Winthrop Hall, UWA, Crawley

Street Address	The University of Western Australia, 35 Stirling Highway
Suburb	Crawley
Best contact person for venue audit	Bookings Coordinator
Map Ref	17e
Directions 2031 Region	Central
Local Government Authority	City of Subiaco
Phone number	6488 7407
Email	bookings-theatres@uwa.edu.au
Venue website	http://www.theatres.uwa.edu.au/venues/winthrop
Operator and management arrangements	Run by University Theatres
Funding sources	None
Primary purpose	Performing Arts
Secondary purpose	Education
Stage configuration options	Standard, Recital, Double Stage Extension
Seating capacity (including seating capacity in all configurations)	Standard 974 seats, Recital 675 seats, Double Stage Extension 946 seats
Facilities included	Full performance facilities, organ
Year constructed	1932
Significant renovations - year of works and details	None
Additional amenities in the facility e.g. Bars, dining venues, exhibition space, meeting rooms	Undercroft exhibition space and dressing room

Source: University Theatres

Appendix C
Acknowledgements: Project team

Marion Fulker, CEO and Project Manager

Marion Fulker is the inaugural Chief Executive Officer of the Committee for Perth, joining the organisation in January 2007.

Holding a Masters in Business Administration from Curtin University, Marion has been a Councillor with the Heritage Council of Western Australia (HCWA) since 2005 and was appointed Chair in 2009 for a period of 4 years. She is also on the Board of the Australian Urban Design Research Centre.

In the past decade Marion has travelled extensively throughout the US, UK and Australia to examine how cities work. Her focus has been on inner city vibrancy, public transport and infrastructure, local government reform, waterfronts and cultural events and institutions. Marion is passionate about Perth and ensuring its future liveability, vibrancy, cultural diversity and economic prosperity.

Gemma Davies, Researcher and Report Author
Benchmarking and Trends analysis

Gemma Davis is a contract research consultant to the Committee for Perth. She holds an Honours degree in Urban and Regional Planning. She has over 11 years experience in research, strategic planning, policy development and urban planning in Australia, Ireland and New Zealand in private and public roles.

Richard Kingsbury, Insight Communication & Design

Richard Kingsbury is an Executive Director of Insight, an organisation that specialises in designing effective communication.

Insight has extensive international experience and has worked with more than 250 clients throughout the world in marketing and communication planning, brand identity and image development, advertising, product packaging, websites and multimedia presentations, interpretive exhibitions and displays, signage and corporate reports.

Jacqueline Larsen, Consultant
Editor

Jacqueline has a Masters Degree in English Literature and has over 10 years experience in business writing, editing and graphic design along with an awarded career in event design and production.

Jacqueline is a published author and experienced presenter in creative thinking and musical workshops, and works with the Committee as a writer and designer.

She designs and produces corporate documentation, proofreads and edits research and submissions and writes and designs the monthly e-newsletter.

Geoff Parnell, Hames Sharley

Geoff Parnell is the Director, Strategic Services with Hames Sharley and has over thirty eight years of extensive and varied business experience across a wide range of organisations and industry sectors in executive line management roles and as a consultant. Geoff's experience has enabled him to successfully identify and scope organisations' required facility needs and deliver strategic asset and facility business plans and effective facility solutions for a wide range of organisations in the private, not for profit and state and local government sectors. Geoff has presented papers on strategic planning, asset and facilities planning and service delivery strategies to national and international conferences and seminars. He is also the Chairman of Mosaic Community Care, a NFP organisation in the disability sector.

Rebecca Spencer, Hames Sharley

Rebecca Spencer is the Senior Research Planner with Hames Sharley and has a range of strategic planning and applied social and economic research experience gained from 10 years consulting in Australia. In addition, she spent three years in Hong Kong with an international property consulting company. Since returning to Perth Rebecca has worked on projects that involve consumer behavior dynamics, market feasibility, distribution network planning, community participation planning strategies and policy, plus site and centre analysis.

Liesel Perks, Landscape Architect

Liesel has worked in design in South Africa and Western Australia. Her experience includes research and design in urban planning and retail and commercial development projects. Liesel brings to all her projects her ability to adapt concepts and designs to the relevant environment responding to cultural sensitivities. She is highly skilled with presentation graphics including 3D modelling and rendering presentation drawings, AutoCAD, REVIT drafting, contract documentation and presentation of GIS data.

Appendix D: Committee for Perth Membership

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Quality In Everything We Do

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The Strategic Perspective

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FMG Fortescue
The New Force In Iron Ore

GERARD DANIELS

insight

KPMG
cutting through complexity

LAMONT'S

RAC
RAC members are happier

The University of Western Australia
Achieve International Excellence

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ARUP Pty Ltd
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Australand Holdings Ltd
Bristow Helicopters Australia
Cedar Woods Properties Limited
CJD Equipment Pty Ltd
Clarity Communications
Clifford Chance
Colliers International
Cox Howlett & Bailey Woodland
DBP
Downer Australia
FJM Property
Gold Corporation
Hames Sharley
HASSELL
Hess Exploration Australia Pty Ltd
Holman Fenwick Willan
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Johnstaff (WA) Pty Ltd
Lester Group
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Mermaid Marine
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Shire of Kalamunda

Appendix E: Information Gathering Issues

Some venues we identified as being within the project scope were reluctant to provide information, however most have. The Astor Theatre asked not to be included in the project.

In some instances, obtaining photos or floor plans of venues was not possible without approvals that would take longer than the project period to obtain. Where this has occurred gaps will be noticeable. Also some images were only available via web sites and therefore quality is not as high as would normally be desired.

Photography used throughout this report have been reproduced with the kind permission of:

The Black Swan Theatre Company

Play
Who's afraid of Virginia Wolf
Image by Gary Marsh

Play
Life x 3
by Yasmina Reza

Play
Female of the Species
Image by Gary Marsh

Play
Jandamarra
Image by Gary Marsh

Central TAFE

The City of Fremantle

Crowd shots March 06 021 (2)
Fremantle Arts Centre

Bon Scott Project Opening Night 8

Fashion Talks with Ericaamerica
Photography: Ivan Shaw

Bon Scott Project Opening Night 21

The West Australian Music Industry Association Inc.

Little Birdy
Live at The WAMi Festival
Photography: Michael Wylie

The Department of Culture and the Arts

The Kids

Art in Bloom
Kangaroos
St George's Tce
Sculpture artists:
Joan Walsh-Smith & Charles Smith
Installation artist: Rose Skinner

Art in Bloom
Percy Buttons
Hay Street Mall
Sculpture artists:
Charles Smith & Joan Walsh-Smith
Installation artist: Minaxi May

Art in Bloom
Meteorite_(Fire_Water_Earth)
Forrest Place
Sponsored by Forrest Chase
Sculpture artist: Malcolm McGregor
Installation artist: Natalie Williamson

Art in Bloom
Der Rufer (The Caller)
Perth Cultural Centre
Sculpture artist: Gerhard Marcks
Installation artist: Central TAFE WA Art Students

Awesome Festival

Felicity Groom and the Black Black Smoke

Improvilicious audience
at the 10th ArtsEdge conference

Josh Fontaine

Million Puppet Project
Perth Concert Hall

Schvendes

Sculpture by the Sea
Bound
Artist: Bess Williams

Sculpture by the Sea
Through the Looking Glass
Artist: Kirsten Hay

Sculpture by the Sea
Remnants (monument series)
Artist: Jennifer Cochrane

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Appendix 8 - Joondalup Performing Art Centre Facility Social Return On Investment - Technical Appendices: Pracsys (September, 2016)

pracsys.

City of Joondalup

JPACF Analysis – Economic and Social Impacts

Briefing Note

September 2016

Document Control				
Document Version	**Description**	**Prepared By**	**Approved By**	**Date Approved**
v 1.0	JPACF Analysis – Economic and Social Impacts	Francesca Catalano, Sam Mazzer, Robert Kyne	Michael Chappell	29 July 2016
v 2.0	JPACF Analysis – Economic and Social Impacts	Francesca Catalano, Dawson Demassiet-Huning	Michael Chappell	19 September 2016
v 2.1	JPACF Analysis – Economic and Social Impacts	Francesca Catalano, Dawson Demassiet-Huning	Michael Chappell	30 September 2016

CONTENTS

1 Background

The justification for a project such as the Joondalup Performing Art Centre Facility (JPACF) relies on a holistic view of the benefits beyond tickets and local spend to the real, tangible benefits of positive social outcomes derived from cultural attendance and production and the real economic returns to increasing the pool of creative individuals and outputs.

Pracsys was engaged to examine the potential economic and social impacts of the proposed JPACF on the relevant catchment of the facility. Pracsys was engaged initially in March 2016 to support the City in a funding application under the National Stronger Regions Fund (NSRF), during which the work to examine the potential for the project to address social disadvantage and support the growth of creative industries was completed. Further work was more recently completed by Pracsys that seeks to quantify the potential social benefits of JPACF in the form of Social Return on Investment analysis. Key findings of this work are summarised below, with outcomes of the study to be incorporated in an updated Business Case for the project.

1.1 Key Findings

An estimated 609 jobs will be supported (directly and indirectly) due to the construction of JPACF. The operation of JPACF is expected to create 47 jobs (directly and indirectly) through the operations of the facility and supplies purchased. In addition, 91 jobs are expected to be created across the retail, food and beverage and tourism industries as a result of increased visitation and tourism in the region.

The analysis calculates a Present Value for the project benefits of $328.5 million, a Net Present Value of $182.4 million and BCR of 2.34. This indicates that the project delivers significant social and economic return on investment.

The arts foster a culture of inclusion and civic participation, facilitate the development of cognitive skills and self-confidence and support mental and physical health and wellbeing – all of which have direct and indirect impacts on disadvantage. Increased access to art and cultural experiences and provision of enabling infrastructure to support art and cultural production is therefore likely to provide improvements in relative disadvantage.

JPACF will catalyse creative industry growth in the North-West sub region which will increase economic diversity and support the knowledge-driven, strategic employment crucial to driving economic resilience.

JPACF will provide a facility to connect audiences and artists so as to increase creative output in the region and the pool of creative individuals. This translates into growth of related creative industries such as advertising, software programming, publishing and architecture. It will in doing this, expand the pool of ideas and creativity accelerating the overall rate of innovation and economic success in the North-West.

2 Economic Impacts

There are local and regional economic benefits associated with the development of a facility such as the JPACF. Not only will the construction and operation of the JPACF generate direct and indirect employment opportunities but the cultural activities/events will attract consumers from throughout the catchment who spend money on a ticket, eating out, parking, accommodation and other activities. This supports local businesses and provides jobs in retail and consumer service businesses.

2.1 One-off Investment

The project is estimated to cost $99.73 million (as at 2016). Considerable construction employment will be generated during the two-year construction period. Initial estimates of employment have been prepared using a regionalised input-output table.

