STATE
PLANNING
COMMISSION

# Agenda Report for Noting
# Meeting Date: 24 August 2023

| Item Name | Population projections for South Australia and regions, 2021-51 |
|---|---|
| Presenters | Chris Rudd & Jo-Anne Ragless |
| Purpose of Report | Noting |
| Item Number | 6.1 |
| Strategic Plan Reference | 2. Enhancing our Planning System |
| Work Plan Reference | 2.4 Monitor and report on data and trends (population and land use impacts) |
| Confidentiality | Not Confidential (Release Immediately) |
| Related Decisions | None |

### Recommendations

It is recommended that the State Planning Commission (the Commission) resolves to:

1. Approve the designation of this item as Not Confidential (Release Immediately).

2. Note the Population Projections for South Australia and regions, 2021 to 2051 (**Attachments 1 & 2**), have been completed and released on the PlanSA Portal.

### Background

Recent population change

- South Australia's population reached 1.83 million in 2022 and has increased steadily by around 1 per cent per annum over the past decade. Over the same period Australia's growth rate was around 1.5 per cent per annum.

- Over the 12 months to December 2022, our population has bounced back strongly from the COVID-19 lockdowns to grow by around 28,000 people. Most of this recent growth is due to a strong Net Overseas Migration (NOM) gain of over 24,000 persons which is mostly due to returning students and temporary workers.

Population projections

- Population projections provide an evidence-based assessment of the most likely future level of population for the state and its regions based on the underlying demography and future assumptions about the components of population growth.

- State coordinated population projections provide a common base for land use, infrastructure, and service planning.

- As the COVID-19 pandemic has shown, alternative projection series are needed to address future uncertainty and to provide alternative growth scenarios for users. Three projection scenarios (high, medium, and low growth) have been prepared using varied assumptions about the components of growth (births, deaths, overseas and interstate migration).

- Net Overseas Migration (NOM) has been the key driver of population growth in South Australia (around 13,000 persons per annum) over the past decade and this is projected to continue in the future. The high growth scenario assumes annual NOM of 16,500 persons.

- Since early 2020 South Australia has achieved, and maintained, positive Net Interstate Migration (NIM) of around 1000 persons for the first time in over 20 years. This is a significant improvement on the trend of the previous 20 years (pre-COVID) which saw annual losses of around 4,000 persons per annum. For the high growth projection, NIM is assumed to remain slightly positive at +1,000 per annum over the projection period.

- Further information about the background analysis and demographic assumptions used to develop the projections are at **Attachments 2 & 3**.

- Updated age-sex population projections (high, medium and low growth scenarios) for South Australia and 19 regions were completed in April 2023 and noted by State Cabinet in June 2023. The projections are now available for download from the PlanSA Portal.

**Discussion**

Projection results – South Australia

- The high growth scenario results in a population increase of around 730,000 persons (24,400 per year), over the next 30 years. For land use planning, the high growth scenario is used to ensure an adequate supply of future residential and employment land is identified should growth reach this level.

- The medium growth scenario results in a population increase of around 530,000 persons (17,700 per year). This is considered the most likely demographic future based on analysis of births, deaths and migration trends.

- The low growth scenario results in a population increase of just over 330,000 persons (11,400 per year). This is the least desirable scenario but does demonstrate what could happen if we return to ongoing interstate migration losses (-3000 per year) and do not achieve strong population growth from overseas migration.

Projection results – Greater Adelaide

- For the high growth scenario, population increases by 672,000 to reach 2.19 million by 2051 (1.5% per annum).

- For the medium growth scenario, the population increases by 490,000 to reach just over 2.0 million by 2051 (1.1% per annum).

- Detailed age-sex projections have been prepared for 10 regions across Greater Adelaide based on the underlying demographic characteristics of each region, and detailed information about current and future development patterns.

Projection results – regional South Australia

- In 2021, the population of regional South Australia was 287,700. By 2051, this is projected to grow by 42,000 (0.5% per annum) to reach almost 330,000 (medium projection).

- For the high growth projection, the population is projected to grow by almost 60,000 (0.7% per annum) to reach 347,000 by 2051.

- Both the medium and high growth scenarios account for proposed key economic development projects across regional areas (i.e., Whyalla Hydrogen facility, Rex Minerals on Yorke Peninsula) which are likely to significantly boost employment opportunities.

- Detailed age-sex projections for nine sub-regions across regional South Australia have been prepared.

Next steps

- Commence local area projections for smaller geographic areas such as Australian Bureau of Statistics SA2s (172 areas) & LGAs (68 areas). These projections are based on the regional projections (high and medium growth scenarios) and use the predicted future distribution of land supply, housing and economic growth to guide the spatial distribution of population.

**Attachments:**

1. Population projections 2021-2051 – Overview (#20199095).

2. Population projections for South Australia and regions 2021-51 – Detailed Report (#20490406).

3. *South Australian demographic trends* - Report prepared by Dr Tom Wilson (#20019561).

| Prepared by: | Chris Rudd |
| --- | --- |
| Endorsed by: | Paul Bennett |
| Date: | 8 August 2023 |

# SOUTH AUSTRALIA'S FUTURE POPULATION

Population projections play a critical role in planning for the state's sustainable growth and maintaining Adelaide's reputation as one of the world's most liveable cities.

The projections provide the likely range for population growth and demographic change across the state to 2051. Projections are important because they not only show the potential size and distribution of the future population, but also provide vital information about the future age structure of the population.

As the COVID-19 pandemic has shown, alternative projection series are needed to address future uncertainty and to provide alternative growth scenarios for users. Three projection scenarios (high, medium, and low growth) have been prepared using varied assumptions about the components of growth (births, deaths, overseas and interstate migration).

## SOUTH AUSTRALIAN POPULATION GROWTH

South Australia's population reached 1.83 million in 2022 and has increased steadily by around 1 per cent per annum over the past 10 years. These projections demonstrate how much our population could grow and change over the next 30 years.

The total projected population increase over the period 2021-2051 across the three projections is 731,000 (high growth), 532,000 (medium growth) and 329,000 (low growth) – Figure 1.

Over the 30-year period the average annual growth rate for the high projection is 1.4% and 1% for the medium.

**Figure 1: Projected population growth, South Australia, 2021-2051**
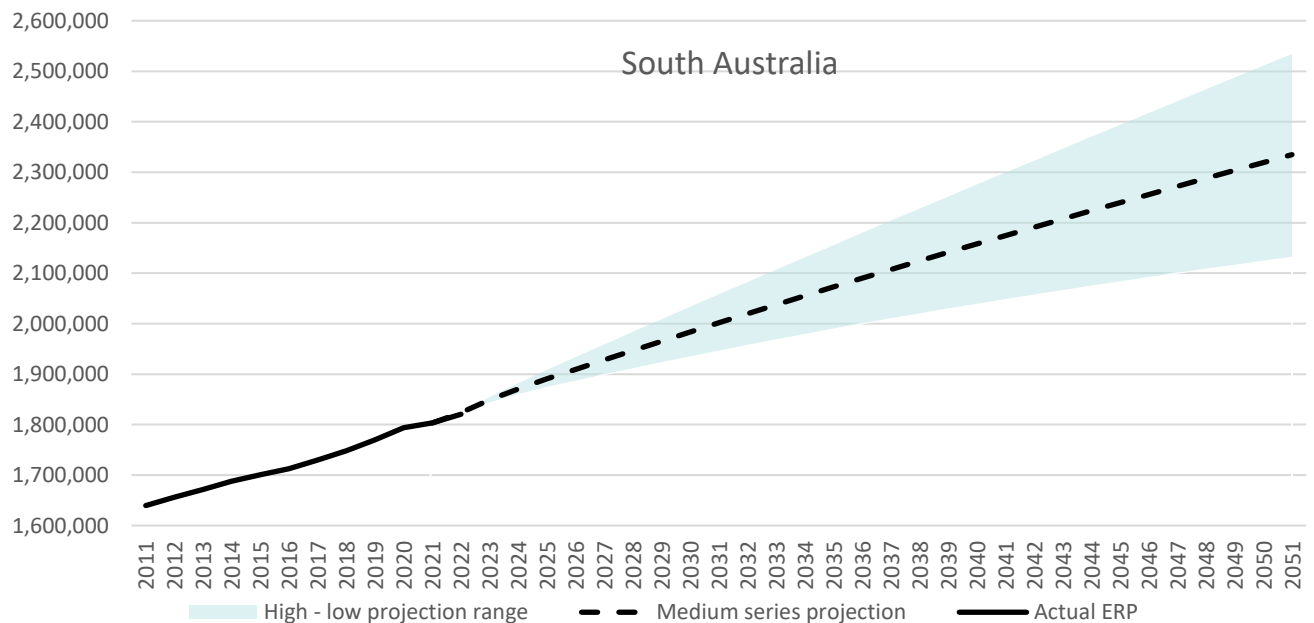


Greater Adelaide accounts for 84% of the State's population (1.52 million). Figure 2 shows historical (past 30 years) and projected (next 30 years) population growth for Greater Adelaide and country South Australia.

Greater Adelaide's population is projected to increase by 490,000 (medium growth) and by 670,000 (high) over the next 30 years. Over the same time the population of country South Australia is projected to increase by 42,000 (medium) and by 59,000 (high).

**Figure 2: Historical and projected growth - Greater Adelaide and Country SA, medium projection**
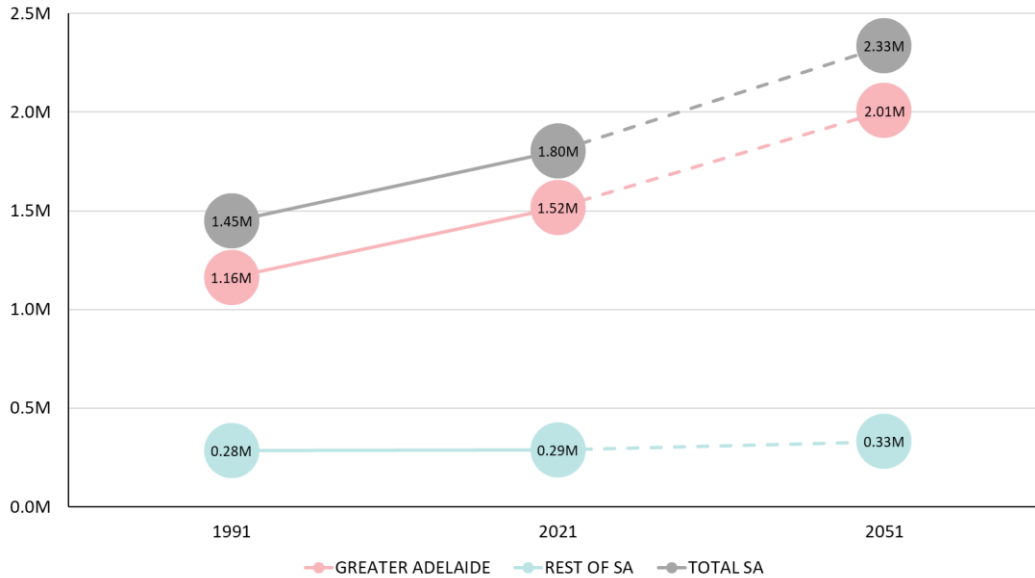


The current and future age structure of the population is an important consideration when planning for future services and infrastructure. Figure 3 shows the population in 2021 and the projected change from 2021 to 2051, for different age cohorts.

**Figure 3: Population change by age groups, 2021-51, medium projection**
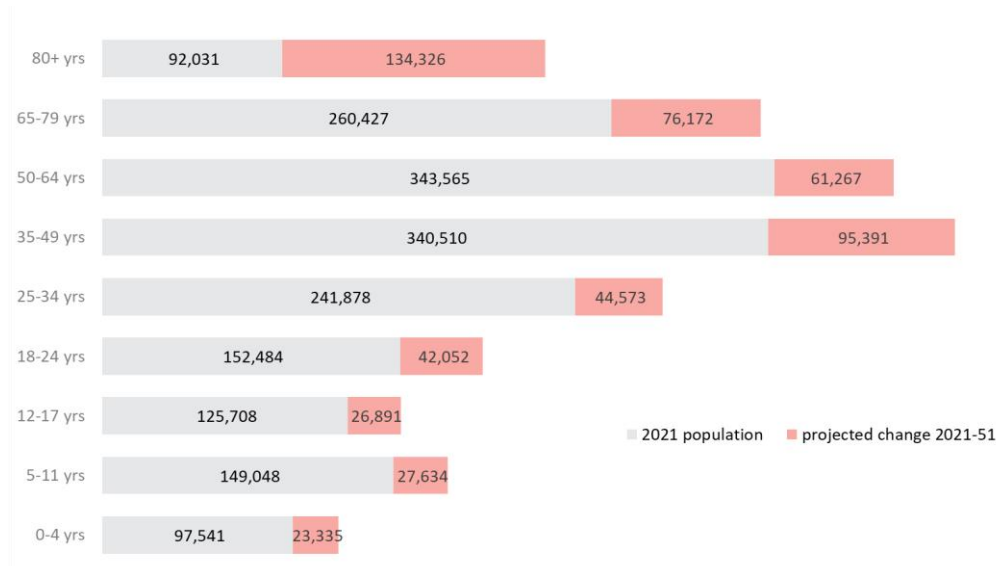


Some key points to note include:

- 'Active retirees' (65-79) are projected to increase by 30% to 337,000 by 2051.
- The 'older population' (80+ years) could increase by 146% to nearly 227,000 by 2051.
- The infant population (0-4 years) and school age populations (5-17 years) are not projected to grow significantly due to declining birth rates.

## REGIONAL POPULATION GROWTH

Population projections for the sub-regions of Greater Adelaide and country SA provide fundamental information to meet future infrastructure, housing, health and education needs (refer to Map 1 for regions).

In addition to the underlying demographic characteristics, sub-regional population projections are informed by a range of different information sources including; current and predicted housing activity, land supply and development trends (i.e., small scale infill, greenfield), significant economic developments (especially in the country areas) and planning policies.

The projection horizon for the sub-regions is only 20 years due to the greater uncertainty around the future size and spatial distribution of growth across South Australia.

<u>Greater Adelaide</u>

Within Greater Adelaide there are 10 sub-regions, including the Murray Bridge local government area. Figure 4 shows the projected population change for each of these sub-regions between 2021 and 2041, for both the medium and high projection scenarios. The highest growth is projected for the Outer North region with up to 120,000 additional people over the next 20 years.

**Figure 4: Projected total population change 2021-2041 by region, Greater Adelaide**
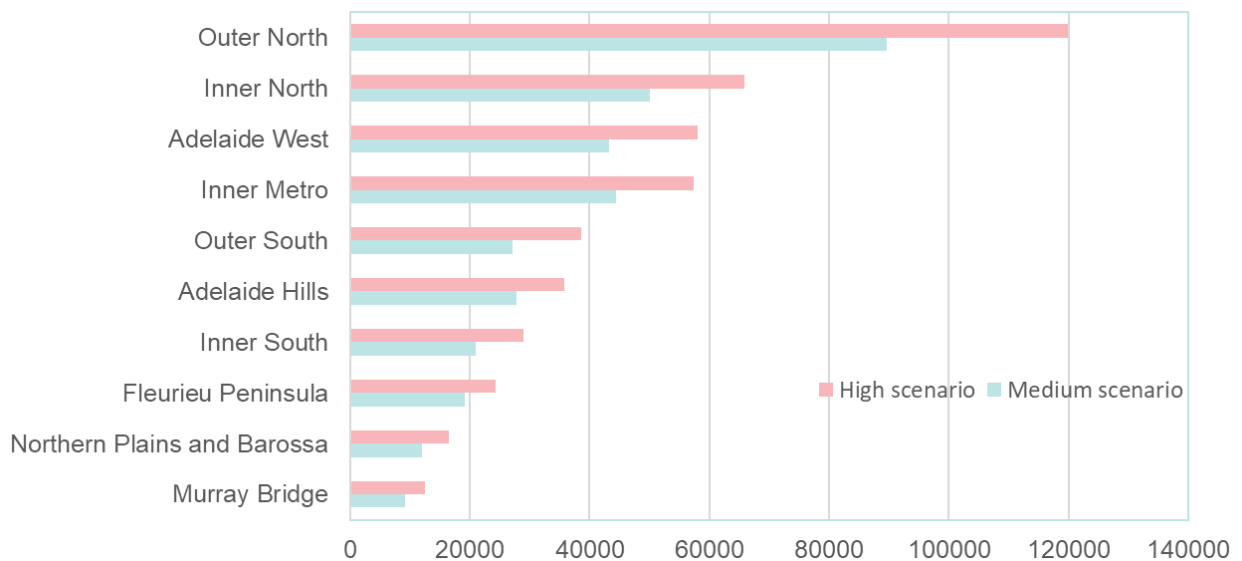


<u>Country South Australia</u>

Country South Australia is made up of 9 sub-regions. These sub-regions were created to enable a more detailed assessment of potential population growth impacts based on key economic development projects (i.e., Whyalla). Figure 5 summarises population change by sub-region for country SA with the highest growth projected in both Yorke Peninsula and Mount Gambier.

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**Figure 5: Projected population change 2021-2041 by sub-region, Country SA**
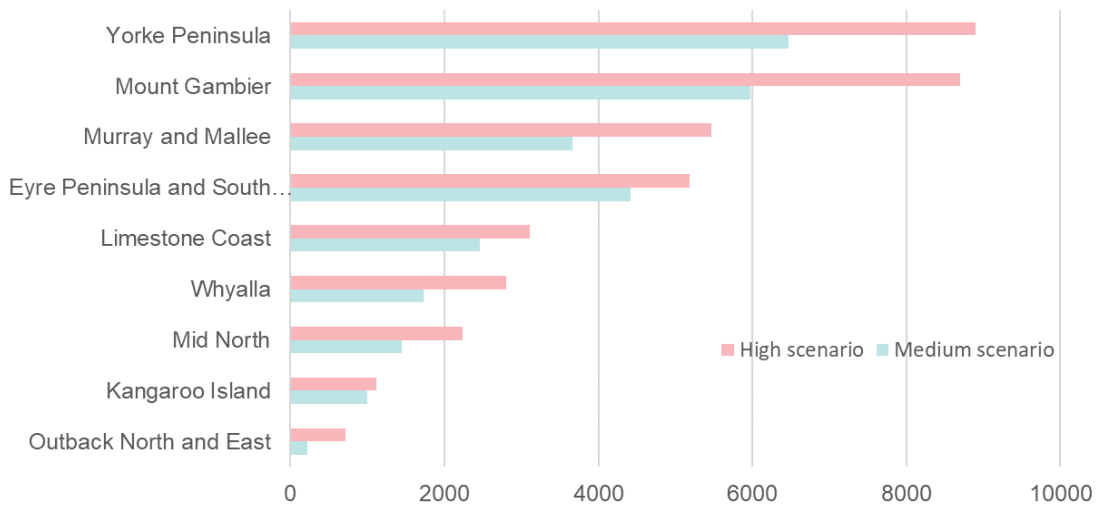


## KEY ASSUMPTIONS

Population projections are driven by future assumptions about the components of population change: overseas and interstate migration, and natural increase (the difference between the number of births and deaths). Figure 6 summarises projected growth by component over the next 30 years for the high, medium and low growth scenarios.

**Figure 6: Projected population change 2021-2051 by growth components – High, Medium and Low growth**
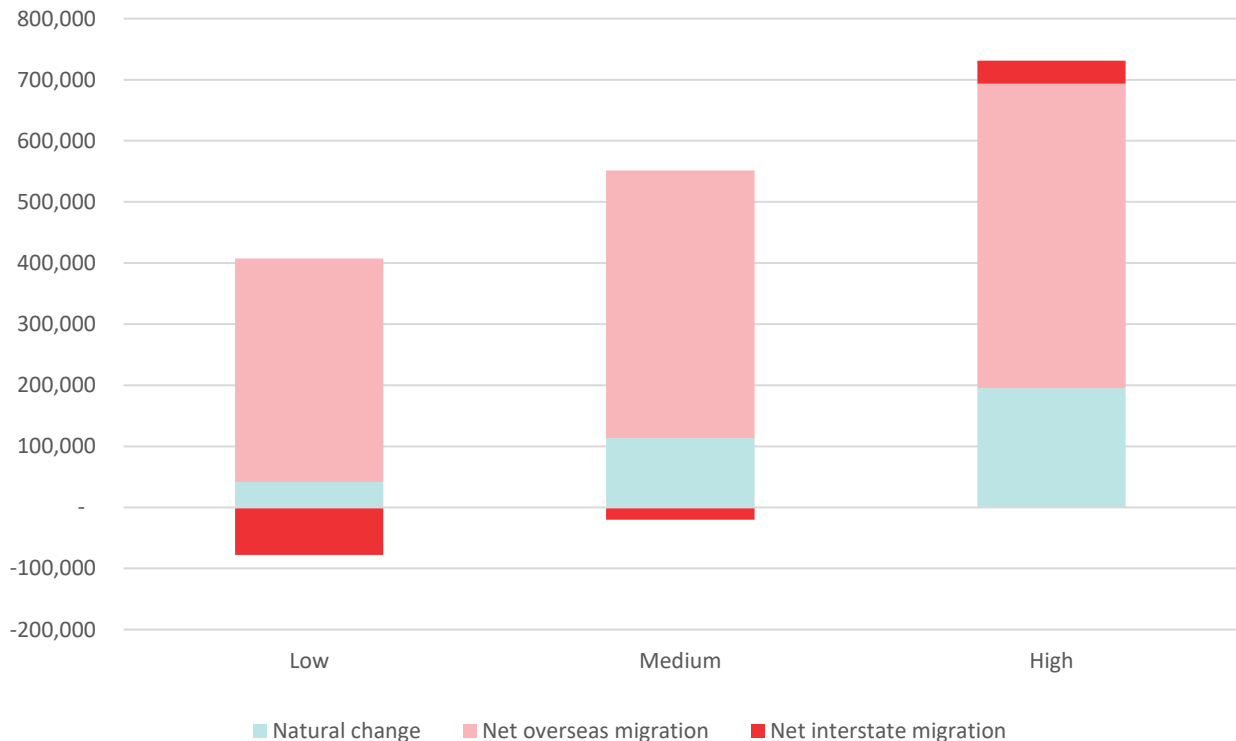


For detailed information about the population projection assumptions and results please refer to the report: Population Projections for South Australia and Regions – 2021 to 2051.

## LOCAL AREA PROJECTIONS

Local area projections focus on smaller geographies such as local government (68 areas) and Australian Bureau of Statistics SA2s (172 areas). These projections follow on from, and are concordant with, the state and regional population projections for 2021 to 2051 released in June 2023.

Local area projections (SA2 and LGA) are based on the medium series population projection for each region and will cover a 20-year projections horizon from 2021-2041. These projections will be completed by October 2023.

**MAP 1: Population projection regions, South Australia, 2021**

# PlanSA
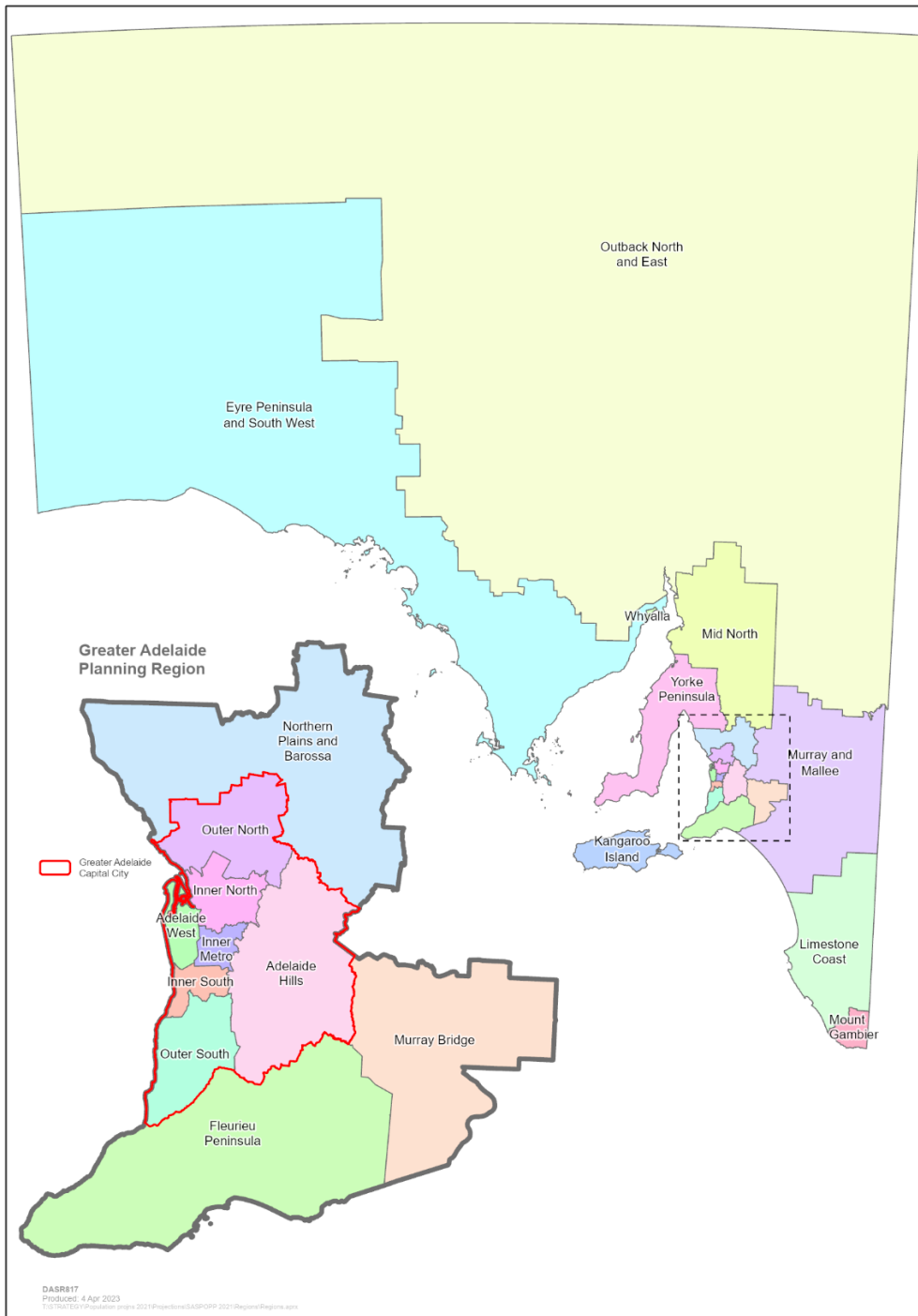
# Population Projections for South Australia and Regions – 2021 to 2051

**June 2023**



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**Government of South Australia**
Department for Trade and Investment

**Government of South Australia**

Department for Trade
and Investment

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PROJECTIONS

# 1. SUMMARY

This report presents an overview of the key assumptions and population projection results for South Australia and 19 regions[1] for the 30-year period from 2021 to 2051.

The Department for Trade and Investment (DTI) prepares population projections for South Australia at the all-of-State and regional level to provide a common base for land use, infrastructure and service planning.

Projections are important because they not only show the potential size and distribution of the future population, but also provide vital information about the future age structure of the population.

**Background and Assumptions**

South Australia's population reached 1.83 million in 2022 and has increased steadily by around 1 per cent per annum over the past 10 years. Over the same period Australia's growth rate was around 1.5 per cent per annum.

Net Overseas Migration (NOM) has been the main contributor to South Australia's population growth since the early 2000s and has bounced back strongly from the COVID related slowdown (in 2020/2021 NOM was -3000).

As the COVID-19 pandemic has shown, alternative projection series are needed to address future uncertainty and to provide alternative growth scenarios for users. Three projections (high, medium and low growth) have been prepared using varied assumptions about the components of growth (births, deaths, overseas and interstate migration).

The key assumptions used to develop these projections are:

▪ Net Overseas Migration (NOM) is our key driver of population growth, and this is expected to continue. For these projections NOM is assumed at 16,500 per annum for the high scenario, 14,500 for the medium and 12,000 per annum for the low. Any significant variance from these assumptions over time will greatly impact on future population outcomes.

▪ Net Interstate Migration (NIM) is assumed to show ongoing improvement over the projection period relative to the trend of the previous 20 years (pre-COVID) which saw annual losses of around 4,000 persons per annum.  For the high scenario, NIM is assumed to remain slightly positive at +1,000 per annum. For the medium scenario, a slight NIM loss of 1000 per annum is assumed.

▪ The rate of natural population increase (births and deaths) has been relatively steady at around 5,000 per annum over the past decade. Assumptions about future fertility, mortality and life expectancy have been factored into the modelling. In general, birth rates are declining (which is consistent with declining fertility rates in most developed countries), and death rates are slowly increasing as the population ages.

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[1] The Australian Bureau of Statistics' SA4 & SA3 geographic boundaries were used to develop the population projections regions. SA4s are the largest sub-State regions in the Main Structure of the Australian Statistical Geography Standard (ASGS).

**Projection Results**

South Australia

- In the decade between the population censuses of 2011 and 2021 the State's population grew by 164,000 from 1.64 million to 1.80 million. In the next decade it is projected to grow by an additional 204,000 to total 2.01 million in 2031 under the medium growth projection.
- Both the Medium and High projections result in strong and continued growth throughout the projection period. South Australia's population reaches 2 million by 2031 for the medium scenario, and by 2029 for the high.
- In the longer term (to 2051), the population is projected to increase by up to 730,000 for the high and by around 530,000 for the medium scenario.
- The high projection would see an annual average growth rate of 1.4% over 30 years, while for the medium it would be around 1%.
- The medium projection is considered the most likely demographic future based on analysis of births, deaths and migration trends.
- The State's population will age significantly over the projection period under all projections. For the medium scenario, the number of 'active retirees' (65-79) is projected to increase by 30% from 260,000 in 2021 to 337,000 by 2051.
- More importantly, over the same period the 'older population' (80+ years) is projected to increase by 146% from 92,000 to nearly 227,000 by 2051. This has significant implications for the provision of health, social and transport services.

Regions

- Projections for the 19 regions provide a more detailed view of growth across the State. Within Greater Adelaide there are 10 regions and 9 regions for country SA.
- The population of the Greater Adelaide region (1.52 million in 2021) is expected to continue to grow strongly and increase its share of the total population by 2051. Under the high scenario, Greater Adelaide will increase by 670,000 over the next 30 years and by around 490,000 people for the medium. It is projected to make up 86% of the State's population by 2051.
- Regional population projections are informed by a range of different information sources including; current and predicted housing activity, land supply and development trends (i.e. small scale infill, greenfield), significant economic developments (especially in the country areas) and planning policies.
- The underlying demographic characteristics of each region has a significant bearing on the future size and age structure of its population. For each region high, medium and low projections have been developed to provide a range of plausible growth outcomes (refer Section 5 for details).

# 2. BACKGROUND

## 2.1     Population projections

This report summarises the key assumptions and preliminary population projection results for South Australia and its regions[2]. The projections cover a 30-year period from 2021 to 2051.

The Department for Trade and Investment (DTI) prepares population projections for South Australia at the all-of-State and regional level to provide a common base for land use, infrastructure and service planning.

The assumptions used for these projections were developed based on expert advice on demographic trends and population change provided by Dr Tom Wilson (Advanced Demographic Modelling)[3]. Dr Wilson also provided the demographic models needs to produce age-sex projections for South Australia and regions.

Demographic data from the Australian Bureau of Statistics (ABS) 2021 census, and other ABS population data collections (births, deaths, migration) was used to establish the base population for these projections.

As the COVID-19 pandemic has shown, alternative projection series are needed to address future uncertainty and to provide alternative growth scenarios for users. Three projections series (high, medium and low growth) have been prepared using varied assumptions about the components of growth (births, deaths, overseas and interstate migration).

The medium projection is considered the most likely demographic future based on analysis of births, deaths and migration trends. However, for land use planning the high projection is used to ensure an adequate supply of future growth opportunities are identified should growth be higher than expected.

## 2.2     Geography

To provide a more detailed breakdown of projected population growth, the State has been divided into 19 separate regions (Figure 1). These regions are designed to align with the ABS geography and are concordant with the South Australian Planning regions[4].

Greater Adelaide is made up of 10 regions (including Murray Bridge).

Regional South Australia is made up of 9 regions, including three sub-regions, created to enable a more detailed assessment of potential population growth impacts based on key economic development projects (i.e. Whyalla).

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[2] The Australian Bureau of Statistics' SA4 & SA3 geographic boundaries were used to develop the population projection regions. SA4s are the largest sub-State regions in the Main Structure of the Australian Statistical Geography Standard (ASGS).

[3] Demographic Trends in South Australia and Projection Assumption Suggestions, Dr Tom Wilson (Advanced Demographic Modelling), February 2023.

[4] The seven South Australian Planning regions are: Greater Adelaide, Eyre & Western, Far North, Kangaroo Island, Limestone Coast, Murray Mallee, Yorke Peninsula & Mid north

**Figure 1: Population projection regions, South Australia, 2021**
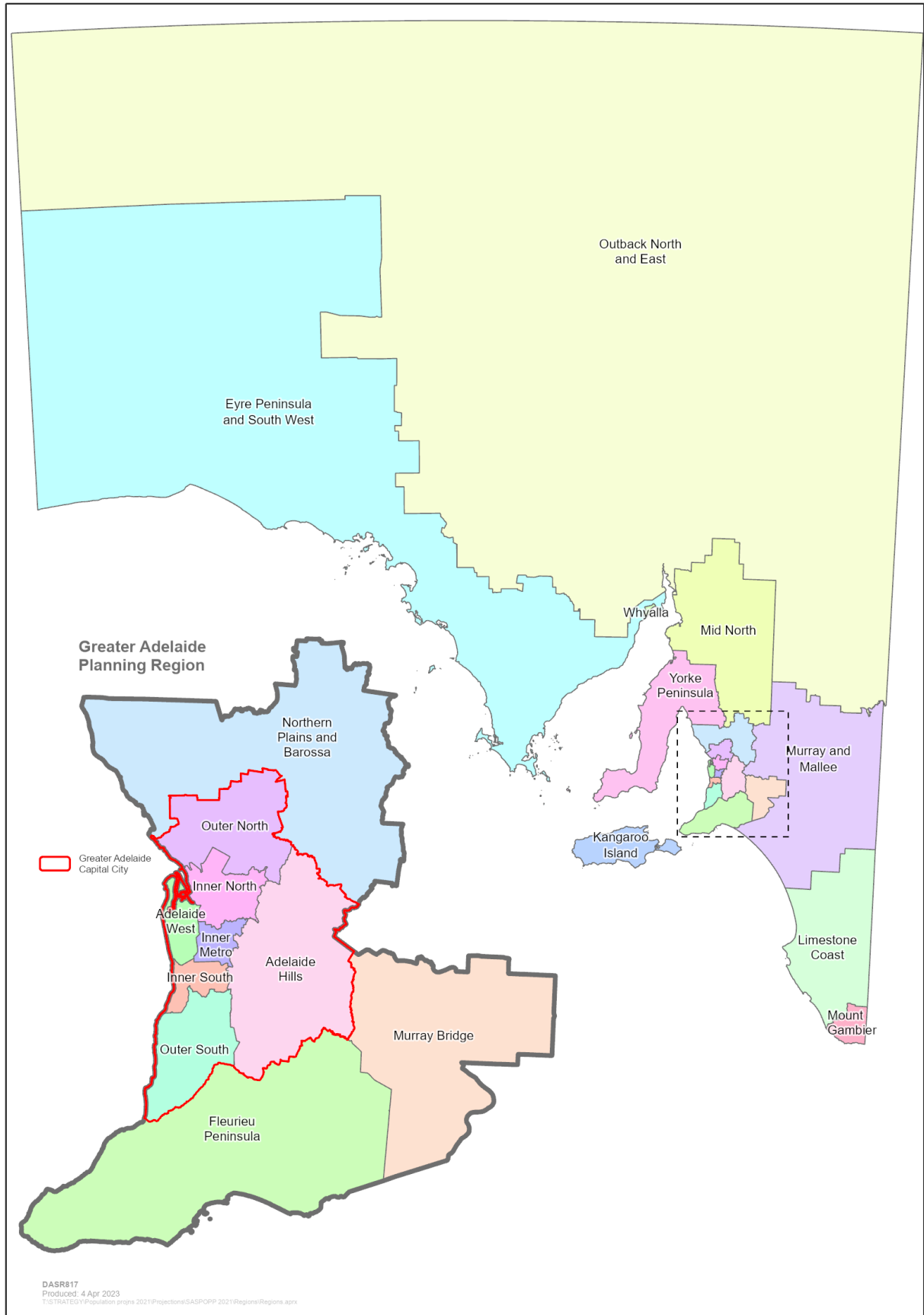
## 2.3    Recent population change

### *South Australia*

Between 2001 and 2021 South Australia's estimated resident population increased by around 300,000 persons at an average annual growth rate of 15,000 persons (1.0%). Over the same period, Australia's average annual population growth rate was 1.6%.

Population change is driven by migration (net overseas migration (NOM) and net interstate migration (NIM)) and natural increase (births and deaths). Figure 2 shows the change in population growth components over the past 30 years to June 2022. In this time South Australia's annual population growth has fluctuated from less than 5,000 in the mid 1990's to more than 20,000 in both 2009, 2018-20 and more recently in 2022.

The chart provides a longer-term view of the growth components (especially NOM and NIM) which are important factors when developing assumptions for population projections. The impact of COVID can be clearly seen from 2020 with South Australia experiencing a significant decline in NOM, and slightly positive NIM growth for the first time in almost 30 years. The degree to which the NIM gain can be maintained in the future will be a key determinant on the size of our annual population growth.

Overseas migration has been a strong contributor to overall growth since the early 2000s and has bounced back strongly from the COVID induced dip in 2020/2021. For the 12 months to September 2022 the NOM gain was over 19,000 persons. However, this is expected to settle at a slightly lower level over the next few years as the large recent gain can be mostly attributed to returning students and temporary workers following COVID.

**Figure 2: Population growth components, South Australia, 1991 - 2022**
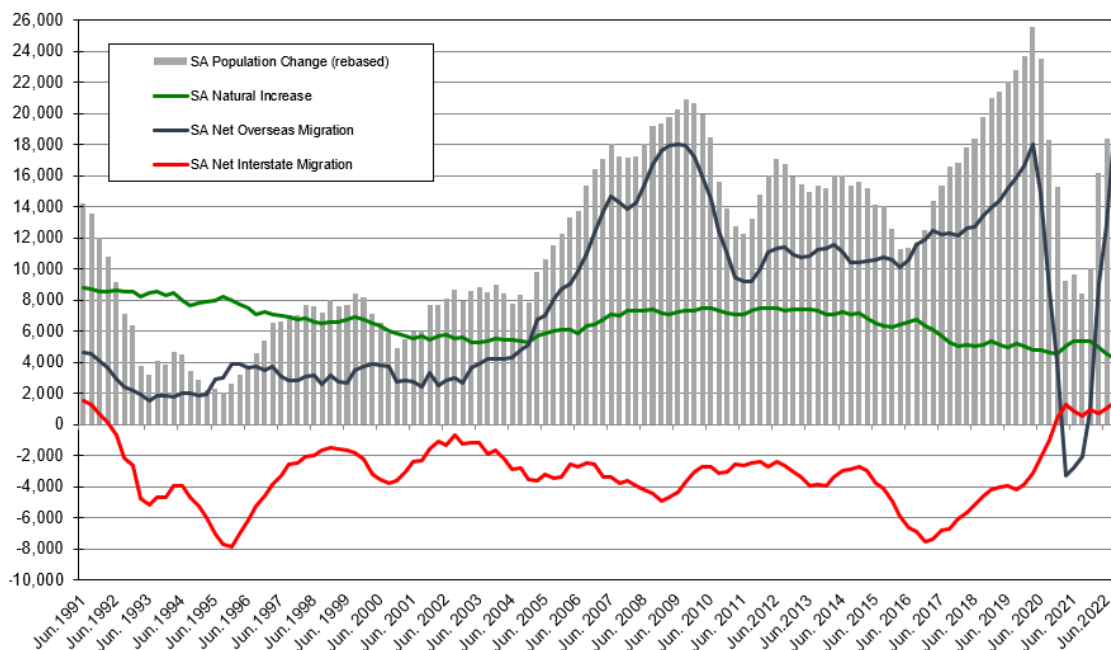
### *Regional Population*

Table 1 summarises the total population[5] in each region in 2001, 2011 and 2021. The table also shows the range of base populations for each region ranging from Kangaroo Island with only 5000 people to the Inner North region with more than 320,000 people.

