Report to
URPS

TSA Advisory

Environmental Impact Statement – Economic Analysis

Final report

Best for Project

August 2024

TSA Advisory

We collaborate with our clients to solve complex problems. We are known for the subject matter expertise and creative solutions that we bring to any consulting challenge. We inject the right people, with the right skills, at the right time to unlock positive community outcomes.

Contents

Version Control

Version	Date	Nature	Author(s)
V0.1	21/05/2024	First draft	JA, DM, TM
V2	04/07/2024	Final draft	JA, DM, TM
V3	01/08/2024	Final	JA, DM, TM

Acronym Glossary

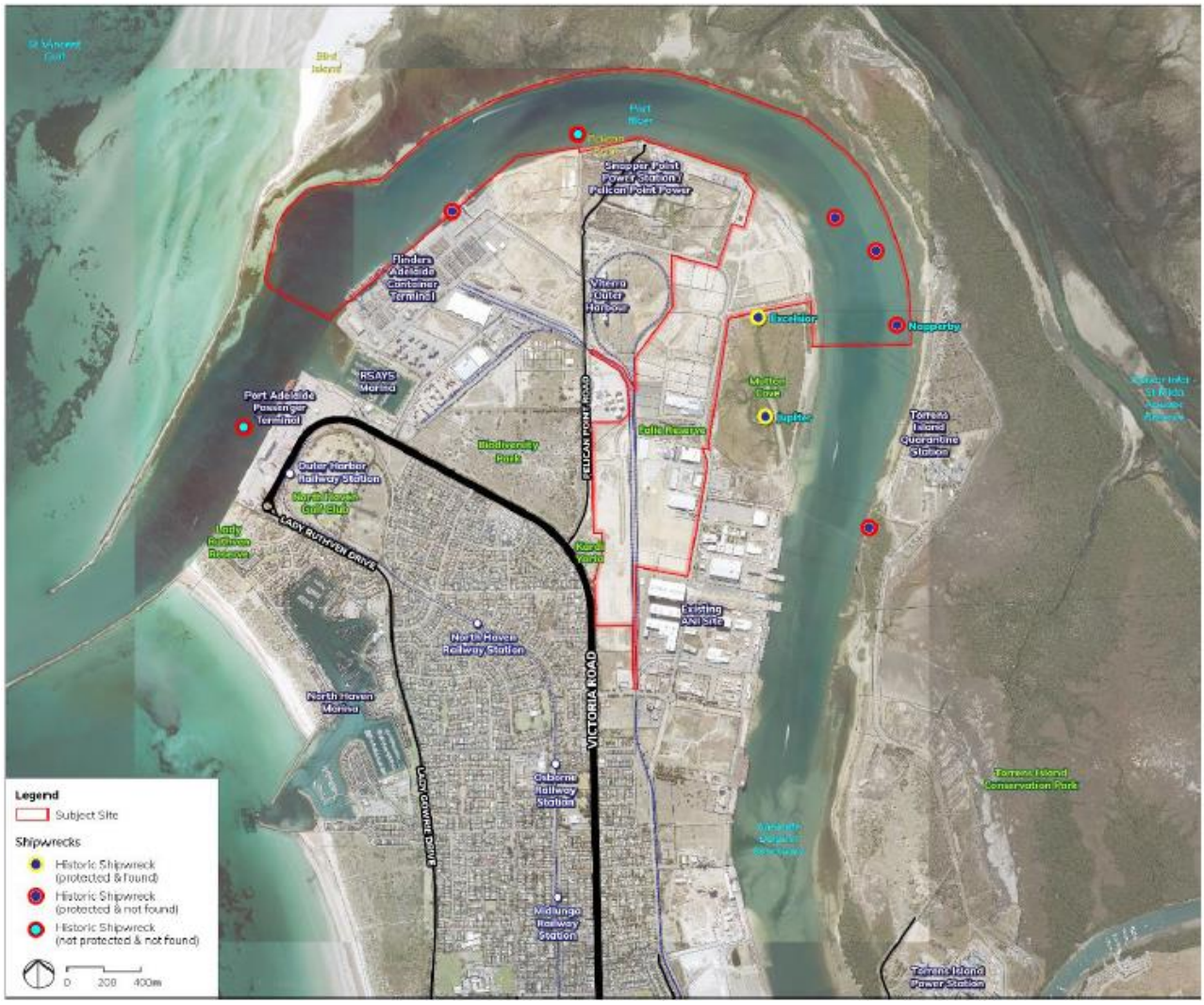
Acronym	Definition
ASA	Australian Submarine Agency
ANI	Australian Naval Infrastructure
SCY	Submarine Construction Yard
AUKUS	Australia, United Kingdom and United States
CBA	Cost Benefit Analysis
RIA	Regional Impact Analysis
EIA	Economic Impact Assessment
CPI	Consumer Price Index
AAGR	Average annual growth rate
ABS	Australian Bureau of Statistics
SEIFA	Socio-Economic Indexes for Areas
IRSAD	Index of Relative Socio-economic Advantage and Disadvantage
SALM	Small Area Labour Market
ANZSIC	Australian and New Zealand Standard Industrial Classification
CAPM	Capital Asset Pricing Model
NPV	Net Present Value
BCR	Benefit Cost Ratio
I-O	Input-Output
ICN	Industry Capability Network
OSDP	Osborne South Development Project
GSP	Gross State Product

Executive Summary

Overview

The Australian Submarine Agency (ASA) was established in July 2023 to safely and securely acquire, construct, deliver, technically govern, sustain and dispose of conventionally-armed nuclear-powered submarine capability for Australia.

Australian Naval Infrastructure (ANI), as the owner and manager of the existing Osborne Naval Shipyard, is proposing the development of adjacent land to construct a new, purpose-built, secure, nuclear-powered Submarine Construction Yard (SCY). The subject site is depicted below.



Source: Impact Assessed Development Application – ANI Nuclear Powered Submarine Construction Yard (URPS, 2024)

The SCY will provide a facility for the construction of the submarines by a third-party ship builder, for delivery to ASA. This will deliver the commitment under the Australia, United Kingdom and United States (AUKUS) trilateral security partnership to support Australia's acquisition of conventionally-armed nuclear-powered submarines.

The Minister for Planning has declared the SCY as an impact assessed development under section 108 (1)(c) of the Planning, Development and Infrastructure Act 2016 (PDI Act), which requires the preparation of an Environmental Impact Statement (EIS), currently being prepared by URPS. To support the EIS, TSA has been engaged by URPS to prepare this Economic Report into local, regional and state economic impacts of the development. The Economic

Report:

- provides economic analysis of the development, including the long-term economic viability and efficiency of the operational aspects of the development
- assesses the direct impact of the development on local, regional and state economies
- assesses the impact of the development on the economic welfare of the economies of interest
- identifies any potential economic effects locally and regionally and the potential to attract value add development and commercial ventures.

In preparing this Economic Report, several investigations and analyses were undertaken including:

- identification, mapping and analysis of the subject site
- a cost-benefit analysis (CBA), the purpose of which is to estimate the net community welfare implications of the development by monetising key social and economic benefits
- a regional impact analysis (RIA), including an economic impact assessment (EIA), the purpose of which is to understand the impacts on economic output, economic value added, and job creation associated with construction and operations of the SCY
- an assessment of other economic effects, including:
  - potential employment opportunities, specifically information on local and indigenous employment and training opportunities
  - effects on accommodation supply and demand
  - consideration of additional land requirements to support the development
  - other economic effects.

Baseline conditions

The subject site is located at the northern end of the Lefevre Peninsula within the City of Port Adelaide Enfield. Land use across the land-based portion of the subject site is governed by a range of zones, including Strategic Employment, Employment, and a small amount of Open Space, and is subject to range of overlays.

Large swathes of the local area (defined as the Port Adelaide West- Statistical Area level 3) are relatively socioeconomically disadvantaged, with low household incomes reflecting a local worker population that is less likely than the average South Australian to have tertiary qualifications, and far more likely to work in traditionally blue-collar industries, like manufacturing, construction, and transport, postal and warehousing. Parts of the local area have traditionally experienced very high levels of unemployment, particularly regions to the south and east of the Port Adelaide centre.

The local area is expected to experience below average population growth over the coming decades, with around 26,000 additional persons expected to reside in the City of Port Adelaide Enfield by 2041 - equivalent to an average annual growth rate of 0.88%. The bulk of this additional population will be accommodated through higher density development in already urbanised areas, in the vicinity of key centres and at transport hubs.

More broadly, the economies of Adelaide's outer northwestern suburbs have been shaped by their access to key freight corridors (Port River Expressway, and North South Corridor), intermodal terminals, and trade gateways. These factors make the region an important location for businesses that benefit from access to global markets, typically those involved in the manufacture of goods, and the transportation, storage and distribution of goods (imports and exports).

Construction and operational impact assessment

A summary of impacts identified in this Economic Report is tabled below.

Impact type	Impacts
Net welfare impact (Cost-Benefit Analysis)	• The SCY would represent an efficient application of funds from a South Australian socioeconomic perspective. • The SCY will deliver benefits to the South Australian economy in the form of an economic surplus and productivity benefits. • **Economic surplus (construction phase)** For every $1 billion in works on the SCY, a total of $31.594 million in economic surplus will be generated. Of this cost, an estimated $55.8 million will be contributed by the South Australian community, with the remainder provided by the communities of other states and territories. This means that, for the construction phase alone, around 57.2% of the construction cost borne by the South Australian community will be returned in the form of construction profits and wages. The economic surplus associated with the design and construction phase of the SCY will be small as the bulk of construction activity at the subject site will likely 'crowd out' activity that would otherwise have occurred in South Australia due to skills shortages and the constrained nature of the sector • **Economic surplus (manufacturing phase):** For every $10 billion in manufacturing phase expenditures, an estimated $1,332.315 million in economic surplus will be generated within South Australia. Of this total project spend, only 5.58% - or $558 million – will be contributed by the community of South Australia. This means that for every dollar of manufacturing phase expenditure provided by the South Australia, around $2.39 will be returned to the community in the form of economic surplus. Based on this assumption, manufacturing delivers a significant welfare benefit to the state community. A net benefit would eventuate so as long as more than 20.9% of jobs were *new* jobs (i.e. crowding out impact of the project was no more than 79.1%) • **Productivity benefit:** the development has a specific focus on workforce training with various policies and government investments in training and skills announced to coincide with the development. With more than 4,000 graduates to be educated in STEM courses as part of efforts to build the skill base within the local community, a more educated workforce can be expected to generate significant productivity benefits for the broader community. For the more than 4,000 additional degree holders, the quantum of productivity benefits accruing to the South Australian economy over the life of the project amount to $69.2 million per annum, or $1.181 billion over the project life. This figure is likely to be small in comparison to total project benefits.
Economic impact	Including the direct, production induced, and consumption induced impacts, for every $1 billion invested in the construction of the SCY: • $255 million will be generated in total output • 619 jobs will be supported • $45.81 million in wages and salaries will be generated • $90.84 million in value-added will be generated. Including the direct, production induced, and consumption induced impacts, for every $10 billion invested in the manufacturing phase of the project (and assuming 50% 'crowding out'): • $9.42 billion will be generated in total output • 17,109 jobs will be supported • $1.3 billion in wages and salaries will be generated

Impact type	Impacts
	• $2.73 billion in value-added will be generated.
Other positive impacts	• The development is likely to create significant local and indigenous employment opportunities. ANI has a strong commitment to maximising local content in the delivery of its projects and the engagement of indigenous businesses and individuals. • The development will facilitate a more resilient and productive economy by supporting new sustainable, transferrable and well-paying manufacturing and knowledge-intensive jobs within the South Australian workforce.
Other negative impacts/risks	The development creates some economic risks that may require mitigations. These are discussed in the subsection below.

Mitigation measures

The development creates some economic risks that may require mitigations. These are summarised in the table below.

Negative impact/risk	Mitigation
Due to skills shortages and the constrained nature of the construction sector, the design and building of the SCY will compete for the same workers with a range of other major infrastructure projects and with residual and commercial construction. In turn this creates risks of delays and price increases for infrastructure projects elsewhere in South Australia and the drawing of resources away from much need residential housing construction.	• Ongoing active management of the public infrastructure works pipeline by the South Australian and Australian governments to smooth labour and material demands. • Concerted efforts to attract construction workers from interstate and overseas. • Investment of resources to contract and train disengaged working age indigenous residents.
Due to limited spare local accommodation capacity (e.g. hotels, serviced apartments) there is a risk that, without substantial new supply, temporary SCY workers and visitors will not secure accommodation locally and endure long commutes from elsewhere in Adelaide. This in turn could crowd out growing tourism, events and conference accommodation demands in Adelaide more broadly.	• Government planning processes recently commenced in the local area to carefully consider strategies that encourage further private investment in accommodation and serviced apartments.
The subject site is distant from the most affluent parts of the Adelaide metropolitan region. For relatively skilled (and high earning) workers who want to live in these suburbs, this can mean a long drive which detracts from the appeal of a career at the Lefevre Peninsula. This presents risks including (i) difficulties to filling skilled positions at the subject site, and (ii) low levels of self-containment, long commutes and increased traffic congestion.	Local governments and the South Australian Government to: • support urban regeneration in the Port Adelaide-West region, with the Port Adelaide centre a candidate. • consider accelerating planning and investment in Dry Creek (Dry Creek strategic monitoring area offers the largest future urban growth opportunity within a comfortable commute of the proposed SCY).
Local residential land supply is constrained, with limited greenfield land development opportunities available.	

Negative impact/risk	Mitigation
The SCY may enhance existing risks of localised excess housing demand and housing cost increases. Further, housing demand pressures risk displacement of strategically important industrial land and existing businesses.	
With low vacancy rates for employment land in Adelaide West, the development risks placing upward pressure on employment land values and may displace existing tenants in and near to the Lefevre Peninsula to make way for new tenants that highly value or require good proximity to shipbuilding.	Local governments and the South Australian Government to: • consider facilitation of earlier development of potential employment lands in the Gillman/Dry Creek precinct. • protect strategic well-located employment land in the adjoining Inner North region from rezoning for alternative uses.

1. Introduction

1.1 Overview

TSA has been engaged by URPS on behalf of Australian Naval Infrastructure (ANI) to provide economic analysis in support of a development application to construct a nuclear-powered Submarine Construction Yard (SCY) at Osborne on the Lefevre Peninsula.

In recognition of the economic and strategic significance of the development to South Australia, the Minister for Planning has declared the SCY to be an impact assessed development, triggering a requirement for preparation of an Environmental Impact Statement (EIS) that is currently being prepared by URPS. To support the EIS, TSA has prepared this Economic Report into local, regional and state economic impacts of the development.

The Economic Report:

- provides economic analysis of the development, including the long-term economic viability and efficiency of the operational aspects of the development
- assesses the direct impact of the development on local, regional and state economies
- assesses the impact of the development on the economic welfare of the economies of interest
- identifies any potential economic effects locally and regionally and the potential to attract value add development and commercial ventures.

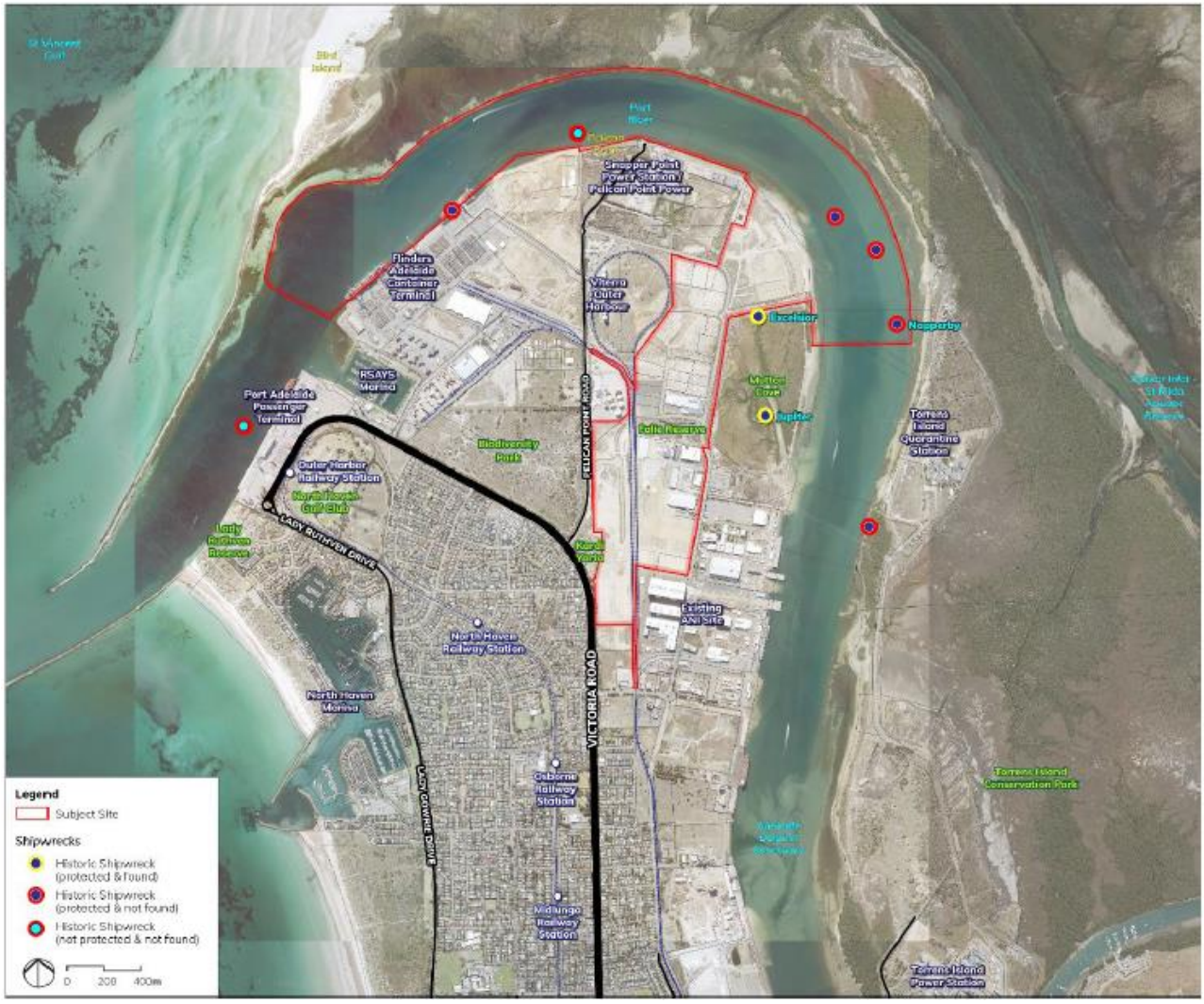
Due to the absence of a sufficiently mature and publicly available construction phase and manufacturing phase cost estimate for the project, the economic impacts of the project presented in this Report are presented as impacts for every $10 billion spent across the manufacturing and construction phases.

