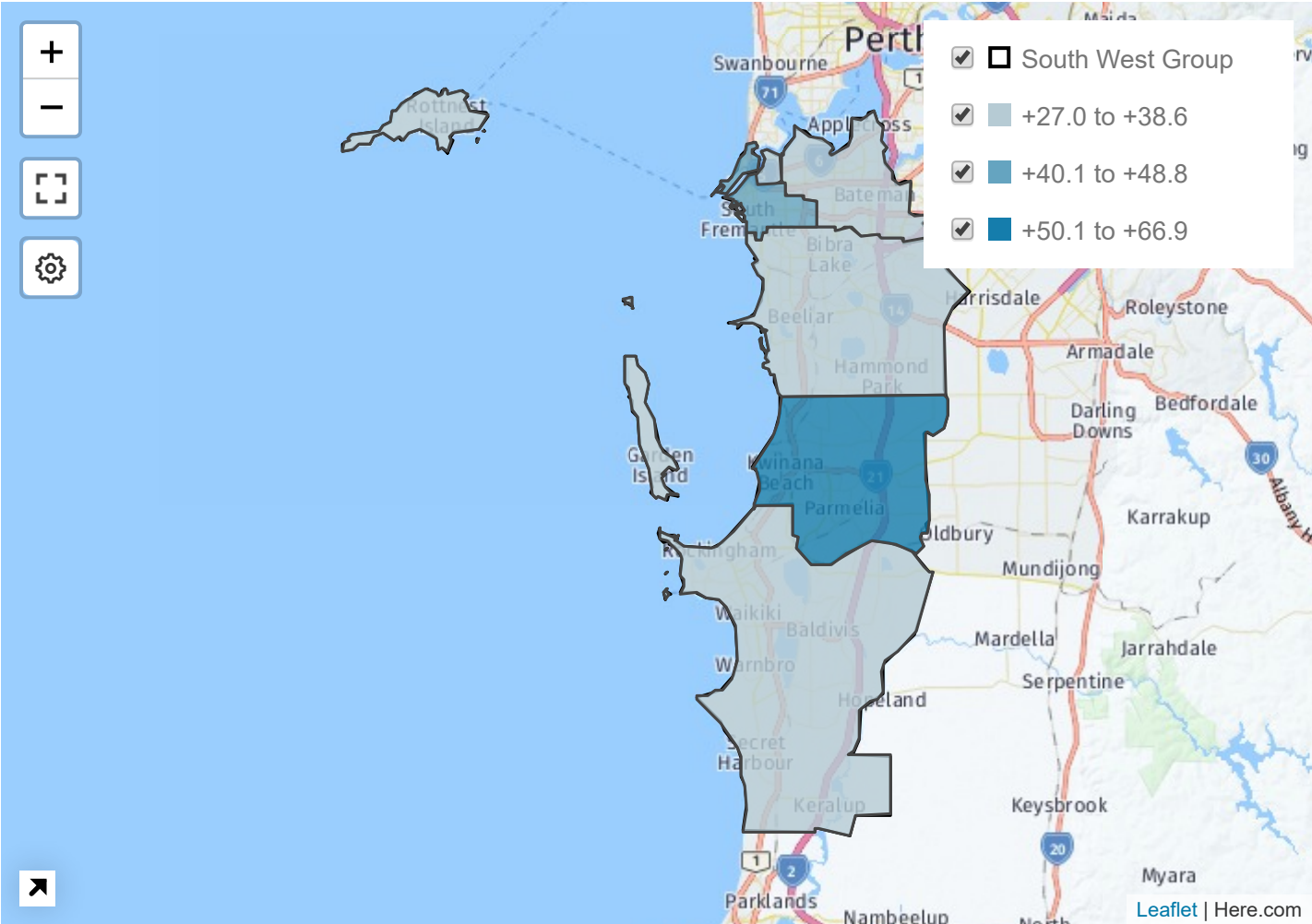
Legend:
- South West Group
- +27.0 to +38.6
- +40.1 to +48.8
- +50.1 to +66.9

Leaflet | Here.com

Source: Population and household forecasts, 2016 to 2036, prepared by .id, the population experts, December 2017.

Forecast household types - Group households

South West Group	2016		2036		Change between 2016 and 2036	
Area	Number	%	Number	%	Number	%
South West Group	5,447	3.4	7,641	3.2	+2,194	+40.3
Town of East Fremantle	138	4.5	207	4.8	+69	+50.0
City of Fremantle	850	6.3	1,265	6.7	+415	+48.8
City of Kwinana	471	3.2	786	2.6	+315	+66.9
City of Melville	1,385	3.5	1,759	3.5	+374	+27.0
City of Rockingham	1,293	2.7	1,810	2.5	+517	+40.0
City of Cockburn	1,309	3.2	1,814	2.9	+505	+38.6

Population and household forecasts, 2016 to 2036, prepared by .id , the population experts, December 2017.

