

Mr Jeremy Conway
Chief Executive Officer
Infrastructure SA
GPO Box 2343
ADELAIDE SA 5001
infrastructure@sa.gov.au

22 August 2019

RE: TRANSFORMING THE UPPER SPENCER GULF

Dear Mr Conway,

Thank you for meeting with me recently to discuss a range of strategic infrastructure needs for the Upper Spencer Gulf, as highlighted in our *Regional Transport Infrastructure Plan* and *Transforming the Upper Spencer Gulf* report. An electronic copy of both of these documents has been provided to your office.

The Upper Spencer Gulf Common Purpose Group (trading as 'Spencer Gulf Cities') is a long-standing alliance of the Port Pirie, Port Augusta and Whyalla Councils, with a focus on promoting the growth and sustainability of the Upper Spencer Gulf region.

Our region - and our communities of Port Augusta, Whyalla and Port Pirie - are facing a significant economic transformation. Substantial investment in renewable energy generation, mining and minerals processing, arid agriculture, Defence and tourism is providing our region with opportunities from which we hope to build on our competitive strengths and become cleaner, more innovative, liveable and economically diverse.

Optimising our strategic transport infrastructure across the road, rail, air and sea port network will be a critical part of ensuring the full benefits of this economic growth can be realised and sustained.

To secure the future of the Upper Spencer Gulf, we must also ensure we have the enabling services and to underpin our economic growth, including access to higher education, improving city liveability, protecting our natural assets and landscapes and strengthening regional decision making and governance.

A particular administrative barrier is the current splitting of the three Upper Spencer Gulf cities across three different State Government regions. This dilutes the significant economic, industrial and structural issues facing the Upper Spencer Gulf, increases duplication of resources and hampers the ability to take a more strategic view of development across the three cities, which have strong commonality in industry, growth, land-use and community. A summary highlighting some of these considerations is attached, for information, along with copies of relevant correspondence to various agencies and inquiries.

There is no doubt the Upper Spencer Gulf will play a significant role in supporting the South Australian Government's growth agenda. We seek a strong partnership that addresses the cross-region, cross-agency barriers that currently exists to ensure the most efficient and coordinated approach to help us realise this potential.

For further information, please contact me on 0427609404 or email: ceo@upperspencergulf.com.au.

Yours sincerely

[DELETED]

Anita Crisp
Executive Officer



Briefing for Premier, the Hon Steven Marshall MP 2nd July 2019, 12.00 noon, Parliament House

1. Background – Spencer Gulf Cities

- 20 year alliance between Port Pirie, Port Augusta and Whyalla – forum for collaboration and political advocacy on issues of strategic importance to the Upper Spencer Gulf.
- The three cities have strong industrial, cultural, environmental and economic connections and a dual role as a service centre for rural hinterlands.
- Key focus area is supporting the economic transition of the Upper Spencer Gulf - 'Transforming the Upper Spencer Gulf' our guiding document.

2. Regional Growth – Skills and Decentralisation

- USG will require skilled migration and active growth strategy tailored to meet and manage future workforce needs, particularly during construction phase.
- Need ongoing focus on diversifying economy to decrease vulnerability to single employer and manage beyond the construction boom – more public sector jobs in the region will be important.
- Local access to supported higher education also critical to future skilled workforce – only 8% USG population holds degree level, compared to 18% across SA.

3. Major Development and Workforce - Case Management

- Major economic investment in mining and energy the Upper Spencer Gulf will require significant workforce and development planning to ensure flow-on impacts and any unintended consequences are managed and positive benefits are maximised.
- Considerations include: accessing workforce, accommodation, development planning processes, rating of major development, behaviour management, recreation, community and health services, traffic management, impact on existing sectors (ie tourism, defence).
- Ministers Knoll and van Holst Pellekaan supporting Kangaroo Island Commissioner, Wendy Campana to work with Councils to provide cross-agency coordination – September dinner.

4. Strategic Transport Infrastructure

- National Highway access and under-utilised rail, air and sea port infrastructure across the USG.
- Strategic transport infrastructure required to unlock development opportunities and enhance intermodal efficiencies.

5. Local Priorities

Augusta Highway Road Corridor

- 5.1 Support the duplication of National Highway One to Port Augusta, with the ultimate goal of achieving a full duplication from Port Wakefield to Whyalla.
- 5.2 Priority support for roadwork modification to provide access to the proposed Pirie Meats multi-species abattoir from Wilkins/A1 Highways, estimated at \$2.5 million.
- 5.3 Priority support for redesign and construction of turning lanes and lighting on the Augusta Highway at Warnertown, at an estimated cost of \$2.5 million to remove current restriction to industrial expansion and development.
- 5.4 Priority support for upgrade to Augusta Highway corridor through Port Augusta township (Victoria Pde, Railway bridge) to improve traffic flow and amenity of Port Augusta entrances.

Regional Airports

- 5.5 Support for consistency in security for regional airports based on safety, not seat counts or weight limits that differentiate against carriers.
- 5.6 Support of \$25 million to enable Whyalla to upgrade and strengthen its ageing runways to ensure future demand can be addressed.
- 5.7 Support to upgrade Port Augusta airport lighting to facilitate night landings required to underpin greater access to locally-based mining workforce.

Port Access

- 5.8 Continued support to ensure that third party access is granted and maintained at the Whyalla Port owned by GFG Alliance.

Tourism and Recreation

- 5.9 Support to refurbish Port Augusta jetties and wharf infrastructure to a standard that enables ongoing community and tourist use.
- 5.10 Support for a new \$45 million consolidated sport and recreation facility in Whyalla to service increasing community demand.
- 5.11 Support of \$12 million for the 'Gorges SA' initiative in the Southern Flinders Ranges to develop biking and walking trails on State Government land, linking Port Pirie and Melrose.
- 5.12 Support for Government partnership in Pt Augusta's Australian Arid Lands Botanic Gardens,

Civic and Community Development

- 5.13 Support for a remodelled, multi-agency funded "City Safe" type service within Port Augusta.
- 5.14 Support for funding towards a civic development program to assist the Port Augusta community through its economic and environmental challenges following the closure of the Northern Power Stations.

PLANNING FOR THE FUTURE – UPPER SPENCER GULF

Summary

1. BACKGROUND

Over recent years, major investments in renewable energy, along with minerals processing, arid agriculture, defence and event tourism are providing Port Augusta and the Upper Spencer Gulf with a strong base from which to grow opportunities that help the region become cleaner, more innovative, liveable and economically diverse regional cities.

With well over \$5 billion in private investment in and around the Port Augusta district alone, development construction over the coming five year period is estimated to require a significant workforce – numbering in the thousands - ahead of gradual transition to ongoing operational resourcing levels.

2. DISCUSSION

Over coming months there needs to be a significant focus on strategies to meet the looming workforce needs in Port Augusta and the Upper Spencer Gulf.

Whilst key developers in the region have taken a pro-active lead in initiating these discussions, coordinating this incoming workforce will also need to be part of a much broader and more integrated approach to ensure flow-on impacts and any unintended consequences are managed ahead of time and the positive benefits of this significant economic growth can be maximised.

Considerations will need to include:

Workforce

Ensuring timely access to the right mix of skilled migration to meet immediate and specialised construction requirements that aren't available locally, recognising there may be a need for FIFO and international visa workers, but also considering the impact on existing employers in the region who are likely to lose skilled staff to new developments, along with both short and longer term opportunities for training and upskilling local workforce, targeting both school leaver and career-upgrade levels.

Accommodation

The social and economic impacts of various workforce accommodation options must be investigated, including construction of new residential dwellings vs temporary worker camps and whether these facilities should be located on site or integrated into the local community vs encouraging additional motels/cabin parks vs currently unoccupied private dwellings vs utilising capacity across neighbouring centres such as Port Pirie and Whyalla.

Recreation

Understanding the likely temporary and permanent workforce requirements and preferences will be critical in enabling local authorities to undertake informed forward planning to ensure adequate recreational opportunities are available for both workers and their families, including parks and open spaces, gymnasiums, sporting facilities, arts, libraries, walking/bike trails, public toilets etc. This is an important consideration to improving the aesthetics, functionality and liveability of Port Augusta and the Upper Spencer Gulf and attracting more permanent residents to the region.

Policing and Behaviour Management

The substantial influx of both temporary and permanent workers to Port Augusta and the Upper Spencer Gulf will invariably bring potential for anti-social behaviour, with additional local resourcing required to encourage positive civic behaviour and maintain law and order as the changes in community dynamic and population growth occur in the region.

Community Services

Forward planning for appropriate levels of health/medical, childcare, family support, schooling and tertiary education services will be required to allow both public and private providers to respond in enough time to ensure availability for workers and their families and encourage more permanent relocation to the region.

Communications

Potential congestion, service coverage, cost and quality for both mobile and internet services will require analysis to ensure both continuity for existing businesses and residents, along with affordable and reliable service for new developments, workers and families.

Traffic

Transport authorities will need to understand the likely impact of workforce movements in order to plan for increases and directional flows of commuter and development construction and maintenance traffic, develop new funding models to adequately upgrade and maintain local and arterial roads and airport facilities, provide adequate local carparking and facilitate options for both intra-city public transport and USG inter-city shuttles between Port Augusta – Port Pirie – Whyalla.

Impact on Existing Industry Sectors

Compounding the issues expected during the forthcoming extended construction phase, the workforce, services and infrastructure impact of existing sectors must also be thoroughly analysed and managed. Port Augusta and the Upper Spencer Gulf relies heavily on periodic peaks of inflows associated with Defence training exercises at Cultana, nature-based tourism/travel season and major events/conferences. Careful attention must be given to minimise any economic or workforce displacement of these important sectors.

Whilst individual developments will clearly need to undertake their own strategies to fulfil their workforce needs and maintain an advantage over their competitors, the sheer scale of development activity in and around Port Augusta and the high risk of adverse impacts to the local community and existing economic sectors will necessitate a strong level of collaboration both by industry and with all levels of Government.

3. NEXT STEPS

Government Coordination

Ongoing discussions have been held with the Upper Spencer Gulf Common Purpose Group and South Australian Government with regards to appointment of the 'Commissioner for Kangaroo Island' as a single point of contact to provide coordination of input by agencies. Working under the Minister for Planning and Local Government, the Commissioner has approval to work with Spencer Gulf Cities to progress this government engagement and coordination in the short term.

Whilst often a case manager is appointed from one agency to undertake this coordination work, the advantage of the Commission model is that it has statutory authority underpinned by legislation to specifically:

- improve the management, co-ordination and delivery of infrastructure and services provided by government agencies
- ensuring co-ordinated delivery of infrastructure and services to businesses and residents

Joint Planning Board

Port Pirie, Port Augusta and Whyalla Councils are currently considering whether to progress establishment of a Spencer Gulf Cities Joint Planning Board under the *Planning, Development and Infrastructure Act 2016*.

At present, the three cities are split across three different State Government planning regions - Port Augusta within the Far North, Port Pirie in the Mid North and Whyalla in the Eyre Peninsula planning region. This dilutes the significant economic, industrial and structural issues facing the region, increases duplication of resources and hampers the ability to take a more strategic view of development across the three cities, which have strong commonality in industry, land-use and community.

A Joint Planning Board will enable the three cities to be formally recognised as a single group for the purpose of land-use and development planning and consolidate focus and effort by agencies on the specific future needs of the three cities taking into account their commonality of land-use, economy and social structure and their strong reliance on the marine environment of the Upper Spencer Gulf.

Hon. Stephan Knoll
Minister for Transport, Infrastructure and Local Government
Minister for Planning
Parliament House
GPO Box 572
ADELAIDE SA 5001



**Spencer Gulf
Cities**

Post: PO Box 677, PORT PIRIE SA 5540
Email: ceo@upperspencergulf.com.au

20 April 2018

RE: RENEWABLE ENERGY PLANNING REVIEW

Dear Minister,

The Upper Spencer Gulf is a region in the midst of significant economic transition. Our communities of Port Augusta, Port Pirie and Whyalla lie in close proximity to some of the best and most diverse renewable and low carbon energy resources in the world.

We are very proud to be home to a number of new and innovative large-scale renewable energy initiatives that will help to secure the economic future of our region and energy security for the state.

Our Councils and communities have a strong track record of encouraging and supporting renewable energy developments, however in recent times this has, unfortunately, been tarnished by a lack of appropriate safeguards for neighbouring residents and limited Council engagement and jurisdiction.

With this rapid emergence of new renewable energy technologies, we consider it timely to seek an urgent and thorough review of planning assessment, approval and compliance processes so our communities have confidence in well-planned, orderly development that is underpinned by appropriate protections for nearby residents and landuses.

Key issues include:

- Development of comprehensive, world-leading assessment guidelines and safeguards for new large-scale renewable energy technologies including solar PV farms, solar thermal, pumped hydro, batteries and hydrogen.
- A review of windfarm assessment, including explicit protection of key iconic landscapes such as the Flinders Ranges from future windfarm development.
- Stronger local input and control over renewable energy development assessment conditions of approval, monitoring and compliance, including traffic, dust and noise management.
- Support for local Councils to rate major developments such as wind and solar farms on their capital value.

The multi-billion dollar investment in renewable energy provide our region with a strong base from which we can continue to build on our comparative strengths, as we pursue opportunities that help us become cleaner, more innovative, liveable and economically diverse regional cities.

We are very keen to work with the new Liberal Government to make sure that our development approval, monitoring and compliance regimes are comprehensive and up to date so nearby residents, communities and environments aren't adversely impacted and our transition to a renewable energy hub for South Australia is a world-leading, positive and fruitful experience.

Spencer Gulf Cities representatives would be very pleased to provide further information and discuss this matter with you further. Meeting arrangements can be made by contacting me directly by email: sam.johnson@portaugusta.sa.gov.au, or Melanie Jenkins on: 86419144 or email: ceo@portaugusta.sa.gov.au.

Yours sincerely

[DELETED]

Mayor Sam Johnson
Chair



NORTHERN AREAS
COUNCIL



Mr Michael Lennon
Chair
State Planning Commission
C/- Department of Planning, Transport & Infrastructure
GPO Box 1815
ADELAIDE SA 5001

1st July 2019

RE: FLINDERS RANGES LANDSCAPE PROTECTION ZONE

Dear Mr Lennon,

The Port Augusta, Flinders Ranges, Mount Remarkable, Northern Areas and Port Pirie Councils all share the Flinders Landscape Protection Zone – which explicitly aims to preserve the natural and rural character and scenic features of the iconic Flinders Ranges landscape.

It is with considerable alarm that we note that, as part of the State Planning Reform, the Department of Planning, Transport and Infrastructure are proposing to remove the landscape protection zone and revert it to a general rural zone.

This is particularly disappointing given that, whilst the Government is clearly seeking to dilute the significance of the Flinders Ranges landscape, the protections for the Adelaide Hills Face Zone, Barossa and McLaren Vale Character Preservation Zones, are proposed to remain in place.

The Flinders Ranges is an important natural landscape that must continue to be protected from inappropriate development into the future, but also allow consideration to expand compatible, low impact landuses.

For example, the Mid North and Upper Spencer Gulf is experiencing significant growth in renewable energy generation. To date this has focussed on windfarms, which have a high visual and community impact, however there is increasing interest in other technologies including solar PV, solar thermal, pumped hydro and utility-scale batteries.

There are also a range of other potential industrial developments including mineral and agricultural processing facilities, transition of the northern forests, expansion of the Mount Remarkable National Park, additional nature-based tourism ventures and inclusion of the Flinders Ranges on the world heritage list.

Ahead of implementation of the statewide planning and design code for regional Councils at the end of 2019, we seek support from the Planning Commission to urgently convene a local Working Group comprising staff and elected members from each of the five Councils and DPII representatives, to review the Flinders Landscape Protection Zone.

The purpose of this Working Group will be to identify the current and future development pressures on the Landscape Protection Zone, determine appropriate and acceptable forms of future development, assessment criteria and character protection.

The region has some exciting economic growth opportunities before it however we must not undermine the significance of the Flinders Ranges landscape to the cultural, social, natural and economic values of the region.

We seek your support for this request and would be happy to meet with you to discuss how this can best be progressed as a matter of urgency.

To make arrangements for the Working Group, or to discuss this matter further, please contact Rosalie Jones on: 8633 9777 or email: rjones@pirie.sa.gov.au.

Yours sincerely

[DELETED]

Mayor Peter Slattery
Flinders Ranges
Council

Mayor Brett Benbow
Port Augusta City
Council

Mayor Phil Heaslip
District Council of
Mount Remarkable

Mayor Leon Stephens
Port Pirie Regional
Council

Mayor Denis Clark
Northern Areas
Council

cc: Hon Stephan Knoll, Minister for Planning
Hon Dan van Holsst Pellekaan, Member for Stuart
Hon Geoff Brock, Member for Frome

Parliamentary Officer
Environment, Resources and Development Committee
Parliament House
North Terrace
Adelaide SA 5000

28 June 2019

RE: INQUIRY INTO RECYCLING

Dear Sir/Madam,

The Upper Spencer Gulf Common Purpose Group (trading as 'Spencer Gulf Cities') is a long-standing alliance of the Port Pirie, Port Augusta and Whyalla Councils, with a focus on promoting the growth and sustainability of the Upper Spencer Gulf region.

Our region, and our communities of Port Augusta, Whyalla and Port Pirie are facing a significant economic transformation.

Substantial investment in renewable energy generation, mining and minerals processing, arid agriculture, Defence and tourism is providing our region with opportunities from which we hope to build on our competitive strengths and become cleaner, more innovative, liveable and economically diverse.

The high percentage of energy intensive enterprises in the Upper Spencer Gulf is fast becoming a competitive advantage for the region in attracting significant investment in renewable energy and low emissions technologies.

The transformation of the Port Pirie smelter with potential to process e-waste and Whyalla steelworks with a focus on increasing production, sustainability and 'green steel', and remediation of the Port Augusta powerstation, significant investment in new renewable energy technologies, Australia's first arid horticulture operation, ongoing interest in algae-based technologies, development of a green organics composting and processing facility and a focus on more sustainable processes by nearby mining operations all offer the potential for the Upper Spencer Gulf to play a substantial role in developing a circular economy for South Australia.

This potential has been more sharply brought into focus following restrictions by China and now other countries on export markets for recyclables and the growing economic and ethical momentum for processing our own waste and recycling streams locally.

The Upper Spencer Gulf's current industrial transformation provides a sound base from which to attract service providers and new entrants to the region to leverage this existing critical mass and investment. The existing transport infrastructure across the region, including road, rail, sea and airport facilities to cater for the industrial operations in the region, also reinforces the Upper Spencer Gulf as an ideal location for additional manufacturing and re-processing operations.

Furthermore, with the Upper Spencer Gulf, like Northern Adelaide, being a State Government designated 'Economic Participation Region' under the State's Industry Participation Policy, there is potentially further incentive and opportunity to promote new and enhanced economic activity in the Upper Spencer Gulf.

With this context in mind, we are currently preparing a Regional Waste and Circular Economy Strategy that will identify:

- The potential waste and recycling market infrastructure and market development opportunities in the Upper Spencer Gulf.
- Specialisation opportunities across each of the three cities
- Potential for integration of circular economy research or modules within degrees offered through Uni Hub Spencer Gulf
- Considerations for each of the councils for managing the waste and recycling volumes for the projected increase in workers and residents from the planned industry growth (e.g. steel works, mining operations, renewable energy, E-waste processing) in the region.
- How the existing focus on local employment and economic benefit can be further leveraged to encourage additional recycling markets and local reprocessing and also capture increased use of local recyclable materials or recycled-content products through procurement.
- The role of Council waste contracts and services in facilitating future circular economy enterprise within the USG

Whilst clearly there are many opportunities for our region to engage more strongly in a circular economy, it relies heavily on support – and investment – by Government.

Whilst we are extremely disappointed at the latest increase in the solid waste levy and the inimical, disingenuous manner in which this was announced, we are even more frustrated that – given the precarious situation around waste and recycling globally and locally - there is not a stronger reinvestment of this funding to support purposes for which it is intended.

We are seeking that a significant portion of the Waste to Resources fund be reinvested into initiatives in the Upper Spencer Gulf that actually facilitate and support recycling, reprocessing and the development of a circular economy that will assist in the long term diversification and sustainability of our region and maintain South Australia's prominence as a leader in waste management and resource recovery.

For further information, please contact our Executive Officer, Anita Crisp on 0427609404 or email: ceo@upperspencergulf.com.au.

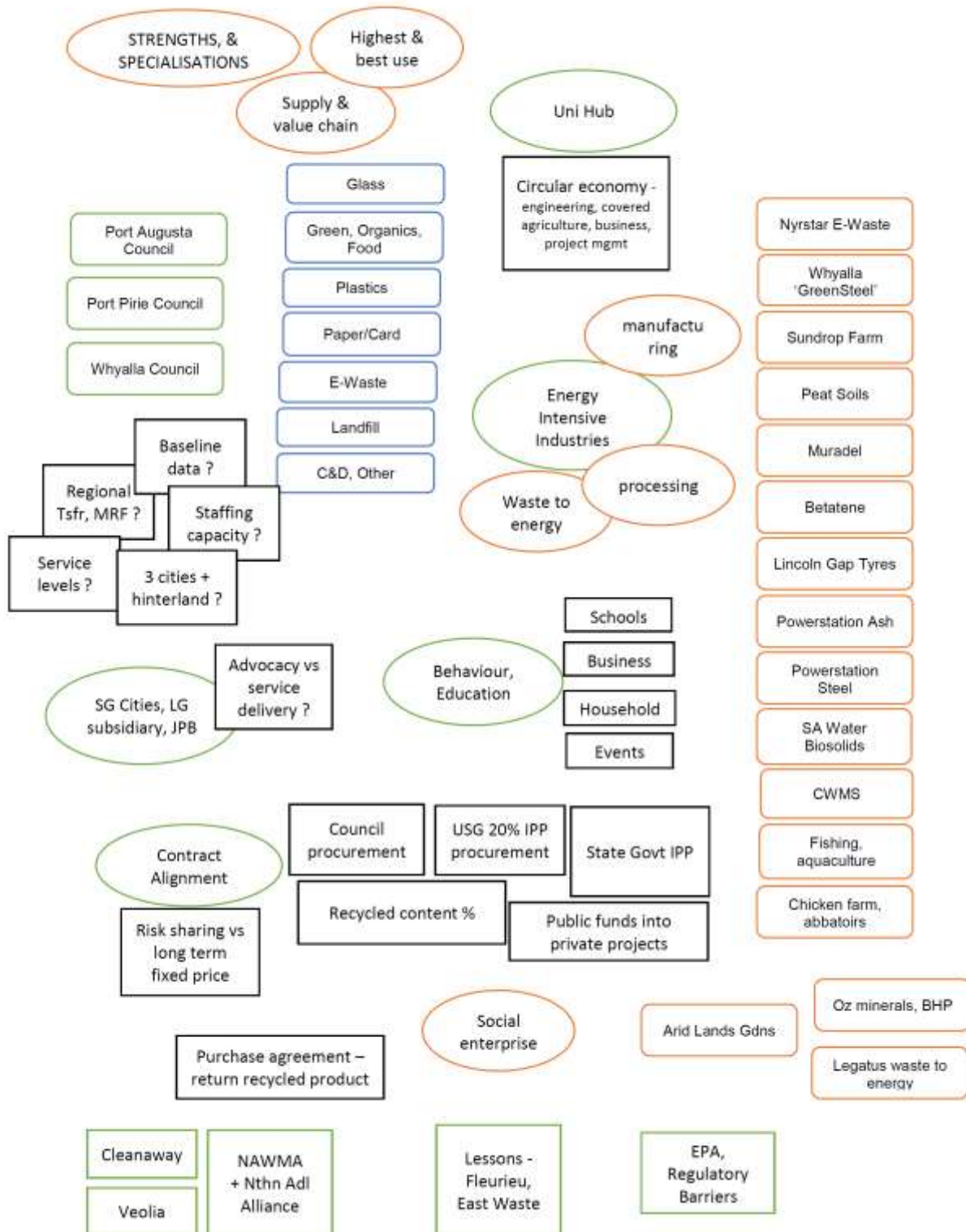
Yours sincerely

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Mayor Leon Stephens
Chair

ATTACHMENT 1 – UPPER SPENCER GULF AND THE CIRCULAR ECONOMY POTENTIAL

****CONFIDENTIAL****



Regional Transport Infrastructure Plan

Whyalla – Port Pirie – Port Augusta

February 2018



Upper Spencer Gulf Common Purpose
Group

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Executive Summary

This Regional Transport Infrastructure Plan supports the goals established by the Common Purpose Group through the *Transforming the Upper Spencer Gulf* document and is based around an organising framework consisting of three core themes: **sustainability**, **innovation** and **liveability**.

This report identifies eleven **industries of the future**, building on the assets and strengths of the Upper Spencer Gulf (USG) region which are intrinsically related to and supported by transport networks within the region. The road, rail, ports and airports of the USG must continually adapt to rapid changes in transport demand driven by these industries to ensure its continued economic growth.

This document identifies the transport needs and opportunities which impact on the Cities of **Port Augusta**, **Port Pirie** and **Whyalla** that have emerged from these previous studies in the context of the challenges facing the region. These projects are prioritised at a high-level according to their ability to serve the demands on the transport network and help the USG region achieve its wider stated goals and objectives.

Disaggregated into road, rail, air and sea transport modes, the proposed projects, priority level and timing for delivery are summarised at right.

Proposed Project	Priority	Timing
Road		
Build additional overtaking lanes on the national highway between Port Augusta and Port Wakefield.	2	short term
Build additional overtaking lanes on Lincoln Highway between Port Augusta and Whyalla.	2	short term
Duplicate the Port Augusta Bridge to avoid occurrences of complete shutdown.	2	project dependent
Seal the Yorkey's Crossing heavy-vehicle bypass route and realign the route pattern through the north east of Port Augusta.	2	project dependent
Improve the condition of Depot Creek Road to better suit heavy vehicles and increasing levels of traffic.	2	mid-term
Duplicate the national highway between Port Augusta and Port Wakefield.	3	long-term
Rail		
Improve capacity on the Adelaide to Perth railway line south of Port Augusta.	1	mid-term
Connect to the proposed bulk port export facility at Port Bonython via a new standard-gauge connection to the Port Augusta-Whyalla Railway.	2	project dependent
Realign the main railway line near Port Pirie.	3	mid-term
Build a rail bypass of Port Augusta (including relocation of Spencer Junction) to alleviate local amenity issues.	3	long term
Further expand the capacity of the narrow-gauge railway lines west of Whyalla that are currently being upgraded for heavier loads.	3	project dependent
Improve capacity on the Adelaide to Perth railway line south of Port Augusta.	1	mid-term
Air		
Expand the facilities for general aviation at Port Pirie Airport.	1	mid-term
Improve the pavement strength at Whyalla Airport to support heavier aircraft and enable diversion from Adelaide as needed.	2	short term
Improve the pavement strength at Port Augusta Airport to support heavier aircraft and enable diversion from Adelaide as needed.	2	short term
Maximise the opportunity for Fly-In-Fly-Out operations at Port Pirie Airport by upgrading the runway to accommodate 50-seat aircraft.	3	mid-term
Seaport		
Expand port operations at Port Pirie with greater storage, a rail shuttle system, and a transshipment operation to an off-shore anchorage for cape-size vessels.	1	short term
Expand the Port of Whyalla with additional multiple user access opportunities and increased landside storage.	2	project dependent
Construct a bulk commodity export facility at Port Bonython, including a standard-gauge rail connection to the main north-south line below Cultana.	2	mid-term
Commence a barge shuttling operation for iron ore from Port Augusta to a newly established transshipment point.	3	project dependent

Introduction

The purpose of this Regional Transport Infrastructure Plan is to create a coordinated strategic infrastructure strategy for the Upper Spencer Gulf (USG) region. This process has included:

- Assessment and synthesis of a range of existing reports and strategies which identify strategic priorities for the whole region with a particular focus on Port Augusta, Port Pirie and Whyalla
- Engagement with key stakeholders to further understand their priorities and potential synergies across a wide range of proposed infrastructure investments
- Prioritisation based on the Australian Transport Assessment and Planning Guidelines (ATAP).

This analysis is focussed on four primary modes of transport:



Road



Air



Rail



Sea

This document is organised into two main sections:

- Industry Investment and Transport Needs
- Infrastructure Assessment and Prioritisation

Each proposed infrastructure-related action or recommendation is evaluated for its contribution toward the three overarching themes for the region as established by the Upper Spencer Gulf Common Purpose Group: sustainability, innovation and liveability.

Each recommendation also includes an assessment of the key future industries that it supports, including the range of growth areas (the '*industries of the future*') that will contribute to the achievement of the region's overarching goals. The degree to which each proposal provides for these industries is a key factor in their evaluation and prioritisation, along with their ability to address specific 'gaps' in the transport network.

The '*industries of the future*' and opportunities for the region are established by *Transforming the Upper Spencer Gulf* and are listed at right.

Priority levels for proposed projects are based on current needs or deficiencies, or are linked to specific future development projects or initiatives.

Renewable Energy



Agriculture & Arid Innovation



Defence



Mining & Minerals Processing



National Transport & Logistics Hub



Event, Cultural & Nature Based Tourism



Public Sector Services



Higher Education & Research



City Liveability & Vibrancy



Environment & Natural Assets



Regional Governance & Responsive Government



Background

The Upper Spencer Gulf (USG) region is located at the crossroads of Australia, where the Perth-Sydney and Melbourne-Adelaide-Darwin national highways converge and the main east-west and north-south passenger and freight railway lines intersect.

The total population of the region is approximately 53,000, with a relatively even distribution amongst the three cities ranging from Port Augusta (13,808) to Port Pirie (17,364) to Whyalla (21,828).

There are major seaports at Whyalla and Port Pirie, and airports in both these cities and also Port Augusta each with a mix of scheduled passenger services, fly-in-fly-out (FIFO) operations, Royal Flying Doctor Service (RFDS), chartered flights and private aviation.

The region has five dominant industries: mining, manufacturing, utilities, education and health. Each of these sectors and additional targeted growth fields has its own unique requirements with respect to the transport of people, materials and goods.

Also important to the region is the impact of the Department of Defence's Cultana Training Area between Port Augusta and Whyalla, and its proposed expansion.

As a result, there have been numerous proposals for significant infrastructure upgrades to position the region for a new era of growth and development based on the principles of sustainability, innovation and liveability.






Each city has also embarked on efforts to reinvigorate and expand its tourism offerings, including the redevelopment of foreshore and marina areas and an industrial heritage centre in Whyalla, along with regeneration of the city centres of both Port Augusta and Port Pirie based on recent strategic master plans.

The result is a diverse and dynamic region matched with equally complex freight and passenger transport needs.