**Table 1: Estimated Resident Population (ERP) 2001, 2011 & 2021 by Region**

| Greater Adelaide | 2001 | 2011 | 2021 | chg 2001-11 | %chg 2001-11 | chg 2011-21 | %chg 2011-21 |
|---|---|---|---|---|---|---|---|
| Adelaide Hills | 61,883 | 69,704 | 80,501 | 7,821 | 12.6% | 10,797 | 15.5% |
| Adelaide West | 209,034 | 224,252 | 247,123 | 15,218 | 7.3% | 22,871 | 10.2% |
| Fleurieu Peninsula | 32,985 | 42,752 | 51,612 | 9,767 | 29.6% | 8,860 | 20.7% |
| Inner Metro | 198,540 | 217,811 | 235,366 | 19,271 | 9.7% | 17,555 | 8.1% |
| Inner North | 260,026 | 288,583 | 321,850 | 28,557 | 11.0% | 33,267 | 11.5% |
| Inner South | 172,709 | 185,343 | 200,133 | 12,634 | 7.3% | 14,790 | 8.0% |
| Murray Bridge | 17,313 | 20,508 | 22,689 | 3,195 | 18.5% | 2,181 | 10.6% |
| Northern Plains and Barossa | 29,681 | 33,715 | 38,797 | 4,034 | 13.6% | 5,082 | 15.1% |
| Outer North | 94,512 | 113,724 | 139,452 | 19,212 | 20.3% | 25,728 | 22.6% |
| Outer South | 151,302 | 164,674 | 177,968 | 13,372 | 8.8% | 13,294 | 8.1% |
| **Greater Adelaide total** | **1,227,985** | **1,361,066** | **1,515,491** | **133,081** | **10.8%** | **154,425** | **11.3%** |

| Regional SA | 2001 | 2011 | 2021 | chg 2001-11 | %chg 2001-11 | chg 2011-21 | %chg 2011-21 |
|---|---|---|---|---|---|---|---|
| Eyre Peninsula and South West | 34,051 | 35,236 | 37,004 | 1,185 | 3.5% | 1,768 | 5.0% |
| Kangaroo Island | 4,227 | 4,522 | 4,999 | 295 | 7.0% | 477 | 10.5% |
| Limestone Coast | 31,223 | 30,648 | 31,970 | -575 | -1.8% | 1,322 | 4.3% |
| Mid North | 40,895 | 40,737 | 41,287 | -158 | -0.4% | 550 | 1.4% |
| Mount Gambier | 31,109 | 33,727 | 36,572 | 2,618 | 8.4% | 2,845 | 8.4% |
| Murray and Mallee | 50,967 | 48,401 | 50,408 | -2,566 | -5.0% | 2,007 | 4.1% |
| Outback North and East | 29,322 | 29,143 | 26,714 | -179 | -0.6% | -2,429 | -8.3% |
| Whyalla | 22,003 | 22,471 | 21,868 | 468 | 2.1% | -603 | -2.7% |
| Yorke Peninsula | 31,679 | 33,663 | 36,879 | 1,984 | 6.3% | 3,216 | 9.6% |
| **Regional SA total** | **275,476** | **278,548** | **287,701** | **3,072** | **1.1%** | **9,153** | **3.3%** |
| **South Australia total** | **1,503,461** | **1,639,614** | **1,803,192** | **136,153** | **9.1%** | **163,578** | **10.0%** |

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[5] ABS Estimated Resident Population in each region in 2001, 2011 & 2021.

***Greater Adelaide Planning Region***

Over the past 10 years (2011-21), Greater Adelaide's population increased by 11.3% while Regional South Australia increased by only 3.3%.

In terms of total population, the Greater Adelaide region[6] accounts for over 84% of the State's population. This share has been steadily increasing for over many decades as many smaller regional communities have continued to lose population.

Between 2011 and 2021:

- Greater Adelaide's population increased by 154,400 persons.
- This region accounted for just over 94% of the State's total population growth.

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[6] Based on the Greater Adelaide Planning region, includes Murray Bridge
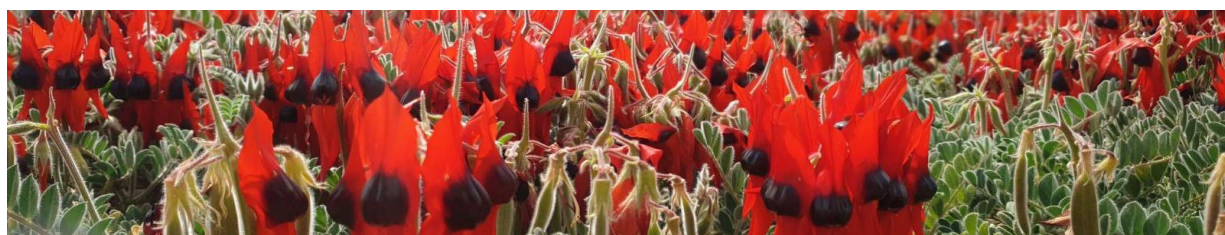
# 3. METHODOLOGY

## 3.1    Projection method

The projections presented in this report were developed using a suite of population projection models developed for South Australia by Dr Tom Wilson (Advanced Demographic Modelling). The models use a cohort-component method whereby the populations at the time of the 2021 Census for each geographic area and for each single year of age by sex are projected forward year by year by applying assumptions about future trends in fertility, mortality and migration. These assumptions are summarised in Section 3.3

## 3.2    Projection series

A high, medium and low series of projections have been developed using different assumptions about the population growth components (overseas and interstate migration, fertility and mortality). Alternative projection series are used to address future uncertainty and to provide alternative growth scenarios for users.

The projections are designed to provide a long-term view of future growth and are provided for a 30-year period to 2051. Users of the projections should carefully consider their planning horizon and choose the most appropriate time period from the data.

Based on past demographic trends and likely future trajectories for the major components of population change, the three series represent the likely range of future population growth. The Medium series is considered the most likely outcome at the time of publication.

## 3.3    State Assumptions

The assumptions about future fertility, mortality and migration that were applied to the base-year population (30 June 2021) to construct the three all-of-State population projection series are based on:

- analysis of births, deaths and migration data collected by the ABS
- expert demographic advice on the components of growth and their likely future direction provided by Dr Tom Wilson (Advanced Demographic Modelling)
- consultation with key government agencies seeking additional information to inform the projections.

The three population projections (high, medium and low) are presented at the regional level for the 30-year projection period, 2021-51. Each is designed to represent a plausible range of future growth outcomes for the growth components.

- These all-of-State assumptions are summarised in Appendix 1.

### 3.3.1    Fertility

Fertility assumptions developed for these projections use ABS past estimates of fertility, and demographic advice on future directions. In general, South Australia has experienced slightly lower fertility than the rest of Australia, mainly due to our older population.

Figure 3 shows age-specific fertility for South Australia and clearly demonstrates the shift in the fertility age profile over time. In 1981 peak fertility was around 26 years whereas by 2021 it had shifted to 32 years.

**Figure 3: Age-specific fertility rates –South Australia**
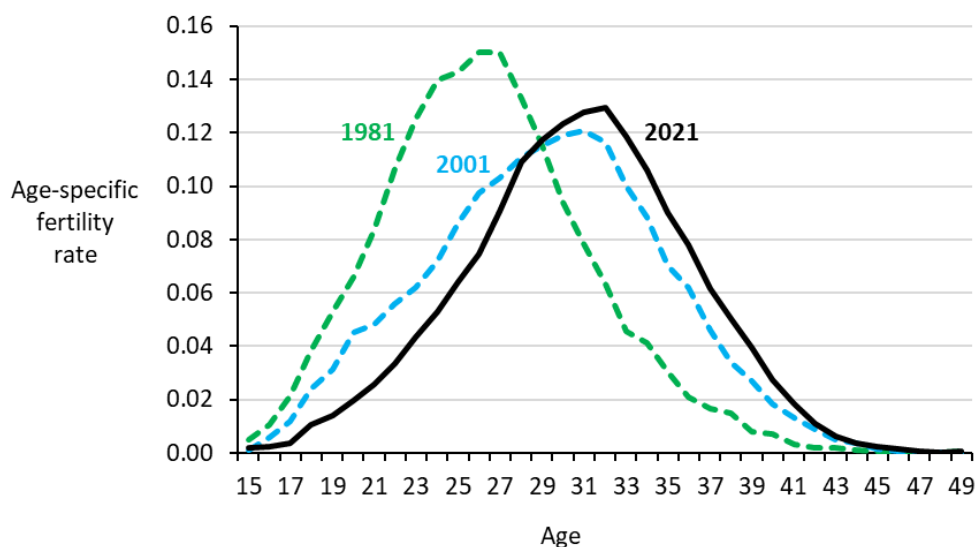


Figure 4 shows actual fertility rates from 2001 to 2021 and the quick rise in fertility to more than 1.97 in 2008-09, before declining to its 2021 level of 1.66. The increase in fertility during this time is thought to be due to a 'catch up' effect from women in older childbearing ages due to earlier birth postponement together with increases in disposable incomes[7]. The 'baby bonus'[8] is not thought to have had any significant influence in increasing fertility.

More recently, the Total Fertility Rate (TFR) dropped slightly in 2020 due to uncertainty about the future at the start of the COVID pandemic, followed by a recovery in 2021.

The following fertility assumptions have been adopted in these projections (refer Figure 4):

- High scenario - the current fertility rate of 1.66 improves steadily to reach 1.75 by 2025 and is then held constant.
- Medium scenario - TFR of 1.62 children for the duration of the projection period from 2023. This is slightly below the latest published rate of 1.66 for South Australia but is consistent with the broader trend of declining fertility in many developed countries. This assumption is consistent with the latest Centre for Population[9] fertility estimates for South Australia.
- Low scenario - fertility drops steadily to 1.5 by 2026 and is then held constant.

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[7] Dr Tom Wilson (Advanced Demographic Modelling). Internal report prepared for the Department of Trade and Investment January 2023.
[8] 'Baby bonus' was introduced in the year after Australia's population hit its lowest birth rate ever recorded (1.7) in 2001, with the aim to increase fertility rates and offset the peak of Australia's ageing population.
[9]  https://population.gov.au/

**Figure 4: Actual and Projected Total Fertility Rates, South Australia 2001 to 2051**
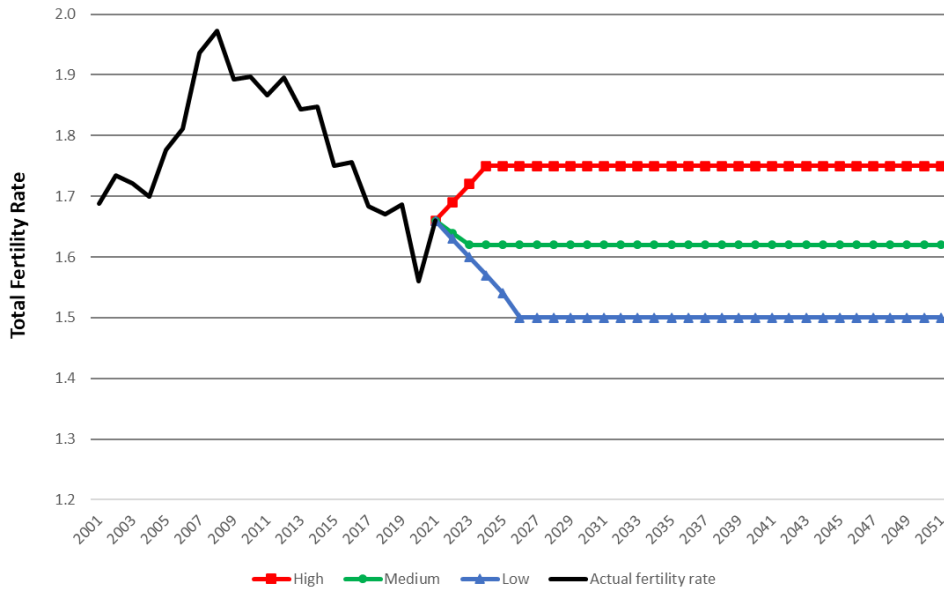


*Source: DTI population projections and Australian Bureau of Statistics (2021), Births, Australia and DTI population projections.*

### 3.3.2 Life Expectancy

- Life expectancy at birth estimates represent the average number of years that a new-born baby could expect to live, assuming current age-specific death rates are experienced through his/her lifetime. In 2021, life expectancy at birth for South Australians was 81.3 years for males and 85.6 years for females.

- For all projection series, male life expectancies at birth are assumed to increase from 81.3 years in 2021 to 86.3 in 2051, and female life expectancies are assumed to increase from 85.3 years to 89.3 in 2051 (Figure 5).

**Figure 5: Projected Life Expectancy at Birth (Medium series), South Australia, 2021-2051**
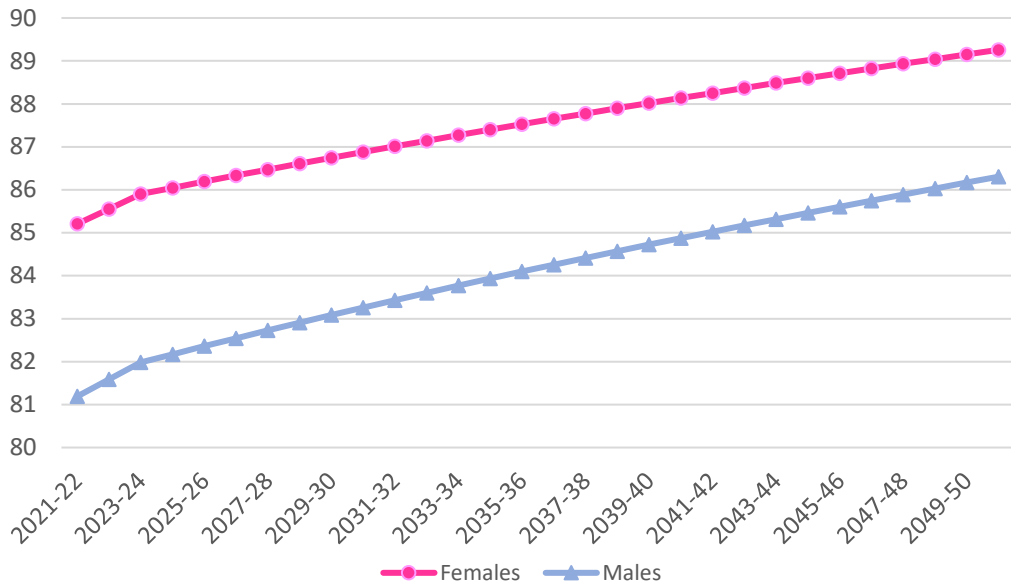


*Source: DTI population projections and ABS Life Tables*

Provisional mortality data shows an elevated number of deaths during the COVID years (2020-22). To account for this the demographic modelling does include a slight adjustment to account for these higher death rates.

### 3.3.3    Net Overseas Migration (NOM)

In South Australia the assumption that has the greatest impact on the overall size of the projected population is the future level of net overseas migration (NOM), the net of overseas arrivals and overseas departures. NOM flows are typically large and in 2019/20 (prior to the full impact of COVID related international border closures) there were 26,650 NOM arrivals and 11,510 NOM departures for a net gain of 15,140 persons.

Future levels and distribution of NOM are difficult to predict and are affected by many factors including:

- The size of the annual migration program (190,000 in 2022/23). This can vary considerably, and the actual NOM outcome typically doesn't always exactly match the planning level as shown in Figure 6.
- The proportion of visas issued onshore to people who have migrated to Australia, often on temporary working and student visas. This in part helps to explain the difference between the NOM planning level and the actual NOM outcome.
- The demand for temporary workers to meet identified skill gaps.
- The strength/weakness of the economic cycle and the relative attractiveness of different parts of Australia for jobs, lifestyle, connection to existing migrant communities etc.  South Australia's share of the national NOM intake has traditionally averaged around 6% over the period 2006-19, but this does vary considerably.

**Figure 6: Migration Program planning level and published NOM, 1971-2021**
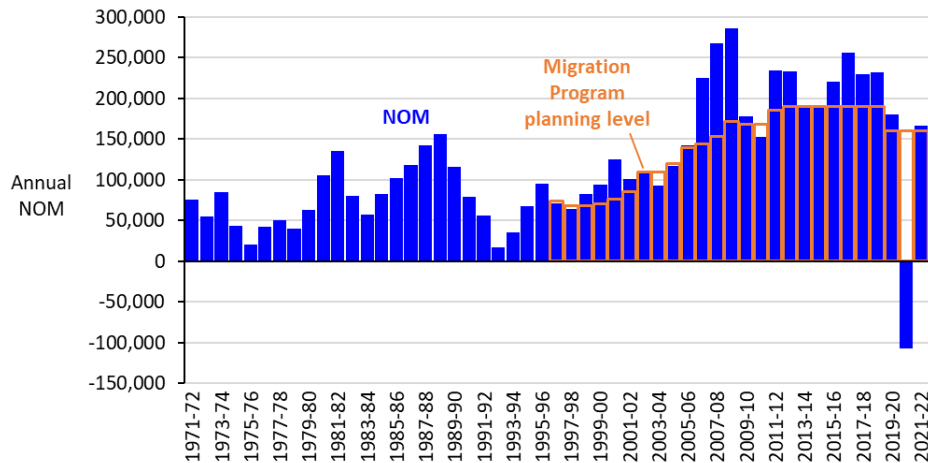


*Source: ABS demographic data 3101.0 National, state and territory population. Commonwealth Department for Home Affairs*

Figure 7 shows the published NOM for South Australia from 2001 to 2021, and the assumed NOM levels to 2051. The impact of the international border closure during COVID can be clearly seen with a recorded NOM of -3000 persons in 2020-21, prior to that NOM had been around 13,000 for the previous decade.

The following NOM assumptions have been used for these projections:

- NOM will peak over 20,000 in 2022/23 as the COVID recovery continues to bring back more temporary and permanent migrants, with fewer leaving. Once the recovery is complete it is expected that overseas migration flows will return to a more normal pattern.
- High series NOM will settle at 16,500 per annum from 2026 and then hold constant.
- Medium series NOM will settle at 14,500 per annum from 2026 and then hold constant.
- Low series NOM will settle much lower at 12,000 per annum from 2026 and then hold constant. This is below the 2006-19 average annual NOM of around 13,000.

**Figure 7: Actual and Projected Net Overseas Migration Flows to South Australia, 2001-2051**
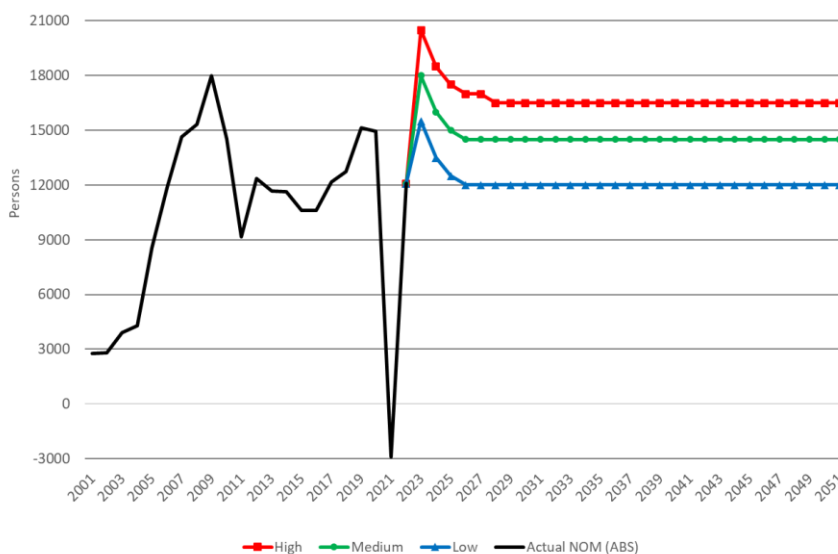


*Source: Australian Bureau of Statistics (quarterly), National, state and territory population and DTI population projections.*

### 3.3.4    Net Interstate Migration (NIM)

Net interstate migration (NIM) can exhibit sudden and dramatic changes in flows and the net figure is the residual of much larger in and out flows of interstate migrants.  For example, in the 12 months to June 2022 South Australia had 31,000 arrivals and almost 30,000 departures interstate, resulting in a net interstate gain of 1,000 persons.

NIM exhibits the greatest uncertainty of all the demographic components of change because (A) it fluctuates in response to economic and social conditions and (B) it is not directly measured by the Australian Bureau of Statistics, who mostly rely on Medicare change of address data to detect interstate movements, which is not always a reliable source.

Figure 8 shows the published NIM for South Australia from 2001 to 2021, and the assumed NIM for the period 2021-2051. The key assumptions are:

- The actual NIM level in 2022 is set higher than the published NIM – represented by the dashed line from 2021 to 2022. This reflects the upward revision to the State's Estimated Resident Population (ERP) following the 2021 census which was mostly driven by COVID-19 border closures.
- For the high scenario NIM will remain positive at 1000 per annum from 2026 and then hold constant.
- For the medium scenario NIM will be slightly negative at -1000 persons per annum from 2026 and then hold constant.
- For the low scenario NIM will return to -3000 per annum from 2026 and then hold constant. This is consistent with the longer-term trend of NIM losses over the 20 years prior to 2020.

**Figure 8: Actual and Projected Net Interstate Migration Flows, South Australia, 1997-2041**
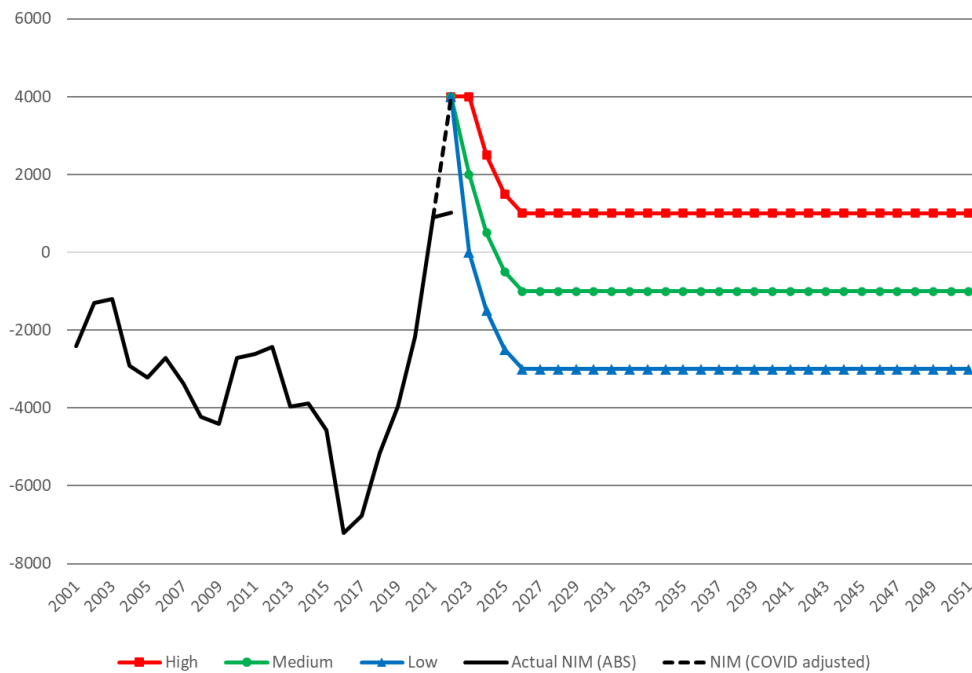


*Source: Australian Bureau of Statistics (quarterly), National, state and territory population, and DTI population projections.*

# 4. PROJECTION RESULTS – SOUTH AUSTRALIA, 2021-51

## 4.1    Population growth

*South Australia*

Figure 9 and Table 2 summarise projected population growth for South Australia for the high, medium and low projections.

In the decade between the population censuses of 2011 and 2021 the State's population grew by 164,000 from 1.64 million to 1.80 million. In the next decade, it is projected to grow by an additional 204,000 under the medium projection and by 254,000 under the high.

Both the medium and high projections result in strong and continued growth throughout the projection period. South Australia's population reaches 2 million by 2031 in the medium projection, and by 2029 in the high.

Over the 30-year period the average annual growth rate for the high projection is 1.4% and 1% for the medium.

The total projected increase in South Australia's population over the period 2021-2051 across the three projections is 731,000 (high), 532,000 (medium) and 329,000 (low).

**Figure 9: Projected population by projection series, South Australia, 2021-2051**
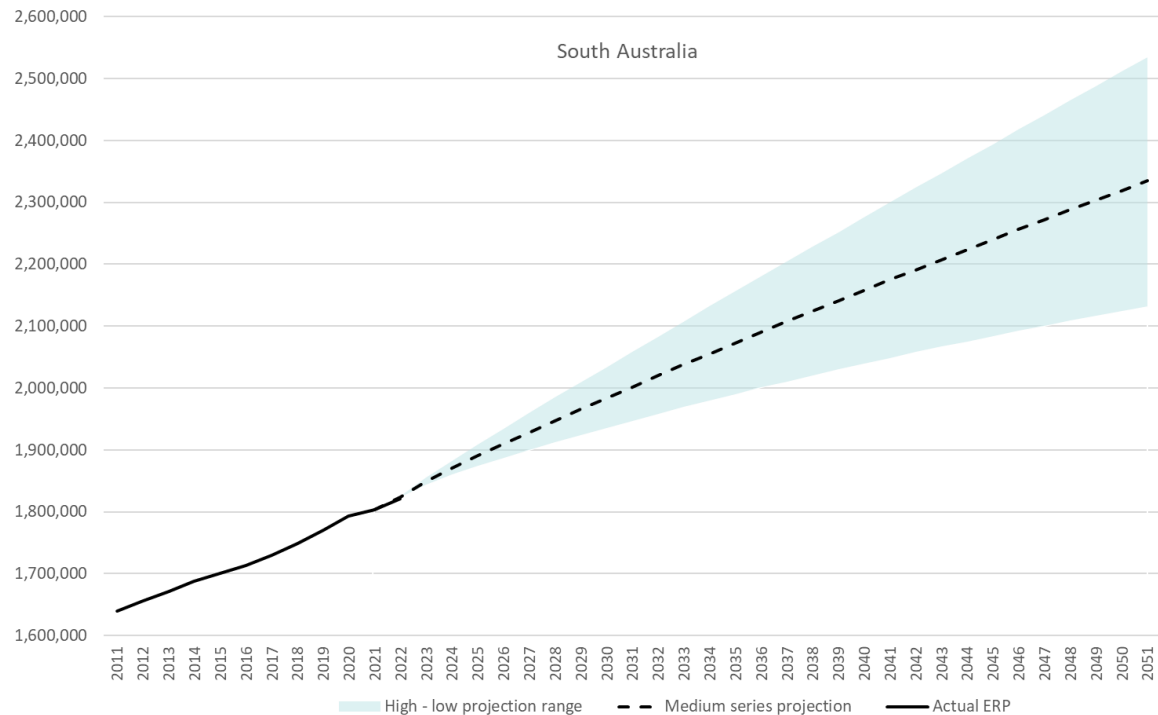
**Table 2: Projected total population and growth rates, South Australia, 2021-51**

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | Low | Medium | High |
| Total Population | | | |
| 2021 (Base Year) | 1,803,192 | 1,803,192 | 1,803,192 |
| 2031 | 1,946,815 | 2,001,612 | 2,058,069 |
| 2041 | 2,048,740 | 2,174,497 | 2,299,354 |
| 2051 | 2,132,544 | 2,334,832 | 2,534,424 |
| Change per ten-year interval | | | |
| 2021-2031 | 143,623 | 198,420 | 254,877 |
| 2031-2041 | 101,925 | 172,885 | 241,286 |
| 2041-2051 | 83,804 | 160,336 | 235,070 |
| 30-year population change | | | |
| 2021-2051 | 329,352 | 531,640 | 731,232 |
| Average annual % change | | | |
| 2021-2051 | 0.61% | 0.98% | 1.35% |

## 4.2    Changes in age structure

Although the population of South Australia is projected to increase from current levels to 2051 under all projection series, this growth will not be equally distributed throughout all age structures. Due to the ageing of the large post World War II baby-boomer cohort (born between 1946 and 1961 and aged 60-74 years in 2021), the fact that the fertility rates of this cohort were below replacement rates, and improvements in life expectancy, the State's population is projected to age significantly during the projection period under all series.

### 4.2.1    Median age

The median age of the population is projected to increase under all projection series (Table 3). The median age increases fastest under the low projection (that assumes lower fertility rates and smaller net gains from migration) and slowest under the high.

Under the medium projection the median age is projected to increase from 40.6 in 2021 to 43.0 years by 2051.

**Table 3: Median age (years) of projected South Australia population by projection series, 2016-41**

| Year ending 30 June | Low Series | Medium Series | High Series |
|---|---|---|---|
| 2021 | 40.6 | 40.6 | 40.6 |
| 2031 | 42.2 | 41.6 | 41.0 |
| 2041 | 43.7 | 42.5 | 41.4 |
| 2051 | 44.3 | 43.0 | 41.7 |

*Sources: DTI and ABS Australian Demographic Statistics*

### 4.2.2    Age-sex structure

Figure 10 illustrates the projected age-sex composition of the South Australian population in 2036 and 2051 for the medium projection series, and how the projected age structure in these years compares with the actual age structure of South Australia's population at the 2021 Census.

Under the three projections the number of elderly will increase substantially over the projection period, with most of this increase due to the ageing of the large baby-boomer cohort, whose older members began turning 75 in 2021. The projected size of the elderly population is a similar size under the low, medium and high projection.

**Figure 10: South Australia projected age-sex structure in 2036 and 2051 (Medium)**
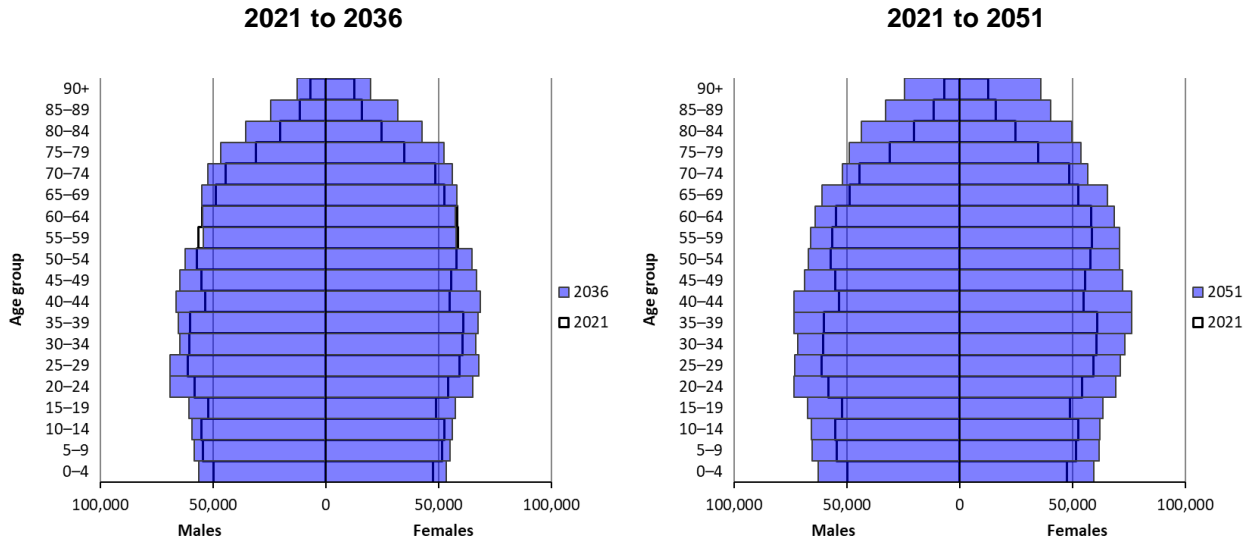


### 4.2.3    Age groups

Examination of the projected population of selected age groups at five-year intervals under each of the projection series emphasises the size of the projected changes in the major age groups between 2021 and 2051, and the variation by projection series (Figures 11 to 16).

The population age groups examined are:

- Young children, 0-4 years
- School age, 5-17 years
- Young working age, 18-34 years
- Established workers, 35-49 years
- Mature working age, 50-64 years
- Active retirees, 65-79 years
- Older population, 80+ years

**Young children, 0-4 years**

For the medium projection the total number of young children increases by just over 23,000 between 2021 and 2051. For the high, the number of young children is projected to increase by around 44,000 over the same time (Figure 11). Under the low projection the number of young children is projected to increase by only 4300 over the next 30 years.

**Figure 11: Projected young children (0-4 years) population, South Australia, 2021-51**

## Young children (0-4 years)
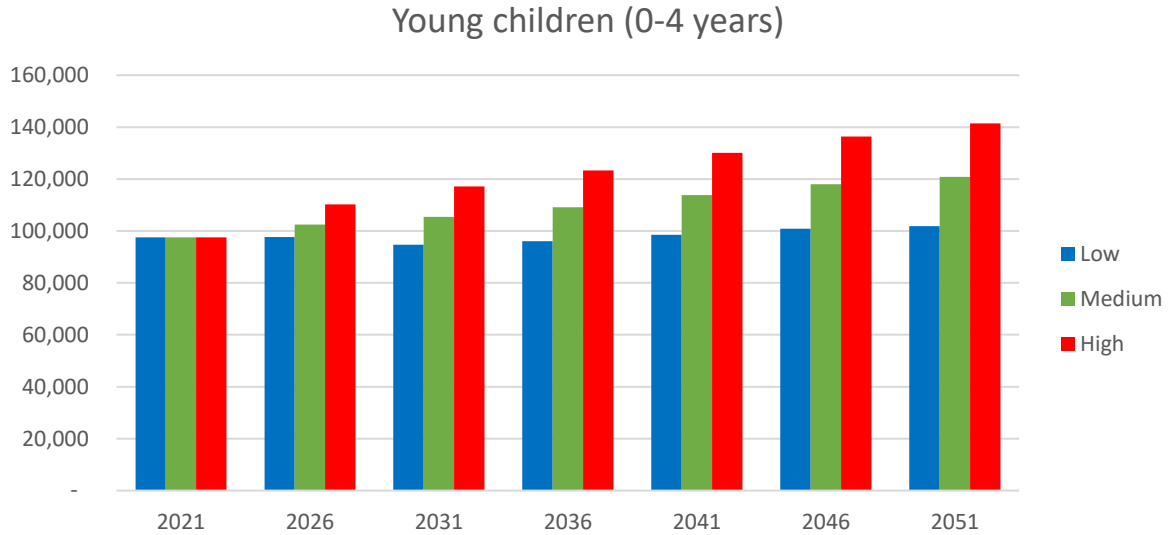


**School-age, 5-17 years**

The Medium series projects school-age numbers will increase by around 54,500 to 329,300 over 30 years to 2051 (Figure 12). The high series projects a significantly greater increase of 101,000 to reach 375,700 by 2051. This increase is driven by higher levels of overseas migration resulting in more families with school-age children.

**Figure 12: Projected school-age (5-17 years) population, South Australia, 2021-51**

## School-age (5-17 years)
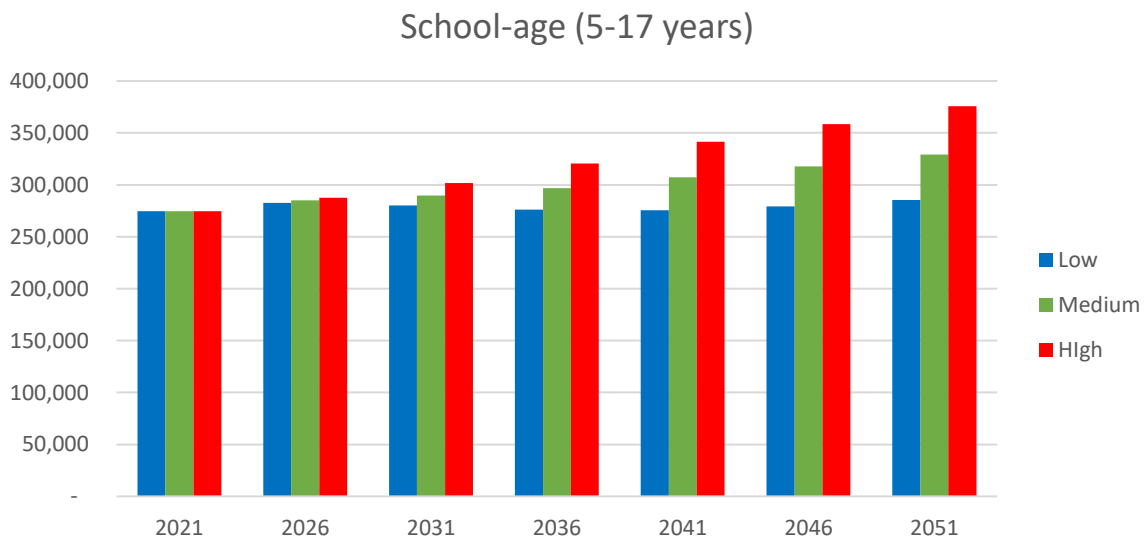
**Young working-age, 18-34 years**

The young working-age population in South Australia is projected to grow by around 95,400 for the Medium series and by 134,000 for the high over the period 2021-2051 (Figure 13). The projected growth rates for this cohort are relatively Low because it is this group that is most affected by migration losses to interstate and overseas destinations. This trend is assumed to continue throughout the projection period for the Low and Medium series, however the high series has assumed that recent net interstate migration gains will continue.

**Figure 13: Projected young working-age (18-34 years) population, South Australia, 2021-51**
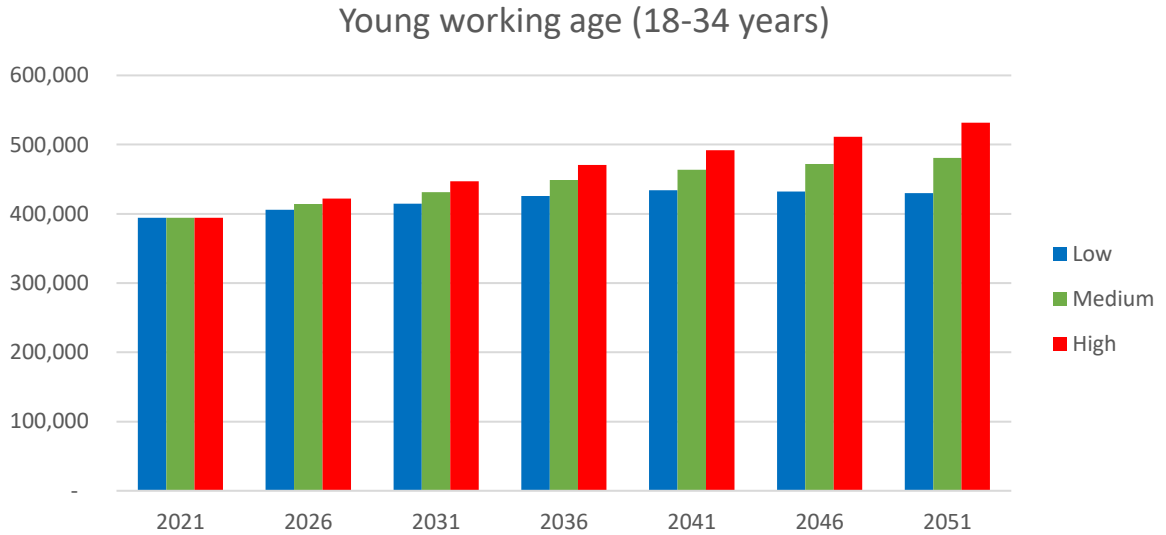


**Established workers, 35-49 years**

The 'established workers' age cohort is projected to grow by around 95,400 for the medium scenario and by 134,000 for the high over the period 2021-2051 (Figure 14). The projected growth rates for this cohort are relatively high, as this group includes skilled migrants that move to Australia for employment opportunities.

**Figure 14: Projected older working-age (35-64 years) population, South Australia, 2021-51**
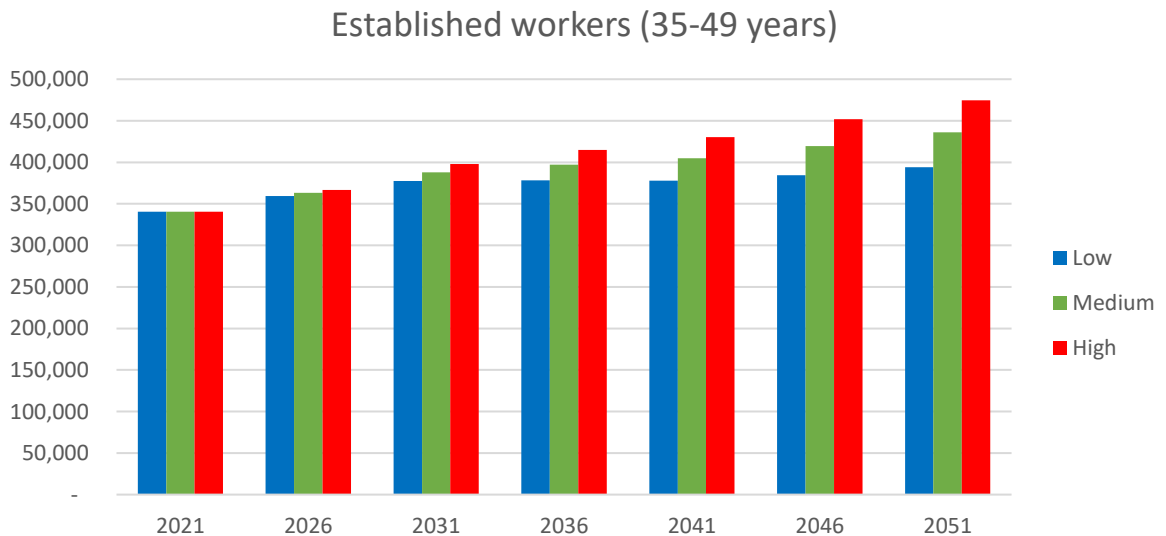
**Mature working-age, 50-64 years**

The mature working-age population in South Australia is projected to grow by around 61,300 for the medium scenario, to reach 430,500 by 2051. For the high scenario, this growth is projected to be almost 87,000 over the period 2021-2051 (Figure 15)

**Figure 15: Projected older working-age (35-64 years) population, South Australia, 2021-51**
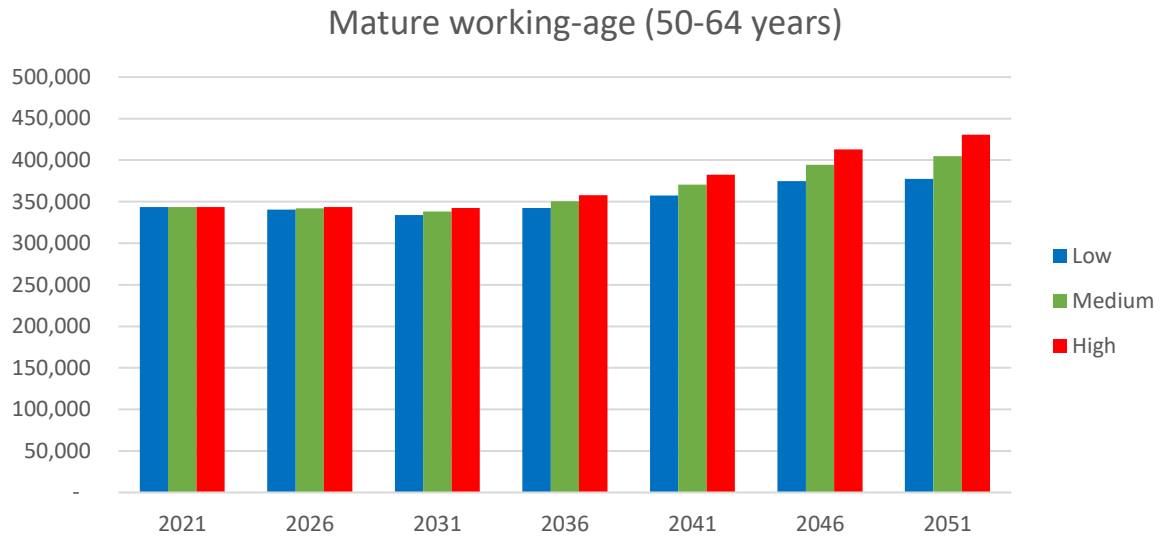


**Active retirees, 65-79 years**

Figure 16 shows that the number of 'active retirees' will increase from around 260,400 in 2021 to 336,600 (medium scenario) and only slightly more to 349,150 (high) by 2051. The increase will be most dramatic between 2021 and 2026 as the large baby-boomer cohort reaches 65-79 years of age but is not yet affected by the higher mortality rates of old age.