The modelling was undertaken by by Pracsys using the latest cost figures. This has estimated that:

- Direct - Construction employment associated with the $99.73 million development is estimated at 117 jobs over the lifetime of the project. As the project is spread mostly over two years, this can be equated to 59 full time employees (FTE) per year.
- Indirect - An estimated 492 jobs would be further supported indirectly in the wider economy through the multiplier effect.

In total an estimated 609 jobs will be supported through the direct and indirect construction activities over the lifetime of the project, which equates to an average of 305 FTE per annum over the two-year construction phase.

The total economic benefit of the one-off investment is $274 million. A detailed review of the economic benefits of the one-off investment is provided in Table 1.

Table 1: Joondalup Performing Arts and Cultural Facility construction economic impacts

Modelling the effect of adding $99.73m in Construction ($ 2016)				
Summary	**Output ($m)**	**Value-added ($m)**	**Wages and salaries ($m)**	**Local jobs**
Direct Impact	99.73	28.26	13.57	117
Total Input Effects	110.06	44.31	24.47	349
Consumption Effects	63.84	36.78	14.92	260
Total Impact on Australian economy	**273.63**	**109.36**	**52.96**	**609**

Source: Pracsys 2016, ABS National Accounts 2012/2013 (Catalogue 5206)

2.2 Direct and Indirect effect of Operating Expenses[1]

The economic impact of the annual operations has been assessed by the City using the National Institute of Economic and Industry Research (NIEIR) © 2015 Model. This estimates that a total of 37 FTE jobs are created on a permanent ongoing basis including 20 direct FTE jobs and 17 indirect FTE jobs.

In addition, 10 jobs are created in relation to the operation, maintenance and servicing of the facility's bar/restaurant, art gallery and other additional functions of the facility. This includes six FTE jobs generated directly and four FTE jobs generated indirectly.

2.3 Potential Expenditure on Arts and Culture in the Catchment

Preference modelling conducted in production of the MAFS identified total potential demand for attendances within the catchment of approximately 810,000[2] attendances. Based on an average expenditure of $40 per visit, this represents potential total expenditure in the order of $32.4 million.

Stakeholder consultation indicated that approximately 124,000 attendances (15%) currently occur in Joondalup and a further 66,500 (8%) occur outside of Joondalup, representing a capture of approximately $5.0 million and leakage of approximately $2.6 million[3].

An estimated 620,000 (76%) potential attendances do not occur at all and the value of this attendance could be in the order of $24.8 million. The ability to capture a portion of this expenditure is likely to be an attractive driver of investment in the JPACF. This expenditure pool will drive growth within industries related to a variety of different content sources. An example of these content sources are shown in Figure 1.

[1] This work was completed by City of Joondalup in the Business Case as at August 2016 and has been included here for completeness.
[2] This excludes film, which it is understood is predominantly being met through existing commercial facilities.
[3] Assuming expenditure of $40 per visit.

Figure 1: Arts Content Sources

Source: Pracsys (2016)

Growth expenditure will also open up opportunities for other neighbouring institutions and companies. These partnerships could include:

- Intrastate programs
- Interstate programs
- Fringe World
- Perth International Art Festival (PIAF
- Commercial presenters
- Fledgling industry

Linking with these institutions is likely to capture more expenditure through diversification of activity with the potential to attract a larger number of users into the future.

2.4 Secondary Visitation and Tourism Expenditure

Much like a major retailer such as Myer or David Jones acts as an anchor tenant for a shopping centre, the JPACF can act as a major destination for the Joondalup activity centre. In this way it supports the growth of the Joondalup Strategic Metropolitan Centre into a more liveable, attractive, vibrant, multi-purpose centre. = It is anticipated that the JPACF will attract over 100,000 attendances per year, by visitors from both within and outside of Joondalup, with significant flow on benefits for the local economy.

If these visitors were to spend anywhere between $20 and $80 on retail, food or beverages in the surrounding activity centre per visit, this could result in increased expenditure of between $2 and $11 million per annum directly supporting jobs in these industries (see Table 2 and Table 3).

If the anticipated 100,000 attendances for JPACF supported a spend of $40 per visit, this could represent the creation of 37 direct FTE jobs a further 49 indirect FTE jobs (Table 3).

Applying a conservative assumption, were 1% of visitors to stay overnight as part of their trip (1,000 per annum) and spend on average a further $300 on tourism activities, this could results in an injection into the tourism industry of $300,000 per annum. Based on National Accounts and Input-Output data this could directly support 2 FTE jobs in tourism and a further 3 indirect FTE jobs.

Table 2: Potential Secondary Expenditure – Retail, Food and Beverage

	Potential Spend			
Visitors	**$20**	**$40**	**$60**	**$80**
100,000	2,000,000	4,000,000	6,000,000	8,000,000
120,000	2,400,000	4,800,000	7,200,000	9,600,000
140,000	2,800,000	5,600,000	8,400,000	11,200,000

Source: Pracsys (2016).

Table 3: Potential Jobs Created

	Potential Spend			
Visitors	**$20**	**$40**	**$60**	**$80**
100,000	18	37	55	74
120,000	22	44	66	89
140,000	26	52	78	103

Source: Pracsys (2016) calculated using *ABS (2014). 5204.0 - Australian System of National Accounts, 2013-14*

2.5 Total Employment Generated by JPACF

It is a priority for the region to create more local jobs given the current unsustainable level of out commuting for employment. Employment opportunities generated by the construction and operation of the JPACF are will support the creation of self-contained and vibrant communities with diverse employment and lifestyle choices.

Total ongoing employment generated by JPACF is estimated in the order of 138 FTE jobs based on those jobs directly supported by the facility and those supported by secondary expenditure associated with increased visitation and tourism (see Table 4).

Table 4: Total ongoing employment generated by the JPACF

	Direct Jobs	Indirect Jobs	Total Jobs
Directly supported by Facility [A]			
JPACF	20	17	37
Suppliers	6	4	10
Secondary Expenditure [B]			
Visitation	37	49	86
Tourism	2	3	5
Total	**65**	**73**	**138**

Sources:

A National Institute of Economic and Industry Research (NIEIR) © 2015. Compiled and presented in economy.id.

B Pracsys (2016) calculated using *ABS (2014). 5204.0 - Australian System of National Accounts, 2013-14*

2.6 Travel Time and Vehicle Operating Cost Savings

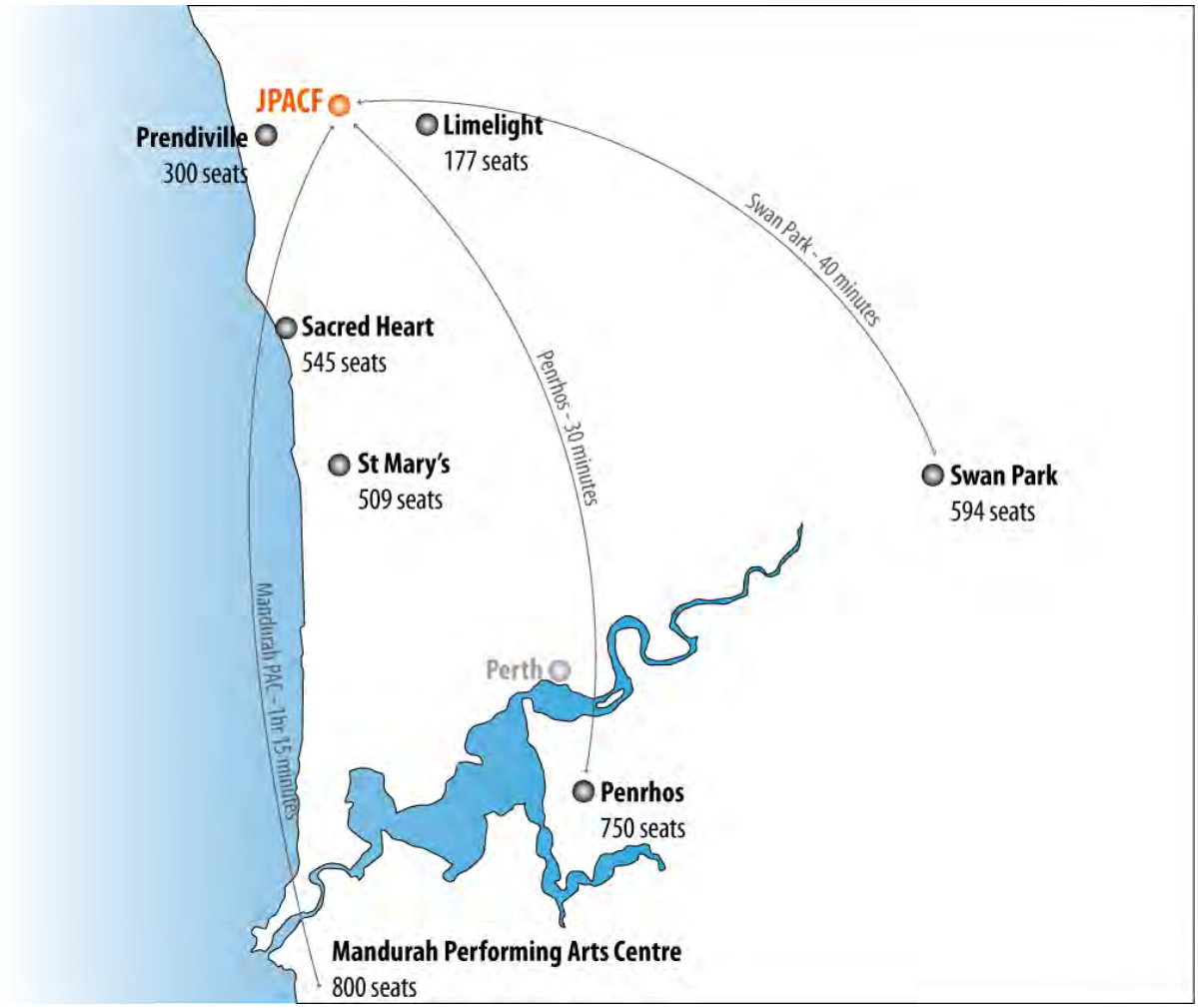
As established in the MAFS, there is a lack of arts and culture infrastructure in North West sub-region. This creates a situation in which constituents must drive further to access arts and cultural infrastructure.

The distance required to travel to a facility represents a premium over and above other costs involved in attending and participating in arts and culture. For members of the community already disadvantaged by lower incomes this represents a cost barrier to participation and attendance.

If JPACF were to be built it would provide significant cost savings in terms of reduced travel time and vehicle operating costs for residents, through the provision of a facility in closer proximity. Doing so not only represents savings to residents currently traveling far distances but also encourage increased participation and attendance.

Figure 2 demonstrates the cultural and arts infrastructure currently being used by cultural groups within the JPACF catchment area as identified in through consultation, despite being far away. Table 5 demonstrates the extent of the potential savings in vehicle travel time and operating costs that could be accrued to residents through the development of the JPACF. The figures show that there are potential vehicle operating costs savings of $12 million per annum and a further $4 million per annum savings in vehicle travel time savings.

