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COVID-19 and Potential Impact on South Australia's Population

Closed borders have economic and social implications

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COVID-19 and Potential Impact on South Australia's Population

Closed borders have economic and social implications

The virus has significantly curtailed migration…

The full impacts and future responses to COVID-19 are uncertain, and will take some time to completely evolve. But an immediate impact has been the implementation of a 'fortress Australia' policy to contain the spread of the virus, characterised by the shut-down of overseas migration and restrictions on international students. These restrictions on movement have brought overseas migration arrivals to a halt. As South Australia has principally relied on overseas migration to maintain solid population growth in the face of net interstate migration outflows and a low fertility rate, the cessation of population gains from overseas migration has important economic and social implication for the state, such as in its ability to meet skills in demand.

In this first of a series of policy papers which consider the demographic and labour market impacts of COVID-19 on South Australia, we assess how the virus and associated migration restrictions may impact the state's future population growth path. Subsequent papers consider how these restrictions may affect major components of population growth including the working age population, and review the implications for South Australia stemming from the Commonwealth Government's just released 2021 Intergenerational Report. National population and economic growth assumptions from the latter suggest that South Australia is likely to see a looming workforce shortage in health, aged and disability care, and rising skills mismatches in other sectors of the labour market.

ABS population projections before COVID….

The starting point for our analysis are the ABS population projections which were produced following the 2016 Census and have 2017 as their starting point. While these projections are now somewhat dated, they represent the most recent estimates produced by the ABS and provide a good approximation of the pre-COVID expectation for future population growth. Moreover, they have broad coverage, being made available for Australia, each state and territory, and each capital city and rest of state region, by age and gender, out to 2066.

The ABS use various assumptions to formulate population projections, taking into account:

- future levels of fertility (i.e. number of live births per woman);
- mortality (life expectancy); and
- migration (both interstate and overseas).

Assumptions around these factors are informed by analysis of demographic trends, research into the determinants of population growth and distribution, consultation with experts at the national and state level, and computation. The ABS produces three series of projections: high, medium and low although a total of 72 series can be generated by varying the underlying assumptions. The ABS further note that:

> "The projections are not intended as predictions or forecasts, but are illustrations of growth and change in the population that would occur if assumptions made about future demographic trends were to prevail over the projection period. While the assumptions for the projections are formulated on the basis of an assessment of past demographic trends, both in Australia and overseas, there is no certainty that any of the assumptions will or will not be realised. In addition, no assessment has been made of changes in non-demographic conditions."

Given that COVID-19 has substantially changed the underlying fundamentals regarding future demographic trends, it is illuminative to consider how the pandemic has altered the outlook for future population growth. Before doing so we consider the key underlying assumptions behind the ABS's baseline population projections.

At a state level population growth may be broadly considered to be a function of natural increase in terms of the difference between the number of births and deaths, net interstate migration and net overseas migration. The relative contribution of each of these components will vary over time but all are important in analysing trends in South Australia's population. COVID-19 has substantially changed these population dynamics with the closure of borders to international migration effectively removing one of the levers of population growth, while regional lockdowns and interstate border restrictions have also disrupted interstate migration patterns.

The three baseline scenarios produced by ABS adopts different assumptions regarding fertility rates, male and female life expectancy, net overseas migration and net interstate migration. They are reported in three series: the "high series", "medium series" and "low series" with each being derived directly from ABS projections. The low series adopts conservative assumptions regarding fertility, life expectancy and migration flows, whereas the high series adopts more ambitious assumptions.

The high series assumes:

- high fertility rate of 1.9 births per woman;
- high male life expectancy at birth at 87.6 years, high female life expectancy at birth at 89.1 years;
- high net overseas migration (NOM) of 15,680 persons; and
- high net interstate migration (NIM) outflows of 7,000 persons.