Background Information

Total Population	53,000 people
Port Augusta	13,808 people
Port Pirie	17,364 people
Whyalla	21,828 people
Average Age	41
No. of Businesses	2,308

Key Industries

	Manufacturing	Steel Metal works Smelting Mineral processing
	Resources	Iron ore Copper Gold Uranium
	Energy	Solar thermal Wind Solar photovoltaic Lithium ion storage Pumped hydroelectric
	Health	Hospitals General healthcare Regional service Health corrections Social assistance
	Defence	Cultana Training Area

Approach

The following describes the approach used to identify, evaluate and prioritise the future transport infrastructure projects within the Upper Spencer Gulf Region.

Modal Objectives Definition

This Plan investigates the type of transport infrastructure which will be required within the Upper Spencer Gulf Region to deliver solutions to existing and future transport challenges and better serve the industries of the future.

The objectives within the Plan assist in setting a desired vision for transport networks in the region. Assessment of the potential projects against these objectives highlights the degree of contribution to the current and future needs and provides reasoning for the implementation of future projects within the region.

The objectives are tailored for each transport mode (road, rail, air and sea) and are based on a summary of the transport needs for each 'industry of the future'.

Targets

Targets align with the modal objectives for each mode and provide aspirations for transport networks in the region. These targets are to be used to understand the potential contribution of each future project to the transport objectives for each mode.

Key Performance Indicators

Key performance indicators are tangible and quantitative expressions of targets for specific facilities, in terms of ultimate goals and periodic improvements. It is intended that the Upper Spencer Gulf Common Purpose Group will use the performance indicators to measure the impacts and ultimate contribution of projects against targets and transport objectives once implemented.

Issues, Gaps & Deficiencies

Existing transport infrastructure assets within the region have been analysed against the objectives and targets for the region, to identify where the current condition is not meeting requirements or expectations of community and industry. This section highlights the specific issues and gaps in infrastructure delivery and deficiencies in network performance for each mode.

Needs and Opportunities

Transport needs and opportunities are explored through the lens of each 'industry of the future', as identified within the *Transforming the Upper Spencer Gulf* document.

Project Pipeline

Projects have been identified within strategic documentation prepared for the Upper Spencer Gulf region and constituent council areas. Stakeholder consultation assisted in refining the lists of potential projects to ensure currency.

Reference documents are located in *Appendix A*.

Project Evaluation

The project evaluation incorporates information from the strategic documentation and stakeholder consultation to determine the criticality and timing of the need for each potential project.

Short, medium and long-term timeframes are defined respectively as 0-5 years, 5-15 years and over 15 years. Proposed projects where criticality and timing is deemed as 'project dependent' indicate that a major development within an industry of the future could provide justification for and increase its priority.

Potential projects are also assessed against their contribution toward addressing the objectives for each mode, and against which 'industries of the future' would be supported through their implementation.

Prioritisation

Each of the assessed infrastructure proposals has been assigned a relative level of priority according to the following criteria:

Priority Level 1: Addresses existing gaps and supports multiple objectives and industries.

Priority Level 2: Addresses expected near-term gaps and/or supports approved development projects.

Priority Level 3: Contributes to maintaining regional competitive positioning into the future.



Industry Investment and Transport Needs

This section documents the opportunities that define the Upper Spencer Gulf region and that will drive the future demand for transport infrastructure. These are organised by the strategic priorities developed through the Upper Spencer Gulf Common Purpose Group.



Industry Investment and Transport Needs

Renewable Energy

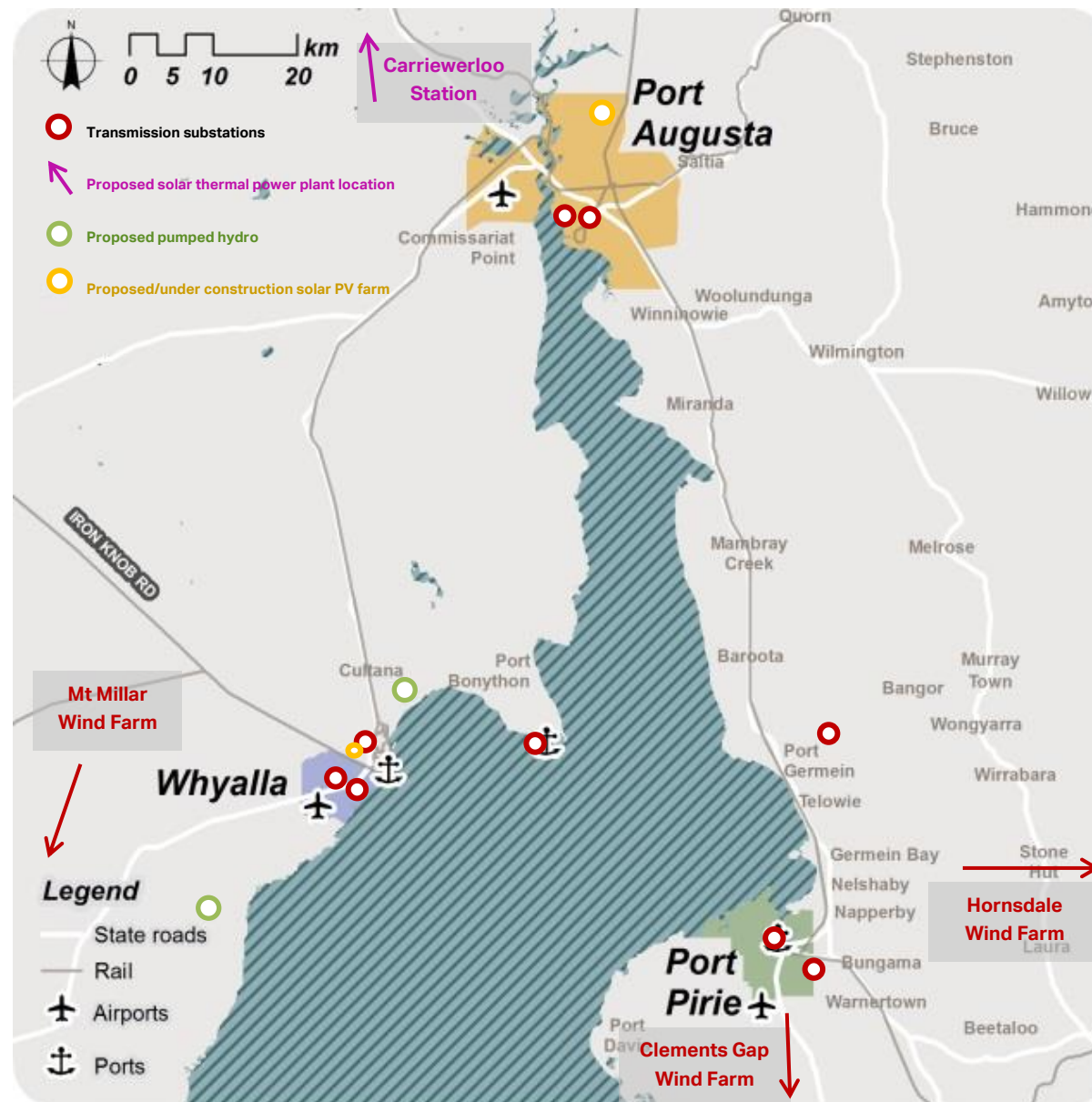
Port Augusta, Port Pirie and Whyalla are in close proximity to some of the best and most diverse renewable and low carbon energy resources in the developed world. The region has the opportunity to benefit from solar, wind, geothermal, pumped hydro, algal, tidal energy and high grade uranium oxide, as well as large natural gas resources to the north of the region.

As the global role of renewable energy expands and becomes more accessible, the combination of excellent renewable resources with proximity to existing transmission infrastructure and high energy use facilities makes growth in low-carbon energy a source of competitive advantage for the Upper Spencer Gulf.

In addition to the existing renewable energy infrastructure (shown right), the Upper Spencer Gulf also offers considerable potential to research, trial and testing of new and emerging renewable energy technology.

Transport needs:

A reliable transport network will be required to support the construction and operation of large scale renewable energy sites. Consideration should be given to potential road user conflicts, including heavy and over-dimensioned vehicles.





Industry Investment and Transport Needs

Agriculture & Arid Innovation

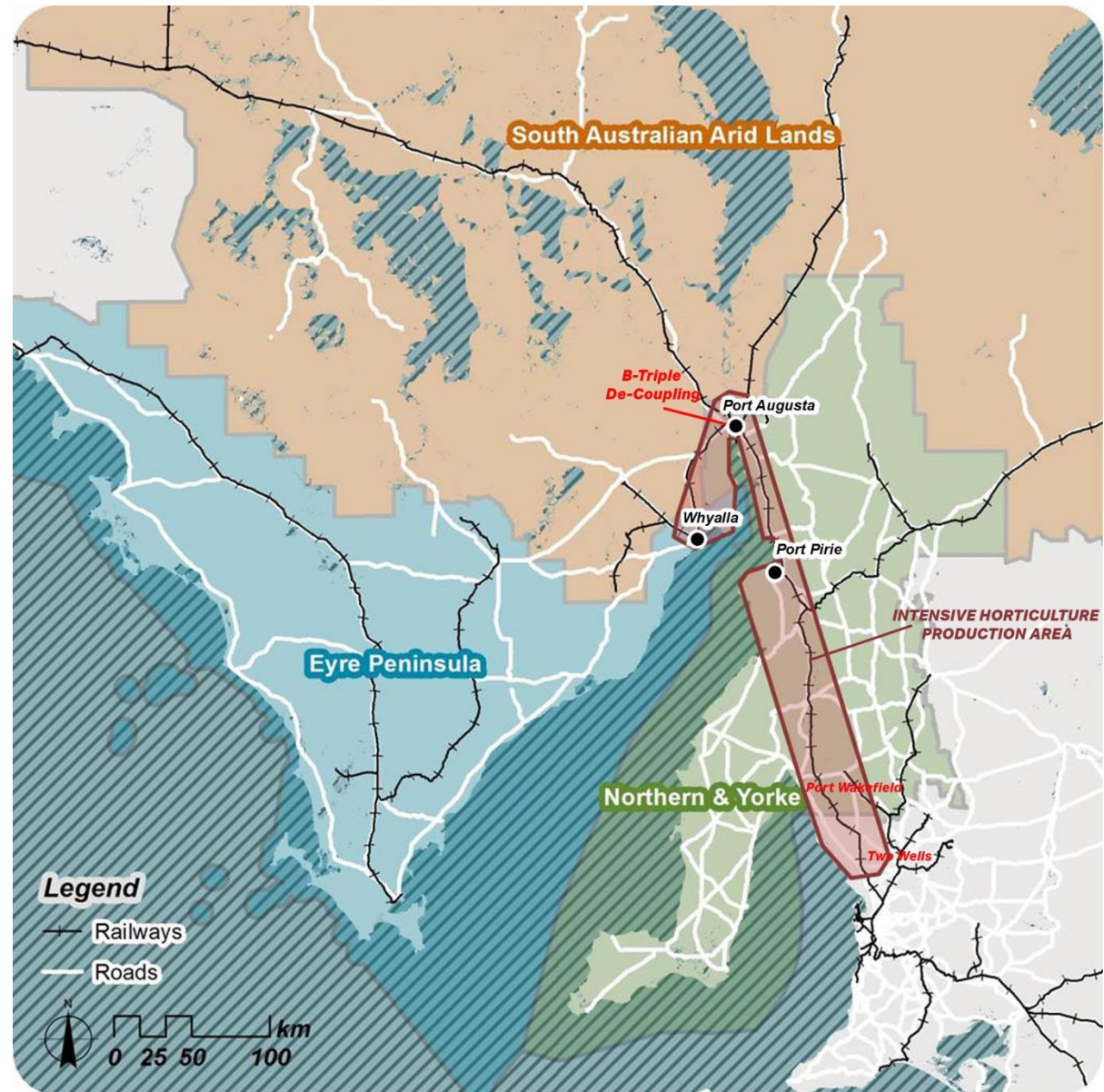
Agriculture and food production are major contributors to the freight needs throughout the region, with the railway system, roads and ports contributing to the collection and distribution of local produce and foodstuffs.

Due to their geographical configurations, only limited amounts of the food produced in the Northern & Yorke and Eyre Peninsula regions travel through Upper Spencer Gulf ports. The corridor between Two Wells and Whyalla has been identified for intensive horticulture production, utilising the existing road transport network.

Transport needs:

Further growth in the South Australian Arid Lands region associated with innovations in arid agriculture and expansion of livestock products (including goats and camels), together with aquaculture in the Upper Spencer Gulf, will increase the future bi-directional freight and shipping demands for local food products.

In addition, the intensive horticulture production area between Two Wells and Whyalla will generate additional road freight movement. The potential for a B-Triple de-coupling freight coordination hub at Port Augusta could further support such freight given suitable management of road user conflicts.





Industry Investment and Transport Needs

Defence

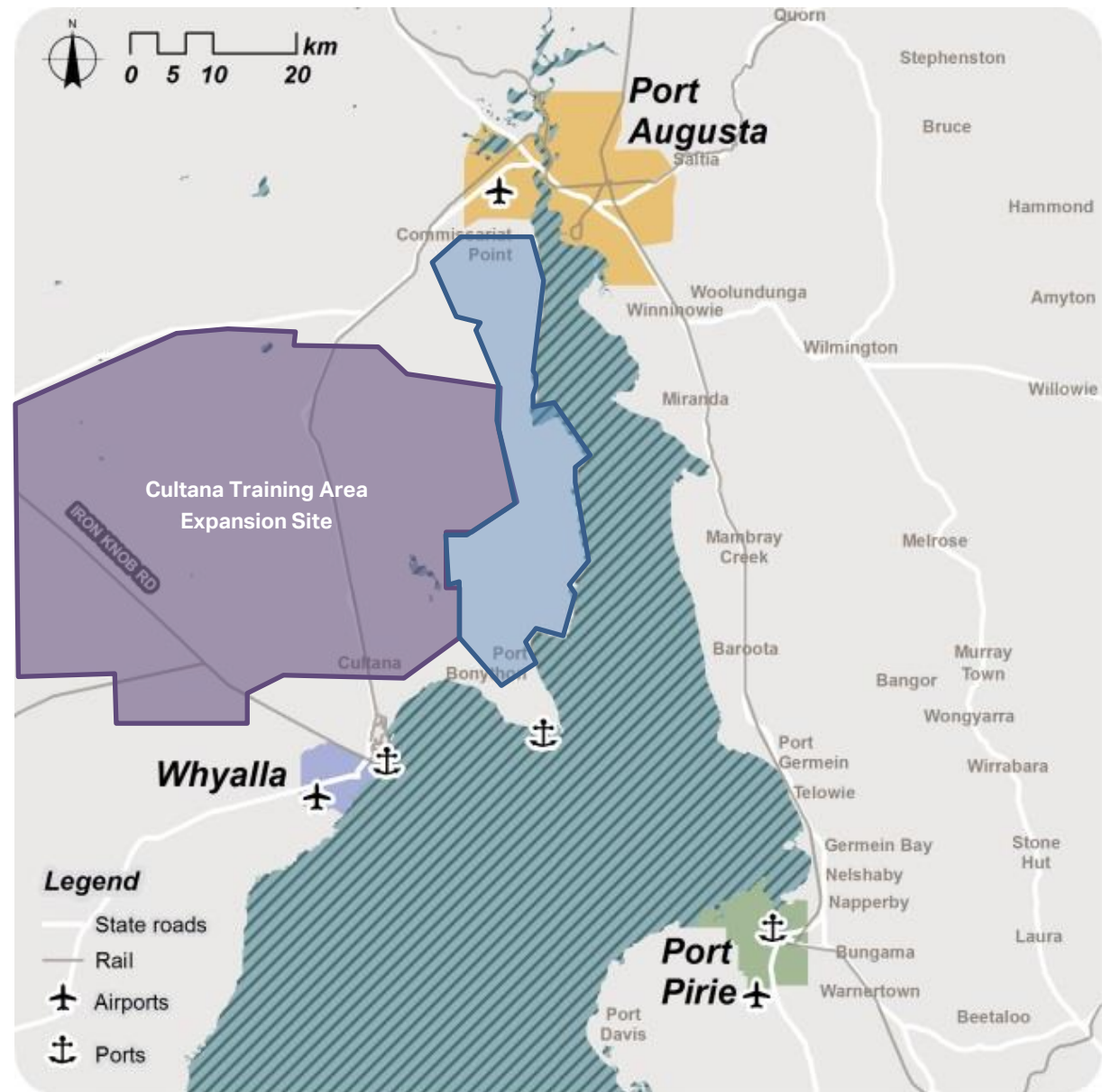
Expansion of the Department of Defence's **Cultana Training Area** to 2100 square kilometres (five times its present footprint) will generate sustained on-road freight demand (equipment and ammunition) as well as additional road demand in the form of the transport of military personnel to and from the site.

South Australia has increased support for the Defence industry through the development of Northern Adelaide's Techport Australia Technology Park and ongoing support for the Edinburgh Defence Precinct.

Transport needs:

To foster stronger links between Upper Spencer Gulf enterprises and leverage the formative Defence capabilities in the region, transport connections to Defence hubs within Metropolitan Adelaide should be strengthened. It will also be increasingly important for Upper Spencer Gulf-based suppliers to upgrade their infrastructure and equipment, to be ready to engage with Defence contracts in the future.

Increased Defence activity within the region may also impact on the road quality and increase demand for road maintenance, which may be partially offset by any potential Defence use of railways and ports. Defence related road movements will also have localised traffic impacts along Lincoln Highway and other USG thoroughfares needing to be managed.



Industry Investment and Transport Needs



Mining Services & Minerals Processing

There are a large number of operating mines surrounding the Upper Spencer Gulf region, ranging in status from approved permits to operation and rehabilitation. These include:

- Prominent Hill gold/silver/copper (2012)
- Cairn Hill gold and copper mine (2010)
- Olympic Dam copper/silver/gold/uranium
- Iron Knob and Iron Baron iron ore mines
- Carrapateena copper/gold deposit hosted in iron oxide.

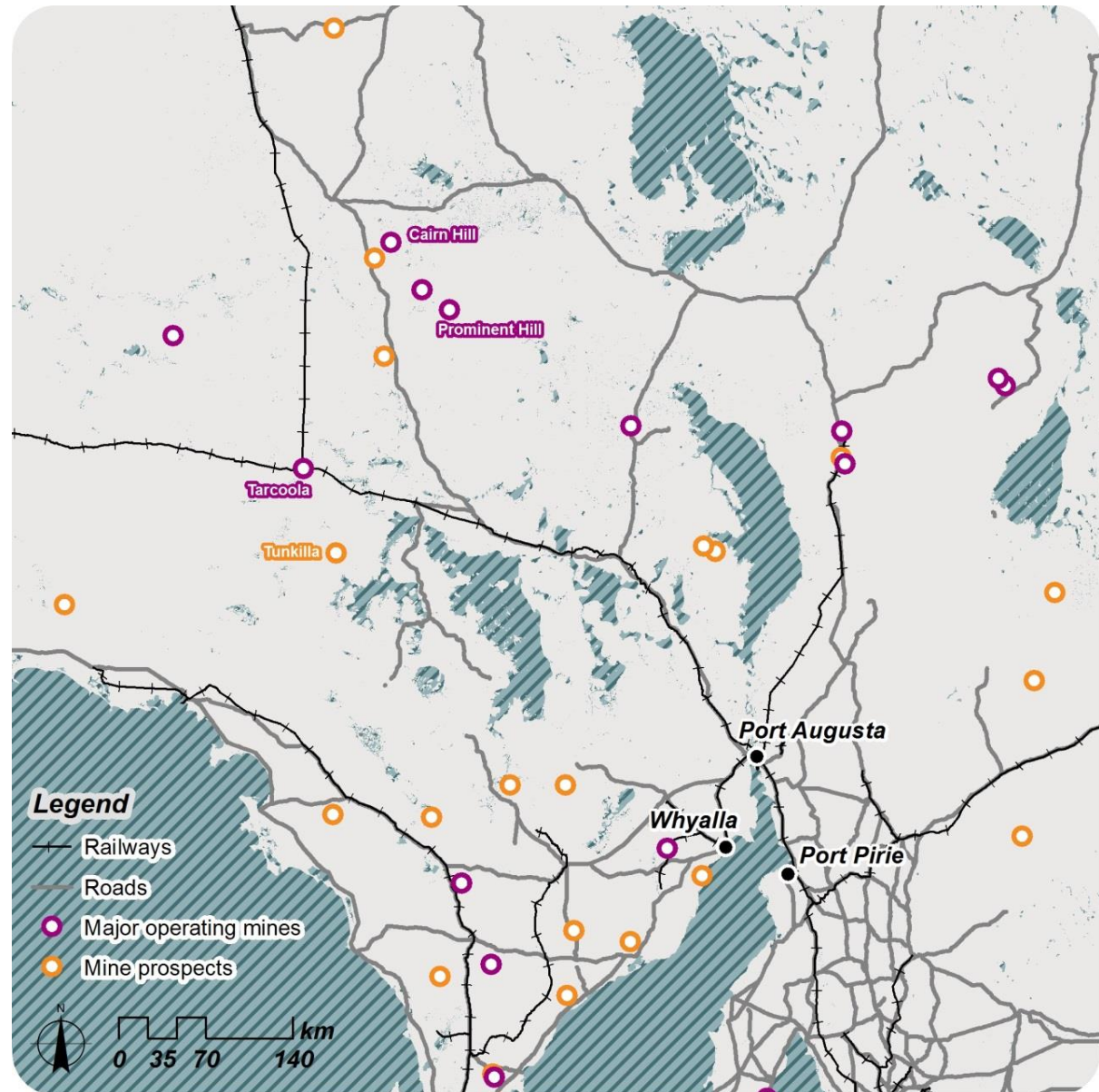
Prospective mines include:

- Tunkilla mine with an estimated deposit of 26 million tonnes of gold and silver
- Iron Road iron ore deposit.

Key mineral processing projects include the redevelopment of Whyalla Steelworks by Liberty OneSteel and the Nyrstar redevelopment of the Port Pirie smelter, each of which will add to traffic movement in the region. Nuclear storage and e-waste processing facilities may also be introduced into the wider region within the near future.

Transport needs:

Future development will likely exacerbate issues in freight capacity on road, rail and port facilities, and increase road user conflicts between industrial and non-industrial traffic on key corridors.



Industry Investment and Transport Needs

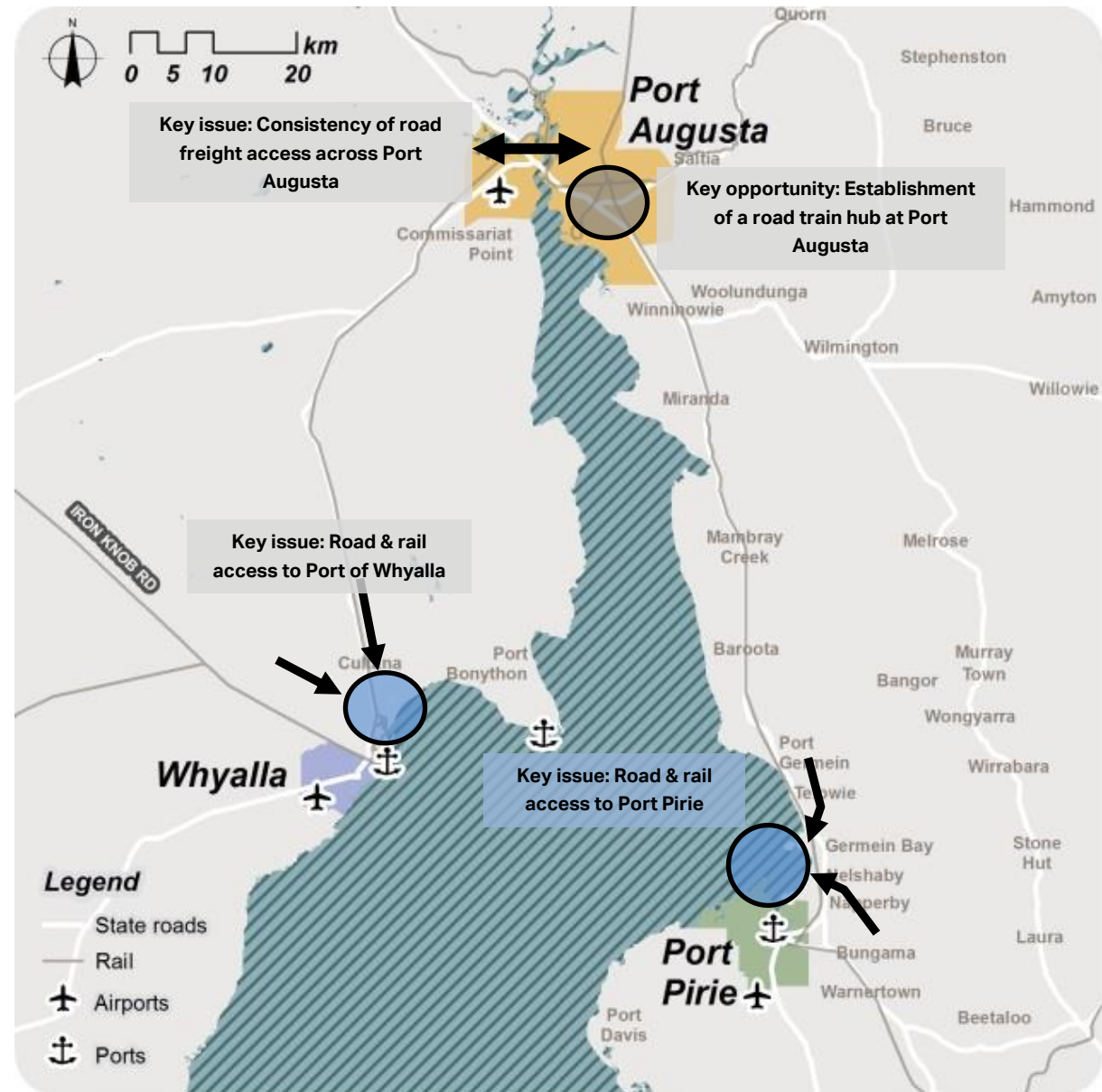


National Transport & Logistics Hub

The Upper Spencer Gulf is the intersection of the Perth-Sydney and Melbourne-Adelaide-Darwin national highways, as well as the east-west and north-south long-distance passenger and freight rail lines. In addition, sea ports at Whyalla and Port Pirie, commercial passenger airports at Whyalla and Port Augusta, and a fully serviced light plane and training aerodrome in Port Pirie provide a range of intermodal transport options for a variety of purposes. In combination, these options make the Upper Spencer Gulf an ideal location to develop as a national transport and intermodal hub.

Transport needs:

The creation of a national transport and logistics hub in the Upper Spencer Gulf would require investment in transport infrastructure to maximise transport links for growth in renewable energy, defence, agriculture/horticulture and mining operations, as well as strategies to accommodate increased utilisation of the Port Pirie and Whyalla ports. Upgrades to major truck highways are also essential, along with addressing road user conflicts particularly with respect to the impacts of localised freight movements on business, tourism, cycling and pedestrian traffic near the transport hub.



Industry Investment and Transport Needs



Event, Cultural & Nature-Based Tourism

The Upper Spencer Gulf is the largest population base outside of Adelaide and is ideally placed to grow its capabilities in 'Event Tourism'. Potential opportunities to enhance various forms of tourism within the region include:

- Providing new or upgraded tourist attractions in Whyalla and Port Pirie
- Leveraging the region's proximity to the Flinders Ranges, Outback, Clare Valley, Yorke Peninsula and Eyre Peninsula
- Facilitating growth in marine and nature-based tourism
- Increasing support for Indigenous, industrial and cultural tourism.

Transport needs:

Passenger and charter flight access to Whyalla and Port Augusta airports, as well as yachting and boating access, will be important aspects to supporting growth in this sector.

The potential conflicts between tourism related traffic and heavy truck transport will also need to be resolved or managed, including pedestrian and cycling traffic in key tourism areas.



Public Sector Services

Increasing relocation of public services to Metropolitan Adelaide has led to a direct loss of jobs and residents living and working in regional South Australia, including the Upper Spencer Gulf. Without local presence in the region, there is also the potential risk of disconnect between the needs of regional communities and the policy and decision-making for the region.

A long-term commitment to decentralise administration services and relocate public services to cities within the Upper Spencer Gulf region would support an increase in population, diversify employment opportunities, and represent an increase in localised and informed decision-making.

Across Australia, increases in population and economic activity have promoted demand and investment in road infrastructure, public transport and active transport facilities in the areas surrounding these projects. The Upper Spencer Gulf Region may face similar challenges.

Transport needs:

Relocation of public services to the Upper Spencer Gulf will necessitate the management of traffic and potential road user conflicts in the vicinity of the site(s), including attention to safe pedestrian, cycling and public transport access.



Higher Education & Research

Whilst the USG has many opportunities to diversify and grow its economy, there is a disconnect between the current educational opportunities offered and the current demand for scientific, professional and technical skills within the region. Current forms of higher education offered within the region include TafeSA campuses in Port Augusta, Port Pirie and Whyalla.

A new model of higher education and research delivery is currently being progressed to develop, attract and retain skilled workers within the region.

Industries within the region would share in benefits from research with focus on regional mining, processing, renewable energy and clean technologies. Localisation of research supporting future industry development in the USG has the potential to promote population growth and skills retention and justify further investment in transport in the region.

Consideration should also be given to the establishment of university study hubs in each City, closely linked to industry placement.

Transport needs:

Road infrastructure investment and local passenger transport will be needed to support growth in higher education and research, including reliable and efficient intra-city transport.



Industry Investment and Transport Needs

City Liveability & Vibrancy

Through successful master planning activities, Whyalla, Port Augusta and Port Pirie have planned and implemented many initiatives towards city liveability and vibrancy in the past five years. These have included foreshore redevelopments, rejuvenation of sporting and library facilities, parks, garden and streetscape upgrades, bike and walking tracks, water reuse schemes and community events that foster civic pride and vibrancy.

For the three cities, a key part of the transformation effort has been opening up and refocusing the town centres to take advantage of the water and landscape views. Transport connections need to reflect these shifts to ensure these areas are accessible and attractive for all.

Further opportunities exist for the region to foster a culture of innovation in its cities. By activating and rejuvenating the city centres, and ensuring access is maintained, these three cities will have increased potential to attract small business and retain population.