1.2 The development

The Australian Submarine Agency (ASA) was established in July 2023 to safely and securely acquire, construct, deliver, technically govern, sustain and dispose of Australia's conventionally-armed nuclear-powered submarine capability for Australia.

Australian Naval Infrastructure (ANI) as the owner and manager of the existing Osborne Naval Shipyard, is proposing the development of adjacent land to construct a new, purpose-built, secure, nuclear-powered Submarine Construction Yard (SCY). The subject site is depicted below in Figure 1.

Figure 1. The subject site and surrounding context



Source: Impact Assessed Development Application – ANI Nuclear Powered Submarine Construction Yard (URPS, 2024)

The SCY will provide a facility for the construction of the submarines by a third-party ship builder, for delivery to ASA. This will deliver the commitment under the Australia, United Kingdom and United States (AUKUS) trilateral security partnership to support Australia's acquisition of conventionally-armed nuclear-powered submarines.

1.3 Report structure

This report is separated into the following sections:

Chapter 2 summarises the regional context in which the development is expected to occur, setting out key economic and demographic features of the local area and broader region which are important to consider in addressing the likely consequences of the development on the regional population and economy.

Chapter 3 provides a socioeconomic analysis (in the form of cost benefit analysis) of the development, identifying and deriving a monetary value key financial, economic and social costs and benefits associated with the project. The purpose of this socioeconomic analysis is to determine the net community welfare implications of the development on the South Australian community.

Chapter 4 summarises the outcomes of economic impact assessment (EIA) carried out in relation to the development. The purpose of EIA is to provide an indication of potential impacts of a development on the community in terms of economic output, value added, employment, and wages and salaries.

Chapter 5 sets out and describes a range of other impacts likely to be felt as a result of the development, including impacts to the labour force, impacts on housing and accommodation, impacts on the broader market for land (residential and employment), and the opportunity cost to the State of not proceeding with the development.

2. Regional economic context

2.1 Subject Site

The subject site is located at the northern end of the Lefevre Peninsula approximately 19 km northwest of the Adelaide CBD. The land lies within the City of Port Adelaide Enfield and is governed by a range of zones, including Strategic Employment, Employment, and a small amount of Open Space, and is subject to range of overlays.

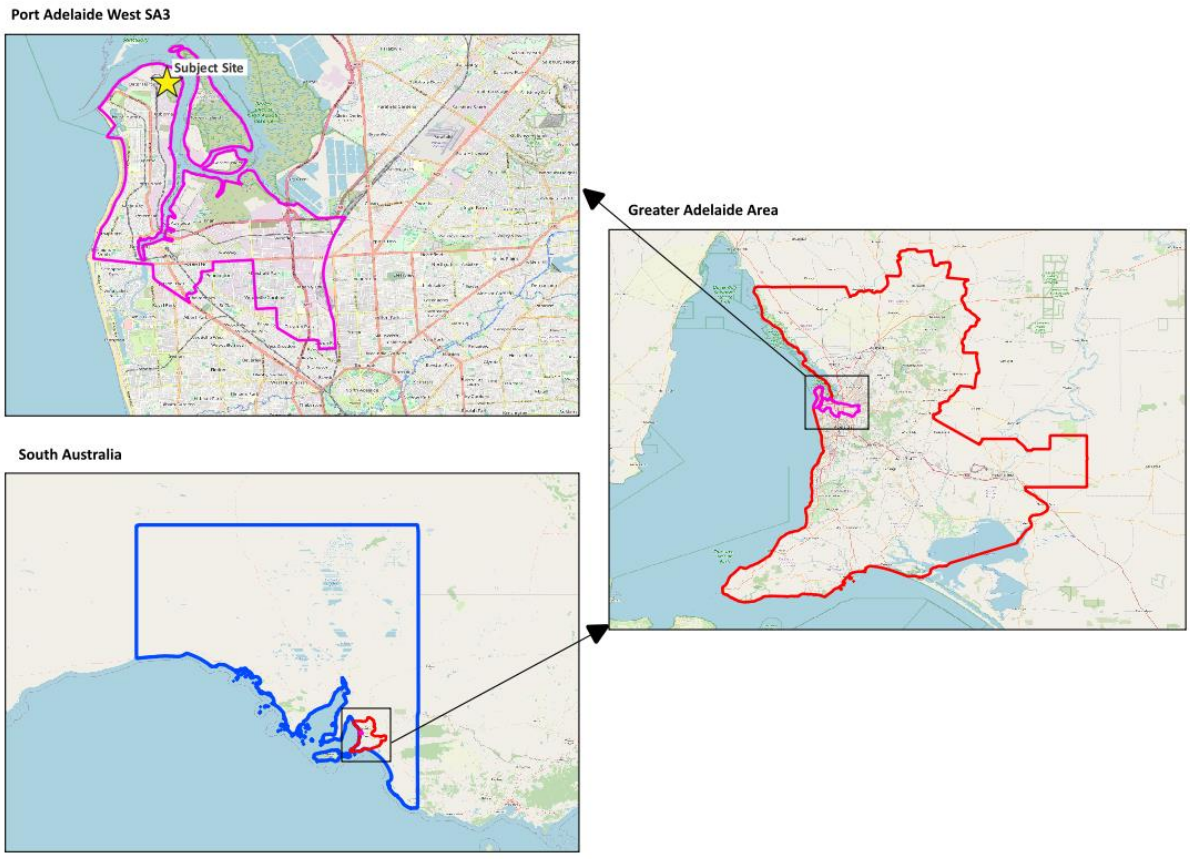
2.2 Regions of analysis

In seeking to understand the likely economic consequences of the SCY, we recognise that these will occur across difference geographical scales. Whilst some effects will have very localised effects, others will be experienced across Greater Adelaide and the state. This being the case, our report focuses on the economic impacts of the SCY on:

- The **local** economy (defined as the Port Adelaide-West SA3)
- The **regional** economy (defined as the Greater Adelaide region)
- The **state** economy (defined as the South Australia state).

The boundaries of these locations are shown in Figure 2.

Figure 2: Local, Regional and State economies



2.3 Demographic overview

In seeking to understand the economic consequences of the SCY, it is important to understand the demographic characteristics of the populations likely to be impacted. This overview considers the key features of populations of Port Adelaide West SA3, Greater Adelaide, and South Australia.

Table 1: Key Demographic Features of Study Areas, 2021

	Port Adelaide – West	Greater Adelaide Area	South Australia
Median Age	**41**	**39**	**41**
Person Characteristics (%)			
Aboriginal or Torres Strait Islander Residents	3.0%	1.8%	2.4%
Residents Born Outside Australia	33.9%	30.5%	28.5%
Household Type (%)			
Detached Dwellings (Houses)	68.9%	74.7%	78.0%
Semi-Detached Dwellings (Townhouses)	21.9%	16.0%	14.6%
Unit/Apartment/Flat Dwellings	8.6%	8.4%	6.8%
Tenure Type (%)			
Owned Outright	27.9%	30.9%	32.8%
Owned with a Mortgage	35.2%	35.6%	35.6%
Rented	33.9%	27.2%	27.6%
Other Tenure Type	1.6%	2.6%	2.6%
Median Annual Occupancy Cost ($)*			
Mortgagees	$21,054	$21,679	$20,818
Renters	$17,742	$19,245	$18,042
Income ($)*			
Median Annual Household Income	$83,236	$93,099	$87,506

Source: ABS Census 2021. *Adjusted for March 2024 dollar values based on CPI (ABS).

2.3.1 Forecast population growth

Population forecasts for Council, metropolitan, and state regions between 2021 and 2041 are set out in Table 2.

The population of South Australia is expected to grow by around 372,000 between 2021 and 2041, representing an average annual growth rate (AAGR) of around 0.94%. The majority of this growth (~93%) is expected to occur within the Greater Adelaide Region.

The Port Adelaide Enfield LGA is expected to grow by around 26,000 persons, equivalent to an AAGR of 0.88% - slightly lower than the equivalent rates for Greater Adelaide and South Australia. The bulk of this additional population will be accommodated through higher density development in already urbanised areas, in the vicinity of key centres, at transport hubs, etc.

Relative to the rest of Australia, which is projected to achieve a population growth rate of 1.2% over the same period, the projected rates of growth set out below are low, reflecting the state's ongoing challenges in regard to population retention and attraction.

Table 2: Estimated Resident Population, 2021 to 2041

	2021	2041	Growth 2021-2041	AAGR
Port Adelaide West	60,848	70,749	9,901	0.76%
Greater Adelaide Region	1,514,614	1,859,047	344,433	1.03%
South Australia	1,802,601	2,174,497	371,896	0.94%
Australia	25,685,400	32,586,368	6,900,968	1.20%

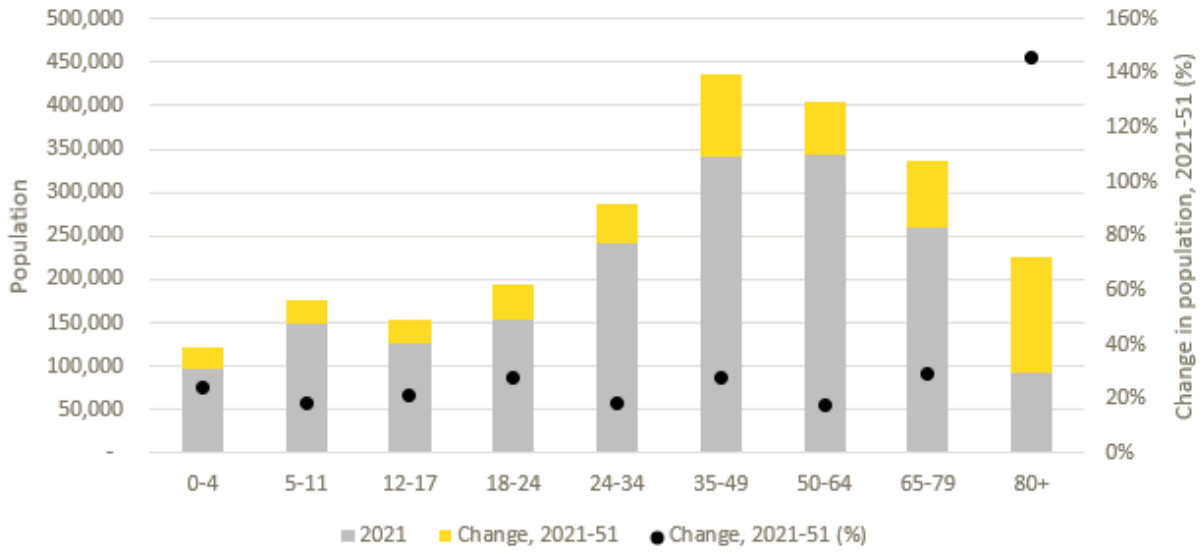
Source: Planning and Land Use Services (SA), TSA Management

2.3.2 Age breakdown

The population of South Australia and its regions is ageing. Figure 3, drawn from State Government projections, shows that, between 2021 and 2051, the number of people in South Australia aged 80+ will increase by nearly 150% - a rate of growth far greater than for any other age cohort. Looked at another way, the proportion of the resident population aged 80+ will increase from just over 5% of the total population in 2021 to nearly 10% by 2051.

One of the consequences of a population profile skewed towards elderly residents is a constrained labour market, in which a lack of people of working age leads to challenges in servicing the needs of the metropolitan and state economies. This highlights the importance of programs that support well-paid, high-quality jobs in South Australia, and the attraction of workers and young families to the state.

Figure 3: Current and projected population by age group, South Australia, 2021 to 2051



Source: Planning and Land Use Services (SA), TSA Management

2.3.3 Socioeconomic status

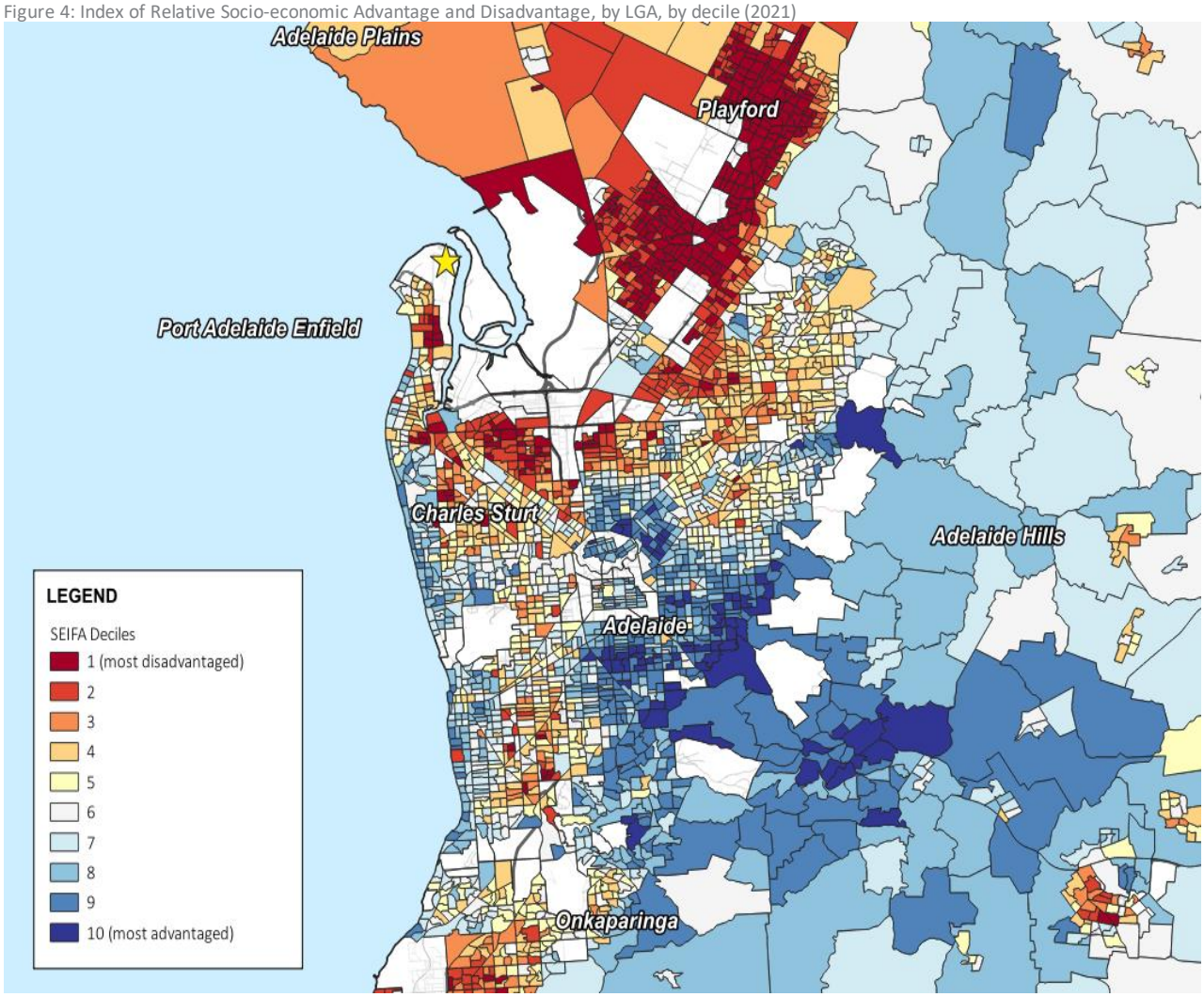
The Socio-Economic Indexes for Areas (SEIFA) ranks areas according to their relative socio-economic advantage and disadvantage using Census data. A low score indicates a relatively greater disadvantage – typically characterised by, for example, households with low incomes or people in unskilled occupations.

Figure 4 shows the Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) for SA1s in the Greater Adelaide Area. Regions are separated into deciles, with the most advantaged shaded blue, and least advantaged shaded red.

