



Land use planning and the South Australian economy

Department of Planning, Transport
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List of acronyms

Acronym	Full term
AI	Artificial intelligence
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DPTI	Department of Planning, Transport and Infrastructure
FAO	Food and Agriculture Organisation
GDP	Gross domestic product
GVA	Gross value added
ICT	Information and communications technology
OECD	Organisation for Economic Co-operation and Development
PIRSA	Primary Industries and Resources South Australia
TOD	Transit-oriented development

1 Background

1.1 Purpose and scope of report

The Department of Planning, Transport and Infrastructure (DPTI) is leading the development of a new land-use planning and development system in South Australia. The *Planning, Development and Infrastructure Act 2016* (the Act) is being progressively introduced to replace the *Development Act 1993* to enable a more efficient, responsive and effective planning system.

South Australia's economy is in a state of transition, from a manufacturing-based economy to one with a growing services sector, influenced by technological advancements, increased globalisation and environmental change and policies. These factors will affect what we produce and how we produce it, and the land required for retail, commercial, industrial and primary production activities, which in turn have implications for residential and recreational lands, plus social and economic infrastructure requirements.

The Act will seek to reflect the state's changing economic drivers and to optimise South Australia's economic opportunities, as well as social and environmental outcomes, from a planning perspective.

DPTI engaged Deloitte Access Economics to develop certain parts of its *Productive Economy Discussion Paper*, which will support consultation on the new Planning and Design Code.

1.2 Topics covered in this report

This report considers the importance of optimised land use planning in driving enhanced economic outcomes through improved productivity. It discusses the major trends affecting South Australia's land use.

Chapter 2 outlines why land use planning is important for effective development, as well as describing some of the associated implications of the new planning system.

Chapter 3 details a range of issues expected to influence the shape of South Australia's economy, and the land use implications. These include the global and local economic trends affecting the state, South Australia's demographic trends, and the implications of these trends on South Australia's land use and planning.

2 Importance of land use planning in optimising productivity

2.1 Why is land use planning important?

Land use planning is the decision-making process relating to the allocation and development of land across a range of often competing, and sometimes conflicting, uses.¹

Optimal land use planning may promote economic benefits,² balanced with social and environmental priorities,³ by:

- Prioritising efficient land use and minimising negative externalities
- Ensuring adequate provision of public goods and amenities
- Encouraging more compact developments, to achieve greater efficiencies in providing public services and reducing the cost of urban sprawl
- Driving agglomeration, to promote productivity
- Improving transport options and outcomes (e.g. number of services, service costs, congestion)
- Providing more certainty, and lower development transaction costs.

Conversely, inappropriate land use planning may restrict the quality of living and productive use of land for generations,⁴ by allowing an over- or under-allocation of one or more land uses, or through developments placed in sub-optimal locations.⁵

¹ Raghu Babu Nukala and Dieter Mutz, 'Strategic Approach for Sustainable Land Use in an Emerging Country – Case of India' (Paper presented at the 2015 World Bank Conference of Land and Poverty, The World Bank, Washington DC, 23-27 March 2015); Nancy E. Bockstael and Elena G. Irwin, *Economics and the Land-Use Environment Link* (August 1999)

<<http://ageconsearch.umn.edu/bitstream/197860/2/agecon-maryland-99-04.pdf>>; Graciela Metternicht, 'Land Use Planning' (Global Land Outlook Working Paper, United Nations Convention to Combat Desertification, 2017)

<https://static1.squarespace.com/static/5694c48bd82d5e9597570999/t/593a42d7197aea88458703df/1496990441721/Land+Use+Planning+__G_Metternicht.pdf>.

² Jae Hong Kim, 'Land Use, Spatial Structure, and Regional Economic Performance: Assessing the Economic Effects of Land Use Planning and Regulation' (PhD Dissertation, University of Illinois, 2010)

<<https://core.ac.uk/download/pdf/4824360.pdf>>.

³ Douglass B Lee, Jr 'Land Use Planning as a Response to Market Failure' in Judith Innes de Neufville (ed), *The Land Use Policy Debate in the United States* (Springer, 1981).

⁴ Planning Institute of Australia, *The value of planning* (August 2017)

<<https://www.planning.org.au/documents/item/8330>>.

⁵ Productivity Commission, 'Performance Benchmarking of Australian Business Regulation: Planning, Zoning and Development Assessments' (Research Report, Volume 1, 2011) <<https://www.pc.gov.au/inquiries/completed/regulation-benchmarking-planning/report/planning-volume1.pdf>>.

The following sections describe how planning impacts different dimensions of economic productivity.

2.1.1 The efficiency and effectiveness of functioning cities

Land use planning affects both the efficiency and effectiveness of cities and regional areas.⁶

Efficiency relates to the optimal allocation of land uses (and infrastructure), by balancing the benefits and costs of current and future uses of the land – whether it be residential development, employment lands or other productive uses.

Transport infrastructure must be planned to facilitate the effective movement of people and goods across and between cities and regions. This will ensure costs are minimised for:

- Individuals, in terms of commuting and the accessibility of amenities and services
- Businesses, through more effective freight networks
- Governments, as a result of higher infrastructure patronage.

2.1.2 Changes in land use over time

Land use planning initiatives not only consider current land uses and potential, but also future demands and uses. Urban boundaries and transport are typically planned with a long-term horizon. Centre policies may take a more medium-term view.

All policies, however, need to be flexible enough to take into account unexpected or rapid changes in, for example, industry competitiveness or population growth – issues that are typically beyond the control of the State Government. As an example, land use planning may decide to increase density in centres, rather than expand the urban boundary, to accommodate faster growth.

Protecting future infrastructure corridors may also be a way to improve productivity. The benefits of effective corridor protection include:⁷

- Improving certainty of future infrastructure networks
- Avoiding the need to purchase developed land and demolish structures, with their associated high economic and social costs
- Avoiding the need for tunnelling, which comes at a significant premium to surface infrastructure, especially for rail routes.⁸

Productivity Commission, 'Performance Benchmarking of Australian Business Regulation: Planning, Zoning and Development Assessments' (Research Report, Volume 1, 2011) <<https://www.pc.gov.au/inquiries/completed/regulation-benchmarking-planning/report/planning-volume1.pdf>>; Food and Agriculture Organisation of the United Nations, *Land use Planning* (2018) <<http://www.fao.org/sustainable-forest-management/toolbox/modules/land-use-planning/basic-knowledge/en/>>.

⁷ Infrastructure Australia, *Office of the Infrastructure Coordinator: Development of a National Corridor Protection Strategy* (2013) <https://www.pc.gov.au/__data/assets/pdf_file/0004/135895/subdr185-attachment-infrastructure.pdf>; Infrastructure Australia, *Corridor Protection: Planning and investing for the long term* (2017) <<http://infrastructureaustralia.gov.au/policy-publications/publications/files/CorridorProtection.pdf>>.

⁸ Infrastructure Australia, *Office of the Infrastructure Coordinator: Development of a National Corridor Protection Strategy* (2013) <https://www.pc.gov.au/__data/assets/pdf_file/0004/135895/subdr185-attachment-infrastructure.pdf>.