Transport needs:

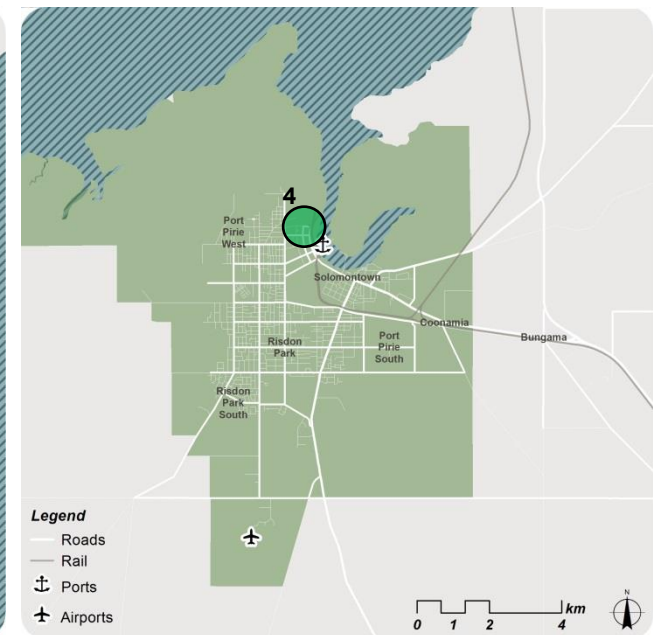
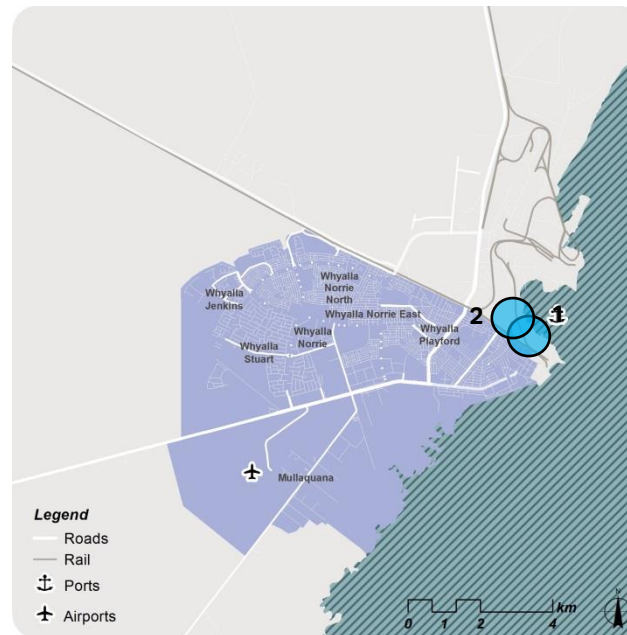
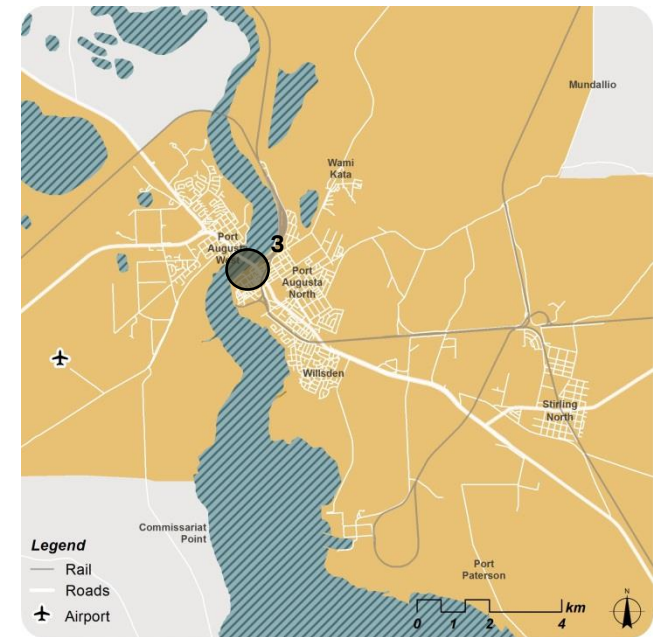
Each city needs to focus on maintaining local connections and investing in streetscapes, and implement transport solutions that reflect city liveability and vibrancy. This will entail balancing the needs of freight, commuter, pedestrian and cycle traffic in town centres and housing areas.

Sample projects that support city vibrancy and liveability include:

1. Whyalla foreshore and marina redevelopment (in progress)
2. Whyalla city centre pedestrian and wayfinding enhancements (planned)
3. Port Augusta city centre redevelopment and streetscape enhancement (proposed)
4. Port Pirie pedestrian improvements, streetscape enhancements and traffic calming (in progress)

Local road priorities:

Further local road priorities are detailed in Appendix B.





Industry Investment and Transport Needs

Environment & Natural Assets

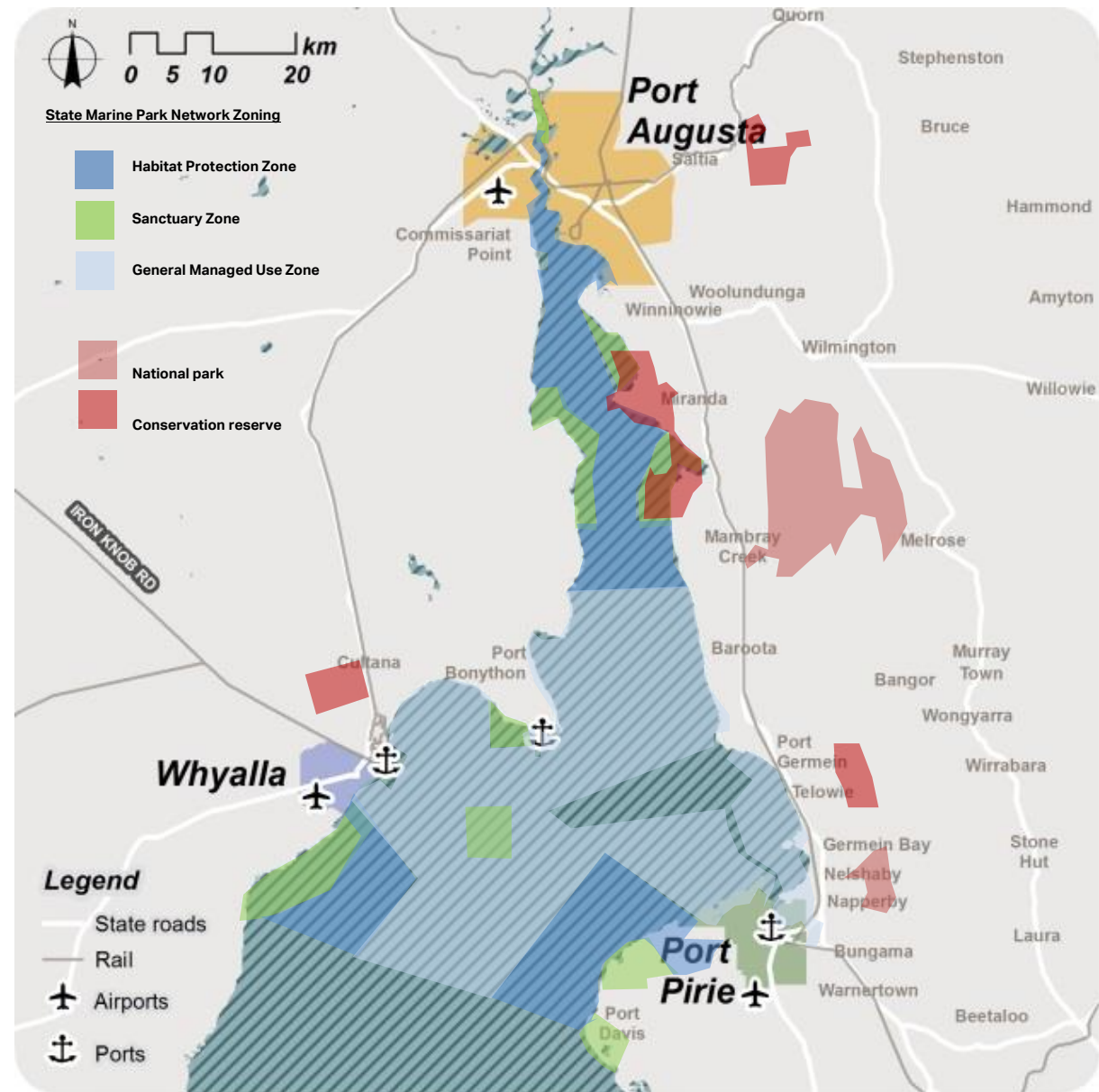
The natural landscapes of the Flinders Ranges and the coast and marine environment of the Upper Spencer Gulf are defining characteristics that underpin the sense of place valued so highly by residents and visitors. Ecological and aesthetic protection of these landscapes requires a strong, ongoing investment into land use and development planning as well as environmental restoration and monitoring.

Currently, these controls include regulations associated with the State Marine Park Network Zoning, National Parks and Conservation Reserves (shown right).

Transport needs:

Transport planning within the Upper Spencer Gulf region should seek to promote appropriate and sensitive development and be planned to be resilient to the effects of climate change.

In particular, marine and port development should consider the impacts of rising sea levels on marine ecology and minimise the impacts on the surrounding environment. Other transport infrastructure should be designed to be resilient against flood and bushfire events.



Summary of Transport Needs to Support Future Industries

Transport infrastructure investment is required to support the future industries of the USG region. Derived from the transport needs of the 'industries of the future', the following provides a summary of the overarching issues to consider when planning for regional transport infrastructure.

Issues specific to each transport mode are identified as gaps in current service provision and are discussed in the following section.

Another key consideration will be the minimisation of conflicts between the variety of road users within the Upper Spencer Gulf, with projects that support enhanced freight movement needing to ensure that commuter, pedestrian, cycling and business traffic is not compromised. This may entail the concurrent implementation of traffic management and traffic calming initiatives in key conflict areas.

Freight capacity

A key driver for economic growth within the region will be the continued development of resource deposits needing to be refined and transported through the region to end markets. The maximisation of benefits from these projects will rely on the assurance of sufficient capacity to accommodate freight flows from mineral sources to refinement and shipping points.

Operational and technological change

With relatively continuous change and advancement in the field of transport, it will be necessary for the Upper Spencer Gulf region to adapt to anticipated and sometimes unexpected evolutions in transport technology, service preferences, and operational standards. Currently, the main impending system deficiency is the inability of USG ports to directly handle large cape-size vessels.

Network resilience

The consistent and continuous flow of freight through the region is a key element in ensuring the ongoing development of economic activity. The disruption of these flows can have negative impact in the short and long-term. Frequency and magnitude of these types of incidents can be gained by building resilience into the network (i.e. alternate road or rail paths) or by upgrading the existing infrastructure to reduce its vulnerability to unexpected conditions.

Sustainability and protection of ecosystems

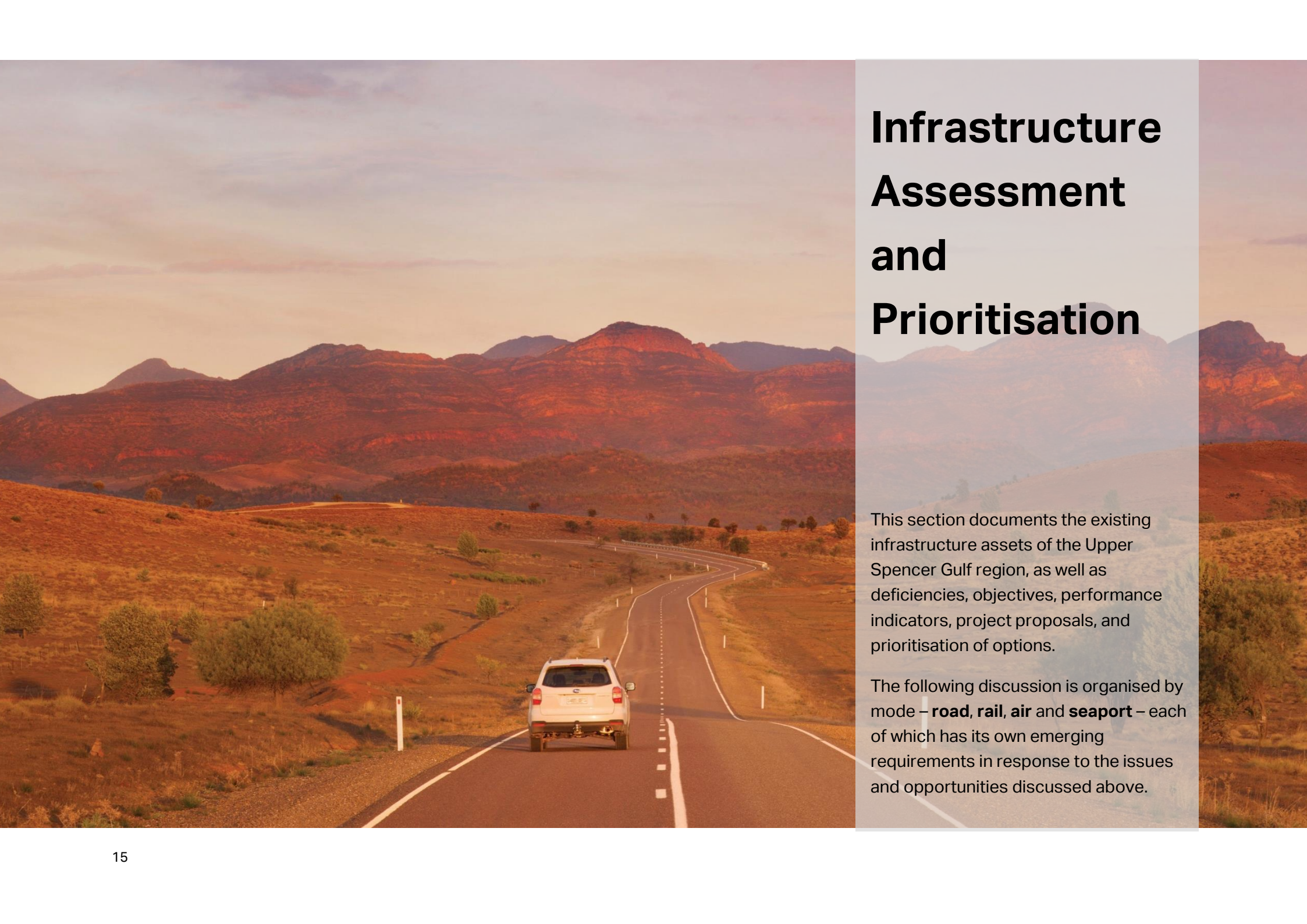
Maintaining a healthy ecological environment is of considerable concern to the preservation of a balanced future in the Upper Spencer Gulf region. It is critical that infrastructural initiatives respect and preserve these habitats, and also support a sustainable environment through emphasis on clean and efficient transport methods wherever possible.

A strong regional image

One of the key prerequisites for the success of cities is their overall image, or 'city branding'. The perceptions of Port Augusta, Port Pirie and Whyalla have the potential to affect their attractiveness to tourists, foreign investors or potential students. Improving the liveability and vibrancy of these centres is aimed at triggering more interest and investment by business and attracting new residents. Transport investment within the Upper Spencer Gulf region should prioritise tourism, attractiveness and increased connectivity to enable the cities of Port Augusta, Port Pirie and Whyalla to transition from service centres to destination cities.

Economic diversification

The Upper Spencer Gulf region has a strong reliance on mining, manufacturing and electricity generation sectors - all of which are dependent on national and global influences. As the fluctuations within each of these industries can lead to long-term unpredictability in regional employment requirements, it is essential that these base industries be supported with steadier complementary business sectors for which the demand for employment is generally constant. These may include tourism and the relocation of government services to the region.



Infrastructure Assessment and Prioritisation

This section documents the existing infrastructure assets of the Upper Spencer Gulf region, as well as deficiencies, objectives, performance indicators, project proposals, and prioritisation of options.

The following discussion is organised by mode – **road**, **rail**, **air** and **seaport** – each of which has its own emerging requirements in response to the issues and opportunities discussed above.



Road Infrastructure Needs

Infrastructure Assessment
& Prioritisation



Road

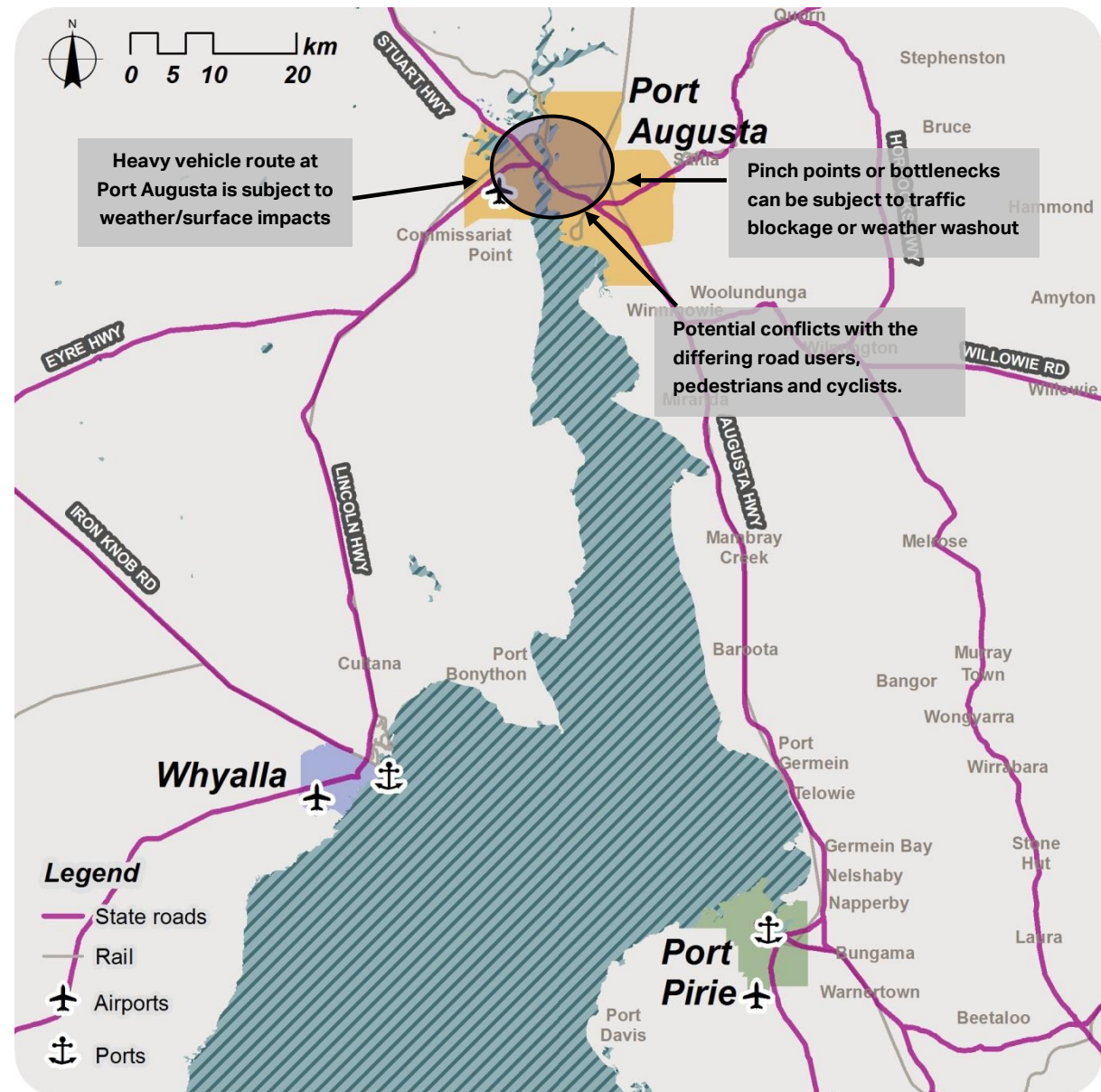
Existing Infrastructure

There are a number of key roads in the Upper Spencer Gulf which are critical to its economic growth. There are also a number of roads that traverse the region which are nationally significant for both passenger and freight purposes. Key roads and the associated authority responsible for them include:

Road name	Responsibility
Lincoln Highway	State
Eyre Highway	State (National significance)
Stuart Highway	State (National significance)
Flinders Ranges Way	State
Princes Highway	State (National significance)

Each of these roads is a sealed single carriageway with intermittent overtaking lanes with the exception of a duplicated portion of Augusta Highway through eastern and central Port Augusta.

The disruption of flows on these routes can have negative impact in the short and long term; with the potential to cause downstream delays and regular disruption to cause reluctance to move raw materials and goods through the region. Specific issues are identified on the map at right. Also critical to consider are the conflicts between commuter, tourism and heavy vehicle traffic throughout the region.





Road

Existing Infrastructure

The cities of Port Augusta, Whyalla and Port Pirie are strategically located with respect to national, state and regional transport corridors. In addition to the arterial road links managed by the State Government, each Council maintains a system of sealed and unsealed streets for local circulation. These range from low-volume unsealed roads to major collectors.



Regional road links in Port Augusta include:

Road designation	AADT	CV%
A1 Victoria Pde	14,100	10
A1 Augusta Hwy	10,800	12
A1 Eyre Hwy	2,700	21
A87 Stuart Hwy	900	27

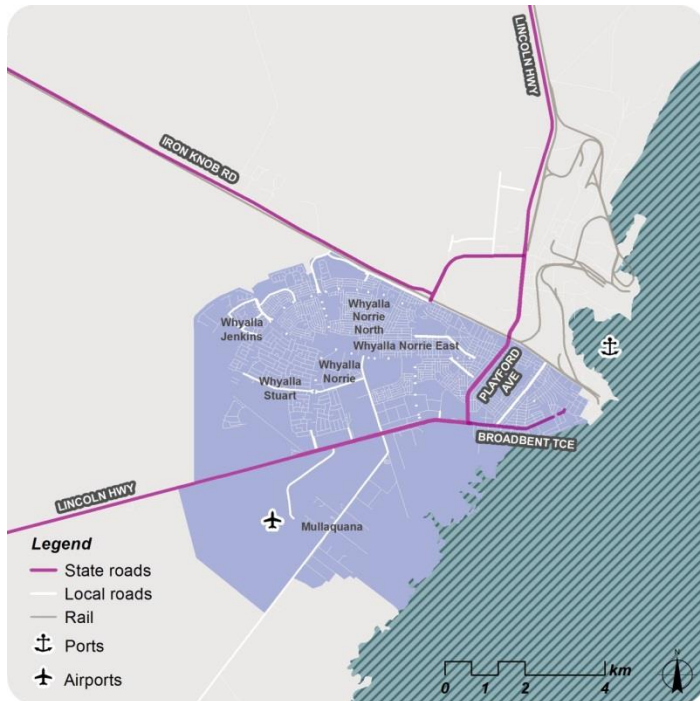
Regional links in Whyalla include:

Road designation	AADT	CV%
Playford Ave	3,900	10
Arthur Glennie Dr	3,100	10
McBryde Rd	2,400	6
Lincoln Hwy	2,100	17
Broadbent Tce	1,300	22

Regional links in Port Pirie include:

Road designation	AADT	CV%
Main Rd	13,800	3
A1 Augusta Hwy (south)	4,800	19
A1 Augusta Hwy (north)	4,300	22
Spencer Hwy	2,700	7
Warnertown Rd	2,700	11
Three Chain Rd	2,300	6

AADT: Annual average daily traffic
CV%: Percent commercial vehicles





Road

Transport Objectives

Based on the issues and opportunities highlighted in previous sections, the objectives for the road transport system entail the following:

Targets

Targets for the road system depend on the types of uses that define both regional and local roadways, as well as the sensitivity of their contexts.

Key Performance Indicators

Key performance indicators are quantitative expressions of targets for specific areas, in terms of both ultimate goals and periodic improvements.

Efficient flow of freight

This measure entails the minimisation of delay to road freight, particularly given the high-value commodities being transported and the importance of timely arrivals to port facilities.

Efficient flow of freight can be summarised as the attaining of level of service B at most times of day, including the peak periods. For urbanised areas, level of service C during the non-peak periods and level of service D during the peak periods are generally considered realistic targets of well-performing road systems.

- Key freight routes are operating at level of B or better 90 percent of both the peak and non-peak traffic periods.
- Key freight routes through urbanised areas are operating at level of service C or better during 90 percent of non-peak times.
- Key freight routes through urbanised areas are operating at level of service D or better during 90 percent of all peak traffic periods.

Safe movement of people

Safety is the primary planning objective of all road systems, with the health and security of all persons using the roads for any purpose (including walking and cycling) a key consideration in any efforts to maximise speed or throughput.

The ultimate target of safety in relation to roads is zero road deaths and injuries. In urbanised areas safety targets can also be expressed in terms of the security of pedestrians and cyclists in relation to vehicular traffic.

- Roads: 0 road deaths or a 20% reduction in all crashes per year

Resilience

Resilience refers to the ability of the road network to respond to unpredictable events, including natural phenomena (primarily weather) or non-natural obstructions to the system (i.e. vehicle blockage or surface/structural failure).

The target of resilience is the assurance that at least one reasonably direct alternate route is available for all key freight and traffic movements, and is related to the ultimate breadth and interconnectedness of the road system.

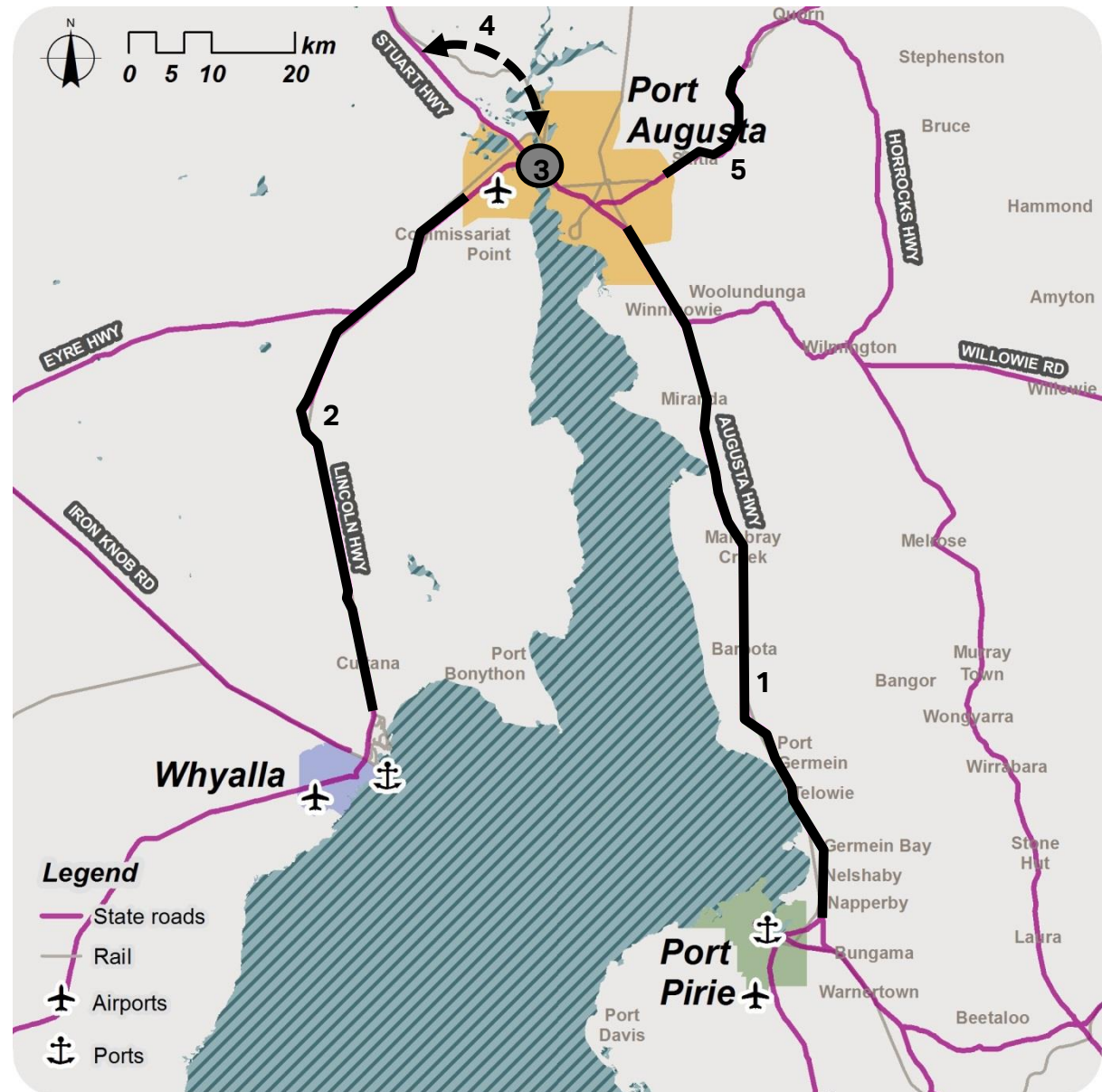
- Alternate route available for key links with less than 20 km total diversion.
- Total closure incidents occur less than once per 5 years.



Road

Gaps & Deficiencies

1. Safety and capacity concerns on Augusta Highway between Port Augusta and Port Wakefield.
2. Safety and capacity concerns on Lincoln Highway between Port Augusta and Whyalla.
3. Port Augusta Bridge can be entirely shut down due to incident or breakdown. Safety issues between heavy vehicles and pedestrians/cyclists require addressing.
4. Yorkey's Crossing heavy-vehicle route is unsealed and unnavigable in heavy rain.
5. The condition of Depot Creek Road is not suitable to increasing traffic and heavy freight vehicles.