The medium series assumes:

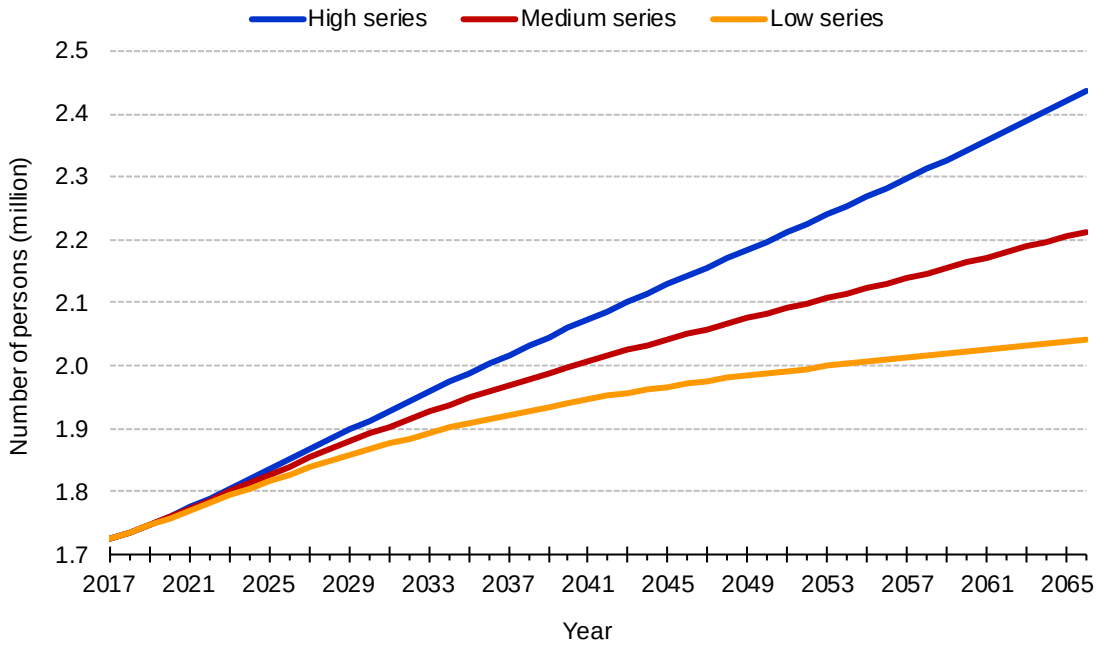
- medium fertility rate of 1.76 births per woman;
- medium male life expectancy at birth of 82.9 years, medium female life expectancy at birth of 85.9 years;
- medium net overseas migration (NOM) of 12,830 persons; and
- medium net interstate migration (NIM) outflows of 4,500 persons.

The low series assumes:

- low fertility rate of 1.61 births per woman;
- medium male life expectancy at birth of 82.9 years, medium female life expectancy at birth of 85.9 years;
- low net overseas migration (NOM) of 9,980 persons; and
- low net interstate migration (NIM) outflows of 2,500 persons.

The commencing population for South Australia was 1.7 million in 2017. Figure 1 illustrates the population projections for South Australia for each of the three scenarios. The state's population is projected to grow under each of the scenarios, although there is considerable variation in the degree of growth across the options. Under the high series the population is projected to reach just over 2.4 million by 2066, whereas under the low series the population is projected to reach 2.0 million. It is important to remember that these projections assume there has been no fundamental change in non-demographic factors or other conditions.

Figure 1: South Australia High, Medium, Low 2017 to 2066



Source: ABS population projections. ABS Stat.

What are the implications for population growth if COVID impacts were sustained?

COVID-19 has imposed substantial changes on population dynamics in the short term. While these effects should relax over the next several years as conditions return to normal, it is interesting to consider what would be the long-term implications for South Australia's future population growth if these impacts were to persist. Our assumptions for each major lever of population growth in light of the impact of COVID-19 are summarised as follows:

- Fertility: is a major component of natural increase along with mortality. The fertility rate in South Australia in 2019 was 1.69 births per woman (ABS, 2020), which most closely corresponds with the ABS's low series assumptions. It is expected that COVID-19 will lead to a temporary decline in fertility as increased economic and social uncertainty encourages people to delay having children, before eventually returning to its pre-COVID level (Centre for Population, 2021). On this basis we have we have assumed that South Australia's recent low fertility rate will be maintained into the future.
- Life expectancy: there does not appear to be any reason to not assume a high life expectancy for the South Australian population for the time period under consideration. While COVID has led to some premature mortality, deaths have been relatively few, especially compared to international experience, and should not significantly affect overall life expectancy.
- Net Overseas Migration: this component is assumed to be zero given the status of the pandemic and the current national policy position to suspend international migration.
- Net Interstate Migration: COVID-19 has contributed to a reversal of net interstate migration in the short term with a large fall in the number of people leaving the state. South Australia has generally performed better than other states in regards to management of the pandemic while other states have implemented more lockdowns and border closures over the past sixteen months, further restricting interstate mobility.

South Australia's long-term trend with respect to interstate migration is that it has almost exclusively negative over the last two decades with substantial outflows to Victoria, New South Wales and Queensland. Retirees have drifted to Queensland (and more recently Tasmania) while younger people and those with post school qualifications have left for employment in Victoria and NSW. The later 'brain drain' trend, while slowing pre-COVID-19, was still in negative territory prior to the arrival of the pandemic, with Tasmania being the only state that has successfully turned around the 'brain drain' in recent times. Since the onset of the pandemic, South Australia has enjoyed a reversal in net intestate migration flows, experiencing net interstate population gains of approximately 100 persons per quarter on average over the last three quarters of 2020. While these gains are minor, they represent a significant turnaround from recent historical experience whereby the state lost an average of approximately 1,350 people per quarter through net interstate migration flows in the five years prior to the pandemic. Moreover, they represent the only sustained gains in net interstate migration since the early 1990s.

Assuming zero overseas migration is maintained (to understand the impacts of this), it is trends in interstate migration that need to be accounted for given uncertainty over the frequency and recurrence of internal borders closures, and any lasting impact from the pandemic on internal migration preferences. Table 1 sets out two possible scenarios for South Australia's future population growth that vary in respect of interstate migration assumptions. Scenario 1 – zero overseas migration (ZOM 1) assumes the long-term trend in net interstate migration (NIM) will resume sometime into the future, whereas scenario 2, also with zero overseas migration (ZOM 2), assumes the favourable and current short-term trend of smaller outflow of net interstate migration will continue into the future.

Table 1 Assumptions accounting for current impact of COVID-19

Zero Overseas Migration (ZOM 1)	Zero Overseas Migration (ZOM 2)
Low fertility	Low fertility
High Life Expectancy	High Life Expectancy
Zero Net Overseas Migration	Zero Net Overseas Migration
Large Net Interstate Migration	Small Net Interstate Migration

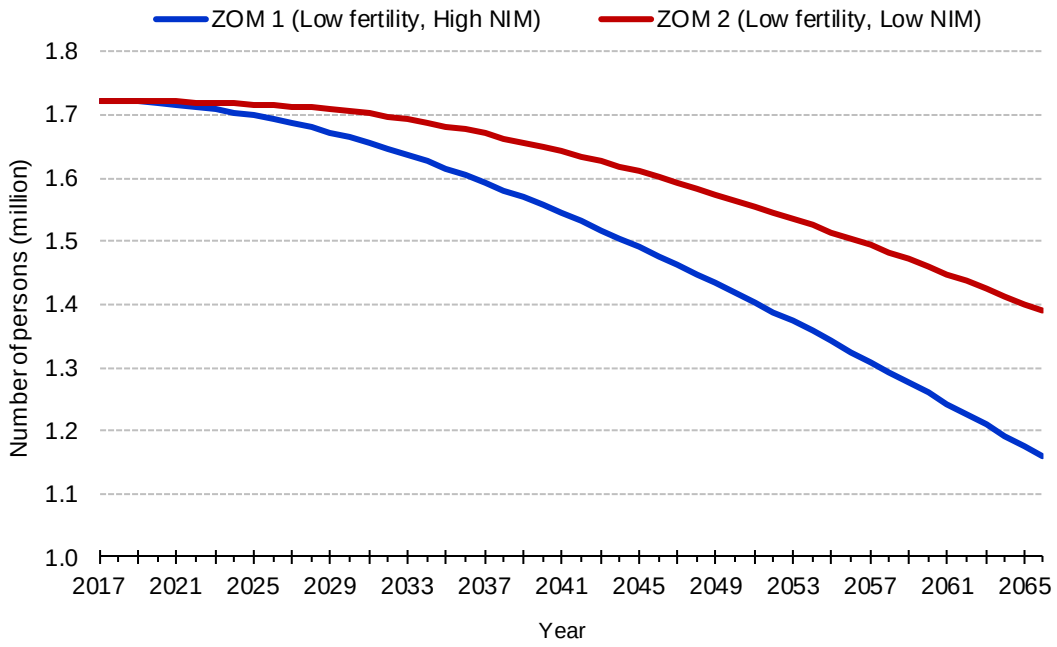
Figure 2 illustrates the two population projections which both assume a continuation of zero international migration, equivalent levels of fertility and life expectancy, but different levels of interstate migration (i.e. large and small outflows). We are most interested in projections over the short term period from 2017 to 2031 as in the longer term there are many feasible policy options available to address the decline in population.

