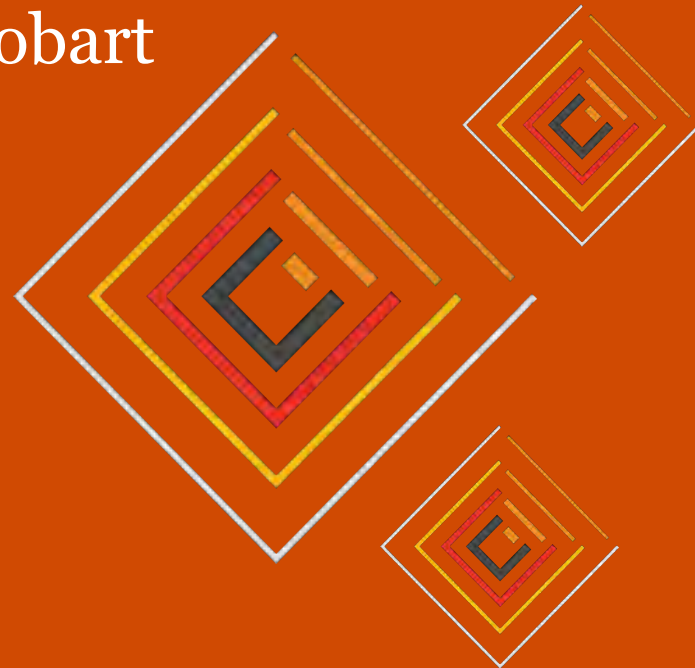


Hobart Stadium

Estimating the economic impacts of
a new arts, entertainment and
sports precinct in Hobart

August 2022



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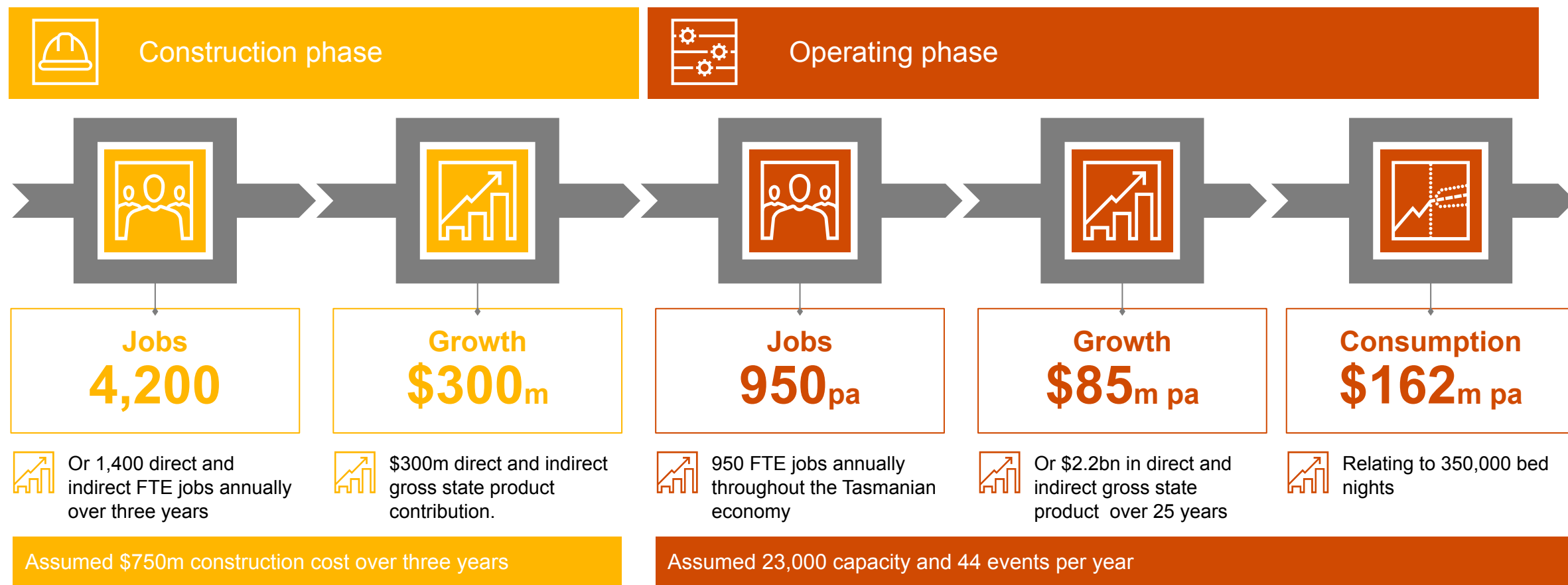
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Executive summary

