

Context for the planning period 2005/6–2014/15

Population

Projections of population numbers, the rate of household formation, the age profile and geographical distribution of population, work patterns and lifestyle expectations all have implications for the future demand for infrastructure and services.

Like many other industrialised countries, Australia faces slow population growth and an ageing population as a result of declining fertility and mortality rates. Australian Bureau of Statistics (ABS) series B population projections suggest that the State's population will increase from around 1.54 million in 2005 to 1.58 million in 2015.

However, the ABS Series B population projections are very low as are its assumed future gains in the longevity of older people. Preliminary 'All of State' projections by Planning SA show that, given a more realistic 'medium scenario', population will increase to 1.62 million in 2015.

The changing age profile and location of population also have important implications for infrastructure.

While medium to longer-term projections of population growth are subject to a degree of uncertainty, on any set of plausible projections the South Australian (and national) population will progressively age over coming decades.

According to ABS projections, the proportion of South Australia's population aged 65 and over will more than double over the next 50 years – from around 15% currently to 31% in the middle of the century. Under the Planning SA medium scenario the proportion of the population aged 65 and over will increase from 15% to 29% over a similar period of time, but the absolute numbers are projected to more than double to 516,000 in 2050.

Over the period of the plan, the proportion of the population aged over 65 is projected by the ABS to increase by about 30%, compared to 28% under the Planning SA medium scenario. This will have a significant impact on demand for health services and for aged-care and residential services in all regions of the State. Similarly, the expected decline in the school age population will further increase unused capacity in schools, providing an opportunity to consider alternative uses for school assets. This effect will not be uniform. Areas with no new housing development may experience further declines in enrolments. However, areas with high levels of new housing development are likely to see an increase in enrolments.

The overall ageing of the population will increase the importance of both productivity growth and increased workforce participation in driving future increases in living standards. This makes access to modern and efficient infrastructure even more important to growing prosperity.

Over the next 15 years, population growth is expected to be strongest on the fringe of the Adelaide metropolitan area, the peri-urban areas around Adelaide (e.g. Mount Barker), places within commuting distance of Adelaide (e.g. Victor Harbor, Murray Bridge, Barossa Valley) and major regional centres servicing agricultural, aquaculture/seafood and mining industries. The general shift of population towards Adelaide and fast growing coastal towns is expected to continue. In contrast, some Upper Spencer Gulf cities and non-coastal grazing and grain growing regions will experience declines in population numbers.

Other trends that need to be considered in the context of infrastructure planning include the:

- increasing participation of women with children in the labour force
- growth in part-time and casual employment and the trend to combine study and part-time work
- growth in home-based care for the aged and those with disabilities
- trend to defer home ownership, marriage and child-bearing
- trend toward smaller average household sizes, with growth in household formation exceeding population growth.

The State's Population Policy aims to increase the rate of growth of South Australia's population to reach two million by 2050, by expanding the state's share of the national migration intake, increasing the number of expatriate and potential interstate migrants returning or relocating to the state and reducing the net outflow of young and skilled people.

Preliminary projections prepared for the State Government indicate that under a scenario where the targets of the population policy are achieved the State's population will grow to around 1.65 million by 2015. The following trends would also be observed:

- The population will still be growing in 2050, compared to the population declining from as early as 2028 under ABS projections.
- a significant increase in the working-age population to a stable figure of around 1.16 million by 2051, compared to a substantial decrease under ABS projections.
- a large increase in the absolute size of the elderly population as the large immigrant intakes age, with the proportion of the population aged over 65 years being approximately 27%.
- the number of children aged less than 15 years eventually stabilising by 2050 at little more than current levels, compared to a continuous fall in their numbers under ABS projections.

By 2015, the two million by 2050 scenario will result in growth rather than decline in the working-age population and a smaller decline in the school-age population, but no significant difference in the growth of the elderly population, compared to ABS projections.

Global competition for skilled labour and business entrepreneurs has elevated the importance of factors such as cultural vibrancy; political freedom and personal security; the quality of education, health and other social services and environmental quality; and modern and sophisticated infrastructure in influencing choice of migration destination. Infrastructure priorities identified in the plan will reflect the need to ensure that Adelaide and regional South Australia offer infrastructure and services to attract and support a growing population.