Land use planning also needs to take into account technological advances that could alter the densities and activities of particular land areas, such as:

- a reduced requirement for office floor space due to hot-desking and teleworking
- smaller parking space requirements due to increased ride-sharing and autonomous vehicle usage
- increased warehousing needs for data storage.⁹

2.1.3 Agglomeration benefits

The economies of agglomeration are the benefits seen to occur through concentrated and well-connected clusters of organisations in close physical proximity.¹⁰ The best known of these is Silicon Valley in the United States, while examples in South Australia include the Tonsley Precinct and Adelaide BioMed City. These benefits can occur through a number of different mechanisms:¹¹

- Primarily, co-location reduces transport costs and promotes more efficient supply chains
- Industry concentrations improve choice of employees for organisations, and choice of organisations for employees
- Innovation and knowledge spillovers are seen to occur through collaboration or 'bump' spaces; a well-designed precinct allows for both formal and informal meetings to promote commercialisation of research.

Each of the above mechanisms can produce improved productivity outcomes, and has led to the increased planning of specialised precincts both in Australia and internationally, usually around transport hubs.

2.2 Other levers which work together with land use planning to achieve the benefits of efficient land use

There are a number of other levers that can influence or determine land use outcomes. These may be complementary, or in opposition, to state-level land use planning objectives and regulation. Some of these levers include:

- **Taxation** may be used to encourage (capital gains tax relief) or discourage (stamp duty) development
- **Infrastructure funding** – a wide range of funding initiatives exist to promote investment in social and economic infrastructure that can support land use objectives, particularly in regional centres
- **Planning regulation** at the local government level – conflict is most commonly seen around optimal levels of development and density
- **Subsidies** have been widely used to attract industry or individual businesses to specific areas, to promote commercial land use. Such policies, in addition to the cost to taxpayers, may create risks for the regions hosting those industries, should costs subsequently be

Infrastructure Australia, *Corridor Protection: Planning and investing for the long term* (2017) <<http://infrastructureaustralia.gov.au/policy-publications/publications/files/CorridorProtection.pdf>>.

⁹ Productivity Commission, 'Realising the productive potential of land' (Supporting Paper No 10, Shifting the Dial: 5 Year Productivity Review, 3 August 2017) <<https://www.pc.gov.au/inquiries/completed/productivity-review/report/productivity-review-supporting10.pdf>>.

¹⁰ Edward L Glaeser, *Agglomeration Economics* (University of Chicago Press, 2010) 1.

¹¹ Ibid.

deemed to outweigh the benefits, as seen with the Australian car manufacturing sector

- **Environmental policies**, for example, in relation to water usage or biodiversity management, can have significant implications for land use outcomes.

It is also important to note that designating land use for economic purposes, even when done at optimal efficiency, does not guarantee demand for that land. Firms may be attracted to locations that offer industry agglomeration benefits, but will weigh up the benefits against considerations such as local labour supply and skills, sovereign risk, technology infrastructure, and liveability.

At the same time, land use planning systems may not always achieve optimal objectives. For example, land use planning may diminish competition by 'constraining the supply of urban land, concentrating market power and creating barriers to entry for new businesses.'¹² These unintended effects should be considered in the design of land use planning systems.

2.3 Implications for South Australia's new land use planning system

Through the new Planning and Design Code, South Australia has the opportunity to ensure that land use planning aligns closely with the economic opportunities expected to arise over coming years, while ensuring robust social and environmental outcomes.

Optimal outcomes can be ensured by:

- Establishing urban boundaries that balance economic, social and environmental objectives
- Focusing on designation of:
 - employment lands and precincts, to support industry clustering
 - activity and mixed use centres, to promote access for individuals to jobs, diverse and affordable housing options, services and amenity
- Supporting transport-oriented development, to reduce costs for Government, industry and residents
- Conserving natural environments, biodiversity and agricultural lands within and around urban boundaries.

In meeting these objectives, Government will also need to consider the macroeconomic environment and opportunities that will underpin demand for all land use types. These are discussed in detail in the following chapter.

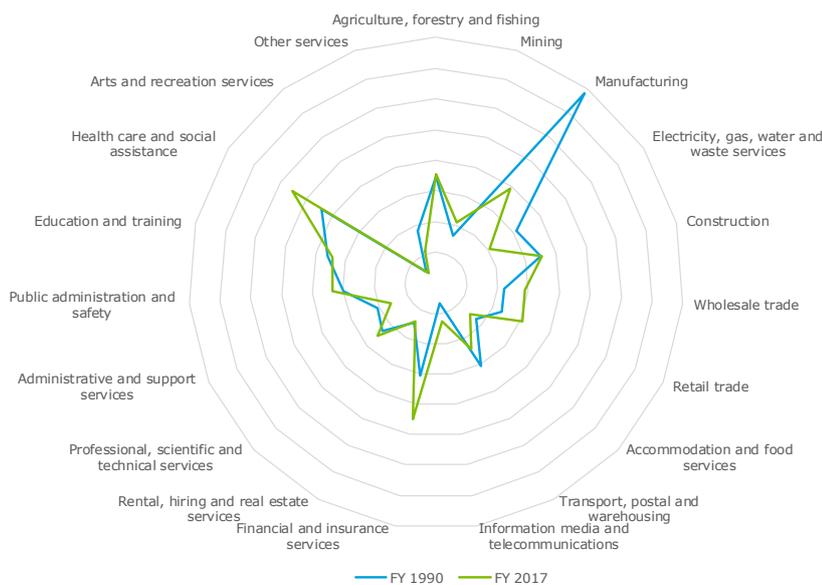
¹² Ian Harper et al, *Australian Government Competition Policy Review – Final Report* (2015) <<http://competitionpolicyreview.gov.au/final-report/>>.

3 Trends affecting South Australian land use

3.1 South Australia's economic transition

The South Australian economy has been in a state of transition in recent decades. The state's economy was historically rooted in agriculture and manufacturing, but manufacturing has declined in importance over the past two decades – decreasing from 16 per cent of gross value added (GVA)¹³ in 1990 to 8 per cent in 2017. Some services industries have grown to fill the gap left by manufacturing, including health care and financial services.

Chart 3.1: Industry shares of gross value added, 1989-90 and 2016-17



Source: Australian Bureau of Statistics¹⁴

Changes in South Australia's goods exports provide a more granular way of considering how the economy has transitioned over time. In 1965-66, South Australia had a strong agricultural industry: wool and wheat comprised nearly half of the state's total goods exports in value terms.¹⁵ But around 40 years later, road vehicles had emerged as a leader, comprising 18 per cent of goods exports in 2001-02. At the same time, exports of some agricultural commodities declined – particularly wheat –

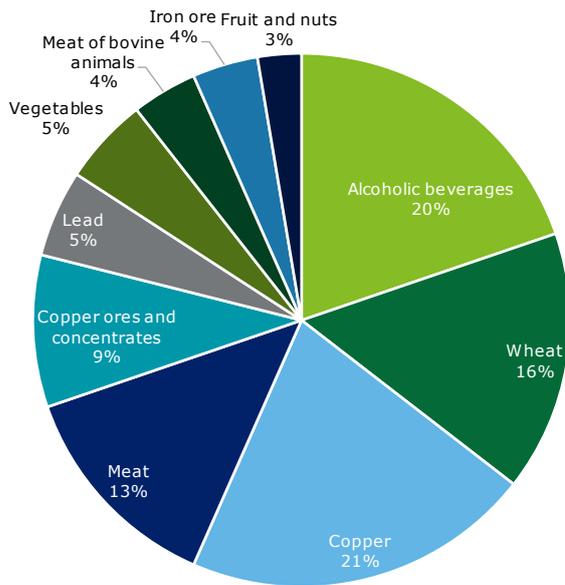
¹³ Gross value added is the value of output at basic prices minus the value of intermediate consumption at purchasers' prices. The term is used to describe gross product by industry and by sector.