A new 23,000 capacity stadium in Hobart could generate \$300m in additional economic activity and 4,200 jobs during construction, and \$85m in additional economic activity and 950 jobs in each year of operations



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This analysis provides indicative estimates of the impacts that could be delivered by a new stadium in Hobart



Background

The Tasmanian government is exploring an investment in a new 23,000 capacity tier 2 stadium in Hobart's city centre. The stadium would be the catalyst for a new arts, entertainment and sports precinct, supporting both circular and rectangular entertaining space and will be fitted with modern media facilities, corporate boxes and function facilities, and potentially a retractable roof to support matches and concerts in a range of weather conditions. This stadium also serves as a key enabler for Tasmania's pursuit of a 19th AFL licence.

Scope of work

PricewaterhouseCoopers Consulting (Australia) Pty Limited (PwC) has been engaged by Events Tasmania to estimate the economic impacts that could be generated by a new stadium in Hobart.

This analysis estimates the total economic impacts (i.e. gross state product (GSP), employment and household consumption impacts) generated for the Tasmanian economy during the facility's construction, and 25 years of its operation. This report also considers the qualitative, socio-economic impacts associated with the Stadium.

Approach

This analysis is a tool to help raise awareness of the impact that this investment could have on the Tasmanian economy. It uses a computable general equilibrium (CGE) model to estimate the economy-wide impact of the construction and operations of the new stadium. More detail on CGE models is provided in the Appendix A. The analysis draws on the following key inputs:

- Indicative facility cost of \$750 million provided by Tasmanian Government
- Hobart Stadium Capacity Optimisation Analysis provided by Tasmanian Government
- Hobart Stadium Projected Content and Attendances provided by Tasmanian Government
- Expenditure of match attendees that is induced by the stadium - derived from spend data collected in 2017 from attendees at UTAS Stadium matches.¹ This data has been adjusted to account for inflation and the higher cost of living in Hobart.

This is an indicative analysis - more robust inputs would be required for this analysis to be able to inform investment decision making, including:

- Detailed stadium design (including location and key attributes) of a series of investment options
- Robust facility cost estimates that are directly linked to detailed stadium design provided by a quantity surveyor
- Recent primary data collection (including spend patterns and attitudes towards event attendance in Hobart specifically).

¹ Attendee spend data obtained from the PwC report '*Estimation of the Economic Contribution of the Hawthorn Football Club 2017 Games in Launceston to the Tasmanian Economy*'.

The construction of Hobart stadium could deliver \$300m in additional economic activity and approximately 4,200 jobs



Construction phase

The impacts of the stadium during construction are driven by the \$750 million assumed cost over a three-year period.¹



\$300m

**Direct and indirect
GSP contribution
during construction**

The construction of the new stadium in Hobart is estimated to contribute \$300 million directly and indirectly in gross state product (GSP) over three years.

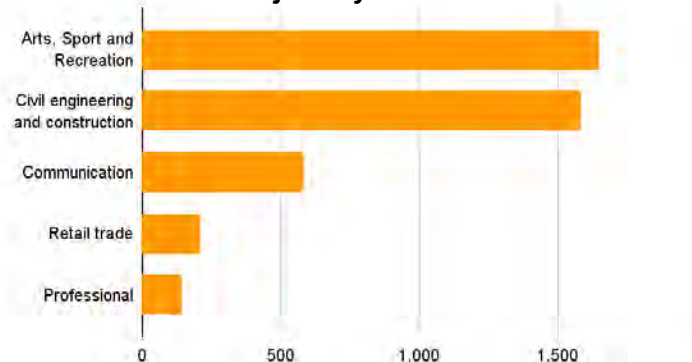


4,200

**Jobs (FTE) in
Tasmania**

The construction of the new stadium in Hobart is estimated to support around 4,200 jobs over a three-year timeframe. The key sectors that this project would generate jobs in are:

Table 1: Construction jobs by sector



¹ Assumed construction costs have been provided by Tasmanian government.

Hobart stadium could deliver 950 jobs and \$85m in additional economic activity each year it is operational



Operations phase

The impacts of the stadium during its operations are driven by the assumed capacity of 23,000, assumed event schedule of 44 events per year, and the estimated expenditure of match attendees.¹



104k pa

Interstate & overseas visitors

The new stadium in Hobart is estimated to attract up to 104,000 interstate and overseas visitors and up to 184,000 intrastate visitors annually, corresponding to to 350,000 bed nights.