Skilled working-age migrants are most likely to settle where industry growth offers employment opportunities – Adelaide, outer Adelaide and major regional centres servicing value adding to primary production.

Progress toward the population target of two million by 2050, combined with the trend to smaller average households, will generate growth in demand for housing and related services. In the Adelaide metropolitan area, the urban growth boundary is expected to encourage increases in residential densities and infill housing, particularly in the inner and middle-ring suburbs. Higher densities could put pressure on the capacity of existing infrastructure in some of these suburbs.

The Economy

Infrastructure planning needs to occur in the context of national and global economic trends. Falling trade barriers, rapid advances in communications technologies and cheaper and more reliable transport have led to the globalisation of markets. In addition global competition – for export markets, business investment and skilled labour – is expected to intensify. Infrastructure renewal will play a key role in strengthening the state's global ranking as accessible, well connected, affordable and an attractive place to live, work and do business.

South Australia's future growth will be shaped by trade developments, including new export opportunities created by multi-lateral and bilateral trade agreements and the emergence of new export markets in such countries as Korea, China and India. South Australian industry will require support infrastructure to take advantage of these new export opportunities and grow.

Australia is anticipated to continue to exhibit growth above the Organisation for Economic Cooperation and Development (OECD) average during the first half of the planning period, largely as a consequence of the continued weakness of European economies and growing linkages to rapidly growing Asian economies. According to forecasts by Econtech, South Australia is expected to record real Gross State Product (GSP) growth averaging just over 3% per annum until 2010–11, slightly lower than the expected national growth rate.

Forecasters also anticipate that current long-term trends in terms of the pattern of industry growth will continue, with services industries experiencing above average growth rates and primary and secondary production recording slower than average growth.

Providers of infrastructure and related services can be expected to have investment plans based on demand projections according to currently available forecasts of economic and population growth, rather than the targets set by South Australia's Strategic Plan. Under the plan, GSP growth is targeted to exceed the national average within 10 years and exports targeted to treble in value by 2013. In particular, the plan targets growth in exports of minerals, food, wine, motor vehicles, defence and manufactures and services such as tourism and education.

By attaining the targets in South Australia's Strategic Plan, the state will record a rate and pattern of growth above those in many economic forecasts. This growth will give rise to new demands on the state's infrastructure and, in particular, demand for energy, water, transport and communications services. The implications of these economic growth targets for infrastructure planning are discussed in more detail later in the section Industry Development Implications.

Technology

Developments in technology during the period of the plan will influence infrastructure demands and also open up new opportunities and solutions to infrastructure issues. Technological advances that make possible provision of traditional infrastructure at lower cost or smaller scale can also be expected.

The volume of freight transported around Australia is expected to double in the next 10 to 15 years. Changes in transport and logistics systems to support moves toward 24 hours 7 days a week operations, and moves toward the use of larger-scale operations in areas such as warehousing and shipping, will have important implications for transport and land-use planning.

Continued growth in the power and range of applications for information and telecommunications technologies will have a significant impact on the way in which all sections of the community communicate, transact business and access services. These developments will generate new opportunities for investment in information and communications technology (ICT) infrastructure.

Broadband communication offers significant potential to improve delivery of a range of services, including health and education; increase business access to regional, interstate and foreign markets; and generally advance the capacity of South Australians to communicate with each other and the rest of the world.

Applications for mobile technology will also continue to grow in prominence as technologies such as 3G and wireless internet are implemented on a wider scale. South Australia is currently highly dependent on non-renewable energy. The long-term outlook is for a continued rise in the price of fossil fuels, which will put upward pressure on the cost of transport and electricity generation. While renewable energy sources are generally not currently cost competitive, ongoing development of technologies, in particular wind, solar and geothermal, offer the prospect of improved commercial outcomes and a rise in the proportion of energy supplied from renewable sources in the long term.

Population and economic growth will increase demand for water for residential and business use. Developments in water infrastructure to assist in the more efficient use of this finite resource, and to protect existing and develop new water sources need to be encouraged. Technological advances may be achieved in the life of the plan to improve the viability of recycling wastewater, harvesting stormwater and desalinating seawater or saline groundwater.