¹⁴ Australian Bureau of Statistics, *Australia National Accounts: State Accounts, 2016-17*, cat. no. 5220.0 (17 November 2017).

¹⁵ Commonwealth Bureau of Census and Statistics, *Overseas Trade 1966-67* (June 1966).

due to the Millennium Drought. Exports of alcoholic beverages also increased significantly, and they remain South Australia’s largest export today. Alcoholic beverages have effectively replaced wool as South Australia’s largest goods export in value terms, while road vehicle exports will cease following the closure of Holden. As in the 1960s, agricultural and mining commodities are the most significant contributors to South Australian exports, as shown in Chart 3.2.

Chart 3.2: South Australia’s most significant goods exports by value, year ending April 2018



Source: Australian Bureau of Statistics¹⁶

While exports only represent around 14 per cent of the state’s production, these trends illustrate how the economy has transitioned in terms of what is produced. At the same time, services exports have grown significantly – from \$9.8 million in 1999 to \$3.2 billion in 2017 – driven by tourism and international education, although technical services are increasing in importance. This reflects the changing nature of the economy, and also how land is being used differently over time. The types of economic production which occurred 50 years ago are often not the same as those which occur today, and require different land uses and considerations.

In terms of the economy more broadly, South Australia’s performance has generally fallen behind other jurisdictions. For example, since 1978, South Australia’s unemployment rate has averaged 0.8 percentage points higher than the national unemployment rate.¹⁷ The negative economic outlook in the early 1990s saw net interstate migration increase (i.e. more people leaving South Australia to move interstate), with the largest proportion being those aged 15 to 34.¹⁸

¹⁶ Australian Bureau of Statistics, *International Trade in Goods and Services April 2018*, cat. no. 5368.0 (7 June 2018).

¹⁷ Australia Bureau of Statistics, *Labour Force, Australia, May 2018*, cat. no. 6202.0 (14 June 2018).

¹⁸ Australia Bureau of Statistics, *Migration, Australia 2015-16*, cat. no. 3412.0 (30 March 2017).

Due to its declining share of Australia's population, as well as a different industry mix compared to other jurisdictions, South Australia's share of Australian gross domestic product (GDP) has decreased over time, from 7.7 per cent in 1990 to 5.9 per cent in 2017.¹⁹

However, despite the negative picture painted in recent times, South Australia's economy is still growing and performing relatively well. The South Australian economy grew 2.2 per cent in 2017, exceeding Queensland, Tasmania, Western Australia and Australia as a whole.²⁰

The planning system can play an important role in ensuring that this aspect of the policy environment is appropriate to leverage South Australia's competitive advantages and support growth, as outlined in Section 3.4.

3.2 Global and local economic trends

South Australia's current economic position and the transition seen in recent decades is a product of both global and local economic trends. These pressures will continue to have an impact on South Australia's economy. The trends considered in the following sections include:

- Globalisation and emerging markets
- Environmental impacts
- Emerging technologies
- Changing consumer preferences.

3.2.1 Globalisation and emerging markets

Globalisation has enabled economies around the world to integrate through the free movement of goods, services, capital and labour across borders, while the increase in technological innovations is also promoting global trade.²¹

Globalisation is affecting both demand and supply in South Australia, and across developed nations as a whole. On the demand side, Australia's close proximity to Asia is providing access to new markets, with more than 3 billion people in Asia becoming part of the middle class by 2030.²² Asia's economic shift will see a new set of opportunities for Australia and South Australia, as exports to Asian countries shift to higher value goods and services,²³ such as alcoholic beverages and international education.

Rapid industrialisation is also increasing demand for the outputs of mining such as copper, while demand is affecting for intermediate inputs – such as iron ore – which are used to produce goods overseas.

While they do not represent all of South Australia's production, the state's export trends provide an indication of how land use requirements are changing – with mining, agriculture, food and wine production and services sectors (particularly international education and tourism) the most

¹⁹ Australian Bureau of Statistics, *Australian National Accounts: State Accounts 2016-17*, cat. no. 5220.0 (17 November 2017).

²⁰ Ibid.

²¹ Huwart and Verdier 'Economic Globalisation: Origins and Consequences', *OECD Publishing* (2013) <<https://www.oecd-ilibrary.org/docserver/9789264111905-en.pdf?expires=1529468258&id=id&accname=guest&checksum=5E43B2E4DD003C1A4F5464E84D58BB22>>.

²² Deloitte, *Building the Lucky Country #3 – Positioning for Prosperity?* (2014) <<https://www2.deloitte.com/content/dam/Deloitte/au/Documents/Building%20Lucky%20Country/deloitte-au-btlic-business-positioning-prosperity-2014-230217.pdf>>.

²³ CSIRO, *Our Future World: Global megatrends that will change the way we live* (2012) <<https://publications.csiro.au/rpr/download?pid=csiro:EP126135&dsid=DS2>>.

significant contributors. Future land use requirements will continue to be influenced by the demand of international markets, as well as the state's competitiveness.

Globalisation and emerging markets are also affecting South Australia on the supply side, placing pressure on industries which are less competitive compared to emerging economies with lower costs of production. The closure of Holden and the decline of manufacturing in South Australia more generally is just one example. Going forward, services industries will continue to be impacted too; the World Bank has indicated that offshoring of labour will grow in the future, as the developing world becomes more skilled and domestic labour costs remain high.²⁴ These trends indicate South Australia will continue to import lower-value goods and services.

Although 'traditional' manufacturing may have declined in South Australia due to such pressures, the state may develop comparative advantages in more highly skilled industries such as defence manufacturing or advanced technology manufacturing. This may suggest that while the nature of manufacturing is changing, land may continue to be used for industrial purposes, but for higher-value goods – thus enhancing its productivity.

Implications for land use planning: Globalisation will continue to affect overseas demand for South Australian goods and services, and which goods and services are imported rather than produced locally. Many of these changes have happened in recent decades, but it may be increasingly important to conserve agricultural lands (reflecting South Australia's higher-value exports).

3.2.2 Environmental impacts

Climate change and the depletion of natural resources is expected to have significant effects on Australia's environment,²⁵ placing pressure on water and food production systems.²⁶ These environmental impacts will have flow on effects for many parts of the economy.

For South Australia, these effects may be particularly acute given its large agricultural sector. The Department of Primary Industries and Resources South Australia (PIRSA) expects that climate change will result in reduced crop yields, with flow on effects including lower availability of crops and higher crop prices for livestock industries, and greater demands on water resources.²⁷ Climate change has already resulted in significant drying across southern Australia, especially in growing seasons.²⁸ As an example of the flow on effects, CSIRO researchers found that some wineries are already purchasing properties in Tasmania – a cooler region – in addition to taking

²⁴ Gary Gereffi and Karina Fernandez-Stark, 'The offshore services value chain: Developing countries and the crisis', *The World Bank* (April 2010) <<https://openknowledge.worldbank.org/bitstream/handle/10986/3751/WPS5262.pdf?sequence=1&isAllowed=y>>.

