TSA Advisory

Economic Advisory Capability Statement

February 2023

Best for Project

TSA Advisory

We collaborate with our clients to solve complex infrastructure economics problems. We are experts in evaluating the economic costs, benefits and impacts of major investments in the transport, water and energy sectors.

TSA Advisory

About Us

Who is TSA Advisory?

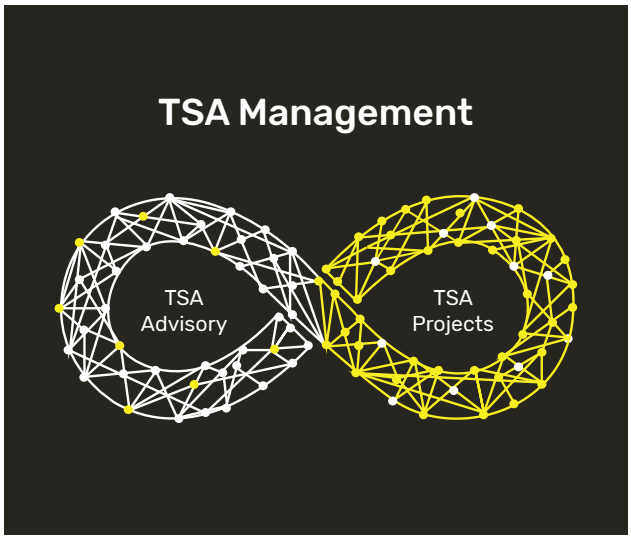
TSA Advisory is a team of 160+ infrastructure advisors. We bring together strategic, technical and commercial expertise to advise our clients on complex infrastructure.

Our expertise is specialist and deep, and introduced at key points in a project's lifecycle to help clients develop, fund, transact, deliver and optimise critical infrastructure.

TSA Management formed in 2001 with a focus on providing clients the full suite of project management services.

Recognising a growing client need for specialist expertise within a complex and heavily regulated industry, we aquired Calcutta Group in 2019 and Advisian CPA in 2021.

The strategic acquisitions of these specialist infrastructure advisory firms acted as the catalyst for the creation of TSA Advisory: TSA's specialist advisory business line. Today, TSA Advisory works with clients globally to generate targeted solutions to complicated infrastructure.



TSA Advisory

Our Services

At TSA, we use data and apply economic thinking within the context of infrastructure projects to measure the costs, benefits and impacts to the community and the economy.

Many infrastructure projects draw on public funds to deliver benefits to the community, either in their construction or their operational phase. In today's tightening fiscal environment, of increasing government and private debt and high inflation, finding the right infrastructure solutions and properly considering the trade-offs between options, whilst responsibly managing public and private funds, has become a stronger imperative than in previous years. Through our application of economic theory to the infrastructure sector, TSA can help our public and private sector clients establish a robust decision-making framework to ensure investors have confidence before committing to large-scale capital project spending.

A typical infrastructure economic assessment involves examining the economic costs and benefits delivered to the community through construction of (or upgrades to) built environment assets including roads, railways, electricity networks / systems, ports, hospitals, schools and prisons.

Investment appraisal

Cost benefit analysis (CBA)
CBA is a tool that aims to identify and express, in monetary terms, all the costs and benefits of a proposed initiative, to all members of society. Our team is highly experienced in undertaking CBAs to support investment decision-making and prioritisation.

Economic impact assessment (EIA)
EIA is a useful tool that aims to quantify the direct and indirect impacts of a project or proposed policy change. We use Input-Output modelling techniques (via REMPLAN software) to assess potental growth in jobs (FTE) and regional productivity (Gross Regional Product).

Feasibility and market assessment

Feasibility assessment
We provide guidance to clients on the viability of different project options. Feasibility assessments may include competitive advantage assessment, competition assessment, financial viability, regulatory advice or other factors.

Supply / demand assessment
Modelling and assessment of the level of supply and demand for a range of infrastructure types. These include transport services, water, power and social services including health and justice, as well as different categories of land use.

Socio-economic assessment
Assessing the demographic, community and other non-financial impacts of a potential initiative.

Strategic economic advice

Peer / Gateway review
We undertake investment assurance reviews of economic analysis, reports and models as part of the business case development process for projects undertaken by government departments and/or other consultants.

Benefits realisation management
We provide guidance on developing benefits realisation plans, objectives, KPIs, measurement regimes and governance for capital investment projects.