The Environment

Planning for infrastructure must be based on the recognition that the economy, society and the environment are integrated. It is acknowledged that practices need to change to improve sustainability. Infrastructure developments to support targeted population and economic growth must be sustainable, promoting improved resource management practices and reducing reliance on non-renewable resources.

Australian cities emit relatively large amounts of greenhouse gases per capita. In this respect, South Australia is fortunate in having a relatively low reliance on coal as an energy source. The desire by Australians to reduce growth in greenhouse gas emissions, if translated into a national policy by the Australian Government, will encourage an increase in demand for gas relative to coal-fired electricity, as well as stronger growth in the use of renewable energy.

Transport is the greatest user of energy. The development of new fuels (e.g. biodiesel, hydrogen), smart technology in logistics and traffic management systems along with new vehicles (e.g. SmartCars, hybrid vehicles) could significantly reduce emissions. Modal shifts to rail for freight and to public transport for people in the metropolitan area also offer potentially significant greenhouse benefits.

Projections of climate change in South Australia from 2030 to 2070 are expected to reinforce existing trends⁵. Average temperatures and evaporation rates are predicted to rise and average rainfall to fall, with rising sea levels and an increase in the frequency of droughts and severe rainfall expected. While the predicted impacts of climate change accumulate slowly, reversing the effects takes even longer. Climate change will have potentially significant implications for land use and water infrastructure planning.

South Australia faces significant issues with respect to the sustainability of current water management practices in the Murray-Darling Basin, over-use of surface water in the Mount Lofty Ranges and of groundwater in the Northern Adelaide Plains and parts of the South East. The use of new wastewater management practices also offer opportunities for investment in new infrastructure to accommodate growth and development and reduce potential for further environmental degradation.

Continued growth in solid wastes generated by households and industry requires the development of innovative disposal or recycling solutions. Further developments in commercial technologies for resource recovery and re-use are expected to stimulate investment in well-located waste recovery and recycling infrastructure, which will lead to an increase in the proportion of waste diverted from landfills.

Infrastructure planning must also have regard to the need to protect and conserve South Australia's wealth of natural assets and biodiversity, reserves, coasts and cultural heritage assets.

Industry Development Implications

South Australian industry is a major user of infrastructure, in particular transport and telecommunications services, serviced land, and energy and water. A sound infrastructure base is essential to achieving the state's growth targets by increasing its attractiveness as a location for investment and the competitiveness of industry in global markets.

South Australia's Strategic Plan provides clear direction on the state's industry development priorities, to guide infrastructure investment decisions.

The broad infrastructure priorities for key sectors over the planning period follow. A more detailed discussion of specific infrastructure issues related to particular industries in specific regions of the state is provided in the regional section of the plan.

Minerals

South Australia offers significant potential for growth in minerals production. The most prospective areas are located in the far north of the state: the Musgrave Block, Gawler Craton and Curnamona Province.

Historically, the mining industry has been the principal provider of its built infrastructure required for resource developments, which are often at remote locations. New resource developments typically have requirements for power, transport and water. World Trade Organisation (WTO) obligations prevent governments from providing financial assistance for developments outside of public multi-user infrastructure.

The mining (and subsequent processing) industry has a particular need for coordination across the public and private sectors to deal with infrastructure issues associated with major resource development projects. Current examples include the State Government-led teams established for the expansion of Olympic Dam and OneSteel.

High priority infrastructure developments to facilitate future mining industry growth are:

- to confirm energy, water and transport access to support the proposed expansion of Olympic Dam and other mining developments at remote locations.

Agri-food

Growth in grain and meat and horticultural production to achieve SASP targets will place additional demands on infrastructure in those parts of the State where the industries are concentrated. High-priority infrastructure developments to support export led growth are:

- efficient transport networks providing access to export markets
- an efficient water trading market and water distribution network
- energy supplies to support increased value-adding activities
- waste management and composting facilities.

Abattoir and meat processing capacity is expected to expand, particularly to the north of Adelaide, in the Riverland and the South East. Growth in grain production and value-adding will be wide-spread across the state. Growth in horticulture is expected in such regions as the Riverland, Adelaide plains and mallee, stimulated through innovations in packaging and processing, while the focus for growth of the dairy industry will be the South East. This growth will increase demands in these regions for water and energy, particularly to support additional processing activity. Road and rail networks and port facilities will need to accommodate additional freight activity. The major regional centres servicing these industries will see an increase in demand for social infrastructure.