²⁵ Department of the Environment and Energy, *Climate change impacts in Australia* <<http://www.environment.gov.au/climate-change/climate-science-data/climate-science/impacts>>.

²⁶ CSIRO, *Our Future World: Global megatrends that will change the way we live* (2012) <<https://publications.csiro.au/rpr/download?pid=csiro:EP126135&dsid=DS2>>.

²⁷ PIRSA, *A Guide to Climate Change and Adaptation in Agriculture in South Australia* (2007) <https://data.environment.sa.gov.au/Content/Publications/climate_change_agri_2007.pdf>.

²⁸ CSIRO, *State of the Climate* (2016) <<https://www.csiro.au/en/showcase/state-of-the-climate>>.

other steps to mitigate the effects of climate change, such as planting drought and heat tolerant varieties and reducing water use.²⁹

While there are increasing pressures being placed on agricultural lands through climate change, demand for food is also increasing. The Food and Agriculture Organisation (FAO) expects that agriculture in 2050 will need to produce almost 50 per cent more food, feed and biofuel than it did in 2012, to meet global demand.³⁰ On the one hand, climate change may reduce the productive capacity of some agricultural land and therefore the ability to meet demand, or it may require new technologies or approach to meet its current productive capacity. On the other hand, sustained demand – both locally and globally – for those products would tend to suggest their continued importance into the future.

Implications for land use planning: Sustained demand highlights the importance of preserving South Australia’s agricultural regions, but land use planning may need to adapt to the effects of climate change to reduce risks. For example, effects such as coastal erosion, more frequent bushfires, or the changing suitability of land to agriculture will need to be taken into account.

3.2.3 Emerging technologies

With the emergence of new technologies, such as artificial intelligence (AI), automation and 3D printing, economies across the world are being transformed. Emerging technologies are impacting both how goods are produced and how services are performed.³¹

The industries most likely to be impacted by automation are physical jobs in highly structured environments,³² with industries such as mining, manufacturing and agriculture already affected.³³ South Australia has the opportunity to pivot from its traditional manufacturing past to advanced manufacturing in the future, especially given the upcoming defence spending. As noted earlier, global trends may impact the nature of industrial land use in South Australia, but manufacturing is likely to remain present, even if in different forms to that seen in recent decades.

Emerging technologies will also impact services industries, including financial services and retail trade.³⁴ PwC found that data-driven industries such as the financial sector may be most automatable in the short term, due to the large amount of time that workers spend engaged in computer

²⁹ CSIRO, *Climate change adaption in the Australian wine industry* <<https://publications.csiro.au/rpr/download?pid=csiro:EP116233&dsid=DS3>>.

³⁰ Food and Agriculture Organisation, *The future of food and agriculture – Trends and challenges* (2017) <<http://www.fao.org/3/a-i6583e.pdf>>.

³¹ Deloitte, *the evolution of work: new realities facing today’s leaders* (2018) <<https://www2.deloitte.com/insights/us/en/focus/technology-and-the-future-of-work/evolution-of-work-seven-new-realities.html>>.

³² Manyika, Chui, Miremadi, George, Willmott and Dewhurst, ‘Harnessing automation for a future that works’, *McKinsey Global Institute* (2017) <<https://www.mckinsey.com/featured-insights/digital-disruption/harnessing-automation-for-a-future-that-works>>.

³³ Deloitte Access Economics, *Australia’s Digital Pulse – Policy priorities to fuel Australia’s digital workforce boom* (2017) <<https://www2.deloitte.com/content/dam/Deloitte/au/Documents/Economics/deloitte-au-economics-australias-digital-pulse-2017-010617.pdf>>.

³⁴ James Manyika et al, ‘Harnessing automation for a future that works’, *McKinsey Global Institute* (2017) <<https://www.mckinsey.com/featured-insights/digital-disruption/harnessing-automation-for-a-future-that-works>>.

tasks.³⁵ Research suggests these advances will lead to potential for upskilling the workforce and productivity enhancement, rather than substitution.³⁶

As a result, the overall quantity of land required for offices is unlikely to decrease significantly in the future. Even with the potential for immediate job losses as technologies like automation flow through the economy, some of those effects will be offset by increased demand for ICT workers. However, the nature of office space required may be different, with trends towards clusters and precincts in cities,³⁷ as well as remote working.

Emerging area: smart cities

Deloitte defines a smart city as one which comprehensively integrates digital technologies into its design in order to improve infrastructure and systems, such as using sensors to improve transport efficiencies, or predictive analysis to target criminal activity in at-risk areas.³⁸ Investing in smart cities therefore increases the quality of living for residents and supports sustainable economic growth.³⁹

Some of the earliest smart cities programs included IBM's 'Smarter Cities' initiative in 2011, using heat dissipation pattern sensing and analytics in Glasgow to identify the potential to redirect heat from industrial facilities to heat homes – addressing fuel poverty and improving resource allocation in the city.⁴⁰ More recent technology developments such as the Internet of Things have facilitated ambitious changes, such as reducing crime and improving traffic management through an integrated and comprehensive system of data collectors and sensors in Singapore.⁴¹

Smart cities are also organised differently, with an increased focus on intelligent, people-based design to suit residents' needs. For example, the Australian Commonwealth Government's *Smart Cities Plan* focuses not only on leveraging digital technology, but also human and social capital, for example through identifying job clusters, increasing housing supply near those clusters, and improving transport connections.⁴²

³⁵ PwC, *An international analysis of the potential long term impact of automation* (2018) <<https://www.pwc.co.uk/economic-services/assets/international-impact-of-automation-feb-2018.pdf>>.

³⁶ World Economic Forum, *The Future of Jobs and Skills* (2016) <http://www3.weforum.org/docs/WEF_FOJ_Executive_Summary_Jobs.pdf>.

³⁷ Department of Industry, Innovation and Science, *University Precincts – Issues Paper* (May 2017) <<https://industry.gov.au/industry/IndustryInitiatives/Documents/University-Precincts-Issues-Paper.pdf>>.

³⁸ Deloitte, *Smart Cities: How rapid advances in technology are reshaping our economy and society* (2015) <<https://www2.deloitte.com/content/dam/Deloitte/tr/Documents/public-sector/deloitte-nl-ps-smart-cities-report.pdf>>.

³⁹ Deloitte, *Innovations in commercial real estate: preparing for the city of the future* (2017) <<https://www2.deloitte.com/content/dam/Deloitte/us/Documents/Real%20Estate/us-innovations-in-commercial-real-estate.pdf>>.

⁴⁰ Information Age, *IBM, Cisco and the business of smart cities* (2012) <<https://www.information-age.com/ibm-cisco-and-the-business-of-smart-cities-2087993/>>.

⁴¹ Deloitte, *5G mobile – enabling businesses and economic growth* (2017) <<https://www2.deloitte.com/au/en/pages/economics/articles/5g-mobile.html>>.

⁴² Department of the Prime Minister and Cabinet, *Smart Cities Plan* (2016) <<https://cities.infrastructure.gov.au/smart-cities-plan>>.