Figure 2: Performing Arts Facilities Servicing the Primary Catchment



Source: Pracsys (2012). JPACF Market Analysis and Feasibility Study

Table 5: Vehicle Cost Savings

Local Government Area	Capture Rate	Trips	Total Km's Saved	Vehicle Operating Costs Saved (pa)	Vehicle Travel Time Saved (pa)
Joondalup	50%	330,000	29km	$7,410,000	$2,289,000
Wanneroo	40%	263,000	20km	$3,978,000	$1,229,000
Chittering	40%	8,000	29km	$173,000	$53,000
Gingin	40%	8,000	29km	$184,000	$57,000
Total				$11,745,000	$3,627,000

Source: Pracsys (2016) based on vehicle operating costs in RAC (2015), *Vehicle Running Costs Guide* [https://rac.com.au/car-motoring/info/buying-a-car/running-costs]

Notes: Assumes average occupancy of 1.6 persons per car and average speed of 60 km/hr. Vehicle operating costs assumed to be 62c/km based on RAC (2015), *Vehicle Running Costs Guide* [https://rac.com.au/car-motoring/info/buying-a-car/running-costs], vehicle travel time costs assumed to be $11.49/person-hr based on Austroads (2008) *Guide to Project Evaluation Part 4: Project Evaluation Data.*

2.7 Economic Benefit Cost Ratio (BCR)

What is cost-benefit analysis?

The Federal Government's handbook on cost benefit analysis[4] provides the following description of cost-benefit analysis:

> *Cost-benefit analysis is a method for organising information to aid decisions about the allocation of resources. Its power as an analytical tool rests in two main features:*
>
> - *costs and benefits are expressed as far as possible in money terms and hence are directly comparable with one another; and*
> - *costs and benefits are valued in terms of the claims they make on and the gains they provide to the community as a whole, so the perspective is a 'global' one rather than that of any particular individual or interest group*

Cost-benefit analysis should be viewed as closely related to, yet distinct from financial evaluation. Whilst financial evaluation looks at the net benefit to the individual organisation (in this case the City of Joondalup) cost-benefit analysis considers the community as a whole. It provides a more holistic representation of the costs and benefits associated with a project. Whilst financial evaluation takes into account cash flows in and out of the organisation only, cost-benefit analysis considers benefits such as travel time savings and 'externalities' or other unmarketed spillover effects.

[4] Commonwealth of Australia (2006), Handbook of Cost Benefit Analysis, January 2006 <https://www.finance.gov.au/sites/default/files/Handbook_of_CB_analysis.pdf.>

Costs and benefits occurring at different points in time have different values and future costs and benefits are discounted in order to determine their net present value (NPV).

The handbook states that:

> *"Subject to budget and other constraints and equity considerations, a project or policy is acceptable where net social benefit (total benefit less total cost), valued according to the opportunity cost and willingness to pay principles, is positive rather than negative".*

What is a benefit-cost ratio (BCR)?

The BCR is calculated by dividing the present value of all benefits by the present value of all costs.

$$BCR = PV\ Benefits / PV\ Costs$$

For a project to be viable, the BCR must have a value greater than 1. If the BCR is greater than 1, the NPV is positive and vice versa. BCR's are used when choices have to be made between mutually exclusive viable projects.

The JPACF Benefit-Cost Ratio

Pracsys Economics have calculated a BCR and NPV for the JPACF taking into account vehicle travel time, vehicle operating cost and secondary expenditure within the region generated through visitation and tourism. The results of this analysis are shown in Table 15.

The analysis calculates an economic NPV for the project of $126.9 million and BCR of 1.902. This indicates that taking into account all economic benefits, the project is viable and delivers significant positive value to the community overall, taking into account all costs.

Table 6: Economic NPV and BCR

Category	Annual Income/Expense	$ Total (2016 to 2059)
Income		
Primary Theatre	$1,328,000*	$52,766,739
Secondary Theatre	$230,000*	$9,163,000
Studios, Conferences and Exhibitions	$818,000*	$32,497,672
Ticket Income	$128,000*	$5,248,000
Parking (escalated real/above inf)	$551,542*#	$24,813,248
Food and Beverage	$125,000*	$4,965,812
Leases: Bar/restaurant	$77,000	$3,157,000
Sponsorship	$150,000	$6,150,000
Secondary Expenditure to the Region	$4,000,000	$164,000,000
Tourism Spend	$300,000	$12,300,000
Vehicle Travel Time Savings	$3,627,417	$148,724,089
Vehicle Operating Cost Savings	$11,744,117	$481,508,799
Expenses		

Category	Annual Income/Expense	$ Total (2016 to 2059)
Primary Theatre	$977,000*	$38,820,548
Secondary Theatre	$103,000*	$4,092,206
Studios, Conferences and Exhibitions	$426,000*	$16,926,844
Parking	$137,000	$5,617,000
Food and Beverages	$82,000*	$3,257,636
Staff Costs	$897,000*#	$36,652,932
Marketing	$323,000*	$12,923,589
Admin and General	$119,000*	$4,726,573
Building Maintenance and Repair	$676,000*	$26,278,925
Utilities	$313,000*#	$14,371,806
Asset Renewal	$792,000	$23,760,000
Estimated Capital Cost Cost		$99,700,000
Borrowings		$50,255,000A
Revenue PV		**$267,489,603**
Cost PV		**$140,622,276**
Economic NPV		**$126,867,327**
Economic Benefit Cost Ratio (BCR)		**1.902**

Source: (Pracsys 2016)

***These annual figures represent the steady state, assumed to be achieved in 2023/24. Income and expenses in the first years of operations as per the Financial and Options Evaluation have been used in the NPV analysis.**

 # Includes real cost escalation (over inflation)

A 15-year payback period assumed

B 7% discount rate has been used to calculate the Net Present Value. This is based on Treasury guidelines.

Economic Impact Assessment in Summary

The JPACF will provide major economic benefits for the region.

- One-off Investment creates 117 Direct Jobs and 469 Indirect Jobs
- Operating Activities create 37 FTE per year (20 Direct and 17 Indirect)
- Supplier Employment create 10 FTE (6 Direct FTE and 4 Indirect)
- Visitation and tourism could support the creation of an additional 39 direct jobs and 52 indirect jobs
- An economic benefit cost ratio of 1.902 indicates that taking into account economic benefits to the region the project provides positive value net of all costs.

3 Creative Economy Growth

Supporting artistic and cultural attendance and participation drives economic growth in local and regional economies. Growth is supported through a three-phase system whereby:

1. The meeting of communities of interest and practice is facilitated so as to support the production and dissemination of cultural and artistic products and experiences
2. Creators and consumers of these experiences and products translate individual creativity into social and commercial outcomes through creative industries such as publishing, architecture, advertising and software IT etc.
3. Ideas and creativity are amplified, creative networks are established and a cluster of creative industries emerges. The creative industry cluster connects with the broader economy to accelerate the overall rate of innovation and commercialisation of ideas and creativity, driving economic success

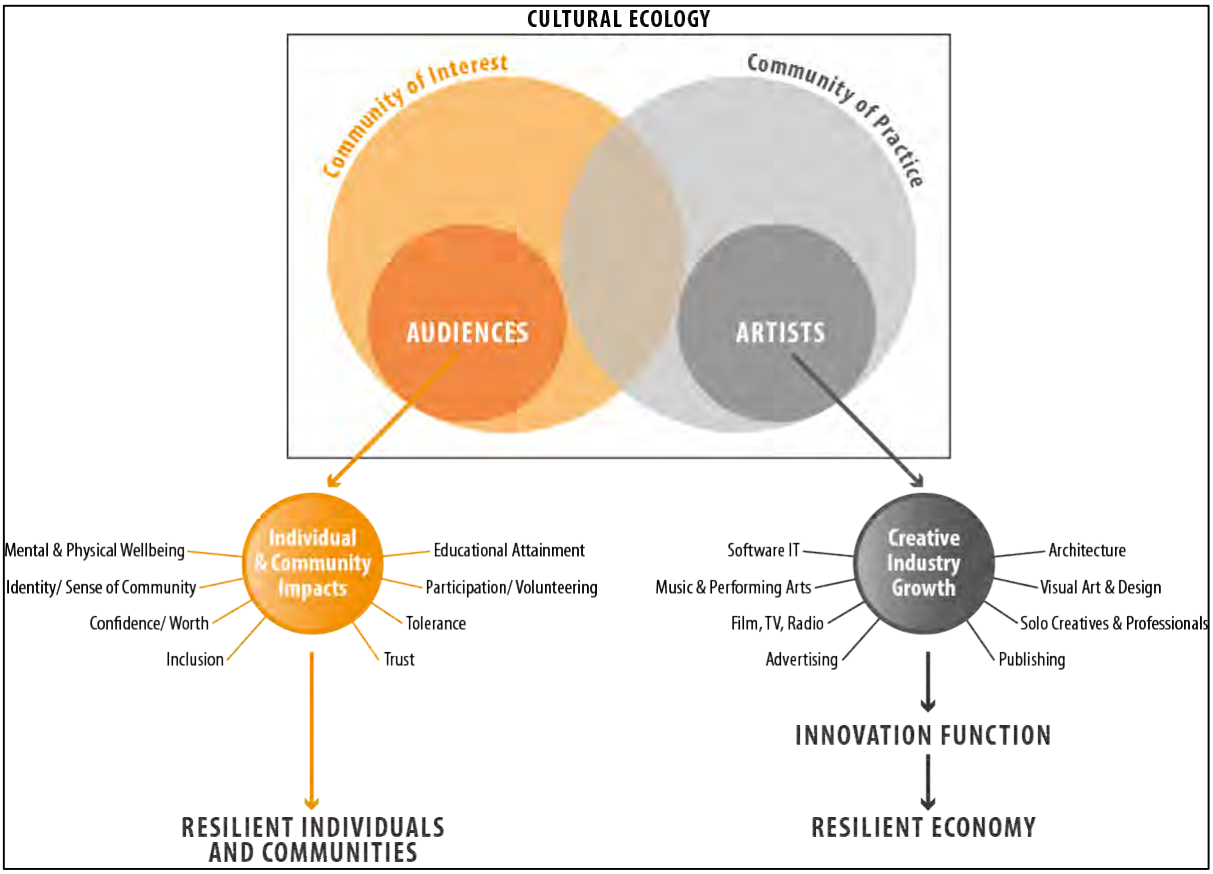
The JPACF will be the catalyst that galvanizes this process for the North-West sub region, facilitating cultural attendance and production, acting as an anchor cultural institution to facilitate the creation of a creative industry network and link with the broader economy (both public and private sector). It will in doing this, expand the pool of ideas and creativity to drive innovation and economic growth.

Exposure to and participation in such activities/events provide significant individual and community level social benefits. Research shows that they support sense of mental and physical wellbeing, which leads to positive personal attributes such as tolerance, trust, participation and even educational attainment.

Collectively these individual well-being characteristics aggregate to community cohesion, identity and pride, which are essential to well-functioning societies.