\$162m pa

Direct expenditure

Hobart stadium is estimated to attract up to to 420,000 attendees each year, contributing \$162 million in direct expenditure annually



\$85m pa

Direct and indirect increase to GSP

The new stadium in Hobart is estimated to contribute \$85 million directly and indirectly in gross state product (GSP) annually, or \$2.2 billion over 25 years.

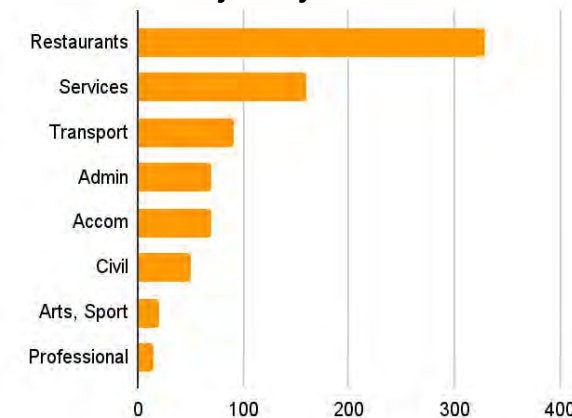


950 pa

Tasmanian jobs (FTE)

The stadium is estimated to support 950 jobs per annum in the following key sectors:

Table 2: Annual jobs by sector



Assumed event schedule

Annual attendance is estimated by applying the assumed stadium capacity (23,000) to a predicted events schedule (44 events per year - informed by analysis delivered for the Tasmanian Government).

The benefits to the Tasmanian economy generated by the stadium are driven by the net new events that the Stadium generates, and needs to exclude the events that are already in Tasmania (but would move to the Hobart Stadium).

This analysis considers past event schedules to infer that 44 total events could correspond to 28 net new events across the following event types:

- AFL
- BBL
- A-League
- Int'l cricket (days)
- Int'l rugby
- NRL
- Concerts.

¹ Expenditure of match attendees that is induced by the stadium has been derived from spend data collected in 2017 from attendees at UTAS Stadium matches. This data has been adjusted to account for inflation and the higher cost of living in Hobart.

An arts, entertainment and sports precinct has the potential to deliver a range of socio-economic benefits to Tasmania

More attractive property market

- Stadia can increase the value of housing in the surrounding areas by 3 - 4 per cent.

Wyatt, Amber (2020). *Do Sports Stadiums Raise Residential Values: The Case of Banc of California Stadium*

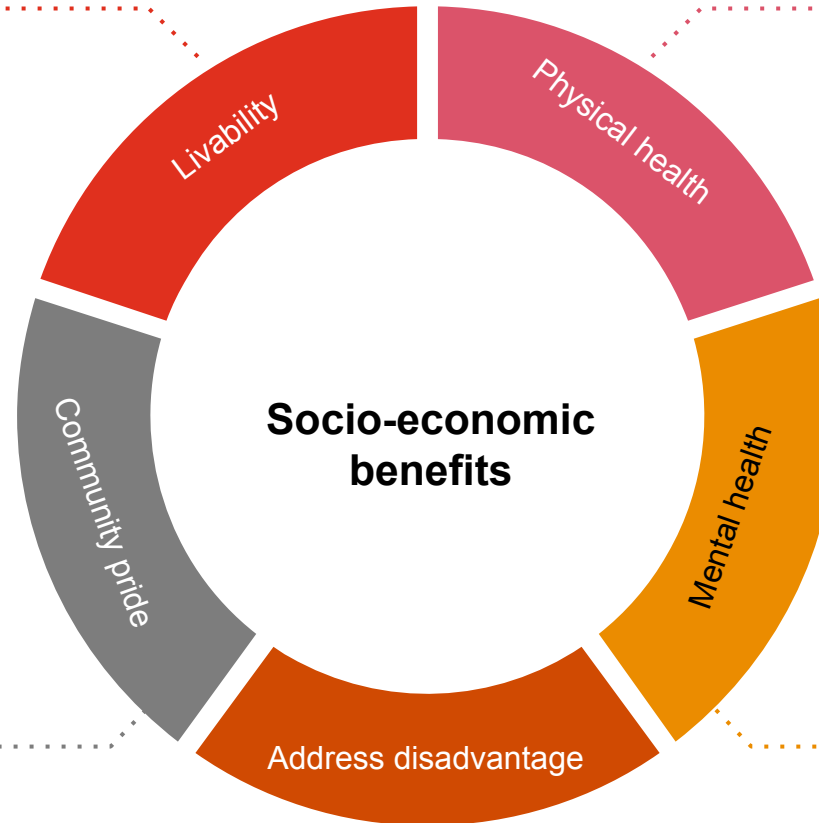
Tu, Charles. (2005). *How Does a New Sports Stadium Affect Housing Values? The Case of FedEx Field.*