TSA Advisory

Our Sectors

TSA undertake economics advisory engagements across a broad range of infrastructure projects. We have specialist experience in the following sectors:

Transport

- Cost benefit analysis (CBA) of transport investment proposals
- Interface / review of transport demand modelling outputs
- Cost estimation for major transport investments
- Wider Economic Benefits (WEBs) assessment
- Economic contribution assessment (Input – output analysis) use and planning advice

Energy

- CBA of renewable energy generation opportunities
- Interface / review of National Energy Market (NEM) supply / demand modelling outputs
- CAPEX and OPEX model review for transmission and distribution upgrades and network optimisation

Land use and precinct development

- In-depth demographic and econometric analysis of local and regional economies
- Land use forecasts for retail, commercial, employment and residential land uses
- Translation of economic outputs into strategic land use and planning advice

Water

- Business cases for new or upgraded water infrastructure
- Appraisal of water infrastructure investment opportunities

Social infrastructure

- Economic appraisal of new hospitals, educational and social justice facilities
- Strong interface with model of care or social infrastructure demand analysis
- Economic contribution assessment (input – output analysis)

Project Case Studies in Section 3 outline examples of work

TSA Advisory

Our Clients

We provide strategic, economic and commercial advice to both public and private sector clients including (but not limited to) Government departments / agencies responsible for major capital investments, private sector infrastructure owners, operators, project proponents and investors.

Some of our key clients are listed below:

NSW GOVERNMENT Transport for NSW

METRO

seqwater WATER FOR LIFE

NSW GOVERNMENT Health Infrastructure

Queensland Health

SA Water

VICTORIA State Government Department of Transport and Planning

sunwater

VICTORIA State Government Energy, Environment and Climate Action

LOWER MURRAY WATER

Sydney WATER

TRANSPOWER

TSA Advisory

People.

Best for Project

TSA Advisory

Key People.

Adam Skelton

Senior Associate

Adam is a Senior Associate at TSA Management and the leader of our Economic Advisory Practice. He has 18 years' experience consulting to governments and private sector infrastructure clients, specialising in economic and commercial analysis, business case development, procurement strategy, program management and stakeholder engagement.

Adam joined TSA Advisory after 11 years in the 'Big4' (KPMG and EY), where he built a successful track-record in leading complex economic analysis for a variety of major infrastructure projects. His experience ranges across sectors including transport, energy, water, health and defence, in both Australia and the UK. Adam has led economic and business case analytics workstreams for major projects including North East Link Project Business Case, Kaban Wind Farm Assessment, and appraisals of WestConnex Stage 2 and 3.

Qualifications and Training

- Grad.Dip Economics - Birkbeck College, University of London
- BEng (Honours, Geomatics), University of Melbourne
- BSc (Environmental), University of Melbourne
- Certified Practicing Project Practitioner (AIPM) and Prince 2 certified

James Atkinson

Senior Associate

James is an economist who has been providing economic and strategic advice to clients for around a decade. He's worked on engagements across most Australian jurisdictions, for a mix of private sector and government clients.

James has a significant amount of experience carrying out economic appraisal in relation to a range of projects across Australia, including Eyre Peninsula Desalination Plant, Central Station Priority Works, National Herbarium Upgrade, Adelaide Museum of South Australian History and Hydrogen Park Murray Valley.

In addition to this, he has substantial experience working with clients to understand the function of urban and regional economies and helping local and state governments develop strategic responses to ensure Australian cities and towns continue to meet the needs of the community.

Qualifications and Training

- Master of Social Science (Planning & Environment), RMIT University
- Bachelor of Economics, University of Adelaide
- Bachelor of Finance, University of Adelaide

TSA Advisory

Key People.

Steve Haultain
Senior Associate

Steve is experienced in supporting clients to prepare economic investment analysis and developing successful business case and funding applications to regulators. He has significant asset management knowledge and is experienced in implementing and auditing asset management systems. Steve has worked across a broad range of sectors including electricity transmission/distribution, ports, gas, social housing, education and health.

He brings extensive economic and regulatory experience through the development of cost-benefit analysis, business cases, as well as scenario modelling and championing whole-of-life optimised decision making. Recently, Steve has provided strategic and commercial advice to Transpower NZ, New Zealand Institute of Skills and Technology and the NZ Ministry of Health.