The figure demonstrates that the region in the vicinity of the subject site is relatively socioeconomically disadvantaged, with much of the region to the south and east of the Port Adelaide centre also performing poorly from a socioeconomic perspective. The low socioeconomic status of the region's population reflects its relatively low educational attainment, strength in lower-skilled and vocational industries (including manufacturing and construction), and low household incomes.

This table highlights the vulnerable status of the region's working population and households, and relatedly its sensitivity to the loss of prospective employment opportunities. It also highlights the opportunity associated with the creation of new and diverse employment opportunities, which have the potential to support higher incomes, and the generation of human capital among residents of the region.

Figure 4: Index of Relative Socio-economic Advantage and Disadvantage, by LGA, by decile (2021)



Source: ABS SEIFA (2021), TSA Management.

2.3.4 Indigenous population

Table 3 provides a breakdown of indigenous representation across geographical scales. It reveals that Port Adelaide-West has a higher representation of indigenous residents relative to Greater Adelaide, and roughly equivalent to the national figure. The figure is high relative to most other Australian metropolitan regions.

Finer-grained analysis of the distribution of the indigenous population in the local region indicates that communities are concentrated primarily on the Lefevre Peninsula, adjacent to the subject site in the suburbs of North Haven and Largs Bay.

Table 3: Indigenous population

	Port Adelaide - West	Greater Adelaide Region	South Australia	Australia
Non-indigenous	93.3%	94.9%	93.7%	91.9%
Aboriginal and/or Torres Strait Islander	3.0%	1.8%	2.4%	3.2%
Not stated	3.8%	3.4%	3.9%	4.9%

Source: ABS Census 2021.

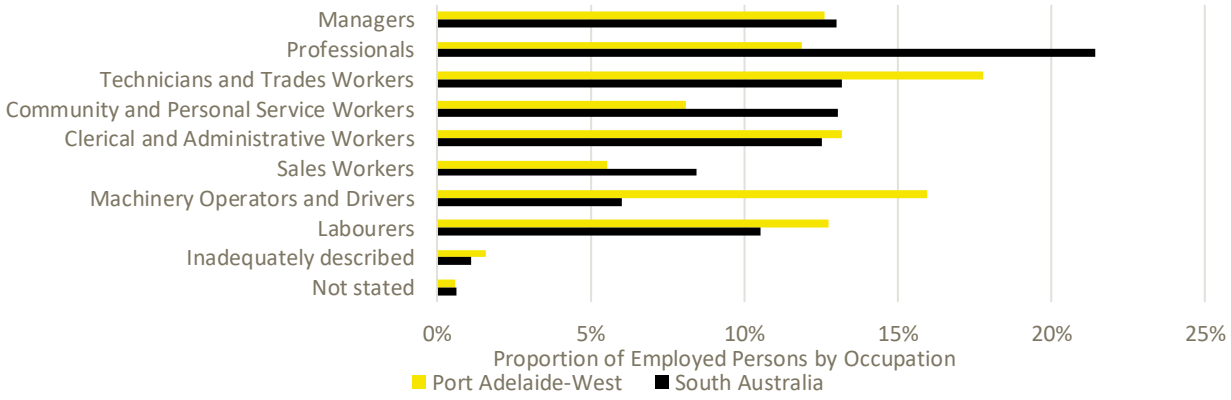
2.4 Labour Force

2.4.1 Employment by Occupation

Figure 5 sets out the proportion of employed persons in the Port Adelaide – West SA3, compared to South Australia. The data shows that:

- Port Adelaide-West has a significantly higher proportion of technicians and trades workers, machinery operators and drivers, and labourers, highlighting the *blue-collar* nature of the region's workforce and the reliance of the local economy on relatively unskilled labour.
- Professionals are significantly underrepresented in the region, with only 12% of the resident workforce employed in a professional occupation, compared to 21% across South Australia. Once again, this reflects the nature of the local economy, though also highlights the opportunity associated with the provision of well-paid professional jobs on the Lefevre Peninsula.

Figure 5: Proportion of Employed Persons by Occupation, Port Adelaide – West and South Australia, 2021



Source: ABS Census 2021 via Tablebuilder.

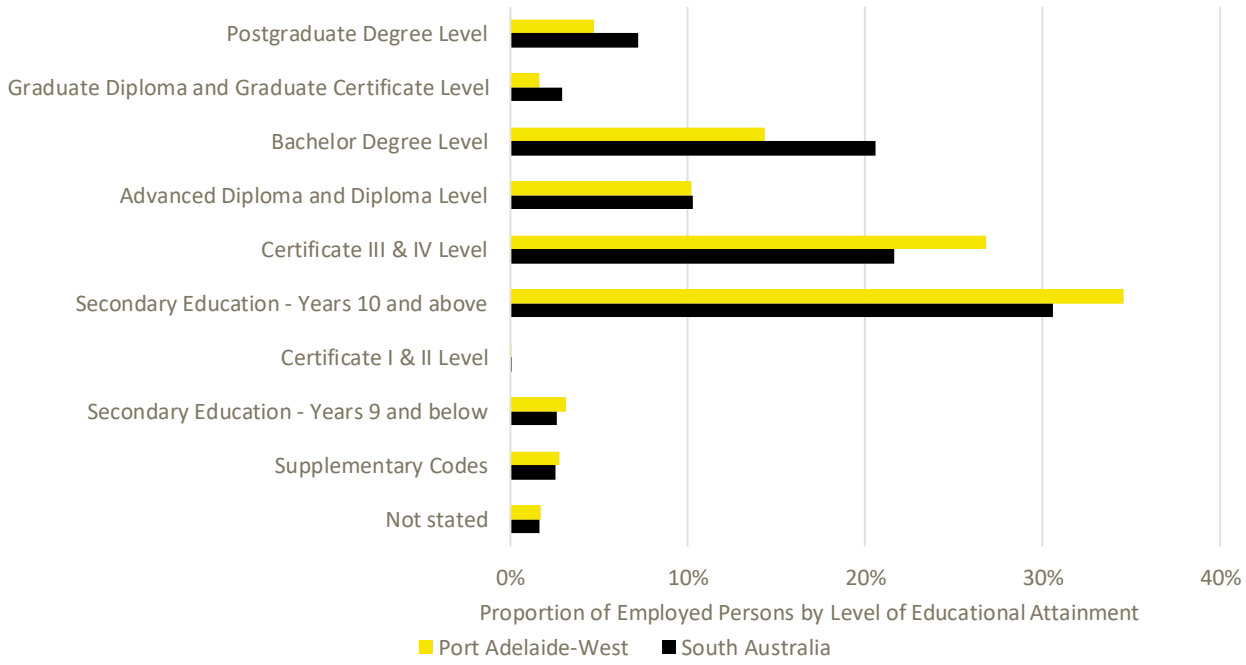
2.4.2 Educational Attainment

Figure 6 sets out the proportion of employed persons by level of educational attainment in the Port Adelaide – West SA3 and South Australia. Generally, the Port Adelaide-West workforce has a lower level of educational attainment, with the proportion of workers with a bachelor's degree or higher significantly lower than for South Australia.

Once again, this reflects the nature of the regional economy, with a significant quantity of the region's businesses associated with manufacturing, freight and logistics, and urban services.

Many aspects of the construction and manufacturing of the submarines will be easily managed by the local workforce. There are many other tasks, however, that will require higher order skills of the type normally associated with tertiary-educated workers. These workers will tend to command higher salaries and have high expectations in regard to residential amenity when seeking a place to live. Whilst some will opt to live locally (for example on the western side of the Lefevre Peninsula), others will take advantage of Adelaide's relatively efficient road network and choose to live in other, more affluent parts of the Adelaide. The extent to which workers choose to live locally will depend on a range of factors, including the extent to which urban and centre renewal is able to be delivered across the region in the coming decade.

Figure 6: Proportion of Employed Persons by Level of Educational Attainment, Port Adelaide-West and South Australia, 2021



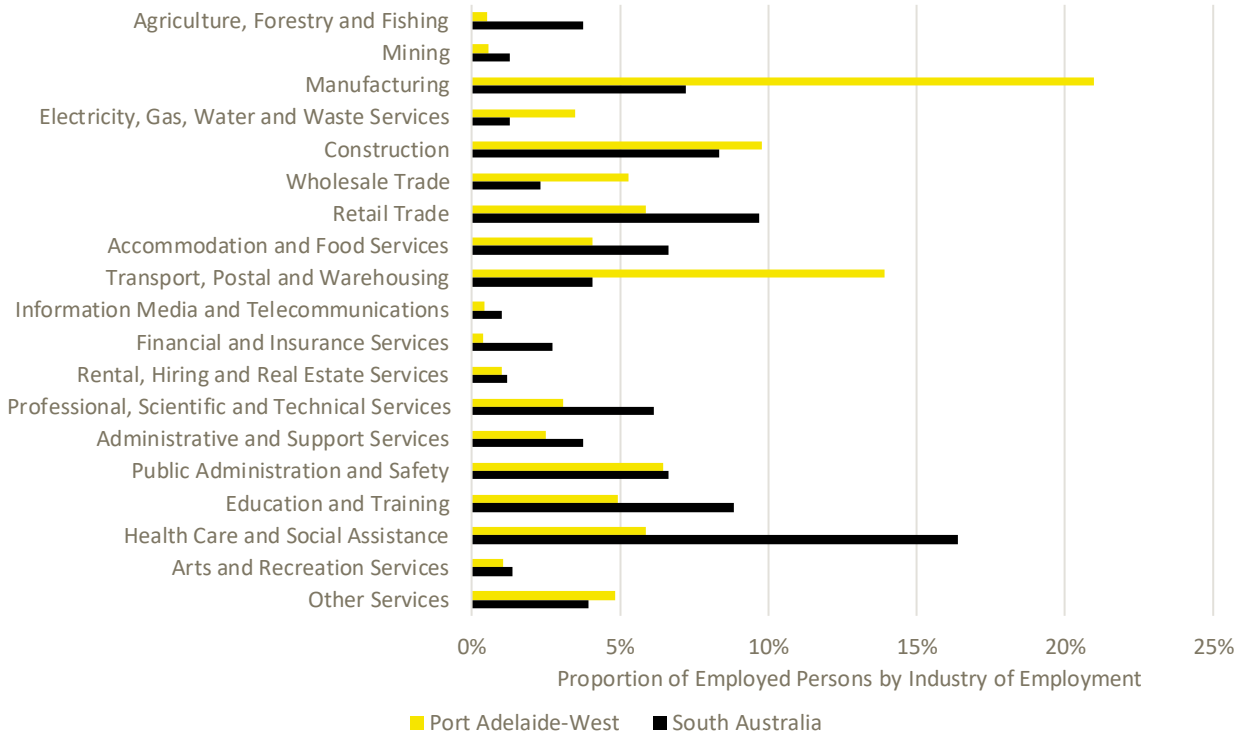
Source: ABS Census 2021 via Tablebuilder.

2.4.3 Employment by Industry

A review of employment by ANZSIC reveals that the Port Adelaide-West SA3 has a relatively large share of jobs in traditionally blue-collar industries, like manufacturing; construction; energy, gas water and waste services; and transport, postal and warehousing (Figure 7). Key insights include:

- Manufacturing jobs account for 21% of jobs in Port Adelaide-West, compared to just 7% in South Australia, demonstrating the importance of manufacturing to the local economy,
- Employment shares for electricity, gas, water and waste services; construction; wholesale trade; and transport, postal and warehousing are notably higher in Port Adelaide-West than in the state as a whole,
- The share of the population employed in higher skilled industries, including professional, scientific and technical services; financial and insurance services; and health care and social assistance is very low.

Figure 7: Proportion of Employed Persons by Industry of Employment, Port Adelaide – West and South Australia, 2021



Source: ABS Census 2021 via Tablebuilder.

2.4.4 Labour Force Participation Rate

The labour force participation rate has increased between 2016 and 2021 for the local, regional and state economies (Table 4). This is commensurate with the rest of Australia, and is largely reflective of:

- higher female labour force participation rates
- economic forces necessitating longer stays in the workforce and later retirements
- a shift towards more part-time work, which is available to more people.

Table 4: Labour Force Participation Rate

	2016	2021
Port Adelaide - West	56.7%	59.6%
Greater Adelaide Region (regional)	58.9%	61.0%
South Australia (state)	58.3%	60.0%

Source: ABS Census 2021 and 2016.

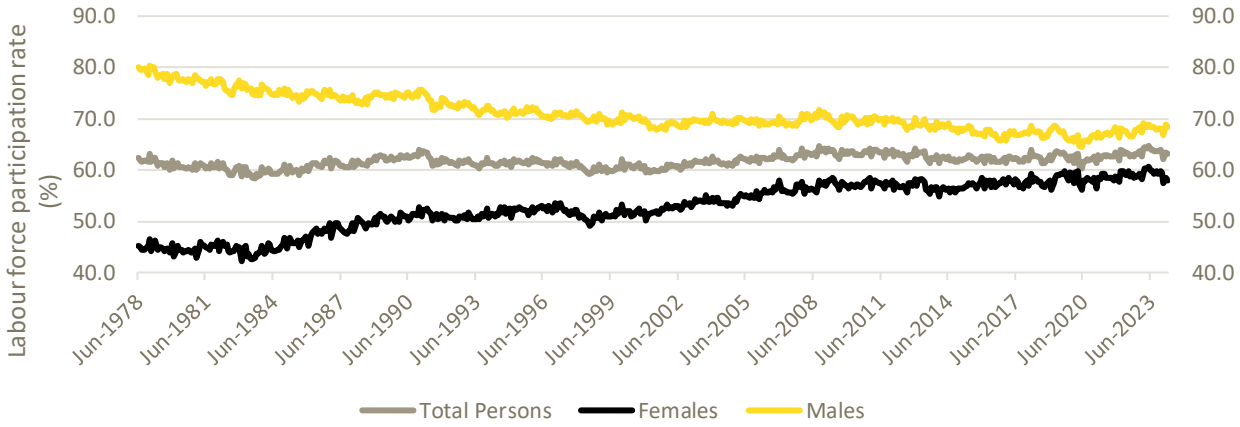
Figure 8 sets out the change in labour force participation rate in South Australia between 1978 and 2023.

Although the total labour force participation rate has been relatively consistent since the late 1970s, underlying this long-term aggregate effect are opposing developments for males and females. The male participation rate has been declining steadily, falling almost 10 percentage points, from around 80% to under 70%. This decline has been offset by changes in the female labour force participation rate, which has increased significantly.

In the context of worker shortages, the decline in male participation in the labour force is particularly significant for

traditionally male-dominated industries like manufacturing; construction; and transport, postal and warehousing.

Figure 8: Historical labour force participation rate, South Australia



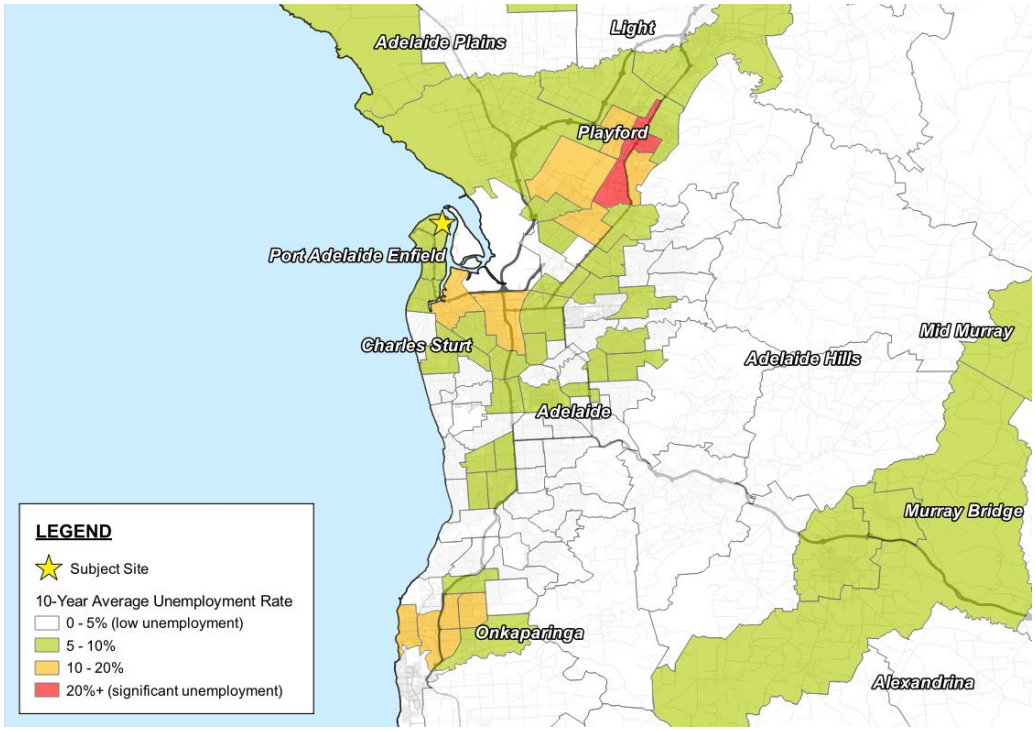
Source: ABS Labour Force Data by State, Time Series.

2.4.5 Unemployment rates

Figure 9 displays the 10-year average unemployment rate for SA2s in the Adelaide area.

