WHICH POPULATION FORECAST SHOULD I USE?

HOW TO CHOOSE THE RIGHT FORECAST FOR YOUR DECISION ▶

.id the population experts

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INTRODUCTION

IF YOUR ORGANISATION IS PLANNING FOR THE FUTURE, AT SOME POINT YOU'LL NEED TO RELY ON A POPULATION FORECAST

Knowing how the population will change is extremely valuable for any organisation that is planning for the future. To inform your plans and make confident decisions you will need to rely on a population forecast to quantify the size and characteristics of the population in a specific place at a given time in the future.

There are many forecasts available, produced by different organisations for various purposes, using different assumptions and methodologies. This can have a big effect on the outcome of the forecast. Add into the mix the different geographies and outputs and it is little wonder that it is so challenging to find a reliable source of data that aligns with your business objectives.

In this guide we have gathered together our knowledge of the available population forecasts in Australia. Who produces them, what assumptions they use, what outputs are available and most importantly what geography they cover and at what level of detail.

Our aim is to help you to build the best evidence base for your critical decision-making, without agenda or bias.

THE 10 THINGS
YOU NEED TO
KNOW ABOUT
FORECASTS

WHO PRODUCED THE FORECASTS AND WHY?

THE PURPOSE

The main producers of forecasts[1] in Australia are the Australian Bureau of Statistics (ABS), the Federal Treasury and various state government departments. There are also forecasts generated by private companies like our own.

NATIONAL PROJECTIONS

National projections (ABS, Treasury) are produced for federal budget and electoral boundary allocations. They will tell you about the size of the Australian population, but little about where that population will be distributed beyond the states.

STATE PROJECTIONS

State government forecasts are produced for allocating state government funds across the state. They will tell you about the future size of the state's population and where that population will be distributed across local government areas. In Queensland and Western Australia, they go further and distribute the population to SA2s (a statistical geographic term which equates roughly to a suburb) and to small areas (roughly the size of a Statistical Local Area) in Victoria.

LOCAL GOVERNMENT FORECASTS

Local government forecasts (usually produced by .id under the brand name forecast.id) are produced to assist local governments allocate resources to different neighbourhoods and target populations. They show how the population will change suburb by suburb, but only cover one Local Government Area (LGA) at a time. Councils that subscribe to forecast.id generally make the forecasts available to the public via their website.

MICRO-GEOGRAPHY FORECASTS

More granular population forecasts are produced by .id. They are called Small Area Forecast information (SAFi) and are independent forecasts designed for organisations who need data for a geography or catchment of relevance to them (e.g. retail catchment, water catchment, travel distance etc). These forecasts are state-wide and distribute the population down to an area smaller than a suburb or locality or even a city block (SA1 derived).
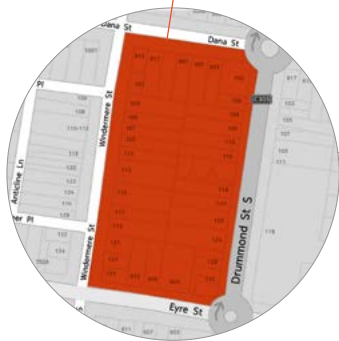
> **!** As you can see, you need to choose a forecast that provides data at the right level of geographic detail for your purpose. You can compare the geographic detail provided by different forecasts in figure 1.1

Figure: 1

WHAT YEAR DO THE FORECASTS BEGIN?

2

## HOW ARE THE FORECASTS CALCULATED?

3

THE BASE DATA

The first year of the forecasts is generally the last year the population was officially counted in a Census. This is the last time we actually knew what the population was. Current forecasts should be based on the 2011 Estimated Resident Population (ERP), which in turn is based on the 2011 Census with some adjustments to make it more accurate. If the forecasts you are using are based on earlier data, such as the 2006 census, you should be very cautious about using them.

THE METHOD

The most common method for converting the Base Data to forecasts is the **cohort component method**.

This is a fancy way of saying that:

BASE POPULATION

+

BIRTHS

-

DEATHS

+

IN-MIGRATION

-

OUT-MIGRATION

-
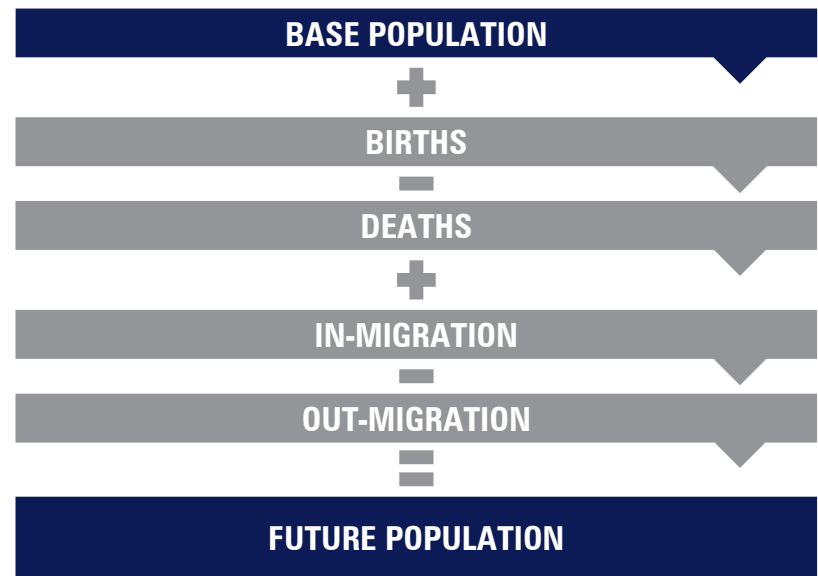
FUTURE POPULATION

The only way the population can grow in an area is by people migrating in or having children.

The only way the population can decline in an area is by people migrating out or dying.

Each year the population ages by one year so we can use this to calculate the future age of the population.

Some projections use different methods (e.g. WA State Government forecasts) and these are identified in the detailed reference section.

In sub-state forecasts, the Cohort Component Method is typically combined with a Housing Unit Model to allocate population to areas based on the level of residential development occurring.

1. We are using the word "forecast" here to refer to population forecasts and population projections. There is a difference between the two. In simple terms, if you call a forecast a projection, you are stressing that it is hypothetical. If you use the term forecast – you are "hanging your hat" on the outcome.

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WHAT ASSUMPTIONS ARE MADE?

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THE DEMOGRAPHIC ASSUMPTIONS

To apply The Method and arrive at an overall population figure, forecasters have to make assumptions.

Assumptions are made about the rate of births and deaths and migration (e.g. overseas and interstate). These result in the overall population figure.

Forecasters will consider things such as the relative competitiveness of the Australian economy as well as government migration policy when setting the overseas migration assumption. They will consider the relative competitiveness of each state's economy when deciding interstate migration assumptions as well as environment and lifestyle factors.

Different assumptions can lead to very different results.

For example, the Victorian state projections titled "Victoria in Future, Population and Household Projections" published by the former Victorian Department of Planning and Community Development in 2012 assumed a long-term net overseas migration into Australia of 180,000 people. As a result, it was projected that Victoria would reach a population of 8.7 million by 2051. This dataset was widely used until 2014 despite actual estimates of net overseas migration sitting at over 220,000.

An updated version of Victoria in Future was released two years later in 2014. This set assumed net overseas migration to Australia of 240,000 in 2013/14 increasing to 260,000 in 2016/17 before dropping to 250,000 by 2030. Under this set of assumptions, the population of Victoria was projected to reach 10 million by 2051. In just two years, there had been a significant increase in the government's population projections for Victoria. Currently (2014) overseas migration is sitting just above 200,000 per annum, so an overcorrection might have been at play here.

The most recent iteration of Victoria in Future (released in August 2015) uses short-term net overseas migration forecasts from the Department of Immigration and Border Protection. Projections for Victoria remain at around 10 million by 2051.

> **!** It's important you know what assumptions are used. In Section 2 we document all the most commonly used sets of forecasts and their assumptions. The only way to know how these assumptions are tracking is to look at the latest data in the ABS' publication Australian Demographic Statistics - although even these figures are estimates and subject to change when the next Census is conducted.

WHERE IS THE POPULATION DISTRIBUTED?

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THE GEOGRAPHY

Now it starts to get tricky. Once forecasters have arrived at an overall figure for each year into the future, they have to allocate this population to different geographic areas. What proportion of the new population will live in cities versus regional areas? How much of the growth will be on the fringes of cities and how much in established areas? Which established areas?

The method for allocating the overall population figure will depend on how geographically detailed the forecasts need to be.

LARGE AREA PROJECTIONS

NATIONAL PROJECTIONS, such as those produced by the ABS, generate a projection for Australia and then allocate it to each state. They don't have to make decisions about where in the state they will live, beyond a split between capital cities and rest of state. This is called a "tops-down" allocation.

AUSTRALIA

STATE

Figure: 2

STATE FORECASTERS traditionally produce a projection for the state and then allocate it to each Local Government Area (LGA). The forecaster has to make assumptions about how much of the overall population to allocate to each LGA each year, but they don't have to decide where the people will live within the LGA. This is also a "tops-down" forecast.
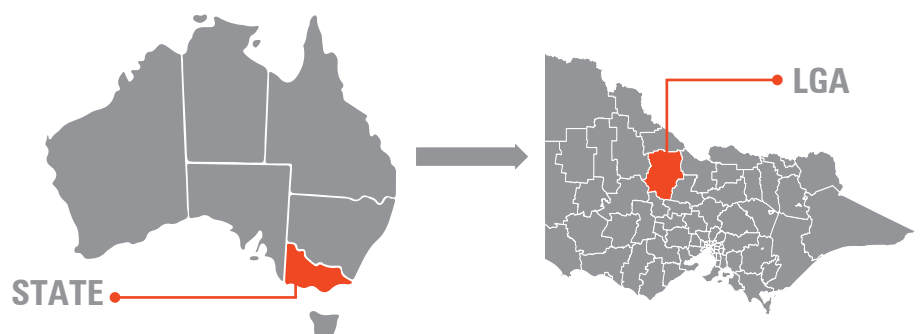

LGA

STATE

Figure: 3

SMALL AREA FORECASTS

SMALL AREA FORECASTS, such as forecast.id, start with the smallest geography (in this case a suburb) and build them up to the larger geography (the LGA). This is called a "bottoms-up" forecast. They require a detailed understanding of what opportunities each suburb has to absorb more population.