Figure 3 provides a representation of various the components of the process to realise both economic and social outcomes through arts and culture.

Figure 3: Cultural Ecology Model



Source: Pracsys (2016)

3.1 Uniting Communities of Interest and Practice

The JPACF will provide a facility to connect audiences and artists so as to support the production and dissemination of cultural and artistic products and experiences.

The JPACF will serve to enhance the cultural ecology of the North-West sub-region of Perth (the region) and the wider area of influence. The cultural ecology consists of the community of interest (audience and potential audience) and the community of practice (artists and associated service/equipment providers). The JPACF will be a key location where the communities of interest and practice meet for cultural exchange.

Demand modelling conducted in the preparation of the MAFS concluded that the level of formal cultural activity in the primary catchment is significantly less than could be expected of a Western Australian population of the size and demographic profile.

Modelling indicates that local residents are either travelling outside of the primary catchment area for their cultural pursuits (meaning that the cultural life of the City of Joondalup is being subsidised by other councils), or else this activity is not happening at all.

There are many producers of entertainment, culture and arts product who for many reasons, including the lack of suitable facilities, are unable to supply within the primary catchment.

The MAFS also examined barriers to participation in culture and the arts and production of artistic products. The most common barrier to increased participation was a lack of time, followed by expense/cost and lack of opportunities close to home/transport problems.

Developing the JPACF would allow those suppliers currently excluded from the market to enter, and address barriers currently being faced by potential attendees through improved access to opportunities for cultural attendance. The JPACF will therefore unite the existing and potential communities of interest and practice in order to increase the overall cultural attendance and production in the City of Joondalup.

3.2 Supporting Creative Industry Growth

JPACF will catalyse creative industry growth in the region which will increase economic diversity and support the knowledge-driven, strategic employment crucial to driving economic resilience.

Increasing the pool of creative individuals producing art and cultural not only provides outputs for audiences to consume, but also translates into growth of related creative industries. Creative industries in turn support the growth of innovation-rich economies that are capable of adaptation and evolution to high productivity industries.

This is achieved through a process whereby artists, designers and academics translate their individual creativity into social and commercial outcomes. For example, a local artist may also be engaged within a creative institution such as an advertising agency or a publishing company. Increasing the pool of creative individuals can subsequently result in growth of creative industries which provide significant benefits to local and regional economies.

Analysis of existing creative industries within the North-West and the benefits associated with future growth of these industries has been conducted by Pracsys Economics. For the purpose of the analysis creative clusters we identified; these represent groupings of creative industries (at ANZSIC 4 Level) that share similar characteristics.

Based on 2011 ABS Census data5 creative industries are underrepresented in the North-West. It is estimated that 1,235 people are employed in creative industries and this accounts for only 1.75% of total employment (see Table 7).

[5] As at 2016, the most recent data from ABS available is that of 2011. This analysis we be updatable with new statistics once the 2016 Census is released.

Table 7: North-West Creative Clusters

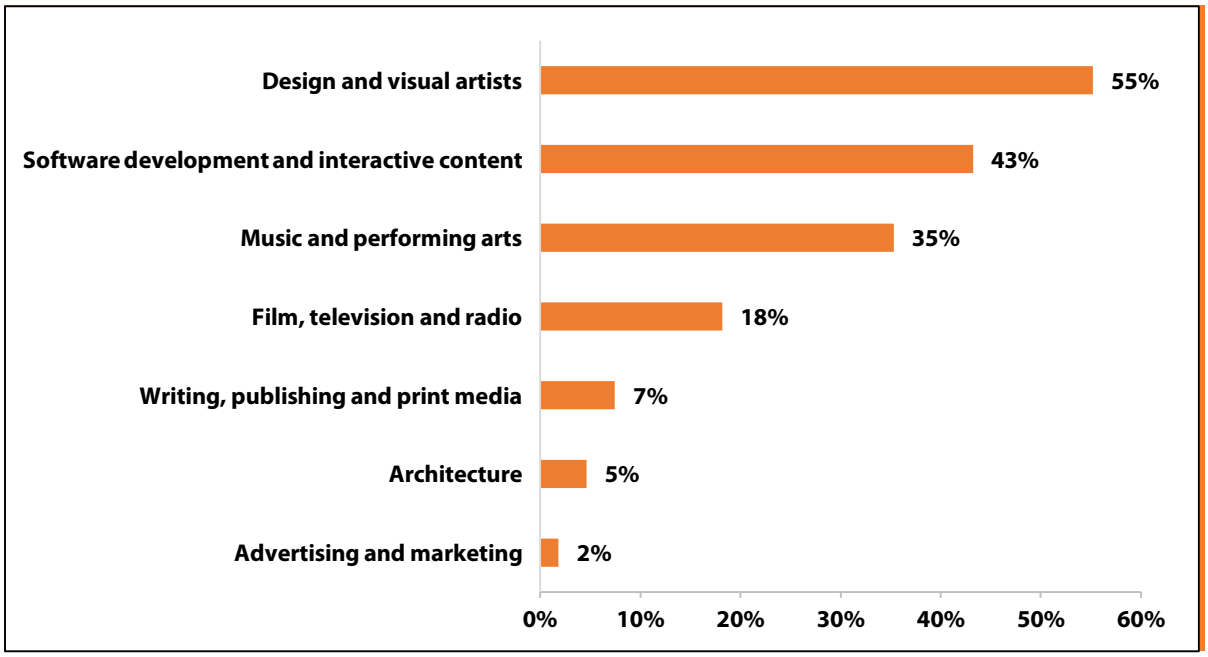
Cluster	No. Employed	Share of Creative Industries	Share of total Employment in the North West
Advertising and marketing	113	9%	0.16%
Music and performing arts	115	9%	0.16%
Design and visual artists	284	23%	0.40%
Film, television and radio	39	3%	0.06%
Writing, publishing and print media	159	13%	0.23%
Architecture	114	9%	0.16%
Software development and interactive content	411	33%	0.58%
Total	1,235	100%	1.75%

Source: Pracsys (2016), ABS Place of Work (2011)

Software development and interactive content and design and visual art are the biggest industries of employment, accounting for 33% and 23% of creative employment respectively. These industries may be associated with the presence of Edith Cowen University (ECU) which caters for a range of creative productions as well as software engineering.

Between the 2006 and 2011 Census, total employment in the North-West grew by 14,099 jobs representing a 25% increase. Creative industries have experienced similar growth in employment (24%) over this period. Design and visual artists and Software development and interactive content represented the creative clusters that experienced the most significant growth whilst Architecture and Advertising and marketing have remained relatively stable (see Figure 4).

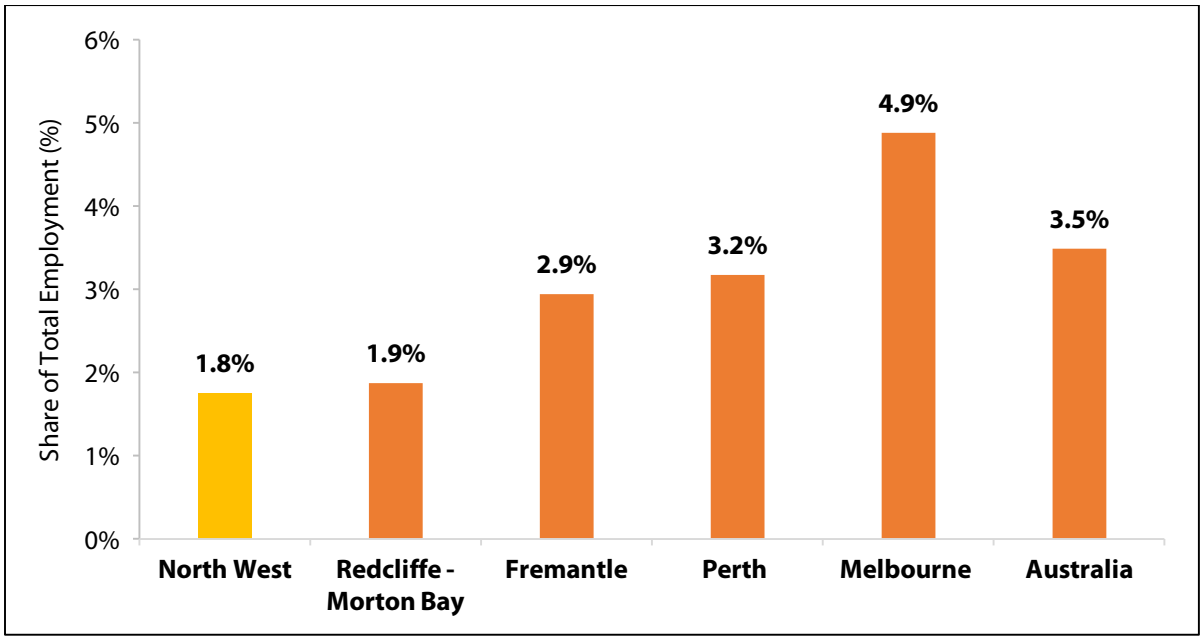
Figure 4. Creative Cluster Employment Growth (North West Sub-Region 2006 to 2011)



Source: Pracsys (2016), ABS Place of Work (2011), ABS Place of Work (2006)

For comparison, analysis of creative industry employment in benchmark locations identified in the MAFS has been conducted. The results highlights that the North-West has a significantly lower share of creative industry employment when compared to Perth, Australia and other creative citicies such as Melbourne, Fremantle and Redcliffe-Morton Bay (see Figure 5).

Figure 5. Creative Industry Employment (% of total employment)



Source: Pracsys (2016), ABS Place of Work (2011)

This is indicative of a gap in the three-phase system. Although there is a pool of existing creative individuals, it is not significant enough to facilitate the growth of creative industries in line with the Nation, Greater Perth and other creative cities. This is due to the fact that many potential producers face barriers to producing creative output largely due to the lack of enabling infrastructure. The JPACF will provide the enabling infrastructure to expand the pool of creative individuals producing creative output which will support the growth of creative industries.

If the development of the JPACF facilitated growth in creative industries in line with benchmark locations, it would represent considerable growth in local jobs and associated reductions in unemployment levels.

Table 17 identifies the job creation resulting from creative industry employment in line with benchmark ratios. Employment Self Containment (ESC) was used to calculate the potential employment creation within Joondalup, accounting for the fact that a portion of newly created jobs will be filled by residents from outside of the region.

Some positions will be filled by currently unemployed persons and some will be filled by individuals that shift from employment in other jobs/industries. It is assumed that unemployed people will be able to take vacant jobs.

Analysis indicates that the growth of creative industries in line with benchmarks could reduce unemployment by 20 to 500 jobs in Joondalup (see

Table **8**).