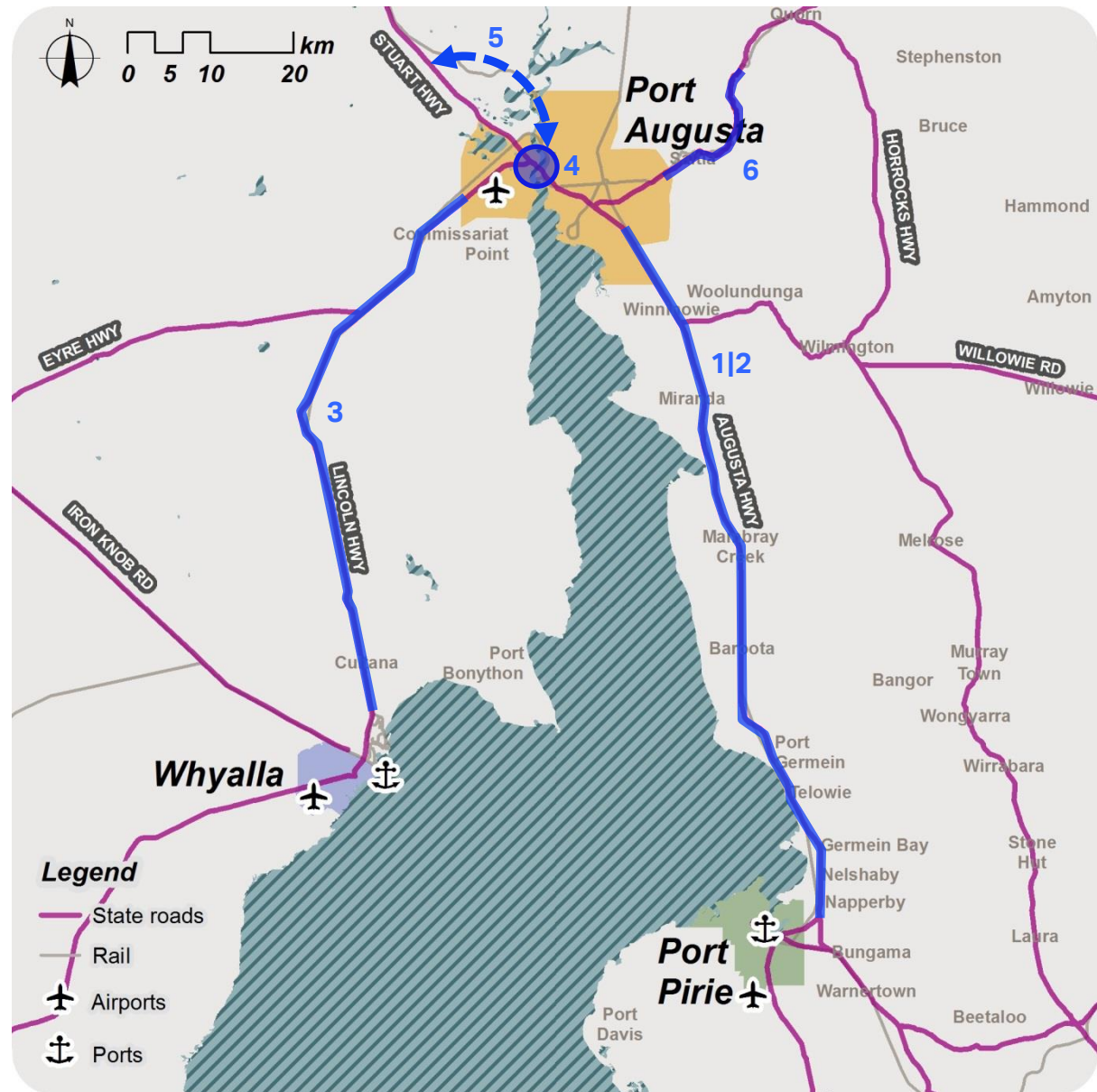
Road

Proposed Major Projects

1. Build additional overtaking lanes on the national highway between Port Augusta and Port Wakefield.
2. Duplicate the national highway between Port Augusta and Port Wakefield.
3. Build additional overtaking lanes on Lincoln Highway between Port Augusta and Whyalla.
4. Duplicate the Port Augusta Bridge to avoid occurrences of complete shutdown.
5. Seal the Yorkey's Crossing heavy-vehicle bypass route and realign the route pattern through the north east of Port Augusta.
6. Improve the condition of Depot Creek Road to better suit heavy vehicles and increasing levels of traffic.

Local road priorities:

Local road priorities are detailed in Appendix B.





Road

Evaluation of Options and Project Prioritisation

Proposed Project		Criticality of Need	Timing of Need	Objectives Addressed	Growth Industries Supported	Priority Level	Enablers	Justification
1	Build additional overtaking lanes on the national highway between Port Augusta and Port Wakefield.	medium	short term	efficient flow, safe movement		2	traffic growth	Overtaking lanes currently exist on most stretches of Augusta Highway and should be supplemented proportionally with growth in traffic levels. Key performance indicators with respect to levels of service should be monitored closely to identify specific high-priority improvement areas.
2	Duplicate the national highway between Port Augusta and Port Wakefield.	low	long term	efficient flow, safe movement		3	traffic growth	Overtaking lanes currently exist on most stretches of Augusta Highway and are generally adequate to support service and safety targets. However performance indicators particularly with respect to safety should be monitored to identify potential critical stretches for duplication.
3	Build additional overtaking lanes on Lincoln Highway between Port Augusta and Whyalla.	high	short term	efficient flow		2	traffic growth	Overtaking lanes are being installed on Lincoln Highway and should be supplemented proportionally with growth in traffic levels. Key performance indicators with respect to levels of service should be monitored closely to identify specific high-priority improvement areas.
4	Duplicate the Port Augusta Bridge to avoid occurrences of complete shutdown.	project dependent	project dependent	resilience		2	traffic growth	Duplication of the Port Augusta Bridge would be justifiable with any substantial increase in traffic levels, particularly given the current lack of network resilience through this corridor making it particularly susceptible to traffic incidents.
5	Seal the Yorkey's Crossing heavy-vehicle bypass route and realign the route pattern through the north east of Port Augusta.	project dependent	project dependent	safe movement, resilience		2	increase in freight traffic	Sealing of the Yorkey's Crossing heavy-vehicle route would be justifiable with an appreciable increase in the number of trucks that use the route on a daily basis. The importance of this project will be substantially accelerated with any development project that relies on the route as a primary means of access.
6	Improve the condition of Depot Creek Road to better suit heavy vehicles and increasing levels of traffic.	medium	mid-term	efficient flow, safe movement		2	increase in freight traffic	The condition of Depot Creek Road will become a large concern with the finalisation of any proximate development project, and will become particularly critical if this route becomes the main access route for the proposed nuclear waste facility.



Rail Infrastructure Needs

Infrastructure Assessment
& Prioritisation





Rail

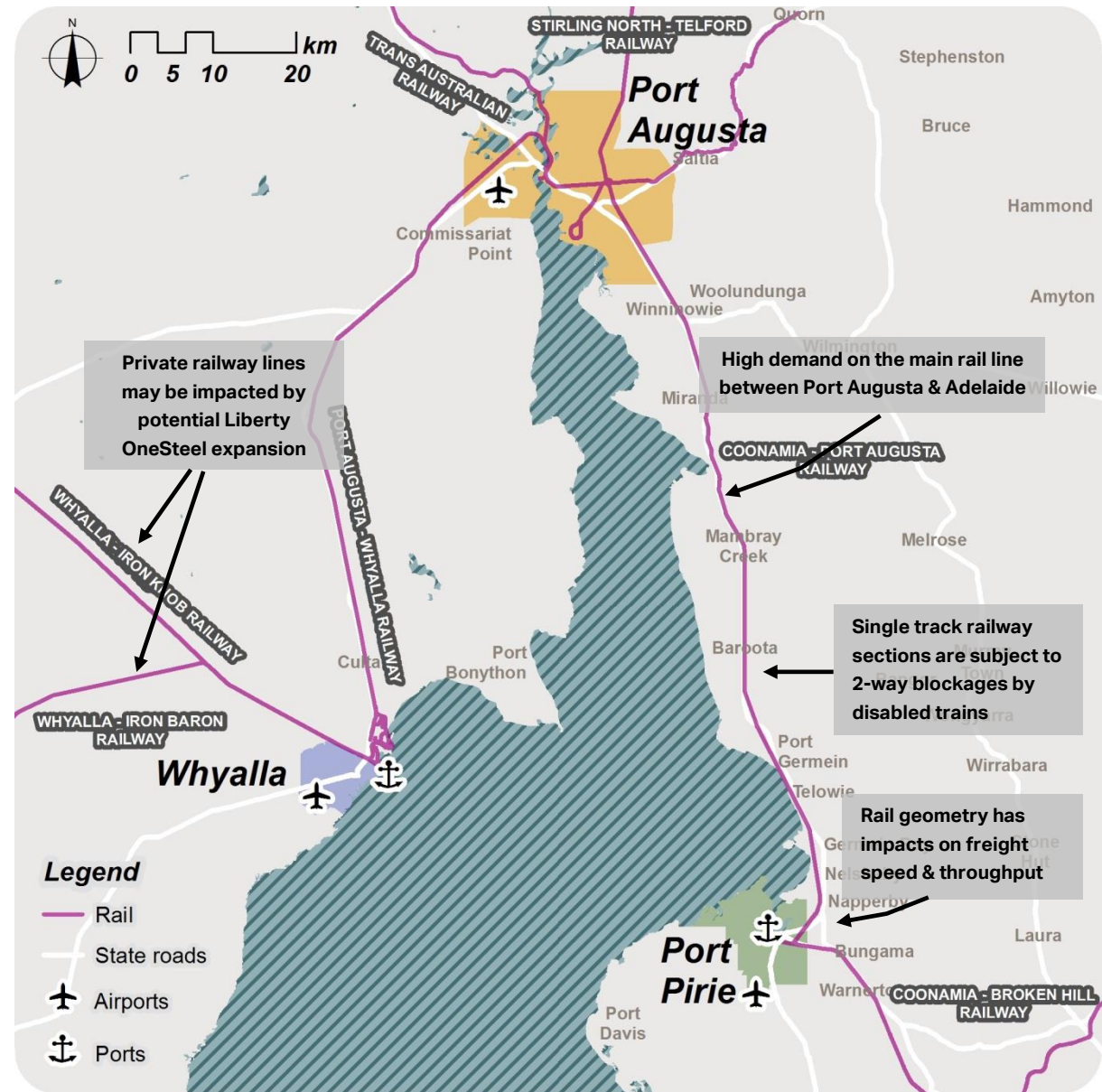
Existing Infrastructure

A number of nationally significant rail lines traverse the Upper Spencer Gulf region, converging at Port Augusta. The Melbourne-Perth corridor alone carries over two million tonnes of rail freight per annum.

Genesee & Wyoming Australia operates the main north-south trunk line between Adelaide and Darwin, hauling grain, gypsum, iron ore, manganese, copper and other minerals in trains that can stretch to several kilometres in length.

Australian Rail Track Corporation (ARTC) owns the Port Augusta-Whyalla Railway, while the railways to Iron Knob/Iron Baron and Leigh Creek are privately owned and operated.

Whilst two long-distance passenger services traverse the region (the Ghan between Adelaide and Darwin, the Indian Pacific between Sydney and Perth) neither provides for the collection or distribution of local passengers.





Rail

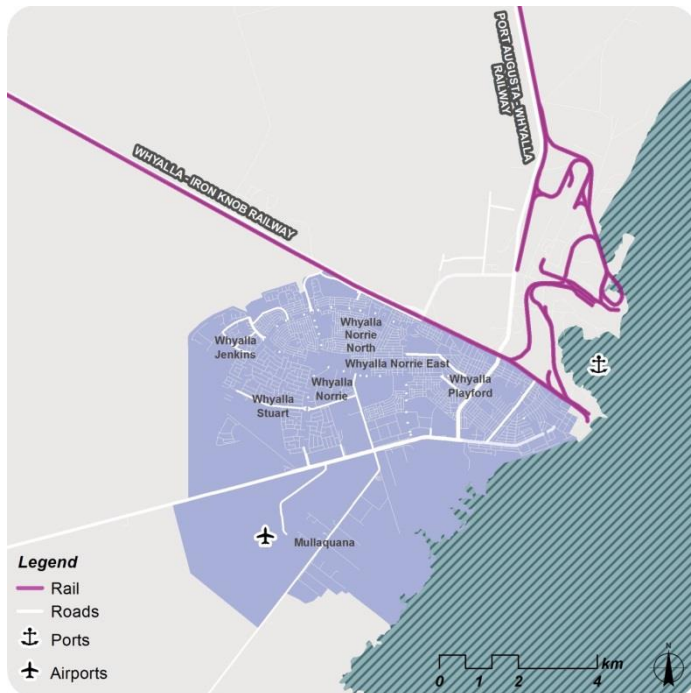
Existing Infrastructure

Each of the three cities within the Upper Spencer Gulf region is well connected to national and local rail networks. Rail infrastructure linking Adelaide to Darwin and Sydney to Perth cross the region and converge at Port Augusta.



The key rail infrastructure surrounding Port Augusta is entirely standard gauge and owned by the Australia Rail Track Corporation (ARTC), with the exception of the line to Leigh Creek which is owned by Alinta Energy. The narrow gauge track to Quorn is operated as the Pichi Richi Railway tourist attraction.

Rail infrastructure surrounding Port Pirie extends north to Port Augusta and south to Crystal Brook, where it splits toward Adelaide and Broken Hill. This infrastructure is standard gauge, owned by ARTC and used for both passenger (the Ghan) and freight services.



The City of Whyalla is connected to the national rail network through a standard gauge spur line to/from Port Augusta. This rail line is operated by ARTC. The narrow-gauge railway line stretching to the west (before splitting into branches to Iron Knob/ Iron Baron) is owned and operated by Liberty OneSteel.



Rail

Transport Objectives

Based on the issues and opportunities highlighted in previous sections, the objectives for the rail transport system entail the following:

Targets

Targets for the rail system depend on the types of uses that define each publicly and privately owned railway, as well as their strategic positioning with respect to future production growth.

Key Performance Indicators

Key performance indicators are quantitative expressions of targets for specific areas, in terms of both ultimate goals and periodic improvements.

Efficient flow of freight

Efficient freight flows entail the minimisation of delays along key railway lines. While duplication is the primary means of averting delays, this must be balanced with the costs as many capacity constraints can be sufficiently handled with strategically placed passing loops.

Trains should have the ability to be scheduled to match the production capabilities of the key resource or manufacturing facilities connected to the railway.

- Trains do not experience regular (i.e. daily) delays due to lack of capacity or passing loops.

Capacity growth

Given the nature of the resource development industry, excess capacity should be built into key rail lines to handle production increases as conditions permit.

In general the additional capacity to be built into the railway line should equal or exceed the increased production quantities that could be brought online in a time frame less than that needed to enhance the railway at a later time.

- The time frame of a potential railway capacity enhancement project is equal to time frame of the necessary production increase to require it; all smaller production increases can be handled with the current railway configuration.

Resilience

As with the road system, the concept of resilience entails the assurance that key corridors are not disrupted for significant blocks of time. In the case of rail, this generally pertains to disabled trains.

Maximum allowable delays to trains should be focussed on a target that averts downstream flow-on impacts, for instance the effects on ports of any delays to incoming freight rail services.

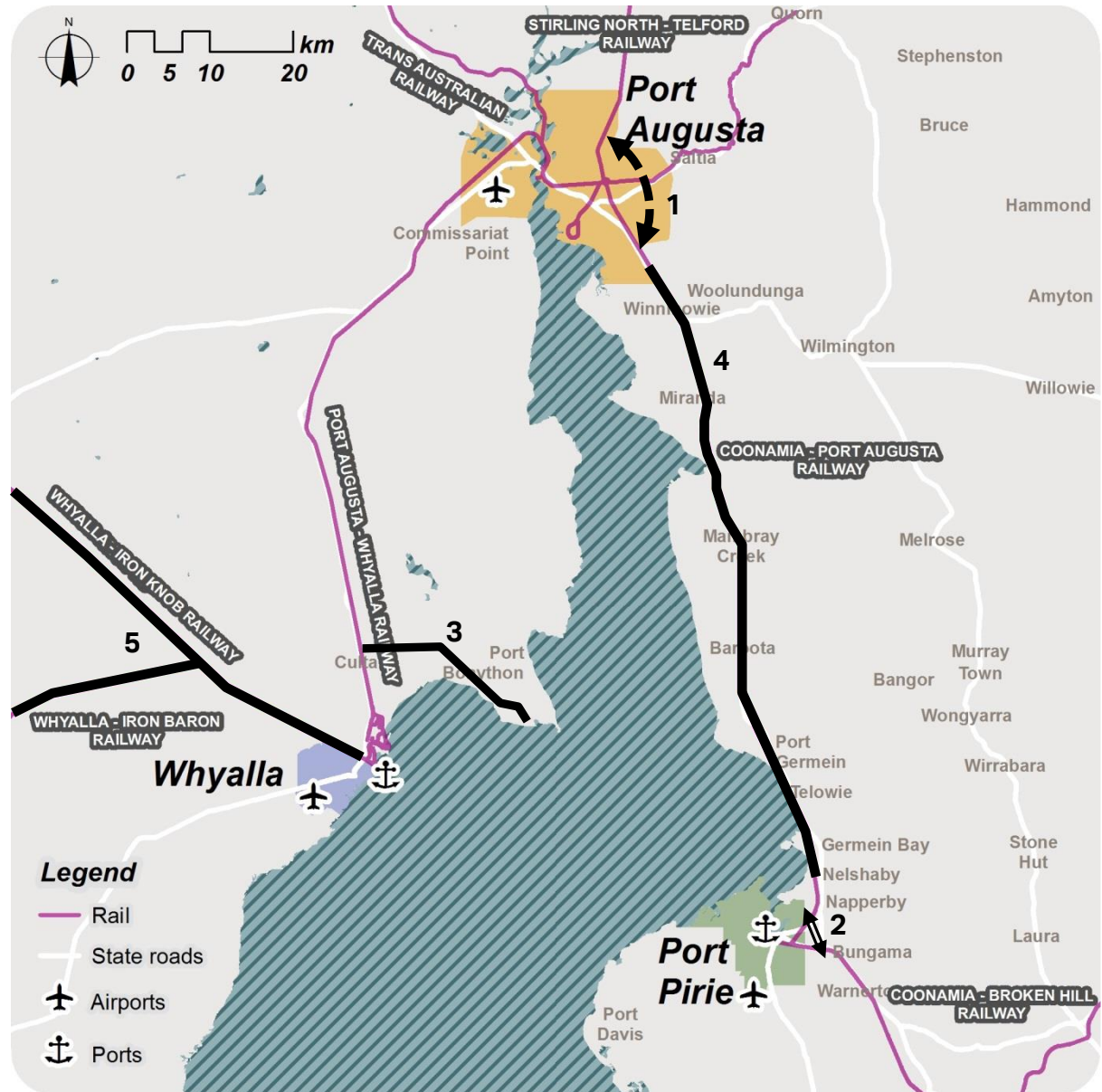
- Passing loops and interim service vehicle locations are sufficient that disabled trains can be quickly attended to in order to avoid delay to downstream freight tasks.



Rail

Gaps & Deficiencies

1. Slow freight movements through Port Augusta.
2. Slow freight movements through Port Pirie.
3. Deficiency of freight access to Port Bonython, particularly if expanded.
4. Limited capacity on the Adelaide to Perth railway line south of Port Augusta.
5. Limited capacity on the narrow gauge railway lines west of Whyalla.

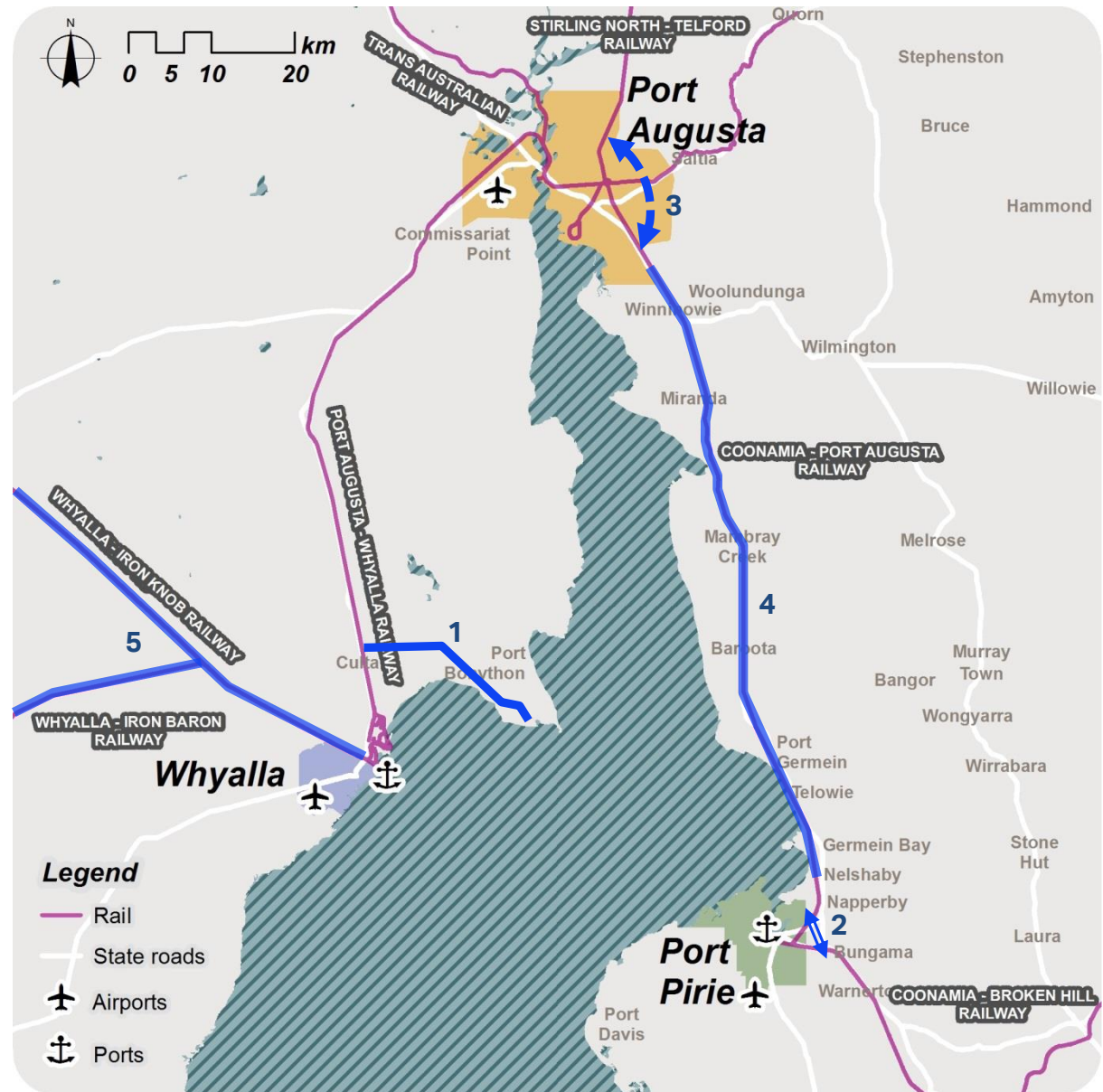




Rail

Proposed Projects






















1. Connect to the proposed bulk port export facility at Port Bonython via a new standard-gauge connection to the Port Augusta-Whyalla Railway.
2. Realign the main railway line near Port Pirie.
3. Build a rail bypass of Port Augusta (including relocation of Spencer Junction) to alleviate local amenity issues.
4. Improve capacity on the Adelaide to Perth railway line south of Port Augusta.
5. Further expand the capacity of the narrow-gauge railway lines west of Whyalla that are currently being upgraded for heavier loads.





Rail

Evaluation of Options and Project Prioritisation

Proposed Project	Criticality of Need	Timing of Need	Objectives Addressed	Growth Industries Supported	Priority Level	Enablers	Justification
1 Connect to the proposed bulk port export facility at Port Bonython via a new standard-gauge connection to the Port Augusta-Whyalla Railway.	project dependent	project dependent	efficient flow, capacity	    	2	expansion of port activity at Port Bonython	A rail connection will be critical if there are any further new facilities (or expansion of operations) at Port Bonython, in particular to avoid the traffic and environmental impacts of a substantial increase in truck traffic to the site.
2 Realign the main railway line near Port Pirie.	medium	mid-term	efficient flow	  	3	sensitivity of freight travel times	The existing bend in the railway alignment at Port Pirie causes a regular delay to through freight-traffic along this route, yet does not impact the travel times for movements to and from Port Pirie.
3 Build a rail bypass of Port Augusta (including relocation of Spencer Junction) to alleviate local amenity issues.	project dependent	long term	efficient flow	  	3	increase in freight traffic	A rail bypass of Port Augusta would improve travel times through the area and would reduce the impacts of freight movements on local traffic and amenity.
4 Improve capacity on the Adelaide to Perth railway line south of Port Augusta.	medium	mid-term	efficient flow, capacity	      	1	increase in freight traffic	General improvements to this rail corridor (in the form of additional passing loops or sections of duplicated track) would have a high comparable benefit specifically with respect to efficient flow and resilience, and would support a large subset of the key industries of the future.
5 Further expand the capacity of the narrow-gauge railway lines west of Whyalla that are currently being upgraded for heavier loads.	high	project dependent	capacity	  	3	increase in Liberty OneSteel production	As a privately operated line, a potential partnership between government and Liberty OneSteel to expand the capacity of these corridors could help optimise the production potential of the connected properties.



Air Infrastructure Needs

Infrastructure Assessment
& Prioritisation



Air

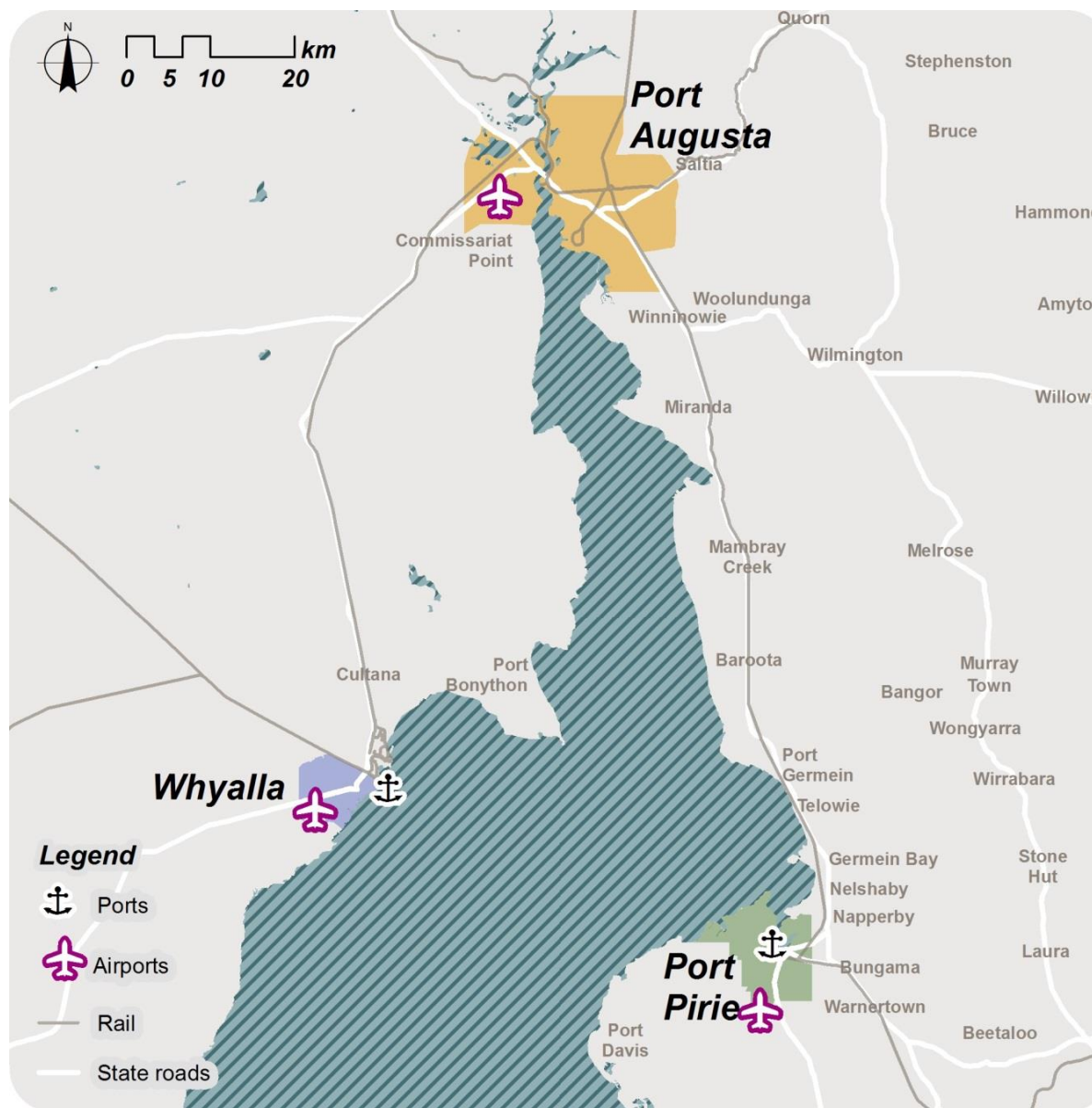
Existing Infrastructure

There are three airports in the Upper Spencer Gulf region – in the cities of Port Augusta, Port Pirie and Whyalla. Whyalla and Port Augusta airports provide regular passenger transport services. Movements to/from the airports within the Upper Spencer Gulf region include:

- Private flying
- Royal Flying Doctor Service (RFDS)
- Fly-In-Fly-Out (FIFO)
- Flight training
- Chartered services
- Defence use
- Country Fire Authority use.

Annual movements (total take-offs and landings) at Whyalla and Port Augusta each of these airports are expected to grow with further development of the resources and tourism industries.

Each airport is owned by its local council.





Air

Existing Infrastructure



Port Augusta Airport

Port Augusta Airport sits 5.6 kilometres west of the city centre between Eyre Highway and Caroon Road. It consists of a single runway oriented on the 150/330-degree axis.

Sharpe Airlines ceased their passenger services between Port Augusta and Adelaide in May 2017; however Regional Express has begun operating three services per week on the same route as of September 2017. Additional services at Port Augusta Airport include:

- Private flying
- Royal Flying Doctor Service (RFDS)
- Fly-In-Fly-Out (FIFO)
- Flight training.

The City of Port Augusta owns and manages Port Augusta Airport. There are car and truck rentals available at the airport operated by Budget.



Port Pirie Airport

Port Pirie Airport is located six kilometres south of the city centre.

It is owned and operated by the local Council and consists of approximately 30 movements (total take-offs and landings) per day.

In addition to passenger services, Port Pirie Airport operates:

- Freight services
- Chartered services
- Flying training
- Royal Flying Doctor Service (RFDS)
- Fly-In-Fly-Out (FIFO).

Present operations are limited to small turboprop aircraft, although there is potential to upgrade the runway in its current alignment to accommodate 50-seat planes potentially for expanded FIFO operations.

Port Pirie Airport is owned and managed by Port Pirie Regional Council.



Whyalla Airport

Whyalla Airport is located 7.4 kilometres south west of the city.

Regional Express and QantasLink operate commercial services twice daily contributing to a total of more than 3,000 annual movements to and from this facility.

In addition to passenger services, Whyalla Airport also operates the following services:

- Private flying
- Royal Flying Doctor Service (RFDS)
- Occasional defence use
- Fly-In-Fly-Out (FIFO)
- Country Fire Service (CFS).

There have been recent upgrades to the passenger terminal with further expansion projected to be required within the next couple decades.

Whyalla City Council has operated Whyalla Airport since 1991 when it was transferred from the Federal Government.



Air

Transport Objectives

Based on the issues and opportunities highlighted in previous sections, the objectives for the air transport system entail the following:

Targets

Targets for air transport depend on the types of users that define each airport facility, as well as the nature of their growth opportunities.

Key Performance Indicators

Key performance indicators are quantitative expressions of targets for specific facilities, in terms of both ultimate goals and periodic improvements.

Accommodate growth in passenger volume

With ongoing prospective expansion of the tourism and services industries, the ability to accommodate increase levels of passengers will be important to maximising the return on any related investments.

Enhancements should be programmed to occur in advance of projected passenger demand.

- Current facilities should be sufficient to accommodate the projected growth in passengers over a 5-year time frame.

Optimise the flexibility of operations

The ability to handle a diverse set of aircraft would optimise the utility of each of the respective airports into the future.

The capabilities of each airport to handle a variety of aircraft types should be directly related to the types of airside operations at each location, and anticipate the changes in how key client groups are transported with respect to size or style of aircraft.