South West Group

Residential development

The addition of dwellings to the housing stock is a major driver of population growth in an area, providing opportunities for households to relocate from other areas or new households to form locally (such as young people leaving the family home or separations/divorces).

Residential development can take various forms depending on the availability of land. These include new housing estates on greenfield sites, subdivision in existing residential neighbourhoods (often called infill development), conversion of industrial lands to residential lands, and densification of housing by building up.

.id's forecasters worked with Council planners to understand the likely development activity in each small area. This forms the development assumptions for the forecasts. This table shows the quantity of new development assumed in each small area in South West Group. Select each small area to see detailed assumptions.

Forecast residential development, 2016 to 2036

South West Group	Change in dwellings between 2016 and 2036	
Area	**number**	**%**
South West Group	+82,060	+48.2
Town of East Fremantle	+1,166	+35.2
City of Fremantle	+6,058	+41.2
City of Kwinana	+15,509	+100.2
City of Melville	+10,071	+24.1
City of Rockingham	+25,854	+50.2
City of Cockburn	+23,402	+54.0

Population and household forecasts, 2016 to 2036, prepared by .id , the population experts, December 2017.

Forecast residential development

South West Group
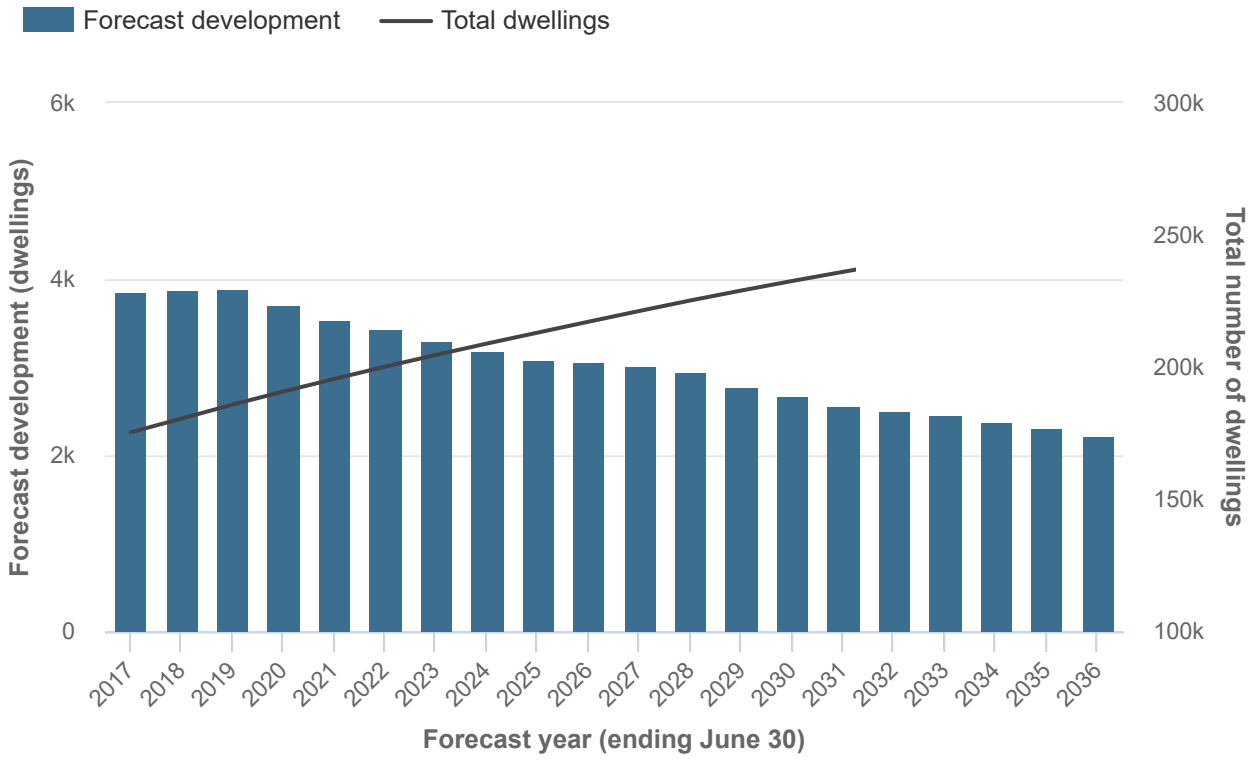
Population and household forecasts, 2016 to 2036, prepared by .id the population experts, December 2017.