STARTING POINT
SUBURB
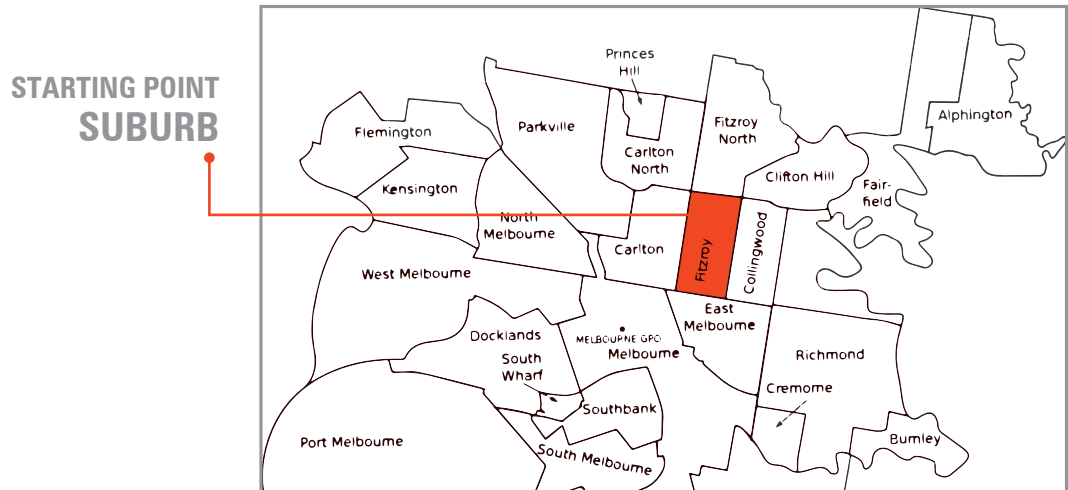
Figure: 4

MICRO-GEOGRAPHY FORECASTS

MICRO-GEOGRAPHY FORECASTS such as .id's SAFi, cover the full geographic spectrum from national, state, region, LGA, SA2 (suburb equivalent) to SA1-derived parcels (a block of about 400 houses). This requires the forecaster to say both how much the overall population will change, and exactly where it will go, down to a city block or a greenfield housing estate. This is called a "tops-down and bottoms-up" forecast.

You can imagine the amount of detailed knowledge required to make this allocation. In Victoria, SAFi es the population to 7,000 geographic areas, 10,000 in New South Wales and 4,000 in Western Australia. The benefit of all this work is that these micro-geography forecasts can be built up to any larger geography including suburbs, LGAs, school catchments, water catchments, retail catchments etc.

HOW IS THE POPULATION DISTRIBUTED?

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LAND SUPPLY ASSUMPTIONS

In a fast-growing country like Australia, within metropolitan areas, the critical thing determining where the growing population will live is where the houses are being built. This is regulated by state and local government policy and delivered predominantly by private sector developers. In regional areas, where land supply is abundant, population change is driven more by economic factors such as the availability of jobs.

TOPS-DOWN FORECASTS

LARGE AREA FORECASTS (ABS, state government) are distributed using a "tops-down" method. The overall population figure is generated and then distributed to the next geography down using historical information about migration between areas and broad-brush assumptions about future land supply such as:

- vacant lots;

- assumptions about the likely location and timing of infill;

- recent land subdivision and dwelling construction activity; and

- areas of greenfield land and their expected dwelling density and development timing.

There is a limit to how small a geography you can distribute to using a tops-down method with any accuracy. Hence state government forecasts generally stop at LGA level, although in Queensland and Western Australia they do use additional modelling to allocate to SA2s and in Victoria to Small Areas (of a similar size to Statistical Local Areas).

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BOTTOMS-UP FORECASTS

SMALL AREA FORECASTS (forecast.id) are distributed using a "bottoms-up" method. Each suburb is scrutinised for its ability to generate housing. The amount and type of housing in each suburb determines its future population size. As well as the broad land supply considerations used above, more detailed development assumptions are made about exactly what type of housing will be developed and in which suburb, including:

- major development sites (e.g. turnover of an industrial site to residential;

- high density unit development;

- residential infill;

- greenfield/broad hectare sites; and

- activity centre development

TOP TO BOTTOM FORECASTS

MICRO-GEOGRAPHY FORECASTS (e.g. SAFi) that cover all geography from Australia to SA1s, combine the "tops-down" and "bottoms-up" methods.

The tops-down method is used to determine the size of the population at national, state and regional geography. This acts as a constraint to growth.

The bottoms-up method is then used to allocate where dwellings, and therefore population, will be distributed all the way down to the city block. This requires a detailed knowledge of every piece of land, how it is currently used, how it is zoned and what its future use might be. For example, if Australia's population continues to grow at its current rate, land currently zoned residential will not be able to house all of the future population, so .id's forecasters have to make decisions and assumptions about future land use changes.

!

To undertake this detailed work, .id has the largest population forecasting team in Australia.

A more detailed methodology paper is available on request.

WHAT TIME PERIOD DO THE FORECASTS COVER

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THE TIME PERIOD

The time horizons for population forecasts differ too - some sets of population forecasts extend further into the future than others.

Large area forecasts such as the ABS Population Projections extend to 2101, while small area forecasts more commonly use shorter time horizons (typically twenty years) because they have to make more concrete assumptions about individual housing developments. As the level of uncertainty increases the further into the future we look, demographers tend to be reluctant to provide forecasts for small areas over a longer period.

Forecasts are conventionally produced for five-yearly intervals. SAFi and forecast.id are produced for single years, recognising that different organisations will be planning to different time horizons. Again this requires a greater commitment to the assumptions – the forecaster needs to commit to which single year a housing development will commence.

WHAT ARE THE FORECAST OUTPUTS

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THE OUTPUTS

Depending on the provider, population forecast outputs can include:

- **DWELLINGS** – how many physical houses there will be

- **HOUSEHOLDS** – how many households will occupy those houses (and what the vacancy rate will be)

- **POPULATION** – how many people will live in those households

- **TYPE OF HOUSEHOLDS** – and what type of households they will form (two parent families, couples without children, group households, lone person households, one parent families etc.)

- **AGE & GENDER** – the age and gender of those people

- **BIRTHS**

- **DEATHS**

! Before choosing which population forecast to use, it is important to think about the outputs you require for your decision-making. You can compare the outputs provided by different forecasts in figure 5

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HOW INDEPENDENT ARE THE FORECASTS

9 ▸ THE OUTCOME

Choosing an independent provider can ensure data does not contain any political aspirations. Forecasts which are developed independently of government tend to be based upon what is considered likely to occur and are less likely to be influenced by a particular policy agenda.

HOW MUCH SHOULD I PAY

10 ▸ THE COST

Many government agencies provide users with access to large area forecasts free of charge whereas private providers generating small area forecasts charge a fee for service. The decision will depend on the level of detail required from the forecasts and the magnitude of the decision being made.

SELECTING THE RIGHT FORECAST FOR THE JOB

So you can see that there are
a number of things to consider
when choosing a population forecast.
For most people, however, there
are three things that stand out.

1. GEOGRAPHY
Does it provide data at the right geography?

2. OUTPUTS
Does it provide the outputs I need?

3. ACCURACY
How reliable is the data?

SELECTING THE RIGHT FORECAST FOR THE JOB

To simplify things, we've put together this comparison table to help you choose the right forecasts for your work.

	SMALL AREA FORECASTS			LARGE AREA FORECASTS								NATIONAL FORECASTS	
	SAFi	forecast.id	NACDC	NSW	ACT	VIC	TAS	QLD	SA	WA	NT	ABS	Treasury
1 GEOGRAPHY													
AUSTRALIA	●											●	●
STATE/TERRITORY	●			●	●	●	●	●	●	●	●	●	
REGION	●					●		●	●	●	●		
LGA	●	●		●		●	●	●		●			
SLA	●						●		●				
SA2	●		●			VIFSAs	●			●			
SUBURBS	●	●											
SA1	●												
SAFi	●												
2 OUTPUTS													
FOR EVERY YEAR	●	●	●		●							●	
FOR FIVE YEAR PERIODS	●	●	●	●	●	●	●	●	●	●	●	●	Ten years
POPULATION	●	●	●	●	●	●	●	●	●	●	●	●	●
GENDER	●	●	●	●	●	●	●	●	●	●	●	●	
AGE – FIVE YEAR COHORTS	●	●	●	●	●	●	●	●	●	●	●	●	●
AGE – SINGLE YEARS	●	●	●		●		●					●	
HOUSEHOLDS	●	●		●		●		●				●	
HOUSEHOLD TYPES	●	●		●		●		●					
DWELLINGS	●	●		●		●		●					
BIRTHS	●	●				●					●	●	
DEATHS	●	●				●					●	●	
INDIGENOUS STATUS											●		

Figure: 5

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WHICH ONE IS RIGHT FOR ME?