Smart city developments have the potential to change Adelaide through enabling efficiency gains across the city. Data can improve traffic management and transport options, improving mobility and travel time across the city. Data-driven decision-making can also enable better investment and policy decisions at a governance level. Smart city concepts may also impact Adelaide's accessibility and liveability for residents, and productivity for businesses.

Emerging technologies may also affect how people consume goods and services, and the goods and services demanded. PwC found that advances in technology, such as AI, could lead to demand for higher quality and more personalised products.⁴³ There are also flow-on effects for logistics and freight, with increased automation in the industry, coupled with significant demand as a result of e-commerce (described in the following section). Similarly, transport industries will be subject to automation, both in terms of passenger and freight transport.

Implications for land use planning: Emerging technologies are changing how people work, what is produced, and how people demand and consume goods and services. Land use planning needs to focus on designation of employment lands and precincts to support industry clustering, arising in part due to emerging technologies.

3.2.4 Changing consumer preferences

Consumer preferences are rapidly changing: what consumers are buying and how they are purchasing goods and services is being redefined by technology and globalisation. Recent times have seen the significant growth of e-commerce,⁴⁴ which is driven by consumers seeking greater value, greater variety and increased use of mobile devices.⁴⁵

The rise of online shopping may be affecting bricks-and-mortar businesses, but those which have integrated e-commerce are likely to be more successful – data shows that despite growth in online shopping, the proportion of people shopping at physical stores globally has increased.⁴⁶ Traditional Australian retail remains a significant industry, worth \$261 billion in 2016, compared to \$18 billion for online goods sales.⁴⁷ The land required for retail may therefore not change significantly in either direction, especially given trends towards activity and mixed use centres – highlighting the importance of land being available for retailing, with flexibility to adapt to changing preferences.

⁴³ PwC, *Sizing the Prize: what's the real value of AI for your business and how can you capitalise?* (2017) <<https://www.pwc.com/gx/en/issues/analytics/assets/pwc-ai-analysis-sizing-the-prize-report.pdf>>.

⁴⁴ Deloitte, *Meaningful brands: connecting with the consumer in the new world of commerce* (2018) <<https://www2.deloitte.com/content/dam/Deloitte/au/Documents/consumer-industrial-products/deloitte-au-cip-meaningful-brands-report-2018.pdf>>.

⁴⁵ PwC, *The rapid growth of online shopping is driving structural changes in the retail model* (2012) <<https://www.pwc.com.au/industry/retail-consumer/assets/digital-media-research-jul12.pdf>>.

⁴⁶ PwC, *Retail & Consumer Market Insights: Quarter 1* (2018) <<https://www.pwc.com.au/publications/retail-consumer-market-insights/quarter-1-2018.html>>.

⁴⁷ Australia Post, *Inside Australian Online Shopping* (2017) <<https://acquire.startrack.com.au/pdf/Inside%20Australian%20Online%20Shopping%202017.pdf>>.

The rise of e-commerce, as well as increasing exports more generally, is enhancing the importance of freight networks and logistics hubs. Planning will need to continue to acknowledge the importance of preserving transport corridors and other freight and logistics developments, noting that emerging technologies (e.g. drones) could also affect how people receive and consume goods in the future.

In terms of consumer preferences, there is increasing demand for services and experiences over products. Relative to population and income growth, material consumption is declining in advanced economies. As people become wealthier, they are more likely to spend money on tourism, education or entertainment, rather than physical products.⁴⁸ This highlights the importance of acknowledging South Australia's services industries and competitive advantages, as discussed in Section 3.4.

There are also increasing global demands for higher-quality products, such as food and beverages, with a greater focus on provenance and processed food. A transition towards manufactured food and beverage products, in line with global demand, is evidenced in precincts such as the Northern Adelaide Food Park. In general terms, this reinforces the need for South Australia to produce higher-value goods and services where the state enjoys competitive advantages, and to support the development of those industries through appropriate planning mechanisms.

Implications for land use planning: As consumers' preferences change over time, so does production in global economies. Planning mechanisms therefore need to be flexible going forward to adapt to increased freight and preferences for e-commerce, but also continued demand for physical retailing and new experiences. The availability of land for retailing remains important, with flexibility retained to adapt to changing preferences.

3.3 Demographic trends in South Australia

Demographic trends also affect the South Australian economy. These trends include:

- Slower population growth
- Continuing urbanisation and shrinking rural populations
- Liveability and attracting labour
- Increased mobility.

3.3.1 Population

South Australia's population was 1.73 million people as at September 2017, or 7 per cent of the Australian population.⁴⁹ The state's population is concentrated in the Greater Adelaide planning region, with 1.4 million residents.⁵⁰

South Australia's population had the third slowest growth rate across Australian jurisdictions (0.6 per cent growth in the year ending September

⁴⁸ CSIRO, *Our Future World: Global megatrends that will change the way we live* (2012)

<<https://publications.csiro.au/rpr/download?pid=csiro:EP126135&dsid=DS2>>.

⁴⁹ Australian Bureau of Statistics, *Australian Demographic Statistics, September 2017*, cat. no. 3101.0 (22 March 2018).

⁵⁰ Australian Bureau of Statistics, *Regional Population Growth, Australia 2014-15*, cat. no. 3218.0 (30 March 2016).

The Greater Adelaide planning region is defined as the local government areas with the Northern Adelaide, Southern Adelaide, Western Adelaide, Eastern Adelaide, Adelaide Hills, Fleurieu (excluding Kangaroo Island), and Barossa Light & Lower North State Government Regions, plus the Rural City of Murray Bridge.

2017), only behind Tasmania and the Northern Territory.⁵¹ The ABS projects that South Australia's population will reach between 2.1 million and 2.6 million in 2061, while Adelaide's population is projected to be between 1.7 million and 2.2 million.⁵² As the state's population increases, so will demand for goods and services, in addition to housing and social infrastructure.

From 2006 to 2016, South Australia has recorded an average loss of 3,700 people to interstate each year. However, the state's international migration was particularly strong in 2009 and 2010.⁵³ The median age of South Australia is 40;⁵⁴ many young people migrate interstate or overseas, and only some return with families at a later date. This migration of younger people is having an effect on South Australia's economy, as younger people take their productive capacity elsewhere. Ageing populations also demand different goods and services – more health services, for example – which will continue to change the nature of the economy going forward.

Implications for land use planning: While South Australia's population is heavily concentrated in Adelaide, the new Code will apply across the state – meaning that it will be important to consider the different industry and population mix in regional areas. South Australia's regional economies are generally centred around agricultural or mining industries, which will need to be taken into account in the Code.

As Adelaide's population is still projected to increase, albeit slower than other cities, this means that the planning system will need to continue to facilitate developments to accommodate this growing population and the industries that grow with them. These include activity and mixed use centres, to promote access for individuals to jobs, diverse and affordable housing options, and services and amenity; and supporting transport-oriented development, to reduce costs for government, industry and residents.

3.3.2 Continuing urbanisation and shrinking rural populations

South Australia's regional areas are growing at a slower rate in comparison to Greater Adelaide. From 2006 to 2016, population in the Greater Adelaide planning region grew by 11.9 per cent, while the population of the balance of South Australia increased by only 3.0 per cent.⁵⁵ As more people choose to live in urban areas, this affects the requirements for housing and other infrastructure in Adelaide and its surrounds.