**Figure 16: Projected active retirees (65-79 years) population, South Australia, 2021-51**
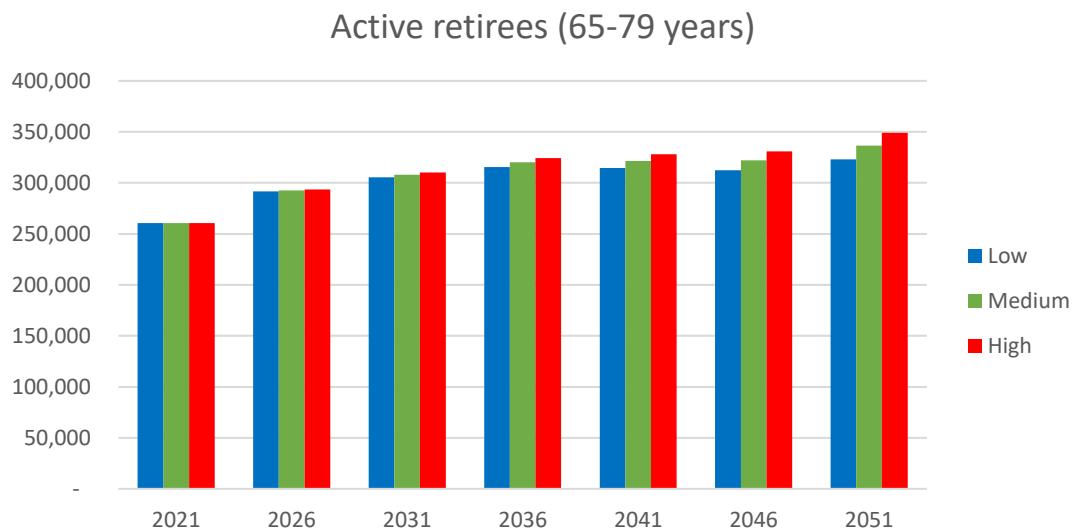
**Older population, 80+ years**

After 2026 the more dependent 80+ age group is projected to increase more rapidly in size than the 65-79 age group (Figure 17). The size of this age cohort is essentially the same under all projections and is projected to increase by 146% from 92,000 in 2021 to 226,400 by 2051.

**Figure 17: Projected older population (80+ years) population, South Australia, 2016-41**



Older population (ages 80+)
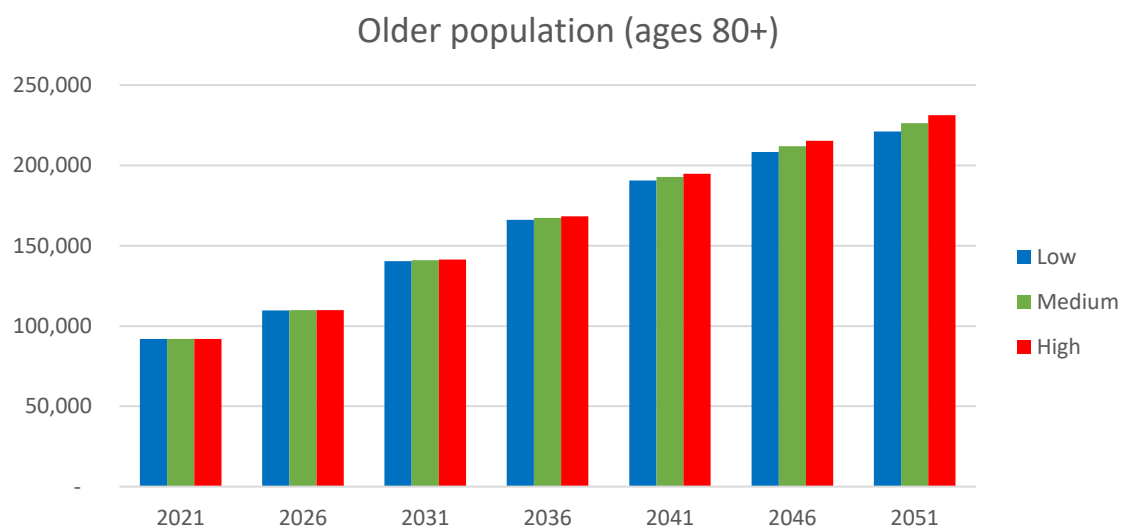
## 4.3      Greater Adelaide Planning Region (GAPR), 2021-2051

**Region Summary**

The Greater Adelaide Planning Region (GAPR) comprises ten sub-regions. Seven of these regions are within the Greater Adelaide Capital City statistical area (GACC) (also referred to as metropolitan Adelaide) (see Figure 1):

- Inner Metro
- Inner North
- Adelaide West
- Inner South
- Outer North
- Outer South
- Adelaide Hills

The three outer regions are:

- Fleurieu Peninsula
- Murray Bridge
- Northern Plains & Barossa

**Projected Growth 2021 to 2051**

Growth within the GAPR is largely driven by housing supply and employment opportunities. Housing supply is expected to be greatest within the GACC, due to its proximity to the CBD and employment opportunities. This region is expected to contain 88% of the GAPR growth over the next 30 years. Within the GACC, 75% of the growth is expected to occur within the Inner Metro, Adelaide West, Inner North and Outer North regions.

In 2021 the population of GAPR (refer to Figure 1) was 1.515 million and accounted for 84% of the total population of South Australia. By 2051 this share is projected to increase to around 86% (see Table 4).

For the medium projection, the population increases by 489,900 to 2.005 million by 2051. The annual growth rate peaks in 2021-31 at 1.22% and then declines to around 0.8% in 2041-51.

For the high projection, the population increases by 672,400 to 2.188 million by 2051. The annual growth rate peaks in 2021-31 at 1.55% and then declines to around 1.1% in 2041-51.

For the low projection, the population increases by 304,500 to 1.82 million by 2051. The annual growth rate peaks in 2021-2031 at 0.89% before decreasing to 0.44% in 2041-51.

**Table 4: Projected Population, Greater Adelaide Planning Region, 2021-2051**

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | **Low** | **Medium** | **High** |
| **Total Population** | | | |
| 2021 | 1,515,491 | **1,515,491** | 1,515,491 |
| 2036 | 1,699,974 | **1,781,920** | 1,863,510 |
| 2051 | 1,820,012 | **2,005,404** | 2,187,885 |
| 2021-2051 | 304,521 | **489,913** | 672,394 |
| **Average annual change** | | | |
| 2021-2051 | 10,151 | **16,330** | 22,413 |
| 2021-2051 (%) | 0.67 | **1.08** | 1.48 |

**Figure 18: Projected Population, Greater Adelaide Planning Region, 2021-2051**
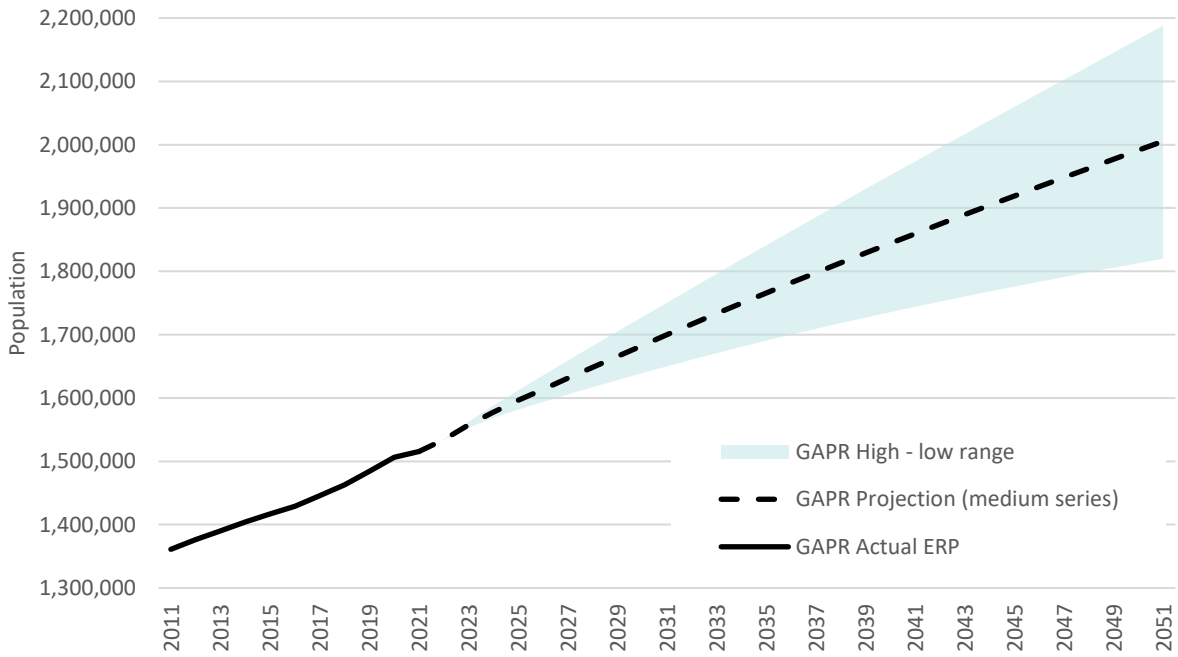


**Figure 19: Population by service age group – medium series, Greater Adelaide Planning Region, 2021 vs 2051**
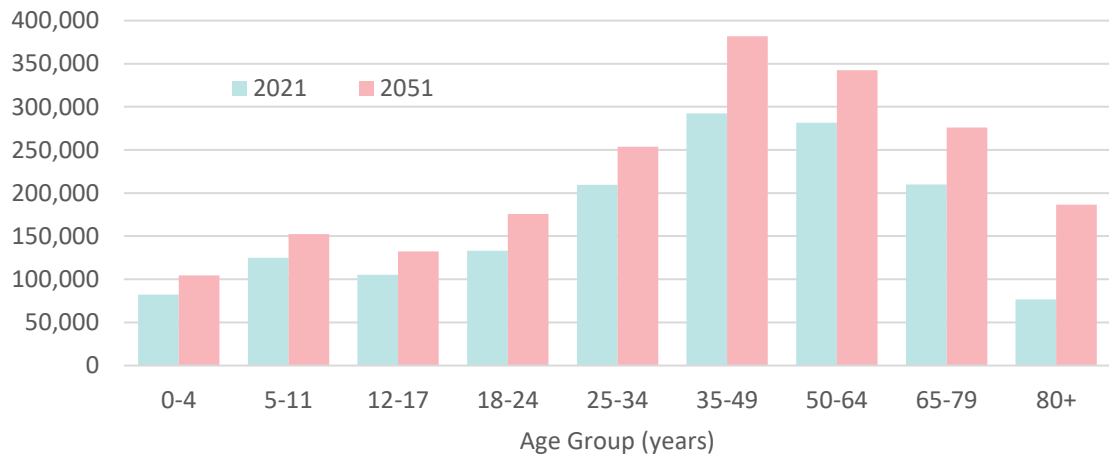
P R O J E C T I O N S

## 4.4     Regional South Australia, 2021-2051

**Region Summary**

Projections have been prepared for the following regions:

- Eyre Peninsula and South West (excluding Whyalla)
- Whyalla
- Limestone Coast (excluding Mt Gambier & Grant)
- Mt Gambier & Grant
- Mid North
- Murray and Mallee (excluding Murray Bridge which has been included in Greater Adelaide)
- Outback North and East
- Yorke Peninsula
- Kangaroo Island

**Projected Growth 2021 to 2051**

- In 2021, the estimated residential population (ERP) was 287,700, accounting for 16% of the total population of South Australia.
- By 2051, projected growth of 41,700, to reach around 329,400 people, and accounting for around 14% of the total population.
- Average annual growth of 1,391 people, at a rate of 0.48%.
- Growth may increase across a range of 24,800 to 58,800 persons.

**Table 5: Projected Population, Regional South Australia, 2021-2051**

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | Low | Medium | High |
| **Total Population** | | | |
| 2021 | 287,701 | **287,701** | 287,701 |
| 2036 | 300,623 | **308,122** | 316,302 |
| 2051 | 312,532 | **329,428** | 346,539 |
| 2021-2051 | 24,831 | **41,727** | 58,838 |
| **Average annual change** | | | |
| 2021-2051 | 828 | **1,391** | 1,961 |
| 2021-2051 (%) | 0.29 | **0.48** | 0.68 |

**Figure 20: Projected Population, Regional South Australia, 2021-2051**
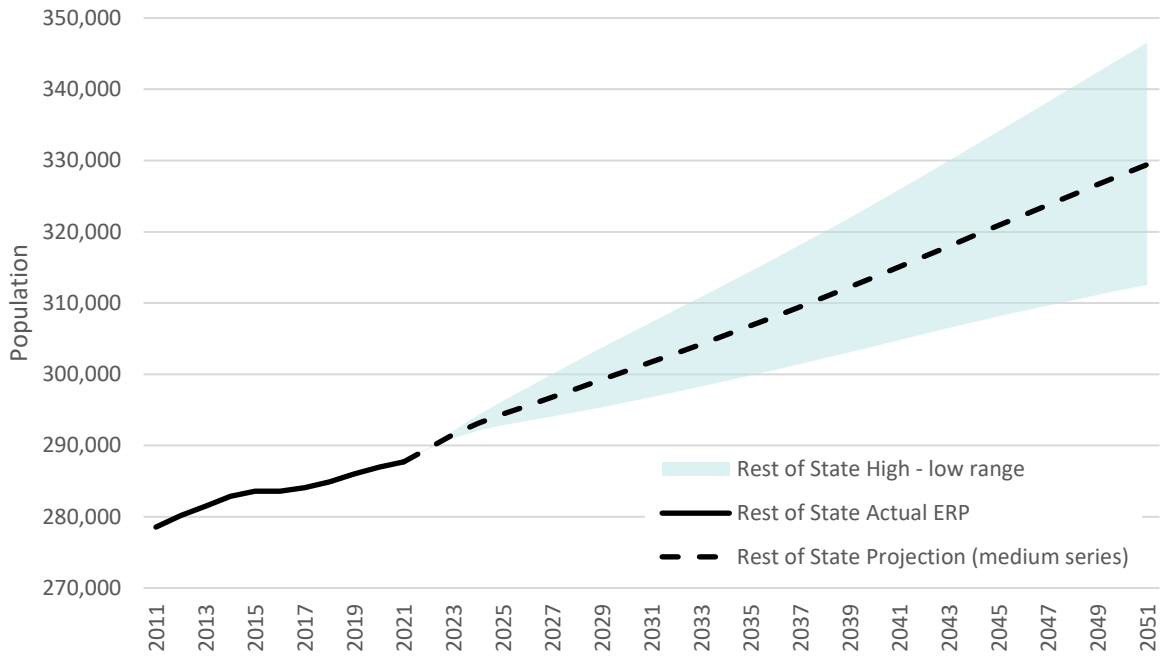


**Figure 21: Population by service age group – medium series, Regional South Australia, 2021 vs 2051**
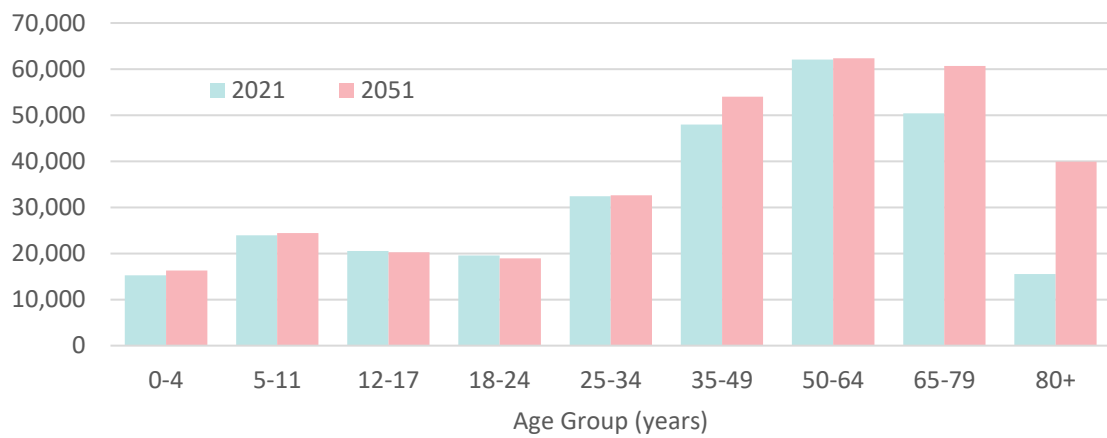
# 5. PROJECTION RESULTS BY REGION, 2021-41

Population projections have been developed for 19 regions across South Australia for a 20-year period, from 2021 to 2041. The projection horizon for the regions is only 20 years due to the greater uncertainty around the future size and distribution of growth across South Australia.

Table 6 summarises the 2021 total population and 2041 projected population (medium series), and the average annual growth rate for each region.

Detailed summaries for each region are available in sections 5.1 to 5.19.

**Table 6: Population Projection summary by Region, 2021-2041 (medium series)**

| Regions | 2021 population | 2041 projection | Change 2021-2041 | Ave. annual change | Ave. annual change (%) |
|---|---|---|---|---|---|
| Inner Metro | 235,366 | 279,818 | 44,452 | 2,223 | 0.94 |
| Adelaide West | 247,123 | 290,478 | 43,355 | 2,168 | 0.88 |
| Inner North | 321,850 | 371,980 | 50,130 | 2,507 | 0.78 |
| Outer North | 139,452 | 229,115 | 89,663 | 4,483 | 3.21 |
| Inner South | 200,133 | 221,128 | 20,995 | 1,050 | 0.52 |
| Outer South | 177,968 | 205,055 | 27,087 | 1,354 | 0.76 |
| Adelaide Hills | 80,501 | 108,291 | 27,790 | 1,389 | 1.73 |
| Murray Bridge | 22,689 | 31,935 | 9,246 | 462 | 2.04 |
| Northern Plains & Barossa | 38,797 | 50,866 | 12,069 | 603 | 1.56 |
| Fleurieu Peninsula | 51,612 | 70,754 | 19,142 | 957 | 1.85 |
| **Greater Adelaide Total** | **1,515,491** | **1,859,421** | **343,930** | **17,196** | **1.13%** |
| Kangaroo Island | 4,999 | 6,001 | 1,002 | 50 | 1.00 |
| Eyre Peninsula & South West | 37,004 | 41,419 | 4,415 | 221 | 0.60 |
| Whyalla | 21,868 | 23,595 | 1,727 | 86 | 0.39 |
| Limestone Coast | 31,970 | 34,435 | 2,465 | 123 | 0.39 |
| Mount Gambier | 36,572 | 42,547 | 5,975 | 299 | 0.82 |
| Mid North | 41,287 | 42,729 | 1,442 | 72 | 0.17 |
| Murray and Mallee | 50,408 | 54,077 | 3,669 | 183 | 0.36 |
| Outback North and East | 26,714 | 26,929 | 215 | 11 | 0.04 |
| Yorke Peninsula | 36,879 | 43,344 | 6,465 | 323 | 0.88 |
| **Regional SA Total** | **287,701** | **315,076** | **27,375** | **1,369** | **0.48%** |
| **State Total** | **1,803,192** | **2,174,497** | **371,305** | **18,565** | **1.03%** |

## 5.1     Inner Metro

**Region Summary**

This region includes the Adelaide CBD, and immediately surrounding councils to the north, south and east.

In 2021, the population in the region was 235,366. Major infill developments and the construction of numerous residential apartments have seen the population increase by almost 11,000 between 2016 and 2021.

Continued infill development is expected, particularly within Prospect, Campbelltown and Norwood, Payneham and St Peters councils. The CBD contains significant growth opportunities in the form of apartment developments. Urban Corridors along Prospect and Churchill Roads and along Unley and Greenhill Roads contain potential for apartment and townhouse developments at medium to high density. Within the Unley, Burnside, Walkerville and Norwood Payneham and St. Peters council areas, growth opportunities are limited due to heritage and other constraints.
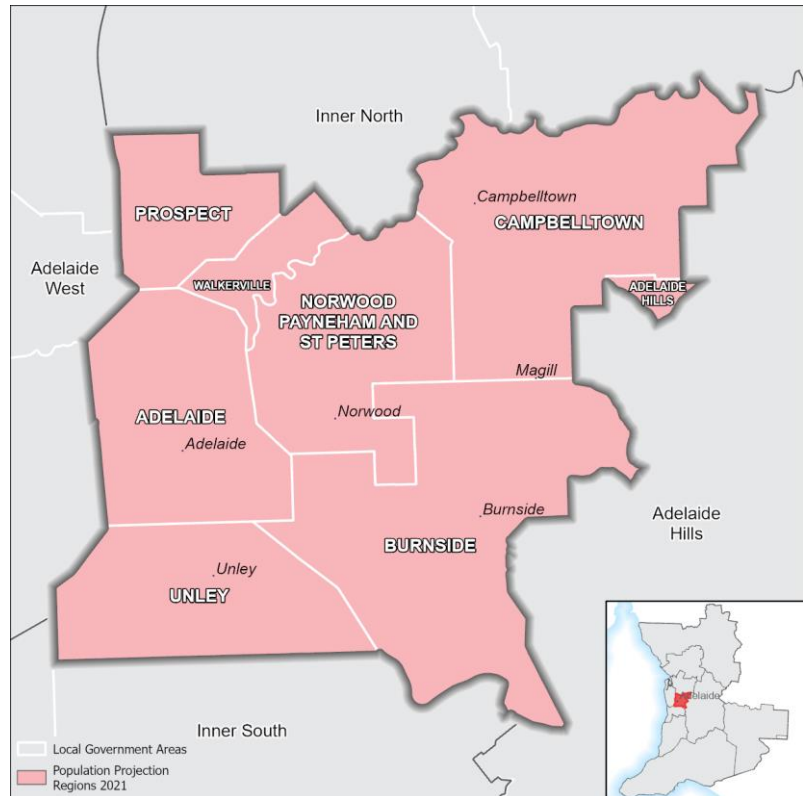
**Projected Growth 2021 to 2041**

Table 7 summarises the projected population for the region from 2021 to 2041 for the low, medium and high growth scenarios.

**Table 7: Projected Population, Inner Metro Region, 2021-2041**

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | **Low** | **Medium** | **High** |
| **Total Population** | | | |
| 2021 | 235,366 | 235,366 | 235,366 |
| 2041 | 265,872 | 279,818 | 292,821 |
| 2021-2041 | 30,506 | 44,452 | 57,455 |
| **Average annual change** | | | |
| 2021-2041 | 1,525 | 2,223 | 2,873 |
| 2021-2041 (%) | 0.65 | 0.94 | 1.22 |

Figure 22 charts the medium population projection (dashed line) and the high – low projection range over the next 20 years. To provide context, the chart also shows the actual population growth for this region from 2011-21.

**Figure 22: Projected Population, Inner Metro Planning Region, 2021-2041**
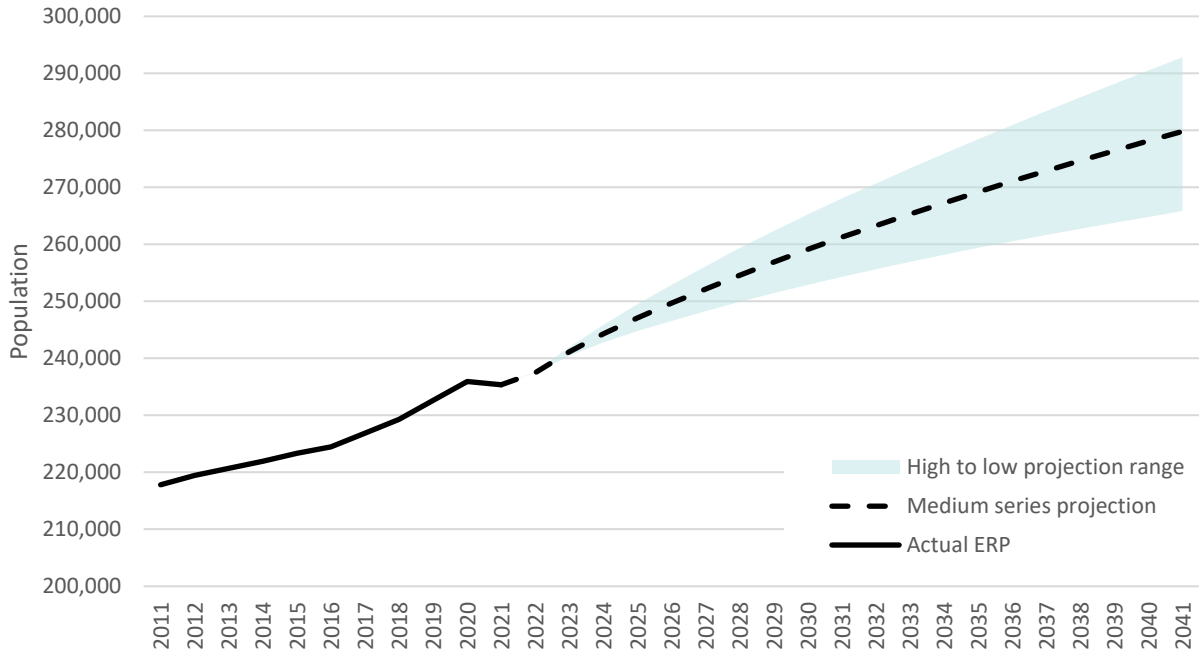


**Age Profile**

Growth is projected across all age groups. It is projected that 18-24 cohort will increase by 30%, while the 80+ cohort is projected to almost double over the next 20 years.

**Figure 23: Population by service age group – medium series, Inner Metro Region, 2021 vs 2041**
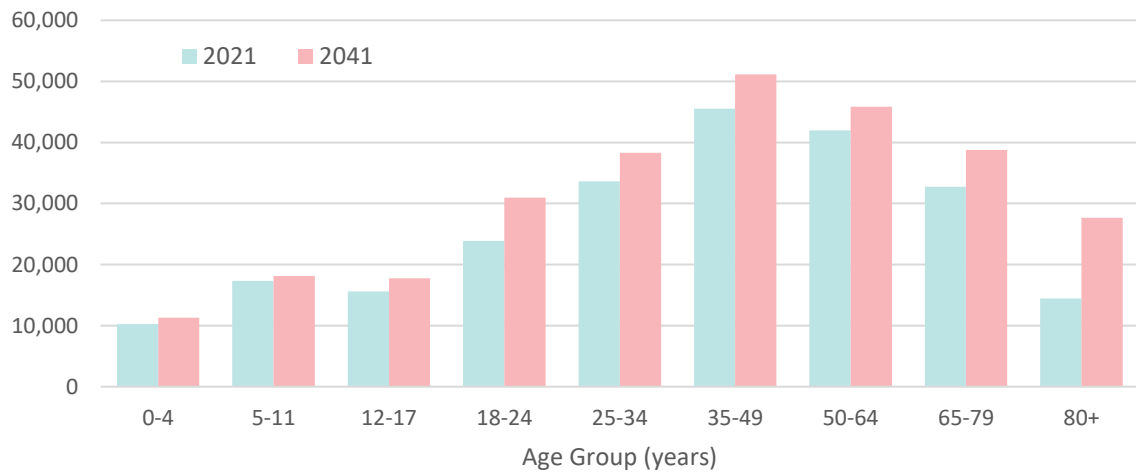
## 5.2    Adelaide West

### Region Summary

This region sits immediately to the west of the Adelaide CBD. It includes Port Adelaide, West Lakes, Plympton and the Adelaide Airport. There are numerous employment activity areas throughout the region.

In 2021, the population in the region was 247,123, making it the second largest region within Greater Adelaide. Major infill developments within Port Adelaide and West Lakes, as well as corridor developments along Anzac Highway have seen the population increase by over 13,000 between 2016 and 2021.

The region has good connectivity to the CBD, with Port Road, Anzac Highway, and rail access (both tram and train).
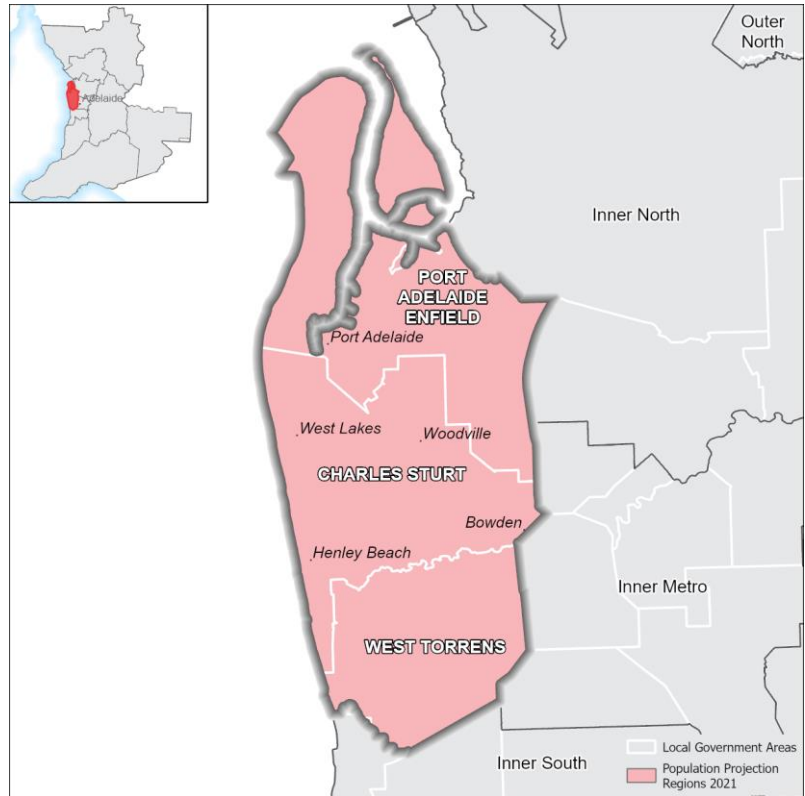
Growth opportunities within this region include major infill along the Anzac Highway Urban Corridor Zone, within Port Adelaide, at West Lakes and on the city fringe in areas such as Bowden. There are also general infill opportunities, particularly within Seaton and Plympton.

### Projected Growth 2021 to 2041

Table 8 summarises the projected population for the region from 2021 to 2041 for the low, medium and high growth scenarios.

**Table 8: Projected Population, Adelaide West Region, 2021-2041**

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | **Low** | **Medium** | **High** |
| **Total Population** | | | |
| 2021 | 247,123 | 247,123 | 247,123 |
| 2041 | 276,475 | 290,478 | 305,161 |
| 2021-2041 | 29,352 | 43,355 | 58,038 |
| **Average annual change** | | | |
| 2021-2041 | 1,468 | 2,168 | 2,902 |
| 2021-2041 (%) | 0.59 | 0.88 | 1.17 |

**Figure 24: Projected Population, Adelaide West Region, 2021-2041**
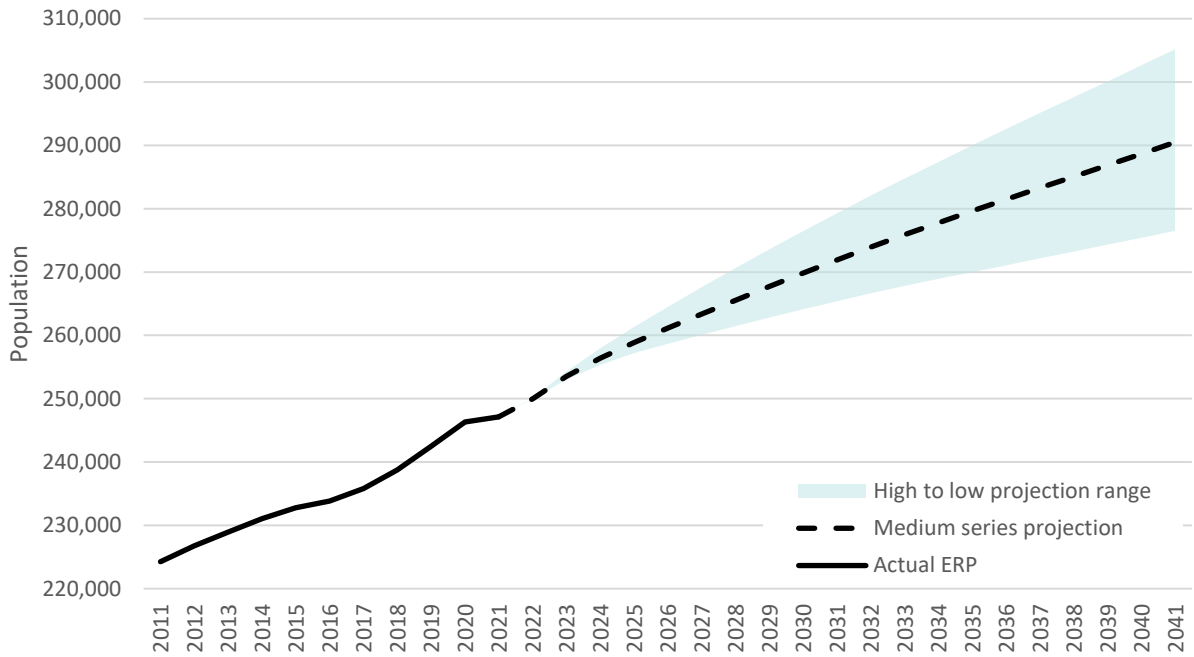


**Age Profile**

Growth is expected across all age groups. The 18-24 cohort is projected to increase by 19%, while 80+ population is projected to increase by 73% over the next 20 years.

**Figure 25: Population by service age group – medium series, Adelaide West Region, 2021 vs 2041**
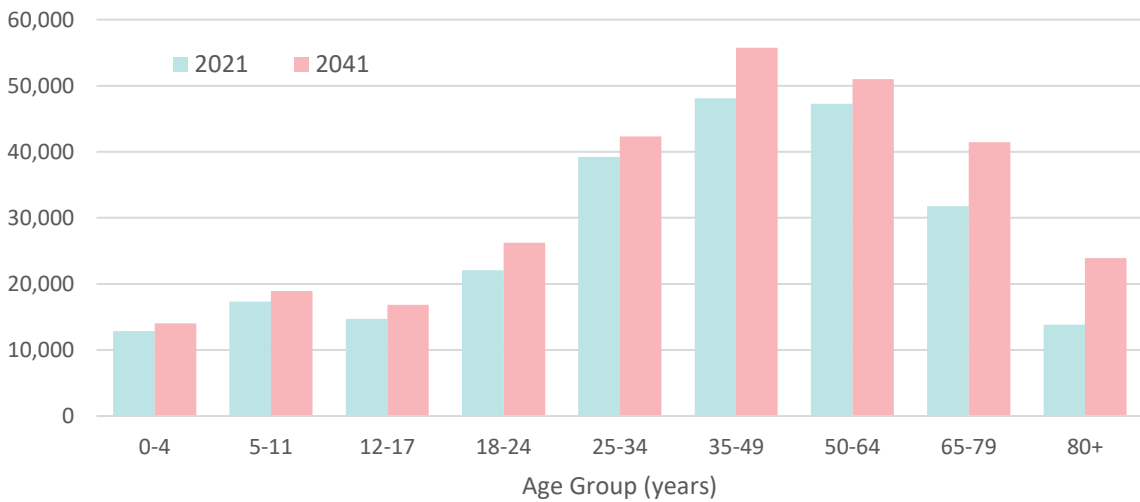
## 5.3     Inner North

### Region Summary

The Inner North region includes
Salisbury, Tea Tree Gully and the
eastern part of Port Adelaide Enfield
councils. Parafield Airport is central to
this region, which contains numerous
employment areas. Mawson Lakes,
Salisbury and Tea Tree Plaza shopping
centres service the community.

This is the largest region within Greater
Adelaide, and in 2021 had a population
of 321,850. Infill developments
throughout the region have seen the
population increase by over 18,000
between 2016 and 2021.

Within this region is the growth front of
Dry Creek. There are also many
opportunities for infill development.
Much of this region was developed
between 1960-1980, making it prime

for redevelopment. The area has good linkage with the CBD through the O'Bahn bus line that
servicing the north-east.

### Projected Growth 2021 to 2041

Table 9 summarises the projected population for the region from 2021 to 2041 for low, medium
and high growth scenarios.

**Table 9: Projected Population, Inner North Region, 2021-2041**

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | Low | Medium | High |
| **Total Population** | | | |
| 2021 | 321,850 | 321,850 | 321,850 |
| 2041 | 356,608 | 371,980 | 387,706 |
| 2021-2041 | 34,758 | 50,130 | 65,856 |
| **Average annual change** | | | |
| 2021-2041 | 1,738 | 2,507 | 3,293 |
| 2021-2041 (%) | 0.54 | 0.78 | 1.02 |

**Figure 26: Projected Population, Inner North Region, 2021-2041**
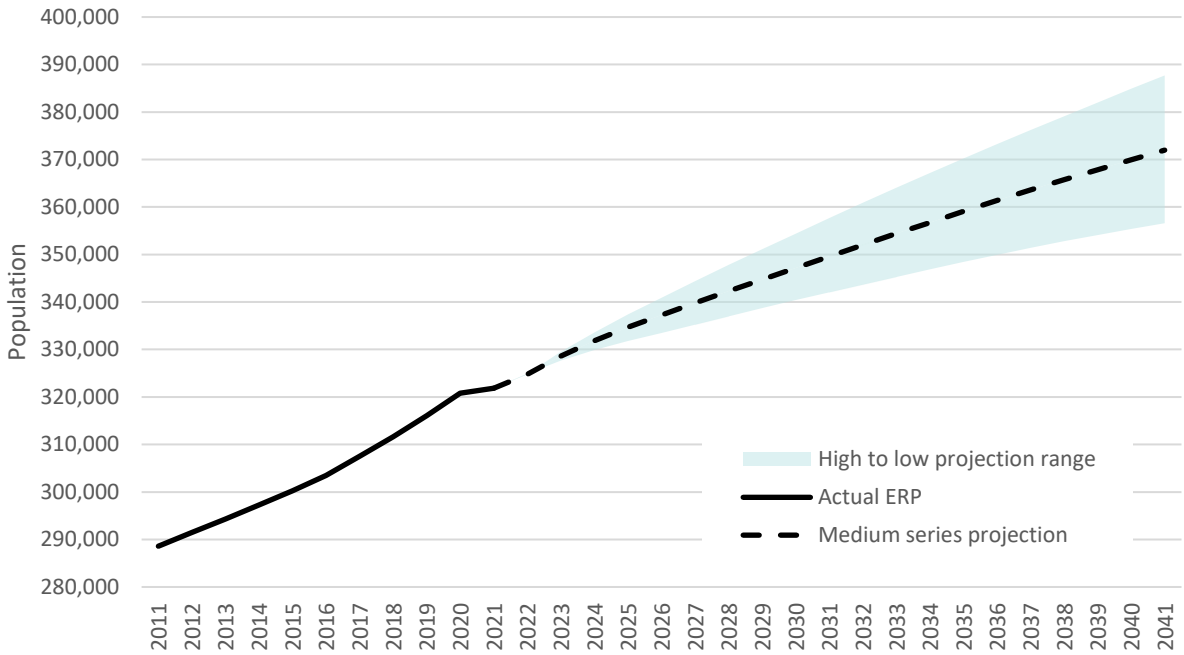


**Age Profile**

Growth is projected across all age groups. The population aged over 80 is projected to increase by 93%. There is a healthy supply of working age population to offset the aging population.

**Figure 27: Population by service age group – medium series, Inner North Region, 2021 vs 2041**
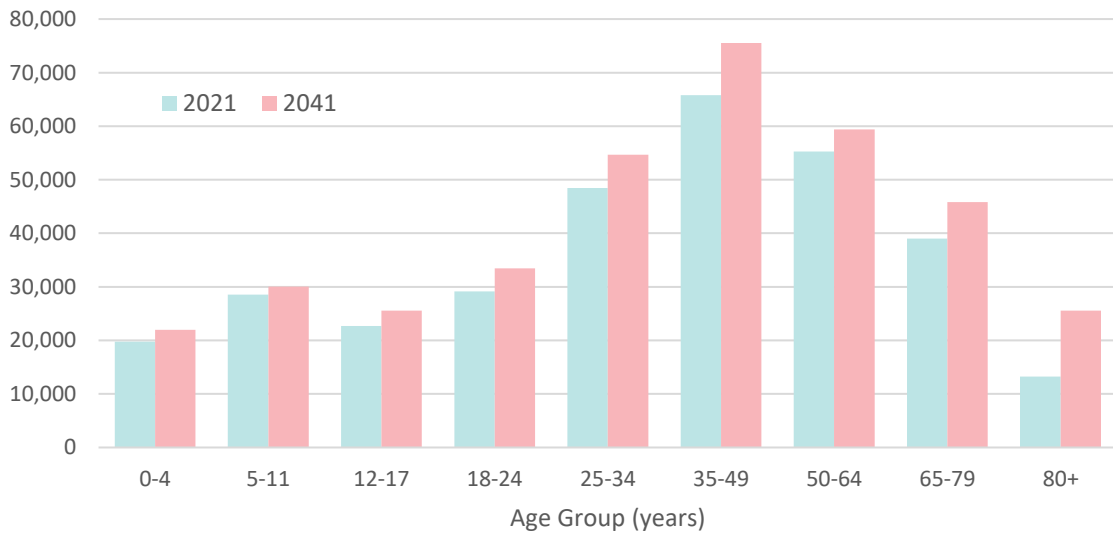
## 5.4    Inner South

### Region Summary

This region sits to the south of the CBD. It has significant retail and commercial centres, including Marion shopping centre and Glenelg; health and education at Bedford Park (Flinders University / Flinders Medical Centre).