There is a significant band of SA2s towards the western portion of Adelaide (around the subject site) experiencing a 10-year average unemployment rate higher than the average. This indicates inefficiencies in the region, which the SCY may go some way to alleviate, as it will provide long-term employment opportunities and promote population growth in the surrounding areas.

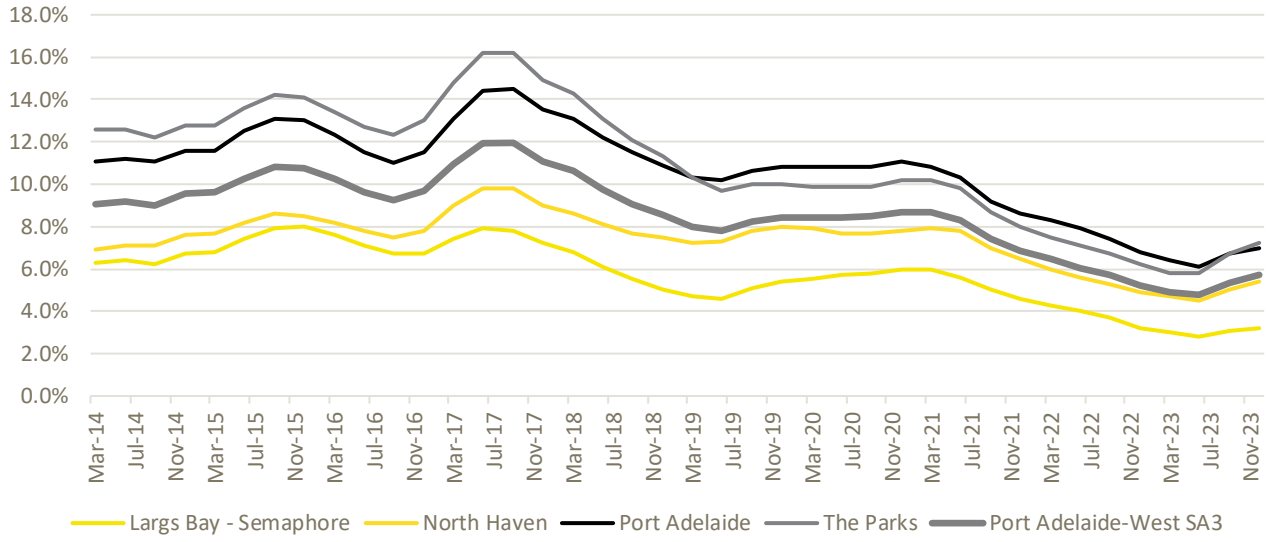
Figure 9: 10-Year Average Unemployment Rate by SA2, 2013 to 2023



Source: Small Area Labour Markets data, Jobs and Skills Australia, TSA Management.

Further insight is gained through analysis of Small Area Labour Market (SALM) data. This data shows that unemployment is greatest in the eastern part of the Port Adelaide-West SA3, with Port Adelaide and The Parks experiencing significantly higher unemployment than the western part of the SA3, on the Lefevre Peninsula and adjacent to the coast.

Figure 10. Unemployment rate, Port Adelaide-West SA3 and constituent SA2s, 2014-2023



Source: Small Area Labour Market data

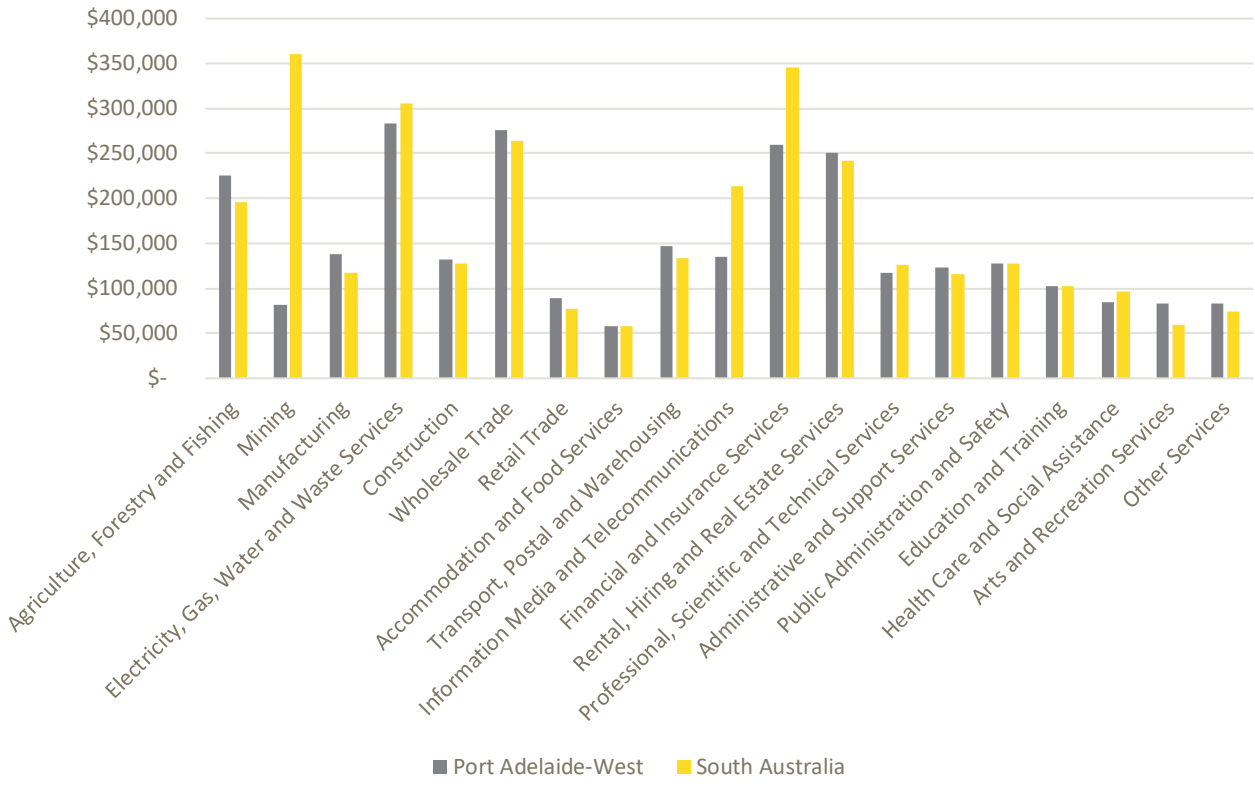
2.4.6 Worker productivity

Figure 11 sets out the average worker productivity (in terms of value added per worker) for each of the ANZSIC categories for Port Adelaide-West and South Australia.

The data reveals that the four sectors most closely associated with industrial lands, i.e., manufacturing, construction, wholesale trade, and transport freight and logistics are all more productive in Port Adelaide than they are across the rest of South Australia. This reflects economies of agglomeration (with a large number of similar and related businesses located in close proximity), access to freight corridors and trade gateways, and blue-collar labour pools.

These outputs highlight the region's competitive advantage in construction and manufacturing activities, demonstrating the value of supporting manufacturing in the Port Adelaide-West region.

Figure 11. Worker productivity ($/worker) by industry, Adelaide and South Australia, 2021



Source: TSA Management

2.5 Summary

This section sets out key demographic and labour force data for the local region (the Port Adelaide-West SA3), comparing the local situation where relevant to the regional and state situation. The demographic analysis finds that large swathes of the Port Adelaide West-SA3 are relatively socioeconomically disadvantaged, with low household incomes reflecting a local worker population that is less likely than the average South Australian to have tertiary qualifications, and far more likely to work in traditionally blue-collar industries, like manufacturing, construction, and transport, postal and warehousing. Parts of the local region have traditionally experienced very high levels of unemployment, particularly regions to the south and east of the Port Adelaide centre.

The regional economy has been shaped by its access to key freight corridors (Port River Expressway, and North South Corridor), intermodal terminals, and trade gateways. These factors make the region an important location for businesses that benefit from access to global markets, typically those involved in the manufacture of goods, and the transportation, storage and distribution of goods (imports and exports).

3. Socio-economic analysis

3.1 Approach summary

One of the more commonly used and highly regarded approaches to socioeconomic appraisal is cost benefit analysis (CBA). The approach is mandated as part of business cases, applications for public funding, and regulatory impact assessments.

CBA is concerned with understanding the impact of a proposal on the net welfare of a community, taking into consideration key financial, social, economic and environmental benefits and costs. In this case, CBA aims to address the question of whether the aggregated benefits flowing to the South Australian community outweigh the costs, and ultimately conclude whether the proposal is worthwhile from the perspective of the South Australian community.

In this chapter, given the lack of clarity around the costs associated with both the construction and manufacturing (production) phases, we propose an alternate analysis tailored to the circumstances in which this analysis is being undertaken. This approach draws on CBA techniques, though adopts alternate approaches to the assessment of socioeconomic impact where necessary.

3.2 Assumptions

In informing this analysis and the subsequent EIA (see section 4), TSA has made a range of assumptions. Those most critical to the ensuing analysis are set out in the table below.

Table 5. Key assumptions

Assumption	Parameter	Source
Discount rates (real, nominal)	3.45%, 6.13%	SA Treasury (CAPM method)
Displacement during construction phase (per annum)	90%	TSA estimate
Displacement during manufacturing phase (per annum)	50%	TSA estimate
Average annual FTE employment in SA (manufacturing phase)	4,000	Lower bound of range set out in Submarine industry and workforce | Australian Submarine Agency (asa.gov.au)
SA community share of total construction and manufacturing cost	5.58%	Based on SA economic contribution to national economy (National accounts, 2023)

3.3 Base case vs project case

Central to economic appraisal is the imperative to assess the *incremental* implications of a course of action. For this reason, it is critical to develop clear *base* and *project cases*. The base case is understood as the counterfactual scenario which would prevail in the absence of the intervention, where the project case refers to the set of outcomes expected to emerge as a result of project implementation.

3.3.1 Base case

The base case represents a scenario in which the SCY is not built on the Lefevre Peninsula. Under this scenario, a continuation of existing economic trends is assumed.

3.3.2 Project case

Under the project case, we assume that the construction of the SCY infrastructure progresses, ultimately facilitating the development of new nuclear-powered submarines. In developing this scenario, the team has been hampered by a lack of clear information around future costs associated with the construction of the SCY, and ongoing manufacturing activities at the site. Utilising the information at hand, we have made a number of assumptions to inform our analysis. Our approach to setting out the project case, and the assumptions underpinning it, are set out below.

Construction phase

Budget Forward Estimates show that a significant quantity of government expenditures will be invested in Australian industry and the workforce, with a large proportion of this linked to the development of infrastructure in South Australia.[1]

We recognise that not all of this activity would be *incremental*, and that a large share of construction phase activity is likely to crowd out activities which would otherwise occur in the South Australian economy. This crowding out is likely to be witnessed for a number of reasons.

Firstly, national rates of unemployment are historically low, with the rate for South Australia in March 2024 estimated at 3.8%.[2] This rate is below what would be widely regarded as the rate of full employment, suggesting (among other things) a highly constrained labour market.

Secondly, there is a large amount of construction activity set to occur in coming years, with a significant quantity of public works expenditure competing for construction resources (see Figure 12). At the same time, the SCY will compete with unprecedented demand for housing and commercial construction.

That said, the long lead in time associated with the SCY means that many firms will have been able to invest in the expansion of their local productive capacity, with the result that a portion of SCY activity does not crowd out activity elsewhere in the economy. For the purposes of this assessment, we assume that 90% of construction activity would crowd out activity that would have otherwise occurred within South Australia.

Manufacturing phase

The Forward Estimates state that around $3 billion in manufacturing activities are expected to occur across South Australia and Western Australia, though acknowledge once again that full project costs are at this stage unclear.

In order to understand the scale of manufacturing activities likely to occur in South Australia, we draw on publicly available information provided by the Australian Submarine Agency which notes that "building and sustaining nuclear-powered submarines in Australia will create up to 8,500 direct jobs in the industrial workforce", and further, that "4,000-5,500 direct jobs are expected to be created to build nuclear-powered submarines in South Australia". Based on these figures, it is likely that more than 50% of the manufacturing workforce will be located in South Australia.

For similar reasons as set out above, it is estimated that activities at the site would crowd out a significant quantity of economic activity. For the purposes of our assessment, we assume that around 50% of manufacturing workers at the site would be deployed elsewhere in the South Australian economy under a counterfactual scenario.

[1] Industry and workforce factsheet, Australian Submarine Agency

[2] Labour Force, Australia, March 2024 | Australian Bureau of Statistics (abs.gov.au)

3.4 Summary of project costs and benefits

Table 6 summarises the incremental costs and benefits linked to the SCY.

Table 6: Summary of costs and benefits

COSTS	BENEFITS
Financial	
Capital costs*	-
Ongoing costs*	-
Economic	
-	Economic surplus
-	Productivity benefits
-	Residual asset value (unquantified)

* Unknown

Source: TSA Management

3.4.1 Project costs

The following section summarises the costs which will be incurred as a result of the project. Although these costs can be spoken about in general terms, their ultimate scale is unknown at this stage.

Capital Costs

Costs associated with construction of the SCY are estimated at $2 billion over the forward estimates, though the construction phase is expected to endure beyond this timeframe. To understand the cost of this construction incurred by the South Australian community, we calculate the state's contribution to Federal revenues (5.58%). Applying this share to the aforementioned forward estimate, the South Australian community's share of the total cost of the SCY is an estimated $111.67 million over three years.

Ongoing costs

The overall cost of the program to the Federal Government is not known at this stage. To understand the share of this cost attributable to the SA community, and therefore the net community benefit implications, we estimate that 56% of manufacturing/ maintenance activities associated with the program are carried out in South Australia.

Once again, the share of ongoing costs borne by the South Australian community are assumed to be 5.58% - a figure in line with South Australia's contribution to national revenues.

3.4.2 Project benefits

The following benefits will be generated by the regional community as a result of the construction of the SCY, and the subsequent manufacturing phase.

Economic surplus

As a result of activity associated with the SCY, economic surpluses will be generated within South Australia. This surplus will be generated across both the construction and manufacturing phases. Our approach to estimating the

annual value of these surpluses is described below.

Construction phase

To understand how construction benefits the South Australian community, we test the impacts of $1 billion in construction activity, applying a construction industry value added rate of 31.9%, and assuming that the bulk of construction activity at the site (90%) will *crowd out* activity that would otherwise have occurred in South Australia.

This approach demonstrates that, for $1 billion in construction expenditures, just under $32 million in economic surplus will be generated within the South Australian community. It is important to reinforce that only 5.58% of this $1 billion total (or $55.8 million) will in effect be borne by the South Australian community.

Table 7. Economic surplus per $1bn in expenditure – construction phase

	Parameters/ outputs
A. Construction expenditure	$1 billion
B. Value added share (construction sector)	31.9344%
C. Share of activity crowding out other construction sector activities	90%
D. Economic surplus per $1 bn in project expenditures – A x B x (1-C)	$31.934 million

Source: TSA Management

Manufacturing phase

In the section below, we estimate the net community wellbeing impacts of $10 billion in manufacturing phase expenditure.

For a given amount of manufacturing phase expenditure, only a proportion of activity will be *new* to the state, with some share of activity at the site displacing manufacturing activities elsewhere in the state. A portion will have a crowding out effect on other manufacturing activities, and around half will displace manufacturing elsewhere in South Australia.

Key assumptions and parameters are set out in Table 8 below, which reveals that for every $10 billion in manufacturing phase expenditures, an estimated $1.332 billion in economic surplus will flow to the state community.

Table 8: Key assumptions and parameters, manufacturing phase

	Parameters/ outputs
A. Manufacturing expenditure	$10 billion
B. Value added share (manufacturing sector)	26.6463%
C. Share of activity crowding out other manufacturing sector activities	50%
D. Economic surplus per $1 bn in manufacturing expenditures – A x B x (1-C)	$1,332.315 million

Source: TSA Management

Productivity benefits

Skill development among South Australia's workforce is critical to the state's long-term economic and employment growth, with ongoing enhancement of the state's skill base essential to support productivity gains and help South Australian industry to compete effectively in the national and global market.

In particular, Australia must develop high level skills to meet the needs of new technology industries where growth is expected to be strongest, as well as enhancing skills to encourage further growth in existing industries.

Development of the state's skills base can be secured in two ways: through formal education and training programs (i.e., tertiary and vocational training) and through *on-the-job* experience.

The project has a specific focus on workforce training. This training provides important *positive externalities*, with other parts of the South Australian economy potentially benefiting when SCY workers transition to new roles in new sectors. In this way, the broader South Australian economy will derive an alternate stream of benefits as a result of skilled workers moving into different sectors and benefitting those businesses.

Research carried out in 2020 by Deloitte[3] looked into the private market benefits in the form of lifetime benefits; and public market benefits, including high earnings for other workers in the economy and induced investment (i.e., productivity). The research showed that whilst individuals benefited individually from education, the larger share of total benefits were public. It found that the net present value (NPV) of private market benefits was estimated at $142,000, while the public market benefits were estimated at $172,000 in NPV terms.