Regional iconography

- Large scale public infrastructure can be a landmark and symbol of pride for the local community.
- Local professional sports has the capacity to induce a stronger connection with a spectator's local environment and community

Explore Adelaide Oval

LEE, H.-J., JUNG, S.-K., & SEONG, M.-H. (2019). *The Effect of Professional Sport Spectator's Experience Economy Factors on Satisfaction: Focused on Mediating Effects of Attachment and a Sense of Community.*



Sports spectatorship and self-rated health

- Sporting event attendance positively correlated with self-rated health. Those who attend sporting events are **33%** more likely to indicate a higher level of self-rated health.

Inoue, Y., Sato, M., & Nakazawa, M. (2018). *Association between sporting event attendance and self-rated health: an analysis of multiyear cross-sectional national data in Japan.*

Psychological benefits for sports spectators

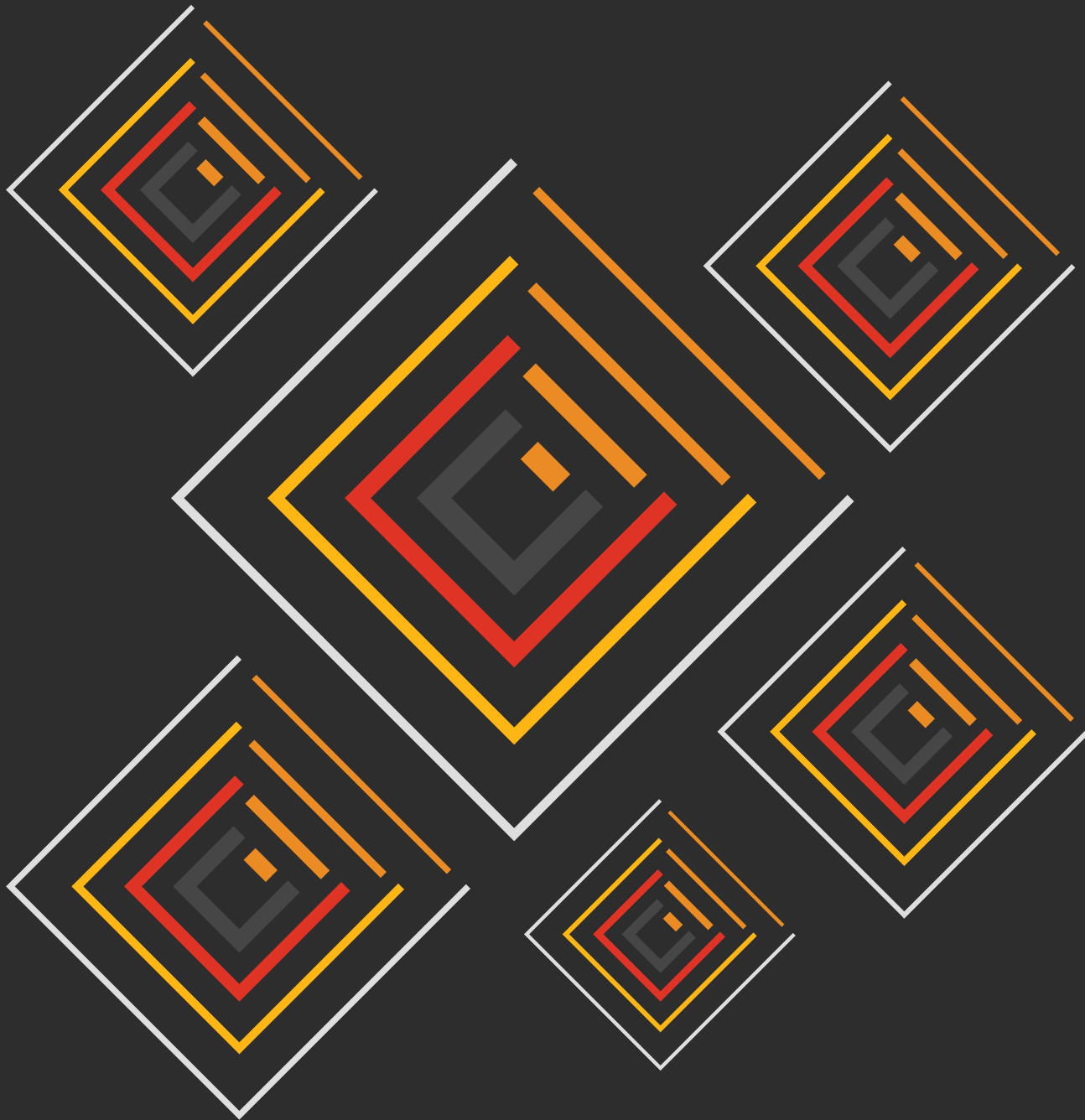
- Sport spectators are found to have activated the following four out of five domains of wellbeing:
 - Positive emotions
 - Relationships
 - Meaning
 - Accomplishment.