- All aircraft within a planning envelope reasonably consistent with the size of the airfield should be accommodated. (In other words, relatively small enhancements that would result in greater operational flexibility should be highly prioritised.

Support growth in aviation-related industries

A high level of private flying within the region would enable investment in airport infrastructure to have direct economic benefit for their local areas.

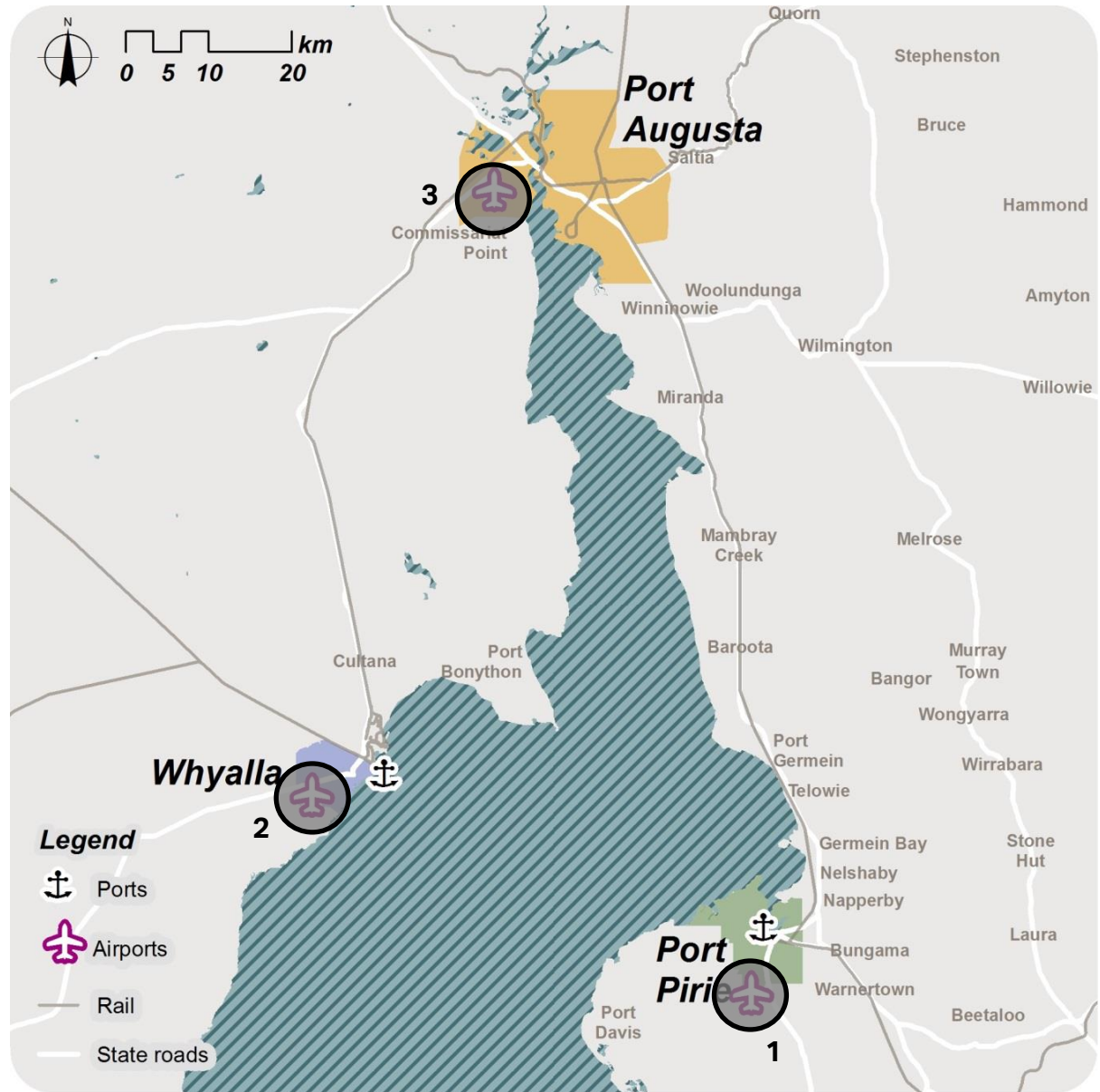
All airports should have a designated footprint within their sites for incremental expansion of the general aviation industry.

- Availability of facilities and land footprint to private flying and general aviation should be consistent with each airport's specific goals or 'prototype' airfield operations.



1. Limited runway length at Port Pirie Airport
2. Limited pavement strength at Whyalla Airport
3. Limited pavement strength at Port Augusta Airport

1. Limited runway length at Port Pirie Airport
2. Limited pavement strength at Whyalla Airport
3. Limited pavement strength at Port Augusta Airport

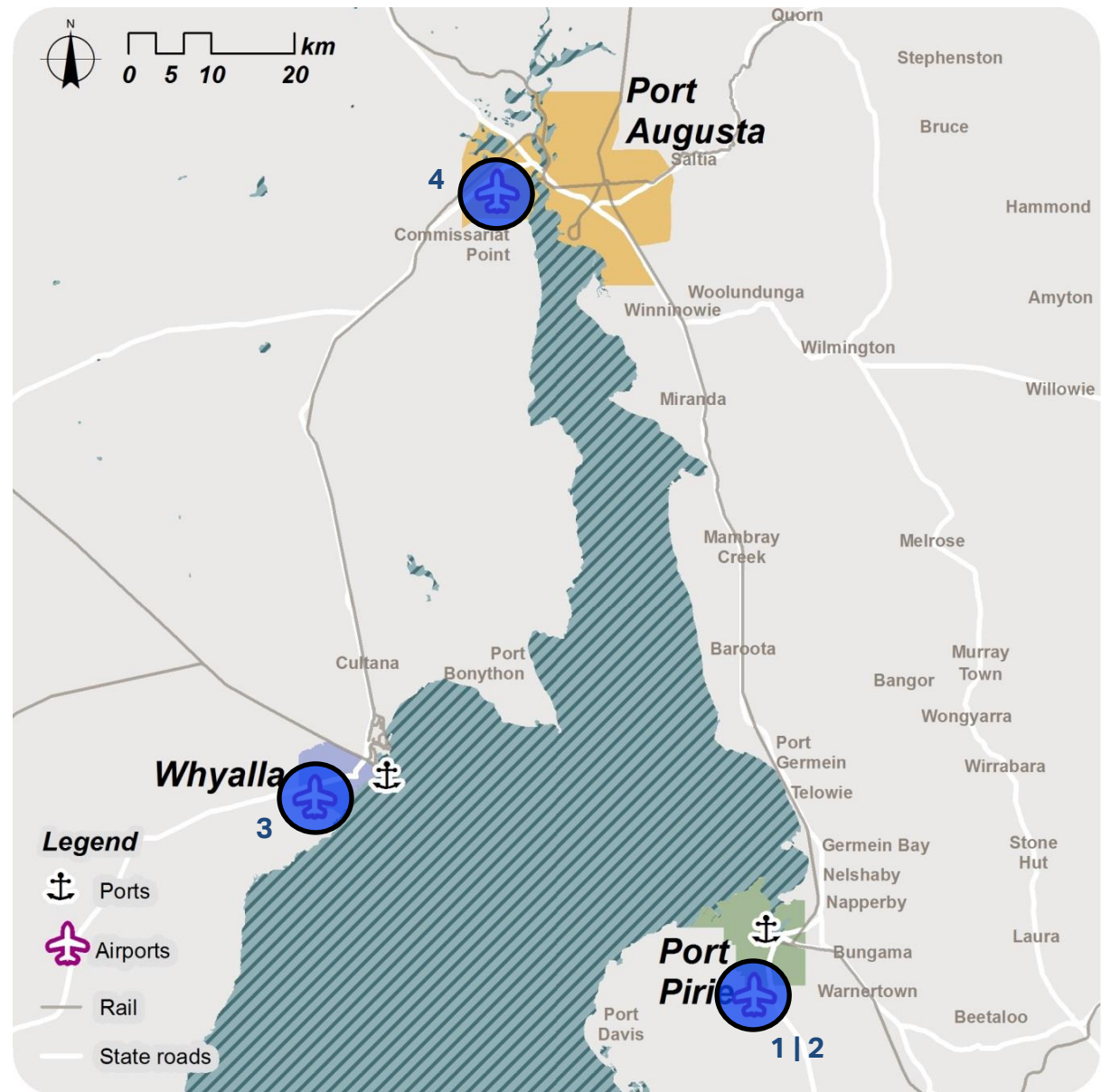




Air

Proposed Projects

1. Maximise the opportunity for larger aircraft movements at Port Pirie Airport by upgrading the runway to accommodate 50-seat aircraft.
2. Expand the facilities for general aviation at Port Pirie Airport.
3. Improve the pavement strength at Whyalla Airport to support heavier aircraft and enable diversion from Adelaide as needed.
4. Improve the pavement strength at Port Augusta Airport to support heavier aircraft and enable diversion from Adelaide as needed.





Air

Evaluation of Options and Project Prioritisation

Proposed Project	Criticality of Need	Timing of Need	Objectives Addressed	Growth Industries Supported	Priority Level	Enablers	Justification
1 Maximise the opportunity for larger aircraft movements at Port Pirie Airport by upgrading the runway to accommodate 50-seat aircraft.	medium	mid-term	passenger growth		3	industries requiring FIFO	The accommodation of 50-seat aircraft would expand the operational flexibility of Port Pirie Airport however the demand would need to be demonstrated through an expansion of industries for which FIFO is a desirable employment method.
2 Expand the facilities for general aviation at Port Pirie Airport.	medium	mid-term	aviation industry		1	initiatives to grow general aviation industry	As an important component of the Port Pirie airport operation, the attraction of expanded private flying opportunities could help diversify the local economy and contribute to the growth of tourism.
3 Improve the pavement strength at Whyalla Airport to support heavier aircraft and enable diversion from Adelaide as needed.	medium	short term	flexibility		2	passenger demand	The current driver of the need for a stronger runway surface arises from the desire to support Adelaide Airport as an alternate landing field; the expansion of local passenger demand to support larger aircraft would further support the need for pavement strength improvements.
4 Improve the pavement strength at Port Augusta Airport to support heavier aircraft and enable diversion from Adelaide as needed.	medium	short term	flexibility		2	passenger demand	The current driver of the need for a stronger runway surface arises from the desire to support Adelaide Airport as an alternate landing field; the expansion of local passenger demand to support larger aircraft would further support the need for pavement strength improvements.



Sea Infrastructure Needs

Infrastructure Assessment
& Prioritisation



Seaport

Existing Infrastructure

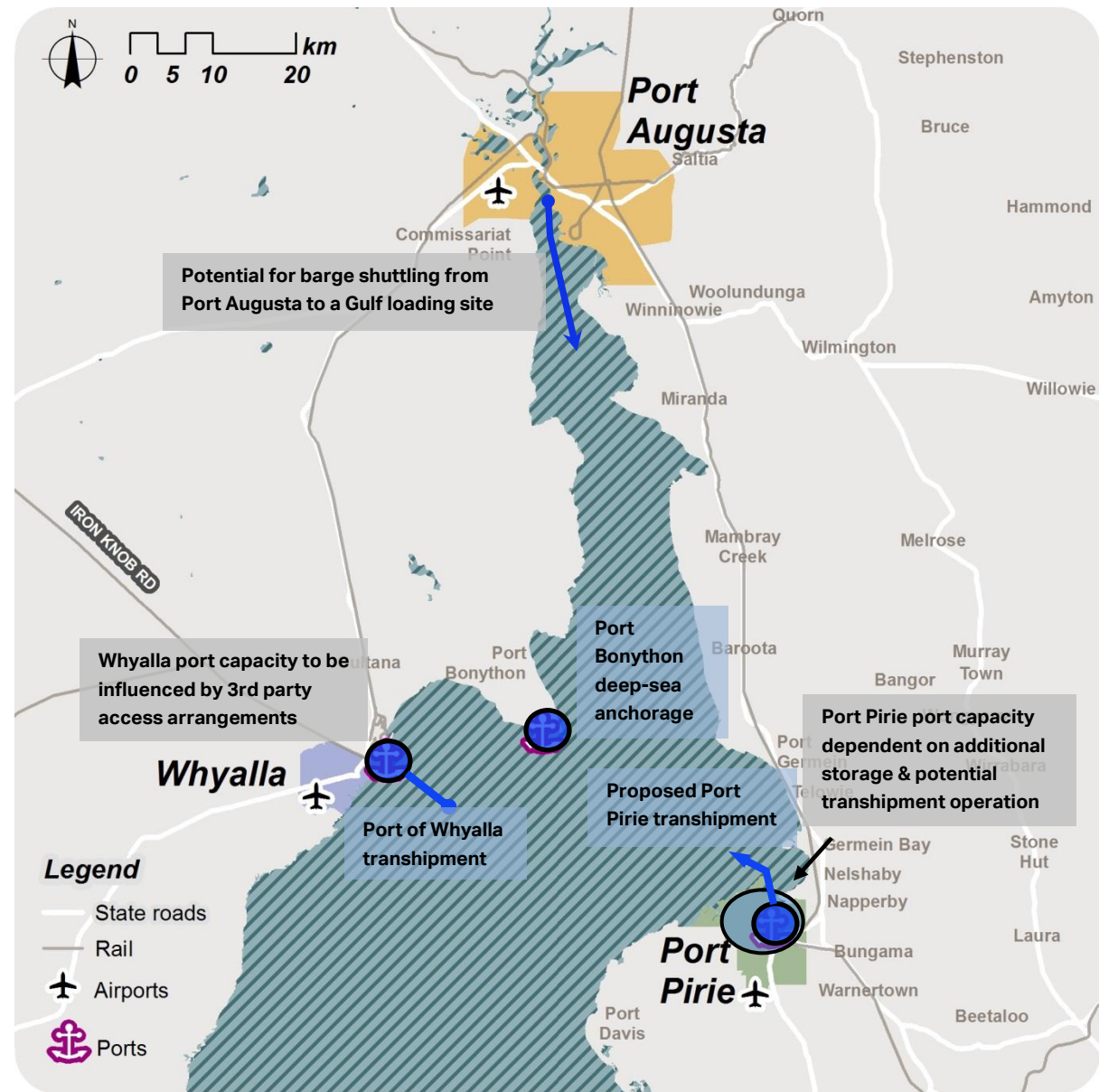
There are a number of key ports located in the Upper Spencer Gulf region with key commodities including:

- dry bulk
 - minerals
 - coal
 - parageothite
- steel
- general cargo

Ports in the Upper Spencer Gulf and their ownership are summarised below:

Location	Owner/Operator
Port of Whyalla	Private (Arrium) with pre-arranged third party access
Port Bonython	Private (Santos)
Port Pirie	Open (Flinders Ports)

Only Port Bonython offers deep-water access for cape-size vessels (up to 110,000 tonnes) along its 2.4km-long jetty while the Port of Whyalla relies on a transhipment operation to a deep anchorage 7 kilometres off-shore.





Seaport

Existing Infrastructure



Port Augusta

The port of Port Augusta had historically been used for commercial trade, however ships no longer service the port. Due to increasing vessel sizes and the shallow nature of the waters at the northernmost point of the Upper Spencer Gulf, Port Augusta's former port activity has migrated southward to Port Pirie and Whyalla, which are now the favoured locations for shipping operations to/from the region.

Private recreational marine vessels continue to operate in the Harbor of Port Augusta, anchored by the Port Augusta Yacht Club established in 1881.

In the future it is possible that Port Augusta could reinstate portside operations by barging raw materials to a new transshipment point in the upper third of the Upper Spencer Gulf.



Port Pirie

The port at Port Pirie is situated to the north of the central business district off the eastern edge of Spencer Gulf on the Port Pirie River.

The Port consists of 11 berths and is operated on an open-access basis by Flinders Ports Pty Ltd.

Key commodities transferred through this Port include (*Flinders Ports Annual Statistics 2016*):

Commodity	Tonnes
Mineral concentrates	487,039
Coal	73,148
Parageothite	115,238
General cargo	10,942

Grains and seeds are the principal agricultural products exported through Port Pirie.

Port Pirie is currently investigating a transshipment arrangement to cater to larger vessels.



Port of Whyalla

The Port of Whyalla is situated to the north of the city on the western edge of the Upper Spencer Gulf.

The Port consists of a jetty and four berths and is privately owned by Arrium. Key commodities transferred through the port include steel, dry bulk and general cargo used at the Arrium Whyalla manufacturing plant.

The port consists of an Inner Harbour and Outer Harbour the latter in the form of an ore jetty, using a transshipment point seven nautical miles into Spencer Gulf. The berth depth of each harbour is 10.7 metres.

The next nearest port to Whyalla is Port Bonython to the north, a deep-water port owned and operated by Santos Limited capable of loading small cape-size vessels of up to 110,000 tonnes.



Seaport

Transport Objectives

Based on the issues and opportunities highlighted in previous sections, the objectives for the system of seaports throughout the Upper Spencer Gulf entail the following:

Targets

Targets for seaport development depend on the types of uses that define each port facility, as well as the nature of their growth opportunities.

Key Performance Indicators

Key performance indicators are quantitative expressions of targets for specific facilities, in terms of both ultimate goals and periodic improvements.

Efficient accommodation of freight

The ability to accommodate and move freight at each port should be consistent with the capacity of the road and rail freight corridors that serve it.

Freight transfer capacities should match or exceed the corridor capacities leading into the port, at least as deemed reasonable by projections of production levels.

- Current facilities should match or exceed the capacity of the rail and road freight corridors leading to the port, within the constraints of reasonable expectations of shipping volume.

Capacity for increased shipping activity

Capacity for shipping should respond to projections in production activities within the surrounding regions.

Given the heavy infrastructure construction requirements of most port expansion projects, planning for ports should respond to production projects over at least an advanced 5 to 10 year time frame.

- The total capacity of the port facilities for each product should match the 5 to 10 year time horizon for production from the service area.
- The total capacity of the port facilities should match or exceed the projected ground transport capacity for a 5 year time horizon.

Resilience

Flexibility amongst ports could help to maintain freight flows if an unforeseen incident (for instance a fuel spill) causes a temporary shutdown, to the degree the facilities can be made compatible.

Alternate locations for critical flows should be identified for each type and origin of shipping freight.

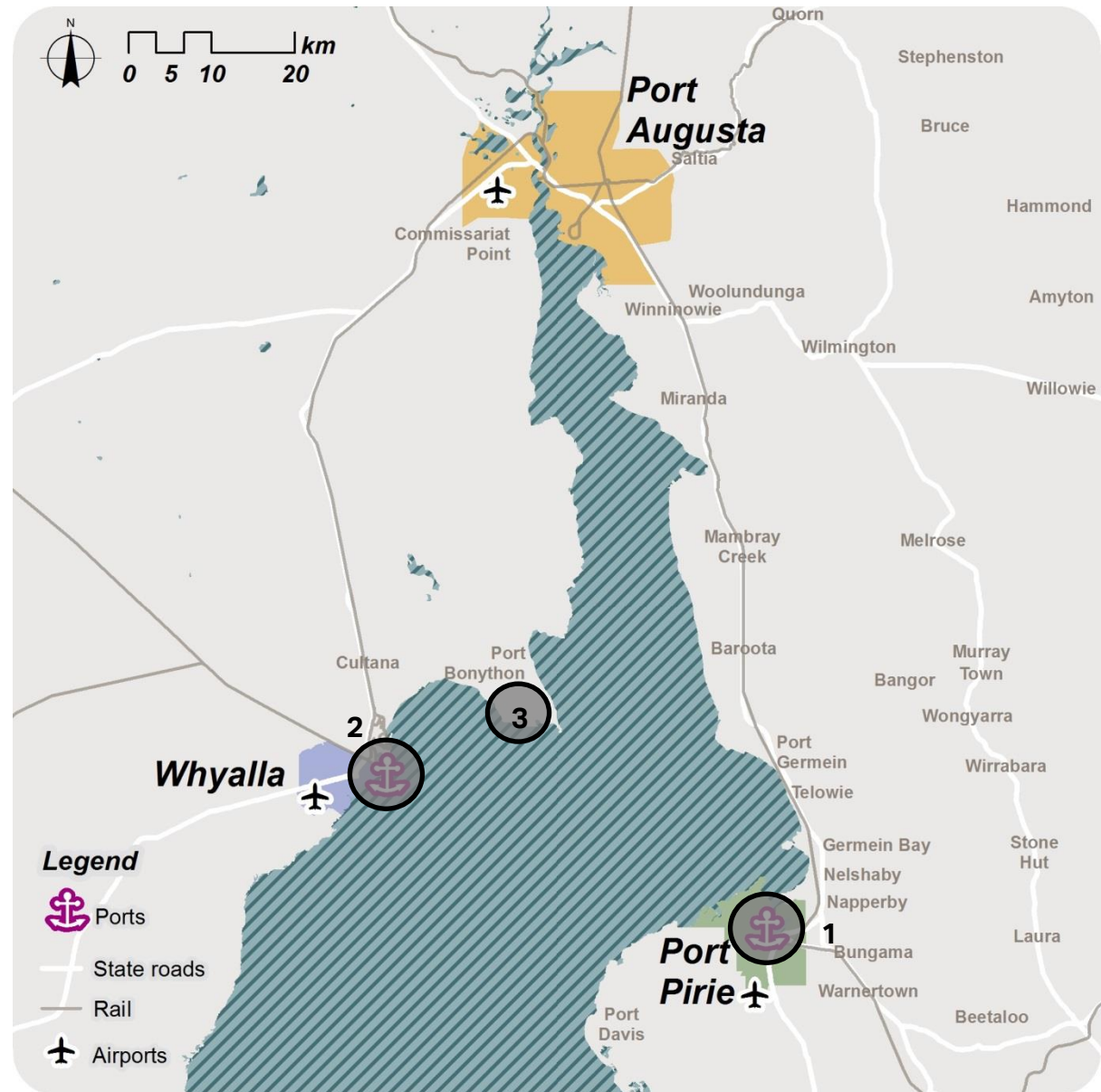
- Alternate shipping paths should be identified for all products.



Seaport

Gaps & Deficiencies

1. The current port configuration at Port Pirie does not allow for significant expansion of business into larger ships and high commodity volumes.
2. There are concerns about the growth potential of the Port of Whyalla with limited expansion options and uncertainty about the details of third-party access.
3. There is a lack of adequate freight capacity to Port Bonython given the potential for expanded port operations.

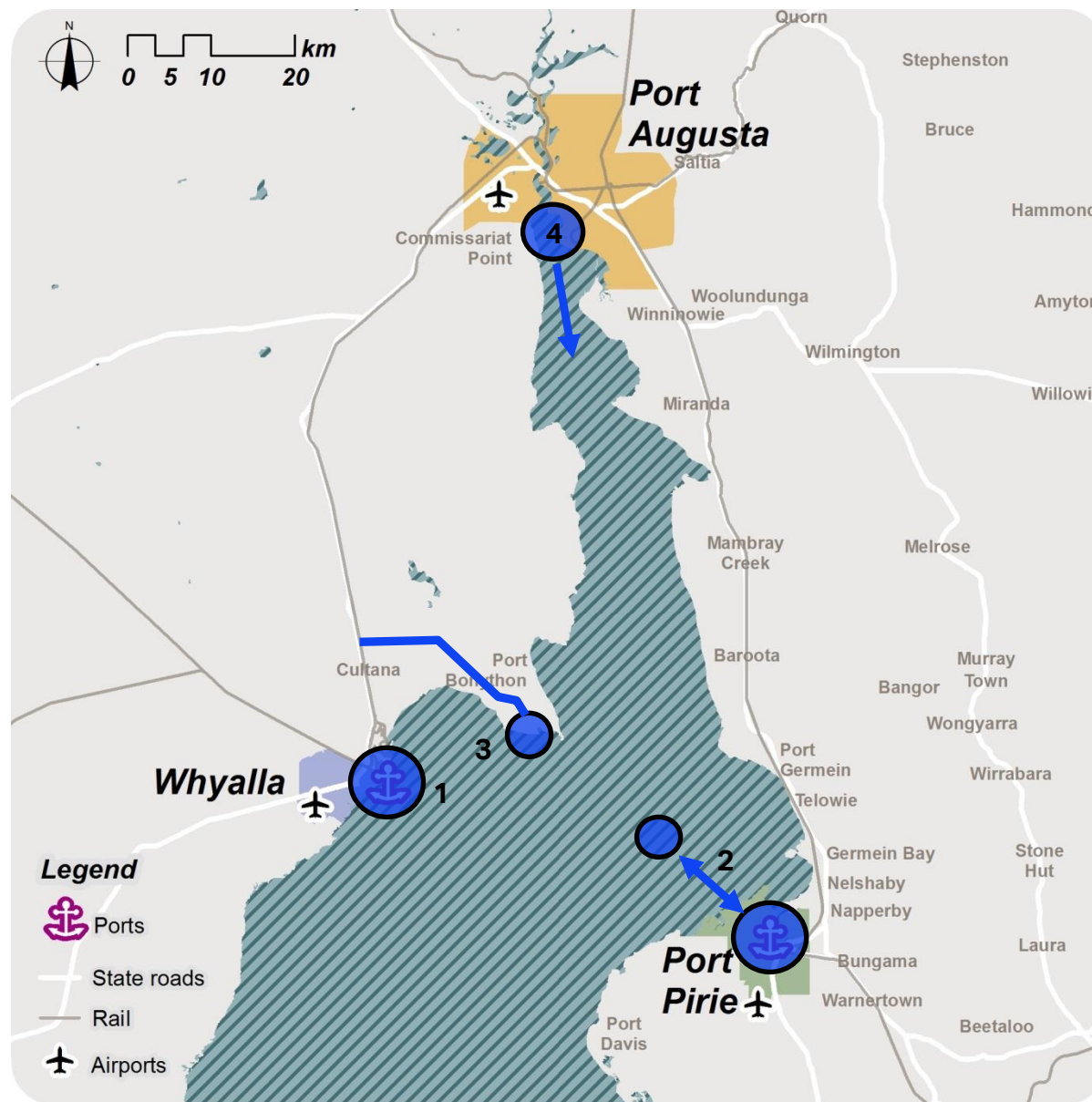








Seaport

Proposed Projects

1. Expand the Port of Whyalla with additional multiple user access opportunities and increased landside storage.
2. Expand port operations at Port Pirie with greater storage, a rail shuttle system, and a transshipment operation to an off-shore anchorage for cape-size vessels.
3. Construct a bulk commodity export facility at Port Bonython, including a standard-gauge rail connection to the main north-south line below Cultana.
4. Commence a barge shuttling operation for iron ore from Port Augusta to a newly established transshipment point.



Evaluation of Options and Project Prioritisation

Proposed Project		Criticality of Need	Timing of Need	Objectives Addressed	Growth Industries Supported	Priority Level	Enablers	Justification
1	Expand the Port of Whyalla with additional multiple user access opportunities and increased landside storage.	project dependent	project dependent	capacity growth		2	new projects requiring shipping access	The Port of Whyalla represents a significant asset with strategic road and rail connections, and its expansion to allow further opportunities for third-party access could help reposition Whyalla as a port of choice for a variety of industries.
2	Expand port operations at Port Pirie with greater storage, a rail shuttle system, and a transshipment operation to an off-shore anchorage for cape-size vessels.	medium	short term	efficient flow, capacity growth		1	increased production at local manufacturing facilities	The option of expanding the port at Port Pirie would convey benefits to a large subset of growth sectors and would support the proposed redevelopment of the Port Pirie smelter and expansion of additional regional industries.
3	Construct a bulk commodity export facility at Port Bonython, including a standard-gauge rail connection to the main north-south line below Cultana.	medium	mid-term	efficient flow, capacity growth		2	expansion of operations	The freight paths to the bulk commodity export facility would require enhancement (specifically with rail) to avoid the congestion and environmental impacts of a substantial increase in road freight.
4	Commence a barge shuttling operation for iron ore from Port Augusta to a newly established transshipment point.	project dependent	project dependent	efficient flow, capacity growth		3	demand for ore export & interest from shipping sector	The ability to re-commence shipping operations from Port Augusta could have significant environmental sustainability benefits by shortening the ground transport requirements from origin to shipping point.

Summary and Next Steps

The USG region is a dynamic area where transport demands are constantly evolving. By highlighting the demand for projects that support liveability and sustainability as well as industry growth, the USG region is well placed to take full advantage of its assets and optimise its future.

This report has identified and assessed current and proposed transport infrastructure projects for the USG region for each transport mode, including road, rail, airport and seaport.

In summary, the highest priority projects which are independent of specific industry development projects within the region include:

- Additional overtaking lanes on Lincoln Highway between Port Augusta and Whyalla
- Expansion of the capacity of the narrow-gauge railway lines west of Whyalla that are currently being upgraded for heavier loads
- Expanded capacity on the Adelaide to Perth railway line south of Port Augusta
- Expansion of port operations at Port Pirie
- Expansion of the facilities at Port Pirie Airport.

While this identification and prioritisation activity can serve as a general guide for the staging and funding of the most critical projects, the changing nature of the USG landscape dictates that the prioritisation of projects will need to be periodically revisited as various mining, manufacturing, energy and other projects change in scale and pace in response to market conditions.

It is recommended that in the short-term, regional representatives work with various stakeholders and partners to develop further details of projects requiring the greatest degree of coordination. These stakeholders may include surrounding Local Governments, State Government, and owners/operators of infrastructure assets, manufacturing facilities, and resource development projects. Specifically, where possible, a full understanding of the plans of private investors will be critical to refine rail and port strategies to support their aims.

This will help to ensure smooth implementation for projects which are either independently justified or which are dependent on specific industry advancements, as acceleration in related development projects may increase the priority level of supporting transport infrastructure.