Qualifications and Training

- PhD. Economic Psychology, University of Canterbury
- MSc (hons). Organisational (Applied) Psychology, University of Canterbury
- BSc (hons). Psychology, Victoria University of Wellington
- BA. Philosophy, Economics & Psychology, Victoria University of Wellington

Katie Vaynbaum
Associate

Katie is an economist and business case development specialist with 10 years' experience in project management and the planning and delivery of infrastructure projects. She has worked in a variety of sectors such as resources, transport, education, and health, across Australia and New Zealand.

Most recently, Katie led the strategic planning of a high risk and complex social infrastructure project with the Department of Education. Her experience with the Queensland Government Business Case Development Framework guided the department from a business-as-usual Options Analysis to a robust Preliminary Business Case process, ensuring a viable and timely solution for all project stakeholders.

Qualifications and Training

- Bachelor of Economics (Business and Industry)

TSA Advisory

Key People.

Luke Wagner
Associate

Luke is a specialist in the field of transport economics and infrastructure advisory. He has extensive professional and research experience in a wide range of areas, including feasibility studies, econometric modelling and forecasting, infrastructure finance, business case development, urban transport planning, and cost-benefit analysis of transport projects. His ability to model at both an urban and regional scale, combined with his expertise in assessing the impacts of transport investment and policies on land use, and socioeconomic and environmental factors, makes him a valuable asset in the development of any transportation-related project.

Luke has gained significant experience advising on major transport projects across Australia and internationally. They include Fishermans Bend, Victoria Rail Plan Technical Strategies, Easing Sydney's Congestion, North East Link and Victoria's Infrastructure Strategy 2021-2051.

Qualifications and Training

- MPhil Transport Engineering/Planning University of Cape Town, South Africa
- Bachelor Commerce Honours (Transport Economics), University of Stellenbosch, South Africa
- Bachelor Commerce (Transport Economics & Project Management), University of Stellenbosch, South Africa

Vincent Yu
Associate

Vincent is a critical thinker and problem solver with over 6 years' experience in supporting businesses in shaping, developing and assuring their future investments. He is experienced in leading investment appraisals, including developing cost-benefit analyses and undertaking data analysis and visualisation for various initiatives. Vincent has industry experience in road and rail transport, hydrocarbons, renewable energy and healthcare.

Recently, Vincent has led the cost benefit analysis of the Stations Safety Amenity and Accessibility Upgrade Program Business Case and has supported the Wider Economic Benefits analysis for the Fishermans Bend Preliminary Business Case.

Qualifications and Training

- Bachelor of Engineering (Civil – Hons), Monash University
- Bachelor of Commerce (Finance), Monash University

TSA Advisory

Key People.

Duncan Maclaine
Associate

Duncan has been practising as an economist for over 18 years. His advice spans financial and property market analysis, economic research, policy, business case development and project evaluation. He has extensive private and public sector experience applying economic principles and strategic thinking to support policy development, analysis and investment decision making.

Duncan has recently led a number of business cases and economic appraisals for major projects including Somerset Dam Safety Upgrade Project, Kangaroo Point Green Bridge, Tonkin Highway Extension, Epping Bridge Active Transport Link and Murray River Bridges Program.

Qualifications and Training

- Bachelor of Economics (Hons), University of Queensland, 2002
- Bachelor of Commerce, University of Queensland, 2001
- Graduate Diploma in Applied Finance, Securities Institute of Australia, 2005
- Prince2 Certified, 2018
- Investment Management Standard (ILM) Facilitator Training and Accreditation, 2019 & 2021

Uphaar Mehta
Associate

Uphaar is an experienced strategic, economic and commercial advisor to public and private sector organisations across the transport, freight and logistics, water and infrastructure sectors. His expertise lies in economic and financial modelling, data analysis, commercial advisory and business case development.

Recent projects that Uphaar has provided economic and commercial advice on include Moorebank Intermodal Terminal, Parramatta Road and Victoria Road Integrated Transport Projects, Western Sydney Intermodal Terminal and Port of Melbourne Port Capacity Enhancement Program (PCEP).

Qualifications and Training

- Bachelor of Commerce (Liberal Studies)
- Mazars Best Practice Project Finance Modelling Certified

TSA Advisory

Projects.

Best for Project

TSA Advisory

Improving Transport Connections to Fishermans Bend

Client Department of Transport and Planning (Vic)

Role Economic Appraisal, Strategic Business Case Development

Since 2020, TSA Advisory has been assisting the Department to explore options to improve transport connections between Melbourne CBD and Fishermans Bend. This has involved preparation of a Preliminary Business Case (PBC) in 2020, and subsequent economic and commercial advice through the Gateway Review process.