Table 8: Employment Growth in North-West and Joondalup to Meet Creative Industry Benchmarks

Location	Output of Creative Industries	Additional Jobs Required in the North West to meet Benchmark Ratio	Additional Job creation in Joondalup
Moreton Bay	$404 million	86	22
Fremantle	$668 million	863	222
Perth	$984 million	1,032	265
Australia	$1.6 billion	1,266	325
Melbourne	$2.1 billion	2,312	594

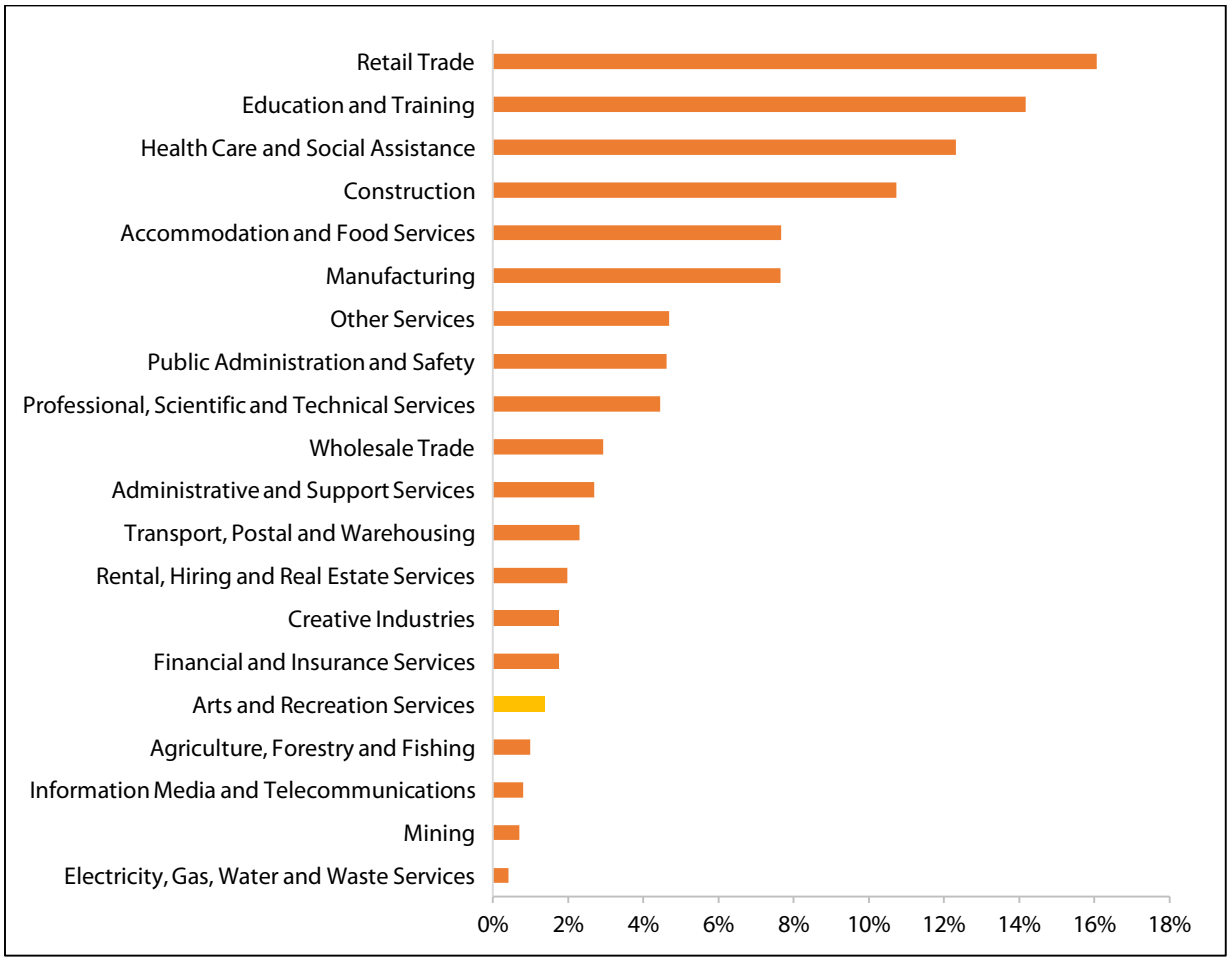
Source: Pracsys (2016) based on ABS National Accounts

Strategic Employment and Employment Self Sufficiency[6]

Jobs can be broadly broken down into strategic and population driven in nature. Population driven jobs are largely consumption based and are built from population growth. Strategic jobs are export and knowledge-based, autonomous of population growth and thus act as natural catalysts for economic activity.

Perth currently sits at approximately 20% strategic employment while the North-West sits at approximately 18%. The low level of strategic employment in the North-West is not particularly surprising considering the major industries of employment are retail trade, education and training and healthcare and social assistance which are largely population driven (see Figure 6).

Figure 6. North West Industries of Employment



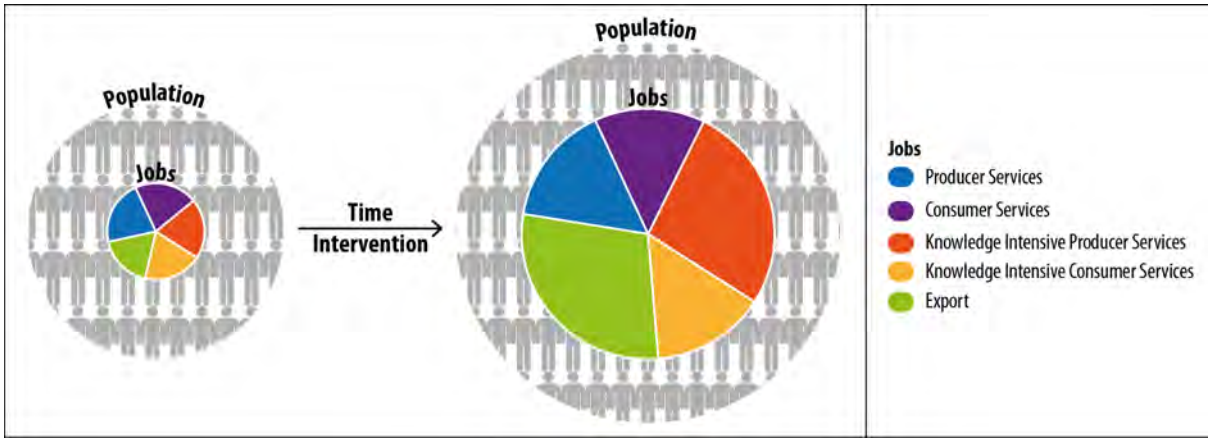
Source: Pracsys (2016)

[6] Employment can be broadly broken down into 5 categories: export oriented, consumer services, producer services, knowledge intensive consumer services (KICS) and knowledge intensive producer services (KIPS). Of these, export oriented and KIPS are classified as strategic employment.

According to data derived from national accounts and input-output data, creative industries are 49% export based. The growth in these creative industries will thus facilitate a transition into a more knowledge-based, strategic economy.

Strategic employment is also needed to maintain a region's Employment Self-Sufficiency (ESS) in line with sustained population growth. Only jobs supported through means outside of local consumption can improve the ratio of jobs to population in order to support a higher ESS (see Figure 7).

Figure 7: Intervention Effects



Source: Pracsys (2016)

Identifying strategic industry, supporting them and building additional human, productive and natural capacity around them to facilitate the development of local supply chains is one way to increase the quantum of jobs offered and increase the share of strategic jobs. The construction of the JPACF fits these criteria by building the human and productive capacity necessary to support this growth.

Table 9 provides the ESS targets established by the Department of Planning in Perth and Peel@3.5million. In order to achieve the increased job to population ratios required to support ESS targets, strategic jobs are required. With growth in population-driven employment only, the job to population ratio will remain constant (25%) into the future and ESS targets will not be met. Specifically, for the 2021 target to be met 18,600 new strategic jobs will need to be created in the North-West.

Table 9: Perth and Peel@3.5million North West Employment Goals

	Current	Targets			Total Change	Total % Change
	2011	2021	2031	2050		
Population	322,486	429,954	546,423	740,319	417,833	129.6%
Labour Force	163,636	211,087	268,331	376,386	212,750	130.0%
Jobs	80,566	126,014	174,201	229,089	148,523	184.3%
Jobs to Population	25%	29%	32%	31%	6%	
Employment Self Sufficiency (ESS)	49.2%	59.7%	64.9%	60.9%	11.6%	

Source: Pracsys (2016), DoP (2015)

Considering that strategic employment accounts for almost half of employment in the creative clusters, if through the influence of JPACF, employment in creative industries increased to the same level as benchmark locations between 11 and 291 strategic jobs could be created in Joondalup alone. This is an important contribution to efforts made by other industry initiatives to boost the representation of strategic employment in the region and meet the established ESS goals.

Higher provision of strategic jobs will have other positive benefits for the economy and wider community. At present a significant proportion of high quality jobs are held in the central sub-region (including most of Perth's cultural infrastructure). Given this, those that wish to have jobs in these industries yet live outside the central region are forced to commute in to satisfy this requirement.

By developing infrastructure that allows these industries to grow there is potential for employment opportunities to be created closer to a person's place of residence. This can have significant flow on effects in reducing the burden on transportation networks (a significant portion of government spending) as well as other far reaching productivity and social benefits through travel time and road traffic accident savings.

3.3 Innovation and Economic Success

JPACF will become a powerful router and amplifier of ideas and creativity, accelerating the overall rate of innovation and economic success in the North-West.

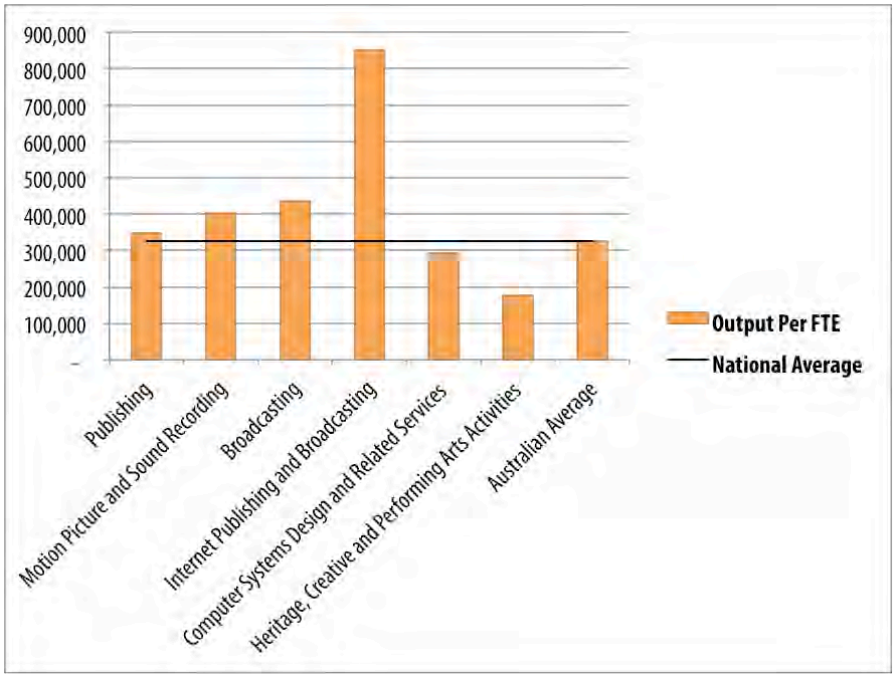
An examination of the relative productivity of creative industries provides an indicator of the potential economic benefit derived from creative industry growth.