Appendix A – Documents Consulted

1	Upper Spencer Gulf Heavy Industry Hub	KPMG	Jun-12	29	Port Pirie Regional Council Strategic Plan	Port Pirie Regional Council	2009
2	Upper Spencer Gulf Regional Sustainability Planning	Dept of Environment and Energy		30	Port Pirie Regional Council Community Plan 2016-2025	Port Pirie Regional Council	2016
3	Baseline and predicted changes for the Upper Spencer Gulf Marine Park	National Parks South Australia	2016	31	Whyalla Airport Master Plan	The Airport Group	2014
4	Olympic Dam Expansion Draft Environmental Impact Statement: Appendix O - Water Birds of the Upper Spencer Gulf	N/A		32	Whyalla - Beach Road and Marina Master Plan	Masterplan	2016
5	Upper Spencer Gulf Planning and Development Framework Feasibility Project	N/A	2014	33	Whyalla Foreshore Master Plan		
6	Upper Spencer Gulf Model Planning Provisions	N/A	2015	34	Whyalla Public Health Plan	Jensen	
7	Spencer Gulf Ecosystem & Development Initiative	University of Adelaide	2013	35	Whyalla Council Strategic Plan	Whyalla City Council	2015
8	North Spencer Gulf - Fact sheet	Government of South Australia		36	Whyalla Council Tourism Strategic Plan	Whyalla City Council	2015
9	CBD Masterplan (and associated Docs)	Port Pirie Regional Council		37	Climate change adaptation report	Local Government Association Mutual Liability Scheme	2011
10	Business Case - Port Pirie CBD Rejuvenation	Port Pirie Regional Council		38	Community Vision and Strategic Plan - Port Augusta	Port Augusta City Council	Mar-16
11	Impact of Defence training activities and facilities on rural and regional communities	Spencer Gulf Cities	Apr-17	39	Infrastructure Asset Management Plan	Tonkin	2016
12	Heavy metal contamination in the northern Spencer Gulf - summary	EPA		40	Port Augusta Laurie Wallis Aerodrome - Master Plan	Port Augusta City Council	2009
13	Upper Spencer Gulf Marine Park Regional impact Statement	Econsearch	2012	41	Regional Public Health Plan 2015-20	Port Augusta City Council	2015
14	Duplication of Gas Pipeline - Port Pirie			42	Pt Augusta Airport Terminal Upgrade Plans	Mick Heath	Aug-13
15	Employment Lands Study - Port Pirie	Connor Holmes	2012	43	A Social Vision: Port Augusta	Port Augusta City Council	2001
16	Airport Assessment - FIFO (scoping study)	Aerodrome Design	2012	44	Port Augusta: Shaping the Future Vol 1 and 2	Optimum Consulting and Training	2000
17	FIFO demand study	Aurecon	2012	45	Regional North South Transport Corridor	Murraylands Regional Development Board	2006
18	Council Analysis - FIFO	Port Pirie Regional Council	2012	46	Modern Transport System for Agriculture - A New Partnership Approach	Primary Producers SA	2015
19	Key Strategic Priorities for the Growth of Pt Pirie	Port Pirie Regional Council		47	Port Augusta Structure Plan	Connor Holmes	2009
20	Preliminary Assessment of a Strategic Port Expansion Option	Aurecon	2013	48	RDA Far North Regional Plan / Roadmap	RDA Far North	2013
21	Port Pirie Port Expansion Proposal	Port Pirie Regional Council		49	RDA Whyalla and Eyre Peninsula Regional Plan	RDA Whyalla and Eyre Peninsula	2014
22	Port Pirie Transformation summary document	Port Pirie Regional Council	2017	50	The Integrated Transport and Land Use Plan - Technical document	Government of South Australia	2015
23	Marine facility improvements - Port Pirie	Port Pirie Regional Council	2017	51	Far North and Outback SA Climate Change Adaptation Report	RDA Far North	2016
24	Port Pirie Asset Management Plan 2013-23	Port Pirie Regional Council	2013	52	Port Augusta Economic Growth and Investment Strategy	RDA Far North	2016
25	Port Pirie Long Term Financial Plan 2013-23	Port Pirie Regional Council	2013	53	Yorke and Mid-North Regional Roadmap	RDA Yorke and Mid North	2014
26	Port Pirie Aerodrome Masterplan - Draft Master Plan	Port Pirie Regional Council	Jun-16	54	USG Advancing the Economic and Social Development	The South Australian Centre for Economic Studies (SACES)	
27	Regional Public Health Plan 2014-2019	Port Pirie Regional Council	2014	55	Port Pirie Social Indicator Situational Analysis	RDA Yorke and Mid North	
28	Bicycle Strategy for the City of Port Pirie	Bike SA and HUB Traffic and Transport	2011	56	Mobile Black Spots in Yorke & Mid North Database		
				57	Regional Development Australia Yorke and Mid North Skills Survey (June 2012)	Insightrix Research	
				58	Making a Case: Investment Potential in the Upper Spencer Gulf	Invest Australia	2000

59	Regional Freight to support regional communities	South Australian Freight Council	2008	88	USG - Stocks and flows report	Strategic Economic Solutions	Oct-14
60	Regional Biodiversity Management Plan	Bronwyn M. Gillanders, Ayesha I. T. Tulloch and Simon Divecha	2015	89	USG Strategic Transport Summary	Upper Spencer Gulf Common Purpose Group	
61	Adelaide Rail Freight Movements Study	Department of Infrastructure, Transport, Reg. Development & Local Govt.	2009	90	Living Well - Whyalla's Masterplan for Disability and Ageing 2025	RDA Whyalla and Eyre Peninsula	2014
62	Zero Waste SA Business Plan	Government of South Australia	2015	91	Whyalla Civic Infrastructure	Whyalla City Council	
63	Funding Application: Caroona Road - Special Local Roads Program 15-16	Spencer Gulf Cities	2016	92	Meeting response - Minister for Transport and Infrastructure	The Hon Stephen Mullighan	Sep-14
64	Climate change and Hazard Reduction Strategy	Spencer Gulf Cities	2015	93	Draft Road Management Plan excerpt - Yorkey's Crossing		
65	Letter to Mullighan - Pt Augusta to Whyalla overtaking lanes	Upper Spencer Gulf Mayors and MPs forum	2015	94	Letter to Premier and Penny Wright - Joy Baluch AM Bridge & Yorkey's Crossing	Sam Johnson (Mayor, Port Augusta City Council)	Jul-05
66	Submission - findings on the Nuclear Fuel Cycle Royal Commission Tentative Findings	Upper Spencer Gulf Common Purpose Group	2016	95	Yorkey's Crossing RDA Project	Claire Wiseman - CEO RDA Far North	2012
67	The Weekend Australian Jan 30-21 2016	Paul Cleary - The Weekend Australian	2016	96	ARTC Annual Report 2014	Australian Rail Track Corporation	2014
68	A New Port Pirie - Transforming the future	Nyrstar	2016	97	ARTC Annual Report 2015	Australian Rail Track Corporation	2015
69	Pirie Major Project Brief - CBD Upgrade, Entrance improvements, foreshore upgrade, wetlands, sports precinct	Port Pirie Regional Council	2016	98	EIS (executive summary) - Spencer Gulf Port Link (Port Bonython)	Arup	
70	Port Pirie - Retail Analysis	Connor Holmes	2012	99	Inquiry into the impact of Defence training activities and facilities on rural and regional communities	Foreign Affairs, Defence and Trade References Committee	Aug-17
71	Port Augusta Economic Profile	RDA Far North	2015	100	Senator's speaking notes - Inquiry	Senator Alex Gallagher	Aug-17
72	PIRSA - Agriculture, Food and Wine in South Australia	Government of South Australia		101	Regional Mining and Infrastructure Planning project - Eyre and Western Region	Deloitte	Nov-13
73	Port Augusta Investment Brief	RDA Far North		102	Regional Mining and Infrastructure Planning project - Eyre and Mid-North / Braemar	Deloitte	Nov-13
74	The Economic Contribution of Regions to Australia's Prosperity	Regional Australia Institute		103	Regional Mining and Infrastructure Planning project -Far North	Deloitte	Nov-13
75	Transitioning Regional Economies	Productivity Commission	2017	104	Business Case - Eyre Infrastructure Project (Iron Road Limited) - Iron Ore Mine	Infrastructure Australia	2016
76	South Australian Regional Mining and Infrastructure Plan		Jun-14	105	Business Case - Solutions to bulk mineral export infrastructure on Spencer Gulf	SA Resources Infrastructure Taskforce	Sep-15
77	Opportunities for Growth - Renewable Energy and CleanTech Sectors	Upper Spencer Gulf Common Purpose Group	Jul-15	106	Railway Crossing Safety Strategy - DPTI	Department of Planning, Transport and Infrastructure	2016
78	Port Funding & Financing Options for the Resources Infrastructure Taskforce	Department of State Development	Aug-15	107	Port Augusta Road Management Plan (draft)	Department of Planning, Transport and Infrastructure	Mar-12
79	Spencer Gulf Cities Rail Link Media Release	Upper Spencer Gulf Mayors	Jun-16	108	Integrated Transport and Land Use Strategy for South Australia	Government of South Australia	Jul-15
80	Special Local roads funding - Caroona Road	Upper Spencer Gulf	Feb-16	109	Functional Hierarchy for South Australia's Land Transport Network	Department of Planning, Transport and Infrastructure	Jun-13
81	Platform for 2016 Federal Election - USG	Upper Spencer Gulf	2016	110	Towards 0 Together - South Australia's Road Safety Strategy 2020	Government of South Australia	
82	USG - Decentralising Government Agencies Letter	Spencer Gulf Cities	Feb-17	111	Department of State Development - Port Funding & Financing Options for the Resources Infrastructure Taskforce	PwC	Aug-15
83	USG - Infrastructure Analysis 2011	Upper Spencer Gulf Common Purpose Group	2011	112	Resolution - Port Augusta Great Western Bridge & Joy Baluch AM Bridge	Port Augusta City Council	27-Mar-17
84	USG - Infrastructure Needs 2000	Upper Spencer Gulf Common Purpose Group	2000	113	Two Wells To Whyalla (2W2W) Economic Corridor	Primary Industries and Regions SA	25-Oct-17
85	USG - Port Access 1999	Upper Spencer Gulf Common Purpose Group	1999	114	Whyalla Northern Coastline Master Plan	Fyfe, Oxigen, SGL	2017
86	USG - RDA Infrastructure Master Plan Project Brief	RDA Whyalla and Eyre Peninsula	Mar-12	115	Eyre Peninsula Local Government Association 2015 Regional Transport Strategy	The SMEC Group	21-Apr-17
87	USG - Regional Planning Report	Upper Spencer Gulf Common Purpose Group	Feb-16				

Appendix B – Local Road Priorities

Port Augusta

Project	Summary
Joy Baluch AM Bridge	<ul style="list-style-type: none"> Concerns of safety and network resiliency during traffic incidents or closures. Full funding required for duplication.
Great Western Bridge	<ul style="list-style-type: none"> Recently closed due to structural concerns. Requires resolution about future functionality, particularly for pedestrians and cyclists.
Depot Creek Road	<ul style="list-style-type: none"> Requires sealing due to growth in traffic.

Port Pirie

Project	Summary
Koolunga to Mundoorra Road	<ul style="list-style-type: none"> Funding granted under the Special Local Roads Program for construction and sealing of the Koolunga to Mundoorra Road. To be completed over four (4) years Year 1 – 2017/18 – Ingram Gap Road (Augusta Highway to Mundoorra) – 7km, Year 2 – 2018/19 – Ingram Gap Road (Augusta Highway to Mundoorra) – 6.3km Year 3 – 2019/20 – Collinsfield Road (Koolunga-Brinkworth Road to Augusta Highway) – 7km Year 4 – 2020/21 – Collinsfield Road (Koolunga-Brinkworth Road to Augusta Highway) – 6.3km.
Rural Road Network	<ul style="list-style-type: none"> Deficiencies have been identified to accommodate road trains for commodities associated with the agricultural sector. Carry out improvements to the rural unsealed road network as identified through a road safety audit or network level heavy vehicle route assessment process. Widen the rural sealed roads to a fit-for-purpose standard with suitable road shoulders. Medium-term priority.

Whyalla

Project	Summary
Gulf View Drive	<ul style="list-style-type: none"> Key tourist link road identified in the Whyalla Northern Coastline Master Plan (pg 67).
Jenkins Avenue	<ul style="list-style-type: none"> Identified in the Eyre Peninsula LGA Transport Strategy (pg 36). Applied for 2015/16 SLRP funding. Funding was not approved. Surface in poor condition. Widening, protected right turns, lighting and drainage upgrades recommended.
Cook Street Story Street Watts Street Oborn Street	<ul style="list-style-type: none"> Identified as Level 2 priorities in the Eyre Peninsula LGA Transport Strategy (pg 37). Located within light industrial area.
Broadbent Terrace access road	<ul style="list-style-type: none"> Provides vital link from Norrie Avenue to Racecourse Road for transport and manufacturing business within light industrial area.

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Transforming the Upper Spencer Gulf

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Prepared by the Upper Spencer Gulf
Common Purpose Group

Prepared by
Tonkin Consulting Pty Ltd

66 Rundle Street
Kent Town SA 5067

T +61 08 8273 3100
E Sharon.Billinger@tonkin.com.au

Prepared for
Upper Spencer Gulf Common Purpose Group

PO Box 677
Port Pirie SA 5540

T +61 0427 609 404
E ceo@upperspencergulf.com.au

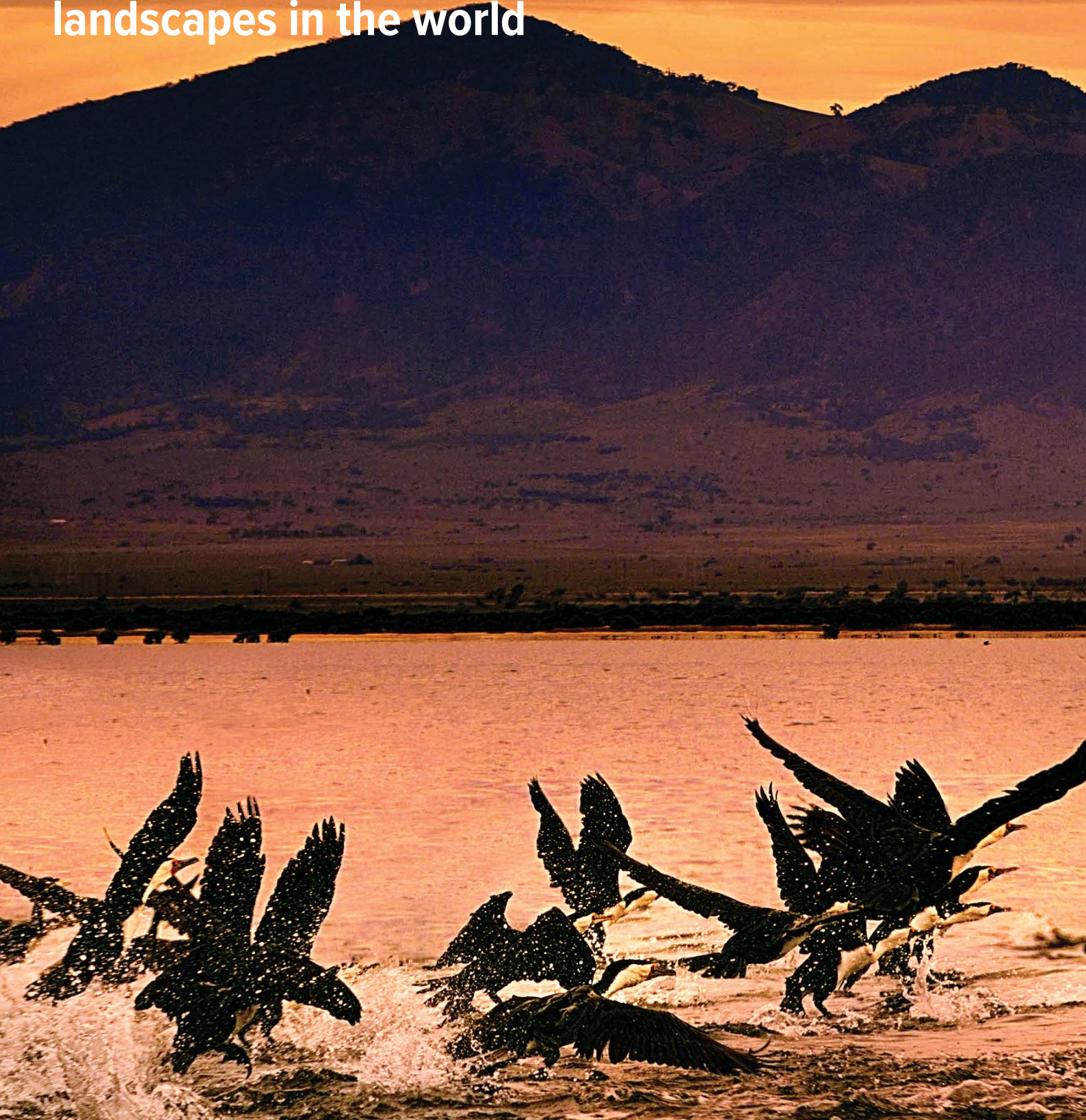
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**The Upper Spencer Gulf is
blessed with some of the
most significant mineral and
renewable energy resources,
natural biodiversity and
landscapes in the world**



Foreward

The Upper Spencer Gulf is a region in transition

The three cities that form the nucleus of the Upper Spencer Gulf – Whyalla, Port Augusta and Port Pirie have a strong heritage, culture and capability in industrial manufacturing. They also provide a range of retail, sports, arts, health, education and specialist services for surrounding Mid North, Eyre Peninsula and Far North communities.

The broader area is blessed with some of the most significant mineral and renewable energy resources, natural biodiversity and landscapes in the world.

The region has considerable opportunity to build on these comparative strengths and pursue growth in:

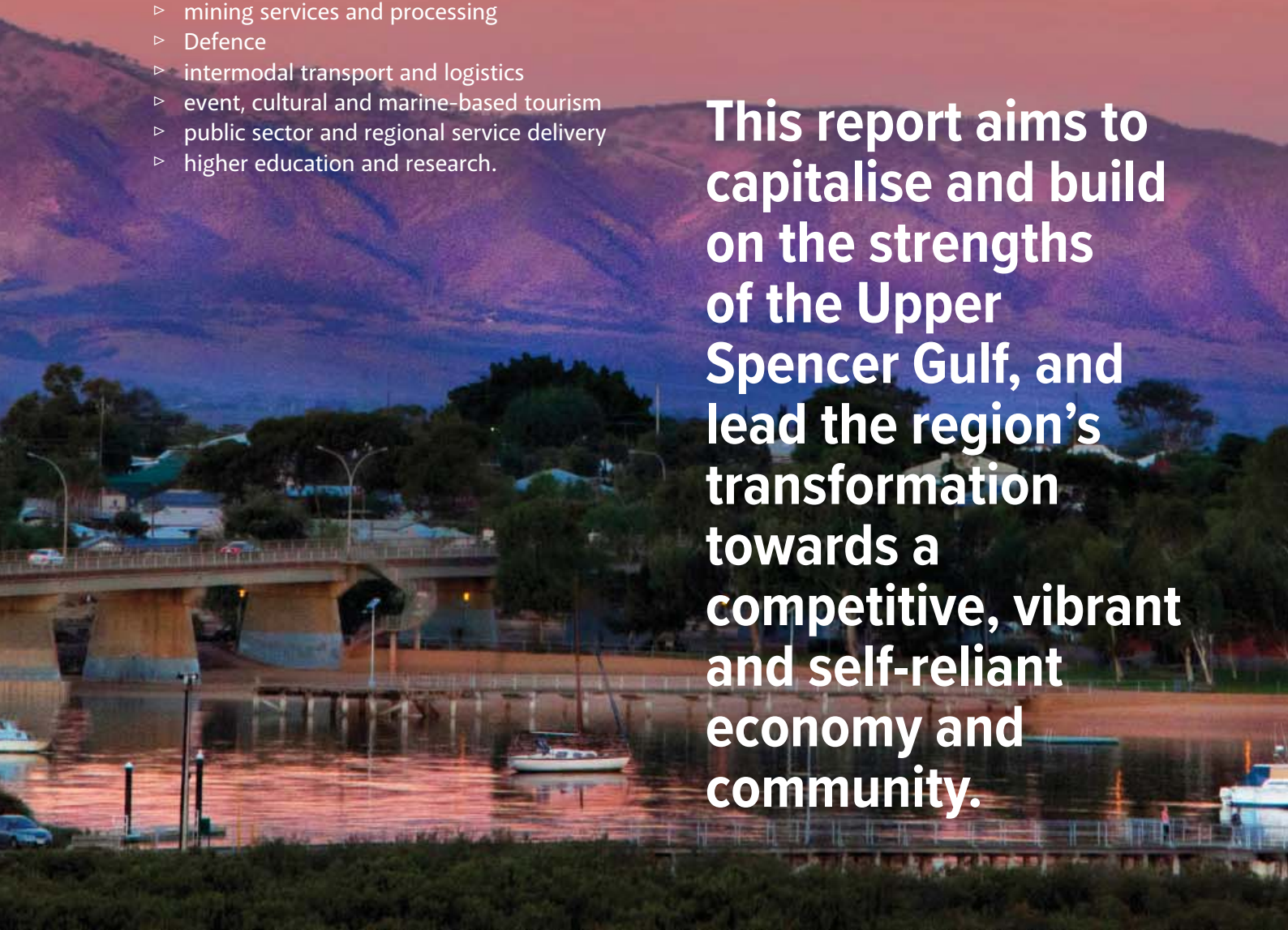
- ▷ renewable energy
- ▷ arid agriculture and innovation
- ▷ mining services and processing
- ▷ Defence
- ▷ intermodal transport and logistics
- ▷ event, cultural and marine-based tourism
- ▷ public sector and regional service delivery
- ▷ higher education and research.

To achieve this, the Upper Spencer Gulf must first overcome a number of challenges, including reliance on single industries dependent on global influences; negative external perception of the three cities; high unemployment and socio-economic disadvantage; duplication by agencies and lack of coordination.

In recent times these challenges have been brought sharply into focus with the closure of Port Augusta coal-fired power station, uncertainty over the future of the Whyalla steelworks and the Port Pirie lead smelter, and a substantial downturn in mining activity due to low global commodity prices.

To maximise opportunities for the Upper Spencer Gulf, Government, community leaders and industry must work together to utilise the region's existing capabilities and support transition.

This report aims to capitalise and build on the strengths of the Upper Spencer Gulf, and lead the region's transformation towards a competitive, vibrant and self-reliant economy and community.



Some exciting inroads have already been made:

- ▶ After 16 months in administration, the recent sale of the Whyalla steelworks is expected to include significant investment into a 'GreenSteel' strategy encompassing mining, metal recycling, metal production, engineering and distribution
- ▶ Filling the void left by the closure of South Australia's last coal fired power station, located at Port Augusta, will be a \$650 million, 150 megawatt 'concentrated solar thermal' power plant – the biggest of its kind in the world
- ▶ Following 127 years of lead processing, the current \$600 million expansion of the Port Pirie smelter will see its transformation into an advanced multi-metals recovery facility and home to the largest 'e-waste' recycling facility in Australia
- ▶ After a successful trial, world-leading technology is being used on a commercial scale by Sundrop Farms to supply solar electricity, heat and desalinated seawater to grow tomatoes in an arid-land horticulture operation near Port Augusta
- ▶ Advanced biocrude-oil production company, Muradel, is expanding their Whyalla site, utilising sustainable and renewable organic based feedstocks as a direct replacement for non-sustainable oils such as mineral crude oils and palm plantation oils

- ▶ Extending between Port Augusta and Whyalla, the Cultana Defence Training Area is expanding from 50,000 to just over 200,000 hectares to become one of the Australian Defence Force's largest training areas capable of supporting major joint exercises
- ▶ Construction of the National Sterile Insect Technology (SIT) facility in Port Augusta was completed in 2016 and now produces up to 50 million sterile male Queensland fruit flies each week, for release as a bio-control into affected horticulture growing regions
- ▶ In addition to the expansion of BHP's Olympic Dam copper, gold, uranium and silver mining operation, Oz Minerals are commencing construction of a \$916 million copper and gold mine just north of the Upper Spencer Gulf, with plans for a concentrate treatment plant also underway.

These examples pave the way for the transition of the Upper Spencer Gulf into a major economic growth and research hub in advanced manufacturing, cleantech and arid innovation.

To secure the future of the Upper Spencer Gulf we must also ensure we have the enabling services to underpin our economic growth, including access to higher education, improving city liveability, protecting our natural assets and landscapes and strengthening regional governance.

This report provides the guidance to achieve this goal.



Mayor Sam Johnson
Port Augusta City Council



Mayor Lyn Breuer
City of Whyalla



Mayor John Rohde
Port Pirie Regional Council



About the Upper Spencer Gulf

Key Points:

- ▶ Port Augusta, Port Pirie and Whyalla have strong economic and historical connections but each city also has different and complementary economic specialisations
- ▶ Retail, cultural, tourism and social services are replicated in each of the three cities, rather than shared – reflecting the strong role each city has as a service centre for their own geographic hinterland
- ▶ The three cities have only average capacity in several fast growing industries and are all below average in the share of technical, scientific and professional services – greater local capacity in these areas is needed to improve economic outcomes.

The Upper Spencer Gulf is home to around 53,000 people, representing 3.4% of the total South Australian state population. There are nearly 22,000 workers in the region and over 2,000 small businesses, contributing over \$2.3 billion in gross regional product and equating to just over 3% of South Australia's gross state product.

The Upper Spencer Gulf is characterised by extensive rural and semi-desert areas in its interior, contrasting with 3 major urban areas hugging the coast of the region, each around 100km apart. Approximately 80% of the population resides in the seaside centres that were developed to serve the traditional industries of the Upper Spencer Gulf; minerals extraction and processing, shipbuilding, steel and heavy manufacturing and railways.

Today, the five largest industries contributing to Gross Regional Product are mining, manufacturing, utilities (electricity generation), education and health. Resources and energy link the three cities through business trade services, labourers and contractors, with a healthy mix of cooperation and competition across business in the region.

Metal mining and processing drove the establishment of both Port Pirie and Whyalla, with a key driver for BHP's development of the Iron Knob ore deposits being the ability to use the ore for flux at the company's Port Pirie lead smelter – the main destination for lead

ore from Broken Hill. The creation of the ironworks in Whyalla and the boom in production through the 1930s and 1940s coincided with the emergence of Port Augusta as the focus of the east-west rail link and rails from Whyalla were used to carry coal from Leigh Creek for the Port Augusta power stations – which also supplied Port Pirie.

The three cities of the Upper Spencer Gulf – Port Pirie, Whyalla and Port Augusta – have much in common in their origins. Diversification of each city over time however has also altered the connections between them; their initial strong inter-dependencies in minerals processing have now become a broader web of social and economic links.

As the populations of the three cities waxed and waned, the Upper Spencer Gulf has seen steady improvement in the breadth and depth of social and economic services across the region – diversification supported subtle specialisations in economic, health and education services across the region – avoiding duplication and at the same time widening the services available.

The three cities also play a vital role as service centres to their broader, geographic hinterlands, providing a range of retail, specialist health and medical, education, sporting, aged care, emergency and commercial services.

For example, whilst the population of Port Pirie city is only 14,000, the retail catchment in total is nearly double this, at around 26,000. Similarly, Port Augusta services an area north to the state border, with Whyalla the primary service centre for a large part of eastern Eyre Peninsula.

This dual role, as inter-connected industrial centres and as major geographic service centres means the economic and social impacts experienced by any one of the three cities can trigger a complex web of flow-on effects right across the northern part of the state.

Today, resources and energy still link the three cities, but more through business trade services, labourers and contractors than flow of commodities and materials. This highlights the strengths, but also the vulnerabilities of the region to economic shocks faced by any one of the three cities.

Each city has different and complementary economic specialisations, and each city has a good representation of most of the industries which have seen growth across the State in recent years. Whyalla is strongest in mining and has close to average shares of jobs in most other industries. Port Augusta is strong in utilities and the public sector, with close to average share of jobs in most other industries, whilst Port Pirie is strong in utilities, manufacturing, health and retail, with above average share of jobs in these industries and below average share of jobs in other sectors.

On a cautionary note however, the three cities have only average capacity in fast growing industries, including education, health and telecommunications, suggesting economic performance over the next five years in these sectors will lag behind the rest of the state.

In addition, the three cities are all below average in the share of technical, scientific and professional and business services enterprises. Building local capacity in these areas is vital if the Upper Spencer Gulf is to see growth in a more diversified economy.

Between 2006-2011:

- ▶ Less than 100 people moved residences between the three cities
- ▶ Over 3000 moved out of the region to Adelaide and around 2000 people moved from Adelaide to the Upper Spencer Gulf
- ▶ Less than 60 people lived in one of the three cities and worked in another.

At the last census:

- ▶ Each city had well over 100 residents working in mining or other sectors in the northern regions
- ▶ Over 100 Adelaide-based residents work in the three cities in medium to high-income professional services such as public administration, education, health and technical services.

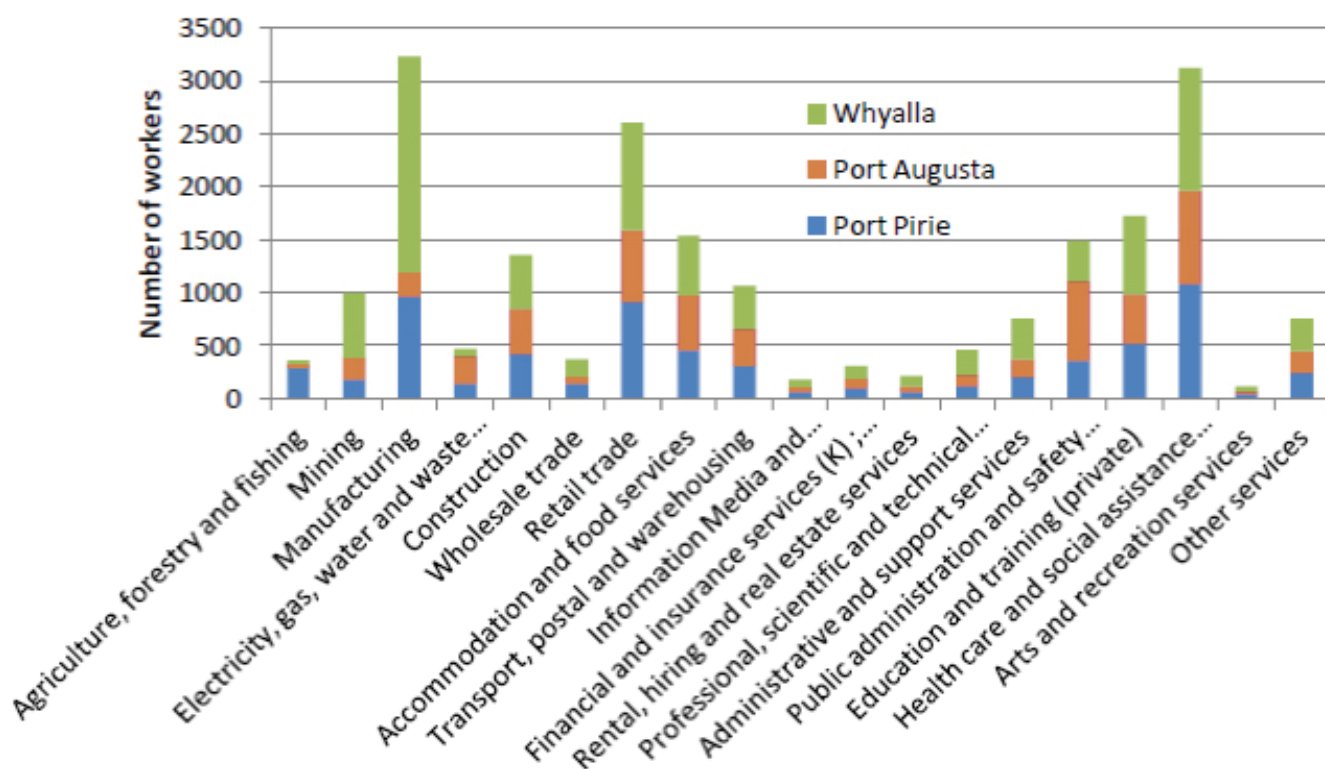


Figure 1: Employment by Industry - Upper Spencer Gulf Cities
(Source: Strategic Economic Solutions)

Transformation to a Secure Future

The Upper Spencer Gulf will transform through greater sustainability, innovation and liveability.