With so many options available it can be confusing choosing which forecast to use in different situations. We have outlined a few scenarios to give you some ideas – and you can always contact us to discuss your project.

UTILITIES PROVIDER

You work for an organisation providing water services to a large part of Victoria. You need to be able forecast demand for water in existing areas and plan for future demand in new residential estates. Demand for water is measured along water catchments, which don't follow neat statistical geographies like SA2s or LGAs. Demand for water is a complex interaction of dwellings, population and household numbers and type.

SAFi would be a good choice for you. SAFi is available for Victoria, has the outputs you require (dwellings, population, households, household types and vacancy rates), and its micro-geography means you can generate data for non-standard water catchments.

NATIONAL RETAILER

You're a large national retailer looking to expand your network of stores. A new store is a significant investment, and both location and timing are critical. If you open a new store in a growth area before the population is there to support it, you risk substantial early losses.

The right forecast will depend on how big your retail catchment area is. If it is as large as an LGA, you may be able to use state government forecasts. If not, then check to see if the council where your site is located provides access to forecast.id. You should also consider investing in SAFi so you can build an exact catchment. SAFi also provides data for single forecast years rather than five-year periods, which can be important when timing is critical.

AGED CARE

You are in the business of residential aged care. It's a growth industry as the baby boomers begin to reach retirement age, but investing and divesting in the right locations is critical because suburbs age in cycles.

Suburb-based forecasts or micro-forecasts would be ideal for this situation. If you are looking at a limited number of locations, and the council where your sites are located subscribes to forecast.id, you will find the information you need there. However, if you are wanting to identify the best locations across the state, you'd be better working with SAFi data as you can use the forecasts to identify which suburbs are ripe for investment and when.

CONSULTANTS

Consultants work across numerous industry sectors and geographic areas. They are the biggest users of forecast.id outside of council, as the data is endorsed by council, reputable and free. We continue to encourage consultants to use forecast.id – but also recommend they consider SAFi in some cases. We continue to encourage consultants to use forecast.id – but also recommend they consider SAFi in some cases. SAFi provides much more granular geography and is more efficient to use because SA1-level data for a whole state can be made available in one place.

In these examples we have considered the purpose of the forecasts, the magnitude of the decision and whether the forecasts have the right outputs and sufficient geographic detail.

NATIONAL FORECASTS

Detailed reference of published forecasts. For those who want to delve into the detail, we put together a reference guide for the main published forecasts in Australia.

AUSTRALIAN BUREAU OF STATISTICS POPULATION PROJECTIONS

The official Australian population projections produced by the Australian Bureau of Statistics.

GEOGRAPHY: Australia, States & Territories, Capital City and Balance of State

LAST RELEASED: Population Projections, Australia 2012 (base) to 2101, released in November 2013.

BASE DATA: : Preliminary ERP as at 30 June 2012, which takes into account the 2011 Census.

UPDATE FREQUENCY: Typically published after each five-yearly Census (although recently updates have been completed every 2-3 years).

'?' ASSUMPTIONS

These projections provide three main scenarios (16 in total), which differ in assumptions relating to fertility, life expectancy and migration, resulting in high, medium and low outputs. The series B (often used as the median series) assumptions are as follows:

- **FERTILITY:** decreasing to 1.8 births per woman by 2026 and remaining constant thereafter.

- **MORTALITY:** life expectancy increasing to 85.2 years for males and 88.3 years for females by 2061 and remaining constant thereafter.

- **NET OVERSEAS MIGRATION:** 240,000 persons to 2021 and remaining constant thereafter.

⚙ METHODOLOGY

Cohort-component model. Consultation is also undertaken with expert academic and government demographers to assist in the determination of base assumptions.

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TIME PERIOD

2011-2101 by singe year for Australia, 2011-2061 by single
year for States & Territories, Capital City &
Balance of State

OUTPUTS

- Population size by gender
- Single year of age or five year age groups
- Single forecast year
- Births
- Deaths
- In addition to population projections, the ABS also develops Household and Family Projections, Australia, 2011 to 2036

COST Free download from abs.gov.au

BENEFITS

- Single year of age
- Single forecast year
- Components of population change (births, deaths)
- Free to download

LIMITATIONS

- Very limited geographic breakdown
- Can be subject to Federal Government influence especially in regard to migration.

CONCLUSION: Projections of the official statistical agency.
Long time horizon and detailed outputs but very limited geography.

NATIONAL AGED CARE DATA CLEARING HOUSE (NACDC) POPULATION PROJECTIONS

FORMERLY KNOWN AS DEPT. OF HEALTH AND AGEING PROJECTIONS

Prepared by ABS, at the request of the Department of Social Services. They utilise assumptions supplied to the ABS by the Department and as such are not official ABS projections

GEOGRAPHY: National SA2s (suburb equivalent)

LAST RELEASED: Population Projections 2012 (base) to 2027 released in 2014. Replace an earlier series based off preliminary 2011 ERP and output for Statistical Local Areas (SLA).

BASE DATA: 30 June 2012 ERP, which takes into account the 2011 Census.

UPDATE FREQUENCY: No forward release schedule has been published.

METHOD: Cohort-component model.

'?' ASSUMPTIONS

Relies upon a combination of assumptions from the ABS' population projections (as outlined above) and historical patterns observed across states and territories. This is essentially a tops-down methodology, with limited attention paid to local nuances such as future land availability. Specific assumptions include:

- **FERTILITY**: declining to 1.8 babies per woman nationally by 2026. State and Territory variations have been applied in-line with historic trends.

- **MORTALITY:** continues to decline across Australia with State and Territory differentials persisting (assumption from median series of ABS projections)

- **NET OVERSEAS MIGRATION:** assumed to be 240,000 in 2012-13, increasing to 260,000 in 2016-17 and then gradually returning to 240,000 in 2020-21 after which it remains constant.

- **SA2 LEVEL MIGRATION:** based upon recent trends and are constrained to the capital city and balance of State/Territory assumptions outlined above.

TIME PERIOD: Single years from 2012 to 2027

OUTPUTS: Population size and gender; Single year of age

COST: Free download from aihw.gov.au

BENEFITS

- Long single year time horizon provided
- Recently reviewed assumptions
- Single year of age
- Suburb (SA2) level geographic breakdown
- Free to download

LIMITATIONS

- No components of population change available (births, deaths)
- Limited consideration of future land availability

CONCLUSION: At first glance these forecasts seem like an attractive option. They are free, national and for smaller geographic units. Unfortunately .id do not recommend the use of these forecasts as the land assumptions that we have assessed are highly questionable.

THE TREASURY POPULATION PROJECTIONS

The Treasury develops population projections for use within the Treasurer's Intergenerational Report (IGR) and the Mid-Year Economic and Fiscal Outlook Papers. Their focus is primarily on the future age structure of the population.

GEOGRAPHY: Australia

LAST RELEASED: The most recent of these was the 2015 Intergenerational Report Australia in 2055 released in March 2015.

BASE DATA: The base data is current ABS data (no year provided).

UPDATE FREQUENCY: Four IGRs have been published since 2002 and are required under the Charter of Budget Honesty Act (1998) to be developed every 5 years.

METHOD: Cohort-component model.

'X' ASSUMPTIONS

The population projections relied upon in the report are from the central scenario. Its assumptions include:

- **FERTILITY:** Total Fertility Rate (TFR) assumed to be 1.9 births per woman.

- **MORTALITY:** life expectancy at birth is projected to increase from 91.5 years in 2015 to 95.1 years in 2054-55 for males and from 93.6 years in 2015 to 96.6 years in 2054-55 for females.

- **OVERSEAS MIGRATION:** NOM assumed to be 215,000 per annum from 2018-19.

TIME PERIOD: Ten year time horizons to 2054-55

OUTPUTS: Population size; Single year of age is modelled, however age cohorts (0-14, 15-64, 65-84, 85+) are published

+ BENEFITS

- Long time horizon provided
- Recently reviewed assumptions

Ø LIMITATIONS

- Limited time increments
- Limited age groups
- No forecasts for smaller geographic areas
- No components of population change available (births, deaths)

COST: Free to download as part of the Intergenerational Report: treasury.gov.au

CONCLUSION: Limited and cautious use. National only and the assumptions reflect a strong political agenda to emphasise the aging of the population.

!

SMALL AREA FORECAST INFORMATION (SAFI)

.idSAFi

SAFI IS PRODUCED BY .ID TO PROVIDE INDEPENDENT FORECASTS AT A MICRO-GEOGRAPHY THAT CAN BE BUILT UP INTO ANY RELEVANT GEOGRAPHY OR CATCHMENT. SAFI IS CURRENTLY AVAILABLE FOR VICTORIA, NEW SOUTH WALES, THE ACT AND WESTERN AUSTRALIA WITH A COMMITMENT TO COMPLETE A SET FOR QUEENSLAND IN 2016 AND THE REST OF USTRALIA BY 2017.

GEOGRAPHY: Victoria, New South Wales, ACT and Western Australia for the following geographic levels – state, greater capital city/rest of state, LGAs, SA2s, SA1-derived areas (10,000 in NSW; 7,000 in Vic; 4,000 in WA). In fringe growth areas, SA1s are broken into smaller geographies to show the staging of development and population growth.

LAST RELEASED:

- NSW/ACT – December 2013

- Victoria – December 2014

- WA – June 2014

BASE DATA: 30 June 2011 ERP which incorporates the results of the 2011 Census

UPDATE FREQUENCY: Each state is reviewed on a 24 month cycleAct (1998) to be developed every 5 years.

METHOD: Tops-down cohort component model and bottoms-up housing unit model.