The creative industry boasts relatively high productivity levels per FTE in comparison to the rest of the economy. This is particularly apparent in those sectors of the economy that have a more developed and mature industry associated with them, such as:

- Broadcasting
- Publishing
- Motion Picture and Sound Recording
- Internet Publishing and Broadcasting

These industries have output per FTE that is well above the national average. Creative industry output per FTE as derived from national Input Output tables is shown in Figure 16. Growth in these high productivity creative industries will drive higher incomes and higher employment levels beneficial to both national and local economies.

Figure 8: Output per FTE – Creative Industries



Source: Pracsys (2016)

In addition to the direct economic benefit of increased high productivity employment, the creative industries are built on core skills that act as a broad stimulant to innovation, which in turn drives growth, sustainability and prosperity. A defining feature of creative industries is the generation of creative ideas that have the potential to be commercialised and which once commercialised, underpin innovation and have a positive flow on impacts on the national economy.

Knowledge capital and ideas are the only infinitely reproducible economic resource with the potential to support exponential growth of worker productivity. Creative ideas work to facilitate the adoption and adaptation of new technologies – through design and advertising, for example – along with the embedding of new technologies raising the output per worker.

The collaborative partnerships, flexible business models, and digital technologies evident in creative industries feed innovation and offer new opportunities across all sectors leading to the development of new markets and products that create jobs. The arts overall are therefore not only for entertainment but are an essential service in the process of economic growth, development and evolution.

It is in this way that growth of the creative industry can support improved rates of employment self-sufficiency (ESS) in the North-West. The JPACF will be an amplifier of ideas and creativity, supporting the growth of

creative talent and creative industries in order to bolster the pipeline of ideas for commercialisation. In addition, the JPACF will be an anchor institution that encourages the partnerships required to facilitate downstream commercialise ideas into private sector growth and public service innovation for the North-West. The JPACF will be a catalyst for the growth of this industry that would otherwise not have a chance to grow.

4 Social Impact Assessment

The economic value of the arts and cultural sector is only one part of its net worth to the community There is now a well-established empirical evidence base supporting the view that the arts can make a vital contribution to our wellbeing. This can occur across a range of dimensions at an individual, community and broader society level.

The justification of public funding lies in the concept of market failure, that is, that the market fails to account for the broader societal benefits of arts and culture - referred to as 'externalities' - thus resulting in underinvestment (from a societal point of view) in the industry. Evidence from national and international sources demonstrates that even a modest investment in the arts at a local level can deliver significant returns on investment when the value of all benefits are taken into account.

Pracsys Economics has identified how JPACF could address disadvantage within communities of interest and in addition, conducted social return on investment (SROI) analysis in order to quantify the value of social benefits that could be realised by JPACF. The following sections of the Business Case provide the results of this analysis and culminate in the calculation of a BCR that in addition to economic variables of time travel savings, vehicle operating cost savings and visitation expenditure takes into account the broader value of social benefits.

4.1 Addressing Disadvantage

The 2015 study Dropping off the Edge[7] explores the geographic distribution of disadvantage across Australian states and territories, communicating the current imperative to address persistent and entrenched locational disadvantage across the country. The study looks at a range of indicators of socio-economic problems that impact on people's life opportunities and which create demand upon societal resources. This study highlights the need to when targeting services to communities, explore particular characteristics and factors that contribute to the type of disadvantage being experienced.

With respect to the JPACF, relative disadvantage has been identified in alignment with the SEIFA Index of Relative Socio-economic Disadvantage (IRSD). The SEIFA IRSD comprises a range of component variables, including:

- Income variables
- Education variables
- Employment variables
- Occupation variables
- Transport variables
- Other indicators of relative advantage or disadvantage

[7] T. Vinson and M. Rawsthorne (2015). *Dropping off the Edge 2015: Persistent communal disadvantage in Australia (pages 100 – 105)*

The SEIFA Index of Disadvantage measures the relative level of socio-economic disadvantage based on a range of Census characteristics. SEIFA provides a general view of the relative level of disadvantage in one area compared to others and is used to advocate for an area based on its level of disadvantage.

The index is derived from attributes that reflect disadvantage such as low income, low educational attainment and high unemployment. The findings of the SEIFA analysis show that the JPACF will directly and indirectly address current and future problems arising in the primary catchment area, that is, the rapidly growing North-West Sub Region.

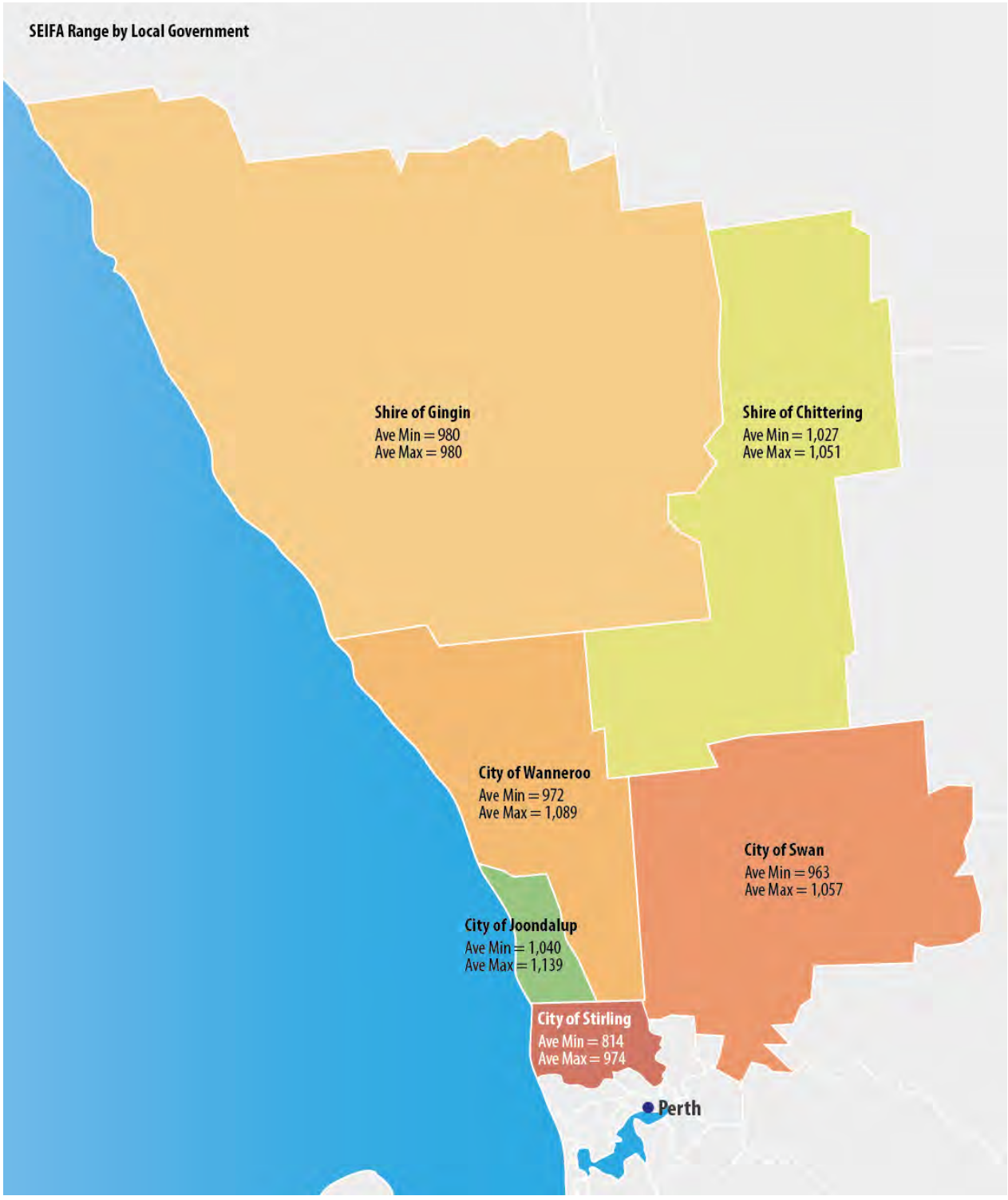
SEIFA Analysis

The analysis was undertaken at Local Government Area level as well as at Statistical Level 1 (SA1), in order to more precisely identify areas with low SEIFA scores within suburbs. Areas which include average minimum scores lower than 1,000 provide evidence of relative disadvantage.

Key Areas of Disadvantage

Whilst the City of Joondalup itself is relatively advantaged the catchment area that applies to the project and the broader area of influence extends to include areas with evidence of disadvantage. The City of Wanneroo (within the Primary Catchment) as well as the Cities of Stirling, Swan, Gingin and Chittering (within the area of influence) all have suburbs with average scores below 1,000 (See Figure 9).

Figure 9: SEIFA Range by Local Government Area



Source: Pracsys (2016) using (ABS, 2011). Socio-Economic Indexes for Areas (SEIFA), Statistical Area Level 1

Table 10 identifies suburbs within the primary catchment and their relative scores. Social indicators have been sourced to explain the type of disadvantage with indicators selected in alignment with those utilised in the 2015 study Dropping off the Edge.