Scenario ZOM 1 (2017-2031) assumes a large negative net interstate migration as is the recent historical experience for South Australia. Under this scenario, the state's population is projected to decline annually by 0.8 per cent.

ZOM 2, which assumes a return to a small negative net interstate migration in line with the current trend due to COVID-19, the population is projected to decline annually by 0.4 per cent.

Under both scenarios the total population starts to fall more rapidly from the mid-2030s onwards as ageing of the population, especially the baby boomer cohort, sees natural increase turn increasingly negative.

Figure 2: Scenarios with ZOM 1 and ZOM 2 (2017 to 2066)



Source: ABS Stat.

Importance of overseas migration….

A comparison of Figures 1 and 2 highlights the importance of overseas migration to growing South Australia's total population. Under ABS low series and medium series 'natural increase' is positive but decreasing from 2017. Only under the high series is natural increase positive and increasing but is not sufficient to compensate for the loss of overseas migration and change in net interstate migration. In the absence of overseas migration South Australia would experience population decline in the short term.

Commencing from a population of 1.72 million in 2017, under the ZOM 1 scenario South Australia's population is projected to decline to 1.70 million by 2024 as net interstate migration returns to its previous levels. Under ZOM 2 with net interstate migration remaining very low, in effect holding to the COVID-19 induced pattern, the population by 2024 would effectively still be at the same level as it was in 2017. Hence, overseas migration is critical to mitigating the effects of population losses experienced through net interstate migration, and plays a fundamental role in growing the overall population even under favourable assumptions regarding net interstate migration. This importance only becomes more significant further into the future as natural increase eventually starts to detract from population growth, rather than contribute to it.

Table 2 Population growth path under ZOM 1 and ZOM 2

Scenarios	Base year (2017)	Short term (2024) Persons	Medium term (2031) Persons	Annual average growth rate to 2031 Per cent
ZOM 1	1,723,714	1,704,331	1,655,652	-0.3
ZOM 2	1,723,714	1,718,310	1,702,214	-0.1

More realistic assumptions…

Australia cannot continue to be a "fortress nation" forever and sooner or later international borders will reopen. Hence it is instructive to look at how South Australia's population will change under a more realistic set of assumptions regarding the opening of Australia's border in the short, medium and long term. Alternative assumptions are also made about the evolution of net interstate migration.