The PBC involved coordination of all aspects of the business case including detailed economic cost benefit analysis (CBA) and financial analysis. The CBA used transport modelling outputs from the Victorian Integrated Transit Model (VITM) to derive estimates of conventional transport benefits for each of the proposed transport improvement options. Derived benefits are combined with an assessment of the cost estimates provided by the technical design engineering team.

This culminated in calculation of Benefit Cost Ratios and Net Present Values, which determine the economic viability of each option being proposed. Our economic analysis involved preparation of various other economic metrics including effective jobs density and accessibility to community services.

As part of the Gateway Review process, a draft version of the preliminary business case was scrutinized at Gate 1 where a range of recommendations were provided. Our current engagement with DOT looks to respond to these recommendations by conducting an in-depth economic appraisal of potential additional transport connections to the Fishermans Bend precinct.

This work has involved complex analysis of the economic costs and benefits (including conventional transport benefits and wider economic benefits - WEBs) of a variety of potential heavy rail, light rail, and bus alternatives. This refined analysis will help inform what transport options will be taken forward to Full Business Case.

TSA Advisory

Projects.

Stations Safety, Amenity and Accessibility Upgrades Program Business Case

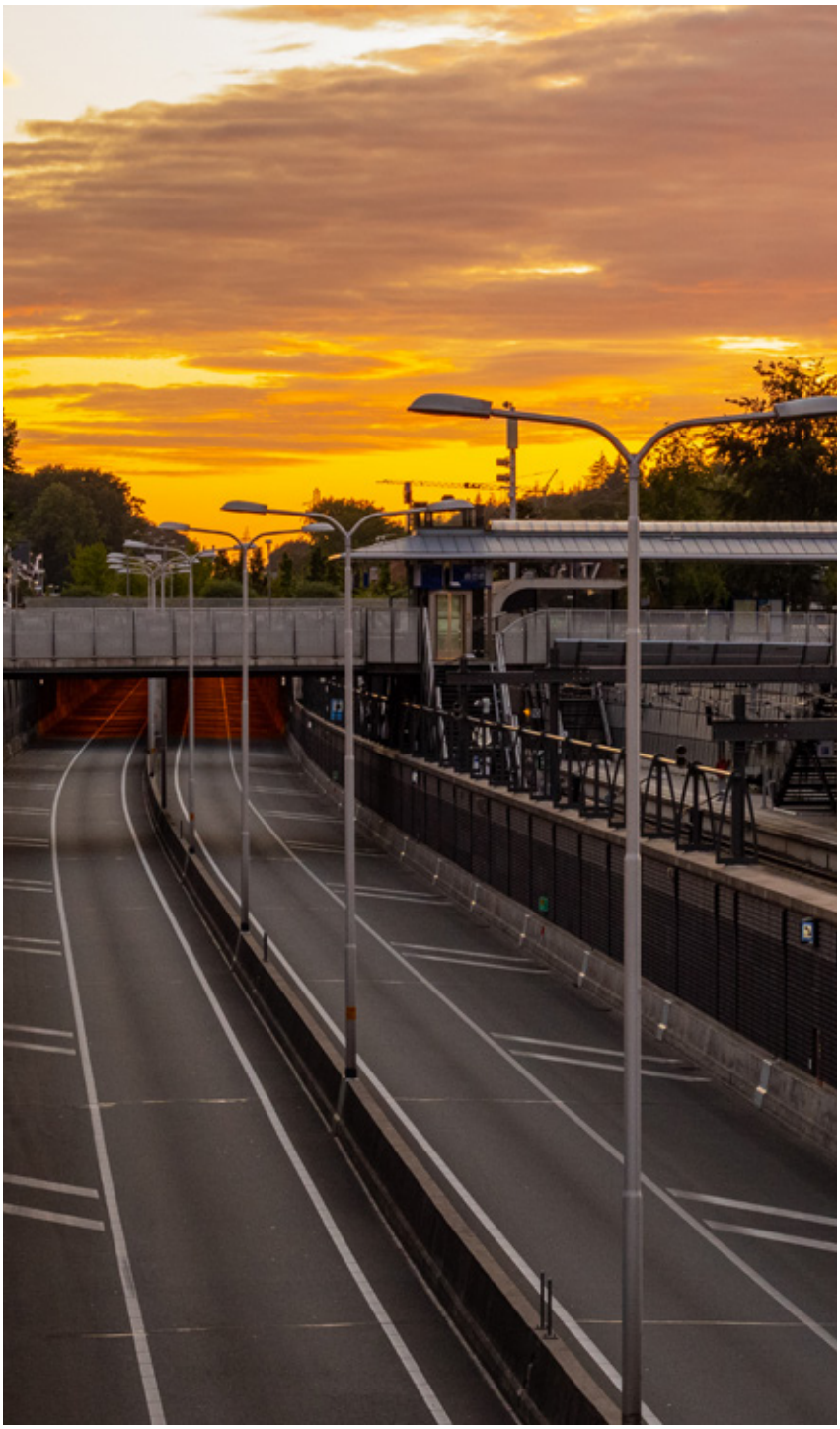
Client Department of Transport (Vic)