❝?❞ ASSUMPTIONS

One scenario based on the following assumptions:

- **FERTILITY:** Peaks at 1.9 TFR in 2015 and fall moderately to 1.835 by 2036

- **MORTALITY:** for males rises to 87.5 years by 2041 and for females to 90.3 years.

- **OVERSEAS MIGRATION:** NOM assumed in the medium to long term at 200,000 per annum.

- **NET INTERSTATE MIGRATION:** assumed in the medium to long term: NSW -15,000; Vic +3,000; Qld +16,000; SA – 3,000; WA +2,000; Tas -100; NT -1,500; ACT – 1,500.

🕐 TIME PERIOD

Single years from 2011 to 2051 at state level. Single years from 2011 to 2041 at smaller geographies.

◈ OUTPUTS

- Total population by gender
- Single year of age
- Total households
- Household types (two parent families, couples without children, group households, lone person households, one parent families etc.)
- Dwellings
- Births
- Deaths

$ COST

Varies depending on level of detail required. Learn more about SAFi or contact .id for information.

➕ BENEFITS

- Granular geography that can be aggregated to non-standard catchments
- Independent
- Single year time horizon
- Single year of age (custom age breakdowns)
- Components of population change (births, deaths)
- Long time horizon
- Household type forecasts
- Dwelling forecasts

⊘ LIMITATIONS

- Not available for Queensland, South Australia, Northern Territory or Tasmania at present. .id have committed to producing SAFi for these areas by December 2017.

❗ CONCLUSION:

Independent, granular and regularly updated, SAFI provides by far the greatest detail both in terms of geography and outputs. Where significant investment or service delivery decisions are required, the costs of the data can easily be justified. SAFi also comes with direct access to .id's demographic experts to explain the results and assist with decision making.

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STATE FORECASTS

More detailed forecasts are produced by each state government. As outlined above, .id also produces a set of state-based forecasts, which are known as Small Area Forecast Information (SAFi). These currently cover New South Wales, the Australian Capital Territory, Victoria and Western Australia.

NSW STATE GOVERNMENT POPULATION PROJECTIONS

In NSW, population and household projections are developed by the Department of Planning & Environment.

GEOGRAPHY: NSW, Sydney metro, regional NSW, Local Government Areas

LAST RELEASED: NSW In the Future: 2014 Population, Housing & Dwelling projections, released in September 2014.

FREQUENCY: Revisions are published on average every three years.

BASE DATA: Final rebased ERP for 30 June 2011, which incorporates results of 2011 Census.

METHOD: Tops-down cohort component model and housing unit model.

ASSUMPTIONS

- **FERTILITY:** NSW TFR is assumed to increase gradually to 1.958 by 2041.

- **MORTALITY:** continues to increase to 86.6 years for men and 89.3 years for women by 2036-41.

- **OVERSEAS MIGRATION:** NOM to NSW will continue to be high, increasing to 71,250 by 2016 before declining to a long-term gain of 65,400.

- **INTERSTATE MIGRATION:** assumed to be remain at a long term average of a net loss of 20,000 for the duration of the projection period.

TIME PERIOD

The NSW-wide projections extend from 2011 to 2041, while LGA projections are from 2011 to 2031 in 5 year time horizons.

OUTPUTS

- **STATE:** Total Population by gender; Total Households; Total Dwellings

- **LGAs WITH POPULATION >3,000:** Total Population by gender; Total Population by 5 year age cohort, households, household types & dwellings

- **LGAs WITH POPULATION <3,000:** Total Population by gender; Population by age groups (0-14, 15-44, 45-64, 65+), households, household types & dwellings

$ COST Free download from planning.nsw.gov.au

BENEFITS

- Free
- Long time horizon provided
- Some age breakdown possible
- Recently reviewed assumptions

LIMITATIONS

- No single year time horizon for detailed forecasts
- Limited age groups for small LGAs
- No forecasts for geographic area smaller than LGA
- No components of population change available (births, deaths) for geographies smaller than state

!

CONCLUSION: Free, but limited geographic detail and may be influenced by current state government policy agenda.

COMPARISONS

Population of New South Wales, 2011 - 2031, ABS vs State Projections vs SAFi						
	2011	**2012**	**2016**	**2021**	**2026**	**2031**
ABS		7,305,900	7,693,900	8,192,300	8,672,000	9,128,700
NSW State Government	7,218,600		7,708,900	8,230,400	8,740,000	9,228,400
SAFi	7,218,500	7,307,200	7,739,700	8,259,500	8,779,900	9,283,300
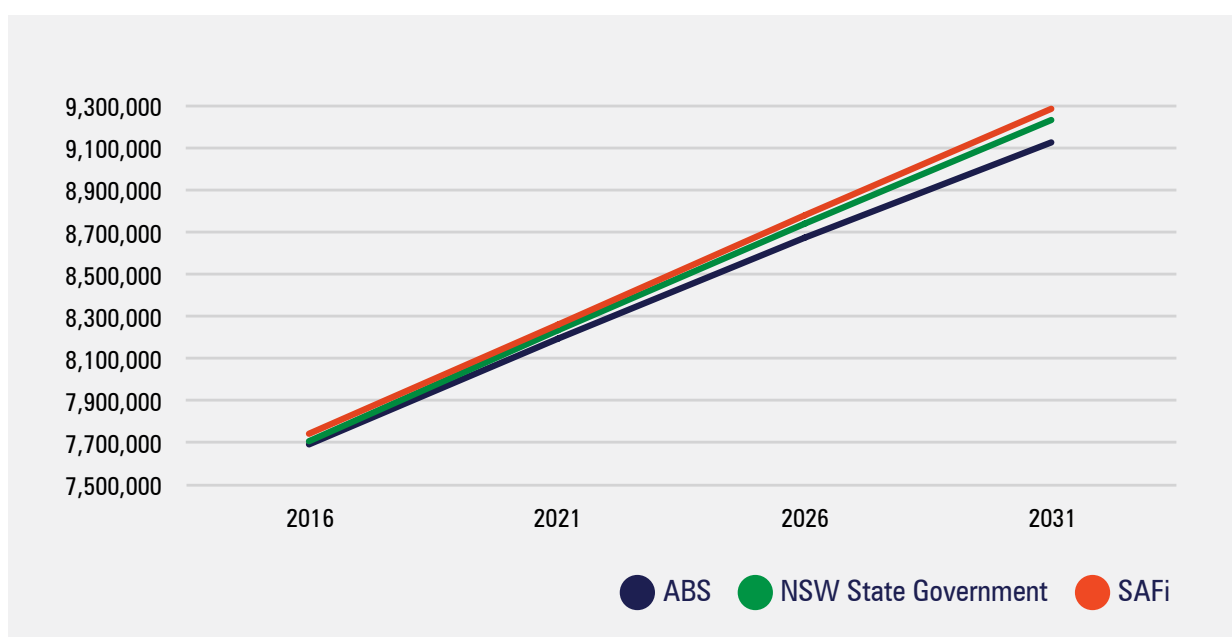
Source: Population Projections, Australia 2012 (base) to 2101, ABS; New South Wales State and Local Government Area Population Projections: 2014 Final, Department of Planning & Environment, SAFi .id
Notes: Population as at 30 June. ABS data is Series B

VICTORIAN STATE GOVERNMENT POPULATION PROJECTIONS

The Department of Environment, Land, Water & Planning (DELWP) (formally the Department of Transport, Planning and Local Infrastructure) develop population and household projections for Victoria.

GEOGRAPHY: Victoria, Greater Melbourne, Regions (SA4), LGA and Victoria in Future Small Areas (VIFSA). VIFSAs are sub-LGA areas defined by DELWP, based upon SA2s (and similar to SLAs).

LAST RELEASED: Victoria In Future (VIF) population and household projections released in 2015.

FREQUENCY: Updated as required. Previous updates have been completed every 1-3 years.

BASE DATA: 30 June 2014 ERP and the results of the 2011 Census.

METHOD: Tops-down cohort component model and housing unit model.

'?' ASSUMPTIONS

- **FERTILITY:** TFR is held constant at 1.8

- **MORTALITY:** Gradual increase to 87.8 for males and 90.1 for females in 2051.

- **OVERSEAS MIGRATION:** NOM as per forecasts developed by the Department of Immigration and Border Protection. Victorian share of NOM increasing from 60,000 in 2014-15 to 65,000 by 2017-18. Remaining in this range until 2030 before increasing in line with the population to around 76,000 by 2050-51.

- **NET INTERSTATE MIGRATION:** assumed to provide a small positive contribution.

TIME PERIOD

- The State and Regional projections extend from 2011 to 2051

- LGA and VIFSA projections are from 2011 to 2031

OUTPUTS

- **VICTORIA:** Total Population by gender by single year of age by single year intervals; Births; Deaths; Overseas and Interstate Migration

- **GREATER MELBOURNE, REGIONS (SA4):** Total Population by gender by five year age cohorts; Births; Deaths; Overseas and Interstate Migration; Total Households by type; Total Dwellings. All by five year intervals.

- **LGAs, VIFSA:** Total Population by single year intervals; Total Population by gender by five year age cohorts by five year intervals; Total Households by type by five- year intervals; Total Dwellings by five-year intervals

$ COST Free download from dtpli.vic.gov.au

BENEFIT

- Long time horizon provided
- Some age breakdown possible
- Components of population change available (births, deaths)
- Recently reviewed assumptions
- Household and dwelling data available
- Free to download

LIMITATIONS

- No single year time horizon for detailed forecasts by age
- No forecasts for geographic area smaller than VIFSA

CONCLUSION: Free, but limited geographic detail and may be influenced by current state government policy agenda.

!