South West Group

Net migration by age

Migration is one of the most important components of population change. Once you have established the amount of development activity in an area, the next step is to make assumptions about who will move into the area as well as who is leaving the area.

Net migration by age is an excellent way of understanding housing markets. The most mobile age groups in the population are young adults. They tend to move to attend educational institutions, seek work and express a change in lifestyle. Market research has shown that empty nesters are more likely to move to smaller accommodation when appropriate and affordable alternative housing is supplied in the local area that is accessible to established social networks.

Select each small area to see how migration patterns differ for each area across South West Group depending on their housing markets and stage in the suburb life cycle.

Major migration assumptions:

- Significant gain of families with young children (0-9 years), attracted to relatively affordable home owning opportunities in the outer south in particular
- Significant gain of young adults, particularly in the Cities of Fremantle and Cockburn, attracted to lifestyle, employment and education facilities
  Gain of families with older children (10-18 years), particularly in more established parts of the SW Group
- Modest loss of older persons (65 years and over).

Forecast net migration by age group

South West Group
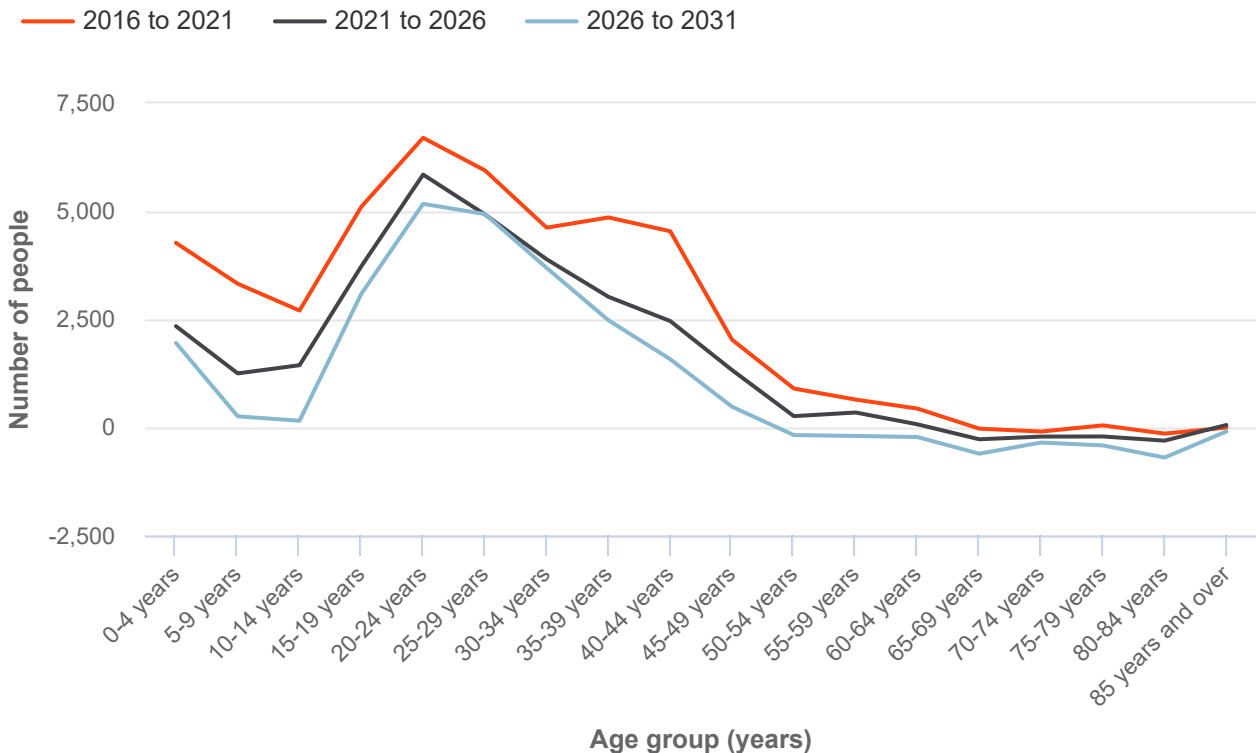
Population and household forecasts, 2016 to 2036, prepared by .id the population experts, December 2017.

South West Group

Non-private dwellings

Residential non-private dwellings include aged care facilities as well as defence force facilities, hospitals, prisons, staff quarters and boarding houses. As a general rule, an increase in people aged 18 to 24 living in non-private dwellings indicates a growth in student accommodation, defence force facilities or prisons. Similarly an increase in people aged over 75 living in non-private dwellings indicates growth in aged care facilities.