Doyle, Jason & Filo, Kevin & Lock, Daniel & Funk, Daniel & McDonald, Heath. (2016). *Exploring PERMA in spectator sport: Applying positive psychology to examine the individual-level benefits of sport consumption.*

Generating high-value jobs in Hobart

- Tasmania has some of the highest systemic disadvantage in Australia. ABS data shows Tasmanians earn a median weekly income of \$1,000, which is the lowest in the country.
- Just four industries contribute 53% of the workforce (Health care, Retail trade, Accommodation and food services, Education and training, and Construction), leaving the Tasmanian labour market vulnerable to shocks.
- Hobart stadium will create new jobs while further diversifying and enriching the Tasmanian labour market.

ABS 2020



Appendix A

Approach to assessing
total economic
impacts

The estimated impacts of a new Hobart stadium are modelled utilising a computable general equilibrium (CGE) model

CGE modelling to quantify the economic impacts

Estimated economy-wide impacts from the construction and operations of a new stadium in Hobart were modelled using a comparative static computable general equilibrium (CGE) model, a globally accepted and robust approach. The CGE model reflects the **total economy-wide impact** of the construction and operations of the new stadium taking into account these effects as well as the resource constraints of the economy (as the model recognizes that increased demand for resources in some sectors comes at the expense of other sectors that will give up some resources).

What is a CGE model?

CGE modelling is a sophisticated, multivariate computer-based model which measures the effect an investment or initiative has on the national, state/territory and/or regional economies. CGE models recognise that complex interactions occur and endeavour to replicate how the economy will behave given these complex interactions. Essentially, the model works by showing the impact on the equilibrium economy of certain 'shocks', or specific changes to inputs based on the nature of scenarios being explored.

PwC uses the models developed by the Centre of Policy Studies (CoPS) at Victoria University. These are preferred because they have been peer reviewed, meaning the inputs and assumptions are fully and publicly documented, providing greater modelling credibility. The Victoria University models have wide use in Australia by both government and the private sector.

The specific CGE model used here is the Victoria University Regional Model (VURM)*. VURM is a multi-regional CGE model of Australia's eight regional economies — the six States and two Territories. Each region is modelled as an economy in its own right, with region-specific prices, region-specific consumers, region-specific industries, and so on.

VURM models the economy as a system of interrelated economic agents operating in competitive markets.

* Refer to the Victoria University website for further details:

<https://www.vu.edu.au/centre-of-policy-studies-cops/contract-research-cge-model-sales/cge-model-sales/victoria-university-regional-model-vurm>

Hobart stadium - Estimating the economic impacts of a new arts, entertainment and sports precinct in Hobart

PwC

There are four types of agent: industries, households, governments and foreigners. Economic theory specifies the behaviour and market interactions of economic agents, including consumers, investors, producers and governments operating in domestic and foreign goods, capital and labour markets. Defining features of the theoretical structure of VURM include:

- Optimising behaviour by households and businesses in the context of competitive markets with explicit resource constraints and budget constraints;
- The price mechanism operates to clear markets for goods and factors such as labour and capital (i.e. prices adjust so that supply equals demand); and
- At the margin, costs are equal to revenues in all economic activities.

Based on the model's current database (which was recently updated to the 2018-19 year), in each region 88 industries produce goods and services. In each region, there is a single household sector and a regional government. There is also a Federal government. Finally, there are foreigners, whose behaviour is summarised by demand curves for regional international exports and supply curves for regional international imports.

Limitations

The CGE model's limitations include:

- the base case assumes the economy to be in equilibrium and a lagged adjustment process in the labour market.
- Consumer preferences, industry technologies and productivity are fixed at 2018/19 levels.
- Political factors include changes in government policy. For example, changes in regulations impacting on a particular industry would not have been factored into the model.