In 2021 the region's population was 200,133. The Tonsley Park redevelopment along with general infill opportunities throughout the region have seen the population increase by over 8,000 between 2016 and 2021.

The region has good connectivity to the CBD with the tram from Glenelg to the City, and several train lines.



Development at Morphettville racecourse, Tonsley, Glenelg and Oaklands Park will supply some growth opportunities. General infill is expected to continue throughout the region, however much of the ready potential has already been consumed, so it is expected that rates of development may slow.
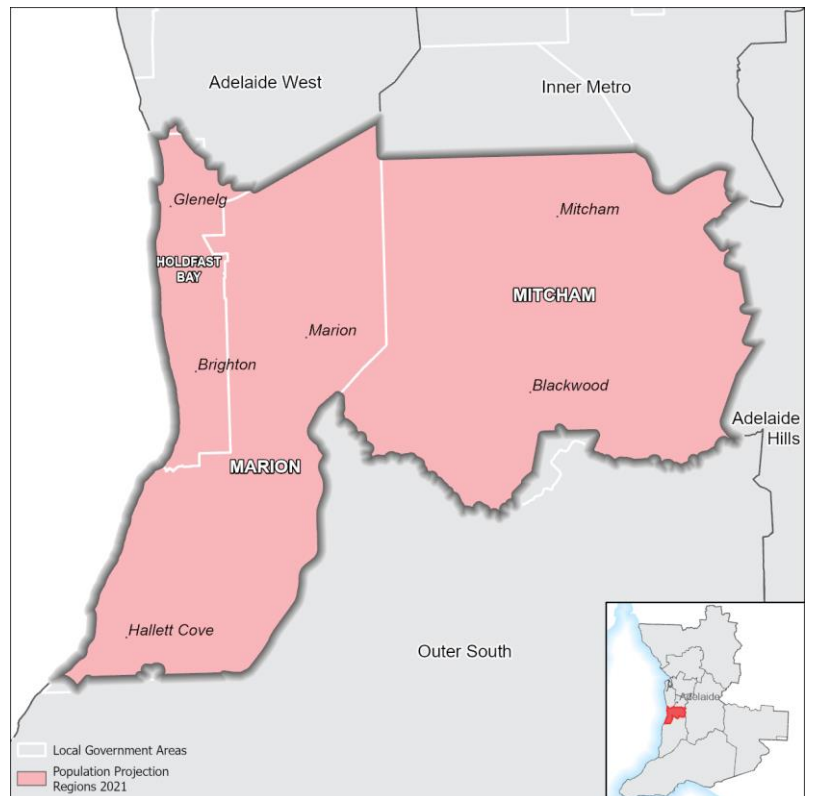
### Projected Growth 2021 to 2041

Table 10 summarises the projected population for the region from 2021 to 2041 for the low, medium and high growth scenarios.

**Table 10: Projected Population, Inner South Region, 2021-2041**

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | Low | Medium | High |
| **Total Population** | | | |
| 2021 | 200,133 | 200,133 | 200,133 |
| 2041 | 212,003 | 221,128 | 229,079 |
| 2021-2041 | 11,870 | 20,995 | 28,946 |
| **Average annual change** | | | |
| 2021-2041 | 594 | 1,050 | 1,447 |
| 2021-2041 (%) | 0.30 | 0.52 | 0.72 |

**Figure 28: Projected Population, Inner South Region, 2021-2041**
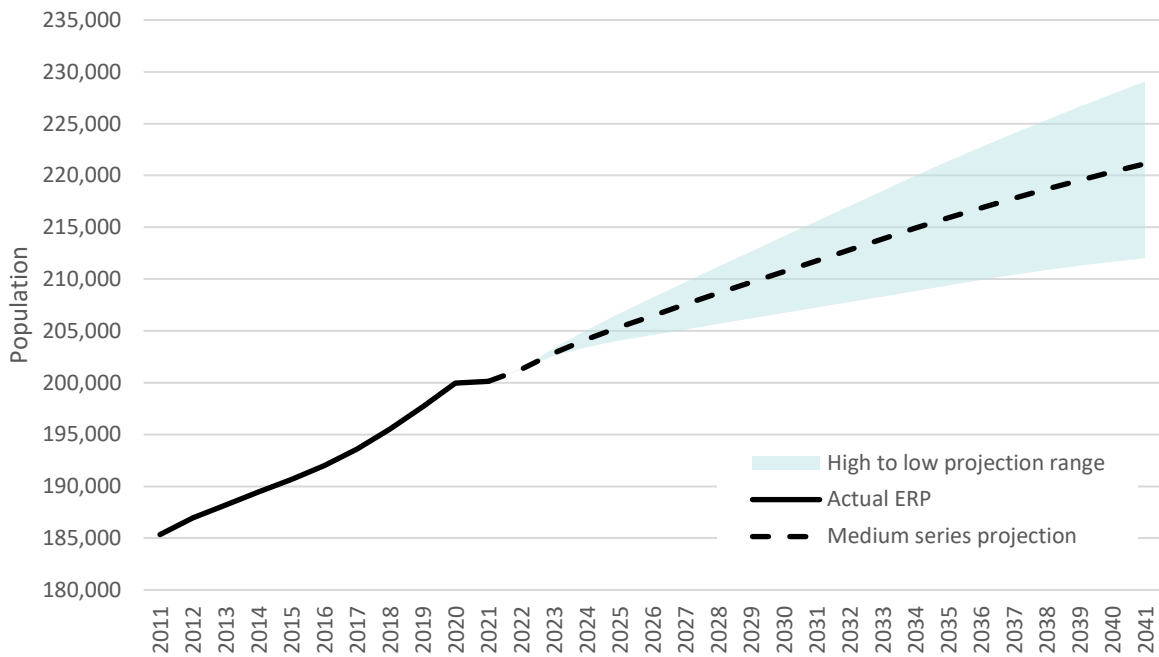


**Age Profile**

Some growth is projected across all age groups. The population aged over 80 is projected to increase by 78%.

**Figure 29: Population by service age group – medium series, Inner South Region, 2021 vs 2041**
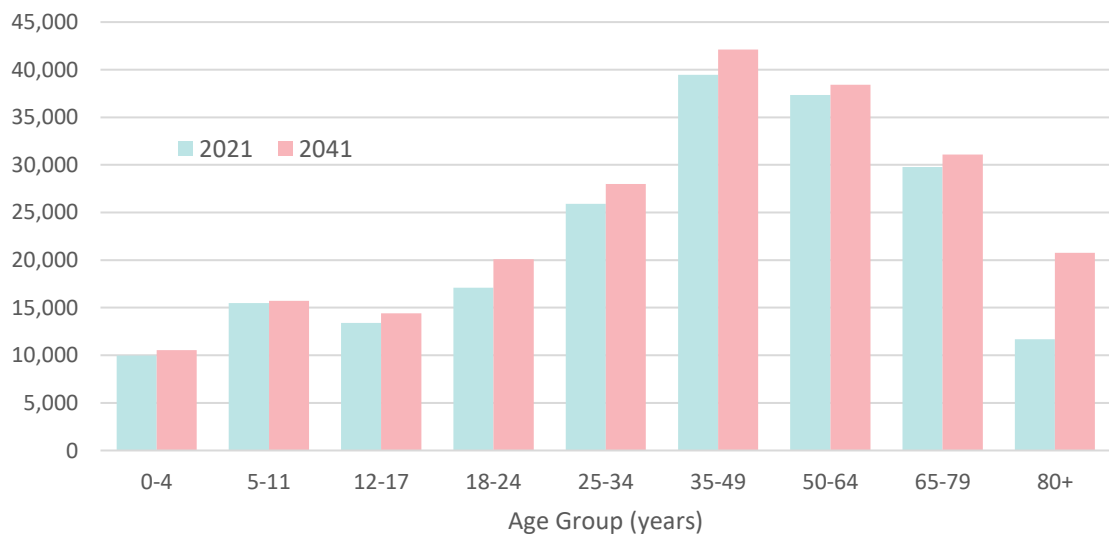
## 5.5    Outer North

### Region Summary

This region includes Gawler, Elizabeth, Two Wells, Angle Vale, Riverlea Park, Roseworthy and Concordia.

The area has the greatest stock of greenfield land as well as substantial horticulture areas.

In 2021 the region had a population of 139,452. It is one of the fastest growing regions, increasing by 10% over the past 5 years, with an additional 13,000 people. This growth has been largely driven by multiple greenfield development fronts.

The area has significant retail and commercial centres (Elizabeth, Munno Para, Gawler); health precinct (Lyell McEwin Hospital, Elizabeth); industrial employment zoned (Elizabeth, Edinburgh); Defence (RAAF base at Edinburgh); and is a rich agricultural region (Virginia, Roseworthy).

Numerous greenfield growth fronts within the region, including Riverlea Park, Angle Vale, Gawler East, Roseworthy, Two Wells, Munno Para and Blakeview, will support growth in the region. Infill opportunities exist around Elizabeth centre and renewal opportunities in Davoren Park and Elizabeth.

The region is serviced by rail and good road networks including the north-south motorway.

### Projected Growth 2021 to 2041

Table 11 summarises the projected population for the region from 2021 to 2041 for the low, medium and high growth scenarios.

**Table 11: Projected Population, Outer North Region, 2021-2041**

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | Low | Medium | High |
| Total Population | | | |
| 2021 | 139,452 | 139,452 | 139,452 |
| 2041 | 199,197 | 229,115 | 259,333 |
| 2021-2041 | 59,745 | 89,663 | 119,881 |
| Average annual change | | | |
| 2021-2041 | 2,987 | 4,483 | 5,994 |
| 2021-2041 (%) | 2.14 | 3.21 | 4.30 |
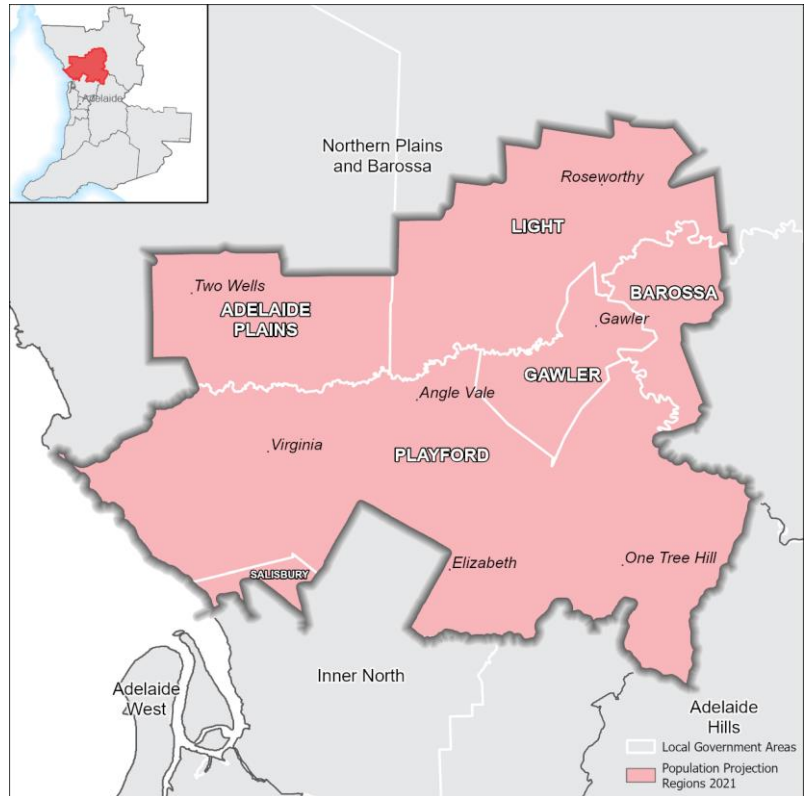
**Figure 30: Projected Population, Outer North Region, 2021-2041**
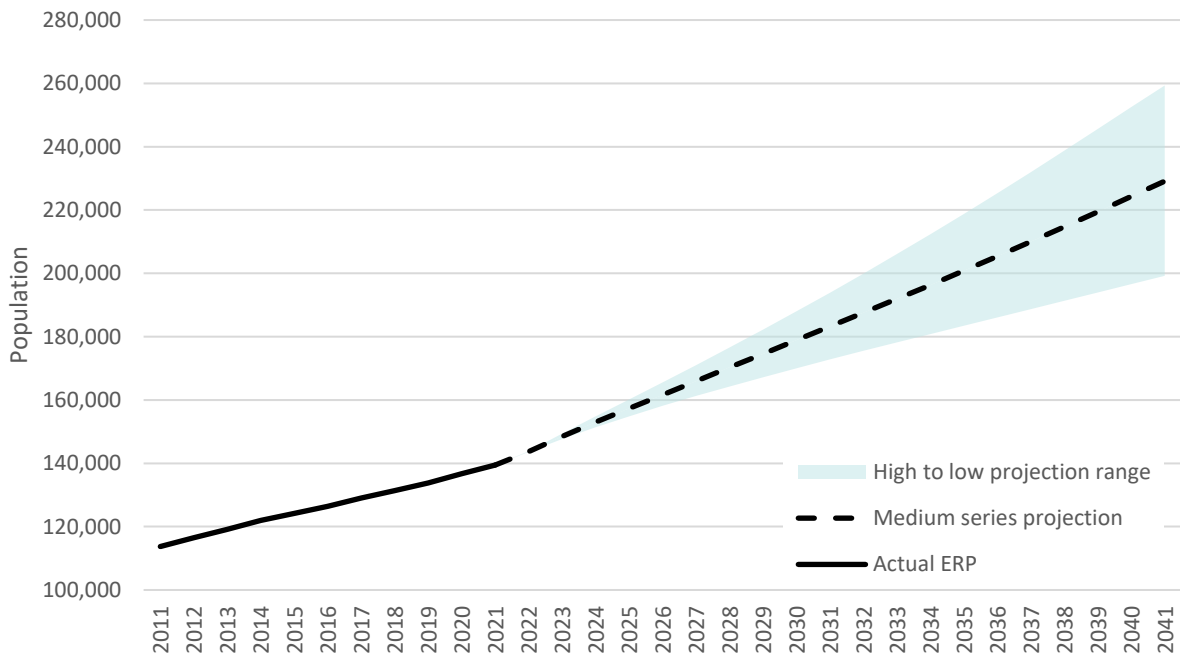


## Age Profile

Significant growth is projected across all age groups within the region. Established workers and those aged 65+ are projected to experience the greatest increases.

**Figure 31: Population by service age group – medium series, Outer North Region, 2021 vs 2041**
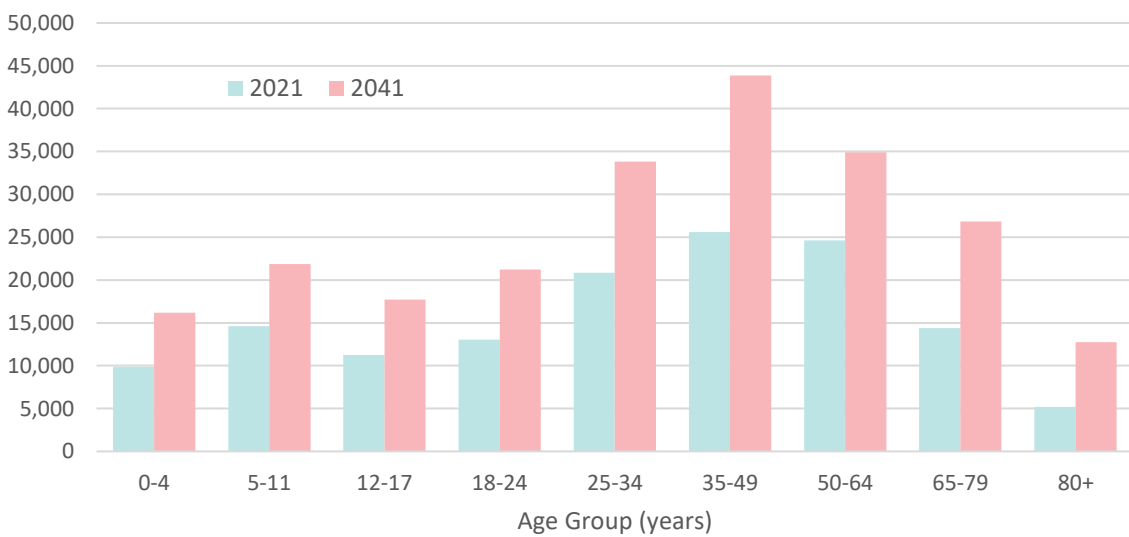
## 5.6    Outer South

### Region Summary

This region is topographically constrained by the coastline to the west and the hills to the east. The McLaren Vale Wine Region and Character Preservation District covers much of the south east of the region, restricting opportunities for future residential development.

In 2021 the region had a population of 177,968. Multiple greenfield development fronts, along with infill developments throughout the region have seen the population increase by around 7,300 between 2016 and 2021.

Serviced by a train to Seaford, along with the Southern expressway and proposed completion of the north-south corridor, the region is well connected to the CBD.
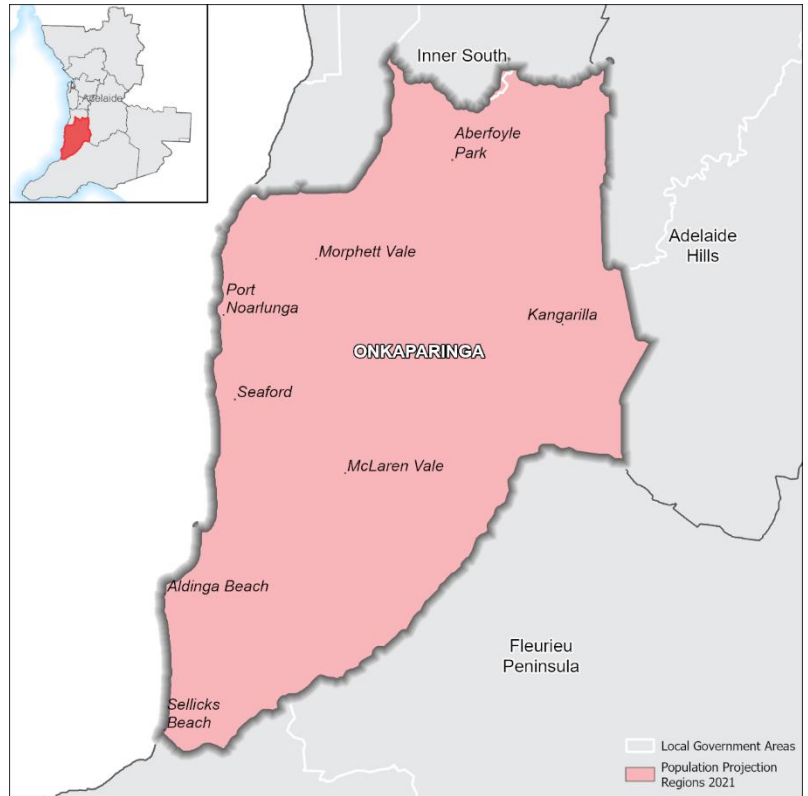
Additional Greenfield growth opportunities have recently been released at Aldinga and Hackham, and early investigations have commenced at Sellicks Beach. The identified greenfield land supply in this area is estimated to last around 10 years. Infill opportunities surround Noarlunga Centre, and numerous general infill opportunities throughout, particularly within Morphett Vale, Christies Beach, Christie Downs and Hackham.

### Projected Growth 2021 to 2041

Table 12 summarises the projected population for the region from 2021 to 2041 for the low, medium and high growth scenarios.

**Table 12: Projected Population, Outer South Region, 2021-2041**

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | Low | Medium | High |
| **Total Population** | | | |
| 2021 | 177,968 | 177,968 | 177,968 |
| 2041 | 194,018 | 205,055 | 216,505 |
| 2021-2041 | 16,050 | 27,087 | 38,537 |
| **Average annual change** | | | |
| 2021-2041 | 803 | 1,354 | 1,927 |
| 2021-2041 (%) | 0.45 | 0.76 | 1.08 |

**Figure 32: Projected Population, Outer South Region, 2021-2041**
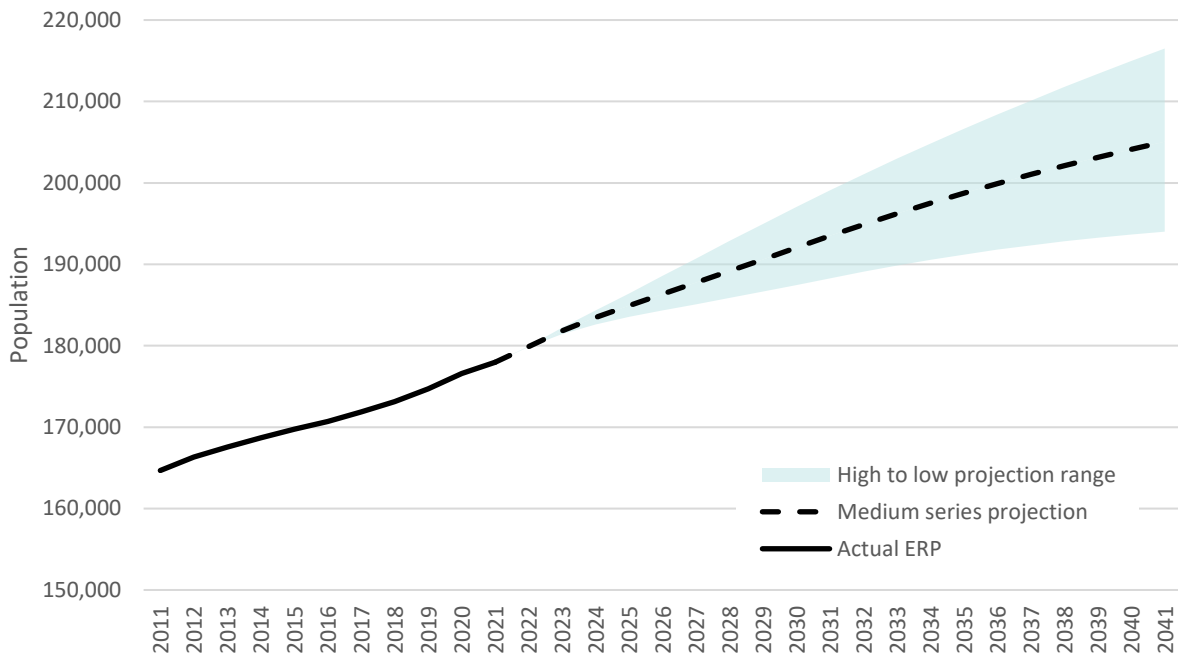


## Age Profile

Growth is projected across all age groups. The population aged over 80 will experience the greatest growth, increasing by 150%.

**Figure 33: Population by service age group – medium series, Outer South Region, 2021 vs 2041**
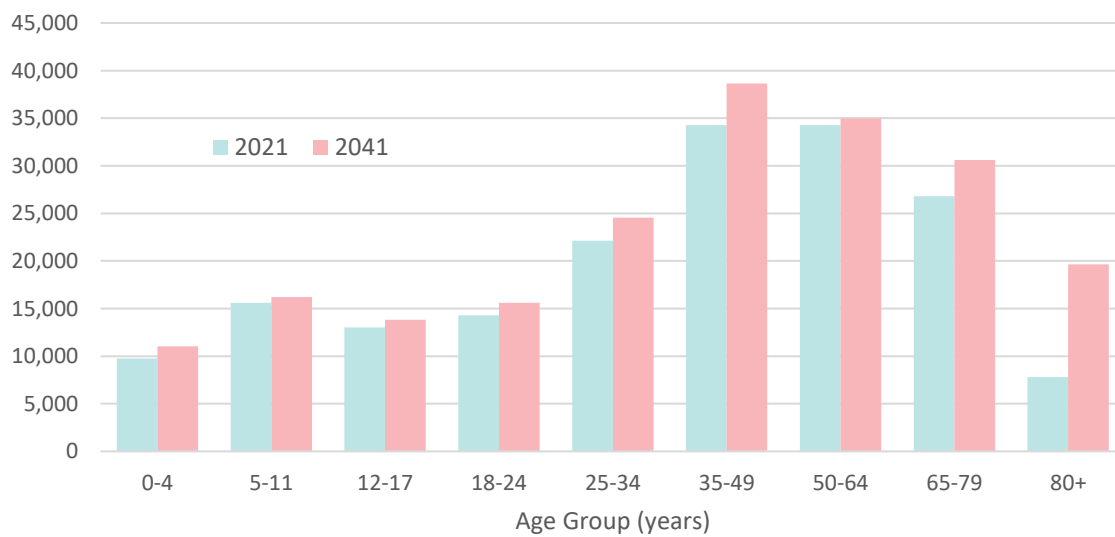
## 5.7     Adelaide Hills

### Region Summary

The region includes Mount Barker and Adelaide Hills councils.

In 2021 the region had a population of 80,501. Greenfield development surrounding Mount Barker has contributed to much of this growth, with 7,337 additional people between 2016 and 2021.

Mount Barker greenfield growth continues to be the major contributor to growth in the region. Smaller opportunities are scattered across the numerous townships throughout the region, however growth opportunities beyond township boundaries are limited due to the Environment and Food Protection Area that covers much of the region.
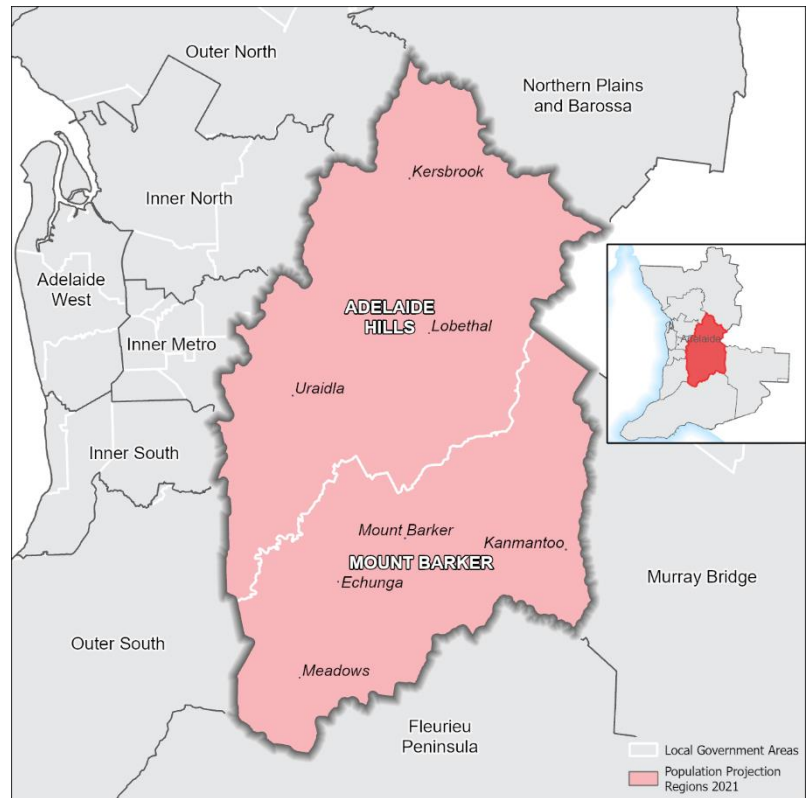
### Projected Growth 2021 to 2041

Table 13 summarises the projected population for the region from 2021 to 2041 for the low, medium and high growth scenarios.

Table 13: Projected Population, Adelaide Hills Region, 2021-2041

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | Low | Medium | High |
| Total Population | | | |
| 2021 | 80,501 | 80,501 | 80,501 |
| 2041 | 100,520 | 108,291 | 116,346 |
| 2021-2041 | 20,019 | 27,790 | 35,845 |
| Average annual change | | | |
| 2021-2041 | 1,001 | 1,389 | 1,792 |
| 2021-2041 (%) | 1.24 | 1.73 | 2.23 |

**Figure 34: Projected Population, Adelaide Hills Region, 2021-2041**
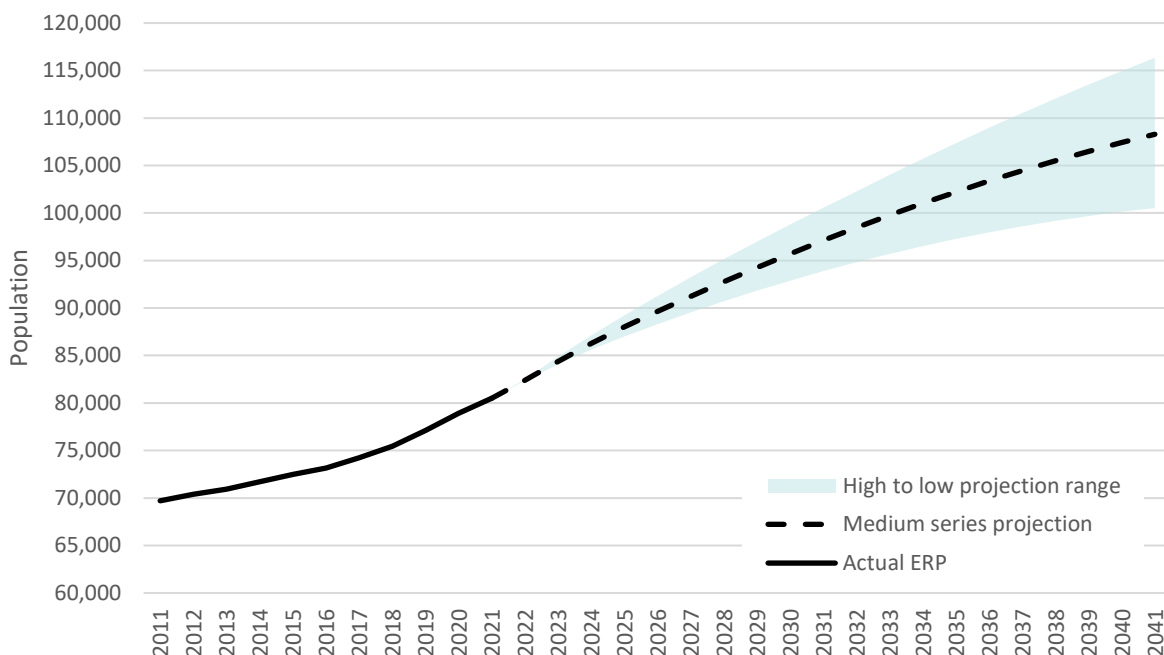


## Age Profile

Growth is projected across all age groups. The population aged over 80 years is projected to triple over the next 20 years.

**Figure 35: Population by service age group – medium series, Adelaide Hills Region, 2021 vs 2041**
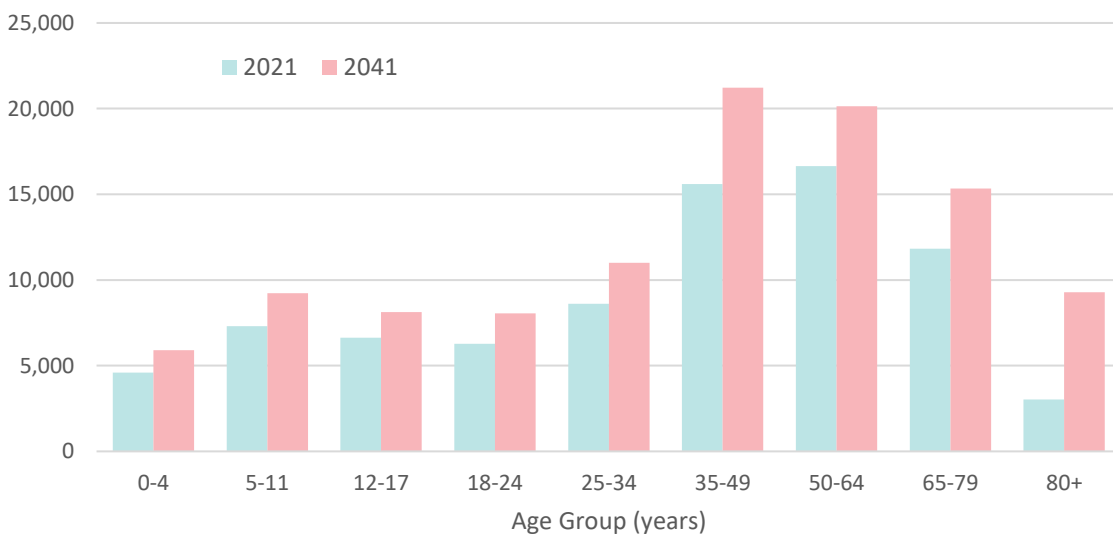
## 5.8    Murray Bridge

### Region Summary

The region includes the city of Murray Bridge, Monarto and several smaller towns on the River Murray.

In 2021 the region had a population of 22,689. Since 2016, the population has increased by just 777 people.

The town of Murray Bridge has ample land for expansion, both within the built-up area and at Gifford Hill. Furthermore, a Code Amendment seeks to unlock three key parcels of land to the south-west of the city, totalling 113 hectares, to allow housing development and accommodate future population growth in the area.

Job opportunities and demand for housing in Murray Bridge and the surrounding areas will be increased with Thomas Foods International scheduled to open a new upgraded meat processing facility by the end of 2023, with further expansions to follow.
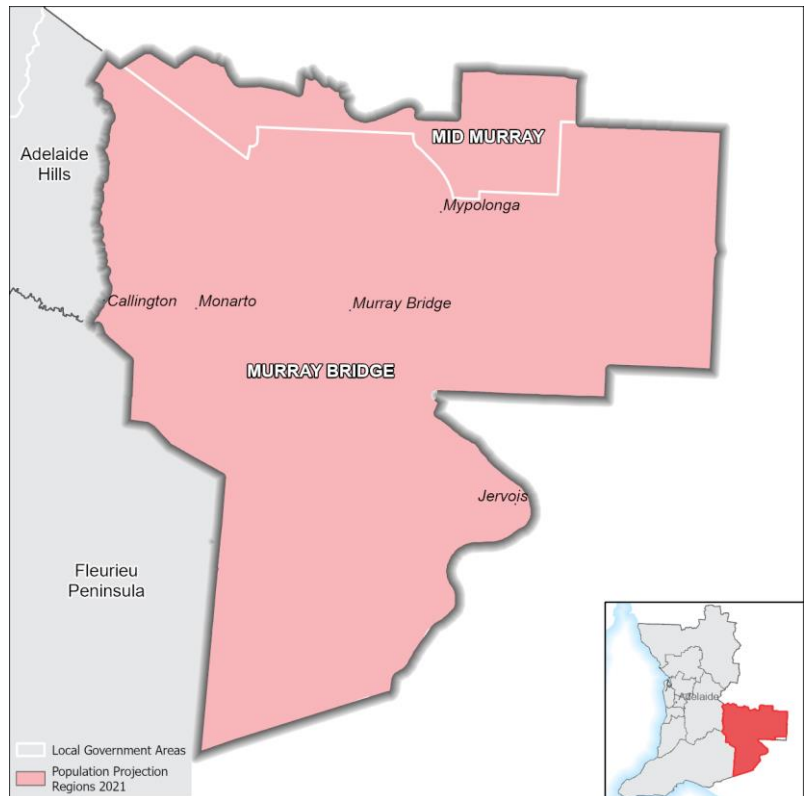
### Projected Growth 2021 to 2041

Table 14 summarises the projected population for the region from 2021 to 2041 for the low, medium and high growth scenarios.

**Table 14: Projected Population, Murray Bridge Region, 2021-2041**

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | **Low** | **Medium** | **High** |
| **Total Population** | | | |
| 2021 | 22,689 | 22,689 | 22,689 |
| 2041 | 27,869 | 31,935 | 35,262 |
| 2021-2041 | 5,180 | 9,246 | 12,573 |
| **Average annual change** | | | |
| 2021-2041 | 259 | 462 | 629 |
| 2021-2041 (%) | 1.14 | 2.04 | 2.77 |

**Figure 36: Projected Population, Murray Bridge Region, 2021-2041**
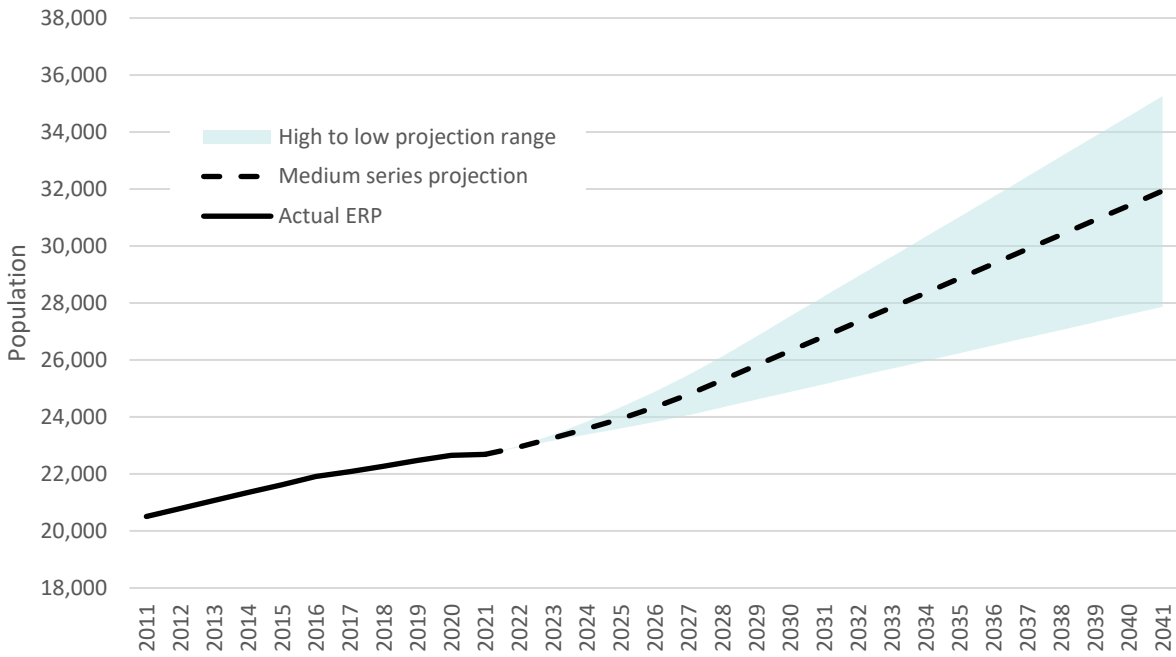


## Age Profile

Growth is projected across all age groups. The working age population is projected to increase significantly as job opportunities continue within the region.

**Figure 37: Population by service age group – medium series, Murray Bridge Region, 2021 vs 2041**
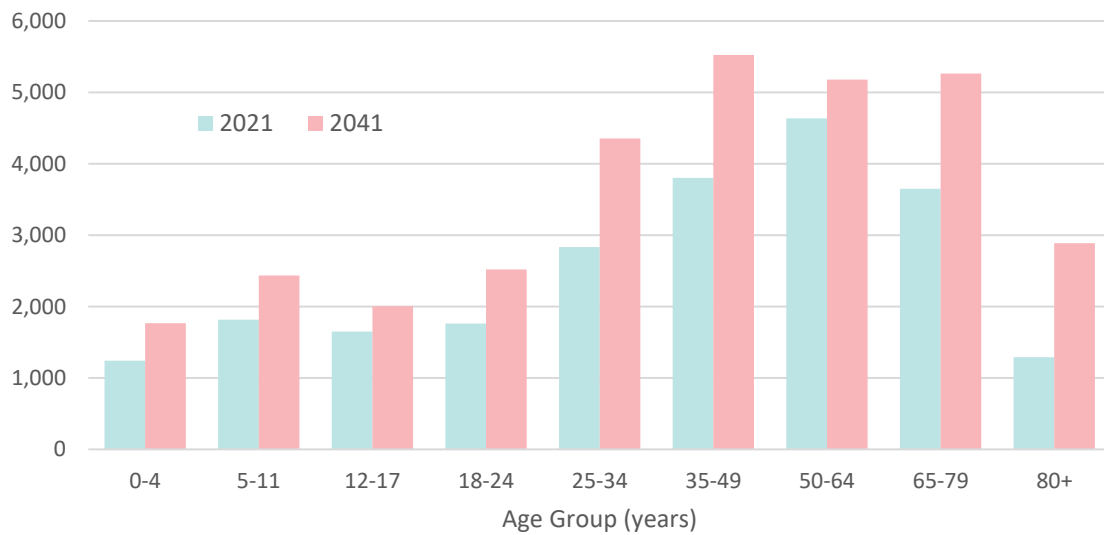
## 5.9  Northern Plains and Barossa

### Region Summary

The region includes the towns of Kapunda, Freeling, Mallala, Dublin, Tanunda, Nuriootpa and Williamstown. It is an economically diverse area and includes the Barossa Valley wine region, grain and livestock farming and tourism.