Persons in non-private dwellings

South West Group	Year		Change between 2016 and 2036		
Area	2016	2036	Total change	Aged 18 to 24 years	Aged 75+ years
South West Group	5,421	7,210	+1,789	+19	+1,670
Town of East Fremantle	108	170	+62	0	+62
City of Fremantle	791	832	+41	0	+41
City of Kwinana	769	1,029	+259	+19	+139
City of Melville	1,538	2,088	+550	0	+549
City of Rockingham	1,256	1,436	+180	0	+180
City of Cockburn	959	1,656	+697	0	+697

Population and household forecasts, 2016 to 2036, prepared by .id , the population experts, December 2017.

Key findings

There were 5,421 people estimated to be living in non-private dwellings in South West Group in 2016. The number of persons in non-private dwellings in South West Group is expected to increase to 6,581 persons in 2026 and to 7,210 persons in 2036.

Between 2016 and 2026, City of Cockburn is forecast to experience the greatest change, with a gain of 697 persons in non-private dwellings. This is due to an increase of persons in non-private dwellings aged 75 years and over, which is predominantly aged care.

South West Group

Births and deaths

The number of births in South West Group are derived by multiplying age specific fertility rates of women aged 15-49 by the female population in these age groups for all years during the forecast period.

Birth rates are especially influential in determining the number of children in an area, with most inner urban areas having relatively 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, with overall increases in fertility rates. This can have a large impact on the future population profile.

Forecast fertility rates (births per woman)

South West Group	Year		Change between 2017 and 2036
Area	**2017**	**2036**	**Number**
South West Group	2.10	2.08	-0.02
Town of East Fremantle	1.84	1.69	-0.15
City of Fremantle	1.69	1.67	-0.02
City of Kwinana	2.35	2.30	-0.05
City of Melville	1.71	1.69	-0.03
City of Rockingham	2.21	2.14	-0.07
City of Cockburn	2.33	2.31	-0.02

Population and household forecasts, 2016 to 2036, prepared by .id , the population experts, December 2017.

Death rates

The forecast number of deaths in South West Group is a reflection of death rates assumed for small areas. For historical years, this will equal the number of deaths published by the ABS, where this information was available at the time of forecasting. These rates are based on historical estimates for South West Group, which have been extrapolated into the future, assuming an increase in expectation of life in all age groups (except 85 years and over).

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's life expectancy increasing more than that of women.

South West Group

About the forecasts

The South West Group population and household forecasts are undertaken by .id, the population experts, on behalf of the South West Group.

During the forecast modeling process, .id assesses what is driving population change in the area and forecasts how the age structure and household types will change as result.

Forecasts are only as good as the assumptions they are based on, and.id works closely with the council to ensure we have detailed information about current and planned residential development activity. The forecasts are updated on a rolling cycle to take into account changes in the real world. All assumptions, as well as the results of the forecasts, are made available in this site.

The forecasts were last updated in December 2017. Forecasts are available for South West Group and small areas for each year from 2016 to 2036.

The forecasts are designed to provide community groups, Council, investors, business, students and the general public with knowledge to make confident decisions about the future.

Whilst all due care has been taken to ensure the content of this website is accurate and current, there may be errors or omissions in it and no legal responsibility is accepted for the information and opinions in this report. In addition, as the website is based on historic information which is subject to revision, we do not guarantee its currency.

South West Group

Factors of population change

At the small area level, the key factors 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 South West Group'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, with overall increases in fertility rates. This can have a large impact on the future population profile.

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 factors 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.

South West Group

Household and suburb life cycles

Household life cycles

The type 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 type 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 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.

South West Group

Forecast modelling process

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 15-49 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 2016 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, boarding houses, 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 2016 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 2016 with some adjustments, depending on the type of area. While for some areas, it is assumed that a greater share of the population will live in smaller households in the future, many areas will go against this trend, depending on their place within the life cycle of suburbs.

South West Group

Notes on base data

Base population estimates

The population figures used in the forecasts for 2016 are based on estimated resident population from the Australian Bureau of Statistics. These figures are published at the Statistical Area 1 (SA1) level, which are then aggregated to the chosen small area or local government area, splitting SA1s 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 2016 were based on age and sex-specific population propensities by different household types. Estimated Resident Population by Statistical Area 1 was 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.

South West Group

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 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 2016 to 2036. Most data on the website has focused on the period from 2016 to 2036 plus 15.

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 can take place on land previously used for another urban purpose such as industry or schools or on existing residential allotments where new dwellings are added. 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, boarding houses, 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.

Vacancy rate

The proportion of structural private dwellings that are not occupied by a household.

Young families

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