Country South Australia⁵⁶ is also seeing the 'greying' of its population. In 2016, approximately 6,000 people aged under 24 years moved from

⁵¹ Australian Bureau of Statistics, *Australian Demographic Statistics, September 2017*, cat. no. 3101.0 (22 March 2018).

⁵² Australian Bureau of Statistics, *Population Projections, South Australia 2012 (base to 2101)*, cat. no. 3222.0 (26 November 2013).

⁵³ Australian Bureau of Statistics, *Migration, Australia 2015-16*, cat. no. 3412.0 (30 March 2017).

⁵⁴ Australian Bureau of Statistics, *Australian Demographic Statistics, Jun 2016*, cat. no. 3101.0 (15 December 2016).

⁵⁵ Australian Bureau of Statistics, *Regional Population Growth, Australia, 2016*, cat. no. 3218.0 (24 April 2018).

⁵⁶ Country South Australia includes the council areas of Anangu Pitjantjatjara, Barunga West, Berri and Barmera, Ceduna, Clare and Gilbert Valleys, Cleve, Coober Pedy, Copper Coast, Elliston, Flinders Rangers, Franklin Harbour, Goyder, Grant, Kangaroo Island, Karoonda East Murray, Kimba, Kingston, Lower Eyre Peninsula, Loxton Waikerie, Maralinga Tjarutja, Mid Murray, Mount Gambier, Mount Remarkable, Naracoorte and Lucindale, Northern Areas, Orroroo-Carrieton, Peterborough, Port Augusta, Port Lincoln, Port Pirie City and Dists, Renmark Paringa, Robe, Roxby

country South Australia to Adelaide. Country South Australia also gained over 900 people into the area, aged 55 years or more.⁵⁷ This shows that while the area is losing a large portion of its young people, older people are choosing to move into country South Australia. This results in those regions ageing faster than the rest of the state and the nation, and also affects the productive capacity of the areas around them, if more people living nearby are retired.

Implications for land use planning: Slowing growth or declining regional populations may create skills gaps, which could affect industry production in regional areas. Nevertheless, land use planning should continue to conserve natural environments, biodiversity and agricultural lands within and around urban boundaries to safeguard future production as well as the environment.

3.3.3 Liveability and attracting labour

South Australia's challenge is to attract workers to its city and regions, creating an ideal lifestyle in South Australia compared to other states. For Adelaide, this means ensuring the city is liveable, affordable and safe, while also providing job opportunities. The current slower pace of population growth and faster pace of net interstate migration may indicate this is not the case – or at least, there is a perception that this is not the case.

Deloitte's *Make it Adelaide* suggested that despite the availability of jobs in regional centres and the willingness for employers to pay workers more, money and opportunity is still not enough to encourage workers to move to regional areas. *Make it Adelaide* identified three reasons why regional areas would not be appealing, including lack of access to quality education and health services, lack of employment opportunities for spouses or partners, and the perception that there is less social amenity.

As highlighted in BankSA's August *Trends* report – compiled in conjunction with Deloitte Access Economics – South Australia has relatively low levels of net overseas migration, despite Adelaide being one of the largest cities included in Australia's regional visa category until November 2017. An increase in skilled migration would be beneficial for the state's economy, with South Australia's current share of international and domestic migration flows well below its share of the Australian population. Skilled migration can boost two of the '3Ps' highlighted by Commonwealth Treasury as impacting the amount any economy can produce – population and productivity. However, migrants are more likely to come to South Australia when economic conditions are stronger, creating a chicken-and-egg issue. However, South Australia's high liveability ranking suggests the state as a whole could be more successful by proactively retaining and attracting young workers.⁵⁸

Implications for land use planning: Land use planning plays an important role in enhancing liveability and attracting labour, by creating the right conditions for housing affordability, ease of transportation and

Downs, Southern Mallee, Streaky Bay, Tatiara, The Coorong, Tumby Bay, Wakefield, Wattle Range, Whyalla, Wudinna, Yorke Peninsula and Unincorporated SA

⁵⁷ Australian Bureau of Statistics, *Regional Population Growth, Australia, 2016*, cat. no. 3218.0 (24 April 2018).

⁵⁸ BankSA, *Trends – Is bigger better when it comes to population?* (2018) <<https://www.banksa.com.au/content/dam/bsa/downloads/bsa-media-trends-august-2018.pdf>>.

allowing for other infrastructure, attractions and developments that enhance liveability.

3.3.4 Increased mobility

Workforce mobility is critical to finding the most suitable workers for a particular job; it also allows people to move to where employment is available, or to work without having to relocate.⁵⁹ This is particularly important in South Australia's regional areas, where a large number of areas are inaccessible due to poor transport corridors or undesirable due to lack of amenities or employment opportunities. However, congestion remains an issue across Adelaide, which is the most car-reliant capital city in Australia according to the most recent Census.

There are a number of Australian firms relocating to move towards a workforce. An example of this is Rio Tinto, which opened a remote mining control centre in Perth, which is trialling operations of an iron ore mine in the Pilbara region. Rio Tinto is using advanced remote technology to mine the outback from the comfort of Perth.⁶⁰

Implications for land use planning: Ensuring the right conditions are in place to allow for transport infrastructure developments may be crucial in enhancing mobility across Adelaide for the vast majority of the state's labour force, and to regional areas for freight routes. This will require a focus on transport-orientated development.

3.4 South Australia's competitive advantages and implications for planning directions

Deloitte in *Make it Adelaide* identified eight key sectors for South Australia's future growth. These sectors reflect South Australia's competitive advantages, and where economic growth will be concentrated going forward.

The first four of those sectors were identified as industries where global growth is strong and Australia has a significant advantage against major competitors. These sectors include:

- International education
- Energy and resources
- Tourism
- Agribusiness.

A further four sectors were identified which are specific to South Australia's competitive advantages, building on the state's strengths and growing services sector jobs:

- Defence industries
- Creative industries
- Health and medical industries
- Professional and information technology services.

3.4.1 International education

International education is South Australia's largest services export, worth \$1.5 billion to the South Australian economy in 2017.⁶¹ The sector has

⁵⁹ Deloitte, *Building the Lucky Country #1 – Where is your next worker?* (2012) <https://www2.deloitte.com/content/dam/Deloitte/au/Documents/Building%20Lucky%20Country/Deloitte_au_people_where_is_your_next_worker_2014.pdf>.

⁶⁰ Ibid.

⁶¹ This figure refers to the expenditure of onshore international students on education fees and other goods and services.

grown strongly globally, with the number of outbound tertiary students doubling over a decade – although growth has slowed in recent years.⁶² Deloitte Access Economics has forecast that South Australia’s international enrolments will increase from 35,700 in 2017 to approximately 49,200 in 2027 under a baseline scenario,⁶³ with the sector identified as one of the top five growth industries for Australia.⁶⁴

South Australia has a number of advantages which places it well as a competitor for international students. These advantages include the affordable lifestyle and high standard of living, the large number of student accommodation options and the employment opportunities available, as well as high-quality institutions.⁶⁵ While around half of South Australia’s international education students are in the higher education sector, there are also students in schools, vocational education and training courses, and other short or non-award courses.

Implications for land use planning: For tertiary and short-course students in particular, it is crucial that the planning system allows for sufficient accommodation for students to meet increasing demand. The planning system should support vibrancy and activity in Adelaide’s CBD, given that the vast majority of students live in the CBD.