Due to the region's proximity to the Adelaide metropolitan area, it is attractive for residential growth. Growth opportunities in the townships are spread across the region, however, are limited due to restrictions imposed by both the Character Preservation District and the Environment and Food Protection Area, that cover much of the region.
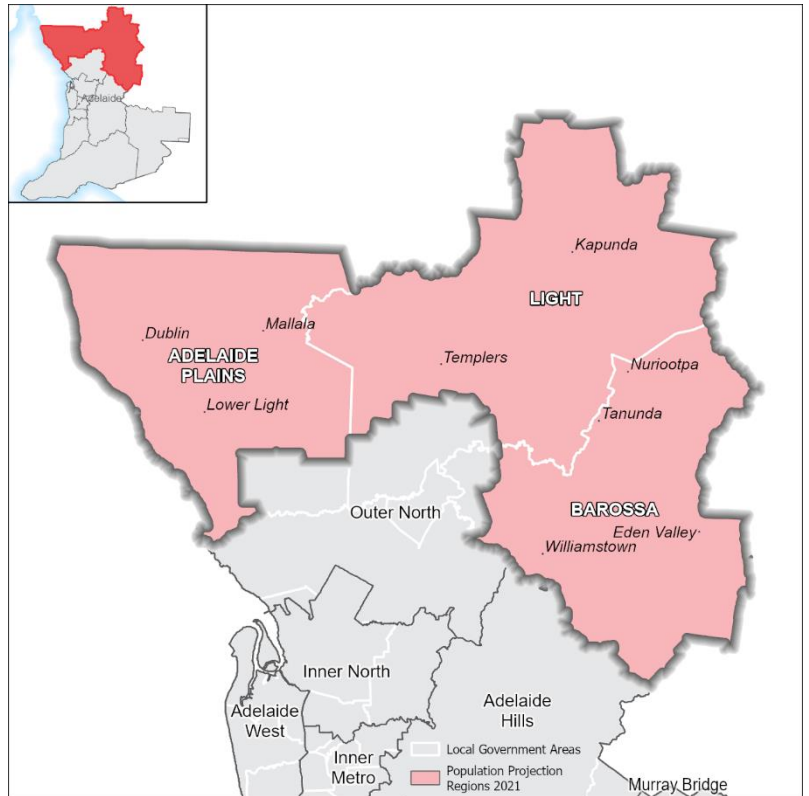


### Projected Growth 2021 to 2041

Table 15 summarises the projected population for the region from 2021 to 2041 for the low, medium and high growth scenarios.

**Table 15: Projected Population, Northern Plains and Barossa Region, 2021-2041**

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | Low | Medium | High |
| | **Total Population** | | |
| 2021 | 38,797 | 38,797 | 38,797 |
| 2041 | 45,728 | 50,866 | 55,355 |
| 2021-2041 | 6,931 | 12,069 | 16,558 |
| | **Average annual change** | | |
| 2021-2041 | 347 | 603 | 828 |
| 2021-2041 (%) | 0.89 | 1.56 | 2.13 |

**Figure 38: Projected Population, Northern Plains and Barossa Region, 2021-2041**
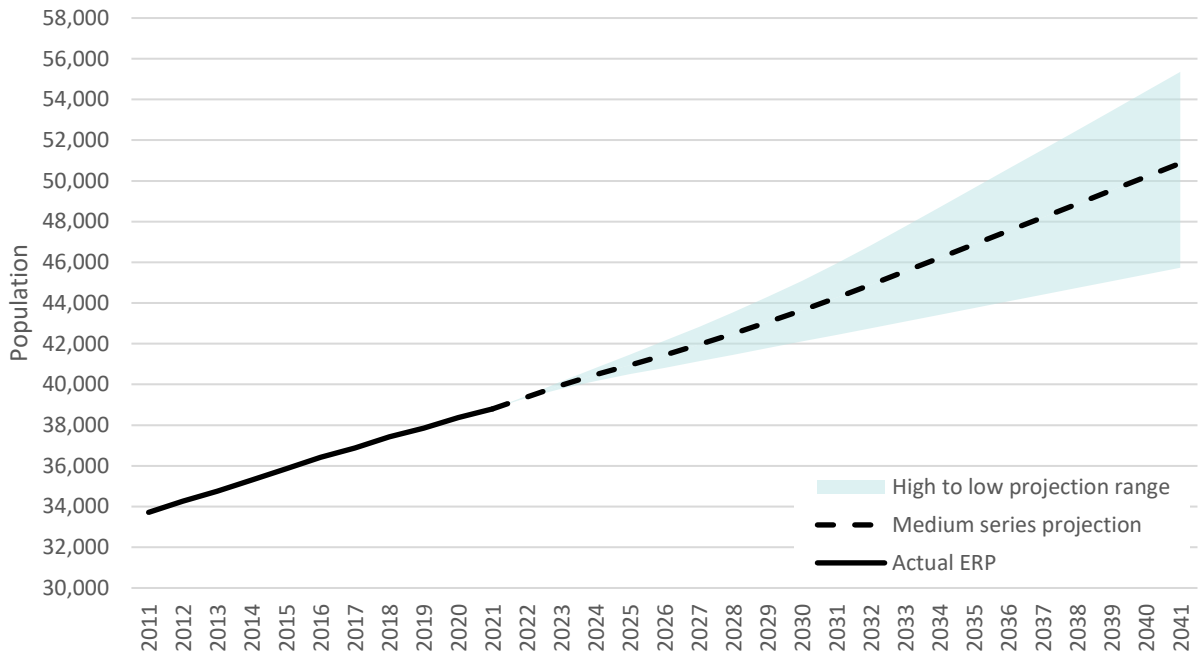


**Age Profile**

Growth is projected across all age groups, with the largest increase in those aged 65+.

**Figure 39: Population by service age group – medium series, Northern Plains and Barossa Region, 2021 vs 2041**
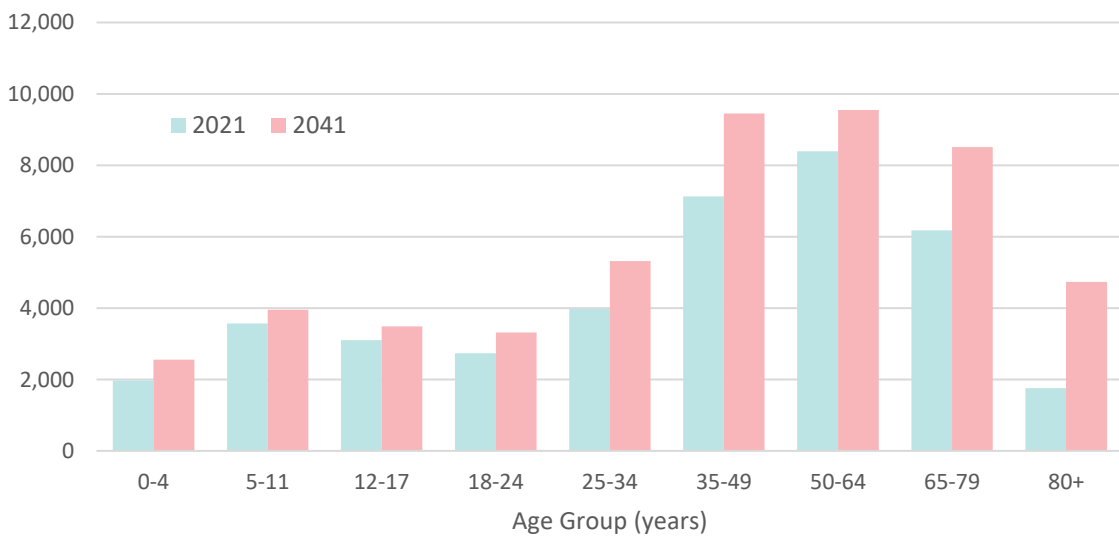
## 5.10   Fleurieu Peninsula

### Region Summary

The Fleurieu Peninsula region is an attractive and economically diverse area. Industries include wine in Langhorne Creek, tourism, forestry, retirement services and a diverse range of agriculture. In 2021 there were 51,600 people living in the region. Since 2016, the population has increased by around 4,800 people.

The Fleurieu Peninsula has many coastal and inland towns and is an attractive area for both tourism and retirement living. The region is well serviced by the main townships of Victor Harbor, Goolwa, Strathalbyn and Yankalilla, and by its proximity to the Adelaide metropolitan area. Long term growth opportunities beyond township boundaries, however, are limited due to the Environment and Food Protection Area that covers much of the region.
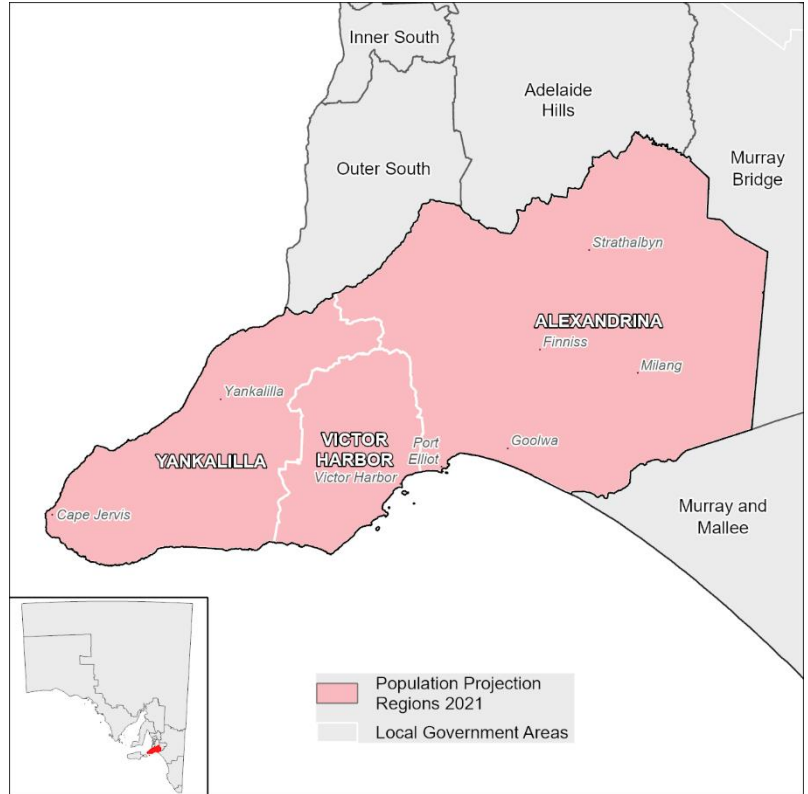
Growth in the Fleurieu Peninsula region is expected to be driven by:

- Jobs in agriculture and aquaculture sectors
- Tourism and retirement services

### Projected Growth 2021 to 2041

Table 16 summarises the projected population for the region from 2021 to 2041 for the low, medium and high growth scenarios.

**Table 16: Projected Population, Fleurieu Peninsula Region, 2021-2041**

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | **Low** | **Medium** | **High** |
| **Total Population** | | | |
| 2021 | 51,612 | 51,612 | 51,612 |
| 2041 | 65,649 | 70,754 | 75,862 |
| 2021-2041 | 14,037 | 19,142 | 24,250 |
| **Average annual change** | | | |
| 2021-2041 | 702 | 957 | 1,212 |
| 2021-2041 (%) | 1.36 | 1.85 | 2.35 |

**Figure 40: Projected Population, Fleurieu Peninsula Region, 2021-2041**
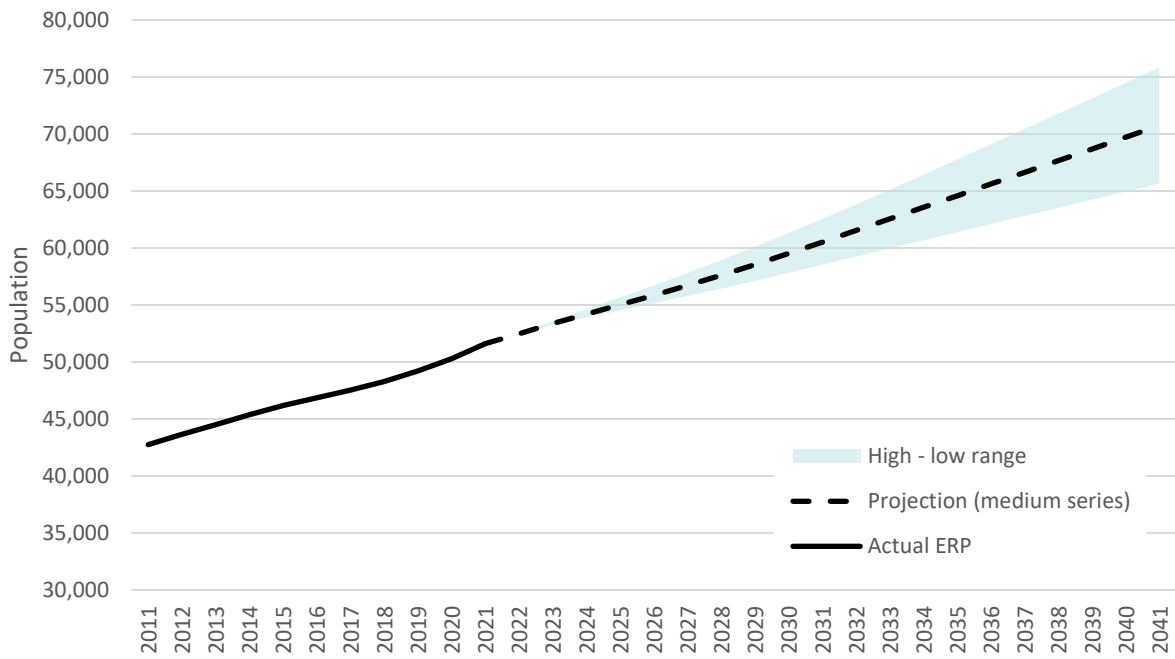


## Age Profile

This region is heavily dominated by older age groups. It is projected this will continue over the next 20 years, as more people move to the region for retirement.

**Figure 41: Population by service age group – medium series, Fleurieu Peninsula Region, 2021 vs 2041**
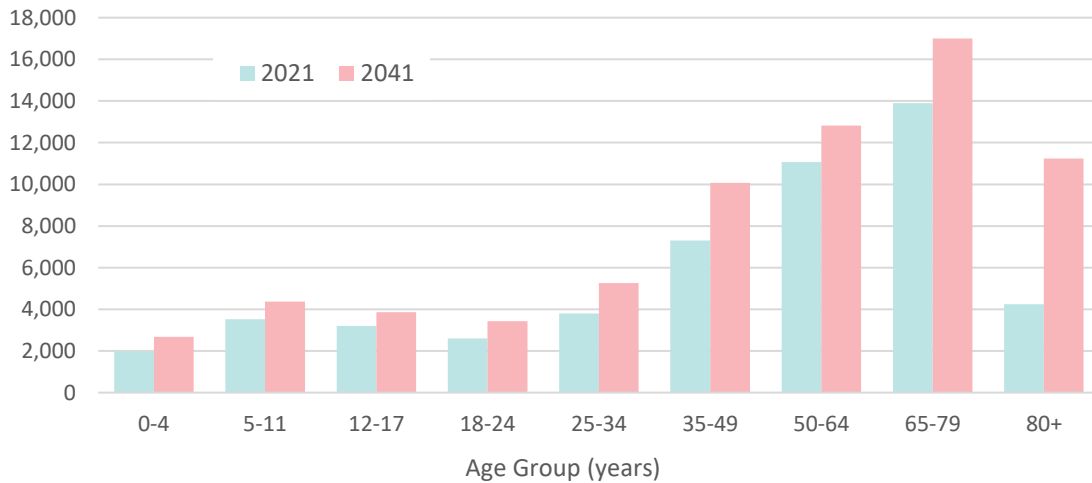
## 5.11   Kangaroo Island

### Region Summary

The Kangaroo Island region is an economically diverse area with attractive landscapes and sea vistas. Tourism is the main industry, with forestry, aquaculture and agriculture also contributing to the economy of the region. In 2021 there were close to 5,000 people living in the region. Since 2016, the population has increased by 1,60 people.

The main town servicing the region is Kingscote. The Island was significantly impacted by bushfires in late 2019 and early 2020. Along with significant bushland, infrastructure and animal stock losses, the plantation timber industry lost around 95% of trees. Kiland (formerly Kangaroo Island Plantation Timber (KIPT), lost most of its plantation timber, and have recently announced a major redirection of their business towards sheep meat production and biochar and carbon crediting of their stocks of burnt plantation timber.
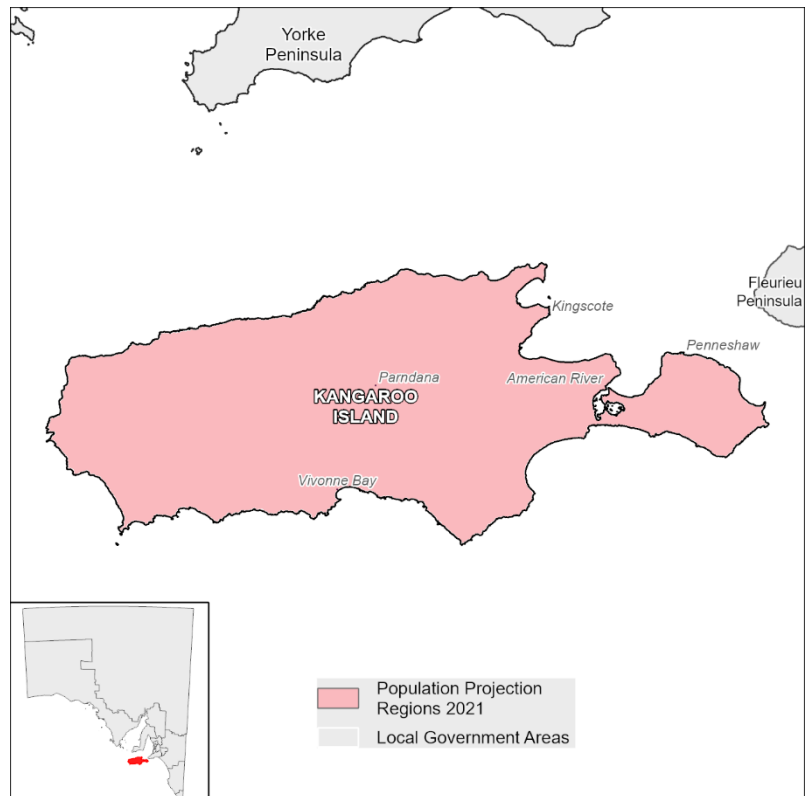
Sealink ferry services are building two larger ferries with increased service to the island due to commence mid-2024. The importance of maintaining the natural environment on the island is crucial to its tourism economy and the island is slowly recovering its flora and fauna.

Growth in the Kangaroo Island region is expected to be driven by:

- Tourism and jobs in agriculture and aquaculture sectors

### Projected Growth 2021 to 2041

Table 17 summarises the projected population for the region from 2021 to 2041 for the low, medium and high growth scenarios.

**Table 17: Projected Population, Fleurieu Peninsula Region, 2021-2041**

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | Low | Medium | High |
| Total Population | | | |
| 2021 | 4,999 | 4,999 | 4,999 |
| 2041 | 5,899 | 6,001 | 6,113 |
| 2021-2041 | 900 | 1,002 | 1,114 |
| Average annual change | | | |
| 2021-2041 | 45 | 50 | 56 |
| 2021-2041 (%) | 0.90 | 1.00 | 1.11 |

P R O J E C T I O N S

**Figure 42: Projected Population, Kangaroo Island Region, 2021-2041**
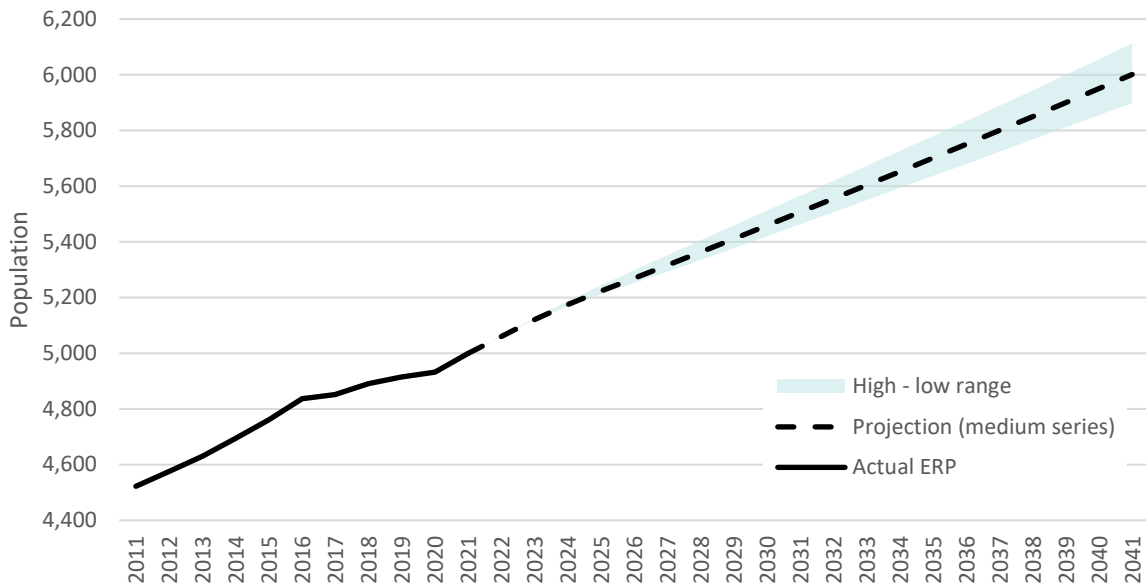


## Age Profile

This region is primarily dominated by older age groups. It is projected that some age groups will slightly decrease, including those aged 0-4, 25-34 and 50-64. The 80+ age cohort is projected to grow significantly.

**Figure 43: Population by service age group – medium series, Kangaroo Island Region, 2021 vs 2041**
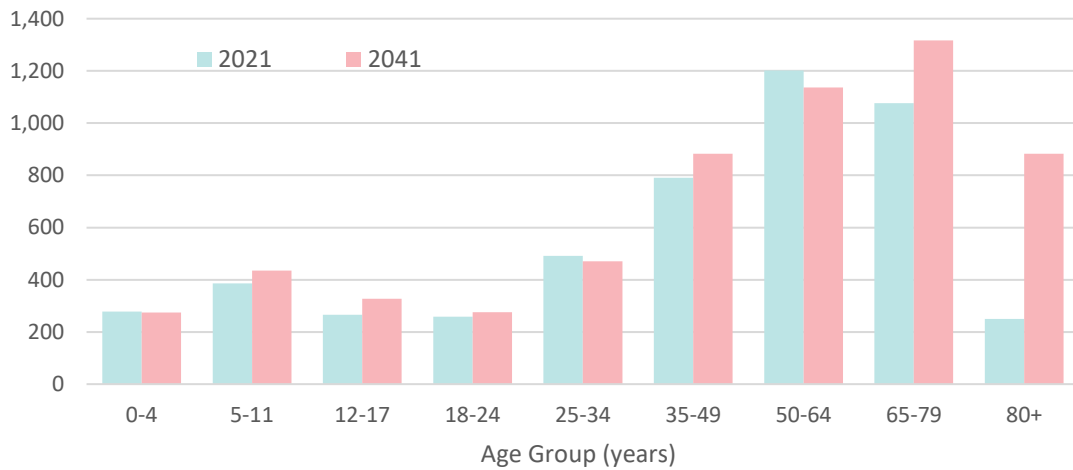
## 5.12 Eyre Peninsula and South West

### Region Summary

Major towns in this region include Port Lincoln, Ceduna and Wudinna. It is an economically diverse area with industries that include mining, manufacturing, grain and livestock farming, aquaculture and tourism.

The population in 2021 was 37,000. Since 2016, the region has grown by just over 1,000 people.

New deep sea port developments are in various stages of development and a recently completed transhipment port facility at Lucky Bay is supporting grain exports from the region. There is also a proposal for a national nuclear medical waste facility near Kimba. The region is renowned as a high quality producer of aquaculture and further expansions in this industry is expected.

The Eyre Peninsula High Voltage transmission link was completed early 2023 and will provide businesses and the public with a more reliable power supply, enabling further investment in the Eyre Peninsula.

Port Lincoln is the main service centre for the lower reaches of the Peninsula. Ceduna on the west coast also functions as service centres for the region.

Growth in the Eyre Peninsula and South West region is expected to be driven by:

- Jobs in renewables, agriculture and aquaculture and supporting infrastructure.

### Projected Growth 2021 to 2041

Table 18 summarises the projected population for the region from 2021 to 2041 for the low, medium and high growth scenarios.

**Table 18: Projected Population, Eyre Peninsula and South West Region, 2021-2041**

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | Low | Medium | High |
| | Total Population | | |
| 2021 | 37,004 | 37,004 | 37,004 |
| 2041 | 40,172 | 41,419 | 42,189 |
| 2021-2041 | 3,168 | 4,415 | 5,185 |
| | Average annual change | | |
| 2021-2041 | 158 | 221 | 259 |
| 2021-2041 (%) | 0.43 | 0.60 | 0.70 |
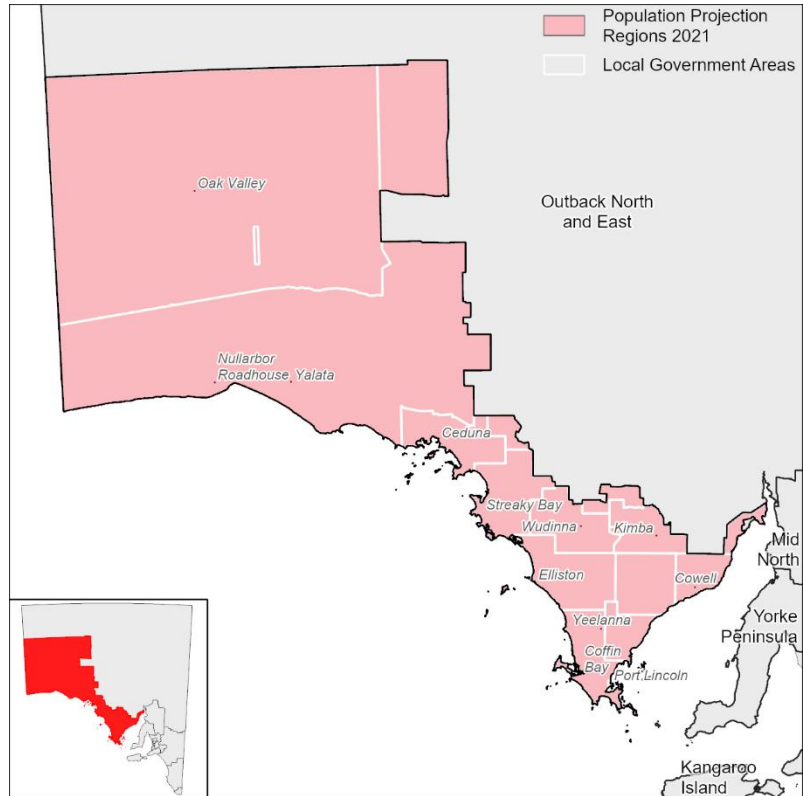
**Figure 44: Projected Population, Eyre Peninsula and South West Region, 2021-2041**
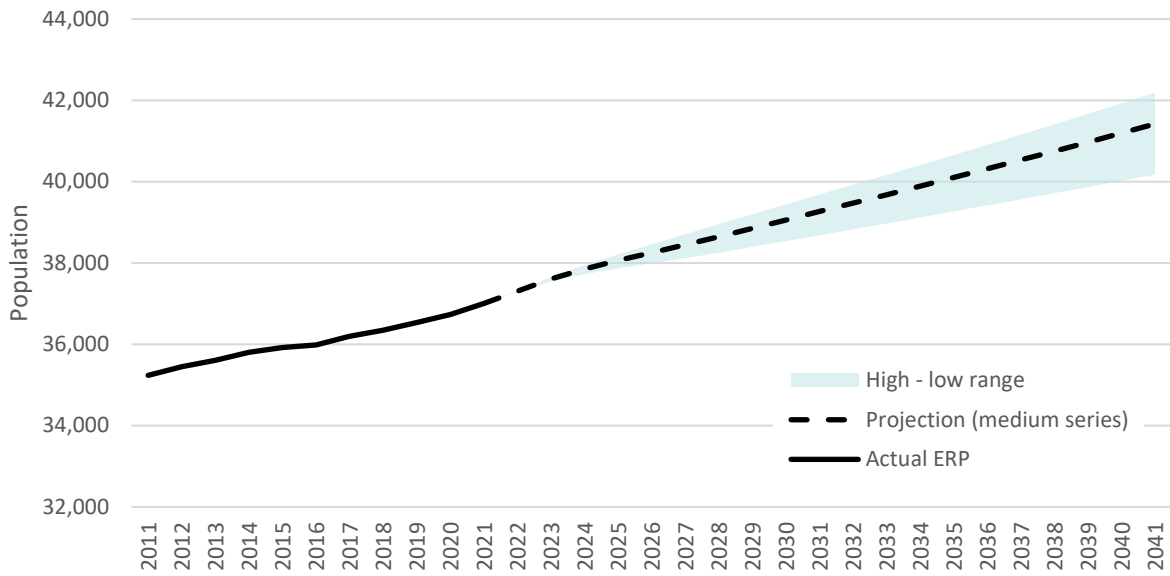


## Age Profile

Growth in several age cohorts is projected to decline over the next 20 years. The greatest growth is projected within the population aged 65+.

**Figure 45: Population by service age group – medium series, Eyre Peninsula and South West Region, 2021 & 2041**
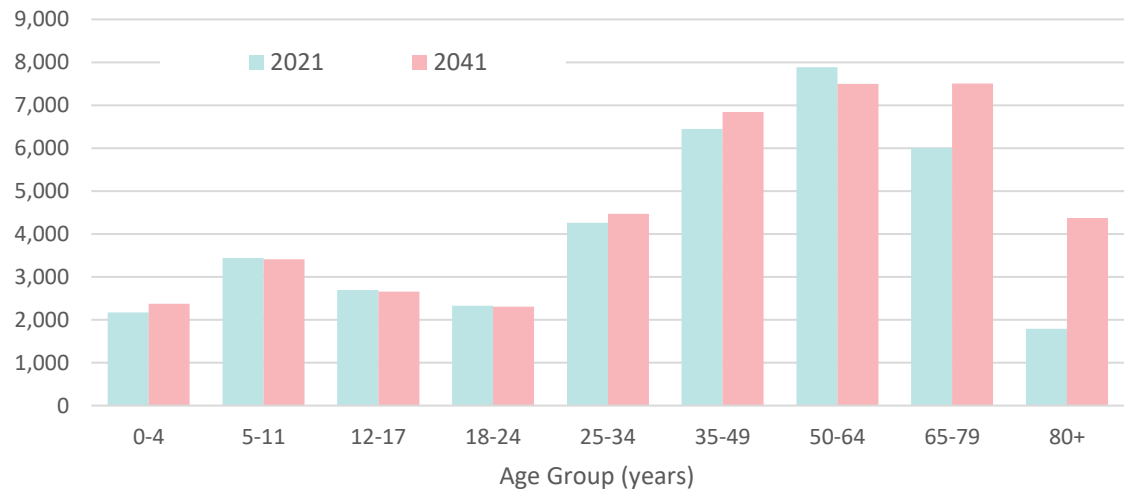
## 5.13   Whyalla

### Region Summary

The township of Whyalla is the second largest town outside of the Greater Adelaide Planning Region, behind Mount Gambier.

At the 2021 census, the population of the region was 21,868. Since 2016, the population of Whyalla has declined by around 560 people.

Whyalla has a rich history as a steel producing town and the Whyalla Steelworks are the main employer in town employing around 3,000 people. The steelworks announced in April 2023 that they will beginning to phase out coal-based steelmaking by building a new electric arc furnace by 2025. This furnace will eventually be fully powered by green energy. Port Bonython, just north of Whyalla, is also being investigated by the hydrogen sector for a power station that will use excess renewable energy from the region to produce hydrogen, and a hydrogen storage facility to provide additional capacity when required. An upgrade of the Port Bonython Jetty would also be required if this hydrogen hub goes ahead and Whyalla could only benefit from an influx of jobs to the area.
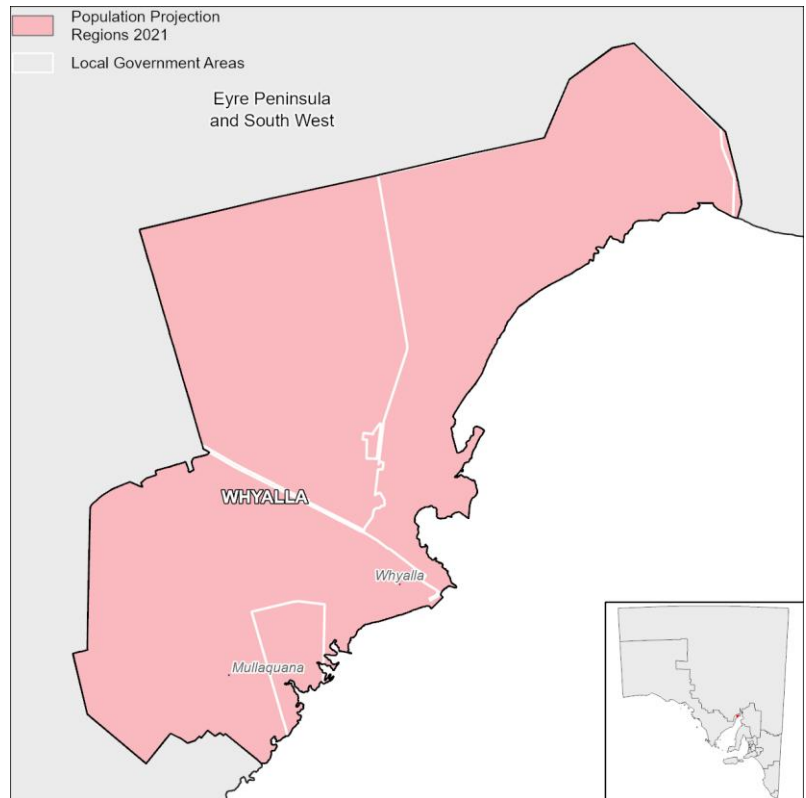
Growth in the Whyalla region is expected to be driven by:

- Jobs in renewables
- Jobs in the steel and mining sector

### Projected Growth 2021 to 2041

Table 19 summarises the projected population for the region from 2021 to 2041 for the low, medium and high growth scenarios.

**Table 19: Projected Population, Whyalla Region, 2021-2041**

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | **Low** | **Medium** | **High** |
| | **Total Population** | | |
| 2021 | 21,868 | 21,868 | 21,868 |
| 2041 | 22,566 | 23,595 | 24,672 |
| 2021-2041 | 698 | 1,727 | 2,804 |
| | **Average annual change** | | |
| 2021-2041 | 35 | 86 | 140 |
| 2021-2041 (%) | 0.16 | 0.39 | 0.64 |

**Figure 46: Projected Population, Whyalla Region, 2021-2041**
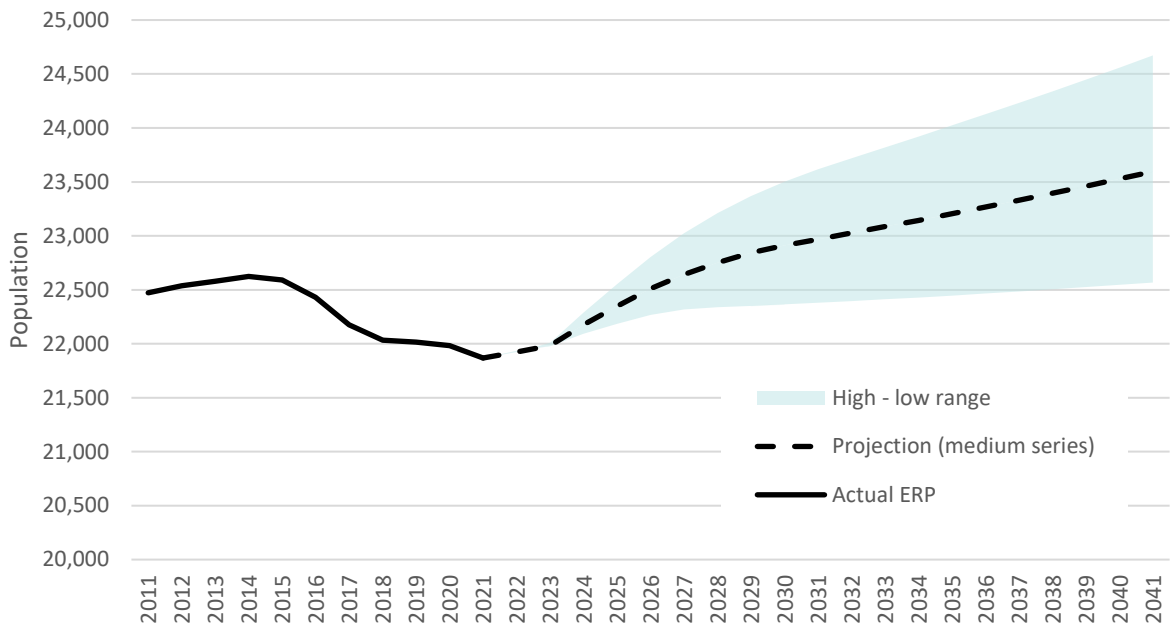


## Age Profile

Growth in this region is projected to be mostly within working age groups and those aged over 65 years.

**Figure 47: Population by service age group – medium series, Whyalla Region, 2021 & 2041**
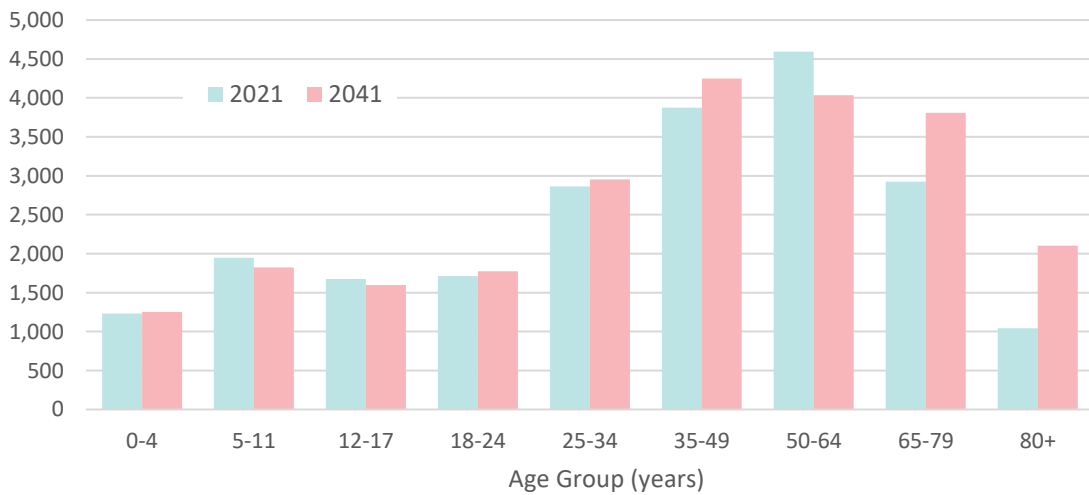
## 5.14   Limestone Coast

### Region Summary

Major towns in this region include Robe, Millicent, Naracoorte and Keith. The Limestone Coast region's economy includes viticulture, agriculture, aquaculture, forestry and tourism. In 2021 the population in the region was almost 32,000. Between 2016 and 2021, the population grew by 800 people.

Forestry, viticulture, agriculture and aquaculture have been the backbone of the South-East area of the state for many years. The wine producing areas, coastal towns, beaches and Naracoorte caves are popular tourist destinations.

The coastal town of Robe and the Coonawarra wine district are major tourism drawcards for the region. Robe is a favourite tourist destination but is also known as a famed crayfish town. An expansion of the timber industry complex at Kalangadoo should provide new jobs in the timber processing sector. A 36-hole international standard golf course with spa and conference facilities at Nora Creina is proposed. If developed, this coastal facility would provide many new jobs in the area.
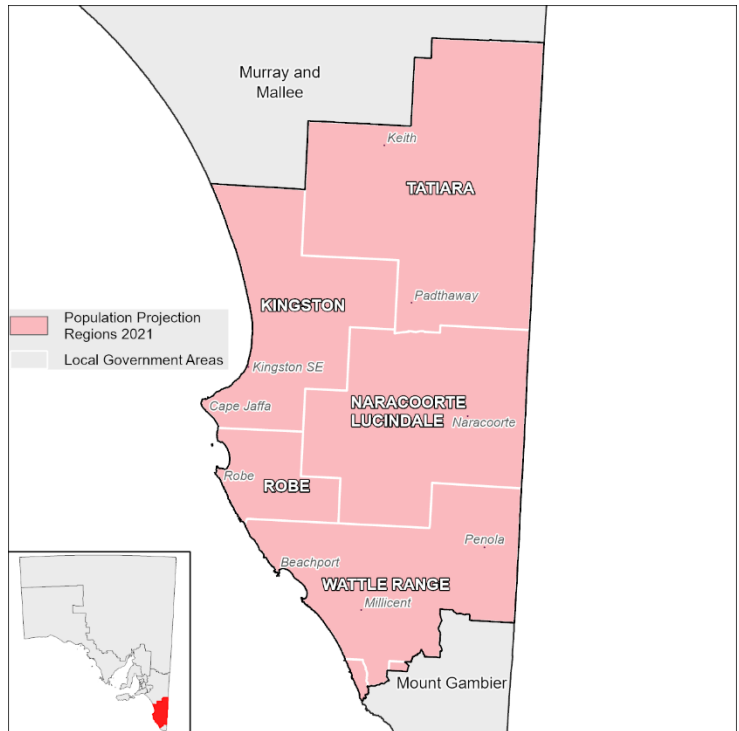
Growth in the Limestone Coast region is expected to be driven by:

- Jobs in the viticulture sector
- Jobs in renewables, forestry and education sectors
- Tourism

### Projected Growth 2021 to 2041

Table 20 summarises the projected population for the region from 2021 to 2041 for the low, medium and high growth scenarios.