Wine

Significant expansion of viticulture plantings is planned to support the achievement of growth targets for the wine industry, and will require additional supplies of water. Possible future sources include reallocation through national water trading, efficiency gains and greater use of treated wastewater.

To achieve targeted growth of the wine industry, other high priority infrastructure developments are:

- transport and logistics systems for efficient movement of export product
- upgrade to and consolidation of wine research capabilities.

Aquaculture and Fishing

The most significant infrastructure requirement to support expansion of the aquaculture and fishing industries is new or upgraded wharfing facilities, at selected points around the coast, to enable vessel berthing and offloading of catch and equipment. Additional demands for water, energy and waste infrastructure are also expected. The establishment of enhanced research and development capabilities will be important to ensure that the industry remains on a sustainable long term growth path.

Bioscience

South Australia's bioscience industry has recently experienced rapid growth. The industry requires access to advanced computing and information infrastructure capabilities and specialised laboratory and other facilities. The Thebarton Bioscience Precinct has successfully facilitated the establishment of and growth in a number of start-up companies through the provision of such facilities.

Establishment of business incubators and further development of specialised laboratory and other facilities is planned to support expansion in bioscience activity at Thebarton, the Florey Precinct and the Waite campus of the University of Adelaide.

Defence

Port Adelaide offers an attractive strategic site for the construction and fit-out of large surface vessels for the Royal Australian Navy. According to the master plan for the proposed Osborne Maritime Precinct, the key infrastructure requirements are:

- sixty hectares of land dedicated to naval shipbuilding and supporting industry
- a new shiplift, transfer system and multi-user wharf and fit-out sheds
- dredging to enable berthing of large vessels.

The Australian Defence Force is considering more intensive use of the Cultana Training Area between Port Augusta and Whyalla. This activity would require upgrades to local transport infrastructure.

There is potential for the Australian army to increase its full-time presence in South Australia. Depending on the selected location and the additional numbers to be accommodated, this may generate demand for new barracks, housing and community facilities to support the needs of families relocating to the state.

There is a potential to significantly increase use of the Woomera Test Range by international clients and the Department of Defence. This will require an upgrade to Woomera's ICT capabilities to improve its capacity to capture, record and transmit high volumes of data.

The Department of Defence is considering the establishment of an air warfare destroyer combat systems centre at Technology Park, Mawson Lakes. This will require accommodation for an estimated 300 people.

Automotive

The automotive industry is a significant contributor to South Australia's economic prosperity. High-priority infrastructure developments to facilitate industry growth include:

- Access to quality serviced industrial land located close to major freight routes and ports or intermodal facilities.
- Modern transport and logistics networks to support the just-in-time delivery of components to assembly lines and timely and efficient movement of exports.
- A competitive and reliable supply of energy.
- Broadband capacity to enable secure high speed communications along the supply chain.
- Modern education and research infrastructure to support the development of a skilled workforce, and to accelerate the commercialisation and take up of new technologies.

These developments will also support growth in general manufacturing.

Tourism

Growth in tourism activity is expected to centre on a number of attractions unique to South Australia with their related accommodation and retail facilities. Provision of support infrastructure in a coordinated manner is required.

High-priority infrastructure developments to facilitate growth in tourism are:

- upgrade of major transport gateways
- fit-for-purpose road networks to key attractions
- increased air services to and within the state
- improved road and tourism signage
- additional thematic accommodation and day-visitor facilities at key locations.

Construction

The construction and related industries play a key role in building, maintaining and upgrading the state's built infrastructure. It is important to maintain a viable local industry with the key capabilities required for complex major infrastructure projects.

The State Government is committed to the National Framework on Australian industry participation in major projects.

The government is also developing a policy to encourage increased involvement of South Australian small and medium enterprises (SMEs) in public sector major projects and contracts.

The new policy will provide a framework to guide government agencies in maximising opportunities for the involvement of SMEs in procurement. The revamped Industrial Supplies Office, renamed the Industry Capability Network South Australia (ICNSA) will be actively involved in supporting implementation of this policy.