Table 10: Suburbs with Disadvantage

Suburb	Average SEIFA Score A	Type of disadvantage (LGA Level Data)
Primary Catchment: Wanneroo (LGA)		
Koondoola	869	**Individual Income** Higher proportion of people earning low income (33.1% compared to 32.5%) and lower proportion of people earning high income (14.2% compared to 17.1%) **Unemployment** Similar proportion in employment, as well as a similar proportion unemployed. Overall, 95.1% of the labour force was employed (63.8% of the population aged 15+), and 4.9% unemployed (3.3% of the population aged 15+), compared with 95.3% and 4.7% respectively for Western Australia. **Volunteering** Lower proportion of population performing voluntary work (11.9% compared with 16.9%) **Occupation** Larger percentage of persons employed as Technicians and Trade Workers (19.9%) or Labourers (10.9%) compared to WA (16.7% and 9.7% respectively) **Post-School Qualifications** Lower proportion of persons with bachelor degree or higher (15.2% compared to 23.4%). Higher percentage of persons with no qualification (46.4% compared to 38.7%). **Self Assessed Health** Higher proportion of the people with fair or poor self-assessed health (14.0% compared to 13.7%). **Rent Assist** Higher percentage of households receiving rent assist (17.2% compared to 13.6%) **Cultural Acceptance** Higher percentage of population who disagree/strongly disagree with acceptance of other cultures (7.6% compared to 6.6%)
Merriwa	928	
Wanneroo	981	
Girrawheen	897	
Ashby	994	
Two Rocks	973	
Clarkson	995	
Woodvale	994	
Secondary Catchment: Swan (LGA)		
Cullacabardee	695	**Individual Income** Lower proportion of people earning a high income (13.0% compared to 17.1%) **Volunteering** Lower proportion of people who performed voluntary work (12.9% compared to 16.9%) **Occupation** Larger percentage of persons employed as Machinery Operators And Drivers (9.6%) and Clerical and Administrative Workers (16.3%) compared to WA (7.6% and 14.4% respectively) **Post-School Qualifications**
Midvale	813	
Swan View	942	
Midland	868	
Lockridge	879	
Bullsbrook	983	

Suburb	Average SEIFA Score A	Type of disadvantage (LGA Level Data)
Stratton	927	Lower proportion of persons with bachelor degree or higher (10.8% compared to 17.5%). Higher percentage of persons with no qualification (49.0% compared to 43.%). **Self Assessed Health** Higher proportion of the people with fair or poor self-assessed health (14.9% compared to 13.7%). **Rent Assist** Higher percentage of households receiving rent assist (14.3% compared to 13.6%)
Koongamia	909	
Hazelmere	975	
Middle Swan	980	
Beechboro	995	
Herne Hill	996	
Secondary Catchment: Stirling (LGA)		
Balga	913	**Unemployment** At LGA level there is a lower level of unemployment (4.5% compared to 4.7%) however there is a higher rate of unemployment in certain localities compared to the state Balga (11.0%), Mirrabooka (8.3%), Westminster (13.5%) and Girrawheen (8.2%). **Volunteering** Lower proportion of people who performed voluntary work (15.9% compared to 16.9%) **Occupation** At LGA level there is a higher proportion of Professionals (25.6% compared to 19.9%) however in certain localities there is a significantly higher proportion of labourers Mirrabooka (19.8%), Balga (17.2%), Girrawheen (16.9%) and Westminister (13.5%)compared to 9.7% across the state). **Cultural Acceptance** Higher percentage of population who disagree/strongly disagree with acceptance of other cultures (7.6% compared to 6.6%) **Psychological Distress** Higher percentage of the population with high or very high psychological distress (10.6% compared to 10.5%)
Westminster	901	
Mirrabooka	900	
Glendalough	945	
Balcatta	960	
Nollamara	964	
Osborne Park	994	

Source: Pracsys (2016) utilising:
PHIDU (2015) Social Atlas of Australia –Cultural Acceptance, Psychological Distress, Rent Assist, Self-Assessed Health
Population id (2016). City of Swan, Wanneroo and Joondalup
ABS (2011). Census of Population and Housing
A Average of all SA1 level scores within the SSC

The Link Between the Arts and Disadvantage

There is a body of evidence to support arguments that many of the intangible social impacts of the arts are connected to tangible impacts such as education, employment and income that contribute to disadvantage.

Whilst some of the social or intangible impacts such as mental health and wellbeing are intuitively directly connected to a desirable social outcome there are other connections that rely on achieving an intermediate

outcome. For example, people may learn new skills and feel more confident as the result of participating in community arts activity, and this in turn may increase their employability[8].

Increased access to art and cultural experiences and provision of enabling infrastructure to support art and cultural production is therefore likely to provide improvements in relative disadvantage, as measured by the SEIFA Index.

Social Inclusion and Civic Participation

The arts foster a culture of inclusion within communities, which has direct and indirect impacts on disadvantage. Being socially included means that people have the resources, opportunities and capabilities they need to[9]:

- Learn (participate in education and training);
- Work (participate in employment, unpaid or voluntary work including family and carer responsibilities);
- Engage (connect with people, use local services and participate in local, cultural, civic and recreational activities); and
- Have a voice (influence decisions that affect them)

Those that are socially excluded can be prevented from participating in education or training, and gaining access to services and citizenship activities therefore the outcomes of social inclusion include highly tangible indicators such as increased employment rates and improved educational performance[10.]

Whilst the causes of social exclusion are diverse and complex it has been shown that the arts can be a significant part of the solution because they transcend barriers of language, culture, ability, and socio-economic status[11]. Acceptance of cultural diversity is important for building inclusive local communities and various studies point to the impacts of participation in arts and cultural activity including: building cultural bridges, building better understanding of different cultures, fostering tolerance and understanding and directly decreasing social isolation and fostering social inclusion[12].

There is evidence of the significant contribution of nonprofit art and culture organisations as a result of volunteerism with many art businesses operating within a model of social enterprise, providing opportunities for volunteering. An example includes the Wangaratta Performing Art Centre in Victoria, which was construction in 2009 to replace the Wangaratta Memorial Town Hall which had very limited facilities for presenting professional performing arts. An economic impact assessment revealed a significant increase in volunteer levels (in comparison with the old venue) with volunteer hours increasing over tenfold[13].

[8] Jermyn, Helen (2001). *Arts and Social Exclusion: a Review Prepared for the Arts Council of England (Page 14)*
[9] Department of Premier and Cabinet, Australian Social Inclusion Board (2010). *Social Inclusion in Australia: How Australia is faring*
[10] Castanet (2003). *The Arts Ripple Effect: Valuing the Arts in Communities* (Page 11)
[11] Ibid.
[12] Cultural Ministers Council Statistics Working Group (2004). *Social Impacts of Participation in the Arts and Cultural Activities: Stage Two Report Evidence, Issues and Recommendations (Pages 21 and 25)*
[13] Castanet (2003). *The Arts Ripple Effect: Valuing the Arts in Communities* (Page 14)

The City of Joondalup's Community Development Plan identifies geographical and socio-economic factors as limiting civic and cultural participation. The JPACF will provide access to art and cultural experiences that reflect and celebrate diversity fostering social inclusion.

Cognitive Skills and Self-Confidence

Additional individual impacts of arts participations such as increased self-confidence and the development of creative as well as non-creative skills, such as communication or organisational skills have been shown to present progress towards the harder social inclusion outcomes such as employment or education[14].

Involvement in arts-based activities has been shown to create pathways for personal and social development which increase prospects for employability, particularly for young people and those from culturally diverse or disadvantaged backgrounds.

In addition, there is an understanding that the skills associated with artistic practices– creative thinking, self-discipline, collaboration, risk taking, and innovation – are skills that are in great demand in our contemporary knowledge economy15 and that the skills taught by the arts will contribute to success. Arts education teaches children creativity, special thinking and abstract reasoning, all critical skill sets for tomorrow's software designers, scientists entrepreneurs and engineers[16].

The site for the proposed JPACF is in close proximity to the Joondalup Learning Precinct which comprises of the three co-located education campuses of Edith Cowan University, West Coast Institute of Training and the Western Australia Police Academy. The JPACF would provide opportunities for partnerships with these institutions, with opportunities to implement best-practice art education programs as a means of developing a workforce capable of great success in the knowledge-based economy.

Mental and Physical Health and Wellbeing

There is a growing body of evidence that participation in arts-based activity – such as visual art, music-making or writing – can have a measurable impact on physical health and wellbeing. As a result, the practice of applying arts initiatives to health problems and health promoting settings is becoming increasingly common.

In 2013, the Standing Council on Health and the Meeting of Cultural Ministers endorsed the National Arts and Health Framework[17], which recognises and promotes greater integration of arts and health practice. The framework acknowledges the value and benefits of arts and health practice and outcomes and endorses collaborative relationships between arts and health sectors at all levels of government and with the non-government sector.

In addition to the benefits of active participation, epidemiological research suggests that promoting general cultural attendance – such as attending a cultural institution such as an art centre - also makes a difference to mental and physical wellbeing. This can be through a variety of channels, for example through improvements

[14] Jermyn, Helen (2001). *Arts and Social Exclusion: a Review Prepared for the Arts Council of England (Page 20)*
[15] Castanet (2003). *The Arts Ripple Effect: Valuing the Arts in Communities (Page 14)*
[16] Robert L. Lynch (2006) *Creating a Brighter Workforce with the Arts (Page 1)*
[17] Meeting of Cultural Ministers and the Standing Council on Health (2014). *National Arts and Health Framework*

the social relationships and networks[18] and reductions in stress levels[19] which, in turn, increase the likelihood of good mental and physical health and wellbeing. There is now considerable evidence that the stronger a sense of belonging that people feel, the healthier they are[20].

Mark O'Neill's article in the Journal of Public Mental Health Cultural attendance and public mental health – from research to practice[21] explores the implications of this research. The article argues that if general cultural attendance, as evidence suggests, contributes to healthier lives, the issue of democratic access is critical and that cultural organisations need not only meet the demand of existing audiences but address the inequalities in cultural capital and engage non-users. The article suggests that increasing general, non-intensive attendance at cultural organisations among vulnerable communities may be able to achieve a health impact at a population level.

Currently, people living in Perth's North-West have no easy access to a local performing arts and cultural facility, creating a barrier to general cultural attendance and the benefits to mental health and wellbeing that exposure to the arts provides.

The JPACF will provide an important venue to reach out to audiences and creatives with existing demand for a venue and those non-users that have, without access to a facility, been discouraged from engaging with arts and culture. In addition, the close proximity of the JPACF to the Joondalup Health Campus, the largest healthcare facility in the northern suburbs, offers exciting synergies and opportunities for enhancing the arts and health connection.

4.2 Social Return on Investment (SROI)

A number of tools have been developed in order to articulate and measure the economic impact of arts and cultural institutions. The most commonly used method, economic impact assessment (EIA), examines the monetary flows through the economy and looks at the direct, indirect and induced effects of spending associated with arts and culture. This approach relies on estimates of employment and visitation as well as industrial economic data on the relationships between arts and culture and other sectors of the economy in order to determine flow on impacts.

Whilst this approach communicates the economic impact of an institution to a defined economy, the approach focuses on traditionally 'measureable' economic impacts without considering the value of social or intrinsic benefits. SROI provides an alternative valuation approach for projects. The City of Joondalup commissioned Pracsys Economics to undertake an analysis of the Social Return on Investment (SROI) of the proposed JPACF.