We will become a region with...

**A cohesive and vibrant community,
A prosperous, diverse economy, and
An attractive, quality lifestyle surrounded by stunning natural landscapes.**

While a number of key economic opportunities are emerging for the region, these alone cannot ensure social and economic prosperity and longevity for the region. The key to this lies much deeper, in the 'glue that holds the region together'. Strengthening the economic, social and sustainable fabric of the region requires far greater investment than securing new industry activity alone.

The economic outlook for the region's future is looking positive, diverse and in tune with current and future industry best practice. New key projects and imminent opportunities pave the way for the transition of the Upper Spencer Gulf into a major economic growth and research hub in advanced manufacturing, cleantech and arid innovation.

This transition will secure the future of the Upper Spencer Gulf as a competitive, vibrant and self-reliant economy and community with:

- ▷ a diversified and viable economic base
- ▷ improved resilience to changes in the local economic conditions
- ▷ a skilled and flexible local workforce
- ▷ improved well-being and liveability in local communities
- ▷ a sustainable environment.

In developing a holistic economic development framework, the Upper Spencer Gulf has focused on the following key elements:

- ▷ Industries of the Future
- ▷ Enabling and Supporting Initiatives.

Taking advantage of its competitive strengths, the region has identified and is pursuing growth in the following industries of the future:

- ▷ Renewable Energy
- ▷ Arid Agriculture and Innovation
- ▷ Defence
- ▷ Mining Services and Minerals Processing
- ▷ National Transport and Logistics
- ▷ Event, Nature Based and Cultural Tourism
- ▷ Public Sector Services.

To ensure that the local population, businesses and support services are appropriately skilled, developed and equipped to take advantage of these growth sectors, the Upper Spencer Gulf must also focus on a number of enabling and supporting initiatives:

- ▷ Higher Education and Research
- ▷ City Liveability
- ▷ Natural Assets and Landscapes and
- ▷ Regional Governance and Responsive Government.

A photograph of an industrial waterfront at night. In the foreground, a wooden pier with metal railings extends into the water. A white boat is docked at the pier. The water reflects the lights from the pier and the buildings in the background. In the background, there are large industrial buildings, including a tall, dark structure and several large, white, cylindrical storage tanks. A bright light source, possibly a flare or a powerful lamp, creates a large, starburst-like glow in the center of the image, reflecting on the water. The sky is dark blue with some clouds. The overall scene is industrial and serene.

Industries of the Future

Renewable Energy

“The Upper Spencer Gulf is one of the best regions, in the best country, in the world for renewables”

Prof Ross Garnaut, 2014

Australia’s domestic energy mix is changing. Whilst fossil-fuel based resources have traditionally provided the bulk of South Australia’s energy use, the closure of Alinta Energy’s coal-fired power station in Port Augusta and construction of a new \$650 million, 150MW concentrated solar thermal power plant is a leading example of the growing interest in the region by renewable energy providers right across the Upper Spencer Gulf and is indicative of the energy transition underway, both domestically and globally.

Port Augusta, Port Pirie and Whyalla lie in close proximity to some of the best and most diverse renewable and low carbon energy resources in the developed world. The region has exceptional endowments of solar, wind, geothermal, algal, and tidal energy and high grade uranium oxide, as well as large natural gas resources to the north of the region.

As the global role of renewable energy expands and its cost continues to fall, the combination of excellent renewable resources with proximity to existing transmission infrastructure and high energy use facilities makes growth in low-carbon energy a source of competitive advantage for the Upper Spencer Gulf.

Not only does the Upper Spencer Gulf provide an ideal location for commercial deployment of renewable energy generation facilities, it also offers considerable potential to research, trial and test new and emerging renewable energy technology.

Existing manufacturing expertise in the region also offers the opportunity for local value-adding through processing of elements required for the manufacture of renewable energy technologies such as solar cells and batteries, through to componentry and framework construction.

Renewable Energy Generation

The Upper Spencer Gulf has a long history in electricity generation. The transition from coal-fired power to renewable energy is well underway in the region.

The potential for the Upper Spencer Gulf to supply renewable energy to meet State and Local Government electricity supplies and to support the quest for a ‘Carbon Neutral Adelaide’ are all timely and logical opportunities that would help transform the Upper Spencer Gulf economy, create local jobs and ensure South Australia continues to strongly contribute towards global efforts in transitioning to a low carbon economy.

New storage based technologies such as solar thermal, pumped hydro and batteries will provide cheaper, stable, dispatchable electricity and help the intermittency of existing wind generation that already forms a significant component of South Australia’s energy mix.

Co-generation by energy intensive industries in the Upper Spencer Gulf and off-grid or supplementary domestic and household renewable generation options are also increasing in uptake, viability and cost-efficiency.

Renewable Hydrogen

Energy storage technologies are becoming more viable in Australia and are being heavily deployed into other global markets. In Australia storage is used mostly in remote areas where traditional energy sources like diesel are expensive, however as technology and cost improvements are made, energy storage systems are increasingly being utilised in homes and businesses. The potential for the Upper Spencer Gulf to support pilot and demonstration projects for new energy storage technologies is highly consistent with the region’s focus on transformation to a cleaner and more innovative future and complementary to the range of renewable energy opportunities on offer.

Formative discussions with the University of Melbourne's Energy Institute (MEI) has identified the Upper Spencer Gulf as a suitable location to study the economics of producing hydrogen and ammonia from renewable energy for domestic use and export.

The Upper Spencer Gulf is proposed as a demonstration site due to excellent renewable energy resources, supportive State Government policy and track record in renewable energy deployment, existing and potential domestic markets for ammonia in agriculture (fertilisers and tractor fuel), fuel and minerals processing (e.g. flue gas scrubbing), and remote electricity generation (as substitute fuel for diesel), supporting export infrastructure such as ports, rail and heavy vehicle access, and early stakeholder support.

If successful, the Upper Spencer Gulf has opportunity to be a global leader in the production of Renewable Hydrogen and Ammonia at a very large scale for domestic and export markets, targeting sustainable food production and sustainable energy supplies.

Test-bed for Renewable Technology

The Upper Spencer Gulf provides an ideal site to trial and test renewable energy and complementary technology research and innovation, development and commercialisation. It combines excellent renewable resources, abundant land and access to electricity infrastructure, with proximity to specialist support to enable research institutions to test their technologies in live situations. This would significantly assist with understanding reliability and commercialisation opportunities and act to bring the technologies to market faster, bolstering the state's and region's economy.

A number of research institutions and industry innovators are already investigating a range of new technologies in partnership with businesses in the region. It will be imperative for the Upper Spencer Gulf to build its own capabilities to support this growing research and development interest in the region.

Preparing the Region to Capture the Opportunities

The Upper Spencer Gulf will only benefit from investment and innovation in renewable energy if the region has the skills, infrastructure and technical support to service this fast-emerging sector. It will

be necessary to build local capacity to innovate and up-skill the workforce to participate in the renewable energy supply chain.

A number of companies have already actively participated in renewable energy projects, and this experience should be actively leveraged to provide a basis for further capacity building in the region.

There are opportunities to deliver specialised training and education programs to grow a skilled local workforce needed for the renewables industry. This could be coupled with an industry and mentoring program that would provide the basis for significant innovation in the region.

Beyond preparing for servicing the industry, local authorities can also support the uptake of existing renewable technology. This will not only provide benefits to local business but will further stimulate local jobs, as well as creating opportunities for local product suppliers. Local businesses can be provided assistance to invest in solar, bioenergy and other cost effective small scale renewable energy generation, along with energy storage and energy efficiency as a means of reducing their operating costs and improving profitability and competitiveness. Similarly, local residents and communities can be supported to invest in solar, storage and energy efficiency, as a means of alleviating the impact of rising energy prices and also stimulating local jobs.

Priority Actions and Recommendations

1. Secure deployment of commercial-scale renewable energy generation facilities in the Upper Spencer Gulf, with a focus on new opportunities that include storage technologies.
2. Establish a research innovation hub in the Upper Spencer Gulf to trial and test new renewable energy and clean technologies in partnership with Government, industry and leading research institutions.
3. Establish an "Upper Spencer Gulf Clean Energy Incentive Program" to assist the manufacture and deployment of new, innovative and market-ready renewable energy and associated supply chain projects in the Upper Spencer Gulf.



Agriculture and Arid Innovation

“As the world’s population continues to grow, Sundrop Farms is de-coupling food production from finite resources and relying instead on renewable resources to grow the world’s food industry, not just profitably, but sustainably”

Sundrop Farms, 10 March 2015

The aspiration of the Upper Spencer Gulf is to become the ‘home of arid innovation’.

In addition to the industrial heritage of the Upper Spencer Gulf, the three cities also have considerable history and capability in horticulture, which is being revived with the advances of technology and the advantages of the transport network the region offers.

Since 1986, Betatene’s biotechnology operation in Whyalla has been producing Beta-carotene, a source of pro-vitamin A that is widely used in the food industry as a colourant for food and drink products, animal feeds and health supplements. The Beta-carotene is extracted from a naturally occurring algae grown from open brine pond cultures. Today the company is the world’s largest producer of food and pharmaceutical grade beta carotene and one of Australia’s largest exporters.

Global company Sundrop farms began operating its first commercial greenhouse facility near Port Augusta in 2010 and in 2016 completed a major expansion. Given the lack of fresh water and dry, arid climate, the greenhouse generates its own electricity and water through an onsite solar thermal power plant and seawater desalination plant.

Sundrop has secured a ten year contract with Coles Australia for its truss tomatoes, taking further advantage of the Upper Spencer Gulf’s location to assist their national transport and distribution operations. There are options for further expansion by the company.

The proximity of the three cities to agriculture hinterlands across Eyre and Yorke Peninsulas, the Mid North and the pastoral lands to the north also offers potential to combine the industrial capabilities and infrastructure of the cities to support stronger processing and value-adding to dryland agriculture and livestock produce.

There are already examples of innovative value-adding initiatives in the region that can be built upon. Wilson Pastoral International, south of Port Pirie, has commercialised a high quality stock feed alternative using local native saltbush. Construction of a new pelletising factory will enable production of 26,000 tonnes of saltbush pellet per annum, delivering a low cost and sustainable source of nutrients for sheep and other stock animals.

Opportunities for other agricultural value-adding innovations in the region include premium grain milling and processing, egg production, advanced abattoir works and camel dairy.

In addition to commercial agricultural and horticultural operations, the Upper Spencer Gulf is fostering an emerging agricultural and arid research sector that the region is keen to expand.

For example, the South Australian Government, in partnership with Horticulture Innovation Australia has committed to a five year, \$22 million national research and development collaboration to produce a sterile line of male Queensland fruit fly.

A new, purpose built facility in Port Augusta facility has the capacity to produce 50 million sterile male Q-flies each week, providing a great benefit to eliminating this major pest from agricultural growing areas around Australia.

Research partnerships with the Australian Arid Lands Botanic Gardens in Port Augusta also offer potential for progressing the role of arid land native plant species in

a range of food, agricultural and medicinal purposes. For example, the Australian Bioactive Compounds Centre established between the University of Adelaide and the University of South Australia aims to apply ecological and indigenous knowledge, to improve the efficiency of identifying biologically active compounds from plants found in Australia. Particular focus has been given to unique arid environments; and opportunities to fast-track these into commercially useful products in areas including medicine and agriculture. Discussions are currently underway to form a local collaboration between the centre and the Australian Arid Lands Botanic Gardens.

Opportunities for new aquaculture development and the role of the marine and terrestrial environments as potential carbon sinks in a future low carbon economy are also being investigated.

The Spencer Gulf Ecosystems Development Initiative (SGEDI) is a collaboration between Upper Spencer Gulf based industry, government and universities to identify potential issues and manage the marine environment of the gulf.

Established in 2012, phase one of the program was supported with nearly \$2.5 million dollars of investment from industry, as well as through research efforts. Corporate investment includes BHP Billiton, Santos, Arrium, Alinta, Nyrstar, Centrex, Flinders Ports and the Fisheries Research and Development Corporation. Research partners include SARDI and Flinders University, with a lead role by Adelaide University.

Opportunities for Growth

The Upper Spencer Gulf already has a sound base of agricultural and horticultural operations and research that provides an ideal opportunity to further leverage and position the region as a hub for 'Arid Innovation'.

There is scope for further growth in arid agriculture and innovative horticulture based on the Sundrop model, and considerable potential to build on existing agricultural and marine research.

Investigating and demonstrating innovation in water treatment and supply for arid communities and industries is also an area of particular interest for the region.

Technical challenges currently exist to increasing the capture and reuse of waste and stormwater across the three Upper Spencer Gulf cities. Overcoming these barriers will support a reduction in the amount of potable water required from the River Murray, reduction in the discharge to the marine environment and an increase in fit-for-purpose water for community, recreation and industry use.

Together these commercial and research opportunities highlight the future potential of the Upper Spencer Gulf as a hub for Arid Innovation.

Priority Actions and Recommendations

4. Establish an "Upper Spencer Gulf Arid Innovation" incentive program to encourage new arid innovation enterprises and initiatives to establish in the Upper Spencer Gulf.
5. Provide innovative and sustainable solutions to improve availability of water for Upper Spencer Gulf city amenity, recreation and industry purposes and reduce discharge to the marine environment.
6. Review and improve aquaculture lease arrangements to encourage new, innovative, sustainable aquaculture development in the Upper Spencer Gulf.

Defence

“The expansion and development of the Cultana Training Area will provide one of the largest year round training areas suitable for armoured, cavalry and mechanised manoeuvre and the operation of specialist capabilities such as Unmanned Aerial Vehicles and Armed Reconnaissance Helicopters”

Defence SA, 2014

The Upper Spencer Gulf has long played a part in supporting the Defence industry and has identified the expansion of the Cultana training facility and new Military vehicle and vessel construction as opportunities to grow the region's involvement and capabilities in Defence Industries

Defence Range Support

The Department of Defence has expanded the existing Cultana Training Area, increasing its total size from approximately 50,000 hectares to 209,300 hectares. The site, between Port Augusta and Whyalla, provides ideal terrain and climate for year-round armoured, mechanised and cavalry forces training.

Cultana's expansion will support future joint training needs and the capability of 1st Brigade and 7th Battalion, Royal Australian Regiment (7 RAR) Battle group, based at Edinburgh. The expanded Cultana Training Area will also support future air to ground, ground to air and ship to shore training activities, making it the Australian Defence Force's largest training area capable of supporting full combined arms exercises.

Three phases of the expansion, valued at around \$80 million, will provide the facilities and infrastructure on the Cultana Training Area, including: Hardened and Networked Army – environmental vehicle wash point; Enhanced Land Force Stage 2 – range facilities and infrastructure including an explosive ordnance storage and distribution facility and potentially; Major Capital Facilities Program – range facilities and infrastructure.

Across the Cultana facility, construction and range maintenance support will also be required, including: fencing, firebreaks and range signage, roads and crossings, combined Arms range, urban operations training facility, and ammunition transfer points, scale A camp and associated facilities.

Contracting for construction works with Defence is a highly prescribed and complex process based on Commonwealth Procurement Rules (CPRs), Government Policies Connected to Procurement and Government Policies related to Commonwealth Funded Construction Projects.

Maximising the local business opportunities of the Cultana expansion for the Upper Spencer Gulf is a key consideration that will require a coordinated and concerted effort between Defence SA and Office of Industry Participation, Department of Defence and Regional Development boards in the Upper Spencer Gulf.

Generating additional local business activity during periods of troop rest and recreation and, in the long term, potentially housing permanent Defence staff in the Upper Spencer Gulf, are also opportunities the region is keen to explore.

Cultana site access requirements for vehicles and equipment via neighbouring public air, road, rail and seaports, are also items for further discussion.

Defence Shipbuilding, Block Construction and Componentry

Upper Spencer Gulf has a strong history both supporting defence activities and in shipbuilding and block construction.

Opportunities for the Upper Spencer Gulf to contribute towards construction of the Future Frigates, C1000 Next Generation Submarines and LAND400 Armoured vehicles, would build on the region's history of shipbuilding and Defence operations and assist in generating local employment and business opportunities.

The Australian Government commitment to a continuous shipbuilding program for major surface combatants and minor war vessels and to the construction of 12 new submarines, provides potential for a longer-term engagement and building of capability in the Region.

Whilst some Upper Spencer Gulf based manufacturers have been involved in the supply of various items for the Military, including assembled pipe spooling modules and pipework supports for the Air Warfare Destroyers, most of the current Defence capability is based in Northern Adelaide.

Located at Osborne, Techport Australia is the confirmed build location for the Future Frigate fleet and the centre of Australian activity on the Future Submarine Program. It is also the base of Australia's two largest naval projects – sustainment of the Collins class submarine fleet and construction of the Hobart class air warfare destroyers.

The South Australian Government has invested over \$300 million to develop this world-class maritime industrial precinct including common user shipbuilding infrastructure, a dedicated supplier precinct commercial campus and onsite training

centre. The precinct is home to some of Australia's leading maritime companies including anchor tenant ASC, Raytheon Australia, Babcock, Pacific Marine Defence and Ferrocut.

Technology Park is South Australia's high-end technology precinct with a strong focus on systems development and integration, information communication technology and advanced manufacturing and electronics. Home to over 85 companies ranging from global organisations, such as Lockheed Martin Australia and Saab Systems, to established SMEs and one-person start-ups, Technology Park Adelaide has a critical mass of technology expertise. The State Government has established a Secure Electronic Common User Facility in the precinct to support engineering and research activities, including modelling and simulation of complex networks. Anchor tenant the Defence Systems Innovation Centre is a hub for industry, research agencies and universities working on defence systems solutions.

The Edinburgh Defence Precinct is also a key national defence research, manufacturing and sustainment hub housing RAAF Base Edinburgh, the Defence Science and Technology Organisation and major defence companies including BAE Systems Australia, Lockheed Martin Australia and Australian Aerospace.

Fostering stronger links between Upper Spencer Gulf enterprises to Northern Adelaide's Techport Australia, Technology Park and Edinburgh Defence Precinct is a logical step to leverage the formative Defence capabilities in the region and particularly, in close proximity to Cultana.

Priority Actions and Recommendations

7. Provide support to maximise local Upper Spencer Gulf business engagement with Defence industries through procurement supply to the Cultana range expansion and Defence contracts at Northern Adelaide's Techport Australia, Technology Park and Edinburgh Defence Precinct.
8. Provide incentive funding and technical support for Upper Spencer Gulf based suppliers to upgrade their infrastructure and equipment to engage with Defence contracts.



Mining Services and Minerals Processing

“Nyrstar will transform its Port Pirie operations into the first Australian state-of-the-art poly-metallic processing and recovery facility”

Nyrstar Briefing – A New Port Pirie, Transforming the Future

Metal mining and processing drove the establishment of the Upper Spencer Gulf, with a key driver for BHP's development of the Iron Knob ore deposits near Whyalla in 1899 being the ability to use the ore for flux at the company's Port Pirie lead smelter – the main destination for lead ore from Broken Hill. In 1915 the ore from Iron Knob was also sent by ship from Whyalla for use in the Newcastle steelworks.

The creation of the ironworks in Whyalla and the boom in production through the 1930s and 1940s coincided with the emergence of Port Augusta as the focus of the east-west rail link and rails from Whyalla were used to carry coal from Leigh Creek for the Port Augusta power stations – which also supplied Port Pirie.

A \$563 million expansion of the Port Pirie smelter will see its transformation into an advanced multi-metals recovery facility and home to the largest 'e-waste' recycling facility in Australia. A key contributor to the initiative has been a \$291 million financial underwriting of the transformation project by the South Australian Government.

This iconic project marks a new era not only for Port Pirie, but for the whole region. The project will allow the plant to process a wide range of high value, high margin raw materials, and will incorporate e-waste processing into the operation, to realise the full value of recoverable materials.

This presents substantial opportunities for the Upper Spencer Gulf to become a global centre for e-waste recovery and related industries, including synergies with the local manufacture of renewable energy and potentially Defence technology componentry.

The smelter is not the only connection to the mining and processing sector. In previous years Port Pirie has also housed a former uranium and rare earth treatment plant, operated by the State Government from 1954 to 1962 for the recovery of uranium and rare earths. Following the closure of the plant in 1962, a number of smaller companies have used the property for various operations including the further pursuit of rare earth elements.

The BHP integrated steelworks in Whyalla was opened in 1965, following earlier construction of the harbour and blast furnace in 1939 and the adjacent construction of shipyards to build navy patrol ships and then following the war, commercial vessels.

The Whyalla steelworks is Australia's only manufacturer of steel long products with steel-making capacity of approximately 2.5 million tonnes per annum. The operation includes structural rolling mills, rail products facilities, slabs & billets and steelmaking by-products.

The recent sale of the Whyalla steelworks is expected to include significant investment into a 'GreenSteel' strategy encompassing mining, metal recycling, metal production, engineering and distribution.

Despite the regular peaks and slumps in mining and processing operations in the Upper Spencer Gulf, the broader region continues to offer opportunities for the cities to support mining and minerals processing.

The Upper Spencer Gulf is ideally located to provide a range of services to prospective mining projects, with projected growth in the mining sector underwritten by a strong pipeline of project development opportunities.

In addition to the expansion of BHP's Olympic Dam copper, gold, uranium and silver mining operation, Oz Minerals are commencing construction of a \$916 million copper and gold mine at Carapateena, just north of the Upper Spencer Gulf, with plans for a concentrate treatment plant also underway.

The South Australian Government has also invested \$10 million in a new research partnership with Oz Minerals and universities to improve the quality of copper concentrates produced in the State, including development of new technologies aimed at unlocking the state's unique but deeply covered mineral deposits. Oz Minerals will contribute a further \$18 million to the partnership, which will include the construction of a demonstration plant in South Australia.

Exploration for minerals including graphite, high-grade platinum, palladium, nickel, iron ore and copper are also continuing across the broader region.

Australia is also the world's third largest producer of uranium, with approximately 80% of Australia's estimated uranium mineral resource located in South Australia, north of the Upper Spencer Gulf. Olympic Dam is the world's largest uranium deposit and it is estimated to contain approximately one third of the world's total reasonably assured resource.

Australia uses nuclear technology for a range of crucial applications in research, medicine and industry. As a result, Australia has built up an inventory of low and intermediate-level waste stored at over 100 different sites across Australia. The Australian Government is currently seeking an appropriate site to locate a national radioactive waste management facility as the most cost effective option for long-term waste disposal and storage.

Two sites to the east and west of the Upper Spencer Gulf, at Hawker and Kimba, are currently being investigated for suitability to host the facility.

The Upper Spencer Gulf is well placed to provide key services for any additional mining, transport, storage and disposal of nuclear material, including education, training and research, workforce and contractor development.

Whilst mining exploration and activity occurs in the broader hinterlands of the Upper Spencer Gulf, the three cities are particularly interested in supporting mining-related opportunities to maximise value-adding of raw materials and expand the cities existing role providing minesite workforce and services, opportunities for processing and intermodal transport and logistics.

Given the proximity of the Upper Spencer Gulf to most of South Australia's prospective mining projects, the region is also ideally located to develop as a hub for applied research, skills and training for the mining sector.

Developing the region as a 'Heavy Industry Hub' for the mining sector was identified by PIRSA/KPMG in 2012, with several recommendations made to improve the readiness of the Upper Spencer Gulf to take full advantage of this.

The South Australian Government has also provided considerable investment into mining and mining services research, workforce training and supply chain development. This includes a \$50 million Mining and Petroleum Services Centre of Excellence and a new \$38 million Mining and Engineering Centre located at Regency TAFE in Adelaide.

Whilst initiatives such as the Mining and Engineering Centre provides a valuable investment into skills and training for the mining sector, it has had a detrimental impact on the Upper Spencer Gulf, with regional students no longer able to fully complete their courses locally.

In order to build local capability, skills and innovation to service mining industry growth into the future, it will be important to redirect this Adelaide-based investment to the Upper Spencer Gulf.

Priority Actions and Recommendations

9. Establish a Regional Mining and Processing Innovation hub in the Upper Spencer Gulf.
10. Facilitate local enterprises to value-add, leverage and maximise opportunities from regional steelmaking and e-waste processing.
11. Establish state and national level expertise in the Upper Spencer Gulf to support any expanded role in the nuclear fuel cycle.
12. Relocation of courses delivered at the TAFE Mining and Engineering Centre in Adelaide to the Upper Spencer Gulf, to enable local students to complete all programs and training in the region.

National Transport and Logistics Hub

The Upper Spencer Gulf, and Port Augusta particularly, is quite literally located at the 'crossroads of Australia'

The region is the intersection of the national highway routes from Perth-Sydney and Melbourne-Adelaide-Darwin national highways; the east west and north south rail lines. In addition, sea ports at Whyalla and Port Pirie, commercial passenger airports at Whyalla and Port Augusta and a fully serviced light plane and training aerodrome in Port Pirie provide a range of intermodal transport options.

In combination, these options make the Upper Spencer Gulf an ideal, central location to develop as national transport and intermodal hub.

The region is keen to grow opportunities to maximise transport links for growth in renewable energy, defence, agriculture/horticulture and mining operations.

The Port Pirie and Whyalla ports are both under-utilised, with the region seeking greater access and use of these facilities.

Owned by Flinder's Ports, the Port Pirie site's principal commodities including mineral concentrates and by-products, general cargo, grains and seeds.

Opportunities exist to expand the port using existing infrastructure such as the current rail line, and new infrastructure development by way of storage facilities and a bulk ore barge transshipping solution. Commercially, this port expansion option is designed to provide a short-term but scalable infrastructure solution that will be a foundation for a future heavy infrastructure port solution.

The preferred site will allow for suitable unloading facilities with conveyors taking the materials from the train a short distance to the storage sheds. A key feature of the site is its scalability with multiple 200,000t storage sheds able to be located on this land, allowing individual mining companies to own/operate their own storage facility while sharing rail, loading and transshipping facilities. Material from the storage shed would then travel 1.2 kilometres to one of two self-propelled barges to be moored on the eastern side of the existing port swing basin. A fixed loading facility will load the transhippers which will then take the material to a Cape Class size vessel at a strategic anchorage point in the Gulf.



The export port facilities at Whyalla have recently been expanded to a capacity of 13Mtpa. In 2015, an agreement was reached to create a major multi-user port at Whyalla and generate new investment opportunities in the Upper Spencer Gulf. This follows a report by the Resources Infrastructure Taskforce which identified Whyalla as one of the preferred options for a multi-user, bulk capacity port in the region.

Development of a facility at Port Bonython near Whyalla for the export of bulk minerals has also been proposed by a Spencer Gulf Port Link Consortium headed by Flinders Port Holdings along with Leighton Contractors, Macquarie and ARTC.

The development includes landside storage and construction of a 3km long jetty to give the facility capacity for Cape size vessels. A link to the standard gauge railway line between Whyalla and Port Augusta is included in the development. An EIS has been prepared and lodged, and the consortium is presently seeking Australian and State Government environmental and development approvals. A commitment to use the facility is being pursued from mining companies in the north of SA, but the level of commitment is not yet confirmed.

Potential for containerised freight through Whyalla and port access by Defence as part of their expansion of Cultana also needs to be taken into consideration.

To fully maximise long-term potential of establishing the Upper Spencer Gulf as a national transport and logistics hub, forward planning to sequence timely upgrades to national highway access should occur. This would take into account the increasing mix of heavy, industrial, defence, commuter and tourist traffic on the national highway.

This may include construction of more overtaking lanes in the short-medium term through to full duplication of the national highway from Pt Wakefield to Pt Augusta in the long term.

An identified weakness in the national road system currently exists with the single lane, 40km/hour crossing over the Joy Baluch AM bridge through Port Augusta. For over-dimensional vehicles, or during times when bridge access is closed or restricted the only alternative access is an unsealed, dry-weather only route via 'Yorkey's Crossing'. Whilst the South Australian Government has determined there is no economic cost benefit to justify either bridge duplication or an upgrade to Yorkey's crossing, this point of congestion will need to be resolved if the region is to take full advantage of its potential as an intermodal hub.

In the immediate term, \$4 million was committed in mid 2015 by the Federal Government towards construction of overtaking lanes between Whyalla and Port Augusta. This project will be delivered with supporting state co-contribution towards implementation.

The opportunities for the Upper Spencer Gulf arising from the proposed 'NorthLink' rail freight bypass of Adelaide are also being considered by the region, noting that any construction of new or upgraded rail projects would also create demand for local steel.

Priority Actions and Recommendations

13. Provide infrastructure and incentive support to enable new goods and services to be supplied via rail and road through the existing ports of Whyalla and Port Pirie.
14. Resolve national highway access across the gulf at Port Augusta.
15. Develop a 'Road Train Hub' at Port Augusta to enable safe road train assembly and disassembly and encourage co-location of logistics providers.

An underwater photograph showing a diver in the background and a large cuttlefish in the foreground. The cuttlefish has a mottled pattern of white and brown on its head and mantle, with a prominent red and orange patch on its side. It is surrounded by yellowish-brown seaweed or coral. The diver is wearing a blue wetsuit and a mask, and is holding a camera. The background is a deep blue-green color.

Event, Cultural and Marine Tourism

Steeped in cultural and industrial heritage, blessed with nature and a proven track record in hosting events – just some of the reasons to visit

The Upper Spencer Gulf is the largest population base outside of Adelaide and is ideally placed to grow its capabilities in 'Event Tourism', building on a history of hosting successful sporting and cultural events and conferences.

The region has previously delivered a number of annual and one-off state, national and international events, including the annual Nyrstar International Tennis Championships, 2012 International Rural Research conference, the 2017 national 'Sustainable Economic Growth for Regional Australia (SEGRA)' conference and Australian Rangelands Society conference, the annual Global Maintenance Trade and Resources Industry conference, South Australian Masters Games (2005-2012), annual 'Desert Fringe' festival and a range of other statewide sporting and cultural events.

The recently completed \$22 million Port Augusta Central Oval and current Port Pirie Sporting Precinct redevelopment will provide leading sporting infrastructure to host regional, state and national sporting events. Whyalla is also investigating options for consolidation of several sport and recreation facilities. These initiatives all aim to consolidate and upgrade dated facilities to current standards, allowing for hosting state and national events.

To help fully realise the potential of the Upper Spencer Gulf to attract more national and international conferences and events, further facility upgrades and resourcing capacity will be required. Whilst there is ample motel and accommodation options, small conference/meeting facilities and theatres, the Upper Spencer Gulf suffers from ageing theatres and a gap in modern, quality conferencing facilities. Concept planning, consultation and feasibility studies have been completed for Country Arts regional theatre upgrades in both Whyalla and Port Pirie.