Role Business Case Development, Financial & Economic Analysis

TSA Advisory was engaged by the Department of Transport to develop a business case to secure funding to upgrade stations most in need of amenity and accessibility upgrades. The team provided strategic, commercial and financial advice throughout the engagement to secure funding required to further develop and deliver the project.

As part of this engagement, TSA were responsible for undertaking the commercial and economic appraisal, including development of a detailed economic and financial model that would assess the economic viability of each of the station upgrades using key performance measures of net present value and benefit-cost-ratio.

This economic appraisal included the quantification of a monetary benefit associated with station amenity upgrades. This benefit called "Station Amenity Benefit" was quantified using ATAP technical guidance using customer station satisfaction data obtained by PTV. When a station undergoes an upgrade, there is an economic benefit per user which is linked to the improvement in station quality between the base case and project case. The greater the improvement in station quality, the larger the economic benefit expected.



TSA Advisory

Projects.

Eyre Peninsula Desalination Plant, Investment Appraisal

Client SA Water

Role Economic Analyst / Report Author

TSA Advisory was engaged by SA Water to carry out economic appraisal of a set of project options relating to the proposed Eyre Peninsula desalination plant, in regional South Australia. The purpose of the work was to provide guidance to SA Water as to the preferred location for the future plant, taking into consideration the impacts of the various options on the region's economy – and the aquaculture sector in particular – as well as on the marine and terrestrial environments. This work included:

- Detailed analysis of the regional context, local economy and existing water supply
- Co-design of the site selection process, including development of criteria for success
- Set out the rationale for the project in the form of an Investment Logic Map (ILM)
- A summary of the strategic context of the investment, and alignment of the project (and specific sites) with key policy and strategy documents.
- Economic appraisal of the project options, including sensitivity analysis and distributional analysis
- A recommendation as the site likely to result in welfare optimal outcomes for the South Australian community.

Parramatta and Victoria Road Integrated Transport Projects

Client Transport for NSW

Role Economic Appraisal, Strategic Business Case Development

TSA Advisory and NineSquared were engaged by TfNSW to prepare two Strategic Business Cases and to undertake economic appraisals for various integrated transport initiatives along both Parramatta and Victoria Road corridors. Both projects trialled a place-based, multi-modal approach to transport planning in alignment with TfNSW's new Movement and Place Framework. As part of the engagement, TSA and NineSquared undertook:

- Investment logic mapping, to articulate the strategic responses, policy, non-asset and asset interventions and, ultimately, the outcomes, metrics and KPIs to measure project success.
- Multi-criteria assessment (MCA) to determine a shortlist of options for economic appraisal.
- Economic appraisal to assess three shortlisted options along each corridor. The appraisal involved analysis of bus passenger movements, wait times and transfers, and broader road user impacts (including active transport users). Place considerations were also made to determine impacts outside of typical transport benefits and costs.
- Development of the SBCs, including coordination of inputs from various workstreams

Outcomes that the project team delivered include:

- Investment Logic Map that provides a structured narrative to guide the development of the SBCs.
- Innovative approaches to support benefits quantification of place-based and active transport-related benefits.
- Learnings from application of NSW Movement and Place Framework to guide future development of transport business cases.

TSA Advisory

Projects.

Green Hydrogen Towns Business Case

Client Department of Environment Land Water and Planning (DELWP) Victoria

Role Business case advisor

TSA and Advisian were engaged to conduct an options assessment and write the business case to "Green Hydrogen Towns". This was a multifaceted project that includes a technical options assessment, development of a commercial funding framework to incentivise market participation, and development of a program business case for investment in sustainably powered electrolysis plants in regional Victorian towns over the next 10 years.

