Western Australia Tomorrow
Population Report No. 10
Medium Term Population Forecasts for Western Australia 2014 to 2026
and Sub-regions 2016 to 2026

Version 1.2. (Local Government Area forecasts only)   August 2015
                       (see Updates section)

The disclaimer is reproduced, as a reminder that there is always some probability that future trends may not happen the way expected.

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About

WA Tomorrow is a series of population forecasts based on historical trends. The forecasts represent the best estimate of future population size if trends in fertility, mortality and migration continue. The forecasts refer to the 30 June in the stated year.

WA Tomorrow 2014–2026

WA Tomorrow Population Report No. 10 contains the latest population forecasts by age and sex, for Western Australia and its regions. They represent the official Western Australian Government forecasts for the years 2014 to 2026. These forecasts supersede WA Tomorrow Population Report No. 7 (2012).

These forecasts are separate to the WA Tomorrow long term forecasts for the years 2031 to 2061 for Western Australia. The long term forecasts are published as Population Report No. 9.

Bands

WA Tomorrow consists of a **single set** of assumptions (rather than a set of different scenarios). The analysis of random fluctuations contained in past data is used to create the 10,000 possible realisations of the model. Each of these possible realisations is a realistic forecast; however, the probability of wild fluctuations occurring continually over the forecast period is highly improbable. Even if the assumptions turn out to be true, there is still a 20 per cent chance that random fluctuations will be bigger than forecast.

Decision-making

WA Tomorrow consists of five bands of forecasts (bands A to E). It is therefore important to understand the differences between the bands and to choose the band, or bands, most suitable for your needs.

For example, if a decision is to be made that affects all the regions in WA and you do not want to favour one area over another, then 'Band C' should be used. 'Band C' represents the median forecast of the 10,000 permutations, which means that the probability that the realisation is higher than 'Band C' is equal to the probability of it being lower. Any permutation other than 'Band C' will have a greater probability that the realisation (the actual population) will be either higher or lower. The sum of 'Band C' for sub-regions will equate (subject to rounding) to the 'Band C' total for Western Australia as a whole.

If you are looking at a specific issue in a single area, you may need to identify the risk associated with the decision. For example, if a certain outcome needs to be achieved before a specific population threshold is reached, we can identify the probability of that threshold being exceeded at different timeframes. In this example, a new primary school may be required when the population reaches 10,000.

When this population threshold of 10,000 is reached under the 'Band E' realisation, there is only a 10 per cent chance that the value will have been exceeded, namely that the population would exceed

10,000 at this point in time. When the threshold is reached under the 'Band D' scenario there is a 30 per cent chance it will have been exceeded at this point in time. For 'Band C' there is a 50 per cent chance that the population will exceed 10,000 at this point in time, and so-on.

It becomes more complicated when there is a subset of regions being looked at. In this case the aggregate area will show less fluctuation than the sum of the individual regions. There is also a chance that growth across the whole region may be higher or lower than expected.

Caution when using the totals in Tables 1 and 2

The total population forecasts in Table 1 does not usually exactly match the age-sex forecasts in Table 2. This is due to rounding and other technical issues. This mostly applies to Bands other than C. Use Table 1 for total populations and only use Table 2 if age and/or sex is required.

Limits of WA Tomorrow

While WA Tomorrow is a trend forecast, this does not mean that it cannot make provision for a changing environment. The models used incorporate changes in the age and sex distribution by looking for stable patterns, albeit moving ones. Additional information about future housing developments allow for the forecasts to incorporate knowledge about suburbs that are near to capacity as well as those that are about to develop. Despite this, there is a need to separate these forecasts from government strategies and scenarios such as *Directions 2031 and Beyond* and Pilbara Cities, which seek to influence existing trends to achieve more desirable future outcomes.

The forecasts do not take into account unforeseen events that may change trends − such as significant shifts in government policy, natural disasters and epidemics. Forecasts should be assessed on their effectiveness for intended purpose, rather than on their accuracy.

What are the forecasts based on?

WA Tomorrow is based on an analysis of past trends in fertility, mortality and migration to, from and within WA. In the Perth metropolitan region and the local authorities of Mandurah and Murray, supplementary information from the Urban Land Development Outlook (ULDO) has been included.

WA Tomorrow forecasts are based on the Australian Statistical Geography Standard (ASGS). Of the 250 SA2 areas in WA, only 239 have recorded populations. Those with very small populations have been aggregated into adjoining SA2s, leaving only 226 forecast areas. Local authority boundaries are based on the approximate aggregation or disaggregation of SA2s. Forecasts are prepared for all local authorities.

The smaller population sizes that are being forecast are not as well suited to trend forecasts. In particular, there are areas that exhibit extreme behaviours. The SA2 of Yanchep, for example, has limited historical data when compared to the future plans for the area. The SA2 of Butler shows a large increase in older people. Limited trend information exists for SA2 areas.

List of SA2s that have been aggregated

SA2	Host SA2
Bibra Industrial	South Lake - Cockburn Central
Canning Vale Commercial	Canning Vale - West
Davenport	College Grove - Carey Park
Henderson	Coogee
Kings Park (WA)	Perth City
Kwinana Industrial	Hope Valley - Postans
Malaga	Ballajura
Malmalling - Reservoir	Mundaring
O'Connor (WA)	Fremantle - South
Osborne Park Industrial	Innaloo - Doubleview
Perth Airport	Rivervale - Kewdale - Cloverdale
Rockingham Lakes	Baldivis
Welshpool	Cannington - Queens Park

Updates

Version 1.1.   July 2015

a) The LGA of Kwinana (C) has been amended and reduced by approximately 20,000 in 2026. The amendment was necessary to remove a double count in Kwinana (C) arising from an incorrect inclusion of the Rockingham SA2.

b) The age and sex data has been adjusted for inconsistencies in small values, typical of the older age groups. These only affect Bands A and B for ASGS (SA2 and SA3 levels) and ASGC (LGA level) forecasts.

c) The host SA2 for Kwinana Industrial SA2 has been changed from Rockingham to Hope Valley - Postans.

d) Typographical error for the LGA of Kwinana (C) has been corrected.

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a) Typographical errors have been corrected for the LGAs of Busselton (C) and Vincent (C).