A 2015 study by Chapman and Lounkaew sought to estimate the public market benefits of education in Australia, positing a range of between $10,600 and $16,000 (equivalent to $13,800 and $20,900 in 2024) for every additional year of higher education.[4]

To support activities at the SCY site, tertiary institutions in South Australia and elsewhere in Australia are engaging with industry to ensure the availability of skilled workers to support the program. In addition, the Federal Government is assisting with the future worker pipeline, having announced in late 2023 its intention to support "the allocation of an additional 4,001 Commonwealth supported places in STEM courses".[5]

In addition to those that gain formal qualifications, there will also be a focus on vocational training with Federal Government making clear its intention to "attract, recruit, develop, qualify and retain a highly skilled trades, technical, scientific and engineering workforce".[6]

To monetise the productivity benefits of higher education, we assume that additional places are made available (as per the aforementioned Federal Government announcement) for the duration of the program. We also assume that

[3] The importance of universities to Australia's prosperity (universitiesaustralia.edu.au)
[4] Chapman, B and Lounkaew, K 2015, 'Measuring the value of externalities from higher education', Higher Education, 70(5), 767–785
[5] Additional university places to grow Australia's AUKUS workforce | Defence Ministers
[6] https://www.minister.defence.gov.au/media-releases/2023-03-14/aukus-submarine-workforce-and-industry-strategy

aforementioned 4,001 places are offered over a four-year period, and that each student spends an average of four years in higher education.

Drawing on the findings of the Chapman and Lounkaew study, we assume that productivity benefits equivalent to $17,300 (the midpoint of the range) are generated for every year spent in higher education. This amounts to $69.22 million in productivity benefits per annum.

Note that this figure can be regarded as conservative given that productivity benefits linked to on the job and vocational training are not counted as part of this figure.

The present value of these benefits over the evaluation period is $1,181.30 million

Residual value

The term *residual value* refers to the value of the SCY infrastructure at the end of the evaluation period. It is assumed that, at the end of 2057, the SCY would have some remaining value, in accounting for asset depreciation over the project life. This means that the asset would have a *residual value* at the end of the evaluation period, linked to its potential to generate benefits beyond the evaluation period, whether through this or alternate uses.

3.5 Breakeven analysis

For this analysis, we test the sensitivity of the findings relating to consumer surplus – for both the construction and manufacturing phases – to changes in assumptions around the crowding out of economic activity elsewhere in the economy.

3.5.1 Construction phase (rate of crowding out)

The above analysis shows that, with only 10% of jobs linked to the construction phase regarded as *new jobs*, around 57 cents are returned to the community in the form of economic surplus.

Breakeven analysis shows that the construction phase alone would *break even* from a socioeconomic perspective if the share of activity crowded out were reduced to 82.5%.

Table 9: Breakeven analysis, construction phase

	Project case
Core analysis	
Assumed rate of crowding out during construction phase	90.0%
Socioeconomic return for every dollar spent	$0.572
Breakeven analysis	
Breakeven rate of crowding out during construction phase	82.5%
Socioeconomic return for every dollar spent	$1.00

Source: TSA Management.

3.5.2 Manufacturing phase (rate of crowding out)

For manufacturing, with an estimated 50% of jobs associated with project construction regarded as *new jobs*, around $2.38 is returned to the community in the form of economic surplus, suggesting any level of manufacturing associated with the project would deliver a clear benefit, regardless of any other benefits.

Breakeven analysis shows that the manufacturing phase alone would *break even* from a socioeconomic perspective if the share of activity crowded out were no more than 79.1%. In other words, so long as more than 20.9% of new manufacturing jobs were *new* jobs and did not crowd out activity elsewhere in the state, the manufacturing phase in isolation of all other project elements would deliver a net welfare benefit to the South Australian community.

Table 10: Breakeven analysis, construction phase

	Project case
Core analysis	
Assumed rate of crowding out during manufacturing phase	50.0%
Socioeconomic return for every dollar spent	$2.38
Breakeven analysis	
Breakeven rate of crowding out during construction phase	79.1%
Socioeconomic return for every dollar spent	$1.00

Source: TSA Management

3.6 Conclusions

The above analysis identifies and describes the net community welfare benefits associated with the SCY, and subsequent manufacturing activities enabled at the site. The ultimate purpose of this analysis is to understand the extent to which the proposal would generate a net improvement in the community's wellbeing.

With the scale of construction and manufacturing investment unknown, we have undertaken an assessment of the net welfare benefits for every $1 billion and $10 billion in construction investment and manufacturing investment respectively. These are summarised below.

Consumer surplus

It is estimated that, for every $1 billion in works on the SCY, a total of $31.594 million in economic surplus will be generated. Of this cost, an estimated $55.8 million will be contributed by the South Australian community, with the remainder provided by the communities of other states and territories. This means that, for the construction phase alone, around 57.2% of the construction cost borne by the South Australian community will be returned in the form of construction profits and wages.

If the *crowding out* figure was to reduce to 82.5% for the construction phase, the state community would 'break even' from a socioeconomic perspective.

For every $10 billion in manufacturing phase expenditures, an estimated $1,332.315 million in economic surplus will be generated within South Australia. Of this total project spend, only 5.58% - or $558 million – will be contributed by

the community of South Australia. This means that for every dollar of manufacturing phase expenditure provided by the South Australia, around $2.39 will be returned to the community in the form of economic surplus.

Based on this assumption, manufacturing delivers a significant welfare benefit to the state community. This net benefit would eventuate as long as more than 20.9% of jobs were *new* jobs.

The principal reason for this strong result is the fact that more than 94% of the total project cost will be borne by those living outside of South Australia. This means that, even accounting for the crowding out of activity elsewhere in the economy, both the construction and manufacturing phases will deliver substantial economic surplus. The benefit linked to economic surplus (i.e., profits and wages) is likely to represent the bulk of aggregate benefits associated with the project.

Productivity benefits

We estimate the value of public benefits (e.g., positive externalities, primarily associated with increased productivity) associated with a more educated local population. With more than 4,000 graduates to be educated in STEM courses as part of efforts to build the skill base within the local community, a more educated workforce can be expected to generate significant productivity benefits for the broader community.

For the more than 4,000 additional degree holders, the quantum of productivity benefits accruing to the South Australian economy over the life of the project amount to $69.2 million per annum, or $1.181 billion over the project life. This figure is likely to be small in comparison to total project benefits.

Residual value

At the end of 2057, the SCY would have significant remaining value, though with the total cost of the SCY unknown, it is not possible to calculate the value of the SCY at the end of the evaluation period.

4. Economic impact assessment

Economic impact assessment (EIA) is a form of economic analysis that quantifies the impacts of economic shocks (e.g. large-scale government investment) across industries, providing an estimate of the direct and indirect effects of expenditure in the economy, and accounting for the ways in which different industries interact within a regional economy.

4.1 Economic Impact Assessment and the regional I-O model

In this chapter, we model the impacts of construction and manufacturing activity on the economy of South Australia using an input-output (I-O) model of the state economy. I-O models provide static representations of local economies, allowing practitioners to communicate how activity within one or a number of sectors triggers activity in other parts of the economy, and overall.

The following types of impact are captured and expressed as part of an EIA:

- **Direct Impact.** The initial impact caused by changes in final demand for goods and services produced by a particular sector. These impacts relate to the sector directly impacted and are generally equivalent to the value of the input.
- **Production induced impact.** The secondary effects resulting from changes in the demand for goods and services from other sectors, triggered by production associated with the direct impact. In this case, these might relate to activity induced in sectors servicing the submarine manufacturing sector, including the manufacturing of steel and other materials, or professional services.
- **Consumption induced impact.** The tertiary effects resulting from wages and salaries paid to those employed wither directly or indirectly as a result of the initial investment. It reflects changes in consumption patterns of households due to change in income levels.

These are typically presented as either *type 1 impacts* (i.e., direct and production induced), or *type 2 impacts* (i.e., direct, production induced, and consumption induced).

4.1.1 A note on limitations of I-O models

Economic Impact Assessment that draws on I-O models of regional economies should be treated with some caution. I-O models are complex and based on real-world data, modelling thousands of relationships between different industries in a given region. Nonetheless, they make a number of simplifying assumptions which mean they tend to *overstate* the impacts of projects on economic activity and employment within a region.

I-O models are static models that assume fixed, linear relationships between industries that are unlikely to occur in a real-world economy. For example, they fail to consider the reality of diminishing returns as inputs from one sector to another increase. In addition, they assume a limitless supply of labour and capital across all sectors, with the model failing to properly account for the constraints that are regularly a feature of capital and labour markets, particularly in South Australia in 2024.

Further, outputs are often misused with impacts commonly interpreted as *net* increases in employment or labour. As alluded to above, I-O models fail to adequately account for costs or trade-offs linked to investment, so should not be used to assess the *net welfare implications* of a proposal; that is, whether it represents a worthwhile expenditure of public funds.

4.2 Our approach

4.2.1 Assumptions

Table 11 sets out the assumptions underpinning our approach.

Due to the absence of information of the cost of SCY construction and manufacturing phases, our analysis presents the impacts associated with every $1 billion and $10 billion in construction and manufacturing expenditure respectively.

For modelling of the construction phase, our analysis assumes that 90% of the SCY construction value will be 'crowded out' – i.e., that capital and labour inputs required for the SCY will be redirected away from other parts of the economy. We expect lower levels of crowding out in the early stages of the manufacturing phase (50%), and that these will steadily decline over time. In the longer run, we would expect the level of crowding out to reduce to zero as the South Australian economy adjusts.

We therefore test the impact of a net impact of $100 million to the construction sector. The calculations adopted to arrive at this figure are set out in the table below.

To assess the impacts of investment in the manufacturing phase, we model and summarise impacts in the early stages of the project, in which the level of crowding out is estimated to be 50%. We therefore test the impact of a net impact of $5 billion to the manufacturing sector. The calculations adopted to arrive at this figure are set out in the table below.

Table 11: Assumptions for the construction phase of the project, as inputs to the I-O model

Assumptions	**Value**
Construction Phase	
Baseline value of construction	$1 billion
Activity displaced	90%
Construction impact	*$100 million*
Manufacturing Phase (later stage)	
Baseline value of manufacturing	$10 billion
Activity displaced (later stage)	50%
Manufacturing impact (later stage)	*$5 billion*

4.3 Results

4.3.1 Construction Phase

Output

The analysis finds that a net direct increase in construction impact of $100 million would generate demand for intermediate goods and services valued at $102.8 million, reflecting a *Type 1 output multiplier* of **2.028**.

Consumption induced impacts are estimated at $52.1 million for every $1 billion invested. This reflects a *Type 2 multiplier* of **2.549**.

Table 12. Impact on economic output for every $1 billion spent, construction phase

	TOTAL
A. Direct impact	$100 million
B. Production induced impact	$102.82 million
C. Consumption induced impact	$52.1 million
D. Total impact (A + B + C)	**$254.92 million**

Source: Remplan, TSA Management

Value Added

Net construction expenditures of $100 million are expected to generate direct value added of $27.63 million, with a further $36.52 million in production induced activity generated. This reflects a *Type 1 value added multiplier* of **2.322**. Including consumption induced effects, the project can be expected to have a further impact on value added of around $26.69 million.

Total value-added – including all direct, supply-chain and consumption effects – is estimated to increase by up to $90.84 for every $1 billion of construction activity invested, reflecting a *Type 2 value added multiplier* of **3.288**.

Table 13. Impact on wages and salaries for every $1 billion spent, construction phase

	TOTAL
A. Direct impact	$27.63 million
B. Production induced impact	$36.52 million
C. Consumption induced impact	$26.69 million
D. Total impact (A + B + C)	**$90.84 million**

Source: Remplan, TSA Management

Employment

As a result of a $100 million expenditure in construction, an additional 197 direct jobs would be created, with a further 261 linked to businesses providing inputs to those involved directly in the construction effort. Spending of wages and salaries will result in a further 162 jobs, with most of these likely to be linked to the provision of population services.

For each $1 billion invested, an estimated 619 jobs will be created annually. This reflects a *Type 2 employment multiplier* of **3.151**, meaning that an estimated 2.151 full-time equivalent jobs will be created for every person employed directly in the construction phase.

Table 14. Impact on employment for every $1 billion spent, construction phase

	TOTAL
A. Direct impact	197
B. Production induced impact	261
C. Consumption induced impact	162
D. Total impact (A + B + C)	**619**

Source: Remplan, TSA Management

Wages and Salaries

It is estimated that the impact for every $1 billion spent on construction will result in direct wages and salaries increasing by an estimated $27.63 million, with production induced impacts leading to a further boost in wages and salaries of $19.99 million. This reflects a *Type 1 wages and salaries multiplier* of **2.331**.

Through expenditure of workers' salaries and wages, a second round of economic impacts will be induced. This consumption induced activity will result in further expansion of wages and salaries by $10.80 million. This reflects a *Type 2 employment multiplier* of **3.05**.

Table 15. Impact on wages and salaries for every $1 billion spent, construction phase

	TOTAL
A. Direct impact	$15.02 million
B. Production induced impact	$19.99 million
C. Consumption induced impact	$10.08 million
D. Total impact (A + B + C)	**$45.81 million**

Source: Remplan, TSA Management

4.3.2 Manufacturing phase

As stated above, there is a lack of certainty regarding manufacturing cost estimates. Therefore, for the purposes of this Report we model the impacts of $10 billion in manufacturing expenditure on the South Australian economy, noting that the total project spend is likely to be multiples of this figure.

It is assumed that in the early years of the manufacturing phase, some activity elsewhere in the State will be crowded out as the SCY competes with others for scarce labour and capital resources. Our modelling assumes a crowding out figure of 50% in the early manufacturing phase, in recognition of Government efforts to commit resources to education and training, as well as to attract workers from outside of South Australia. Over time, these crowding out effects could reduce to zero as the State economy adjusts and investments in training and skills development take full effect.

The analysis shown below presents the impacts of the manufacturing stage during the early phase of manufacturing - i.e. when crowding out is estimated at 50%. These impacts would double in the later stages of the project in the event crowding out disappear over time.

Output

The analysis finds that a net direct increase in manufacturing of $5 billion would generate demand for intermediate goods and services valued at $2.94 billion, reflecting a *Type 1 output multiplier* of **1.588**.

Consumption induced impacts are estimated at $1.46 billion for every $10 billion invested. This reflects a *Type 2 multiplier* of **1.883**.

Table 16. Impact on economic output for every $10 billion spent, manufacturing phase

	TOTAL
A. Direct impact	$5 billion
B. Production induced impact	$2.94 billion
C. Consumption induced impact	$1.46 billion
D. Total impact (A + B + C)	**$9.42 billion**

Source: Remplan, TSA Management

Value-added

The direct value-added impact of a net direct increase in output of $5 billion is estimated at $843.19 million.

Production induced activity is estimated at $1.13 billion, reflecting *Type 1 value-added multiplier* of **2.343**. The consumption included effects are expected to have a further impact on value-added of around $755.5 million.

Total value-added, including all direct, supply-chain and consumption effects is estimated to increase by $2.73 billion for every $5 billion of additional construction activity, reflecting a *Type 2 value-added multiplier* of **3.239**.

Table 17. Impact on value added for every $10 billion spent, manufacturing phase

	TOTAL
A. Direct impact	$843.19 million
B. Production induced impact	$1.13 billion
C. Consumption induced impact	$755.5 million
D. Total impact (A + B + C)	**$2.73 billion**

Source: Remplan, TSA Management

Employment

As a result of a $5 billion additional manufacturing expenditure, 6,010 direct jobs would be created, with a further 6,520 linked to businesses providing inputs to those involved directly in the construction effort. Spending of wages and salaries will result in a further 4,579 jobs, with most of these likely to be linked to the provision of population services. Overall, an estimated 17,109 jobs will be created. This reflects a *Type 2 employment multiplier* of **2.847**, meaning that an estimated 1.847 full-time equivalent jobs will be created for every person employed directly in submarine manufacturing.

Table 18. Impact on employment for every $10 billion spent, manufacturing phase

	TOTAL
A. Direct impact	6,010
B. Production induced impact	6,520
C. Consumption induced impact	4,579
D. Total impact (A + B + C)	**17,109**

Source: Remplan, TSA Management

Wages and Salaries

It is estimated that the impact for every $5 billion in additional manufacturing expenditure will result in direct wages and salaries increasing $497.68 million. Production induced impacts lead to a further boost in wages and salaries of $492.7 million. This reflects a *Type 1 wages and salaries multiplier* of **1.990**.

Through expenditure of workers' salaries and wages, a second round of economic impacts will be induced. This consumption induced activity will result in further expansion of wages and salaries by $305.58 million. This reflects a *Type 2 employment multiplier* of **2.604**.

Table 19. Impact on wages and salaries for every $10 billion spent, manufacturing phase

	TOTAL
A. Direct impact	$497.68 million
B. Production induced impact	$492.7 million
C. Consumption induced impact	$305.58 million
D. Total impact (A + B + C)	**$1.296 billion**

Source: Remplan, TSA Management

4.4 Impact summaries

This section sets out summaries of the impacts of the project, showing how economic output and employment are impacted by expenditure on the construction of the SCY and subsequent manufacturing phase.

Including the direct, production induced, and consumption induced impacts, for every $1 billion invested in the construction of the SCY:

- $254.92 million will be generated in total output
- 619 jobs will be supported
- $45.81 million in wages and salaries will be generated
- $90.84 million in value-added will be generated.

Including the direct, production induced, and consumption induced impacts, for every $10 billion invested in the manufacturing phase of the project:

- $9.415 billion will be generated in total output
- 17,109 jobs will be supported
- $1.296 billion in wages and salaries will be generated
- $2.731 billion in value-added will be generated.