COMPARISONS

Population of Victoria, 2012 - 2051, ABS vs State Projections vs SAFi									
	2012	**2016**	**2021**	**2026**	**2031**	**2036**	**2041**	**2046**	**2051**
ABS	5,630,900	6,039,600	6,568,800	7,085,500	7,584,900	8,065,000	8,529,700	8,986,200	9,436,200
VIC State Government	5,632,500	6,053,400	6,598,400	7,148,000	7,701,100	8,257,000	8,822,600	9,404,800	10,007,600
SAFi	5,632,500	6,052,200	6,540,300	7,028,800	7,504,300	7,966,000	8,421,800	8,877,700	9,334,800
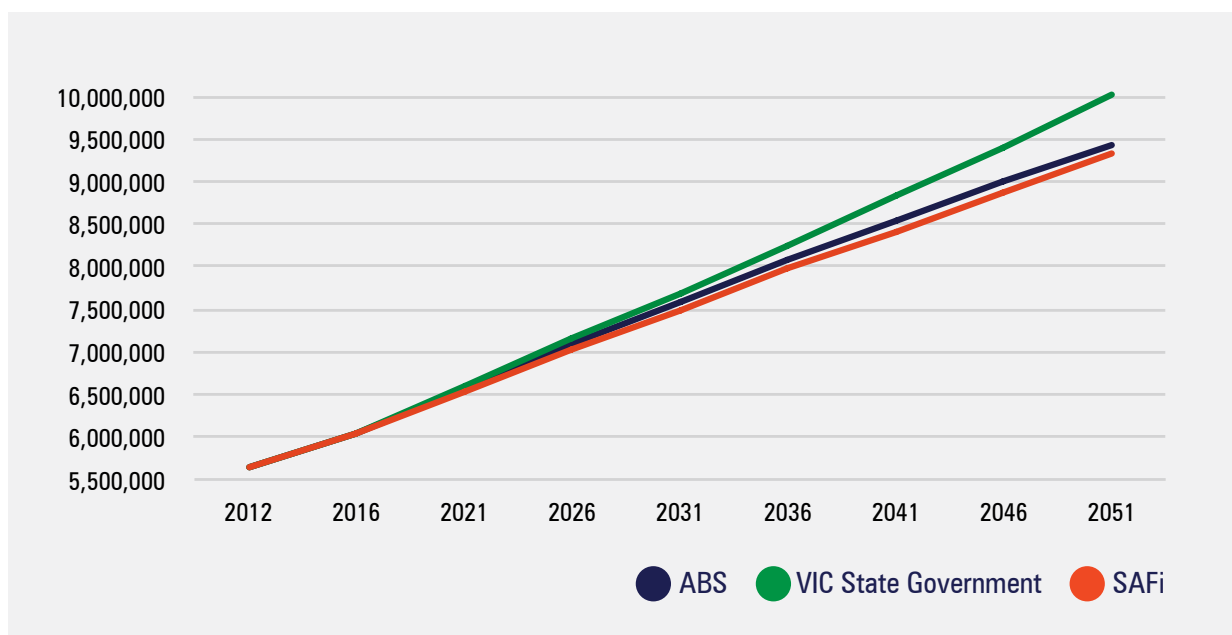
Source: Population Projections, Australia 2012 (base) to 2101, ABS; Victoria In Future 2015, DELWP, SAFi, .id
Notes: Population as at 30 June, ABS data is Series B

QUEENSLAND STATE GOVERNMENT POPULATION PROJECTIONS

The Statisticians Office within the Queensland Treasury produce population projections for Queensland. Household and Dwelling projections are also produced.

GEOGRAPHY: State, LGAs, SA4s, SA3s, SA2s

LAST RELEASED: Queensland Government Population Projections, 2013 edition in 2014.

FREQUENCY: Periodically with previous editions in 2011, 2008, 2006 and 2003.

BASE DATA: 2011 Census.

METHOD: Tops-down cohort component model and housing unit model.

- Regional (SA4) level projections have been prepared based upon regionally specific assumptions (e.g. different fertility rates and life expectancies).

- At the SA2 level two different methodologies are used. Projections for urban SA2s have been developed using a housing-unit model while non-urban SA2s rely upon averaging historic trend models.

- LGAs have not been modelled separately and are a concordance from the SA2 level projections. (SA2s do not necessarily add up to LGAs)

ASSUMPTIONS

Three scenarios are available. The medium scenario assumes:

- **FERTILITY:** TFR declines to 1.9 by 2016 and then remains constant.

- **MORTALITY:** Life expectancy is the average between the high and low series.

- **OVERSEAS MIGRATION:** NOM increasing to 250,000 for Australia by 2016-17 then remaining constant. Share for Queensland increases from 19.4% to 22%.

- **NET INTERSTATE MIGRATION:** 15,000 persons per annum.

TIME PERIOD

- State forecasts from 2011 to 2061 by single year intervals.

- Other geographies from 2011-2036 by five year intervals

COST Free download from qgso.qld.gov.au

OUTPUTS

- **QUEENSLAND:** Total Population by gender by single year of age;

- Total Population by gender by five year age cohorts

- **SA4, SA3, SA2:** Total Population by gender by five year age cohorts

- **LGA:** Total Population by gender by five year age cohorts, dwellings

BENEFITS

- Long time horizon provided

- Some age breakdown possible

- Suburb (SA2) level forecasts available

- Recently reviewed assumptions

- Households by type available for regions, dwellings for LGAs

- Free to download

LIMITATIONS

- No components of population change (births, deaths)

- No single year time horizon for detailed forecasts

- No single year of age

- No household information for detailed forecasts

CONCLUSION: Free, reasonable geographic detail, may be influenced by current state government policy agenda. Limited ground-truthing to ensure forecasts are accurately distributed to SA2s based on development activity. Multiple scenarios are problematic at sub-state geographies as development drivers change when growth increases or decreases and this is not typically modelled due to the complexity. Unclear which series is the best one to use.

COMPARISONS

Population of Queensland, 2012 - 2051, ABS vs State Projections vs SAFi									
	2012	**2016**	**2021**	**2026**	**2031**	**2036**	**2041**	**2046**	**2051**
ABS	4,568,400	4,959,500	5,459,000	5,955,900	6,445,700	6,925,300	7,397,600	7,867,700	8,336,000
QLD State Government	4,562,700	4,946,300	5,477,100	6,007,600	6,548,200	7,095,200	7,650,300	8,217,000	8,796,300
SAFi	4,568,200	4,901,500	5,352,100	5,800,400	6,240,500	6,672,800	7,100,400	7,523,400	7,939,300
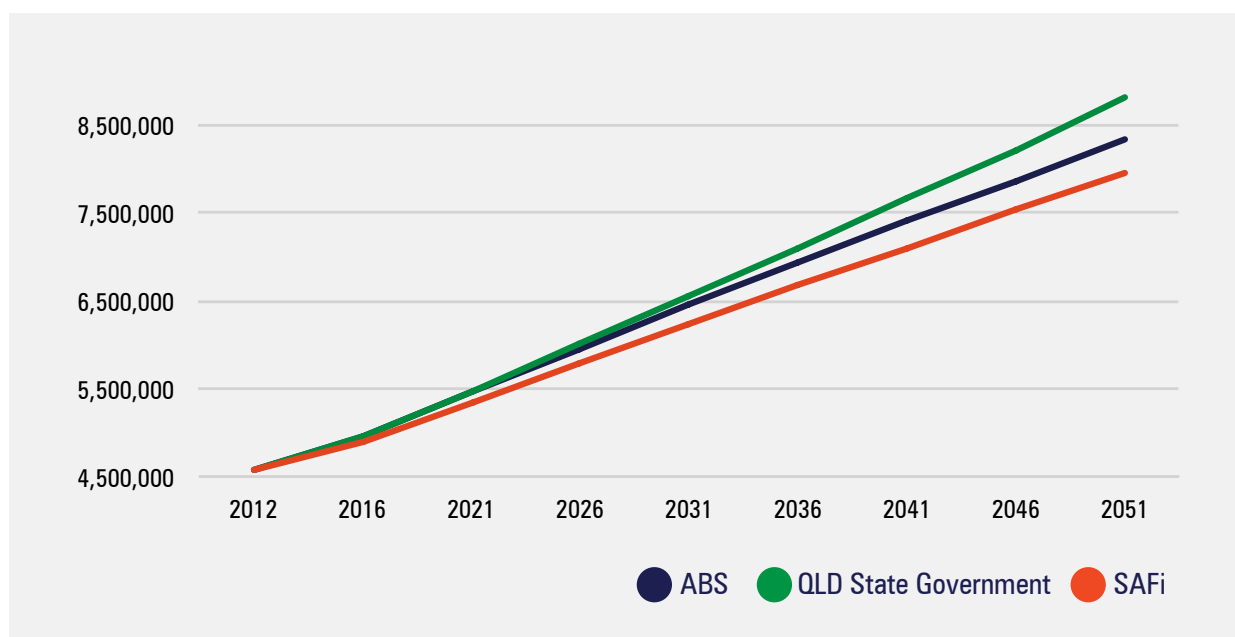
Source: Population Projections, Australia 2012 (base) to 2101, ABS; Queensland Government population projections, 2013 edition, SAFi, .id
Notes: Population as at 30 June, ABS data & State Government data is Series B

WESTERN AUSTRALIAN STATE GOVERNMENT POPULATION PROJECTIONS

Western Australia Tomorrow are the medium-term population projections developed by the Western Australian Department of Planning. Separate long-term forecasts have also been developed from 2031-2061.

GEOGRAPHY: Western Australia, LGA, SA2 At the SA2 level, forecasts have been provided for 226 of the 250 SA2s. Those SA2s with very small populations have been aggregated into adjoining SA2s.