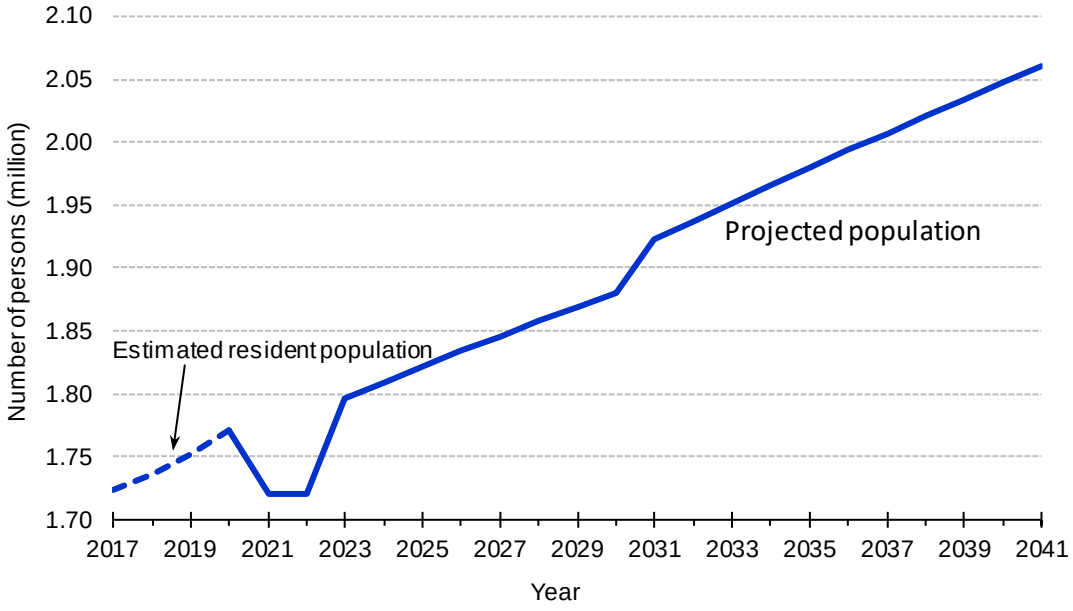
Table 3 outlines what are considered to be a more realistic scenario out to 2031. The critical assumptions are a continued low fertility rate and high life expectancy post 2022. We also anticipate a gradual improvement in the economic performance of the state economy which will lead to greater employment opportunities that act 'to hold' younger job seekers, which in turn mitigates the deterioration in net interstate migration outflows once normal activities resume. The expectation is that Australia will return to welcoming new migrants including a component of humanitarian intake.

Table 3: Assumptions underlying post pandemic situation

New Series 1
Low fertility assumed for projections
High Life Expectancy assumed for projections
2017-2020: Estimated Resident Population of SA as a 30 June each year
2021 and 2022: Low Net Interstate Migration and Zero Net Overseas Migration
2023 to 2030: Medium Net Interstate Migration and Medium Net Overseas Migration
2031 onwards: Medium Net Interstate Migration and High Net Overseas Migration

Figure 3 and Table 4 provide what is likely to be a more realistic population growth path into the future for South Australia. The growth path to 2024 and 2031 is based on a compound average growth rate of 0.7 per cent per annum out to 2031 which approximates the most recent five-year growth rate. Total population in 2031 would be 1,922,855, up from 1,720,000 at 2017.The projected growth rate further highlights the importance to South Australia of overseas migration to growing the state's overall population.

Figure 3: Scenario with a return to overseas migration and improvement to interstate migration



Source: ABS population projections; ABS State and Territory population, SACES projection

Table 4: Population growth path under more realistic assumptions

Scenarios	2020	2022	2024	2031
Persons	1,770,375	1,720,298	1,809,370	1,922,855
Annual average growth rate	0.9 (2017-2020)	-0.04 (2021-2022)	0.7 (2023-2024)	0.7 (2025-2030)

Available policy levers….

Given the uncertainty about reopening of international borders and the fact that fertility trends cannot be increased in the short run, net interstate migration remains a key policy lever in the immediate term to grow the South Australian population. Thus, careful consideration needs to be devoted as to how best to cultivate the current short-term net positive change in interstate migration. Leveraging those of workforce age to remain and return to South Australia to achieve positive net interstate migration is to a large degree dependent on employment opportunities.

South Australia needs to continue to attract high valued added businesses such as the recently announced global pharmaceutical company Noumed Pharmaceuticals ($85m investment and 180 on-going jobs).[1] Further development at Lot 14 with substantial investments already announced in relation to AI and the space industry will contribute to this objective. In addition, support for the creative industries is required noting the labour-intensive nature of employment in the sector. The creative industries extends into, *inter alia,* the arts, photography, niche manufacture of ceramics, glassware, small bars and niche brewing, and create vitality within the CBD and inner suburbs to retain the mantle of Adelaide as the 'third most liveable city' in the world. With ongoing population ageing employment will continue to grow strongly in the health and social assistance sector.