Over time, the impacts of the manufacturing phase of the project summarised above could double in value in the event there is no crowding out of other activity in the economy.

It is important to note that, in order to conduct this impact modelling, we have made a set of assumptions around the availability of labour and capital, as well as around capacity within industries servicing the SCY. In arriving at our assumptions, we recognise that the State is already taking important steps to boost the size and skill-base of the local workforce through migration and upskilling of locals. We assume that these efforts continue, and moreover that they are fruitful.

The modelling highlights the scale of economic and employment benefits available to the State, should a sufficiently sized and skilled workforce become available within the state, and should the shape and structure of the local economy adapt in order to efficiently provide inputs to activities occurring at the Lefevre Peninsula.

Whilst the outputs highlight the importance of worker attraction and retention, it is also important to make clear their contingency, with the realisation of these impacts dependent on effective efforts to build the local workforce and economic base.

5. Assessment of other impacts

5.1 Overview

The SCY is likely to have significant and far-reaching impacts on the economies of Adelaide's outer northwestern suburbs, the metropolitan region, and South Australia. Likely economic impacts for the State, regional and local economies are addressed in this section, with a focus on the following:

- **Employment and labour force impacts**, with consideration given to both the construction and manufacturing phases. For each phase, we review:
  - labour force requirements and opportunities, and
  - likely employment impacts and key risks.
- **Effects on accommodation supply and demand**
- **Land requirements and potential impacts**, and
- **Implications of not proceeding with the development**

5.2 Employment opportunities and labour force impacts

This section reviews employment opportunities and likely labour force impacts across the construction and manufacturing phases of the development.

5.2.1 Construction phase

Labour force requirements and opportunities

The ASA estimates that a peak of around 4,000 local workers will be required to design and build the infrastructure for the SCY.[7]

Given labour constraints, which are particularly acute in the construction sector, the bulk of construction jobs over the will likely be associated with the displacement of employment which would otherwise have occurred in other parts of the State. As such, in net terms, the development is likely to create relatively little new employment and may lead to delays for construction projects elsewhere in South Australia.

The shortage of construction sector workers highlights the importance of attracting skilled workers from other parts of Australia and overseas in the short and medium terms.

The development is also likely to create significant local and indigenous employment opportunities. Notably, given the constraints in the local construction sector, any mandatory requirement to source inputs from local suppliers may in fact result in delays and excessive costs, and therefore be contrary to the interests of the South Australian community.

That said, ANI has a strong commitment to maximising local content in the delivery of its projects. Local contractors and suppliers are sourced and used where possible, and ANI and its contractor partners advertise work package opportunities through the Industry Capability Network (ICN). ANIs Osborne South Development Project (OSDP) achieved more than 97% engagement of local contractors.

ANI and its contractor partners are also committed to supporting the engagement of indigenous businesses and individuals. This commitment supported the award of contracts worth more than $14 million to indigenous owned businesses on the OSDP. The Australian Government sets minimum requirements to support indigenous participation in the delivery of high-value Commonwealth contracts. Consequently, ANI and its contractor partners will be required to target 3% to 4% participation for employment (against the contract or at organisation level) and/or supply use.[8]

[7] See Submarine industry and workforce | | Australian Submarine Agency (asa.gov.au)

[8] See https://www.niaa.gov.au/sites/default/files/publications/ipp-mandatory-minimum-indigenous-participation-requirements-factsheet.pdf

Assuming peak construction phase employment of 4,000, achieving this target could deliver at least 160 indigenous jobs for the construction of the SCY – representing a significant opportunity for the local indigenous population. Efforts to contract indigenous people who are disengaged from the labour market will ensure that this participation is meaningful, and not simply a reallocation of productive indigenous workers from other South Australian projects.

Net employment impacts and risks

The following key risks are associated with the SCY.

- **South Australia already has a significant infrastructure pipeline which will compete for resources with the SCY**

A large amount of construction activity is set to occur in coming years in South Australia, with a significant quantity of public works expenditure likely to compete for construction resources. In addition, with a critical shortage of housing across the State, there is an underlying need for high levels of housing construction. This activity is planned to occur in the context of historically low unemployment and considerable and persistent skills shortages, with works on the following major infrastructure projects (among others) expected to be undertaken over coming years:

  - The River Torrens to Darlington (T2D) Project, North-South Corridor – ($9.9 billion).
  - New Womens and Childrens Hospital ($3.2 billion).
  - The Tram Grade Separation Projects ($400 million).

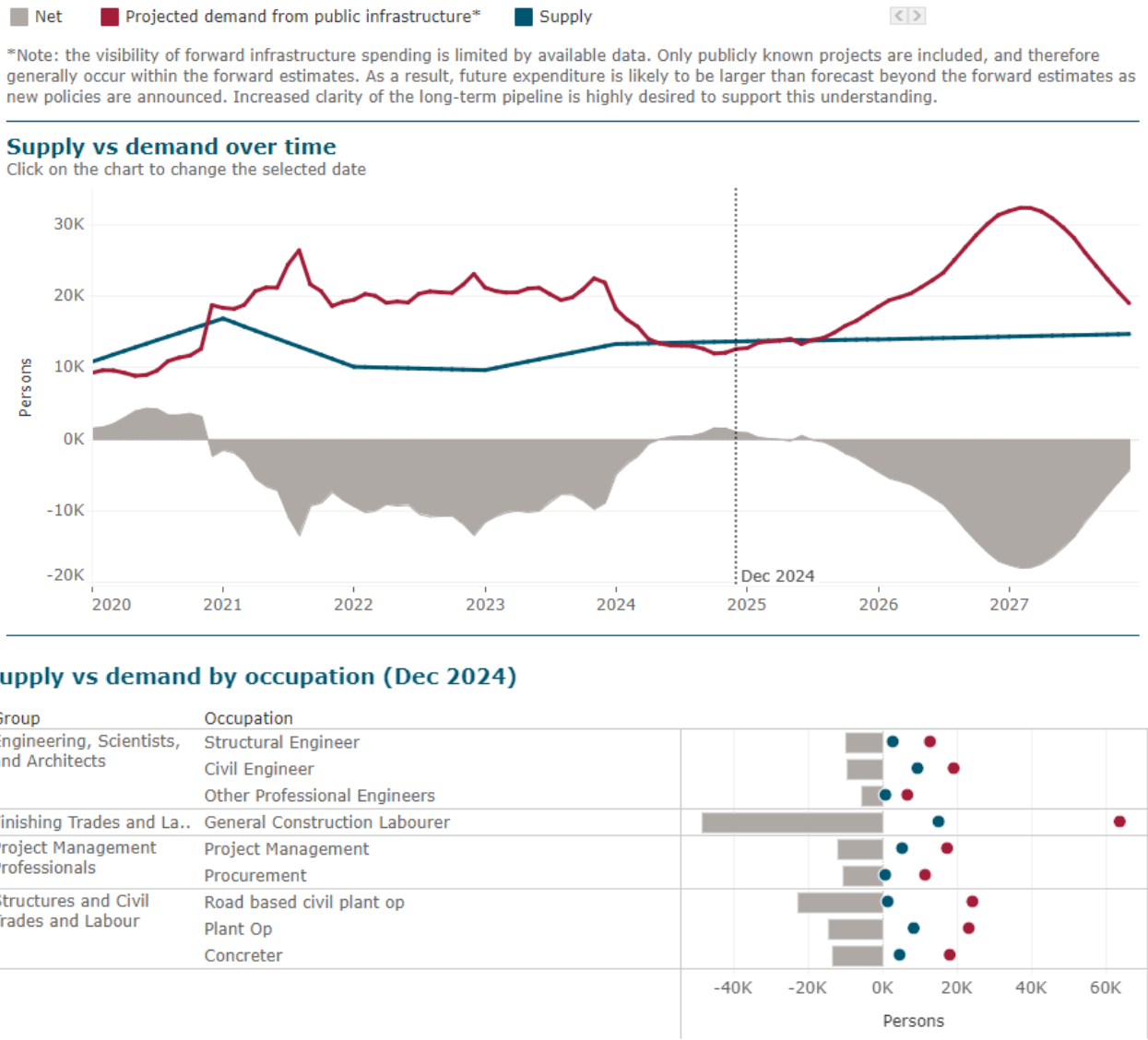
It should also be borne in mind that with many new workers expected to be attracted to the State to work on the development, the development itself will drive further requirements for housing across Greater Adelaide.

- **South Australia is suffering from a lack of skilled workers**

South Australia is already facing persistent skill shortages with 351 occupations currently experiencing shortages, up from 149 in 2021 – including those skills required for the design and construction of the SCY.[9] Skills shortages are particularly severe for general construction labourers, project management professionals, concreters, and structural and civil engineers (Figure 12).

[9] See https://skills.sa.gov.au/assets/uploads/downloads/skillsHub/SkillsPolicyDirection2024.pdf

Figure 12: South Australian skills shortages



Source: Public Infrastructure Workforce Supply Dashboard | Infrastructure Australia (accessed 14 May 2024)

Whilst it is recognised that the South Australian Government and Australian Government has in place a range of ongoing and new initiatives that seek to address skills shortages, these will take some time to deliver results. These initiatives include:

- Australian Apprenticeships Incentive System.
- Fee-Free TAFE initiative.
- New $12.6 billion five-year National Skills Agreements signed off in January 2024 that includes support to skills sectors to deliver skills for critical and emerging industries including advanced manufacturing skills, national security, food security and construction.

The challenging situation in South Australia is reflected nationally, with the 2023 Skills Priority List[10] demonstrating that 50% of occupations within the broader *technicians and trade workers* category, 36% within the *labourers* category, and 34% within the *machinery operators and drivers* category deemed to be experiencing shortages. In

[10] JSA report template (jobsandskills.gov.au)

regard to skill level, the same report shows that the national skills shortage is greatest in the 'Level 3' category, which is most associated with vocational activities.

Specifically in relation to the construction occupation subgroup, the report states that 100% of construction related occupations were experiencing shortages. In relation to this sector, it claims that - *"even if the construction sector was to see a significant downturn, many construction roles would likely still be in shortage. The fill rates[11] for construction-related occupations are often among the lowest in the labour market and have declined significantly from 54% in the 2020–21 financial year to 29% in 2022–23. Further the number of both qualified and suitable applicants per vacancy have also declined during the same period."*

Summary

The evidence suggests that the design and building of the SCY would compete for the same workers with a range of other major infrastructure projects. This, combined with the fact that initiatives aimed at addressing skills shortages will take some time to produce dividends, it is reasonable to expect that the vast majority of the local workforce required for the design and building of the SCY will 'crowd out' jobs elsewhere in the economy. As set out in section 3, we assume that 90% of the workforce would have been employed elsewhere in the South Australian economy in the absence of the development.

Another important consequence of a development such as this during a construction worker shortage is that the cost of labour contracts is likely to be pushed up, further reducing the viability of private investments across the metropolitan region. The inability to mobilise construction sector resources as needed also has the potential to result in construction delays.

The broader economic risks associated with the design and construction of the SCY therefore include:

- reduced private sector investment including to housing construction (with resulting negative social impacts associated with housing shortages and rising housing costs)
- delays and/or higher costs incurred on other public infrastructure works.

These risks could be minimised through ongoing active management of the public infrastructure works pipeline by the South Australian Government and Australian Government to smooth labour and material demands. In addition, concerted efforts to attract construction workers from interstate and overseas will reduce risks to the SCY and the economy overall. Investment of resources to contract and train disengaged working aged indigenous residents should also be considered to ensure benefits to indigenous communities are maximised.

5.2.2 Manufacturing phase

Labour force requirements and opportunities

South Australia already possesses an established world-class maritime industry base and highly skilled workforce. Building on this established base, the Australian Submarine Agency estimates that between 4,000 and 5,500 direct jobs must be filled to build nuclear-powered submarines when the SCY reaches peak activity in 20-30 years' time.[12] The manufacturing phase of the development requires both manufacturing and knowledge-intensive workers, requiring a mix of vocationally and tertiary-training employees.

As with the construction phase, at least 160 direct indigenous jobs could be created as the selected submarine builders (ASC Pty Ltd and BAE Systems) and contracting partners would seek to achieve a 4% indigenous employment target. Once again, ensuring appropriate resources are invested into bringing disengaged indigenous community members into the workforce presents an opportunity to create lasting change.

The EIA set out in the previous section highlights the potential benefit to the State over the course of the manufacturing phase. The result of a $5 billion direct impact associated with submarine manufacturing on regional supply chains in significant, with an estimated $2.94 billion in additional activity as a result of manufacturing activities at the SCY. This reflects a *Type 1 output multiplier* of **1.588**. The spending of wages by those directly and indirectly employed as a result of the project would then generate an additional $1.46 billion. This clearly represents an

[11] The share of advertised vacancies that are successfully filled.

[12] See https://www.asa.gov.au/sites/default/files/2023-06/IndustryWorkforce-Factsheet.pdf

enormous boost to the State economy. The extent to which the State is able to fully grasp it, however, depends on the State's ability to minimise the crowding out of activities elsewhere in the economy as a result of activity on the Lefevre Peninsula.

The EIA also demonstrates the opportunities associated with production induced and consumption induced impacts. Production induced impacts relate to activities of the firms that will supply intermediate inputs in relation to activities at the SCY. The analysis demonstrates the importance of ensuring that the firms supporting activities at the SCY are supported in order to leverage the full benefit of these impacts for the community of South Australia.

Consumption-induced impacts relate to the expenditures made by workers at the SCY and supporting businesses in retailers, hospitality businesses, and local service providers. These expenditures will be made in activity centres across metropolitan Adelaide, though the northwestern suburbs are likely to take an outsized share. This reinforces the importance of maintaining a high quality and accessible network of centres, to ensure that physical, South Australian based businesses are able to capture this expenditure, rather than online retailers, many of whom are based outside of South Australia and pay no local taxes or rates.

Net employment impacts and risks

By the time the SCY reaches peak activity, there is a strong prospect that the entire 4,000 to 5,500 direct jobs required will represent net additional employment (i.e. no displacement of other jobs in the economy). Success in securing the skilled labour required for the SCY without displacing activity elsewhere in the economy will be highly dependent on the success of various policies and investments in training and skills development under way both generally (see section 5.2.2 above) and specifically for the SCY including:

- establishment of the Skills and Training Academy to develop Australia's workforce to build and sustain our nuclear-powered submarines ($68 million over seven years beginning 2024-25), encompassing the Shipbuilding Employment Pathways initiative, a training program on material testing, and customised bridging and aptitude testing programs for welders
- embedding Australian military and civilian personnel with the UK and US Navies
- expansion of the Defence Industry Pathways Program to include pathways into the nuclear-powered submarine program
- launch of an ASA Nuclear Graduate Program aimed at attracting high-performing graduates from STEM or nuclear-related discipline
- extension of the School Pathways Program, promoting career pathways and opportunities within the defence industry
- 3,000 scholarships for students studying undergraduate STEM courses relevant to the nuclear-powered submarine program
- $33.5 million over six years from 2024–25 for initiatives to enhance domestic industry and workforce capacity
- $17.2 million in 2024–25 to expand Australian industry participation in the nuclear-powered submarine supply chain.

The availability of skilled labour for the construction of nuclear-powered submarines may also be assisted by reductions in labour demands associated with continued declines in other traditional manufacturing and traditional mining over time.

The construction of submarines has benefits not just for the submarine building industry but also for the broader economy. The supplies and services from other industries that support the submarine construction contribute to economic activity in those sectors, and the flow on of employees spending their income further supports the local economy (the 'consumption effect').

Given the continuous nature of the nuclear-powered submarine building program, it is expected that industry will have the confidence to invest to support submarine construction (including development of supply chains), subject to the success of government supported skills development and training initiatives and the timely release of land and provision of supporting infrastructure.

Drawing on the multipliers reported in section 4, based on ASAs estimate of a peak of at least 4,000 direct manufacturing jobs and assuming no crowding out, a further 6,400 jobs would be expected to be created. Of those further 6,400 jobs, 3,960 would be associated with directly supplying or servicing the SCY ('supply chain effect').

Historical modelling undertaken for the now superseded Department of Defence 2017 Naval Shipbuilding Plan indicated that the direct and indirect jobs expected would be split roughly equally between local (South Australian) and national (rest of Australia). Assuming a similar distribution of jobs for the SCY, it can be expected that of the peak 10,400 direct and indirect jobs created, around 5,000 of them can be expected to be created in South Australia.[13]

Another key risk linked to the construction is the fact that the site is distant from the most affluent parts of the Adelaide metropolitan region. For relatively skilled (and high earning) workers with want to live in these suburbs, this can mean a long drive, which detracts from the appeal of a career at the Lefevre Peninsula. ABS data suggests that only 15% of professional and managerial workers at the Australian Submarine Corporation (based at Osborne) lived in the Port Adelaide-West SA3, with a further 17% choosing to live in Charles Sturt. The remainder travelled from other parts of Adelaide, with a sizeable share travelling more than 30 minutes in each direction in order to live in their preferred location. One way of mitigating this risk is to support urban regeneration in the Port Adelaide-West region, with the Port Adelaide centre a candidate.

Summary

The Jobs and Skills Australia 2023 Skills Priority List suggests that manufacturing is not presently facing a worker shortage in South Australia. That said, there are recognised worker shortages in NSW, Queensland, and Western Australia, suggesting that nationwide the market is relatively precarious. Further, given the need for manufacturing workers from around 2028, there is a possibility that worker shortages will be experienced in the sector, potentially impacting project timing and cost.