**Table 20: Projected Population, Limestone Coast Region, 2021-2041**

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | Low | Medium | High |
| **Total Population** | | | |
| 2021 | 31,970 | 31,970 | 31,970 |
| 2041 | 33,849 | 34,435 | 35,075 |
| 2021-2041 | 1,879 | 2,465 | 3,105 |
| **Average annual change** | | | |
| 2021-2041 | 94 | 123 | 155 |
| 2021-2041 (%) | 0.29 | 0.39 | 0.86 |

**Figure 48: Projected Population, Limestone Coast Region, 2021-2041**
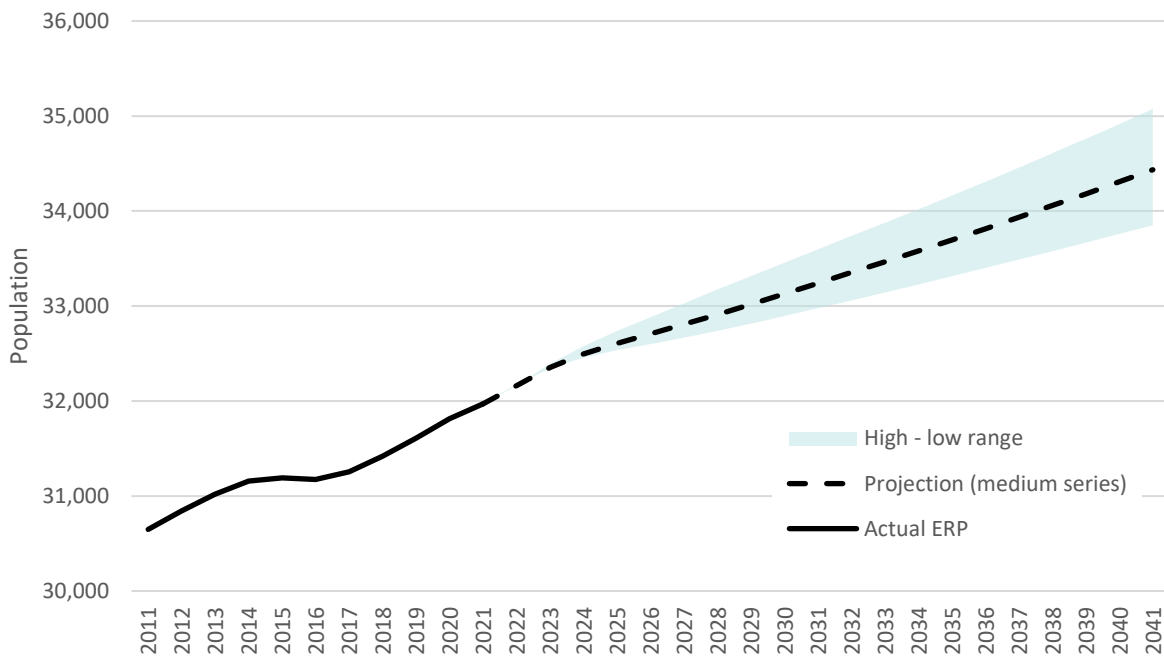


## Age Profile

It is projected that this region will experience losses across the younger age cohorts (12-24 years) as well as the mature aged workers (50-64), while those aged over 65 years will grow.

**Figure 49: Population by service age group – medium series, Limestone Coast Region, 2021 & 2041**
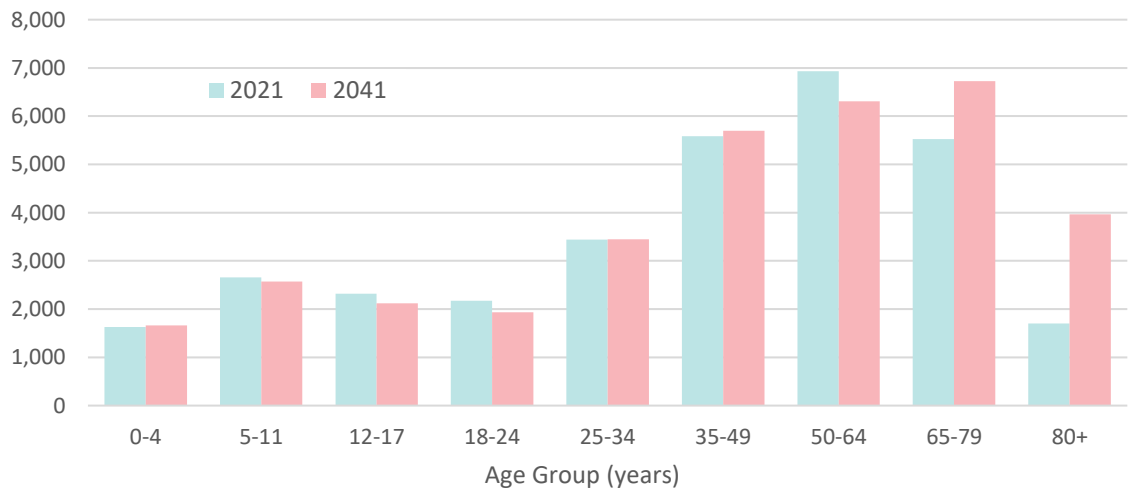
## 5.15   Mount Gambier

### Region Summary

This region includes the council areas of Mount Gambier and Grant. Mount Gambier is the main town within this region. The region's economy includes agriculture, aquaculture, forestry and tourism. The population in 2021 was 36,600. This region had grown by 1,050 people between 2016 and 2021. Mount Gambier is the largest town in South Australia outside of the Greater Adelaide Planning region.

Mount Gambier is the major service centre in the South-East region and has historically relied heavily on the forestry industry for jobs creation and growth. An expansion of the timber industry complex at Kalangadoo should provide new jobs in the timber processing sector. In recent years the Mount Gambier airport has undergone a major upgrade and a new state of the art recreation and convention centre has opened. In the Grant council, a new laminated timber production facility in Tarpeena is set to open in late 2023, employing around 250 persons. The region is attractive for tourism with iconic volcanic lakes and sinkhole garden in Mount Gambier, and Piccaninnie and Ewens Ponds Conservation Parks, among many.
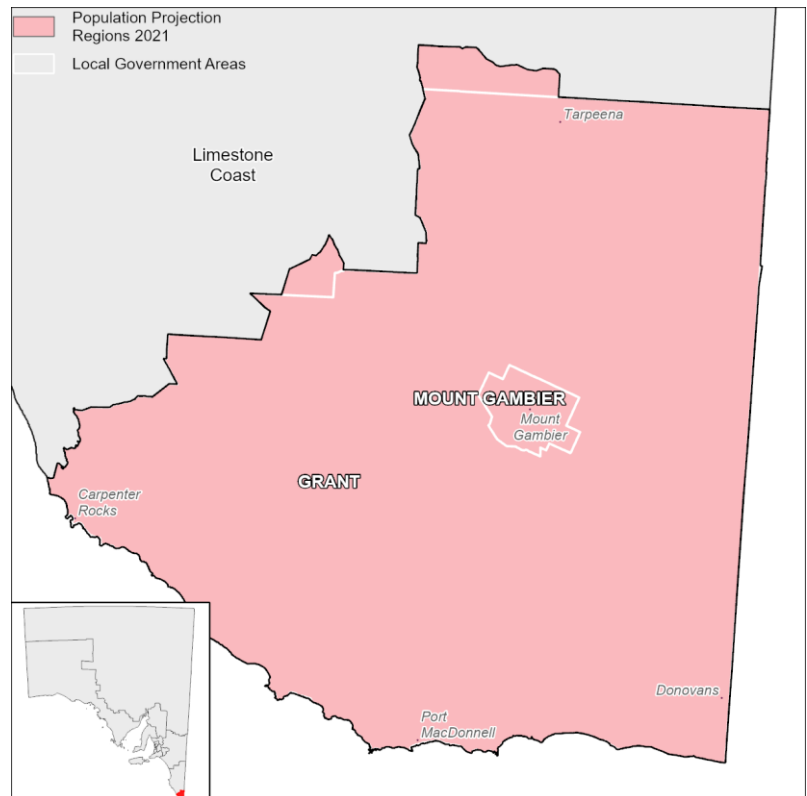
Growth in the Mount Gambier region is expected to be driven by:

- Population serving jobs
- Jobs in renewables, forestry and education sectors
- Tourism

### Projected Growth 2021 to 2041

Table 21 summarises the projected population for the region from 2021 to 2041 for the low, medium and high growth scenarios.

**Table 21: Projected Population, Mount Gambier Region, 2021-2041**

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | **Low** | **Medium** | **High** |
| **Total Population** | | | |
| 2021 | 36,572 | 36,572 | 36,572 |
| 2041 | 40,426 | 42,547 | 45,266 |
| 2021-2041 | 3,854 | 5,975 | 8,694 |
| **Average annual change** | | | |
| 2021-2041 | 193 | 299 | 435 |
| 2021-2041 (%) | 0.53 | 0.82 | 1.19 |

**Figure 50: Projected Population, Mount Gambier Region, 2021-2041**
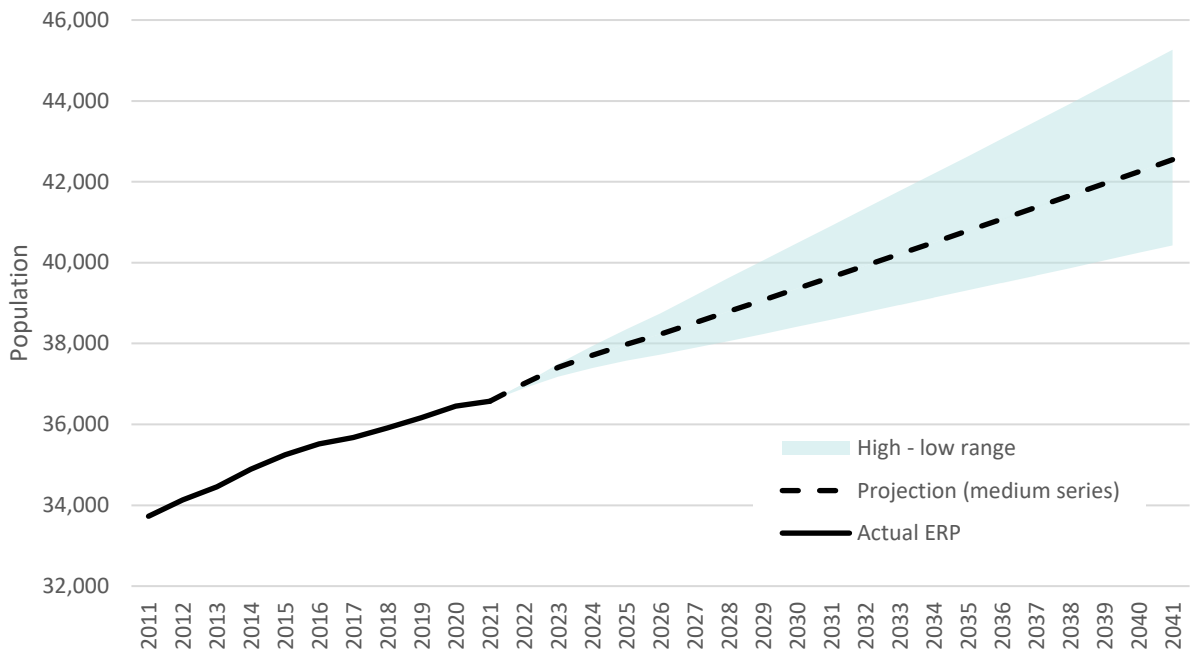


**Age Profile**

Growth in this region is projected to occur across all age cohorts. The population aged over 80 is projected to more than double over the next 20 years.

**Figure 51: Population by service age group – medium series, Mount Gambier Region, 2021 & 2041**
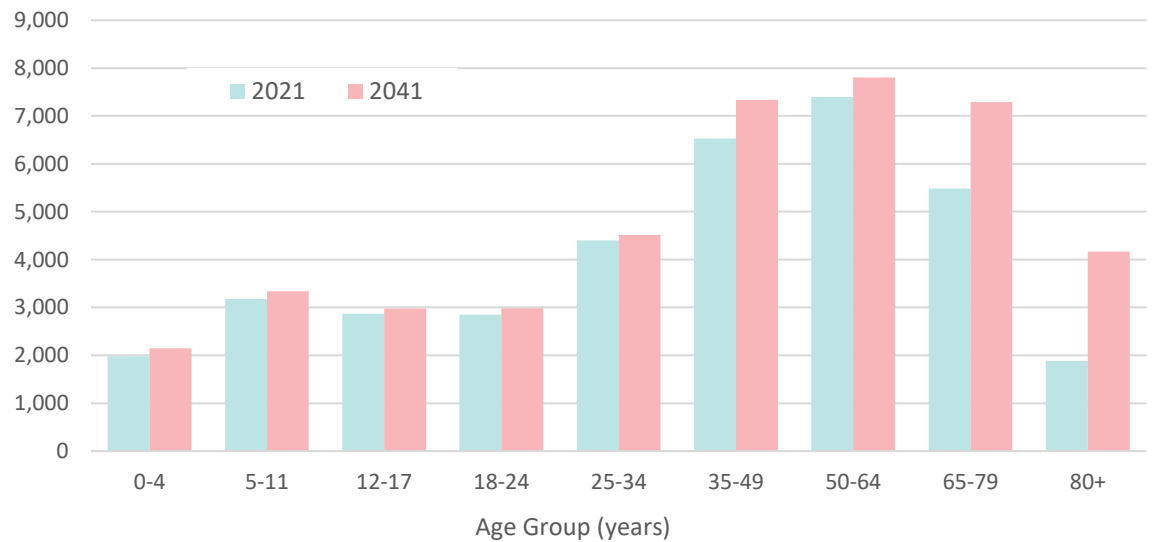
## 5.16   Mid North

### Region Summary

Major towns in this region include Port Pirie, Jamestown, Clare, Burra and Peterborough. It is an economically diverse area with industries including wine, grain and livestock farming, tourism and energy generation and storage. The region had a population of 41,300 in 2021. Since 2016, the population has remained steady.

The Mid North region has become popular for the establishment of renewable energy farms. Recently the Goyder South windfarm started construction of 75 wind turbines south of Burra, with plans to create a Goyder Renewables zone exporting electricity to NSW when the SA-NSW Interconnector is built. A green hydrogen project in Port Pirie is being investigated, as is a hydrogen production facility at the Crystal Brook Energy Park.

Tourism is important in the region, with the Clare Valley wine region in the south and the gateway to the Flinders Ranges in the north. The region is backed by its agricultural sector. Port Pirie is the largest town in the region, but services are also provided by Port Augusta and Adelaide.

Growth in the Mid North region is expected to be driven by:

- Job creation in Port Pirie through new industries
- Jobs in the tourism, renewables, viticulture and agriculture sectors
- Retirement migration to Clare

### Projected Growth 2021 to 2041

Table 22 summarises the projected population for the region from 2021 to 2041 for the low, medium and high growth scenarios.

**Table 22: Projected Population, Mid North Region, 2021-2041**

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | Low | Medium | High |
| **Total Population** | | | |
| 2021 | 41,287 | 41,287 | 41,287 |
| 2041 | 42,003 | 42,729 | 43,523 |
| 2021-2041 | 716 | 1,442 | 2,236 |
| **Average annual change** | | | |
| 2021-2041 | 36 | 72 | 112 |
| 2021-2041 (%) | 0.09 | 0.17 | 0.27 |
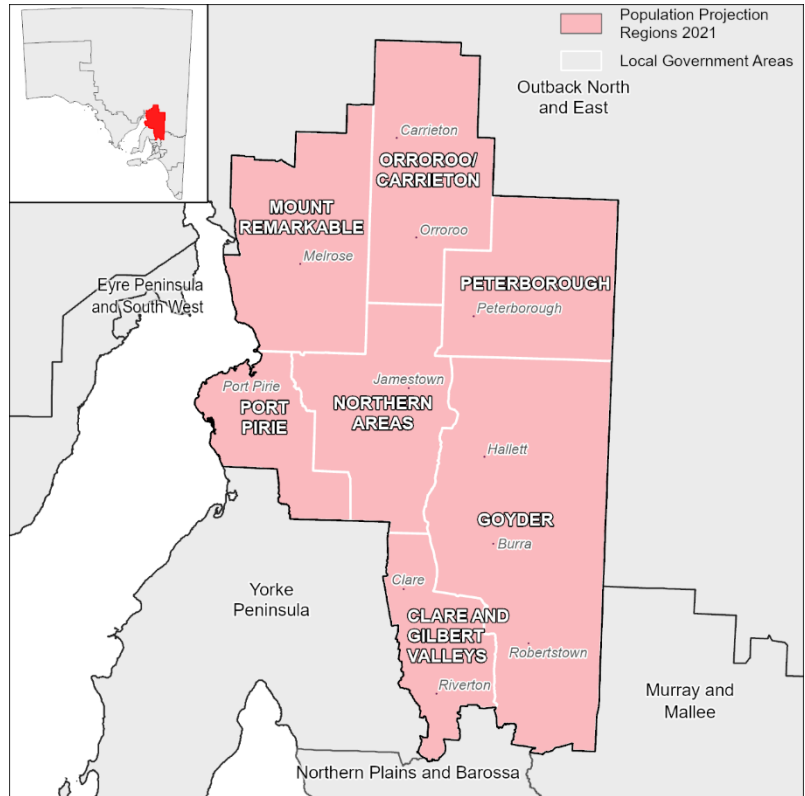
**Figure 52: Projected Population, Mid North Region, 2021-2041**
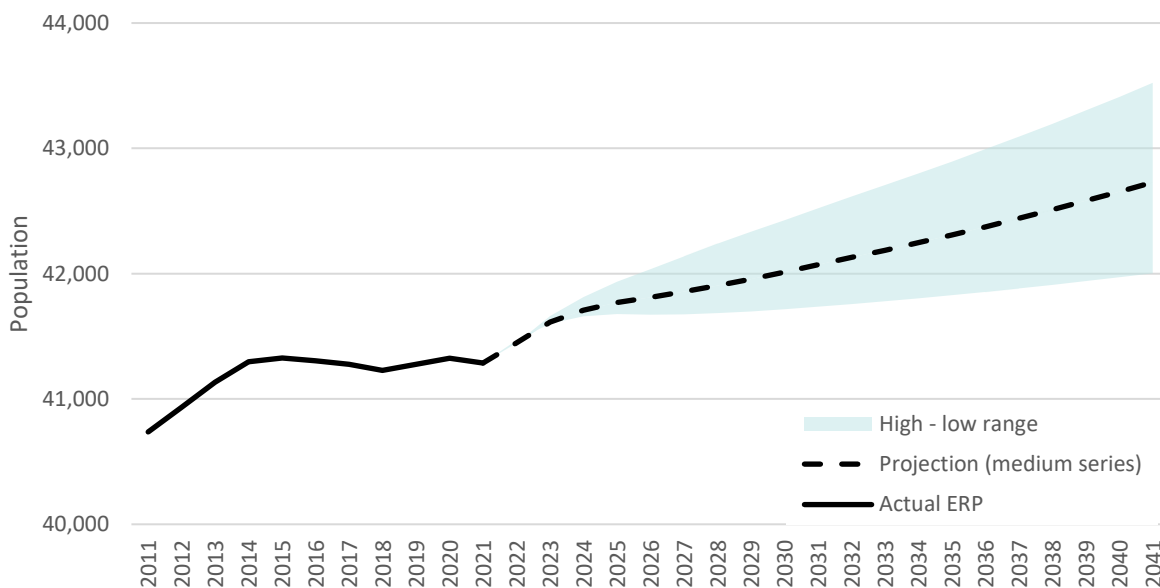


**Age Profile**

Growth is projected to fall across most age groups. Only the 35-49 age cohort and the 65+ population is projected to increase.

**Figure 53: Population by service age group – medium series, Mid North Region, 2021 and 2041**
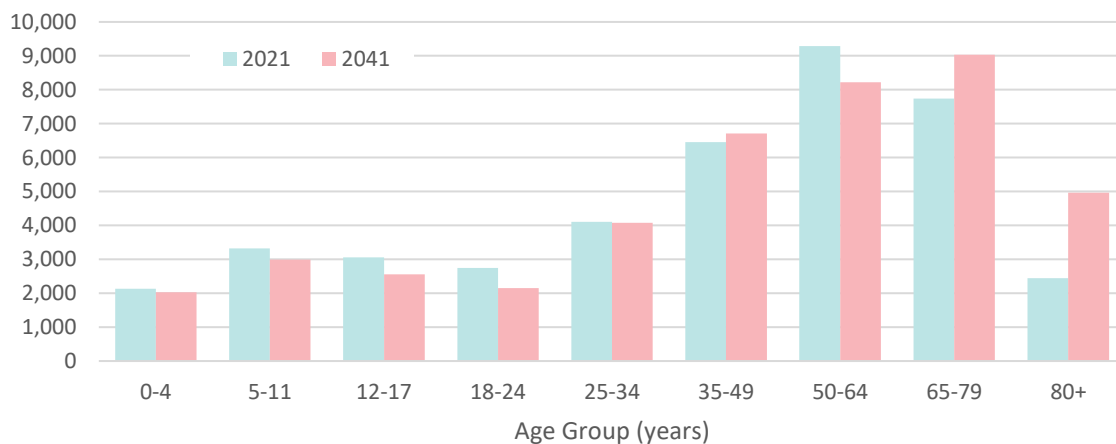
## 5.17   Murray and Mallee

### Region Summary

Major towns in this region include Loxton, Waikerie, Berri, Renmark, Mannum and Meningie. The Murray and Mallee's economy is primarily agricultural, including dairying, piggeries, horticulture and viticulture, with an expanding processing and manufacturing sector. The population was 50,400 in 2021. Since 2016, the region had grown by 800 people.

Renewable energy developments in the region that are expected to support growth include the recently completed Coonalpyn and Tailem Bend solar farms. Planning is underway for a solar farm at Morgan and a battery storage system at Tailem Bend. SA potato supplier the Pye Group, is set to build a new potato washing and packing facility at Parilla. Tourism in the River Murray towns is expected to recover after the near record flooding experienced in early 2023.

The large neighbouring town of Murray Bridge provides job opportunities for the wider area and this opportunity will be increased with Thomas Foods International scheduled to open a new upgraded meat processing facility by the end of 2023, with further expansions to follow. The Riverland towns of Loxton, Berri and Renmark provide services to the north of the region, with the Riverland area relying heavily on agriculture and tourism for growth.

### Projected Growth 2021 to 2041

Table 23 summarises the projected population for the region from 2021 to 2041 for the low, medium and high growth scenarios.

**Table 23: Projected Population, Murray and Mallee Region, 2021-2041**

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | Low | Medium | High |
| Total Population | | | |
| 2021 | 50,408 | 50,408 | 50,408 |
| 2041 | 52,130 | 54,077 | 55,881 |
| 2021-2041 | 1,722 | 3,669 | 5,473 |
| Average annual change | | | |
| 2021-2041 | 86 | 183 | 274 |
| 2021-2041 (%) | 0.17 | 0.36 | 0.54 |

**Figure 54: Projected Population, Murray and Mallee Region, 2021-2041**
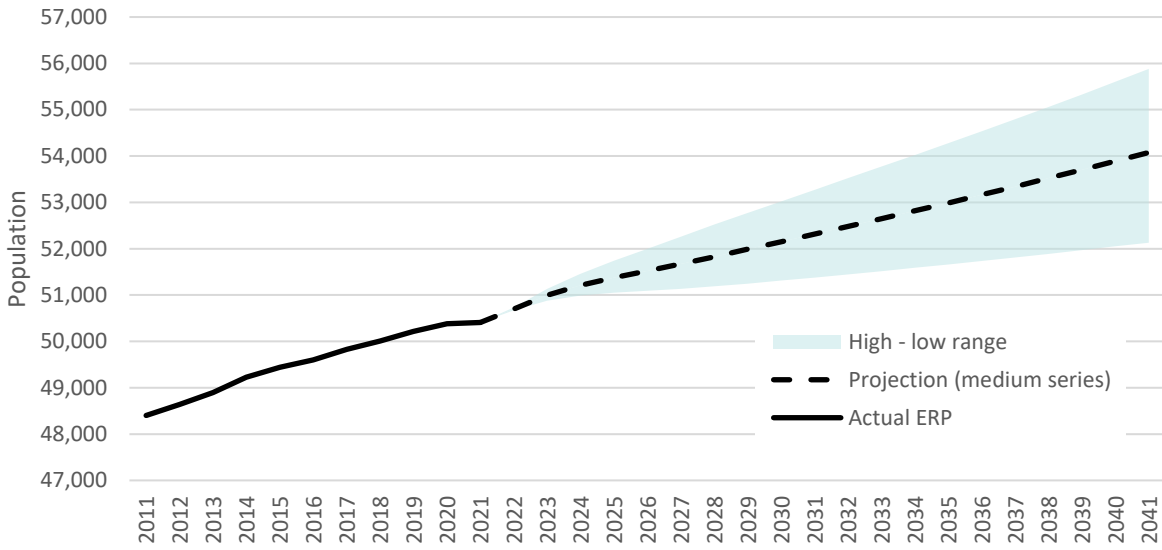


**Age Profile**

Growth is projected to fall across most age groups. Only the 35-49 age cohort and the 65+ population is projected to increase.

**Figure 55: Population by service age group – medium series, Murray and Mallee Region, 2021 & 2041**
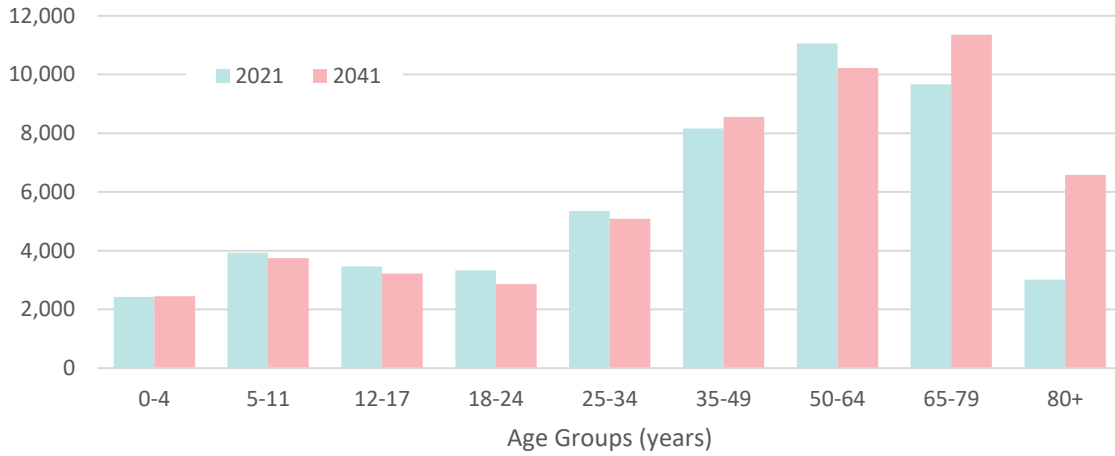
## 5.18 Outback North and East

### Region Summary

This region covers the remote northern part of the state. Port Augusta is the largest town. The main industries are mining and pastoralism, with recent growth in the renewables sector. The population in 2021 was 26,700. The region has declined by around 600 people since 2016.

This area is rich in resources. The Olympic Dam mine at Roxby Downs will continue as a major employer in the region and BHP is currently exploring the potential for a new Copper mine at Oak Dam. The Honeymoon mine, on the eastern edge of the region, will recommence production in late 2023. There are several renewable energy projects underway or in the planning stages near Pt Augusta, Cultana and Lincoln Gap. Port Bonython is being investigated for a potential hydrogen power station and storage facility.

The Leigh Creek Energy Project gained major project status in late 2022 and could employ hundreds of people if it goes ahead. Development of Hallett's Green Cement Project is underway near Pt Augusta. Plans are also underway to transform the former Port Augusta power station site into a bulk commodity export terminal.

Growth in the Outback North and East region is expected to be driven by:

- Support sector jobs, as Port Augusta is a main service centre for the area
- Jobs in the mining, renewables and hydrogen sector

### Projected Growth 2021 to 2041

Table 24 summarises the projected population for the region from 2021 to 2041 for the low, medium and high growth scenarios.

**Table 24: Projected Population, Outback North and East Region, 2021-2041**

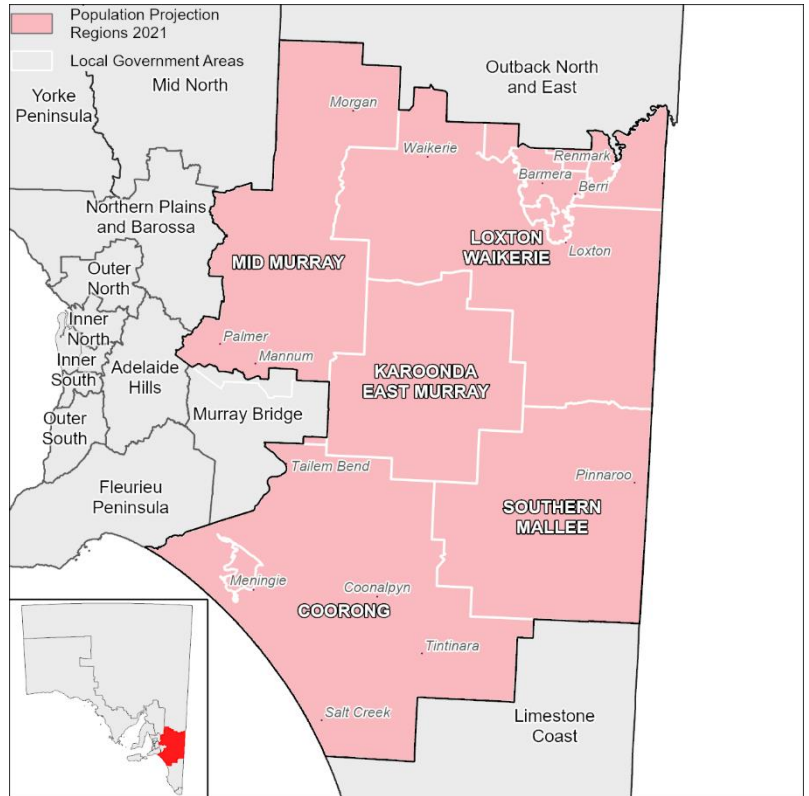| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | Low | Medium | High |
| Total Population | | | |
| 2021 | 26,714 | 26,714 | 26,714 |
| 2041 | 26,472 | 26,929 | 27,430 |
| 2021-2041 | - 242 | 215 | 716 |
| Average annual change | | | |
| 2021-2041 | - 12 | 11 | 36 |
| 2021-2041 (%) | - 0.05 | 0.04 | 0.13 |
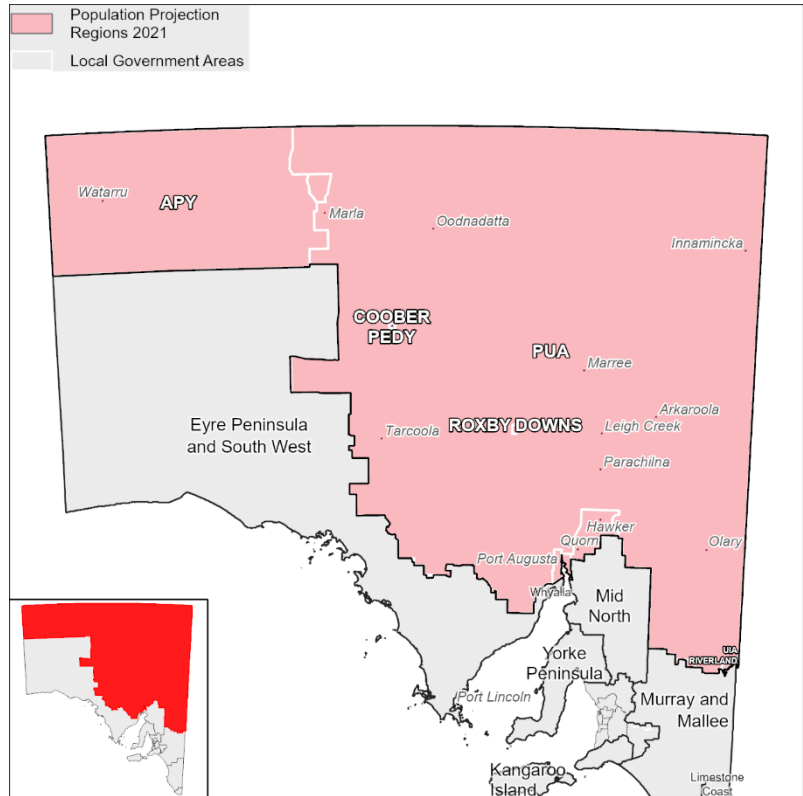
**Figure 56: Projected Population, Outback North and East Region, 2021-2041**
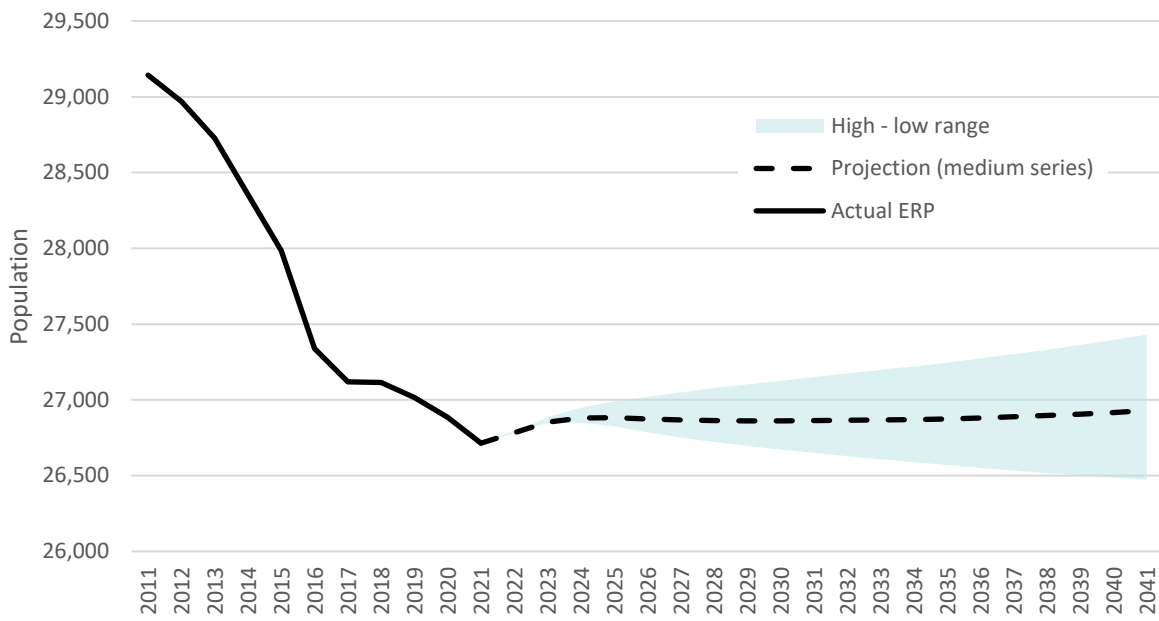


## Age Profile

Growth is projected to fall across most age groups. The 35-49 age cohort will increase slightly, while the 65+ population is also projected to increase.

**Figure 57: Population by service age group – medium series, Outback North and East Region, 2021 &**
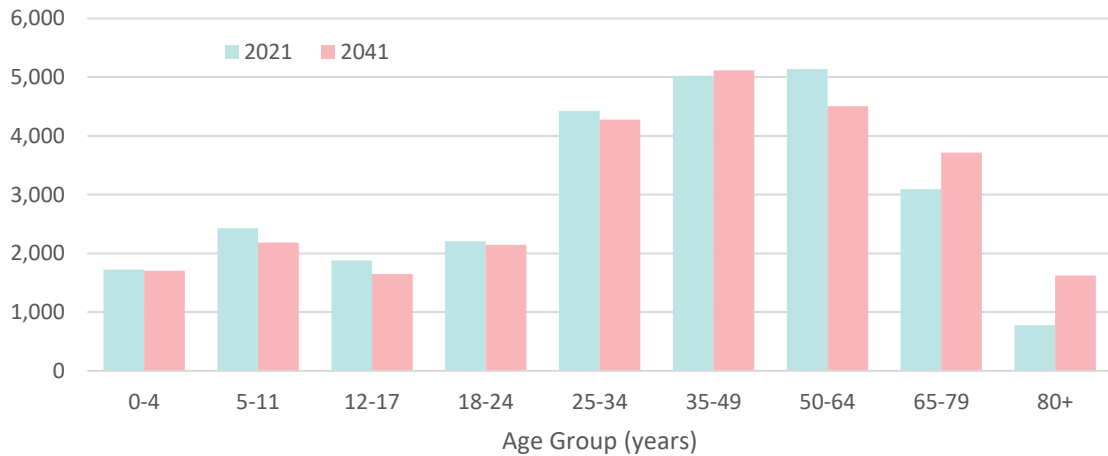
## 5.19   Yorke Peninsula

### Region Summary

Major towns in this region include Kadina, Wallaroo, Balaklava, Maitland and Yorktown. The main industries in the area are grain and livestock farming, aquaculture and tourism. In 2021 the population was 36,900. Since 2016, the region grew by almost 1,500 people.

Developments in the Yorke Peninsula that will encourage growth include Rex Minerals Hillside Copper Project, south of Ardrossan, which is expected to employ around 430 persons at full production. A Red Seaweed farm near Point Pearce, a Copper Coast Motorsports Park near Wallaroo and a grain export facility at Wallaroo.

Tourism is popular in the region. The Copper Coast towns of Wallaroo, Kadina, Moonta and Port Hughes, and coastal towns further down the peninsula, are becoming attractive as a retirement 'sea-change' option for Adelaide and other regional areas. The main service centre in the region is Kadina, however Adelaide is also close enough for it to be considered a service centre for the region.

Growth in the Yorke Peninsula region is expected to be driven by:

- Job creation in the mining sector
- Grain industry and Ports
- Retirement migration to Coastal towns

### Projected Growth 2021 to 2041

Table 25 summarises the projected population for the region from 2021 to 2041 for the low, medium and high growth scenarios.

**Table 25: Projected Population, Yorke Peninsula Region, 2021-2041**

| Year ending 30 June | Projection Series | | |
|---|---|---|---|
| | Low | Medium | High |
| **Total Population** | | | |
| 2021 | 36,879 | 36,879 | 36,879 |
| 2041 | 41,281 | 43,344 | 45,776 |
| 2021-2041 | 4,402 | 6,465 | 8,897 |
| **Average annual change** | | | |
| 2021-2041 | 220 | 323 | 445 |
| 2021-2041 (%) | 0.60 | 0.88 | 1.21 |
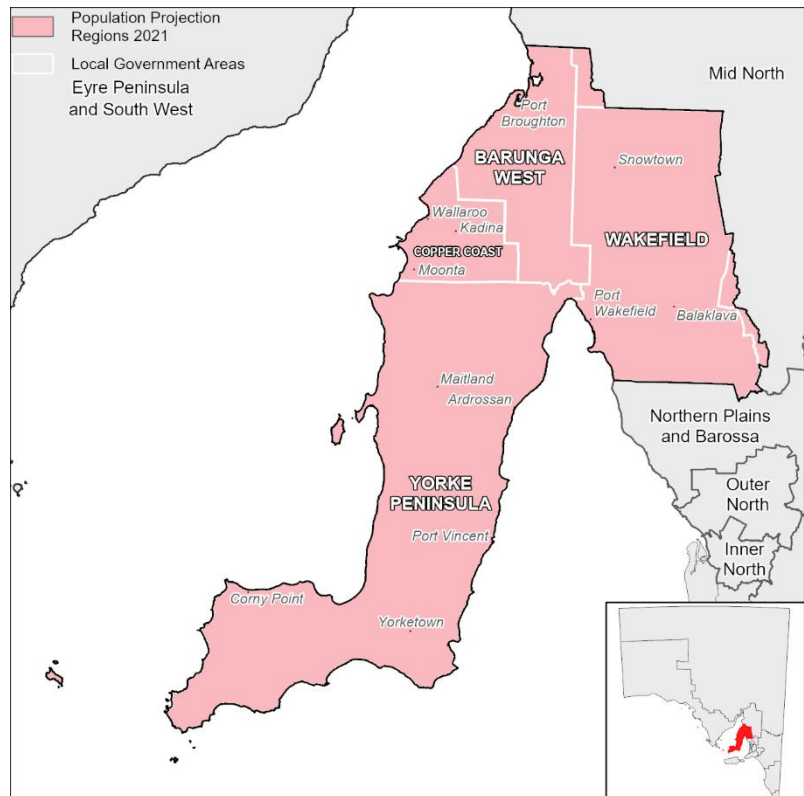
**Figure 58: Projected Population, Yorke Peninsula Region, 2021-2041**
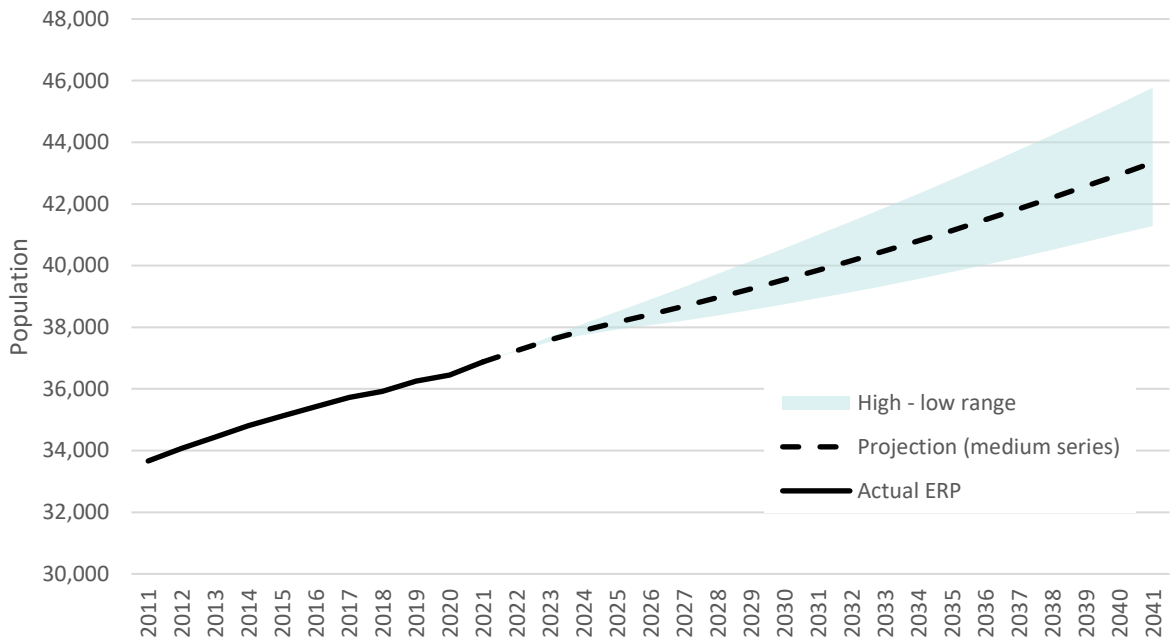


## Age Profile

Growth is projected across all age groups except for the 50-64 age cohort. The population aged over 80 is projected to more than double.