The model also assumes that the willingness of labour to move to regions is based on wage differentials, plus an adjustment factor to allow for the possibility that households may have a preference for particular geographic locations.

The CGE model captures direct and indirect impacts



The total economy-wide impacts are made up of direct and indirect (flow-on) effects

The construction and operations of the new stadium in Hobart, Tasmania provide both direct and flow-on impacts to the Tasmanian economy. The estimated overall economic impact of Hobart stadium can be split into the following two major components:

- **Direct impacts** - which are measured through its direct employment and economic activity impacts. The economic activity generated by Hobart stadium is effectively the value of goods and services produced by the construction and operations of the stadium less the inputs used from other industries and is equivalent to its direct contribution to gross state product (GSP).
- **Indirect (flow-on) impacts** - through the stimulation of economic activity up and down the sport and recreation services supply chain. That is, the investment/spending in Tasmania during the construction and operations phases stimulates employment and activity in businesses supplying goods and services. For example, indirect impacts include companies that provide goods or services in connection with consumer spending at the Stadium. An example of an indirect impact related to consumer spending would include additional demand for a food product supplier.

Total economy-wide impacts represent the sum of the gross direct and indirect economic impacts.

This report focuses on the state level results and does not report national results, as states exist in an economy competing nationally for capital and labor.

In our CGE analysis, we have estimated the impacts of the construction and operations of the new stadium in Hobart on key macroeconomic variables. Each of these measures is described below.

- **Gross state product (GSP)** – this represents the “value added” to the economy through spending patterns. Since the GSP figure captures the difference between the value of output and the value of intermediate inputs, it represents the unduplicated total value of economic activity that has taken place. The GSP impacts in this report represent the value added to the economy as a result of the capital expenditure made in Tasmania in connection with the construction of the stadium as well as expenditure from intrastate, interstate and overseas visitors on food and drinks, accommodation, transportation, entertainment and general shopping.
- **Employment** – represents the number of additional full time equivalent jobs created as a result of the capital expenditure during construction and the expenditure from intrastate, interstate and overseas visitors during operation.
- **Household consumption** – measures household economic wellbeing through the acquisition of goods and services. To the extent that consumption can be considered as a proxy for living standards, an increase in consumption implies the Australian population is better off.

Impacts during construction and operations are driven by a number of key inputs and assumptions



Scenarios modeled

To estimate the total economic impact of the presence and operations of a new stadium in Hobart, the following two scenarios are modeled:

- Base case – The baseline for the CGE simulation is a representation of the Tasmanian economy without a new stadium in Hobart.
- Project case – This models the overall effects of the presence and operations of a new stadium in Hobart.

The estimated economic impacts are determined by calculating the difference in economic outcomes between the Project case and the Base case scenarios.