3.4.2 Energy and resources

Gas is a critical component of the state’s energy sector. South Australia has the largest oil and gas reserves in Australia, with the Cooper and Eromanga basins in the state’s north-east.⁶⁶

Oil and gas exploration has expanded in South Australia. In 2017, \$140 million was spent on oil and gas exploration in South Australia, representing 12 per cent of expenditure across Australia in seasonally adjusted terms, an increase on 9 per cent in 2016.⁶⁷ Deloitte Access Economics has also identified the mining sector in South Australia as one of the fastest growing sectors in the state, forecast to increase by 2.9 per cent each year over the next two decades.

Implications for land use planning: The land use planning regime needs to accommodate increasing exploration and production in the energy and resources industries, while also being mindful of environmental concerns. However, there are also interactions with other regulatory levers, such as environmental impact statements, which underpin access to resources in a sustainable manner.

Australian Bureau of Statistics, *International Trade: Supplementary Information, Financial Year, 2016-17*, cat. no. 5368.0.55.003 (24 November 2017).

⁶² Organisation for Economic Cooperation and Development, *Education at a Glance 2017* (2017) <<https://www.oecd-ilibrary.org/docserver/eag-2017-26-en.pdf?expires=1527039478&id=id&accname=guest&checksum=1732A959248C170CD71F85C02145B639>>.

⁶³ Deloitte Access Economics, *International Education in South Australia* (report commissioned by the Department for Trade, Tourism and Investment, 2018).

⁶⁴ Deloitte, *Building the Lucky Country #3 – Positioning for Prosperity?* (2014) <<https://www2.deloitte.com/content/dam/Deloitte/au/Documents/Building%20Lucky%20Country/deloitte-au-btlic-business-positioning-prosperity-2014-230217.pdf>>.

⁶⁵ Deloitte Access Economics, *International Education in South Australia* (report commissioned by the Department for Trade, Tourism and Investment, 2018).

⁶⁶ South Australia Chamber of Mines and Energy, *Oil & Gas Production* <<https://www.sacome.org.au/energy.html>>.

⁶⁷ Australia Bureau of Statistics, *Mineral and Petroleum Exploration, Australia, Mar 2018*, cat. no. 8412.0 (4 June 2018)

3.4.3 Tourism

In 2017, South Australia had 461,600 international visitors, an increase of 7 per cent from the previous year.⁶⁸ The majority of international visitor nights are spent in the city of Adelaide, at 82 per cent of all nights.⁶⁹ In contrast, more domestic visitor nights are spent in regional centres, rather than in Adelaide.⁷⁰

South Australia has a comparative advantage in the tourism sector; the state was identified as the one of the top five must-see regions in the world in Lonely Planet's Best Travel of 2017.⁷¹ With the state's festivals, wine regions and areas like Kangaroo Island, the tourism sector has significant growth potential.

Implications for land use planning: Continued growth of the state's tourism industry is dependent on the provision of infrastructure, such as accommodation – particularly in Adelaide, but also in regional areas. If the planning system is too restrictive to adapt and allow for sufficient development, South Australia's future growth prospects could be affected. In addition, the tourism industry will continue to develop and enhance attractions and experiences to attract new visitors from both Australia and overseas; similarly, the planning system should account for the importance of these developments to the tourism industry as a whole. There is complexity in defining tourism as a land use activity; tourists visit different areas for different reasons, which state and regional policy responses need to recognise.⁷² It is also important for tourist destinations to be considered mixed-use development areas to ensure that planning gives consideration to traffic, access, services and amenities.⁷³

3.4.4 Agribusiness

South Australia has had a strong and diverse agricultural history; however, there is still room to grow, with consumer preferences driving a trend towards manufactured food and beverages. South Australia's food processing industry has emerged as the state's largest manufacturing industry, following the closure of automotive manufacturing.⁷⁴ Deloitte Access Economics has forecast the South Australian agricultural sector to grow at a rate of 1.3 per cent annually over the next two decades – but this excludes the impacts of food and beverage manufacturing, which are also likely to be significant. Adelaide is considered the 'wine capital' of the nation, as the producer of almost 80 per cent of Australia's premium wine.⁷⁵

⁶⁸ Tourism Research Australia, *International Visitors in Australia: Summary results December 2017* (March 2018) <https://www.tra.gov.au/ArticleDocuments/242/IVS_one_pager_Dec2017_FINAL.pdf.aspx?Embed=Y>.

⁶⁹ Tourism Research Australia, *International Visitor Survey: December 2017 Results* (March 2018) <<https://www.tra.gov.au/Research/International-visitors-to-Australia/international-tourism-statistics>>.

⁷⁰ Tourism Research Australia, *National Visitor Survey* (March 2018) <<https://www.tra.gov.au/Research/Domestic-tourism-by-Australians/National-Visitor-Survey-results>>.

⁷¹ Lonely Planet Best Travel of 2017 <<https://www.lonelyplanet.com/best-in-travel>>

⁷² *Urbis and Tourism Transport Forum Australia*, National Tourism Planning Guide (2011) <<https://www.austrade.gov.au/ArticleDocuments/5499/NationalTourism>>.

⁷³ *Urbis and Tourism Transport Forum Australia*, National Tourism Planning Guide (2011) <<https://www.austrade.gov.au/ArticleDocuments/5499/NationalTourism>>.

⁷⁴ Australian Bureau of Statistics, *Australian Industry 2016-17*, cat. no. 8155.0 (25 May 2018)

⁷⁵ Deloitte, *Shaping Future Cities – Make it big Adelaide* (2017) <<https://landing.deloitte.com.au/rs/761-IBL->

Implications for land use planning: Agricultural production in South Australia is generally centred in the Adelaide plains and surrounds, and these areas will need to continue to be protected from urban sprawl. It is also important to consider the effects of climate change, which have already affected wine production and other agricultural industries – this may require reconsideration of agricultural land boundaries and supporting policies, such as water access. Planning mechanisms will need to conserve natural environments, biodiversity and agricultural lands within and around urban boundaries to ensure their continued productivity.

3.4.5 Defence industries

South Australia is home to three large defence industry precincts, which house clusters of innovative companies, defence education and training and defence expertise. South Australia is also home to the only state-based defence agency in Australia, DefenceSA.⁷⁶ The Osborne Naval Shipbuilding Precinct, located in South Australia, has also been confirmed as the location for the \$50 billion Future Submarine program and the \$35 billion Future Frigate fleet.⁷⁷ Deloitte places Australia in the top 14 higher-growth spenders in defence, with a defence budget annual growth rate between 3 to 7 per cent.⁷⁸

South Australia's defence precincts

The following material is extracted from DefenceSA's website, describing South Australia's defence precincts.⁷⁹

Osborne Naval Shipyard

The Osborne Naval Shipyard, the nation's premier naval industry hub, is the logical location for any company pursuing opportunities in defence or commercial shipbuilding and ship sustainment projects.

Edinburgh Defence Precinct

Edinburgh Defence Precinct is a key national defence research, manufacturing and sustainment hub housing RAAF Base Edinburgh, Defence Science and Technology and major defence companies including BAE Systems Australia, Lockheed Martin Australia, Airbus Group Australia, Raytheon Australia, CAE Australia and Meggitt Training Systems.