**Figure 59: Population by service age group – medium series, Yorke Peninsula Region, 2021 & 2041**

PRELIMINARY DRAFT FOR INTERNAL USE ONLY – 17 MARCH 2023
POPULATION PROJECTIONS FOR SOUTH AUSTRALIA AND REGIONS – 2021 TO 2051          APPENDIX
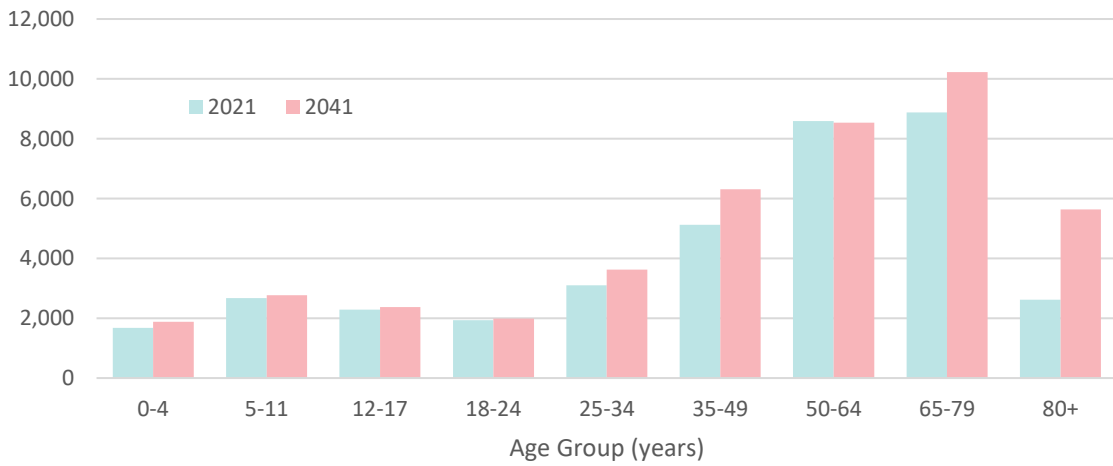
PROJECTIONS

# 6. APPENDICIES

## Appendix 1: Assumptions all-of-State population projection series, 2016-41

| Assumption | Current | High | Medium | Low |
|---|---|---|---|---|
| **Mortality** <br><br> **(Life expectancy at birth)** | Life expectancy at birth 2020/21: <br><br> Males 81.3 yrs <br><br> Females 85.6 yrs | Same as Medium | Increases from current levels to 2051: <br><br> Males 86.3 <br><br> Females 89.3 | Same as Medium |
| **Fertility** <br><br> **(Total Fertility Rate (TFR))** | 2021 TFR 1.66 children per woman | Climbs from current level up to 1.75 by 2025, then held constant. | Falling from current level to 1.62 in 2023, then held constant. | Transition from current level down to1.50 in 2026, then held constant. |
| **Net Overseas Migration** | 2019-20: 15,100 <br><br> 2021-22: 12,077 | Increases to 20,500 in 2022-23, then drops slightly to 16,500 from 2027/28, then held constant. | Increases to 18,000 in 2022-23, then drops to 14,500 from 2026, then held constant. | Drops to 12,000 by 2027, then held constant. |
| **Net Interstate Migration** | 2018-19: -3,300 <br><br> 2021-22: +1000 (adjusted NIM = +4,000) | Transition from +4,000 in 2022/23 to +1,000 by 2025, then held constant. | Transition from +4,000 in 2022/23 to -1,000 by 2026, then held constant. | Transition from +4,000 in 2022/23 to -3,000 by 2026, then held constant. |

## Appendix 2: Population Projections by Service Age Groups

Population projections within this report are shown by an age breakdown. Each age group represents a "service age" which is summarised in the following table:

**Service age groups**

| | |
|---|---|
| 0-4 yrs | Infants |
| 5-11 yrs | Primary school |
| 12-17 yrs | Secondary school |
| 18-24 yrs | Tertiary education/labour force entrants |
| 25-34 yrs | Younger workers |
| 35-49 yrs | Established workers |
| 50-64 yrs | Mature workers |
| 65-79 yrs | Active retirees |
| 80+ yrs | Older population |

Second draft

# Demographic Trends in South Australia and Projection Assumption Suggestions

Tom Wilson

Report prepared for the Analytics and Forecasting section, Planning and Land Use Services, Department for Trade and Investment, South Australian Government

February 2023

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# Contents

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**Acronyms and abbreviations used in this report**

| | |
|---|---|
| ABS | Australian Bureau of Statistics |
| ERP | Estimated Resident Population |
| NIM | Net interstate migration |
| NOM | Net overseas migration |
| SASPOPP | State and Sub-State Population Projection Program |
| TFR | Total Fertility Rate |

# 1. Introduction

The aims of this report are to give a brief overview of key demographic trends in fertility, mortality, migration, and population in South Australia over the last few decades, and offer suggestions for population projection assumptions.

The report does not provide a comprehensive and detailed assessment of South Australia's demographic trends. Instead, it focuses primarily on the 'headline' indicator variables relevant for projecting the State's population using the projection software SASPOPP (State and Sub-State Population Projection Program). These headline indicators comprise the Total Fertility Rate (TFR), life expectancy at birth, net overseas migration (NOM), and net interstate migration (NIM).

Long-run trends over many decades are more relevant for mortality, and fertility from a cohort perspective (see section 3), while migration is far more volatile – though trends over recent years are still relevant to short- and medium-term projections. Reviewing demographic trends over the last few decades is also very useful when it comes to assessing the plausibility of projection model outputs. Population projections should make sense in the context of long-run and recent trends and characteristics.

State fertility and mortality differences with national-level indicators, and share of NOM, is shown because projection models often project State (and sub-state regional) projection headline indicators through a relationship with national projections. In addition, age profiles of migration are shown both as rates/probabilities and as scaled rate/probabilities. This is because the SASPOPP model separates out the overall *level* of migration from the *shape* of the migration age profiles. The level of migration is susceptible to considerable fluctuation, while the shape of many migration age profiles tends to exhibit much greater stability over time.

Section 2 of this report provides a brief overview of State population change; section 3 focuses on fertility, and section 4 on life expectancy and mortality. Overseas migration is dealt with in section 5, and interstate migration in section 6. Interstate migration analysis and assumption-setting is especially challenging due to data quality issues with the ABS Medicare-based migration estimates.

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## 2. Overview of population change

South Australia's resident population has grown from 1.20 million in 1971 to 1.80 million in 2021 (Figure 2.1a), an increase of 0.6 million or 50.3% over the 50 year period. The latest preliminary ERP for 2022 is 1.82 million. Figure 2.1b shows annual population growth by financial year as well as the growth rate of the State's population, with the national population growth rate also shown for comparison.
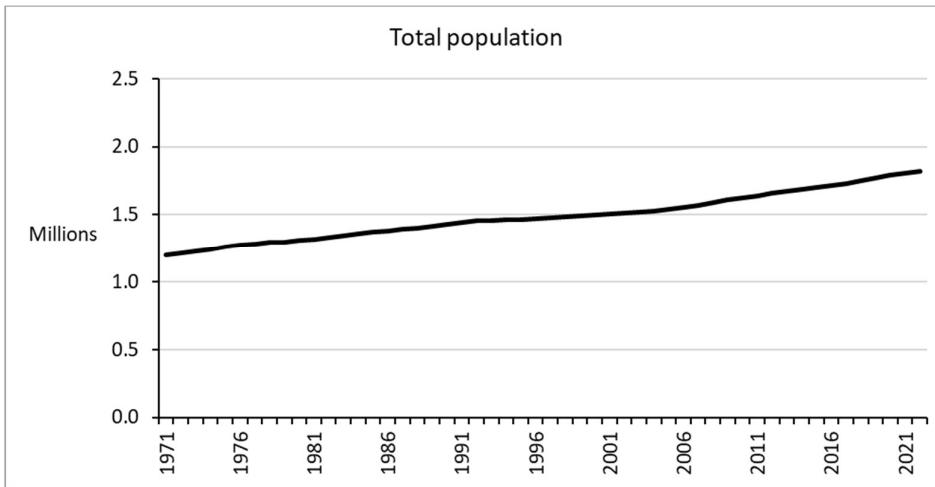


(a) 30<sup>th</sup> June ERPs
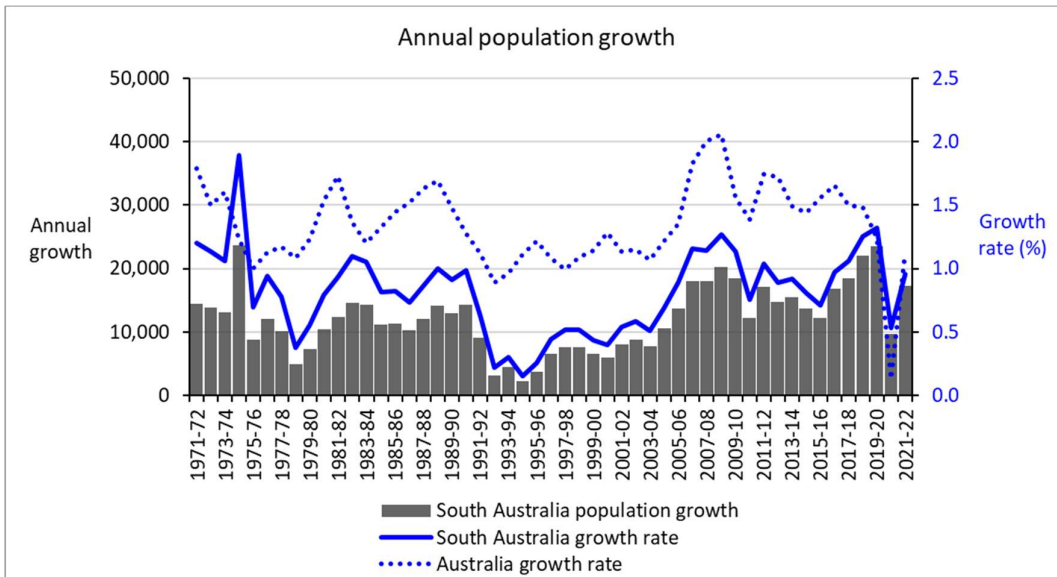


(b) Population growth and growth rate by financial year

**Figure 2.1**: Population growth in South Australia, 1971-2022
Source: calculated using ABS ERP data

Since the mid-2000s, when net overseas migration increased substantially in Australia, South Australia's population growth has varied between 9,000 and 23,000 per year, averaging about 16,500 or 1% annually. If population projections are based on similar demographic trends to the recent pre-COVID past, then projected State population growth in the short-run should lie close to the middle of this range.

In the low growth year of 2020-21 when Australia's international border was shut due to COVID, national population growth fell to 0.1%, while South Australia's growth fell only to 0.5%. This was because total net migration (overseas and interstate net migration combined) remained positive in the State. Net overseas migration for Australia became negative in this year (due to more emigration than immigration). The strong recovery in net overseas migration in 2021-22 has been the main driver in the resumption of population growth to 17,300 (equivalent to just under 1.0% growth compared to 1.1% nationally).

Figure 2.2 shows the annual population growth data from Figure 2.1 but with a breakdown into its natural change and total net migration contributions. Natural change, defined as births minus deaths, is shown by the orange-red bars. Total net migration is shown by the pale blue bars. The sum of these two components, total population growth, is indicated by the black outline bars. As the graph shows, much of the variability in the State's population growth from year to year is accounted for by net migration.
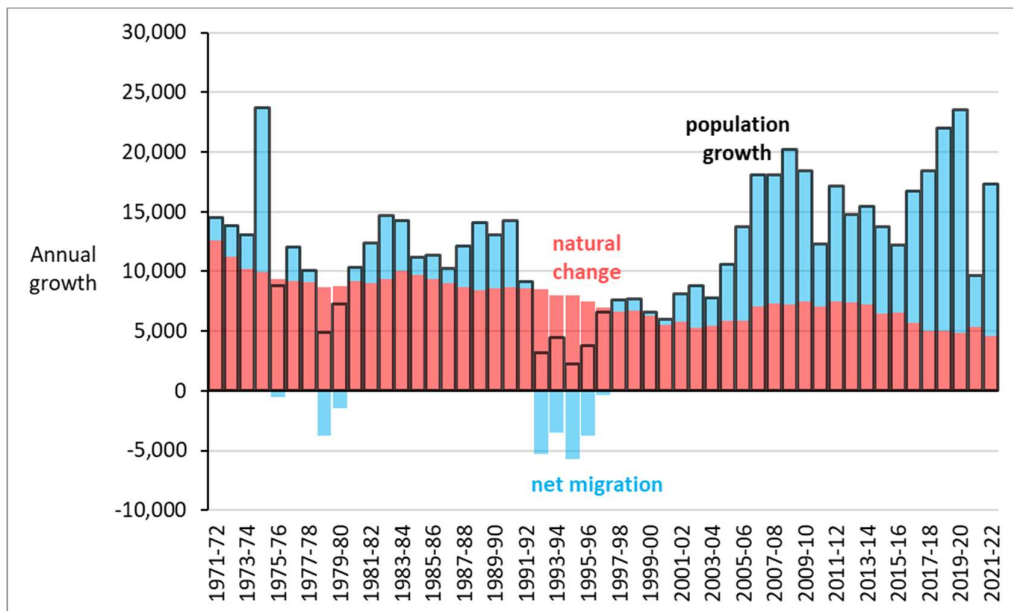


**Figure 2.2**: Natural change and net migration in South Australia, 1971-2022
Source: calculated using ABS ERP, births, and deaths data
Note: net migration calculated as the population growth remaining after natural increase

Changes to the age structure of South Australia's population over the last three decades are summarised in Figure 2.3. A key feature is the expansion of the population at older ages – population ageing resulting from the large baby boom generation getting older over time along with huge improvements in survival in the older ages. It is followed by similarly large generations behind it. Although fertility rates fell following the baby boom, the number of births generated by the baby boomers was considerable because of the sheer size of their generation. The population projections should show this population ageing trend continuing, along with characteristic peaks and troughs in the population age structure. These are created by previous fluctuations in numbers of births from year to year, as well as a net gain from migration in the young adult ages.
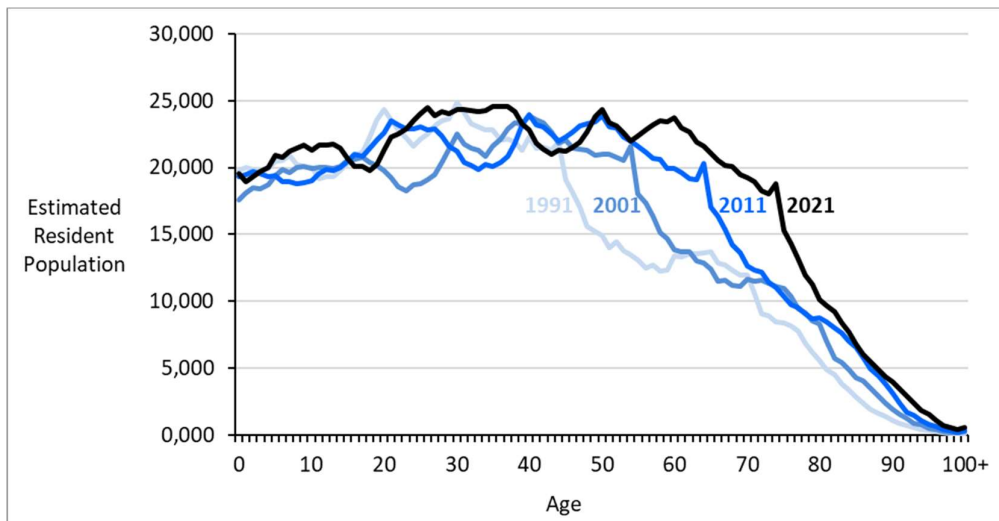


**Figure 2.3**: The age structure of South Australia's population, 1991, 2001, 2011 and 2021
Source: ABS ERP data

# 3. Fertility

3.1. Total Fertility Rates

South Australia's fertility has been relatively low since the decline of fertility in Australia during the early 1970s following the 1950s and 60s baby boom. Figure 3.1 presents trends in the Total Fertility Rate (TFR) for South Australia and Australia from 1975 onwards (part a) along with the TFR difference between the State and Australia (part b). During the 1980s and 90s fertility in the State remained fairly steady, increasing or decreasing only slightly and generally keeping within the range 1.70 to 1.80, as shown in Figure 3.1(a).
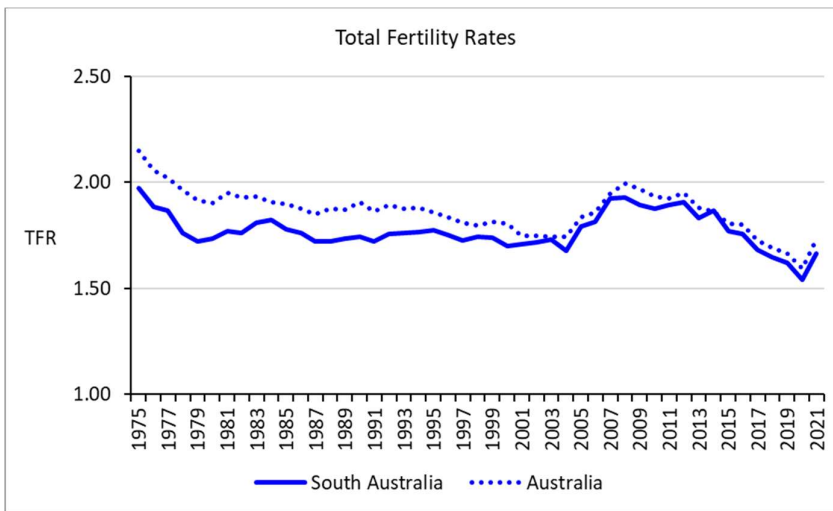


(a) Total Fertility Rates
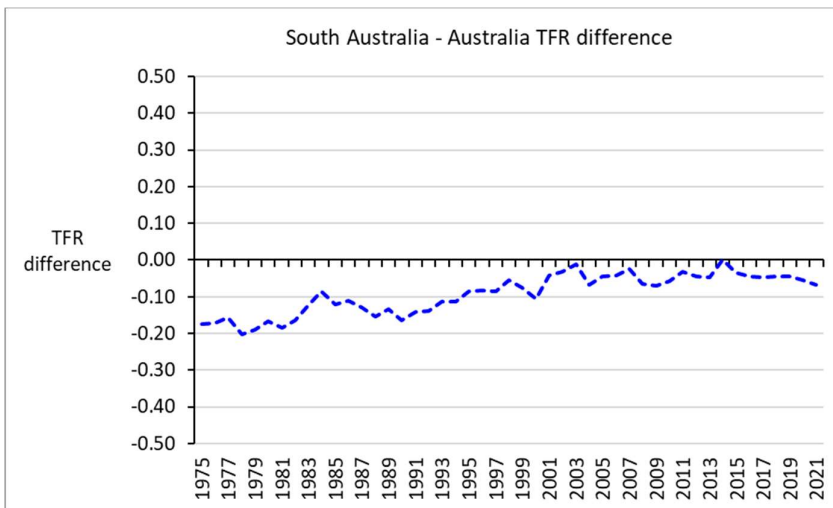


(b) Total Fertility Rate difference between South Australia and Australia

**Figure 3.1**: Total Fertility Rates, 1975-2021
Source: calculated using ABS births and ERP data

The increase in fertility in the early 2000s is thought to be due to a 'catch up' effect from women in older childbearing ages due to earlier birth postponement together with increases in disposable incomes[1]. The baby bonus is not thought to have had any significant influence in increasing fertility. More recently, the TFR dropped slightly in 2020 due to uncertainty about the future at the start of the COVID pandemic[2], followed by a recovery in 2021.

The State has long experienced fertility below the national average, as demonstrated in Figure 3.1. Figure 3.1(b) shows how the gap between State and national fertility gradually narrowed until the beginning of the present century. A small gap has persisted since then, with State fertility tracking just below national fertility. Over the 2001-21 period the TFR difference averaged 0.044.

3.2. Age profile of fertility

Over time, the age profile of South Australia's fertility has become older. A similar trend has been occurring in other jurisdictions in Australia and in most developed countries around the world. Figure 3.2(a) illustrates the extent of the shift by presenting age-specific fertility rates for the years 1981, 2001 and 2021. In South Australia, this ageing of the fertility age profile has occurred without large changes in the TFR since the end of the 1970s. For the three years depicted in the graph the TFR was actually quite similar: 1.77 in 1981, 1.71 in 2011 and 1.66 in 2021.

The age pattern and rightward shift in the State's fertility age profile mirrors the national trend closely. The difference in fertility rate age profiles between South Australia and Australia is shown in Figure 3.2(b).

To summarise the fertility ageing phenomenon, it is useful to calculate the mean age of childbearing and the share of the TFR contributed by fertility at ages 30 and above. The TFR share for those aged 30+ rose from 24.3% in 1981 to 49.0% in 2001 and 60.0% by 2021. Figure 3.2(c) shows the mean age of childbearing in South Australia and Australia. The mean age of childbearing in the State increased in a near-linear trend from 26.3 years in 1975 to 31.2 years in 2021.

[1] Parr & Guest (2011) The contribution of increases in family benefits to Australia's early 21st-century fertility increase: An empirical analysis. *Demographic Research*. https://doi.org/10.4054/DemRes.2011.25.6
[2] Gray et al. (2021) Having babies in times of uncertainty: first results of the impact of COVID-19 on the number of babies born in Australia. *Australian Population Studies*. https://doi.org/10.37970/aps.v6i1.101
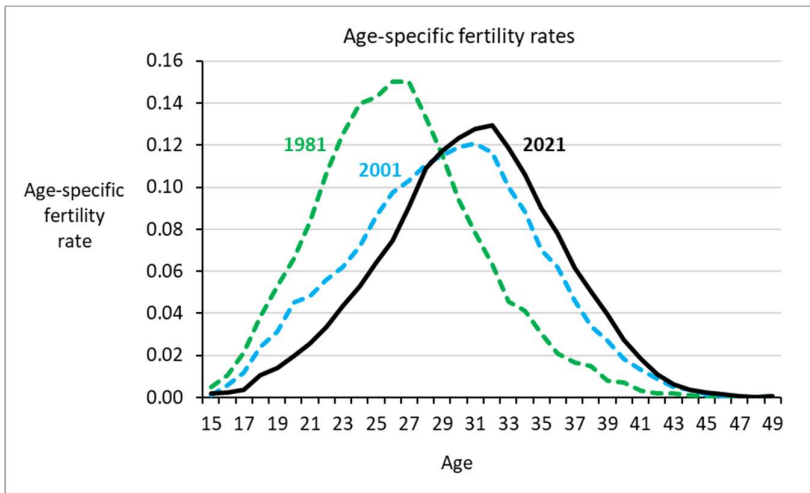
(a) Age-specific fertility rates in South Australia
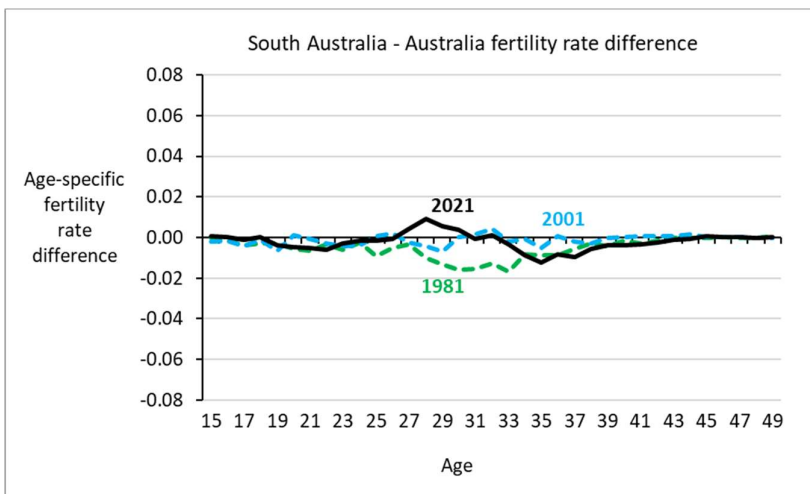


(b) Age-specific fertility rates differences between South Australia and Australia
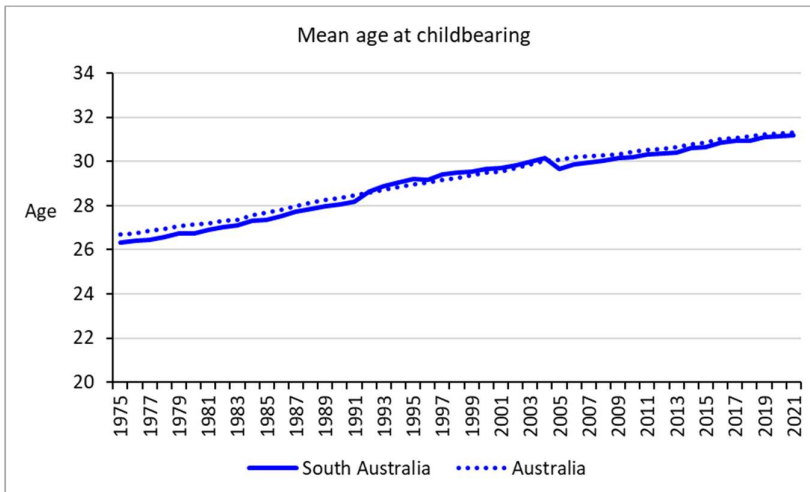


(c) The mean age of childbearing

**Figure 3.2**: Changes to the age pattern of fertility

Source: calculated using ABS births and ERP data

3.3. Cohort fertility

As demonstrated in Figure 3.1(a), period fertility – the fertility occurring year by year – can change fairly quickly over just a few years. However, cohort fertility – the fertility experienced by a group of women born in a specific year – tends to change more gradually over time. Cohort fertility describes the fertility experienced by each cohort as it passes through its childbearing ages over a period of about 35 years. Figure 3.3 below illustrates the cumulative fertility in South Australia of women born in 1960, 1970, 1980, 1985, 1990, and 1995. The lines on the graph describe the average number of babies born per woman by the time members of the cohort have reached specific ages. The lines are incomplete for cohorts born from 1980 onwards because age-specific fertility at older ages has not yet occurred for these cohorts.
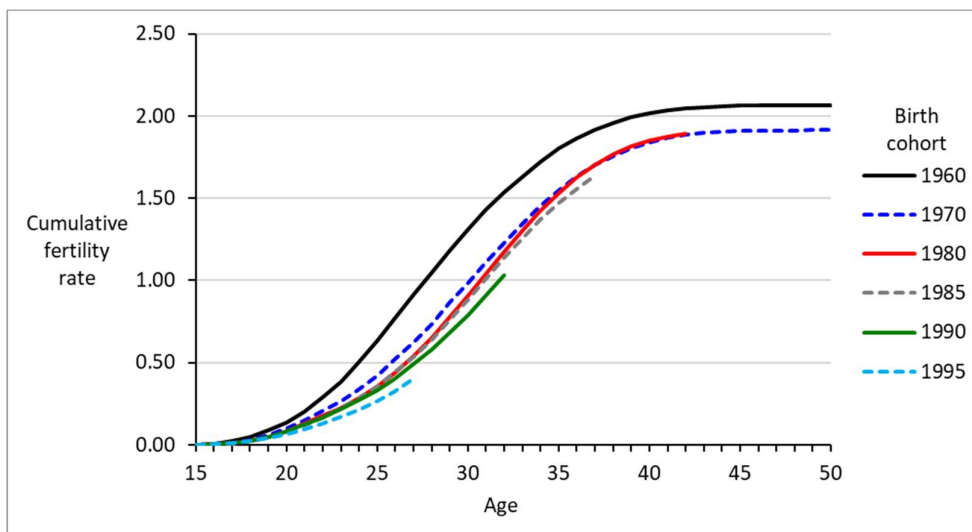


**Figure 3.3**: Cumulative fertility rates in South Australia, selected female birth cohorts
Source: calculated using ABS births and ERP data

The cumulative fertility shown in Figure 3.3 by the end of the childbearing ages at age 50 is the cohort fertility rate (or completed family size). This can be interpreted like the TFR – the average number of babies per woman. The birth cohort of 1960 has a cohort fertility rate of 2.06; the equivalent for the 1970 cohort is 1.91. The 1980 cohort is close to completing its childbearing and appears on track to achieve a similar cohort fertility rate. Notice how the 1980 cohort had lower cumulative fertility by age 30 than the 1970 cohort, but caught up in its later childbearing years. The 1985 cohort experienced a similar cohort fertility trend to the 1980 cohort up to about age 30, but now appears to be heading for a lower cohort fertility rate – unless it experiences a substantial catch up effect as its members reach their late 30s and 40s.

For the 1990 and 1995 cohorts, it is too soon to draw any definite conclusions, but unless their current trajectories alter markedly, they will attain lower cohort fertility rates than older cohorts. It

has been shown that the older that women have their first birth, the lower the fertility[3]. This is because the chance of conceiving declines with age.

However, the disadvantage of cohort analysis is that cohort and period fertility may differ considerably for long periods of time due to shifts in the timing of childbearing (primarily the ageing of the fertility age profile), and population projections require period fertility assumptions. Cohort fertility patterns should therefore be viewed as only one part of a complex picture of likely future annual fertility.

3.4. Determinants of fertility

The determinants of the level of fertility as measured by the TFR or cohort fertility rate are many and not fully understood. There is no one dominant theory of fertility, and no mathematical model which can calculate the TFR based on a series of variables which influence fertility. The diagram in Figure 3.4 summarises some of the key influences mentioned in the demographic literature. An important distinction is between individual (or micro-level) factors and broader social and economic (macro-level) influences within which the decisions of individual and couples are made.

At the individual level, important influences on fertility include:
- A person's relationship status, especially being partnered versus being single
- Their attitudes to children and personal preferences about the number of children they would like to have
- Their disposable income, which influences their views on the affordability of children
- Their desired education and career path
- Their views on economic (un)certainty over the coming years
- Their own fecundity (how fertile they are)
- Use of birth control.

Individual decisions are made within the context of the labour market, the housing market, workplace practices and norms, government family policies, social norms, higher education participation, and available medical technology, amongst others. Gray et al. highlight the importance of financial incentives, child care, and parental leave on decisions about having children. Their review of the literature found better child care availability and affordability, and parental leave and other policies supporting employment and child rearing, are associated with fertility gains in other countries.

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[3] Gray et al. (2022) Impacts of Policies on Fertility Rates. School of Demography, Australian National University. https://population.gov.au/sites/population.gov.au/files/2022-03/ANU_Impacts-of-Policies-on-Fertility-Rates-Full-report.pdf

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**Macro-level: broad-scale factors**

**Labour market**
Unemployment;
Employment uncertainty

**Family policies**
Measures which reduce
costs of childrearing:
Tax credits;
Childcare support

**Higher education**
Availability;
Costs;
Women with higher
education qualifications

**Micro-level: individuals & couples**
Personal fertility preferences
Relationship status
Disposable income
Desired education & career path
Perspective on future uncertainty
Fecundity
Contraceptive use

**Social norms**
2-child norm
Partnering & relationship trends & attitudes
Social acceptance of being child-free
Gender (in)equality
Societal secularism/religiosity

**Workplace practices**
Family-friendly policies;
Childcare;
Parental leave;
Flexible hours

**Housing market**
Housing affordability

**Medical technology**
Assisted Reproductive
Technology

**Figure 3.4**: Some of the main factors affecting the level of fertility
Source: Based loosely on many sources, including Gray et al. (2022), Latimore[4] (2008), and McDonald (2020)

3.5 Fertility projection assumptions

In formulating projection assumptions, it is worth considering that South Australian fertility is very similar to national fertility, so many of the analyses and arguments applied to national fertility are likely to be relevant for State fertility.

The age profile of South Australia's fertility is gradually ageing (Figure 3.2a) with the mean age at childbearing slowly shifting to higher ages. It would be reasonable to assume that this trend will continue. A shift to later childbearing is often associated with lower fertility. This would point to possibly lower fertility in the future in South Australia (barring any major medical breakthroughs that make conception at older ages much easier). From a cohort perspective, female cohorts born from the mid-1980s onwards appear to be heading for lower completed cohort fertility than earlier cohorts.

What have other forecasters assumed for the future of fertility? Fertility forecasts prepared by Peter McDonald for the Centre for Population, Commonwealth Treasury, include a TFR for South

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[4] Lattimore (2008) Recent Trends in Australian Fertility. Productivity Commission Staff Working Paper.
https://www.pc.gov.au/research/supporting/fertility-trends.

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Australia gradually declining to 1.58 by 2031-32[5]. This assumption was used in the Centre for Population's 2021 Population Statement[6] as well as the 2021 Intergenerational Report[7]. Fertility forecasts for Australia by the United Nations Population Division assume a TFR slowly increasing from 1.60 in 2022 to 1.65 by 2050[8].

However, past experience provides a stark warning: fertility forecasting does not enjoy a glorious track record of accuracy[9]. Therefore, despite the current knowledge about fertility and its drivers, and thinking about likely future developments, current fertility forecasts may well turn out to be quite inaccurate. There is clearly a need for research to try to develop more reliable fertility forecasting methods, at least for about the next 5 years ahead which is a common planning period for school enrolment forecasts.

For the first year of the projections, 2021-22, it would be helpful to make a slight adjustment to the assumed TFR to ensure that the projection model generates the actual number of births reported for that year. If possible, it would also be useful to determine if there is more timely births data available locally than published by the ABS. Births notifications from the State's perinatal data collection might provide these statistics.

Ultimately, a decision must be made about the fertility rates used to create population projections. The highly regarded forecaster, J. Scott Armstrong, has proposed a 'golden rule' of forecasting[10] which is to "be conservative by adhering to cumulative knowledge about the situation and about forecasting methods" (p. 1718). This is especially recommended when the situation is uncertain and complex. One interpretation of this rule for fertility forecasts is to:
(1) set a future TFR not too much lower than the TFRs of recent years;
(2) assume moderate continuation of fertility rate age profile ageing.

Erring very slightly on the generous side for fertility assumptions would probably be useful given the asymmetric cost of incorrect birth projections, and the fact that births tend to be amongst the

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[5] McDonald (2020) A Projection of Australia's Future Fertility Rates. Centre for Population, Australian Government. https://population.gov.au/research/research-fertility
[6] Centre for Population (2021) Population Statement. Australian Government. https://population.gov.au/publications/statements/2021-population-statement.
[7] Australian Government (2021) 2021 Intergenerational Report. Australian Government. https://treasury.gov.au/publication/2021-intergenerational-report.
[8] United Nations Population Division (2022) World Population Prospects. https://population.un.org/wpp/
[9] See for example: Statistics Norway (2021) The accuracy of Statistics Norway's national population projections. https://www.ssb.no/en/forskning/discussion-papers/the-accuracy-of-statistics-norways-national-population-projections.
https://www.researchgate.net/publication/366390252_Visualising_the_shelf_life_of_population_forecasts_a_simple_approach_to_communicating_forecast_uncertainty
[10] Armstrong et al. (2015) Golden rule of forecasting: be conservative. *Journal of Business Research*. http://dx.doi.org/10.1016/j.jbusres.2015.03.031

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most inaccurately forecast of all demographic variables[11]. Slight overcapacity in child health services, school places, and maternity hospitals, etc. is probably better than the consequences of insufficient capacity.

For high and low TFR assumptions, it is recommended that they are trended in over the first 2-5 years of the projection horizon with 0.15-0.2 difference in TFR from the main assumption.

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[11] Wilson (2022) Visualising the shelf life of population forecasts: a simple approach to communicating forecast uncertainty.
https://www.researchgate.net/publication/366390252_Visualising_the_shelf_life_of_population_forecasts_a_simple_approach_to_communicating_forecast_uncertainty

# 4. Mortality

## 4.1. Life expectancy at birth

Life expectancy at birth by sex in South Australia over the period 1971 to 2021 is shown in Figure 4.1 below. Part (a) depicts life expectancy at birth while part (b) shows the difference between State and national life expectancy.
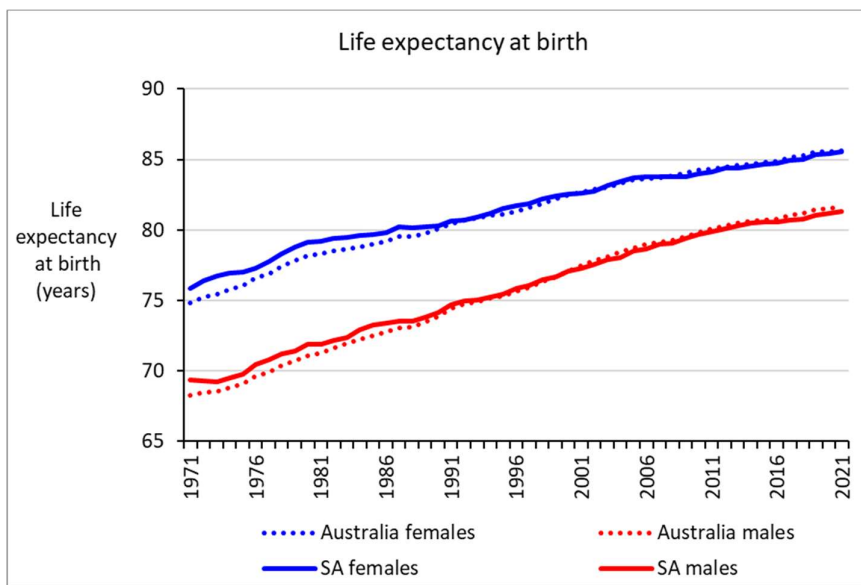


(a) Life expectancy at birth
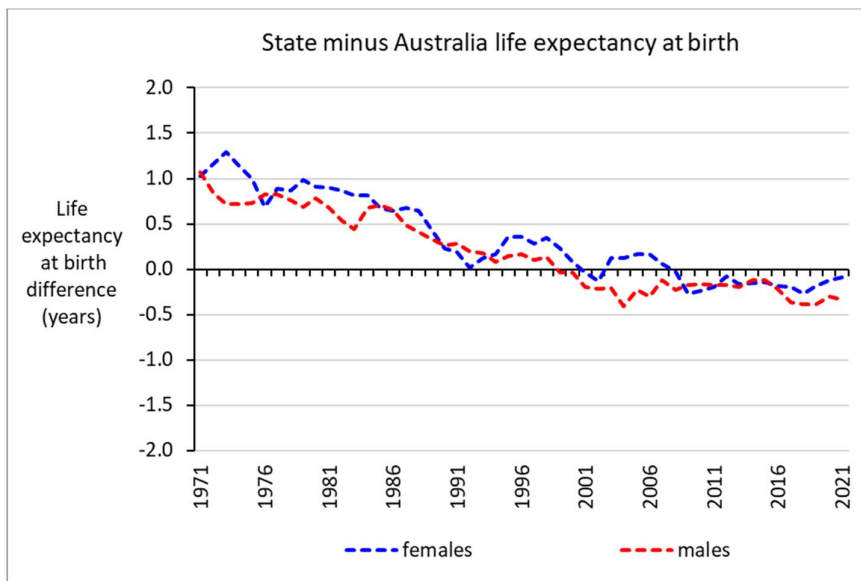


(b) Difference between State and national life expectancy

**Figure 4.1**: Life expectancy at birth, 1971-2021
Source: life tables calculated using ABS deaths and ERP data

17

In South Australia, life expectancy at birth for females increased from 75.9 years in 1971 to 85.6 years in 2021 (+9.7 years); for males the equivalent figures are 69.4 years and 81.3 years (+11.9 years). Although minor year-to-year fluctuations are apparent, the trend consists of a reasonably smooth long-run increase in life expectancy. As the graphs show, the State's life expectancy trend has remained close to national life expectancy, though it was about 1 year higher in 1971 and is now is a fraction of a year below national life expectancy. Over the 2001-21 period, the State's life expectancy at birth averaged 0.09 years below the national figure for females, while for males it was 0.24 years lower.