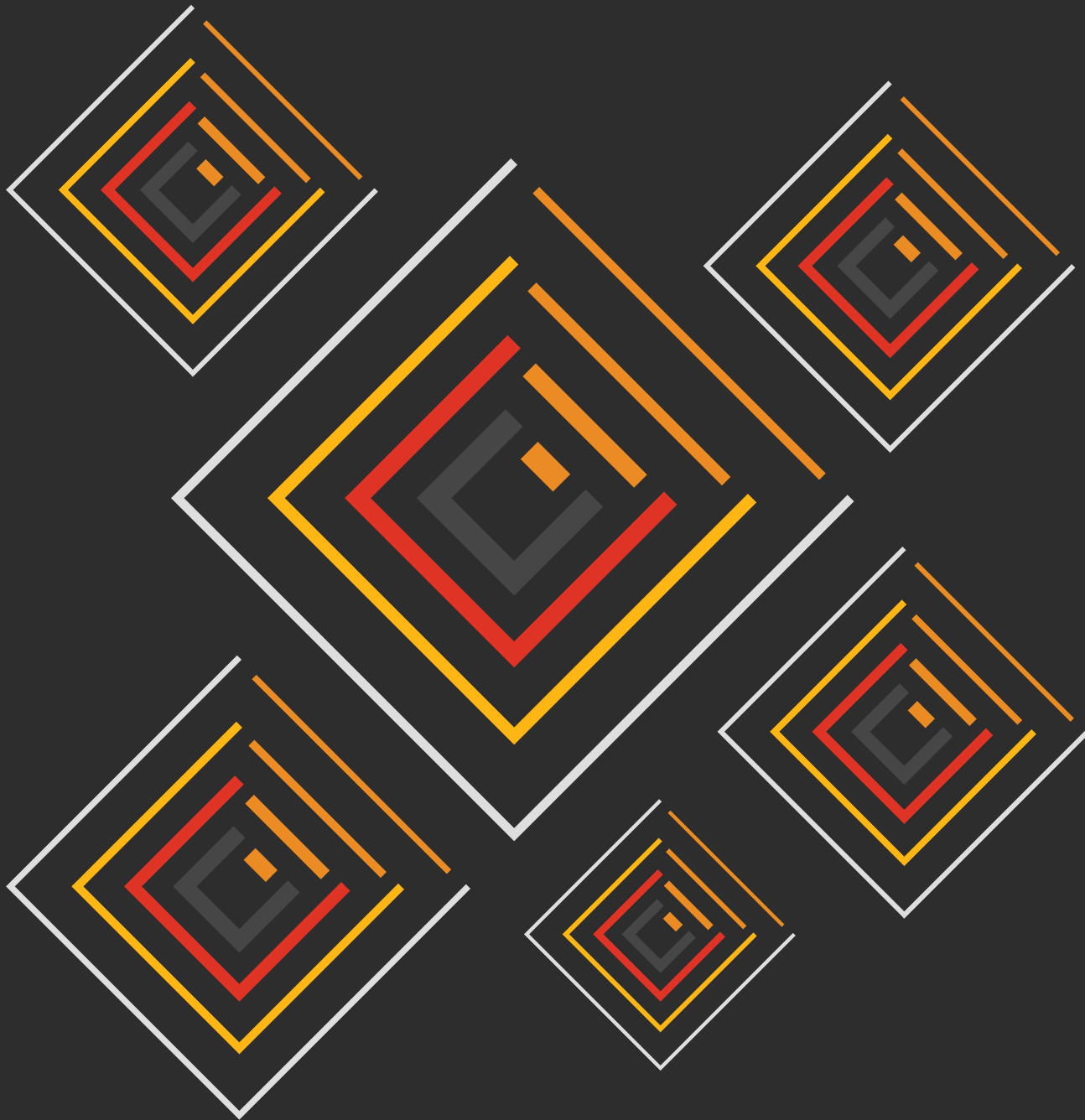
The estimate of direct and indirect economic impacts generated from the construction and operations of the new stadium are estimated using 'shocks'. The CGE model used in this analysis looks to estimate the broader effects of an investment on the whole economy by observing economic interactions between industries. We modeled the following 'shocks' to identify the total economic impact of the construction and operations of the new stadium on the Tasmanian economy:

- Construction phase – The construction phase impacts are estimated based on a construction expenditure 'shock' of an investment in the Sport and recreation services industry.
- Operation phase – The operation phase impacts are estimated based on a 'shock' of the total spending by intrastate, interstate and overseas visitors (e.g. expenditures on transportation, food and accommodation, entertainment, shopping, and others).

Model inputs and assumptions

The main modeling inputs and assumptions for this assessment are:

- The total amount of project capital expenditure during the development of the new stadium in Hobart. The associated capital expenditure over three years is \$750 million.
- The total amount of intrastate, interstate and overseas visitors' spendings. The direct expenditure by visitors during an 'average' operating year is estimated to be around \$162 million (see Appendix B for more details).
- The location of spending. 100% of the spendings during the operation phase is assumed to occur in Tasmania in which the stadium is located.
- Our analysis of total attendance and visitor numbers, which has been informed by analysis completed for the Tasmanian Government



Appendix B

Estimating impacts
during Stadium
operations

Estimating impacts during operations

Steps to estimate expenditure during operations

The estimated benefits induced by the Stadium during its operations are driven by the expenditure it induces. We applied the followed steps to estimate the expenditure generated by the stadium during its operations.

1. Estimate annual attendance
2. Estimate the origin of annual attendees
3. Estimate spend associated with the stadium (attendee origin).

Estimate annual attendance

Annual attendance is estimated by applying the assumed stadium capacity (23,000) to a predicted events schedule (44 events per year). Note that the benefits to the Tasmanian economy generated by the stadium are due to the net new events that the Stadium generates, and needs to exclude the events that are already in Tasmania (but would be moved to the Hobart Stadium). We have used past event schedules to infer that an event schedule of 44 events could correspond to 28 net new events, as shown in the table below.