LGAs have not been modelled separately and are a concordance from the SA2 level projections.

LAST RELEASED: The 2015 forecasts replace those released in 2012, which were based on 2006 Census data.

FREQUENCY: Once per census cycle

BASE DATA: 30 June 2011 ERP

METHOD: Trend forecast that involves simulating 10,000 possible realisations of the model. These are divided into 5 bands (2,000 in each band) and the median from each is chosen to be the forecast. The outputs are low (bands A&B), median (band C) and high (bands D&E). Forecasts for band C represent a circumstance where the probability of population being higher is equal to the probability of population growth being lower.

ASSUMPTIONS

- Each band is based upon the same assumptions of fertility, mortality and migration. These assumptions are not provided in the data notes.

TIME PERIOD

- **STATE:** Each year from 2011–2026
- **SA2, LGA:** Five year time horizons from 2011 - 2026

OUTPUTS

- **STATE:** Total Population by gender by single year of age
- **SA2, LGA:** Total Population by gender by five year age cohorts

COST Free download
from planning.wa.gov.au

BENEFIT

- Some age breakdown possible
- Recently reviewed assumptions
- SA2 geography available for most areas
- Free to download

LIMITATIONS

- No forecasts for geography smaller than SA2
- No components of population change (births, deaths)
- No single year time horizon for detailed forecasts
- Dwelling/household forecasts date back to 2012 and are based on 2006 census
- Limited information available relating to assumptions
- Non-standard modelling technique
- Some problems with SA2 forecast concordance to LGAs resulting in errors.

!

CONCLUSION: Free, reasonable geographic detail, but may be influenced by current state government policy agenda. Non-standard, trend-based modelling technique with little transparency. Unclear which series is the best to use.

COMPARISONS

Population of Western Australia, 2012 - 2026, ABS vs State Projections vs SAFi				
	2012	**2016**	**2021**	**2026**
ABS	2,434,700	2,755,900	3,157,700	3,563,600
WA State Government	2,436,200	2,677,400	2,975,900	3,274,300
SAFi	2,438,000	2,694,400	2,979,000	3,261,600
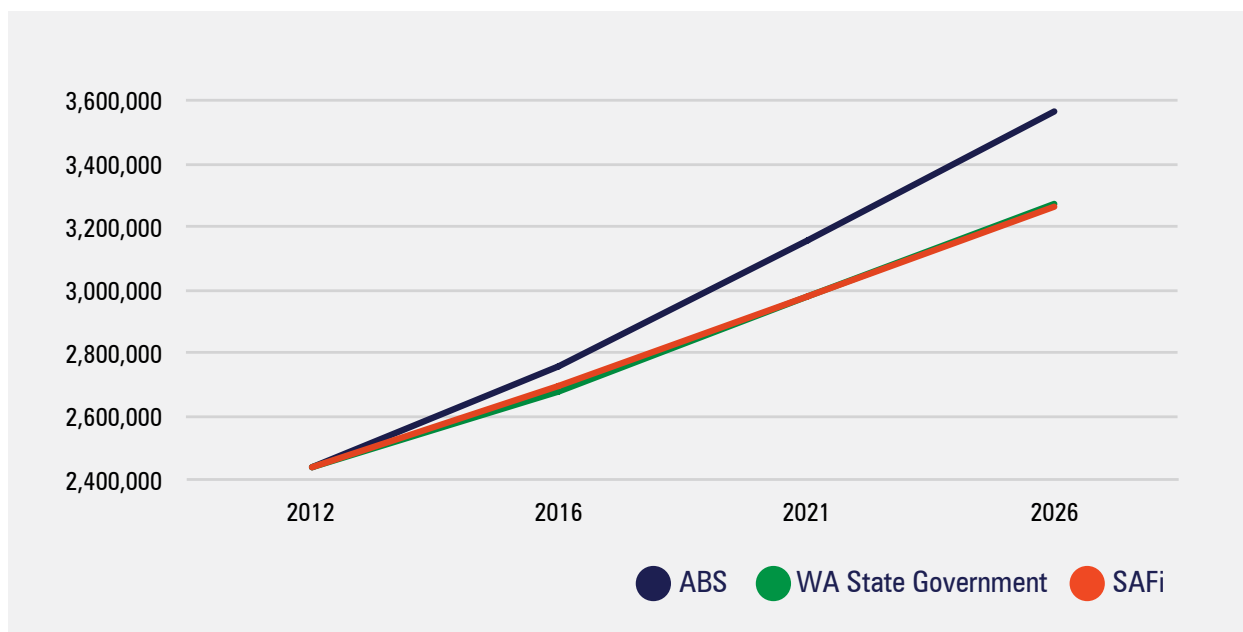
Source: Population Projections, Australia 2012 (base) to 2101, ABS; Western Australia Tomorrow, 2015 edition, SAFi, .id
Notes: Population as at 30 June, ABS data is Series B, State Government data is Band C

SOUTH AUSTRALIAN STATE GOVERNMENT POPULATION PROJECTIONS

The Department of Planning and Local Government prepare the official South Australia projections.

GEOGRAPHY: South Australia, Statistical Divisions, South Australian Government Regions, LGA, SLA

LAST RELEASED: the Population Projections for South Australia and Statistical Divisions, 2006-2036 in December 2010. They are an update to previously prepared forecasts from 2007.

BASE DATA: 30 June 2006.

METHOD: Tops-down cohort component model.

'?' ASSUMPTIONS

Three main scenarios resulting in a high, medium and low series. The key assumptions for the medium series:

- **FERTILITY:** TFR decreases from 1.88 in 2006-07 to 1.8 in 2018-19 and remaining constant thereafter.

- **MORTALITY:** increasing to 85.5 years for males and 89.78 years for females by 2035-36.

- **MIGRATION:** NOM to Australia decreasing to 190,000 by 2016 and then remaining constant. SA's share of NOM decreasing slowly from 5.8% in 2008-09 to 5.5%.

- **NET INTERSTATE MIGRATION:** loss of 2,500 per annum from 2012.

TIME PERIOD

- **STATE, SDs:** Each year from 2006 – 2036

- **REGIONS, LGA, SLA:** Five year time horizons from 2006 - 2026

OUTPUTS

- **STATE, SDs:** Total Population by gender by five year age cohorts (medium series only)

- **REGIONS, LGA, SLA:** Total Population by gender by five year age cohorts

$ COST Free download from sa.gov.au

⊕ BENEFIT

- Some age breakdown possible

- Free to download

⊘ LIMITATIONS

- Base data is old and relates to 2006 Census. Assumptions are also therefore old.

- No dwelling/household forecasts

- No forecasts on new ABS geographies or geographic area smaller than SLA

- No components of population change (births, deaths)

- No single year time horizon

! CONCLUSIONS: Very outdated – old assumptions, old geography – should be cautious using them.

COMPARISONS

Population of South Australia, 2012 - 2036, ABS vs State Projections vs SAFi						
	2012	**2016**	**2021**	**2026**	**2031**	**2036**
ABS	1,656,500	1,726,700	1,814,600	1,896,800	1,971,800	2,038,800
SA State Government	1,689,700	1,771,600	1,860,900	1,942,200	2,018,100	2,088,500
SAFi	1,656,000	1,717,700	1,789,200	1,857,000	1,919,300	1,975,900
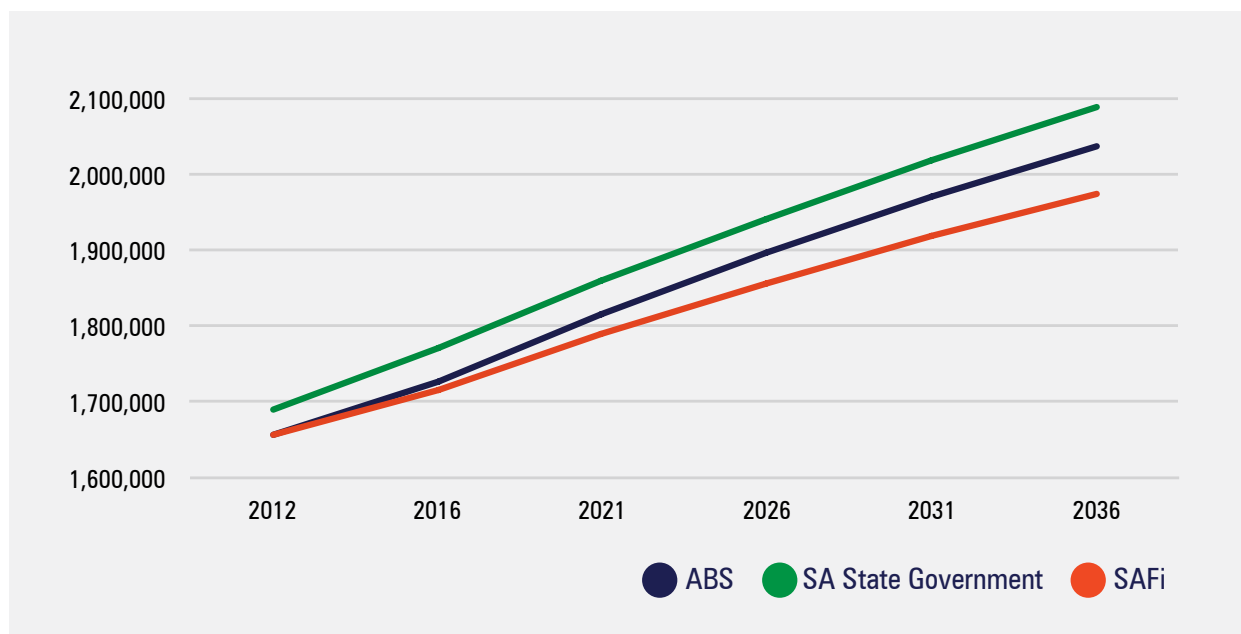
● ABS ● SA State Government ● SAFi

Source: Population Projections, Australia 2012 (base) to 2101, ABS; Population Projections for South Australia and Statistical Divisions, 2006-36, December 2010 release, Department of Planning & Local Government, SAFi, .id
Notes: Population as at 30 June, ABS data is Series B, State Government data is medium series

TASMANIAN STATE GOVERNMENT POPULATION PROJECTIONS

The Department of Treasury and Finance develops the official Tasmanian population projections.