There is therefore a pressing need to support training and worker attraction programs to ensure that an adequately sized- and skilled workforce is able to be attracted to the SCY site, without displacing significant amounts of activity from other similar and related businesses across the Greater Adelaide region.

5.3 Effects on accommodation supply and demand

The Lefevre Peninsula is not traditionally a location that supports significant levels of tourist or business-related visitation. As a result, the region's accommodation offer is relatively under-developed. To accommodate temporary spikes in workforce requirements, and other business-related travel, an adequate supply of hotel rooms and serviced apartments will be important.

Details on the current supply and demand balance of accommodation in Adelaide are summarised in Table 20.

Table 20. Adelaide accommodation supply and demand (2022-23)

	Demand	Supply	Occupancy rate
Accommodation (exc. serviced apartments)	2,298,000	3,208,000	71.6%
Serviced apartments	403,000	562,000	71.7%
TOTAL	**2,701,000**	**3,770,000**	**71.6%**

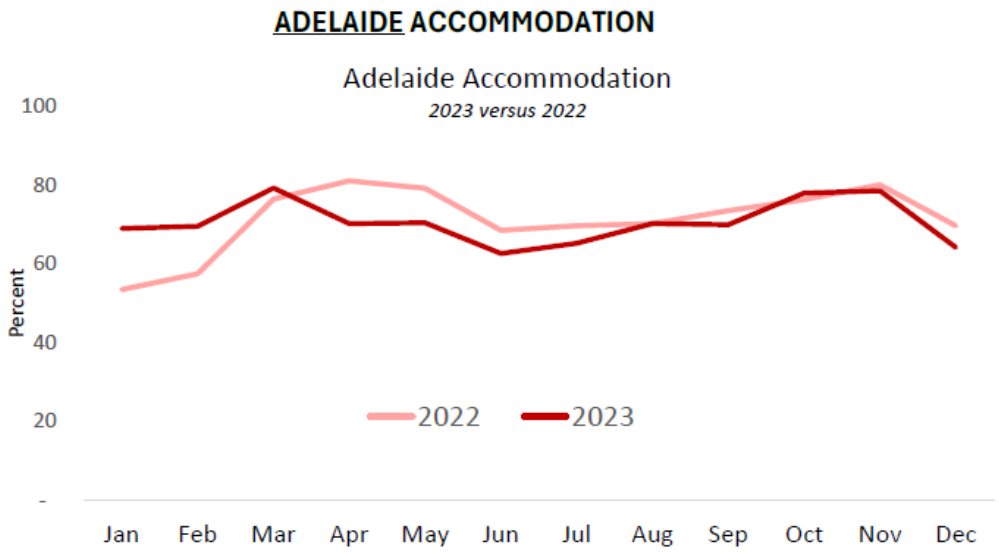
Source: Australian Accommodation Monitor – Summary 2022-23 (STR, 2023)

Adelaide hotels were operating at an average of 71% occupancy in calendar year 2023, in line with 2022 occupancy

[13] See defence-briefing-note-oct17.pdf (pwc.com.au)

rates. This is a relatively healthy occupancy rate and compares favourably to national figures of 70.9% in 2019, and 66.5% in 2023.[14]

Figure 13: Adelaide accommodation occupancy rates by month



Source: South Australian Accommodation Summary (South Australian Tourism Commission, 2023)

Figure 13 above reveals that occupancy tends to peak in spring and autumn, with dips over the summer months and during winter.

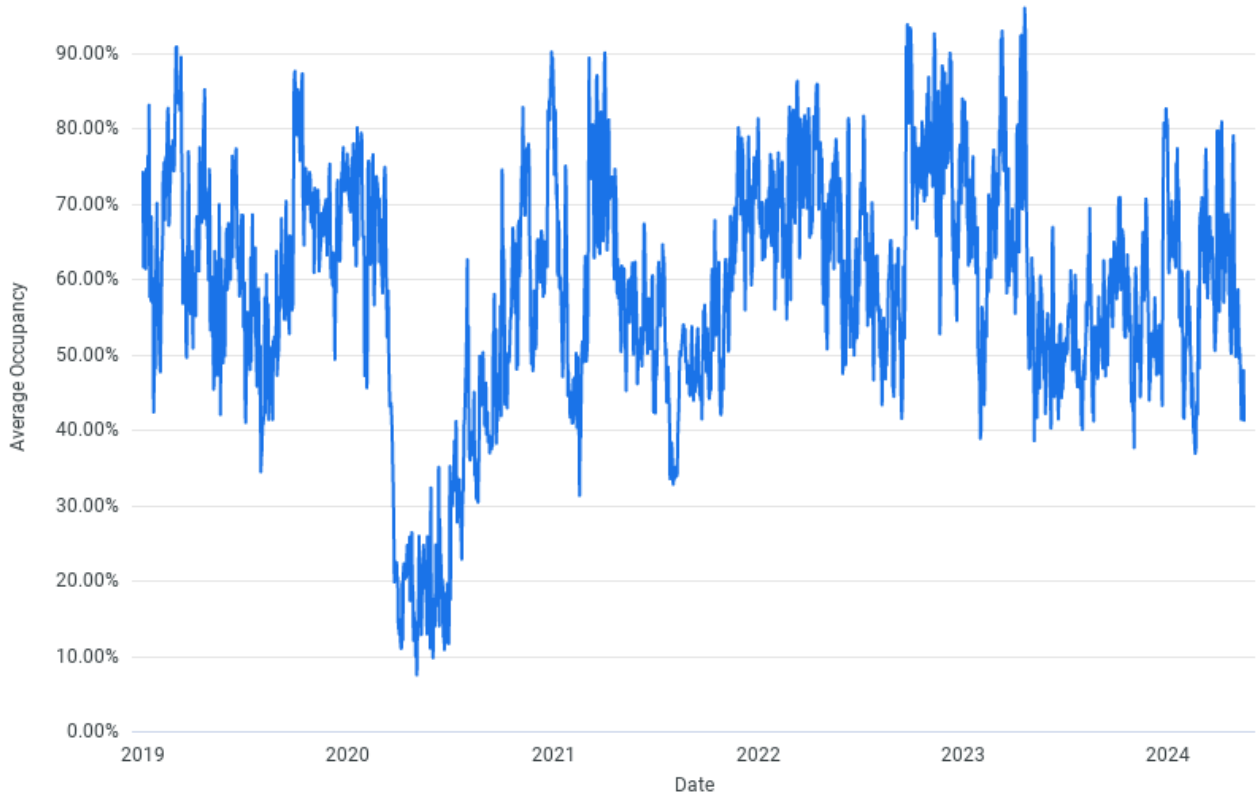
During 2023, supply increased by 600 room nights (0.8% increase). Looking ahead, there exists a strong pipeline of new hotel supply driven by growth in events and conference attraction and the State's focus on major events and tourist attraction (e.g., LIV Golf, Gather Round). Whilst broadly the Adelaide accommodation market appears capable of absorbing the accommodation needs of the temporary workforce requirements for the SCY, it is important to note that the subject site is over 20 kilometres by road and a more than 30-minute commute from the Adelaide CBD.

The Port Adelaide Enfield LGA possesses limited accommodation options. Around 110 serviced apartments (predominantly comprising Quest Apartments in Port Adelaide) are available, and the nearest hotel supplies 24 suites (5 minutes to the subject site). Local liaison activities have revealed that available serviced apartments and hotel rooms particularly on the Lefevre Peninsula are frequently heavily booked as a consequence of existing shipbuilding activities.

Data sourced from Localis for the Semaphore, Port Adelaide & Outer Harbor Wards area is charted below, demonstrating that the local accommodation market throughout 2023 was experiencing occupancy rates above the Adelaide average, peaking at over 90% on multiple occasions.

[14] State of the Industry | Tourism Research Australia

Figure 14: Semaphore, Port Adelaide & Outer Harbor Wards occupancy rates



Source: Localis (April 2024)

There exist several major approved hotel developments locally that will assist in relieving existing market pressures and in partially accommodating future demand associated with the SCY. These developments include:

- Quest II (Port Adelaide)
  - this development is due to open mid-2025 and will have 90 apartment style rooms.
- Rydges Hotel– McLaren Parade (Port Adelaide)
  - 180 rooms are proposed
  - Construction has not yet commenced
- Marine and Harbors Hotel (Port Adelaide)
  - 150 guest rooms and 10 floating river suites as part Kite development, Dock 1
  - Construction has not yet commenced

Without additional supply of accommodation and serviced apartments beyond the developments listed above, many temporary workers will endure long commutes from available accommodation elsewhere in Adelaide. In turn, this demand could crowd out growing tourism and events/conference accommodation demands in the city more broadly. To mitigate this risk, it is recommended that planning processes recently commenced in the local area consider strategies to encourage further private investment in accommodation and serviced apartments.

5.4 Supply chain opportunities

South Australian firms and workers are well positioned to seize the significant supply chain opportunities presented by the project as:

- South Australia already possesses a highly skilled and capable workforce, providing a strong base for developing the highly technical skills required to build complex nuclear-powered submarines
- South Australia is already at the forefront of the nation's defence, space and maritime industries

Opportunities are not just limited to servicing activities at the SCY, with opportunities also extending to local servicing of nuclear submarine construction across Australia's AUKUS partners.

To this end, in January 2024 the Defence Industry Vendor Qualification Program was launched. With the assistance of AUKUS partners, the Qualification Program aims to reduce barriers and streamline processes to support the entry of South Australian and Australian products into the UK and US supply chains. Once qualified, companies will be well-positioned to contribute to international supply chains, working with UK and US industrial partners.

The Qualification Program is already working with 26 companies to qualify supplies across four product families to meet US supply chain requirements. The next phase will target machined parts, electrical components and medium valves. This will be followed by numerous additional phases. As each phase commences, all companies registered through an Industry Portal will receive a package outlining the details of the phase and the product families the opportunities relate to, including information on how to get involved.

5.5 Land requirements and impacts

The development is expected to impact both residential land and employment land. Prospective impacts are explored below.

5.5.1 Residential land

The SCY is located within the Port Adelaide Enfield LGA and the Adelaide West planning region, with the eastern half of the Port Adelaide Enfield LGA situated within the Inner North planning region. Given the quantity of workers involved over the manufacturing phase, the development is likely to generate significant demand for residential land, exacerbating existing challenges in regard to supply and affordability.

Population projections

The population of Port Adelaide Enfield, the Adelaide West planning region, and Greater Adelaide is expected to grow significantly in coming decades. Table 21 below summaries expected population change (using State Government's *high* series projections) across different geographies between 2021 and 2041.

The data shows that, with a lack of greenfield opportunities, and relatively low land values meaning few opportunities for infill development, the population of the region in the vicinity of the subject site is expected to grow slowly relative to that of Greater Adelaide and the state.

Table 21. Population projections for key regions, high series

	Population (2021)	Population (2041)	Average annual growth rate (AAGR)
Port Adelaide – West (SA3)	61,556	74,398	0.95%
Port Adelaide Enfield LGA	134,134	167,232	1.11%
Adelaide West	247,123	305,161	1.06%
Greater Adelaide	1,515,492	1,973,430	1.33%

	Population (2021)	Population (2041)	Average annual growth rate (AAGR)
South Australia	1,803,193	2,299,354	1.22%

Source: Planning and Land Use Services

Future supply

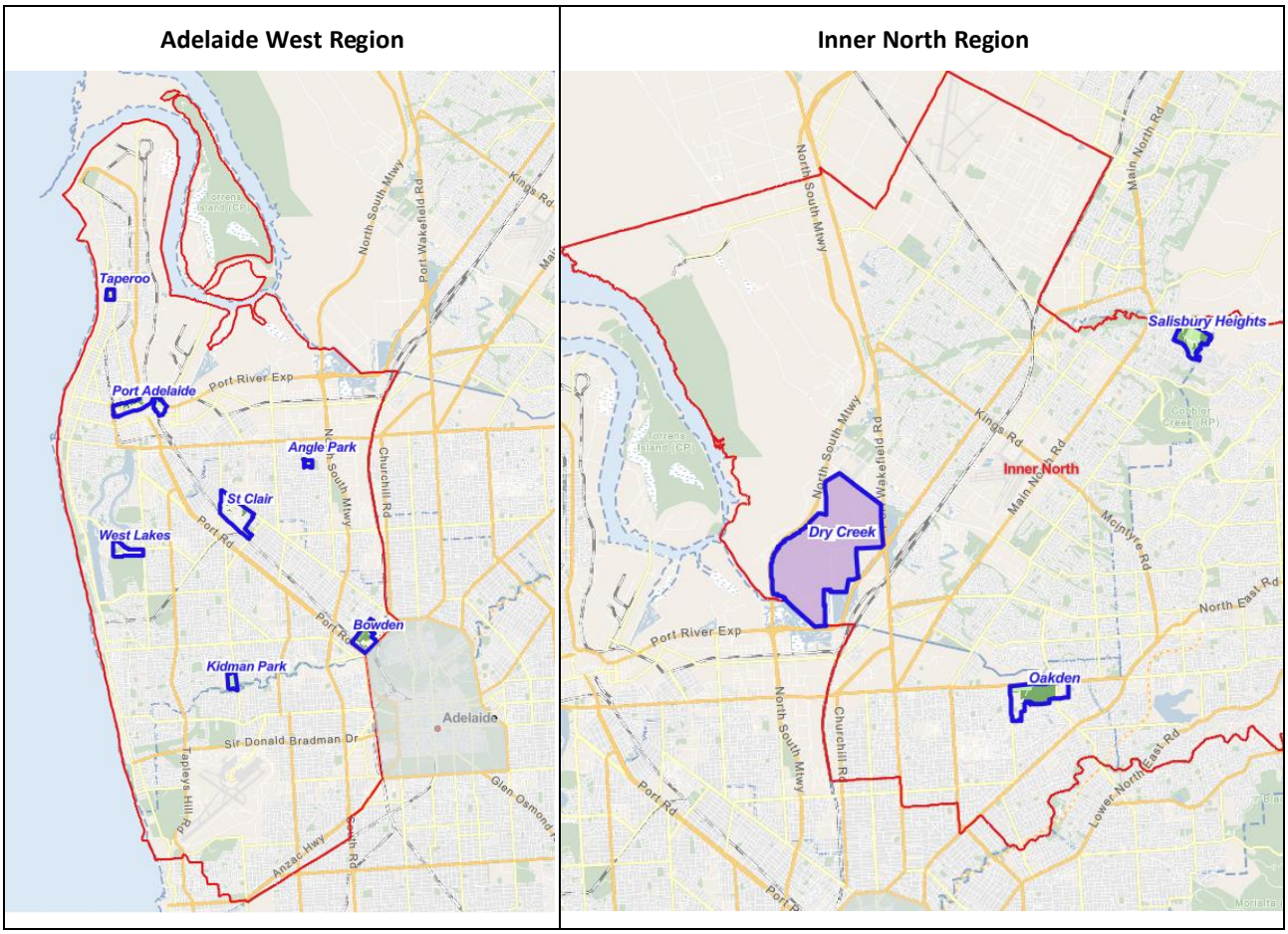
The PlanSA land supply dashboard provides details of land supply and development activity within selected greenfield and strategic monitoring areas across Greater Adelaide and provides insight into the locations in which infill development can be expected in coming years.[15] Key greenfield and strategic monitoring areas in Adelaide West and the adjoining Inner North region are mapped below followed by a summary of the identified housing supply potential in those monitoring areas.

Historically, the State has sought to meet infill housing development targets, and over the past decade around three in every four newlydeveloped dwellings have been located within the established metropolitan footprint. In the Adelaide West region, significant strategic infill opportunities have emerged through the repurposing of Cheltenham Racecourse (St Clair) and Football Park, and other urban regeneration projects at Bowden and Woodville West. In the coming decade, with (large scale) strategic infill opportunities dwindling, the State is expected to move away from infill targets as the housing development focus shifts to greenfield development.

The lack of opportunities for small and large scale infill opportunities in the west and the likely strong growth in demand for housing, particularly in the Adelaide West region, highlights the importance of supporting development of land at Dry Creek for residential purposes. This land, which requires significant investment in infrastructure and remediation in order to accommodate residential development, has a potentially major role to play in supporting opportunities for relatively affordable family housing in a location relatively accessible to the subject site.

[15] See https://plus.geodata.sa.gov.au/landsupply/index.html

Figure 15: Key greenfield and strategic monitoring areas



Source: Plan SA – Land Supply Dashboard (Dec 31, 2023 data)

The figure below is drawn from the Land Supply Dashboard, and reveals a supply of land across the Adelaide West region of 3,967 units. Assuming an average of around 2.5 residents per dwelling, this pipeline is capable of accommodating just under 10,000 new residents – significantly fewer than are projected to move to the region between 2021 and 2041.

For the Inner North, which has the potential to accommodate overflows in demand for housing, the supply situation is better, with a pipeline of more than 12,000 dwellings, largely linked to the potential for urban development on the former salt flats at Dry Creek (see above).

A breakdown of supply for each region is set out below.