Event type	Net new events
AFL	7
BBL	0
A-League	6
Int'l cricket (days)	1
Int'l rugby	1
NRL	7
Concerts	6
Total	28

* Refer to the Victoria University website for further details:

<https://www.vu.edu.au/centre-of-policy-studies-cops/contract-research-cge-model-sales/cge-model-sales/victoria-university-regional-model-vurm>

The attendance (as a percentage of stadium capacity) of each event type was estimated using figures from Events Tasmania's UTAS Stadium demand analysis report (2022), as shown in the table below.

Event type	% of max capacity
AFL	70%
BBL	65%
A-League	50%
Int'l cricket (days)	70%
Int'l rugby	80%
NRL	65%
Concerts	70%

Applying the net new events to the attendance assumptions provides an estimate of annual attendance by event type. The results are shown in the table below.

Event type	High scenario
AFL	112,700
BBL	0
A-League	69,000
Int'l cricket	16,100
Int'l rugby	18,400
NRL	104,650
Concerts	96,600
Total	417,450

Estimating impacts during operations

Estimate the origin of annual attendees

The PwC report for Hawthorn Football Club in 2017 titled Estimation of the economic contribution of Hawthorn Football Club 2017 games in Launceston to the Tasmanian economy used primary data collection to understand where attendees at UTAS Stadium matches originated from, in the following categories:

- Launceston or nearby suburbs
- In Tasmania, but not in Hobart or nearby suburbs
- Interstate or overseas.

In the absence of primary data collection specific to Hobart Stadium, this analysis assumes that the attendee origin profile of Hobart Stadium will mirror that of UTAS Stadium, as shown in the table below. This is a simplifying assumption that should be revised in future analysis.

Attendees	Hobart or nearby suburbs	In Tasmania, but not in Hobart or nearby suburbs	Interstate or overseas	Total
Proportion	31%	44%	25%	100%
Attendees	129,410	183,678	104,363	417,450

Estimate spend associated with the stadium (attendee origin)

The PwC report for Hawthorn Football Club in 2017 also captured the spend profile of match attendees based on their origin, shown in the table below.

Average expenditure per person	Launceston or nearby suburbs	In Tasmania, but not in Launceston or nearby suburbs	Interstate or overseas
Transport	\$14.00	\$29.00	\$83.00
Accommodation	n/a	\$47.00	\$250.00
Food and drinks	\$27.00	\$67.00	\$220.00
Entertainment	n/a	\$25.00	\$86.00
Shopping	n/a	\$56.00	\$110.00
Other	n/a	\$20.00	\$66.00
Total	\$41.00	\$244.00	\$816.00

This analysis scales the 2017 Launceston expenditure to reflect the potential spend profile of the Hobart Stadium (as at 2022), by accounting for:

- Higher costs in Hobart
- Inflation.

Although people do tend to stay longer when visiting Hobart compared to Launceston, this analysis assumes that the length of stay will not change given trips induced by the Stadium will be constrained by the length of the weekend.

Estimating impacts during operations

Estimate spend associated with the stadium (by attendee origin) cont'd

The table below shows the estimated expenditure per attendee for the Hobart Stadium, accounting for inflation and higher costs in Hobart.

Average expenditure per person	Hobart or nearby suburbs	In Tasmania, but not in Hobart or nearby suburbs	Interstate or overseas
Transport	\$15.02	\$34.70	\$98.22
Accommodation	n/a	\$66.83	\$352.65
Food and drinks	\$29.78	\$73.85	\$244.48
Entertainment and activities	n/a	\$32.07	\$112.27
Shopping	n/a	\$59.89	\$116.06
Other	n/a	\$20.73	\$67.90
Total	\$44.80	\$288.07	\$991.59

The table below shows the total direct expenditure that is estimated to be induced by the Stadium.

Total direct expenditure	Hobart or nearby suburbs	In Tasmania, but not in Hobart or nearby suburbs	Interstate or overseas	Total
Transport	\$1,943,853	\$6,373,845	\$10,250,945	\$18,568,643
Accommodation	n/a	\$12,275,012	\$36,803,393	\$49,078,405
Food and drinks	\$3,853,276	\$13,565,265	\$25,514,890	\$42,933,431
Entertainment and activities	n/a	\$5,889,759	\$11,717,158	\$17,606,916
Shopping	n/a	\$10,999,809	\$12,112,621	\$23,112,430
Other	n/a	\$3,807,820	\$7,085,841	\$10,893,661
Total	\$5,797,129	\$52,911,509	\$103,484,848	\$162,193,487

Thank you

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