Technology Park Adelaide

An ideal location for established and emerging technology companies, Technology Park Adelaide has a strong focus on systems development and integration, information communication technology, advanced manufacturing and electronics.

Test and training areas

328/images/Make_it_Big_Adelaide.pdf?utm_source=marketo&utm_medium=email&utm_campaign=exc-make-it-adelaide-2017&utm_content=cta>.

⁷⁶ DefenceSA, *Precincts* <<http://www.defencesa.com/precincts>>.

⁷⁷ DefenceSA, *Osborne Naval Shipbuilding Precinct* <<http://www.defencesa.com/precincts/osborne-naval-shipbuilding-precinct>>.

⁷⁸ Deloitte, *Global Defense Outlook 2016: shifting postures and emerging fault lines* (2016) <<https://www2.deloitte.com/content/dam/Deloitte/au/Documents/public-sector/deloitte-au-pub-global-defense-outlook-2016-270616.pdf>>.

⁷⁹ DefenceSA, *Precincts* <<http://www.defencesa.com/precincts>>.

South Australia is home to a large and varied contingent of Australian Defence organisation facilities including RAAF Base Edinburgh, DST Edinburgh, Cultana Training Area and Woomera Test Range.

Implications for land use planning: While parts of the defence sector have unique requirements – such as the Woomera test range – on the whole, the sector is largely precinct-orientated. As a result, it is important that land use planning continues to focus on designation of employment lands and precincts to support clustering of the industry, leading to agglomeration benefits.

3.4.6 Health and medical industries

With Australia's population increasing and people living longer, health care needs are rising. The health care and social assistance sector is already South Australia's largest employer;⁸⁰ BankSA and Deloitte Access Economics recognised in 2016 that where employment levels in all other industries plateaued in South Australia, the healthcare sector had grown.⁸¹

However, there is significant potential in the health and medical research sector in particular. Adelaide is home to Adelaide BioMed City, one of the largest health and life sciences clusters in the Southern Hemisphere. Adelaide BioMed City is located in the CBD, bringing together research, education, clinical care and business development.⁸²

Implications for land use planning: similar to the defence sector, the promotion of precincts and clustering is important for the success of health and medical industries in South Australia. Land use planning mechanisms should promote the continued development of precincts to support industry clustering.

3.4.7 Creative industries

South Australia is commonly known as the 'Festival State'. It is home to the largest Fringe festival in the Southern Hemisphere, as well as WOMADelaide, the Adelaide Festival and Adelaide Writer's Week. The arts and recreation services industry contributed a total of \$690 million to the South Australian economy in 2016-17.⁸³

These cultural events attract a significant number of artists and performers, as well as tourists to the state. In 2018, the Adelaide Fringe was the largest ticket selling festival in Australia. Of the 1.5 million tickets sold across Australia, half were sold in South Australia.⁸⁴ Temporary events such as the Adelaide Fringe are important to consider in the context of planning, as they bring cultural activities and vibrancy to the city, but may also place strain on surrounding areas.

⁸⁰ Australian Bureau of Statistics, *Labour Force, Australia, Quarterly, Feb 2018*, cat. no. 6291.0.55.003 (29 March 2018).

⁸¹ BankSA, *Trends – Health sector in excellent shape* (2016) <<https://www.banksa.com.au/content/dam/bsa/downloads/bsa-media-trends-may-2016.pdf>>.

⁸² Health Industries SA, *Adelaide Biomed City* <<http://healthindustries.sa.gov.au/adelaide-biomed-city/>>.

⁸³ Australian Bureau of Statistics, *Australia National Accounts: State Accounts, 2016-17*, cat. no. 5220.0 (17 November 2017).

⁸⁴ Festivals Adelaide, *Adelaide Fringe is the biggest ticket selling festival in Australia* (2017) <<http://www.festivalsadelaide.com.au/adelaide-fringe-is-the-biggest-ticket-selling-festival-in-australia/>>.

More broadly, South Australia also has strengths in other components of the creative industries, such as film production, galleries and museums. The cultural boulevard of North Terrace is one such example of the importance of planning in preserving the heritage and nature of an area.

Implications for land use planning: The land uses required for the creative industries may be broad – from film production to hosting temporary events. The nature of the planning system needs to protect cultural heritage which has valuable economic uses.

3.4.8 Professional and information technology services

Professional services contributed over \$14.7 billion to South Australia's economy in 2016-17.⁸⁵ Although Adelaide is not necessarily considered a financial sector hub, these industries are of significant value to the economy – and will be especially so going forward, as the economy transitions to one that is services-focused. BankSA and Deloitte Access Economics found that over the past 20 years, total jobs in professional services in South Australia increased by 62 per cent, compared to just 24 per cent across all sectors.⁸⁶

As noted in the global trends section, services sectors are subject to the effects of emerging technologies, as well as countries with lower labour costs. However, going forward, agglomeration and clustering will be increasingly important to enhance economic productivity, while taking into account changes in how people work.

Implications for land use planning: Land use planning needs to focus on designation of employment lands and precincts to support industry clustering.

3.5 Implications for South Australia's land use and the new land use planning system

While South Australia's market and economic structure have evolved over time, the planning system has remained relatively static. Going forward, however, the diversity of the South Australian economy and its population means that land use – and the associated planning system – must be similarly diverse and adaptable to changing circumstances. In summary, some of the conclusions for land use and the new land use planning system include:

- Conserving and protecting agricultural lands, noting South Australia's competitive advantages in agricultural products and sustained demand for food and beverage, but adapting to the effects of climate change to reduce risks
- Focusing on designation of employment lands and precincts to support industry clustering, arising in part due to emerging technologies, but also the increasing trend towards services sectors and South Australia's advantages like health research and defence
- Protecting transit corridors for urban populations, while adapting to increased freight across the economy
- Taking into account the different industry and population mix in regional areas, given the Code will apply state-wide, and continuing

⁸⁵ Figure comprises professional, scientific and technical services; financial and insurance services; and rental, hiring and real estate services. Australian Bureau of Statistics, *Australian National Accounts: State Accounts, 2016-17*, cat. no. 5220.0 (17 November 2017).

⁸⁶ BankSA, *Trends – Blue skies for 'white collar' professions* (2016) <<https://www.banksa.com.au/content/dam/bsa/downloads/bsa-media-trends-nov-2016.pdf>>.

to conserve natural environments, biodiversity and agricultural lands within and around urban boundaries to safeguard future production as well as the environment

- Accommodating a growing population in Adelaide, including facilitating activity and mixed use centres, to promote access for individuals to jobs, diverse and affordable housing options, and services and amenity; and supporting transport-oriented development, to reduce costs for government, industry and residents
- Ensuring that Adelaide's liveability is enhanced and it is therefore an attractive place to live and work, by creating the right conditions for housing affordability, ease of transportation and allowing for other infrastructure, attractions and developments that enhance liveability
- Ensuring the right conditions are in place to allow for transport infrastructure developments to enhance mobility across Adelaide for the vast majority of the state's labour force, and to regional areas for freight routes; this will require a focus on transport-orientated development
- Supporting the provision for sufficient accommodation for students to meet increasing demand for international education, as well as the infrastructure required to meet the needs of tourists more broadly in both Adelaide and regional areas, and protecting cultural heritage which has valuable economic uses
- Accommodating increasing exploration and production in the energy and resources industries, while being mindful of environmental concerns.

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