The proposed Northern Festival Centre in Port Pirie upgrade project, includes providing a new black box flexible-use theatre/conference space; a dedicated cinema with digital 3D projection facility; a new outdoor performance space, sculpture, an entry statement and car park upgrade; equity and access compliance; refurbishment of patron amenities, including toilets; upgrades to theatre lighting, house lighting, sound system; replacement of air conditioning and building fire safety upgrade; upgrade of meeting rooms and bistro area, installation of lifts and expansion of the ballroom.

Similarly, an upgrade of the Middleback Theatre will include the provision of a smaller and more flexible theatre space, A-class gallery, outdoor performance area, and general upgrades to improve safety, disability access and compliance. The upgrade will expand its functionality as an entertainment and exhibition venue and provide a catalyst for pursuing conferences and events and hosting key visitor attraction events. A major upgrade of the Whyalla youth arts facility will provide an improved performance area, recording studio, workshop and wet area, prop construction and storage areas and disabled toilets.

Proximity of the three cities to the Flinders Ranges and Outback, Clare Valley, Yorke and Eyre Peninsula tourism regions provides a further competitive advantage for the Upper Spencer Gulf. Event-based attraction can also be used to facilitate additional visitation and tourism spend into the broader hinterlands that are rapidly building a strong international reputation for their tourism experiences.

Even within the three cities, facilitating growth in nature based tourism is also a significant opportunity for the Upper Spencer Gulf.

Detailed investigation into the construction of a 'Cuttlefish Interpretive Centre' have already been completed. This high quality, world class interpretive facility to attract domestic and international tourism to Whyalla. The facility will provide areas for community use and feature world best practice, interactive interpretive technologies to attract a younger audience and tourists from Asia.

This concept is now being expanded into a broader "Marine Discovery Centre" as an anchor attraction at the recently remodelled Whyalla Marina/Foreshore precinct, with potential to produce significant tourism, educational, community development and other benefits to the region. The initiative would complement current development of a Whyalla Northern Coastline masterplan, incorporate a relocated Whyalla Visitor Centre and consolidate and link existing attractions and services.

Both Whyalla and Port Augusta airports have regular passenger connections to Adelaide, also open to charter flights which enable easy further connections to Australia's major urban centres and beyond.

Potential to increase visitation to the Upper Spencer Gulf by the yachting and boating sector, along with cruise ships via the Whyalla port are also being explored. Entry to the region via the gulf would also then provide day trip opportunities to surrounding destinations including the Flinders Ranges, Outback and Eyre Peninsula.

Building on growing interest in Indigenous and cultural tourism also offers an opportunity for the Upper Spencer Gulf. Existing facilities such as Wadlata, the Port Pirie Regional Art Gallery and Curdnatta Gallery and the Desert Fringe Festival form a sound base to grow and consolidate the region as a logical destination for hosting permanent and visiting cultural events.

The identified gap in collecting, promoting and housing high end Aboriginal art is also an area of opportunity for the Upper Spencer Gulf.

Smaller, niche markets may also exist for industrial and heritage-based tourism that may complement the far stronger potential for event and cultural tourism the three cities can offer.

Opportunities to link industrial and heritage art and trails with tours of the Whyalla steelworks and Port Pirie smelter are also being pursued by local government and tourism bodies.

Priority Actions and Recommendations

16. Upgrade Country Arts' Northern Festival Centre Pt Pirie and Middleback Theatre Whyalla to improve functionality as key regional entertainment, conference and exhibition venues.
17. Establish a Centre for Aboriginal Art in Port Augusta.
18. Establish the Upper Spencer Gulf Marine Discovery Centre in Whyalla, incorporating a Cuttlefish and Dolphin Interpretive Centre.
19. Develop tourism accommodation and commercial visitor experiences/products across the three cities.

Public Sector Services

Locating regionally focussed agencies in the Upper Spencer Gulf reinforces the State Government's commitment, credibility and confidence in the region, providing a much-needed new industry, new jobs and a new mix of skills in the community

The public sector is a significant employer in South Australia.

The General Government sector employs 100,000 people across the state, amounting to 81,000 full time equivalent jobs, earning an average salary of \$76,400. Of these employees:

- ▷ 42% are police, doctors, nurses and teachers
- ▷ 30% are in other front-line or direct support roles
- ▷ 28% are employed in policy or administrative roles.

There are a further 4,000 people employed in public, non-financial corporations, including SA Water, Housing SA the Adelaide Convention and Festival Centres and Adelaide Entertainments Corporation; an additional 540 are employed in public financial corporations including Workcover, Funds SA, SA Government Financing Authority and the Motor Accident Commission and 420 in other Government entities such as Legal Services Commission and Super SA and the Teachers Registration board.

The SA public sector provides a vast range of services across many agencies and employs people across a broad range of occupations and skill levels:

- ▷ 28% of employees earn a base salary up to \$56,200 predominantly in entry level type roles
- ▷ 50% earn a base salary between \$56,200 and \$91,500 across frontline and middle management
- ▷ 17% of employees earn a base salary between \$91,500 and \$115,500 which covers more senior managers and/or employees with technical expertise
- ▷ 5% of employees earn over \$115,500 which includes executives or employees with significant specialist skills.

The ongoing centralisation of the public service to Adelaide has meant a direct loss of jobs and residents living and working in regional South Australia, including the Upper Spencer Gulf.

In addition, the number of state agencies without any ongoing local presence in the Upper Spencer Gulf, or with senior policy or decision makers has also declined, resulting in a disconnect that is often reflected in statewide policy and decision making.

The more the public service is centralised into Adelaide, the more policy decisions are formed through a 'city' lens and the more connection with the country is lost.

Put simply, government is losing touch with the impact of their decisions on regional areas and is perpetuating a lack of confidence in regional Australia.

Interstate centres like Bendigo, Ballarat, Mildura, Albury-Wodonga, Armidale, Wagga Wagga, Toowoomba, Rockhampton, Townsville, Geraldton, Albany, and Launceston are a result of a long-term commitment to decentralisation and aspiration by Government to develop prosperous, thriving and self-sustaining regional centres.

This pro-active decentralisation approach is clearly reflected in national data which shows that of the 29 regional cities in Australia with populations over 30,000 and 8 with populations over 100,000, none are in South Australia.

Making an active commitment to substantially increase the number of public servants living and working outside of Adelaide promotes confidence in our regional centres and provides more efficient, practical and relevant support that will help further grow our regions and add value to our existing contribution to the state and the nation.

Instead of short-term deployment of Adelaide-based staff to regions during periods of crisis, a commitment to ongoing location of policy and decision-makers across key agencies, particularly those with a direct role in economic development should be implemented. Co-location of agency staff in the Upper Spencer Gulf, including Department of State Development, PIRSA, Investment Attraction SA, SA Tourism Commission, Defence SA, Department of Transport, Infrastructure and Planning and Department of Environment and Natural Resources would be an important first step in reconnecting the public sector with regions. This would enable key information and opportunities of the region to be identified and relayed back to Adelaide-based agencies. This would also “spread out” the benefits of these agencies beyond metropolitan Adelaide and provide highly skilled jobs to the region.

In addition, there are calls for the Premier’s Modern Public Service document which provides greater employment certainty in the community services sector, to also be applied to all public sector employees in the Upper Spencer Gulf and broader regional areas of the state. The commitment to a default 3+3+3 year employment contract length, with at least six months prior notice regarding whether long term contracts are going to be renewed, not only prevents unnecessary loss of staff and impact on those people who rely on these services, but, in the case of regionally-based employees, assists in attracting and retaining staff and avoiding relocation of entire families out of the local community.

Opening up application for South Australian Government jobs to non-government employees based in regional centres such as Whyalla, Port Pirie and Port Augusta would also provide additional opportunity for many of the Upper Spencer Gulf’s skilled workforce to remain in the region.

The roll—out of the NBN across the three Upper Spencer Gulf cities substantially reduces the need for workers to be based within a metropolitan CBD. For example PIRSA has an extensive video-linking service that enables excellent communication across South Australia with state-wide project teams.

In addition to actively promoting decentralisation of the public service across all agencies through changes to recruitment and employment conditions, there are opportunities for key Departments to be relocated out of the Adelaide metropolitan area to the Upper Spencer Gulf.

Locating regionally-focussed agencies such as Country Health, Country Arts, Regions SA in the metropolitan capital city does little to build confidence and credibility of State Government in the regions.

Instead, relocating the bulk of these agencies to the Upper Spencer Gulf provides a much needed new industry, new jobs and a new mix of skills into the community; and reinforces the Government’s commitment to the whole of South Australia, not just the metropolitan area.

The move would also support on-ground training and delivery in specialist areas. For example, relocation of Country Health SA to Whyalla would complement the substantial State Government investment into the upgrade of the Whyalla Hospital into one of the key medical and teaching facilities outside of Adelaide and Commonwealth investment into the Whyalla based Rural Medical School partnership between Adelaide University and the University of South Australia to provide hospital placements for doctor and nursing interns and the recent World Health Organisation accreditation of Whyalla as an ‘Age Friendly’ city.

Priority Actions and Recommendations

20. Decentralisation of South Australian Government administrative services and relevant policy units to the Upper Spencer Gulf.
21. Amend Government recruitment processes to allow the option of public sector positions to be located in the Upper Spencer Gulf.

Building a resilient, sustainable community

Recent major project and other positive industry announcements for the Upper Spencer Gulf region have provided a long-awaited boost for the region's economy and created a positive environment for future growth

This transition to cleaner, more innovative and economically diverse regional cities will be underpinned by strengthening the role of Port Pirie, Port Augusta and Whyalla as regional service centres and improving community confidence, capability and capacity. To achieve this focus, long-term investment must be given to the following key enabling and supporting initiatives:

- ▷ Higher Education and Research
- ▷ City Liveability
- ▷ Natural Assets and Landscapes, and
- ▷ Regional Governance Response.



Enabling and Supporting Industries





Higher Education, Training and Research

Whilst the Upper Spencer Gulf has many opportunities to diversify and grow its economy, several reports identify a lack of relevant skills – particularly scientific, professional and technical capability as a key barrier

In 2012 the South Australian Centre for Economic Studies highlighted education as the future foundation of economic and community growth, innovation and entrepreneurship in the Upper Spencer Gulf. This report identified a clear need to improve skills capacity in the region in order to realise a strong and prosperous economy. This finding was further highlighted in the SA Government report commissioned by PIRSA in assessing the feasibility of developing a heavy industry hub in the Upper Spencer Gulf and again in 2014 with a report by Strategic Economic Solutions specifically warning the lack of scientific and technical capability in the region is a key barrier to future growth and economic diversification.

At present, the technical, education and research needs of both established and emerging mineral resources, processing, renewable energy and clean technology and manufacturing businesses based in the Upper Spencer Gulf are largely sourced externally to the region, in an ad hoc manner and with very little, if any, local or lasting capacity generated.

The region is significantly lagging behind the state average in levels of higher education, with only 11.3% of the Upper Spencer Gulf population holding above a certificate level qualification, compared to the South Australian total of 23.3%. Combined with the lack of skills and technical capability to support emerging industries, unemployment rates in the Upper Spencer Gulf remain above state and national averages, with the rate of youth unemployment nearly double these figures.

In the vocational education sector, TAFESA has a strong and trusted presence across the region, including major campuses in each of the three USG cities. However, a 2014 desktop mapping exercise of vocational education service provision in the region highlighted a number of discrepancies between the courses available in the region and the actual needs of local industry. This reflects long-standing vocational training policy and funding support that is implemented on a broad, top-down, statewide basis, rather than responding to future trends and the needs of industry in the region the training is delivered.

In addition to training and education, whilst there is a solid existing research effort and strong interest in new research that would support transformative industry development in the Upper Spencer Gulf, this is largely 'fly in fly out' research, occurring 'to' the region, rather than 'within' the region.

To reverse these trends, a new model of higher education and research delivery for the Upper Spencer Gulf is being progressed.

The Upper Spencer Gulf 'Community Owned Tertiary Education Centre' (COTEC) aims to build the local technical and research capacity by bringing together and brokering the needs of existing and emerging industry with local business and community leaders, with vocational, higher education and research providers.

Experience of this model in other jurisdictions has shown that due to the local support, education providers have a much higher completion rate (>80%) and lower overheads.

A core principle of the Centre is to maximise collaboration and avoid duplication of effort between

cities and with existing providers, rather than duplicating courses already being delivered in the region by either TAFESA or universities.

Instead, the intent is to attract between 2-5% new local participants into higher education by expanding the total offerings available across the region, closely linked to industry needs, through a locally supported, blended learning approach.

A multi-campus arrangement would enhance the partnership opportunities and maximise efficient use of resources and allow for development of specialisations in each of the three cities, based on their own industry strengths and nuances.

It is also recognised that whilst many country students prefer and will continue to move to the city for their tertiary studies, the economic and social cost of relocating and supporting country students remains a considerable barrier for many.

Establishing a tertiary hub in the Upper Spencer Gulf will open opportunities for students who cannot afford to move to Adelaide, and aims to work with institutions to support flexible delivery options for students who may require additional support in the first year of tertiary study, prior to city relocation.

A key feature of the Upper Spencer Gulf approach will also be to provide local knowledge and support to maximise the potential for research and industry synergies in the region, access to local demonstration sites, project administration support and a more locally connected and efficient use of resources and expertise.

There is already strong interest by universities and industry to establish the Upper Spencer Gulf as a research hub to trial and test new renewable energy technology, establish the region as Mining Innovation hub and as a Centre for 'Arid Innovation' in Agriculture and to expand the Spencer Gulf Ecosystem and Development Initiative (SGEDI) to also support integrated marine management and marine eco-tourism research.

The new Upper Spencer Gulf approach would also incorporate opportunity to implement a new locally driven VET (Vocational Education and Training)

delivery model in collaboration with Local Industry Leaders Groups.

Opportunities exist for trialling this new approach as a pilot for delivering the range of training, employment and skills initiatives under WorkReady. Testing a new approach through a regional pilot would support the call from local Industry Leaders Groups in the Upper Spencer Gulf to provide funding certainty and local flexibility to support industry priorities to attract and retain a quality workforce.

Furthermore, the growing focus on science, technology, engineering and mathematics at secondary school level and the pro-active approach by schools, training providers and industry in the region to take advantage of Government initiatives such as 'Science Hubs' program and seek stronger collaboration and more direct education-training-employment outcomes, also provides a solid base for delivery of a new higher education and training model and ensures the links between secondary schooling through to higher education continues to be fostered in the Upper Spencer Gulf.

With the sustained high level of youth unemployment in the Upper Spencer Gulf, particularly Port Pirie; the need for reskilling workers from Alinta in Pt Augusta and Arrium in Whyalla; and the need to build local capability, skills and innovation to service growth industries into the future, it is appropriate that a fundamentally different, locally driven approach to skills and training funding for the USG is adopted.

Priority Actions and Recommendations

22. Establishment and operation of the Upper Spencer Gulf 'Community Owned Tertiary Education Centre' (COTEC).
23. Establish an 'Upper Spencer Gulf Innovation' scholarship program in partnership with industry and universities to provide new research into innovative technologies and solutions across the identified 'future industries' sectors.



City Liveability

Improving the liveability and vibrancy of the region's centres is aimed at triggering more interest and investment by business and new residents, fostering a spirit of new community

For decades the three Upper Spencer Gulf cities have been plagued by negative publicity and perceptions as 'dirty, polluted, industrial' towns.

Quite clearly this has hampered the region's ability to attract new residents and workers.

The Port Pirie smelter and Whyalla steelworks transformations, transition from coal-fired to solar thermal electricity generation, and expansion of Sundrop farms now provides a very different backdrop for the three cities to improve external perceptions.

Alongside this industry transformation, a key focus by civic and business leaders in Pt Pirie, Pt Augusta and Whyalla is to improve the physical and aesthetic appearance of the cities.

Improving the liveability and vibrancy of these centres is aimed at triggering more interest and investment by business and new residents.

All three cities have already invested heavily in initiatives including foreshore redevelopments, rejuvenation of sporting and library facilities, park, garden and streetscape upgrades, bike and walking tracks, water reuse schemes and community events that foster civic pride and vibrancy.

Creating attractive, welcoming city entrances also continues to be a strong focus by the three cities in their quest to overcome decades of negative perception and industrial pollution.

For the three cities, a key part of the transformation effort has been opening up and refocusing the town centres to take advantage of the water and stunning landscape views. Like so many industrial centres, sea and water access was primarily considered in the context of moving industrial goods rather than for the aesthetic and wellbeing value they can also provide to the community. Redesigning planning and development of the cities to take advantage of this natural feature marks a significant change in thinking and positioning.

It is recognised that changing decades of negative external perception of the region will also require a concerted marketing and promotional effort supported jointly by all levels of Government.

Creating a culture of innovation will also be a critical part of the social change for the region.

As the larger employers in the Upper Spencer Gulf restructure, there is a need to foster a spirit of new opportunity which encourages retrenched staff to remain in the region and retrain or explore opportunities utilising their valued skills in a new business venture.

For existing small business having access to stable and consistent local business development program support is a cornerstone to enterprise success. This local support assists businesses to grow their capacity, skills and profitability.

Changes in technology and work practices for small office-based businesses also offer opportunity for the three cities to establish newer approaches that encourage collaboration and generation of new ideas and innovation across small enterprises.

Recent trends in business incubators geared towards small business start-ups have moved away from small office based formats to co-working spaces suited to tech savvy independent contractors and microbusinesses. The characteristics of co-working spaces comprise a shared working environment for freelancers, sole traders and independent contractors, and result in a synergy that occurs from the clustering of people who have complementary skills and projects.

The three cities all have remnant infrastructure suitable for upgrade and redevelopment into modern business incubator spaces. Upgrading and remodelling existing sites to suit a modern co-working space, similar to 'Hub Adelaide', with in-house management, has the capability to contribute to innovation and enterprise and foster a spirit of entrepreneurship.

The region also has the advantage of access to the NBN, with Port Augusta one of the first regional cities in South Australia, and amongst the first third of Australia's population, to have a fibre connection to the National Broadband Network (NBN).

Priority Actions and Recommendations

24. Implement a 'Renew the Upper Spencer Gulf' initiative across Port Pirie, Port Augusta and Whyalla to help activate business districts and foster creative enterprise.
25. Development of business incubator and co-working space across the three Upper Spencer Gulf cities.
26. Reposition the Upper Spencer Gulf by renewing and rebranding the image of the three cities and the region.



Natural Assets and Landscapes

The stunning natural landscape of the Flinders Ranges and the coast and marine environment of the Upper Spencer Gulf are key to the region's sense of place. Proper protection of these landscapes will optimise the environmental, economic and social outcomes for all Gulf users

Key to the liveability of the Upper Spencer Gulf is the long term sustainability of the natural environment surrounding the three cities.

The stunning natural landscapes of the Flinders Ranges and the coast and marine environment of the Upper Spencer Gulf are defining characteristics that underpin the sense of place valued so highly by residents and visitors.

Ecological and aesthetic protection of these landscapes will require a strong, ongoing investment into land use and development planning, environmental restoration and monitoring.

Initiatives such as the 'Spencer Gulf Ecosystems Development Initiative' and the Flinders Ranges National Tourism Icons project will be important to help safeguard these environmental assets.

Inappropriate development and climate change are key threats to these environmental values and to the broader liveability of the cities.

For example, aside from being the main economic development zone in South Australia, the Spencer Gulf itself is a rare inverse estuary that provides a nursery for many fish and marine species and is an area featuring rare and unique biodiversity of national significance.

A recent cost-benefit analysis estimated the Gulf provides over \$136 million in economic benefit to commercial and recreational pursuits in this important marine environment.

The Commonwealth Government funded Regional Biodiversity Management Plan for the Upper Spencer Gulf identified key issues and considerations to improve future management in relation to species distribution, abundance and condition, connectivity, sea level rise modelling, regional and local government planning.

The Spencer Gulf Ecosystem Development Initiative (SGEDI) brings together key research providers (University of Adelaide, SARDI Aquatic Sciences and Flinders University) and investors from a range of industries such as fishing, aquaculture, mining, manufacturing, ports, who all have a shared interest in Spencer Gulf.

The initiative takes an integrated approach to marine management in the region and seeks to drive sound outcomes for all Gulf users and the environment. It aims to deliver clearer approval pathways for industry with potential to reduce costs and time delays thus greatly assisting economic development; provide information, data, and tools to assist in approval pathways; ensure community support and public comments are more likely to be based on evidence; and ensure a thriving Gulf region, where progressive developments occur, community opportunity is optimized and the unique ecosystem is protected and enhanced – specifically through effective consideration of cumulative, chronic and long term environmental stressors.

The program has recently undertaken research investigating the impact and interactions between gulf users, marine species and ports and shipping, with the next phase escalating research around an integrated approach to marine management such that all industries can optimize outcomes and environmental, economic and social outcomes for the region are maximized.

Climate change risk and vulnerability assessments have been undertaken at local and regional levels, along with identification of key adaptation actions for the cities in relation to:

- ▷ Improving energy efficiency in new development along with shade and amenity through green space and built form in city centres and residential areas
- ▷ Increased stormwater capture and reuse through best practice water sensitive urban design in new development
- ▷ Flood mitigation based on findings of recent and future studies
- ▷ More explicit policy to encourage and guide assessment of domestic and commercial renewable energy in appropriate locations
- ▷ Improve provision for indoor recreation facilities as cool refuges and to manage increasing cost of outdoor surface maintenance
- ▷ Review rural living policies to avoid approvals in areas subject to increasing risk of hazards such as flood and bushfire to property and infrastructure
- ▷ Review coastal hazards and policy based on more detailed investigation into sea level rise projections at specific locations.

Clearly, maintaining a healthy and sustainably managed natural environment will have long term economic benefits for the Upper Spencer Gulf in terms of its pursuit of nature based tourism and for the attractiveness and liveability the region wishes to promote.

Priority Actions and Recommendations

27. Develop an integrated marine management approach for the Upper Spencer Gulf through the Spencer Gulf Ecosystems Development Initiative (SGEDI), to optimize environmental, economic and social outcomes for all Gulf users.



Establishing a Whole of Government Presence

To be successful, sustainable and cost-effective, the economic transition of the Upper Spencer Gulf will require a high level of ongoing cooperation, coordination and collaboration by Local – State – Federal Governments and by leaders within and across the Port Pirie, Port Augusta and Whyalla communities

Governments and communities have a very strong track-record of instigating cooperative arrangements and ‘pulling together’ during periods of crisis.

Unfortunately these collaborations usually fail to continue in any meaningful sense past the crisis period and the benefits and cost-savings from the improved communication and more efficient use of resources quickly revert back to a ‘silo’ approach to decision making that leads again to duplication of effort and policy ill-fitting the regional situation.

Over the past decade, the centralisation of government services to Adelaide has meant a decline in public servants living and working in regional SA. Not only does this impact on rural jobs and population, but the more the public service is centralised into Adelaide, the more policy decisions are formed through a ‘city’ lens and the more connection with the country is lost.

This means Government is at increasing risk of losing touch with the impact of their decisions on regional areas. The loss of Government services and public servants from regions also perpetuates a lack of confidence in regional areas.

The fragmentation of decisions and resources is further exacerbated with the three Upper Spencer Gulf cities sitting across three different Planning Strategy volumes, three Regional Development Australia boards, two different education, emergency services and Regions SA regions and two Regional Natural Resources Management boards.

This increases duplication of resources and hampers the ability to take a more strategic view across the three cities, which have strong commonality in their history, culture, industry, land-use and community.

Whilst there are a number of regionally based organisations, like the Upper Spencer Gulf Common Purpose Group, who facilitate information sharing and joint action across the Upper Spencer Gulf, the lack of statutory authority, means the ability to influence Government policy and action can only be based on advocacy and building positive relationships.

Having a statutory regional authority that focuses on the long term vision for the three cities, sets out a strategic approach to land use, transport, infrastructure and the public realm, integrates economic, environmental and community priorities – and which has a legislative basis – would complement the work of the Common Purpose Group and provide efficiencies for Government in supporting the future growth and sustainability of the Upper Spencer Gulf.

Regional Planning Board

The new *Planning, Development and Infrastructure Act 2016* provides a planning system to regulate and facilitate development of infrastructure, facilities and environments that will benefit the community.

The Act also provides for establishment of Joint Planning Boards which may include local Councils, state agencies and other entities. The Whyalla, Port Pirie and Port Augusta Councils are currently investigating the merit of establishing a Joint Planning Board under this Act.

A key role of the Planning Board will be development of a regional plan which would include a long-term vision for the region, the integration of land use, transport, infrastructure and the public realm. The regional plan would supersede current volumes of the State Planning Strategy.

Council of the Future

The 'Council of the Future' report was prepared by the Local Excellence Expert Panel for the South Australian Local Government Association in 2013.

A key recommendation included a strengthening of regional arrangements across the state including a re-alignment of many legislative functions in order to generate stronger coordination and more efficient use of state and local government resources in the delivery of services to local communities.

The report specifically recommended establishment of 'Regional Councils' across the State, with functions including inter-government relations, strategic regional planning, regional roads and transport issues, water and waste management, environmental and natural resources management, joint delivery of regional-level services and – where appropriate – shared administrative functions.

Industry Participation

The South Australian Industry Participation Policy aims to generate local economic activity to grow the state's economy by ensuring competitive businesses employing South Australians are used to deliver government goods and services whenever possible.

Public procurement is an effective way for governments to support local industry development, innovation and the long-term health of the regional economy.

The Upper Spencer Gulf has recently been declared an 'Economic Participation Region', meaning all new capital work and maintenance contracts to be carried out in the region will require the State Government to consider local suppliers wherever possible. Local businesses will be assisted in the procurement process by a 20 per cent industry participation weighting, improving their chances of winning contracts.

Across the next four years, the State Government has already committed to \$145 million of capital works and maintenance in the Upper Spencer Gulf region. These projects are expected to create about 500 jobs. This new policy means a greater proportion of those jobs will go to workers in the Upper Spencer Gulf region, boosting the local economy.

Priority Actions and Recommendations

28. Establish and maintain a co-located 'Upper Spencer Gulf Coordination Unit' based in Pt Augusta, senior policy and decision making personnel from all Government departments.
29. Investigate options for establishment of an Upper Spencer Gulf statutory regional authority, taking into account the opportunities through the Planning, Development and Infrastructure Act and 'Council of the Future' report.
30. Maximise Upper Spencer Gulf local business success in procuring state government capital work and maintenance contracts under the Economic Participation Region declaration.

Summary of Regional Initiatives

Renewable Energy

1. Secure deployment of commercial-scale renewable energy generation facilities in the Upper Spencer Gulf, with a focus on new opportunities that include storage technologies.
2. Establish a research innovation hub in the Upper Spencer Gulf to trial and test new renewable energy and clean technologies in partnership with Government, industry and leading research institutions.
3. Establish an “Upper Spencer Gulf Clean Energy Incentive Program” to assist the manufacture and deployment of new, innovative and market-ready renewable energy and associated supply chain projects in the Upper Spencer Gulf.

Agriculture and Innovation

4. Establish an “Upper Spencer Gulf Arid Innovation” incentive program to encourage new arid innovation enterprises and initiatives to establish in the Upper Spencer Gulf.
5. Provide innovative and sustainable solutions to improve availability of water for USG city amenity, recreation and industry purposes and reduce discharge to the marine environment.
6. Review and improve aquaculture lease arrangements to encourage new, innovative, sustainable aquaculture development in the Upper Spencer Gulf.

Defence

7. Provide support to maximise local Upper Spencer Gulf business engagement with Defence industries through procurement supply to the Cultana range expansion and Defence contracts at Northern Adelaide’s Techport Australia, Technology Park and Edinburgh Defence Precinct.
8. Provide incentive funding and technical support for Upper Spencer Gulf based suppliers to upgrade their infrastructure and equipment to engage with Defence contracts.

Mining Services and Minerals Processing

9. Establish a Regional Mining and Processing Innovation hub in the Upper Spencer Gulf.
10. Facilitate local enterprises to value-add, leverage and maximise opportunities from regional steelmaking and e-waste processing.
11. Establish state and national level expertise in the Upper Spencer Gulf to support any expanded role in the nuclear fuel cycle.
12. Relocation of courses delivered at the TAFE Mining and Engineering Centre in Adelaide to the Upper Spencer Gulf, to enable local students to complete all programs and training in the region.

National Transport and Logistics Hub

13. Provide infrastructure and incentive support to enable new goods and services to be supplied via rail and road through the existing ports of Whyalla and Port Pirie.
14. Resolve national highway access across the gulf at Port Augusta.
15. Develop a ‘Road Train Hub’ at Port Augusta to enable safe road train assembly and disassembly and encourage co-location of logistics providers.

Event, Cultural and Nature Based Tourism

16. Upgrade Country Arts’ Northern Festival Centre Pt Pirie and Middleback Theatre Whyalla to improve functionality as key regional entertainment, conference and exhibition venues.
17. Establish a Centre for Aboriginal Art in Port Augusta.
18. Establish the Upper Spencer Gulf Marine Discovery Centre in Whyalla, incorporating a Cuttlefish and Dolphin Interpretive Centre.
19. Develop tourism accommodation and commercial visitor experiences/products across the three cities.

Public Sector Services

20. Decentralisation of South Australian Government administrative services and relevant policy units to the Upper Spencer Gulf.
21. Amend Government recruitment processes to allow the option of public sector positions to be located in the Upper Spencer Gulf.

Higher Education and Research

22. Establishment and operation of the Upper Spencer Gulf 'Community Owned Higher Education and Research Centre' (COTEC)
23. Establish an 'Upper Spencer Gulf Arid Innovation' scholarship program in partnership with industry and universities to provide new research into innovative technologies and solutions across the identified 'future industries' sectors.

City Liveability and Vibrancy

24. Implement a 'Renew the Upper Spencer Gulf' initiative across Port Pirie, Port Augusta and Whyalla.
25. Development of business incubator and co-working space across the three Upper Spencer Gulf cities.
26. Reposition the Upper Spencer Gulf by renewing and rebranding the image of the three cities and the region.

Environment and Natural Assets

27. Develop an integrated marine management approach for the Upper Spencer Gulf through the Spencer Gulf Ecosystems Development Initiative (SGEDI), to optimize environmental, economic and social outcomes for all Gulf users.

Regional Governance and Responsive Government

28. Establish and maintain a co-located 'Upper Spencer Gulf Coordination Unit' based in Pt Augusta, senior policy and decision making personnel from all Government departments.
29. Investigate options for establishment of an Upper Spencer Gulf statutory regional authority, taking into account the opportunities through the Planning, Development and Infrastructure Act and 'Council of the Future' report.
30. Maximise Upper Spencer Gulf local business success in procuring state government capital work and maintenance contracts under the Economic Participation Region declaration.

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For further enquiries, contact

Anita Crisp

Upper Spencer Gulf Common Purpose Group Inc
(T/A Spencer Gulf Cities)

PO Box 677
Port Pirie SA 5540

M +427 609 404
E ceo@upperspencergulf.com.au