As part of the 2021-22 Business Case, TSA undertook an Economic Impact Assessment (EIA) using Input – Output analysis, to estimate and compare the potential direct and indirect economic contribution to the regional Victorian economy for each of the project options. We also undertook analysis of the potential employment impacts of electrolysis / green hydrogen production facilities for regional communities, estimating the number of jobs to be supported in the construction and operational phases for each potential investment option being explored.

TSA Advisory

Projects.

Heavy Vehicle (HV) permit reform program

Client The Department of Transport and Planning (DTP)

Role Economic advisory services, Business case development

The Department of Transport (DoT) Victoria is seeking funding to provide the freight and heavy haulage industry with a low cost, efficient and industry focused Heavy Vehicle (HV) permit consent process.

TSA was engaged to develop the business case undertake economic evaluation. Adam Skelton led the development of Cost Benefit Analysis to inform the economic evaluation and subsequent business case. He worked closely with the client to identify the relevant data and develop the assumptions for bespoke benefits related to automation of the existing permitting system.

A qualitative assessment was also undertaken for supporting the evaluation. As part of the requirements the benefits management plan was drafted in requirement with Department of Transport (Victoria) requirements. He also supported the broader team in understanding the financial impact of the project and developing/forecasting the cash flows for the duration of the project and drafting of relevant business case sections.

TSA Advisory

Richmond Station Upgrade

Client The Department of Transport and Planning (DTP)

Role Business case, Economic Appraisal

Advisian Capital Project Advisory (now TSA Advisory) was engaged in 2018 to deliver a full business case for an upgrade of the station to be submitted for consideration in the Victorian State Budget. Assembling a team of experts in investment logic, economic evaluation, financial modelling, procurement and governance, we worked collaboratively with the client's project manager and technical adviser to prepare the business case.

From definition of evidence-based problems through to detailing the preferred solution, we considered five strategic response options against benefit delivery criteria, developed seven project options aligned with the preferred strategic response and undertook detailed project options analysis, including economic cost benefit analysis, on the three options with the greatest strategic merit.

Peer review supported our economic evaluation and options analysis, which was challenging given ambiguity in economic appraisal guidelines on station upgrade appraisal methods and the station's unique function serving commuters and eventgoers.

Our unique offering of both strategic and technical expertise was key to successfully delivering the business case on time and to a high standard. Our strategic approach ensured problems were clearly defined, supported by evidence and the full spectrum of response options were considered.

Our technical expertise enabled us to work effectively with the technical adviser providing demand forecasting and pedestrian modelling inputs, ensuring we could thoroughly evidence problems, evaluate options and provide a robust economic evaluation.

TSA Advisory

Projects.

Electricity Demand forecasting and regulatory advice

Client Transpower NZ Ltd

Role Economic and Commercial Advisor, Business Case development

Under the leadership of Steve Haultain, TSA has been responsible for the development and approval of major transmission grid upgrades through the regulatory investment business case process. He has contributed to the successful submission of over $2b worth of capital investment proposals to the Commerce Commission.

Provision of economic analysis and advice to support the regulatory proposals for capital investments. Produced Transpower's 40-year demand forecasts and generation scenarios. Prepared analysis and investment business cases for Transpower's Asset Management Plans as part of the 5-yearly capex and opex.

TSA Advisory

Projects.

South Australia Eyre Peninsula Economic Analysis

Client Regional Development Australia (via URPS)

Role Economic Analysis

TSA Advisory was engaged by URPS to provide economic analysis of the Eyre Peninsula, in South Australia. The work will provide important inputs into the Eyre Peninsula Regional Strategic Plan, to be delivered by URPS for Regional Development Australia. This analysis included researching, collecting, and analyzing key economic data for the region and formatting a final economic report. This economic report included:

- Analysis of key trends for the regional economy. This included climate change, online retailing, rural exports, tourism, population, and growth of services.
- A labour market analysis including a detailed breakdown of regional employment by industry, worker productivity (and wages) across different industries and occupations, worker educational attainment and skills and unemployment and labour force participation over time.
- A regional production and consumption analysis for the region showing the makeup of the regional economy. This was broken down into output, value added and employment statistics. The section also reviewed intra-industry linkages.
- Analysis of key regional opportunities and threats.

Best for Project

Best for Project

AUSTRALIA

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

NEW ZEALAND

AUCKLAND | CHRISTCHURCH | TAURANGA
WELLINGTON | QUEENSTOWN

MALAYSIA

KUALA LUMPUR

hello@tsamgt.com | tsamgt.com

TSA
Advisory