GEOGRAPHY: Tasmania, LGAs

LAST RELEASED: 2014 Population Projections, Tasmania and its Local Government Areas (December 2014).

FREQUENCY: These projections are an update to the population projections released in 2008 and 2012.

BASE DATA: 30 June 2012 ERP, which takes into account the 2011 Census.

METHOD: Tops-down cohort component method. A 'bottom-up' model is also used to produce plausible LGA projections which are then aggregated to State-level results.

ASSUMPTIONS

Three main scenarios: high, medium and low. The medium series is based on assumptions which are most similar to recent trends including:

- **FERTILITY:** TFR decreasing from 2.15 in 2013 to 1.95 by 2023 and remaining constant thereafter.

- **MORTALITY:** assumed to reach 85.4 years for males and 87.5 years for females by 2062.

- **MIGRATION:** NOM gain for Tasmania of 1,250 per annum.

- **NET INTERSTATE MIGRATION:** Net Interstate Migration: gain of zero.

TIME PERIOD

- Each year from 2012 - 2062

OUTPUTS

- Total Population by gender by single year of age

COST Free download from treasury.tas.gov.au

BENEFIT

- Single year of age (custom age brackets)
- Single year of time period
- Long time horizon provided
- Recently reviewed assumptions
- Free to download

LIMITATIONS

- No dwelling/household forecasts
- No forecasts on new ABS geographies or geographic area smaller than LGA
- No components of population change (births, deaths)

CONCLUSION: Free, but limited geographic detail and may be influenced by current state government policy agenda.

COMPARISONS

Population of Tasmania, 2012 - 2051, ABS vs State Projections vs SAFi									
	2012	**2016**	**2021**	**2026**	**2031**	**2036**	**2041**	**2046**	**2051**
ABS	512,200	522,100	537,400	550,200	559,700	565,600	568,400	569,200	568,600
TAS State Government	512,300	525,500	540,700	554,600	566,300	575,400	581,900	586,000	588,200
SAFi	512,000	522,500	537,900	550,700	560,400	567,100	571,100	572,700	572,400
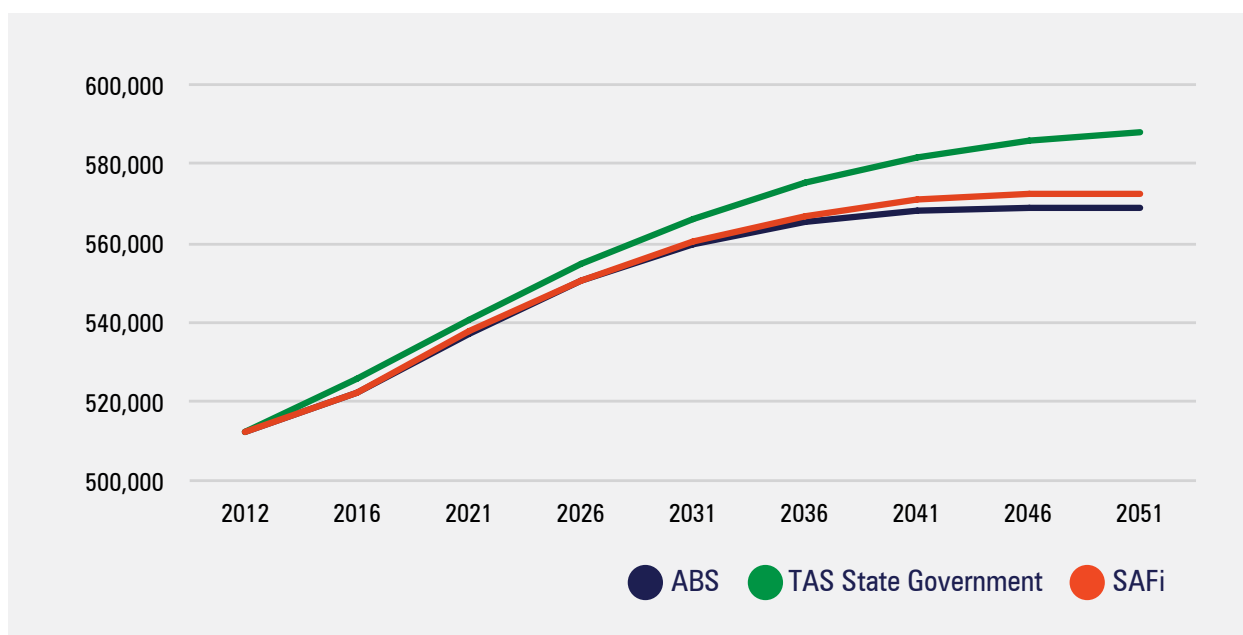
Source: Population Projections, Australia 2012 (base) to 2101, ABS; 2014 Population Projections, Tasmania & its Local Government Areas,
Department of Treasury & Finance, SAFi, .id
Notes: Population as at 30 June, ABS data is Series B, State Government data is Medium series

AUSTRALIAN CAPITAL TERRITORY STATE GOVERNMENT POPULATION PROJECTIONS

Developed by the ACT Government.

GEOGRAPHY: ACT only (no breakdowns)

LAST RELEASED: Population projections for the ACT released in January 2014.

FREQUENCY: These forecasts update the 2007 and 2009 population projections.

BASE DATA: 2011 Census.

METHOD: Tops-down cohort-component model.

? ASSUMPTIONS

This set of projections provides one scenario:

- **FERTILITY:** TFR constant at 1.736.

- **MORTALITY:** increasing to 88 years for males and 92.2 years for females.

- **MIGRATION:** NOM based upon the Department of Immigration and Citizenship from 2013-2017 and then assumed to be 250,000 for the remainder of the forecast period. The ACT share is assumed to be 1.12%.

- **NET INTERSTATE MIGRATION:** assumed to slow (due to attrition in the Australian Public Service) and then return to 200 persons per annum from 2019.

TIME PERIOD

- Each year from 2012 - 2062

OUTPUTS

- Total Population, by gender, by single year of age

$ COST Free download from apps.treasury.act.gov.au

.id the population experts

BENEFIT

- Single year time period
- Long forecast period
- Recently reviewed assumptions
- Free to download

LIMITATIONS

- No geographic break down
- Very limited age break down
- No household/dwelling forecasts
- No components of population change (births, deaths)

!

CONCLUSION: Lack of geographic breakdown means they have very limited applicability beyond providing an overall indication of growth for the whole of the ACT.

COMPARISONS

Population of ACT, 2012 - 2052, ABS vs State Projections vs SAFi								
	2012	**2017**	**2022**	**2027**	**2032**	**2037**	**2042**	**2047**	**2052**
ABS	375,100	413,600	452,400	490,500	527,800	564,300	600,500	637,200	674,200
ACT State Government	374,900	405,400	437,000	469,000	499,500	529,300	559,600	590,500	621,500
SAFi	375,200	398,600	423,300	447,000	469,200	490,000	510,600	531,400	552,500
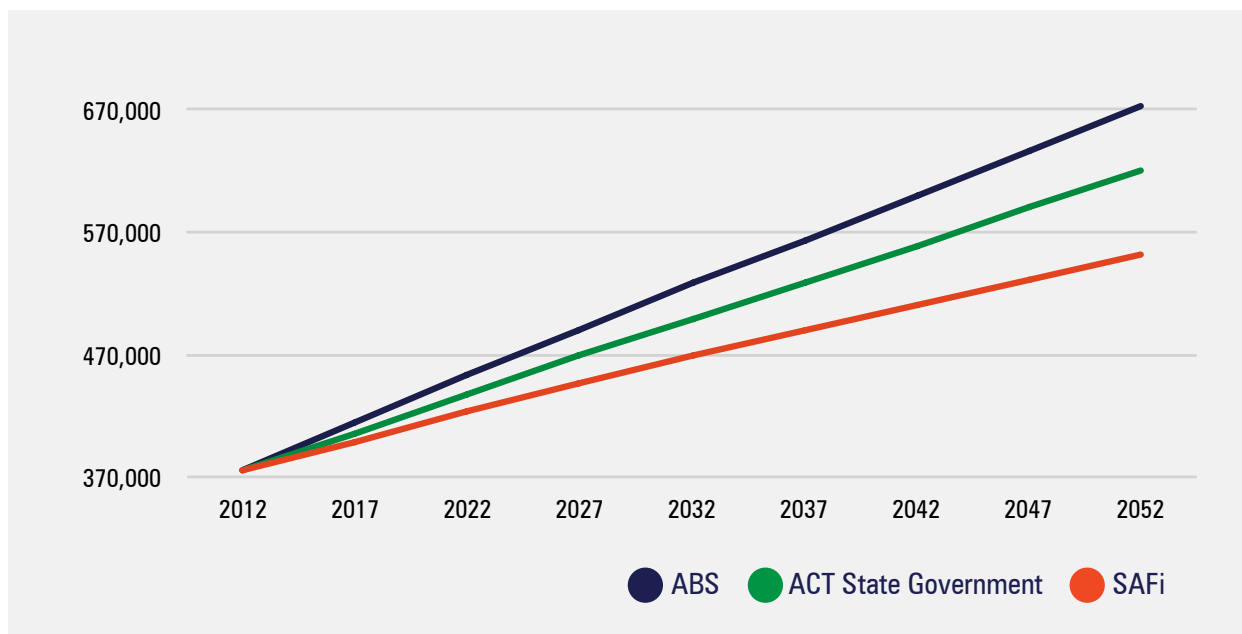
Source: Population Projections, Australia 2012 (base) to 2101, ABS; Population Projections for the ACT, ACT Government, SAFi, .id
Notes: Population as at 30 June, ABS data is Series B

NORTHERN TERRITORY STATE GOVERNMENT POPULATION PROJECTIONS

Forecasts are produced by the Department of Treasury & Finance for the Northern Territory.