Table 22: Adelaide West and Inner North – greenfield and strategic monitoring area dwelling supply potential

Suburb/ region	Development ready and proposed lots	Undeveloped zone potential	Future urban growth potential
Taperoo	192	59	-
Port Adelaide	436	250	-
St Clair	219	300	-
West Lakes	91	370	-
Bowden	101	1,400	-
Kidman Park	416	-	-
Other	133	-	-
Adelaide West (TOTAL)	**1,588**	**2,379**	**-**
Dry Creek	-	-	10,000
Oakden	233	1,207	-
Salisbury Heights	172	80	-
Other	-	-	500
Inner North (TOTAL)	**405**	**1,287**	**10,500**

Source: Plan SA – Land Supply Dashboard (Dec 31 2023 data)

Planning being undertaken for the Adelaide West region and Port Adelaide Enfield LGA assumes population increases of around 58,000 and 33,000 people respectively between 2021 and 2041[16]. As discussed above, the supply of land across each of these regions is constrained, with the existing housing supply pipeline inadequate to accommodate projected future growth.

Journey to work

Of the new workers at the SCY, not all will choose to live locally, as evidenced by journey to work data for the existing Osborne workforce. As a general principle, however, a high degree of self-containment would be considered a desirable outcome, with shorter drive times supporting broader economic efficiency and liveability outcomes.

[16] Planning and Land Use Services population projections, high series.

Presently, of the 3,609 reported workers in the Osborne Strategic Industry Area, 22.7% of those reside within the Port Adelaide Enfield LGA (Table 23) and a further 27.2% in the adjoining Charles Sturt and Salisbury LGAs. Were the Port Adelaide Enfield LGA to maintain a similar degree of self-containment with respect to the additional 2,000 direct jobs at the SCY (over and above workforce requirements associated with the Attack class program), housing needs for up to 530 new workers may not be sufficiently captured in existing land use plans.

Table 23: Osborne Strategic Industry Area - worker place of residence

LGA of Usual Residence	Workers in the Osborne Strategic Industry Area	% of total
Port Adelaide Enfield	820	22.7%
Charles Sturt	599	16.6%
Salisbury	381	10.6%
Tea Tree Gully	264	7.3%
Playford	232	6.4%
Onkaparinga	221	6.1%
Marion	166	4.6%
West Torrens	115	3.2%
Mitcham	92	2.5%
Holdfast Bay	82	2.3%
Campbelltown (SA)	80	2.2%
Adelaide Hills	76	2.1%
Elsewhere	481	13.3%

Source: ABS

Based on the above high-level analysis, the SCY will enhance existing risks of ongoing localised excess housing demand and housing cost increases. Further, pressures to accommodate new housing in a region with large quantities of strategically important industrial land and existing businesses raises the prospects of land use conflict and highlights the need for good planning. In light of the SCY development, it is therefore suggested that governments;

- Pay additional attention to the potential for infill housing and accommodation within a new Precinct Plan for the area around the Civic Centre in Port Adelaide:
  - following recent land acquisitions from Renewal SA, Port Adelaide Enfield Council started a project in March 2024 to prepare a Precinct Plan for the area around the Civic Centre in Port Adelaide. The Precinct Plan is targeted for completion in November 2024.
- Consider ways to further accelerate planning and investment in Dry Creek (see Figure 15):
  - Dry Creek strategic monitoring area offers the largest future urban growth opportunity within a comfortable commute of the proposed SCY. It has the potential for 10,000 well-located new dwellings.

More broadly, it is recommended that the work presently being undertaken in relation to the Greater Adelaide Regional Plan (GARP) recognise the need to generate new infill residential development opportunities in the Adelaide West region.

5.5.2 Industrial land

Economic drivers

The Adelaide West region with its key trade gateways, freight corridors and significant tracts of protected employment land, is the most significant region for both traditional and freight and logistic employment activities within Greater Adelaide, as set out in the 2021 Land Supply Report (Figure 16 and Figure 17).

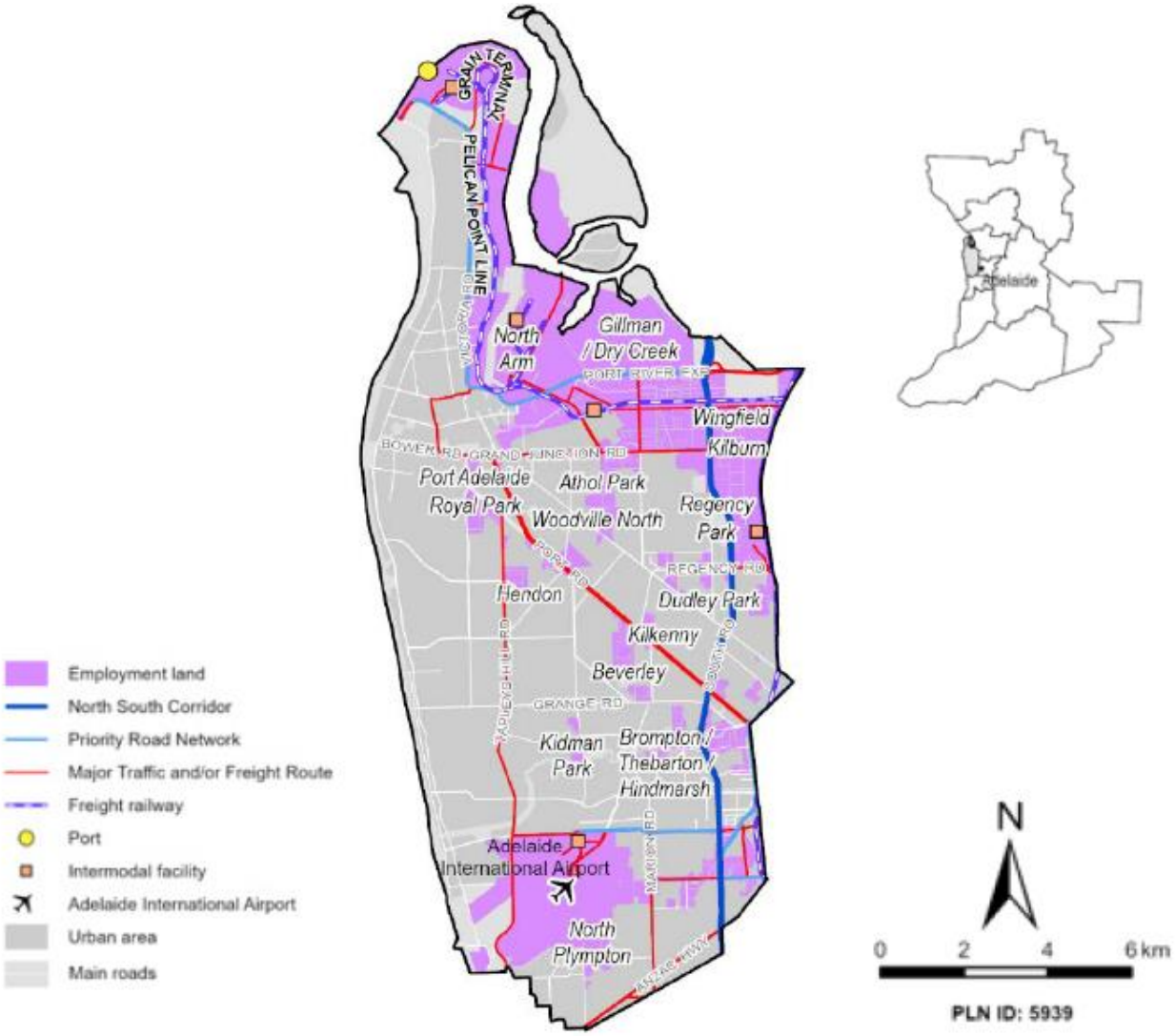
Figure 16: Employment land comparative advantage by region

REGION	STRATEGIC ACTIVITIES			POPULATION SERVING
	Traditional	Freight and Logistics	Knowledge Intensive	
Inner Metro				
Inner North				
Outer North				
Inner South				
Outer South				
West				

High comparative advantage, when compared to other regions
Comparative advantage
No comparative advantage

Source: Land Supply Report for Greater Adelaide – Part 3 Employment Land (2021, p11)

Figure 17: Adelaide West employment land overview



Source: Land Supply Report for Greater Adelaide – Part 3 Employment Land (2021, p43)

Despite having declined in significance in recent decades, manufacturing, remains a key driver of demand for land use across the Adelaide West region, accounting for roughly 20% of the employment land in 2020. There is potential for this share to increase in coming decades, predominantly due to the SCY. In June 2020, there was 3,441 hectares of occupied employment land and 797ha of vacant employment land representing 40% of all vacant employment land in the Greater Adelaide Region. In 2020, most of the vacant land was in the Gillman/Dry Creek area (308ha), Lefevre Peninsula (232ha) and North Arm (108ha). Since this time, the vast majority of the vacant land on the Lefevre Peninsula has been taken up, while significant constraints to development within North Arm and Gillman mean that the bulk of land across these precincts is not readily available.

Future demand

Modelling of regional industrial land recently undertaken by TSA for Planning and Land Use Services reveals that the supply of industrial land across the Adelaide West and Inner North regions will shortly become exhausted, with future growth likely to be accommodated in the Outer North region, where there is a significant pipeline of future employment land in the vicinity of the Northern Connector. This has potentially significant implications for the development, with the possibility that businesses supplying to activities at the SCY are unable to locate in the vicinity

of the subject site, potentially building inefficiencies into the regional economy.

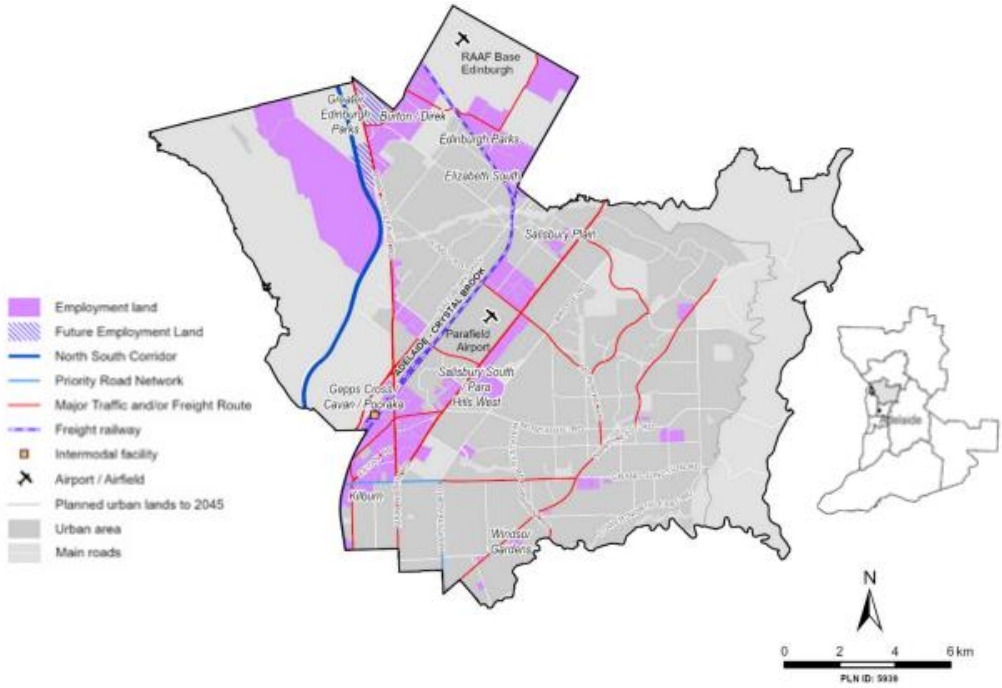
A significant proportion of the of 3,960 indirect jobs projected to support the supply or servicing of the SCY ('supply chain effect') at the peak of production may seek to be located near to the SCY. Of the 3,960 indirect jobs projected, 927 of them are in sectors that may be advantaged by locating near to the SCY such as construction services, freight and logistics, wholesale trade and manufacturing. Based on a rule-of-thumb of 1 worker per 300 square metres[17], an uplift in underlying demand for employment land of 28 hectares with good access to the SCY could be expected when activity at the SCY reaches its peak.

Given this level of additional local demand, upward pressure on employment land values is likely and some displacement of existing tenants in and near to the Lefevre Peninsula is possible to make way for new tenants that highly value or require good proximity to shipbuilding is likely to occur. To minimise displacement, excessive land value increases and to support the timely and productive servicing of the SCY, it is recommended that:

- Interventions be considered that facilitate earlier development of employment lands in the Gillman/Dry Creek precinct:
  - This land is not development ready and will require significant site works and investment in infrastructure connections.
  - Whilst rising land values may assist in triggering land investment by land developers, the extent of upfront works required may still necessitate government intervention to de-risk investment and stimulate timely land supply, including for example through funding of catalytic infrastructure.
- Strategic well-located employment land in the adjoining Inner North region (Figure 18) to be protected from rezoning for alternative uses and continue to well separated from residential development
  - The western half of the Inner North region has a number of precincts with comparative advantages in traditional employment uses as well as freight and logistics. Technology Park and Edinburgh Park are important precincts and home to defence and aerospace industries and the Burton / Direk precinct has one of the highest concentrations of employment in freight and logistics activities in Greater Adelaide.
  - Over 25% of total zoned employment land within Greater Adelaide is located in the Inner North and the region is well serviced by a range of distribution and freight networks and is well connected to the Lefevre Peninsula.
  - In 2020, 486 hectares of vacant land was identified, located predominantly in Edinburgh Parks (247ha) and Burton/Direk (122ha). There is also 90ha of future employment land identified at Waterloo Corner. In the decade to 2020, the region lost more employment land to rezoning than it had gained.
- Increases in land value are likely to result in some land hungry and low value generating businesses (e.g., freight and logistics, materials recycling) seeking relocation elsewhere, potentially to the Outer North region. In anticipation of this, there is potential for governments to work closely with these types of businesses to facilitate relocations and free up land for higher value generating uses more closely aligned with activities at the subject site.

[17] Land Supply Report for Greater Adelaide – Part 3 Employment Land (2021, p11)

Figure 18: Inner North employment land overview



Source: Land Supply Report for Greater Adelaide – Part 3 Employment Land (2021, p27)

5.6 Economic implications of not proceeding with the program

There are likely to be significant economic implications should the state not proceed with the SCY. These are set out and described below:

- **Increased sovereign risk and damage to international reputation**

Failure to proceed with the SCY would communicate a message to prospective investors that investment in South Australia carries significant political risk. This would result in a situation in which future investors avoid the state in favour of alternate locations or build in a risk premium to South Australian investments, which would have a detrimental impact on the state's productivity.

- **Foregone economic activity**

For every $10 billion in manufacturing phase expenditures foregone, up to $1.332 billion in economic surpluses may be lost from South Australian community.

- **Reduced resilience of the South Australian economy in the future as potential declines in other areas of traditional manufacturing are not offset by new advanced manufacturing**

Manufacturing is in a long-term state of decline in South Australia, though in recent decades, the state has been successful supporting knowledge-intensive, advance manufacturing businesses. Firms in this sector have been able to leverage the State's existing skills base and cheap and well-located employment lands. In the absence of the SCY, a significant amount of knowledge intensive manufacturing, and (as shown in the EIA) a sizeable quantity of business linked to the provision of intermediate inputs would not be undertaken in the state, and along with it, the opportunity to build a sustainable and transferrable skills base within the South Australian workforce.

- **Reduced opportunities for local firms to capitalise from strong local supply chains.**

The EIA conducted in section 4 shows the impact the SCY is likely to have on supply chains, particularly during the manufacturing phase. This analysis suggests that, besides those *directly employed*, a significant number of jobs and economic output will be linked to businesses working to provide intermediate inputs to activities at the SCY. Failure to proceed with the SCY would therefore result not only in the loss of jobs and activity directly associated with nuclear-

powered submarine construction at the SCY, but also the activity linked to industries and businesses that will grow and evolve to service the sector.

- **Impacts to South Australia's defence reputation**

South Australia has real and enduring strengths in defence, as set out in the South Australian Economic Statement, which highlights the importance of South Australia maintaining its strong reputation in this sector through pursuit of AUKUS opportunities, and expansion of the defence, space and cybersecurity industries. Projects such as AUKUS will be critical to the future of the defence sector in South Australia, with activities on the Lefevre Peninsula deepening the local talent pool and providing important benefits to private sector businesses with an existing Adelaide presence.

Failure to progress the SCY therefore represents a significant threat to the ongoing viability of this sector in South Australia.

- **Social and demographic implications**

A failure to provide well-paying and sustainable manufacturing and knowledge-intensive jobs in Adelaide's northwestern suburbs is likely to have detrimental long-term implications on communities across the region. A failure to deliver sustainable manufacturing jobs is likely to result in workers becoming either unemployed, or employed in less knowledge-intensive, lower paid manufacturing. In either case, there would be a negative impact on the quantity of wages earned and circulated within regional retail and service businesses.

Many suburbs across the northwest already suffer from significant socio-economic disadvantage. If the SCY were not to proceed, the impact on these communities would be significant.

Best for Project

AUSTRALIA

SYDNEY | ADELAIDE | BRISBANE | CANBERRA | DARWIN
MELBOURNE | NEWCASTLE | PERTH | PARRAMATTA

NEW ZEALAND

AUCKLAND | CHRISTCHURCH | TAURANGA
WELLINGTON | QUEENSTOWN

MALAYSIA

KUALA LUMPUR

hello@tsamgt.com | tsamgt.com

TSA
Advisory