Establishing employment opportunities will be critical to retaining and attracting more people to South Australia. Other major investment and construction projects include in defence, the submarine build, the Adelaide Central Market, O'Connell street development, rejuvenation of the Port of Adelaide, bringing forward construction infrastructure projects and boosting employment in universities and research institutes.

[1] https://www.innovationaus.com/mmi-grant-brings-global-pharma-firm-to-adelaide/

Urban reforms to increase population density in medium density, mixed use accommodation close to the CBD and inner suburbs is a necessity. Further development of the Bowden precinct, the Keswick site and Coca Cola site are exciting prospects and should include provision for affordable housing. The 'new economy' will be advanced through higher population density with appropriate design and infrastructure that brings people together, facilitating the sharing of ideas and information, thereby creating knowledge spill overs. Clusters of people have similar impacts as clusters of firms.

We need to find ways to reboot international student enrolments and retain graduates in the workforce. The recent approval of quarantine facilities at Parafield Airport is welcomed as the first stage in re-booting the international student market.

It has to be recognised that pushing these various policy levers will not be done in isolation from what other states will also be doing and have previously done to sustain net inflows from interstate and overseas to meet what was stronger employment demand than in South Australia. This competition will also likely be over smaller net overseas migration inflows through to 2030 under the medium scenario (225,000 per annum nationally) than actually seen in the four years to end 2019 (246,000 per annum).

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Appendix A
Further Discussion on Population Projections

The South Australian Department of Planning, Transport and Infrastructure in May 2019 prior to the COVID-19 outbreak and policy decisions taken with respect to overseas migration and border closures produced estimates for South Australia's population out to 2041. The key assumptions in their projections in comparison to the assumptions in this paper following the onset of COVID-19 were:

- A total fertility rate (TFR) of 1.73 children is assumed for the duration of the projection period in the medium series, higher than our assumed TFR of 1.69. They then assume this increases to 1.87 by 2021 in the high series, and steadily decreases from 1.65 in the low series.

- Increases in life expectancy at birth evident over many decades are assumed to continue into the future. In the medium series, male life expectancies at birth are assumed to increase from 80.4 years in 2016 to 84.2 in 2041, and female life expectancies are assumed to increase from 84.5 years to 87.4 in 2041.

- Annual levels of net overseas migration are assumed to remain at current levels of 12,500 persons per annum in the medium series, but are assumed to increase to 16,000 per annum in the high series and decrease to 10,000 per annum in the low series. SACES assumes zero net overseas migration going forward only to illustrate the contribution of overseas migration to South Australia's population.

- The net loss of persons to interstate destinations is assumed to continue over the projection period. SACES assumes a small migration outflow with the prospect of further employment in South Australia.

Projection Results: Department of Planning, Transport and Infrastructure

The difference between our estimates is essentially that the South Australian Department of Planning, Transport and Infrastructure assumes from 2021 to 2026 net overseas migrants of 62,500 and a slightly higher fertility rate**.**

- In the decade between the population censuses of 2006 and 2016 the State's population grew by 161,000 from 1.55 million to 1.71 million, equivalent to a compound average growth rate of 0.9 per cent. In the next decade it is projected to grow by an additional 139,000 to total 1.85 million in 2026 under the medium series at a compound average growth rate of 0.8.

- The total projected increase in South Australia's population over the period 2016-2041 across the three series is; 501,000 (High), 334,000 (Medium) and 189,000 (Low).

The summary, in regard to the slightly different projections over also a slightly different time period, the point to be made is the importance of overseas migration in any future projections of South Australia's population. A speedy return to overseas migration will likely see the Department's population projections approximate the actual population numbers. A slow return to overseas migration and fewer international students combined with a low fertility rate and even a positive net interstate migration would not be sufficient to generate an increase in the population.