## 4.2. Age-specific death rates

In terms of age-specific death rates, South Australia and Australia mostly experience very similar rates. A selection of death rates at ages where they are highest – and therefore affect population size the most – are shown in Figure 4.2. At many ages, the long-run trend closely approximates exponential decline.
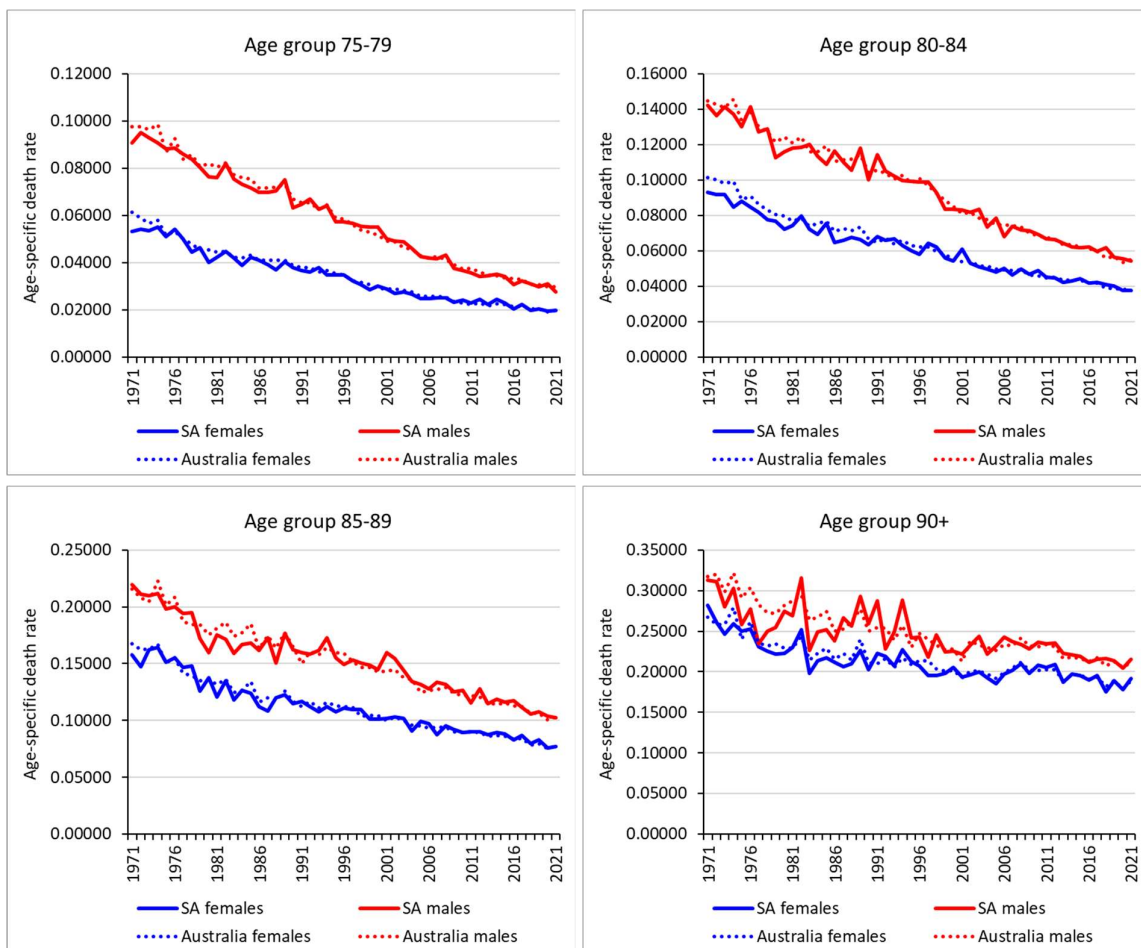


**Figure 4.2**: Selected age-specific death rates by sex, South Australia, 1971-2021

Source: life tables calculated using ABS deaths and ERP data

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At ages 90+ the downward trend is less smooth, but it should be remembered that the age composition of the 90+ population itself has been ageing over the period shown – effectively making it a population-weighted average of mortality rates at very high ages. For projection assumptions, it is reasonable to assume that the long-run trend of declining mortality will continue.

At some middle-age age groups, the decline in death rates has stalled in recent years (Figure 4.3). This is particularly the case for the 45-49 and 50-54 age groups, and males aged 55-59. This is a concerning development, but thankfully death rates at these ages are low (all well below 1% per year). For the purposes of projections, death rates can be assumed to resume their long-run trend of decline. Because the rates are low at these ages, mortality exerts only a very modest impact on population size, so even if the rates were forecast with large percentage errors, the effect on population projections would be very small. The key to accurate forecasts of deaths is accurate forecasts of age-specific death rates at the highest ages.
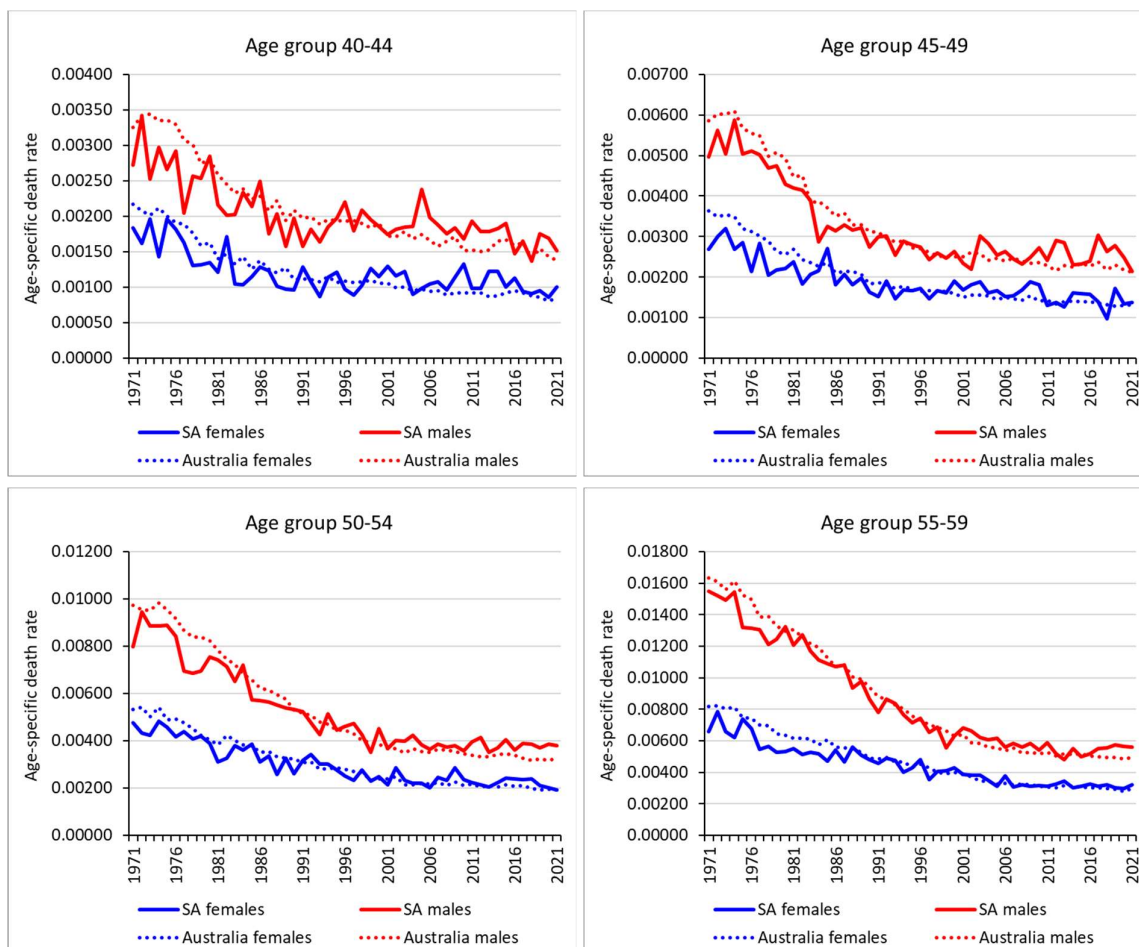
**Figure 4.3**: Selected age-specific death rates by sex, South Australia, 1971-2021
Source: life tables calculated using ABS deaths and ERP data

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4.3. Mortality projection assumptions

Mortality tends to be more predictable than fertility because it is influenced by slow-moving macro-scale trends in health behaviours and medical science. Most mortality forecasting models are extrapolative, though a few models now explicitly take into consideration smoking rates, alcohol consumption, and rising obesity[12]. These models require considerable amounts of input data and assumptions about the future trajectories of smoking, alcohol use, and obesity. The practical approach, therefore, would be to follow most demographers and use an extrapolative model assuming that mortality will continue its long-established near-exponential decline in age-specific death rates over the long-run.

The default option in SASPOPP is to make use of a national mortality surface to project age-specific death rates. This consists of national age-specific mortality from recent decades and mortality projected many decades into the future. The model used for the projections is Ediev's extrapolative model of mortality, which essentially applies exponential extrapolation to age-specific death rates with some clever consistency constraints added to ensure plausible smooth projected trends[13]. Using a national mortality surface minimises the amount of noise in the data and in particular avoids problematic death rates of zero. SASPOPP selects the appropriate age profile of mortality from the mortality surface for each assumed life expectancy at birth value. Given the similarity between South Australian and national mortality patterns, this approach is recommended.

For the life expectancy at birth assumptions for the State, it is recommended that they mirror national life expectancy projections from the Ediev model. However, these life expectancy projections for the State should incorporate the minor difference with national life expectancy observed over recent years. The suggested approach is to set State life expectancy by sex as the national life expectancy projection minus the average difference observed over the previous decade or so. The projection therefore assumes that State life expectancy does fall any further below national trends.

Special consideration must be given to COVID. COVID has disrupted long-run mortality trends, presenting a non-trivial challenge for forecasting, at least in the short run. While Australia avoided the huge increases in mortality observed in many other countries during the first two years of the

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[12] Janssen et al. (2019) Future mortality in selected European countries, taking into account the impact of lifestyle epidemics. Joint Eurostat/UNECE Work Session on Demographic Projections.
https://pure.rug.nl/ws/portalfiles/portal/100697354/Janssen_et_al_2019_Eurostat_UNECE_WP.pdf

[13] Ediev (2008) Extrapolative projections of mortality: towards a more consistent method. Part I: the central scenario. Vienna Institute for Demography Working Paper 3/2008.
https://www.oeaw.ac.at/fileadmin/subsites/Institute/VID/PDF/Publications/Working_Papers/WP2008_03.pdf

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pandemic[14], provisional mortality data for late 2021 and January-September 2022 shows elevated numbers of deaths, many due to COVID[15]. Although these deaths data do not represent a full count of deaths, they are sufficiently high to guarantee that the number of deaths which will later be published for 2022 will be markedly greater than the long-run trend would suggest.

For South Australia, deaths in 2022 up to the end of September were 14% above the ABS 'baseline average'. This baseline average is defined by the ABS as the average annual number of deaths in the years 2017, 2018, 2019 and 2021. Unfortunately, this baseline does not reflect the likely numbers of deaths which would have occurred in 2022 in the absence of COVID because population growth and ageing are generating rising numbers of deaths even in the context of declining age-specific death rates. Nonetheless, the mortality assumptions ought to include at least a short-run adjustment to account for elevated COVID mortality.

For the population projections, it is therefore recommended that life expectancy at birth projections for the first year of the projection horizon, 2021-22, are iteratively adjusted to match the published number of deaths for South Australia by the ABS[16]. For the next few years, some above-trend adjustments could also be considered. One option would be to measure the difference between the adjusted life expectancy in 2021-22 and the projected trend-based life expectancy for that year, and then gradually reduce the differences to zero over the next few years.

In addition, a briefing from SA Health on the likely direction of the pandemic over the next few years, and its impacts on mortality, would probably be beneficial.

There is less need for high and low assumptions for mortality due to it being more forecastable than the other demographic processes. However, alternative scenarios could be created which consider alternative COVID trajectories over the next few years.

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[14] Schöley et al. (2022) Life expectancy changes since COVID-19. *Nature Human Behaviour*. https://doi.org/10.1038/s41562-022-01450-3

[15] ABS (2022) Provisional Mortality Statistics. Jan - Sep 2022. https://www.abs.gov.au/statistics/health/causes-death/provisional-mortality-statistics/latest-release

[16] In ABS (2022) National, State & Territory Population. https://www.abs.gov.au/statistics/people/population/national-state-and-territory-population/jun-2022

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# 5. Overseas migration

## 5.1. Net overseas migration

The trend in South Australia's net overseas migration (NOM) from 1971 to 2022 is shown in Figure 5.1. The blue bars show the published NOM values for each financial year while the red outline bars show adjusted NOM between 2001 and 2021. This adjusted NOM was calculated by modifying published interstate and overseas migration estimates for five-year intercensal periods to match residual total net migration for the period. Residual total net migration is the population growth remaining after taking into account natural change. The method is based on the assumption that census year ERPs and intercensal natural change are correctly estimated, an assumption which is unlikely to hold perfectly. It is stressed that the adjusted NOM values are not necessarily more accurate than published NOM figures, they are just consistent with natural change, adjusted NIM and population growth measured by ERPs.
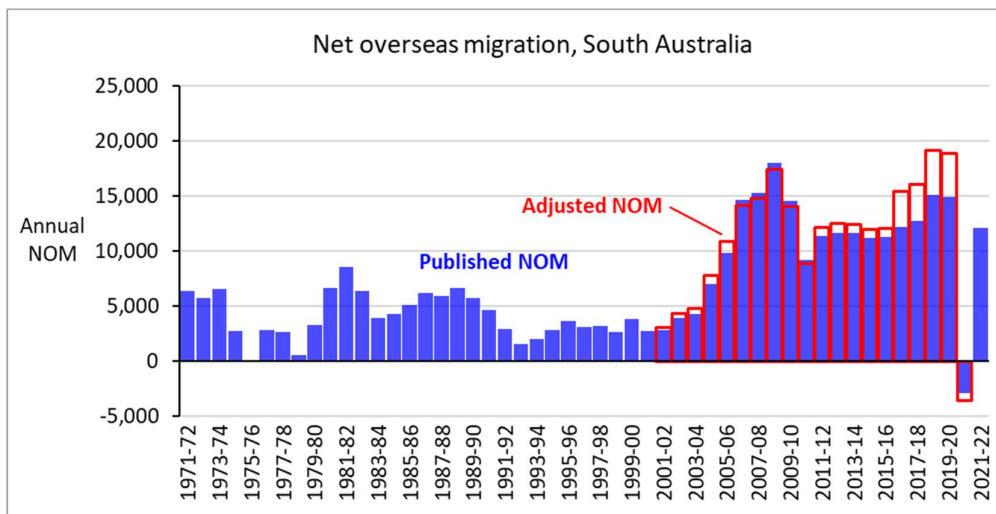


**Figure 5.1**: Net overseas migration, South Australia, 1971-2022
Source: ABS overseas migration data (published); calculated using iterative proportional fitting from ABS migration, births, deaths and ERP data (adjusted)

As a result of an upward revision to the State's ERP in 2021 following the 2021 Census, the adjusted NOM is notably higher than published NOM for most years in the 2016-21 period. The exception is 2020-21 when the Australian border was shut and large numbers of temporary migrants returned to their countries of origin. Emigration exceeded immigration, resulting in negative NOM. Over the 2006-19 high migration period, NOM averaged 12,986 per year (published data) or 13,920 (adjusted data).

Another way of examining NOM trends is to calculate South Australia's share of national NOM. Figure 5.2 presents both published and adjusted NOM percentages. Adjusted NOM percentages

make use of residual national NOM in the denominator. The adjusted percentages are similar for 2001-16 but noticeably higher over 2016-21 reflecting the higher NOM numbers for this period (Figure 5.1). The average annual published NOM percentage over 2006-19 is 5.7% but 6.3% for the adjusted migration data.



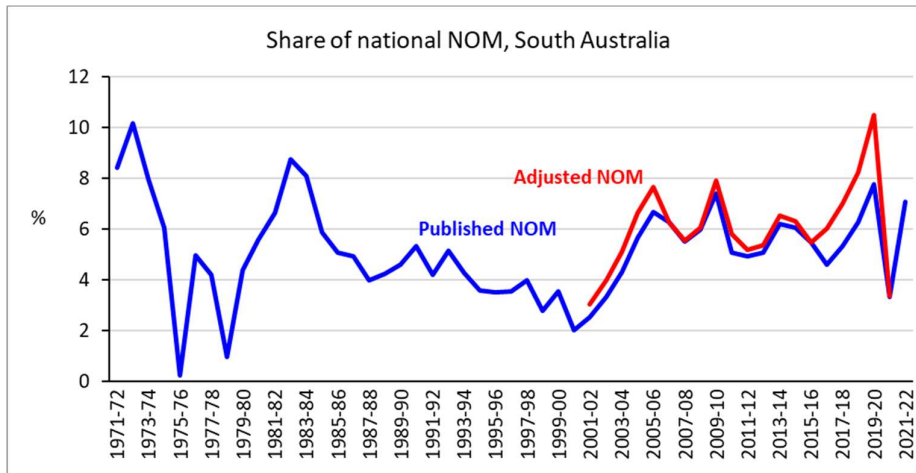**Figure 5.2**: Share of national net overseas migration, South Australia, 1971-2022
Source: ABS overseas migration data (published); calculated using iterative proportional fitting from ABS migration, births, deaths and ERP data (adjusted)

In analysing overseas migration trends, it is useful to consider net overseas migration as the total of various component migration flows – net permanent migration, net temporary migration, New Zealand citizens, and Australian citizens. Much of the year-to-year fluctuation in NOM is due to temporary migration, especially international student migration. Figure 5.3 illustrates South Australia's annual NOM by broad visa/citizenship category over recent years. Net permanent migration is indicated by the black line. Net temporary migration is shown by the red line, with the subset of that group comprising international students shown by the dashed red line. The green line shows the NOM of Australian citizens.

The rise in the State's NOM in the mid-2000s (Figures 5.1 and 5.3) followed the national trend of increasing NOM due to more temporary migrants, especially international students, and an increase in the Migration Program intake. Over the last few years, international migration trends have been hugely disrupted. Although there was marked drop in net permanent migration during the period of the national border closure and COVID restrictions, and also a rare net gain in Australian citizens, the drop in temporary migration was far more dramatic. This caused overall NOM to become negative. The recent recovery in 2021-22 was also stronger for temporary migration, with international students contributing most of the recovery.
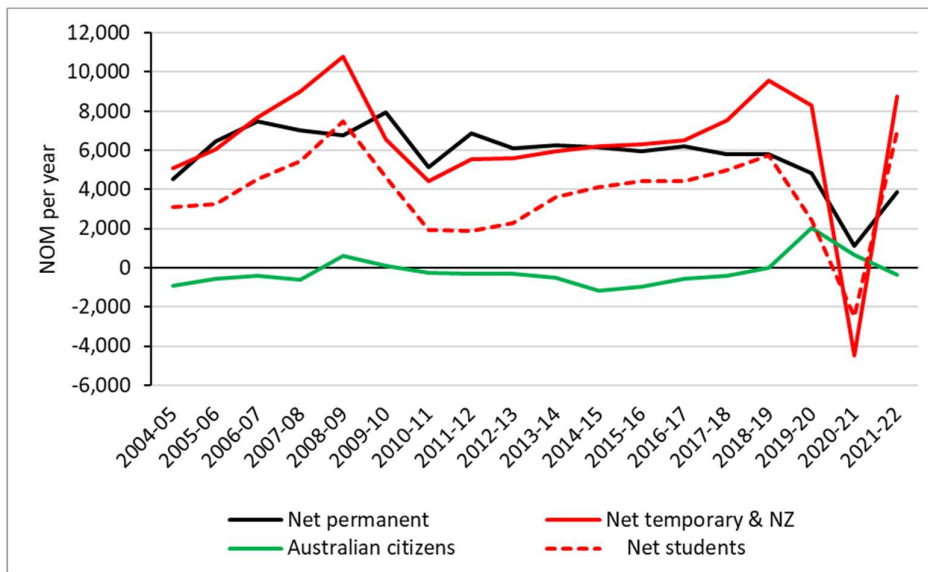
**Figure 5.3**: South Australian published NOM by broad category, 2004-05 to 2021-22
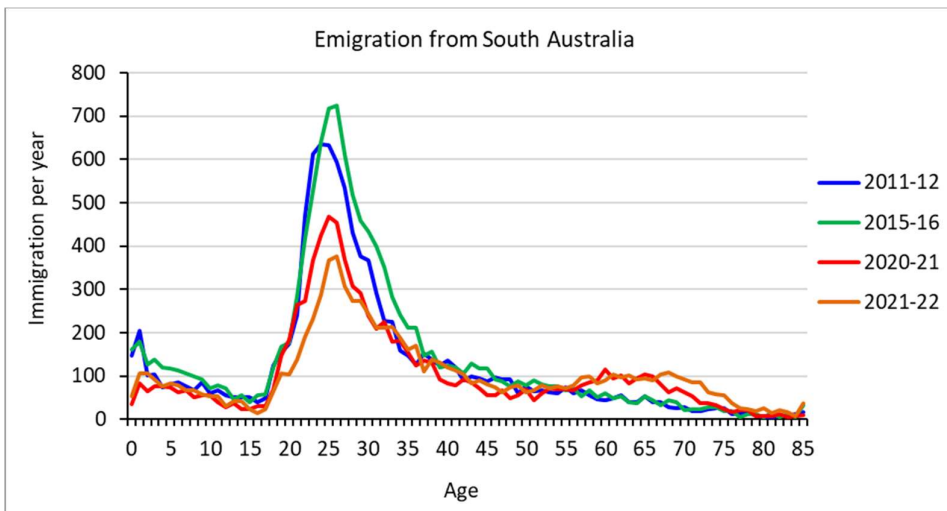
Source: ABS overseas migration

5.2. Overseas migration age profiles

The age profile of immigration to South Australia, as recorded by ABS Overseas Migration Arrivals, is shown in Figure 5.4(a). The graphs show data for persons and not males and females separately because there is mostly little difference by sex. The immigration age profiles for 2011-12 and 2015-16 represent 'normal' patterns of immigration, while those for 2020-21 and 2021-22 are unusual. Immigration in 2020-21 occurred during the period when the international border was closed due to COVID. Perhaps the only remarkable feature of immigration in this year was how high it was given the border closure. In 2021-22 immigration recovered strongly, with the peak at the student ages in the late teens and early 20s being higher than the labour market peak in the mid-20s. This is due to the dominance of international student migration in this year.

The age profile of emigration from South Australia, as recorded by ABS Overseas Migration Departures, is shown in Figure 5.4(b). As with immigration, the emigration profiles for 2011-12 and 2015-16 represent 'normal' patterns of emigration, while the two most recent years shown are unusual. Emigration in 2019-20 and 2020-21 was dominated by temporary migrants. In 2021-22 the amount of emigration remained low even though immigration experienced a strong recovery. This is probably due to the relatively small stock of temporary migrants currently in Australia; when current temporary migrant arrivals finish university courses and work contracts, emigration is likely to increase. In both 2020-21 and 2021-22 there was noticeably more emigration in the older ages – some were possibly visitors trapped in Australia for longer than anticipated during the border closures.
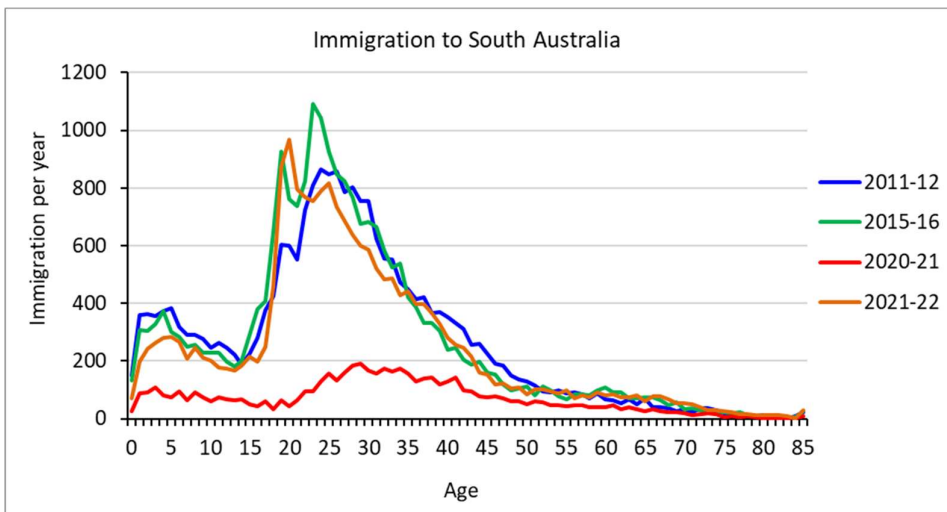
(a) Immigration flows



(b) Emigration flows

**Figure 5.4**: Overseas migration to and from South Australia recorded by the ABS

Source: ABS overseas migration

5.3. NOM assumptions

Net overseas migration is notoriously difficult to predict, even over the short-term. It is affected by, amongst other factors,

- the size of the annual Migration Program announced each year
- the annual Humanitarian Program
- the proportion of permanent visas issued onshore to people who have already migrated to Australia
- demand for temporary workers, including working holiday makers
- the international student market.

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All these influences on migration are themselves affected by the state of the Australian and global economies, policy related to international students (including work rights after graduation and routes to permanent residence), public opinion on migration, the competitiveness of Australian higher education, and so on.

Given the current Australian Government's pro-immigration stance, it seems likely that over the next few years NOM will remain high and roughly comparable to the years immediately prior to the COVID pandemic. This stance is especially evident by the increase in the 2022-23 Migration Program planning level from 160,000 to 195,000[17]. The NOM of assumption of 235,000 per year assumed by the Australian Government's Centre for Population in their projections[18] could be interpreted as high levels of migration being viewed as desirable by the government. The extent to which this translates to higher NOM is difficult to predict because of the approximate relationship between NOM and Migration Program planning levels, as shown in Figure 5.5. The number of visas issued sometimes falls short, and sometimes exceeds, the planning levels. NOM is also influenced by the proportion of onshore permanent visa grants, emigration, temporary migration flows, and the Humanitarian Program.
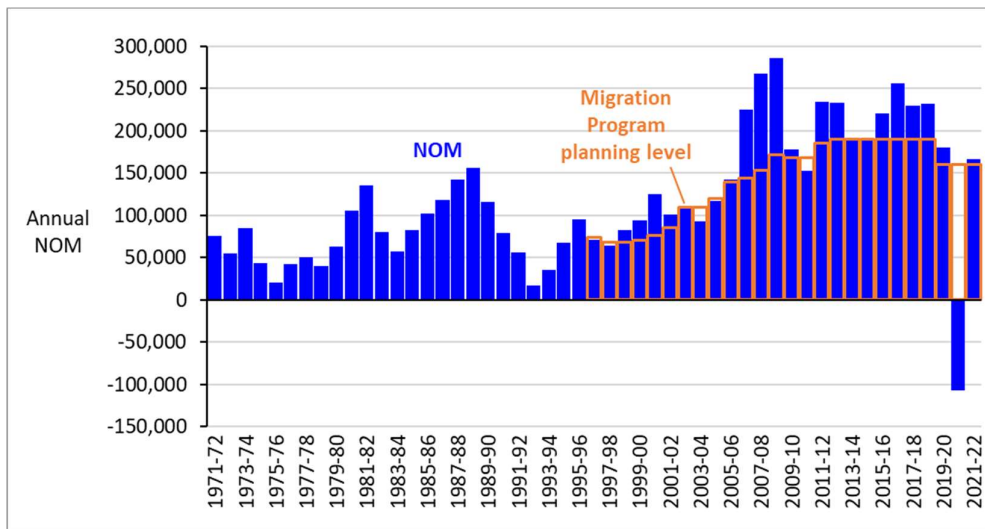


**Figure 5.5**: The relationship between adjusted NOM and the Migration Program planning levels, Australia

Source: as for Figure 5.1 (adjusted NOM); Department of Home Affairs (Migration Program planning levels)
Note: NOM shown here is adjusted NOM

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[17] https://minister.homeaffairs.gov.au/ClareONeil/Pages/australias-migration-future.aspx
[18] Centre for Population (2021). 2021 Population Statement.
https://population.gov.au/publications/statements/2021-population-statement

For the purposes of preparing projection assumptions, it would be sensible to include the published 2021-22 figure of 12,077 for South Australia and a higher NOM assumption for 2022-23. This is for two reasons.

(1) Although the association between NOM and the Migration Program Planning level is approximate, there is still a broad-brush relationship evident and it is useful to calculate the NOM which occurred when the planning level was set close to the 2022-23 level, which was 190,000 for all years 2012-13 and 2018-19. Over this period, annual average adjusted NOM was 221,395 nationally and 14,227 for South Australia. On average over the 1996-2019 period, NOM was about 1.2 times the Migration Program planning level.

(2) Australia is currently experiencing strong intakes, but low departures of, temporary migrants. These low emigration numbers are due to the relatively small stock of migrants and because there is a time lag between arrival and departure while temporary migrants undertake courses of study or are engaged in fixed-term employment.

One possibility for NOM assumptions is to assume about 250,000 nationally for 2022-23 with at least 6.4% of this (the average annual adjusted NOM share for 2012-19) allocated to South Australia. If the higher level of migration is expected for future years, annual NOM of around 15,000-18,000 could be kept constant. If the Migration Program planning level returns to 160,000 then perhaps a national NOM of 193,000 per year could be assumed with 6.4%, or 12,400, of this going to South Australia.

Given the volatility of NOM, high and low scenario assumptions which cover much of the range of NOM over the 2006-19 period are advised. These might be 3,000-4,000 above and below the main assumption.

In terms of overseas migration age profiles, it is recommended that migration profiles for the COVID-affected period are not used for projections. These are specific to a very unusual period of migration. An average of migration age profiles over several pre-COVID years is recommended to smooth out noise in the data.

# 6. Interstate migration

6.1. Net interstate migration

The future of interstate migration is subject to the greatest uncertainty among all the demographic components of change because (a) it fluctuates in response to economic and social conditions, and (b) it is not directly measured, but instead based on proxy data of changes of address which are notified to Medicare, plus some defence force data on movements. Figure 6.1 shows annual net interstate migration (NIM) for South Australia as published by the ABS (blue bars) and adjusted NIM, calculated as the remaining population change once natural change and adjusted NOM are accounted for. Adjusted NIM should not *necessarily* be regarded as more accurate than the published NIM. It is simply consistent with ERPs, births, deaths and adjusted NOM data.
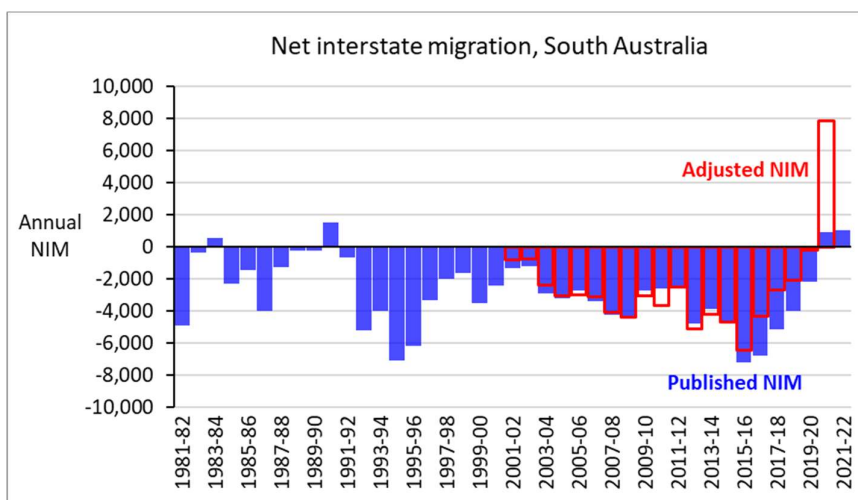


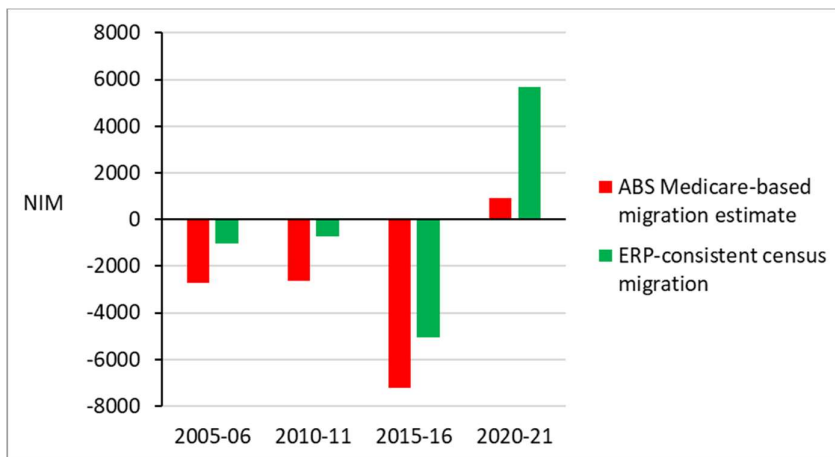**Figure 6.1**: Net interstate migration, South Australia, 1981-2022
Source: ABS interstate migration data (published); calculated as a residual using adjusted NOM, births, deaths and ERP data (adjusted)

Differences with the published NIM statistics are clearly greatest for the 2016-21 period due to the upward revision of the 2021 ERP following the 2021 Census. The magnitude of these differences is concerning. There is a strong case for statisticians to investigate alternative data sources for measuring internal migration in Australia, including those derived from mobile devices and banking records.

Fortunately, the census can shed some light on the level of interstate migration in 2020-21, and other one year periods prior to each census. It is important to note that census migration data differs from the Medicare-based migration estimates in several ways: (1) it is conceptually different because migration is derived from counts of people with a different address at two points in time rather than counts of moves, (2) it excludes the migration of newly-born infants, (3) it

excludes people who move but then leave the Australian population just before the census (through death or emigration), (4) it suffers a little from underenumeration (people missed by the census) and item non-response (people not answering the migration questions), and (5) the period it refers to is not a financial year, but the one year period prior to census night in early August 2021. Census-type migration data therefore tends to be a little lower than direct measures of the number of moves if they were available. However, its great strength lies in the fact that it is based directly from a question on usual address one year ago and is not based on proxy data. It therefore offers a useful comparison with the annual Medicare-based migration estimates. The census data can be easily adjusted for census undercount to be consistent with the ERP.

Figure 6.2 below compares the ABS annual migration estimates of NIM with ERP-consistent census NIM. For 2020-21, the ERP-consistent census NIM estimate is +5,679 compared to 895 from the Medicare-based migration estimates. It seems very likely that in the 2020-21 financial year South Australia experienced a sizeable net gain in population through interstate migration.



**Figure 6.2**: Net interstate migration, South Australia
Source: ABS interstate migration estimates; ABS census data
Note: Medicare-based migration estimates are for financial years; census migration covers the one year period prior to the census in early August.

6.2. Interstate migration age profiles

The age profiles of migration are vitally important in creating accurate population projections. Census data provide the best data source for reliable migration age profiles. Figure 6.3 shows the probabilities of interstate out-migration from South Australia to other parts of Australia, calculated from census data. Part (a) shows out-migration probabilities, while part (b) shows probabilities scaled to sum to 1 across all ages so that the shape of the profiles can be compared. Part (a) indicates that the level of migration has shifted up and down a little over time, though part

(b) demonstrates remarkable continuity in the *shape* of the migration age profiles over time, with just minor differences evident in the 2020-21 age profile.
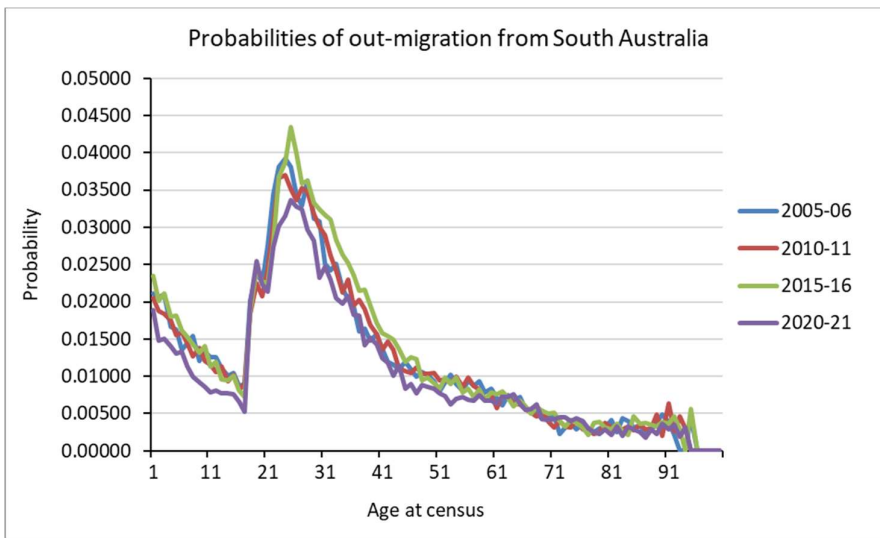


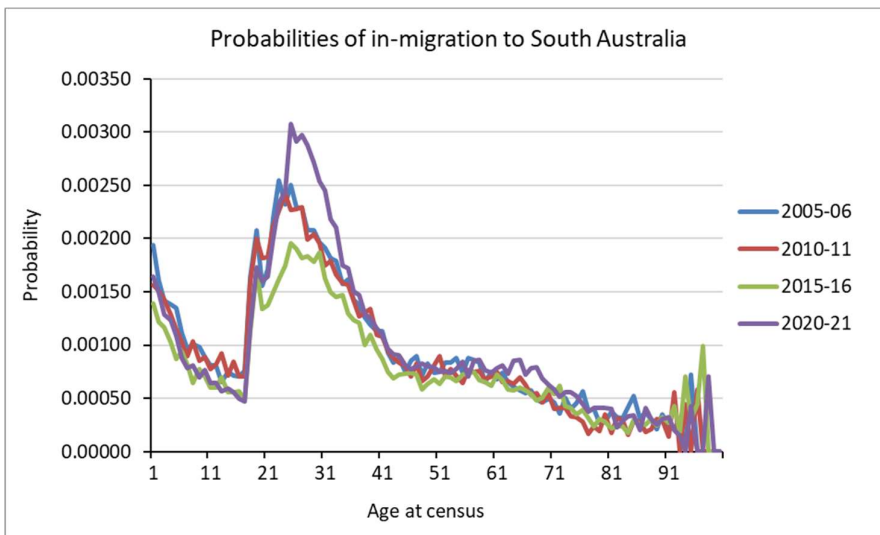(a) Interstate out-migration probabilities
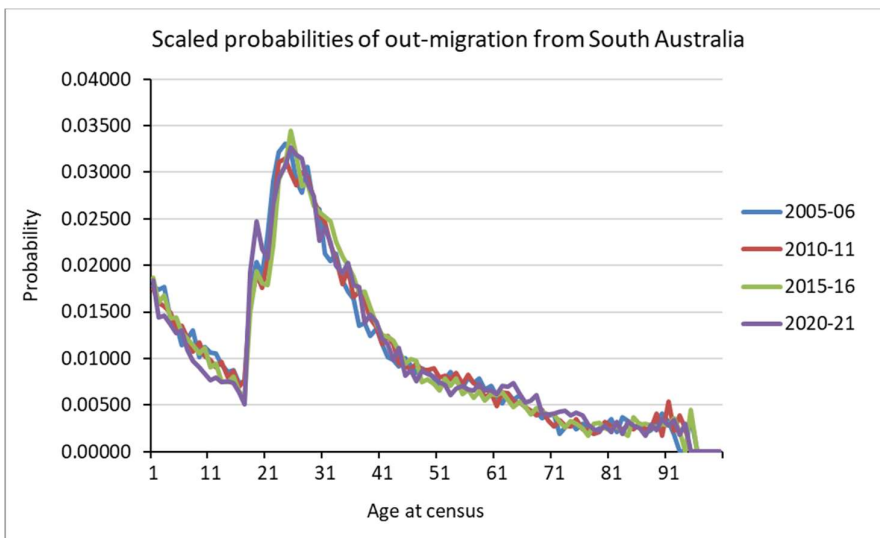


(b) Out-migration probabilities scaled to sum to 1 across all ages

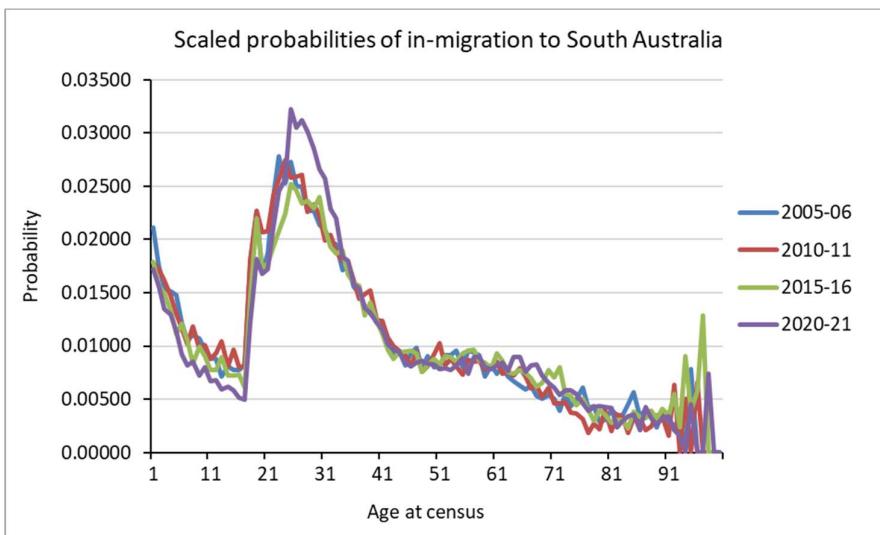**Figure 6.3**: Census-based interstate probabilities of out-migration from South Australia
Source: ABS census data

Figure 6.4 shows the equivalent probabilities of interstate *in*-migration to South Australia from other parts of Australia. The level of in-migration has varied more than out-migration (part a). But when the shapes of the age profiles are compared (part b), those for 2005-06, 2010-11 and 2015-16 are quite similar. The shape of the 2020-21 in-migration profile is different in the childhood and young adult ages, but this is not surprising given the unusual COVID-related circumstances at the time.

(a) Interstate in-migration probabilities



(b) In-migration probabilities scaled to sum to 1 across all ages

**Figure 6.4**: Census-based interstate probabilities of in-migration to South Australia
Source: ABS census data

6.3. NIM projection assumptions

Given the volatility of net interstate migration, the recent switch to positive NIM in South Australia associated with the COVID-related disruption to 'normal' migration patterns, and data quality problems, formulating projection assumptions for NIM is especially difficult. The annual average adjusted NIM from 2001-2019 was -3,346. Yet during the few years prior to COVID there was a strong upwards trend of diminishing net migration losses. One approach is to assume that 2020-21 was a unique period which adjusts back to some sort of 'normal' over the subsequent 2 to 3 years. But what sort of normal is plausible? A compromise between the average NIM of the

last two decades and the recent trend of reduced net migration losses might involve an assumption somewhere in the range bounded by the long-run value (-3,346) and alternative estimates of NIM for 2021-22.

Given the uncertainty surrounding NIM, high and low scenario values which are considerably above and below the main assumption are advised, and probably on opposite sides of zero.

For the age profiles of interstate migration, it is recommended that the average of the 2010-11 and 2015-16 census migration age profiles be used. Using averages helps to smooth out some of the noise in the data. Along with overseas migration flows, these interstate migration age profiles will be subject to minor adjustments in the data preparation process to ensure that population change by cohort over recent intercensal periods matches population change as measured by the ERP.

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