GEOGRAPHY: Northern Territory, Northern Territory Regions

LAST RELEASED: Northern Territory Population Projections – Main Update (2014 Release) in May 2014.

FREQUENCY: They replace the Northern Territory Population Projections - Interim Update which was released in 2013.

BASE DATA: Final ERP for 30 June 2011 and 2011 Census data

METHOD: Tops-down cohort component model

ASSUMPTIONS

Provides one scenario, with differing assumptions used for the indigenous and non-indigenous population.

- **FERTILITY:** Indigenous TFR of 2.401 held constant and non-indigenous TFR of 1.927.

- **MORTALITY:** increasing to 72.1 years for indigenous males and 75.95 years for indigenous females by 2040-41 and to 81.75 years for non-indigenous males and 86.06 years for non-indigenous females.

- **OVERSEAS MIGRATION:** NOM 3,065 non-indigenous persons in 2012-13 and then held constant at 1,660.

- **NET INTERSTATE MIGRATION:** loss of -35 indigenous persons from 2013-14 and -417 non-indigenous persons from 2013-14.

TIME PERIOD

- **TERRITORY** - Each year from 2011 -2041

- **NT REGIONS** - Five year time horizons from 2011-2026

OUTPUTS

- **TERRITORY** - Total Population by gender, single year of age and indigenous status, births, deaths

- **NT REGIONS** - Total Population by gender, five year age cohorts and indigenous status, births, deaths

COST Free download from treasury.nt.gov.au

BENEFIT

- Single year time period & long forecast period at state level
- Indigenous/non-indigenous breakdown
- Recently reviewed assumptions
- Components of population change (births and deaths)
- Free to download

LIMITATIONS

- Limited geographic break down
- Limited age break down
- No household/dwelling forecasts

! **CONCLUSION:** Free, but limited geographic detail and may be influenced by current state government policy agenda.

COMPARISONS

Population of the Northern Territory, 2012 - 2041, ABS vs State Projections vs SAFi							
	2012	**2016**	**2021**	**2026**	**2031**	**2036**	**2041**
ABS	235,200	253,100	274,500	295,600	316,700	337,900	359,700
NT State Government	235,800	253,300	275,100	297,400	319,500	341,700	364,200
SAFi	235,900	251,800	268,100	283,400	297,400	310,200	321,900

● ABS ● NT State Government ● SAFi
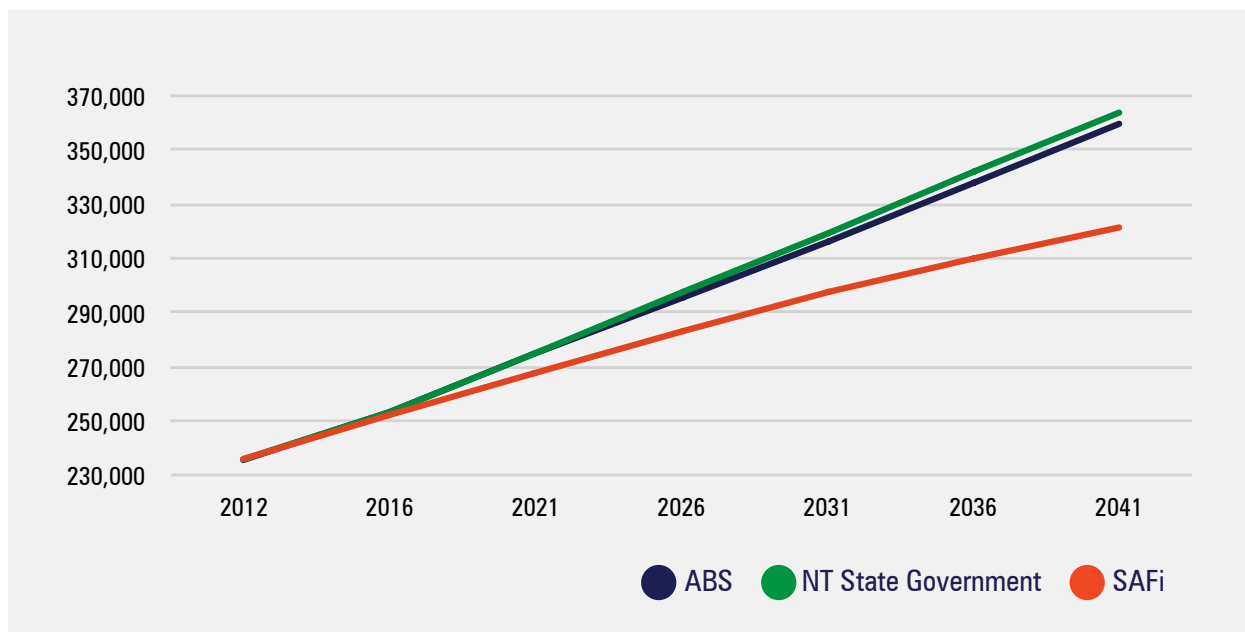
Source: Population Projections, Australia 2012 (base) to 2101, ABS; Northern Territory Population Projections - The Main Update (2014 Release), Department of Treasury & Finance, SAFi, .id. Notes: Population as at 30 June, ABS data is Series B

LOCAL GOVERNMENT
POPULATION
FORECASTS

forecast.id

GEOGRAPHY: Individual LGAs and their small areas as agreed with the council (generally suburb-based). Currently 126 LGAs in Australia have forecast.id.

LAST RELEASED: All forecast.id sites have been updated with 2011 base data.

FREQUENCY: Approximately every 24 months in consultation with each council.

BASE DATA: 30 June 2011 ERP

METHOD: Bottom-up housing unit and cohort component model calibrated by household propensity model. The main drivers are small area dwelling additions and in-out migration matrices. The forecast for the LGA is the sum of the forecasts for each of the small areas. There is also a top-down assumption often derived from a review of SAFi or State Government forecasts.

ASSUMPTIONS

Assumptions are made individually for each LGA forecast and can be found on the forecast.id websites. Assumptions may reflect councils' housing policy, tempered with .id's view of the likely outcome of that policy. Short term data is heavily informed by what is "occurring on the ground."

TIME PERIOD

Single years from 2011 to 2036

OUTPUTS

- Total population by gender
- Single year of age
- Total households
- Household types (lone persons, couple families with dependents, couples without dependents, group households, one parent families, other families)
- Dwellings

COST Subscription fee paid by each council. Free public access from home.id.com.au

⊕ BENEFIT

- Designed for council decision makers making allocation decisions across their LGA on a geographic basis that 'makes sense' to their community.

- Single year forecasts to match any planning horizon

- Single year of age to match any target age group

- Geography generally based on true suburb and locality boundaries rather than statistical geography

- Detailed input on local factors and assumptions from Council officers

- Better coverage in metropolitan areas

- Free to non-council users
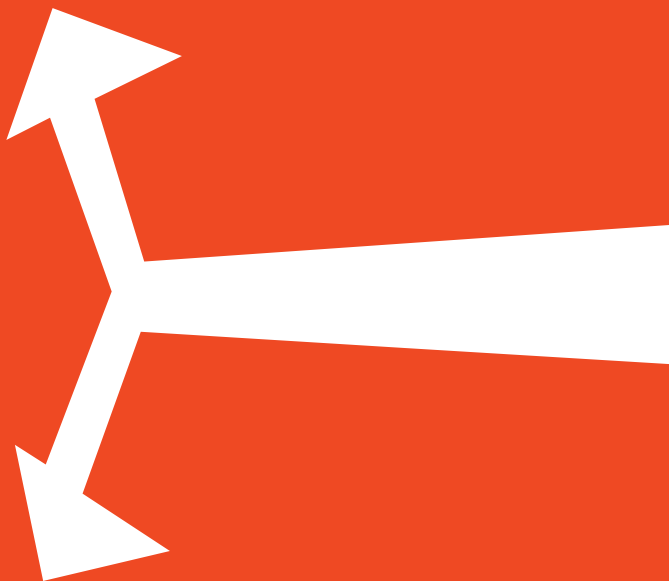
⊘ LIMITATIONS

- LGA by LGA – not state-wide or national. This can make it time consuming if working across multiple LGAs

- Gaps where councils haven't subscribed to the service

- No tops-down control assumptions (although regional demand is taken into account)

- Council inputs to the assumptions to reflect their policies may impact the forecast's independence although .id monitors this closely

- Forecasts are completed at different times

! **CONCLUSION:** forecast.id was designed specifically for local government decision makers who need to allocate resources and services in the most efficient way across their LGA. Due to their public release, forecast.id sites are used much more broadly by consultants, community services organisations and industry. In some cases, SAFi forecasts may be more appropriate for non-council applications.

MICRO-GEOGRAPHY POPULATION FORECASTS

Micro-geography forecasts are produced by .id under the name Small Area Forecast information (SAFi). They provide state-wide forecasts at SA1-derived geography. Please refer to page 24 for detailed reference.