[18] Castanet (2003). *The Arts Ripple Effect: Valuing the Arts in Communities (Page 14)*
[19] Mark O'Niell (2010). *Cultural attendance and public mental health – from research to practice*
[20] Castanet (2003). *The Arts Ripple Effect: Valuing the Arts in Communities (Page 17)*
[21] Mark O'Niell (2010). *Cultural attendance and public mental health – from research to practice*

Over the last decade, SROI has attracted a growing level of interest and support due to an intensified focus on impact and value for money by governments and the not for profit sector. SROI is recognised as an appropriate method to prove value by government and not-for profit organisations such as:

- Australian Government Department of the Prime Minister and Cabinet
- Australian Sports Commission (ASC)
- UK Department for Culture, Media and Arts
- Salamanca Art Centre (Hobart, Tasmania)
- Auckland Museum
- Community Arts Network WA

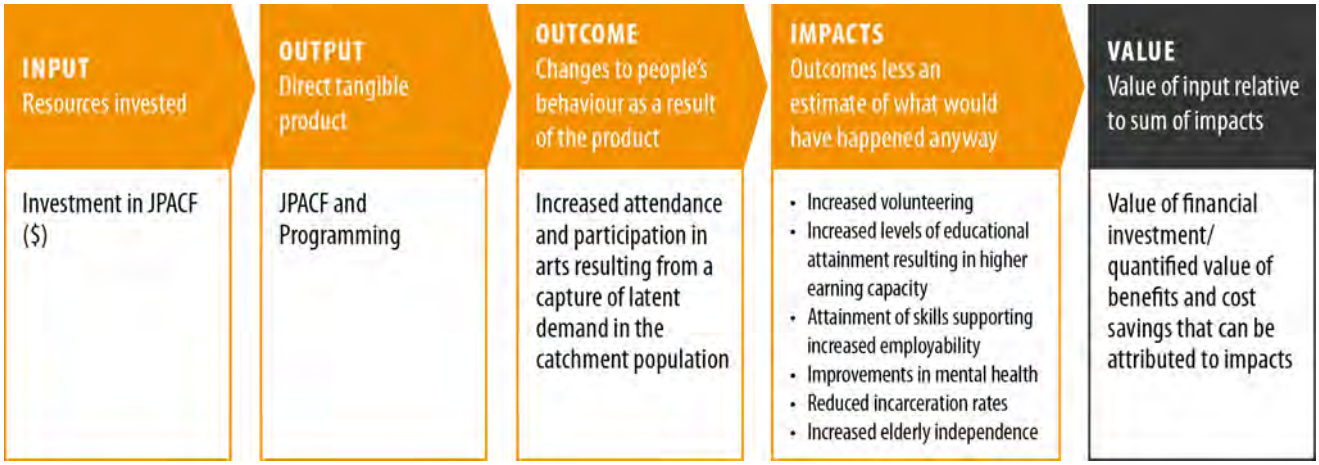
About SROI

SROI can be defined as: "a framework for understanding, measuring and accounting for the social value of projects, programs, organisations, businesses and policies" [22]. SROI analysis places a monetary value on the social impact (the benefit) of an activity and compares this with the cost incurred in creating that benefit. Specifically, SROI:

- Identifies the various cost savings, reductions in spending and related benefits that accrue
- Monetises those cost savings and related benefits through use of financial proxies
- Projects those savings over an investment timeframe and discounts those back in order to determine a net present value in the same way as cost-benefit analysis

SROI is based on 'theory of change' which distinguishes between outcomes achieved and impact. Figure 18 provides an overview of the way in which the theory of change model has been applied by Pracsys to the JPACF project.

Figure 10: Theory of Change



Source: Pracsys (2016)

[22] Social Ventures Australia (2012) *Social Return on Investment: Lessons learned in Australia* <http://socialventures.com.au/assets/SROI-Lessons-learned-in-Australia.pdf>

Methodology

Pracsys has applied a commonly used SROI valuation methodology in order to provide a measure of the financial value of social benefits that may be accrued as a result of JPACF.

The methodology involved an extensive literature review to link exposure to, and participation in arts and culture with tangible and intangible social benefits at the individual and community level. Financial proxies have been calculated and applied to the catchment population in order to provide an estimate of the monetary value of social benefits. The proxy attempts to quantify outcomes or consequences that could arise if there is no change in current behavior. The financial proxies have calculated based on desktop research and a comprehensive literature review (See SROI Technical Appendices for more information on the calculation of financial proxies).

The SROI valuation methodology applied by Pracsys included the following stages of work:

- A literature review in order to define links between arts and culture, social impact and the produce theory of change logic model
- Selection of six tangible impacts to form the focus of the SROI analysis
- Identification of appropriate financial proxies for tangible impacts
- Estimation of the scale of impact that JPACF could have on new participants
- Application of financial proxies to affected individuals in order to monetise the value of the social impacts
- Application of an additional attribution to take into account intangible impacts

It is assumed that catchment residents currently engaging in arts and culture within and outside of the catchment already enjoy the benefits of their engagement and financial proxies are therefore only applied to the people that are newly involved in arts and culture as a result of JPACF. These individuals are assumed to be those that represent latent demand, as established in the MAFS.

Revealed preference modelling conducted in production of the MAFS identified total potential demand for attendances within the catchment of approximately 810,000[23]. Stakeholder consultation indicated that approximately 620,000 of these attendances (76%) do not occur at all. Based on an average frequency of attendance of six artistic or cultural events per year[24], total latent demand is estimated in the order of 98,300 persons. The latent demand is not specific to JPACF, rather it is pool of demand for any art or cultural event available in the catchment.

The annual social benefit is then derived from the following formula:

$$\text{Financial Benefit Per Annum (\$)} =$$

$$\text{Affected Population (no.)} \times \text{Estimated effect of JPACF (\%)} \times \text{Financial Proxy (\$)}$$

[23] This excludes film, which it is understood is predominantly being met through existing commercial facilities.
[24] Australian Council of the Arts, 2015, Artfacts: Visual Arts

An annual value of potential benefits has been estimated and projected over an investment timeframe (2016 to 2059). This has been discounted back to provide a net present value (NPV).

Limitations

There are limitations to SROI which should be acknowledged and care should be taken in interpreting the findings. Assumptions made about the size of the population exposed to the benefit and the impact JPCAF could have on these individuals' behaviour should be taken into account (see SROI Technical Appendices for more information).

In addition, significant dimensions of a creator or audience's experience are therefore not captured in an SROI valuation and accounting for the pure cultural values of the arts distinct from economic contributions remains critical[25]. For this reason, the analysis conducted by Pracsys has included an additional 10% (of the total SROI value calculated) to capture these benefits.

Social Benefits Considered in the Analysis

Table 11 provides an overview of the measures and impacts considered in the SROI analysis conducted by Pracsys (See Technical Appendices for more information).

Table 11: Social Benefits Considered

Impact and (Measure)	Financial Proxy	Beneficiary	Rate of Incidence (%)	Population Exposed to Benefit	Description
Increased employment (reduced welfare expenditure)	$13,718	Federal Gov.	6.7%	2,310	Unemployed people who engage in arts as an audience member were 12% more likely to look for a job in the last four weeks when compared to unemployed people who had not engaged in the arts[26.] The Federal Government spends at least $13,718 per annum in unemployment benefits for eligible individuals aged 22-60. Based on 2011 ABS Place of Residence, the catchment has an unemployment rate of 4.4%.

[25] Nesta (2010) *Culture of Innovation: An economic analysis of innovation in arts and culture organisations*
[26] UK Department of Culture, Media and Sport (2014) Quantifying the Social Impacts of Culture and Sport *https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/304896/Quantifying_the_Social_Impacts_of_Culture_and_Sport.pdf*

Impact and (Measure)	Financial Proxy	Beneficiary	Rate of Incidence (%)	Population Exposed to Benefit	Description
Increased educational attainment (greater taxable income)	$3,219	Federal Gov.	67.3%	12,716	Within a sub-sample of 16-18 year olds, participants in the arts were 1% more likely on average to go onto further education in later years27. Based on the Smart Australians – Education and Innovation in Australia report by AMP it is estimated that individuals with Year 12 or equivalent will contribute at least $3,219 per annum in tax than less educated residents. Based on 2011 Census data, 67.3% of catchment residents aged 20-34 have attained a year 12 or equivalent education.
Increased social participation (increased volunteering)	$3,957	Local Gov.	14.3%	10,920	People who engage in arts as an audience member are 6% more likely to have volunteered frequently (once a fortnight or more) [28]. Based on the 2011 ABS data it is estimated that 14.3% of residents within the catchment volunteer. Applying an average hourly wage to the average hours per Australian volunteer it is estimated that each individual contributes $3,957 per annum in output.
Reduced mental health (reduced health expenditure)	$891	State Gov.	13.3%	7,198	Participants in the arts were 1.37% less likely to frequently visit GPs and 0.45% to have used psychotherapy services29 The Public Health Information Development Unit (PHIDU) estimates that 10.0% of the catchment population experience mental health issues. Approximately $891 is spent per affected individual per annum.
Reduced incarceration (reduced incarceration expenditure)	$134,601	State Gov.	0.2%	108	Specific programs have been successful at both diverting and rehabilitating people from criminal conduct30. The ABS estimates that 0.2% of Australian's are incarcerated.

[27] Ibid.
[28] Ibid.
[29] Ibid.
[30] Paul Muller, Neil Cameron, Lauren Jameson, Kristel Robertson, Robert Grafton (2012) The Economic, Social and Cultural Value of the Salamanca Arts Centre 2011-2012 http://www.parliament.act.gov.au/__data/assets/pdf_file/0018/622701/Exhibit-No.3-Belconnen-Arts-Centre.pdf

Impact and (Measure)	Financial Proxy	Beneficiary	Rate of Incidence (%)	Population Exposed to Benefit	Description
					On average, the Federal and State Governments spend $134,601 per incarcerated individual per annum.
Increased elderly independence (reduced aged care expenditure)	$43,351	Federal and State Gov.	19.8%	2,011	People aged 65 and older who participated in community- based cultural programs used less medication and visited the doctor less often than those who did not, and that they also had better physical health31. Approximately 19.8% of individuals aged 85+ across the State live in aged care homes. Aged cared subsidisations and other benefits cost the Federal Government $43,351 per person in an aged care home per annum.

Source: Pracsys (2016) utilising various sources. See SROI Technical Appendices for more information.

Calculating SROI

A value was assigned to reflect the scale of impact that JPACF could have on the population exposed to benefit. There are a range of factors that influence social measures considered and for this reason conservative estimates of impact have been attributed ranging from 0.01% to 6%. These have been estimated with reference to literature provided in the above table (See Technical Appendices for more information). Using the estimated effect of JPACF, and financial proxies the financial benefit per annum was calculated.

The analysis estimates that 972 people could experience social benefits as a result of JPACF, and that, with an additional 10% included to account for intrinsic impacts, there is potential for up to $5.2 million worth of social benefits to be accrued per annum.

Table 12: Financial Benefit Per Annum

Measure	Estimated effect of JPACF	Benefiting Individuals	Financial Proxy ($)	Financial Benefit (per annum)
Reduced welfare expenditure	5%	116	$13,718	$1,584,388
Greater taxable income	1%	127	$3,219	$409,375
Increased volunteering	6%	655	$3,957	$2,592,466
Reduced health expenditure	1%	72	$891	$64,129

[31] UK Department of Culture, Media and Sport, (2015) Further analysis to value the health and educational benefits of sport and culture *www.sportsthinktank.com/uploads/dcms-and-case-further-analysis-to-value-the-health-and-educational-benefits-of-sport-and-culture-(march-2015).pdf*

Measure	Estimated effect of JPACF	Benefiting Individuals	Financial Proxy ($)	Financial Benefit (per annum)
Reduced incarceration expenditure	0.01%	0.01	$134,601	$1,453
Reduced aged care expenditure	1%	2	$43,351	$91,646
			Additional Intrinsic benefit (10%)	$474,345
Total		**972**		**$5,217,803**

Source: See Technical Appendices for more detail on sources of financial proxies.

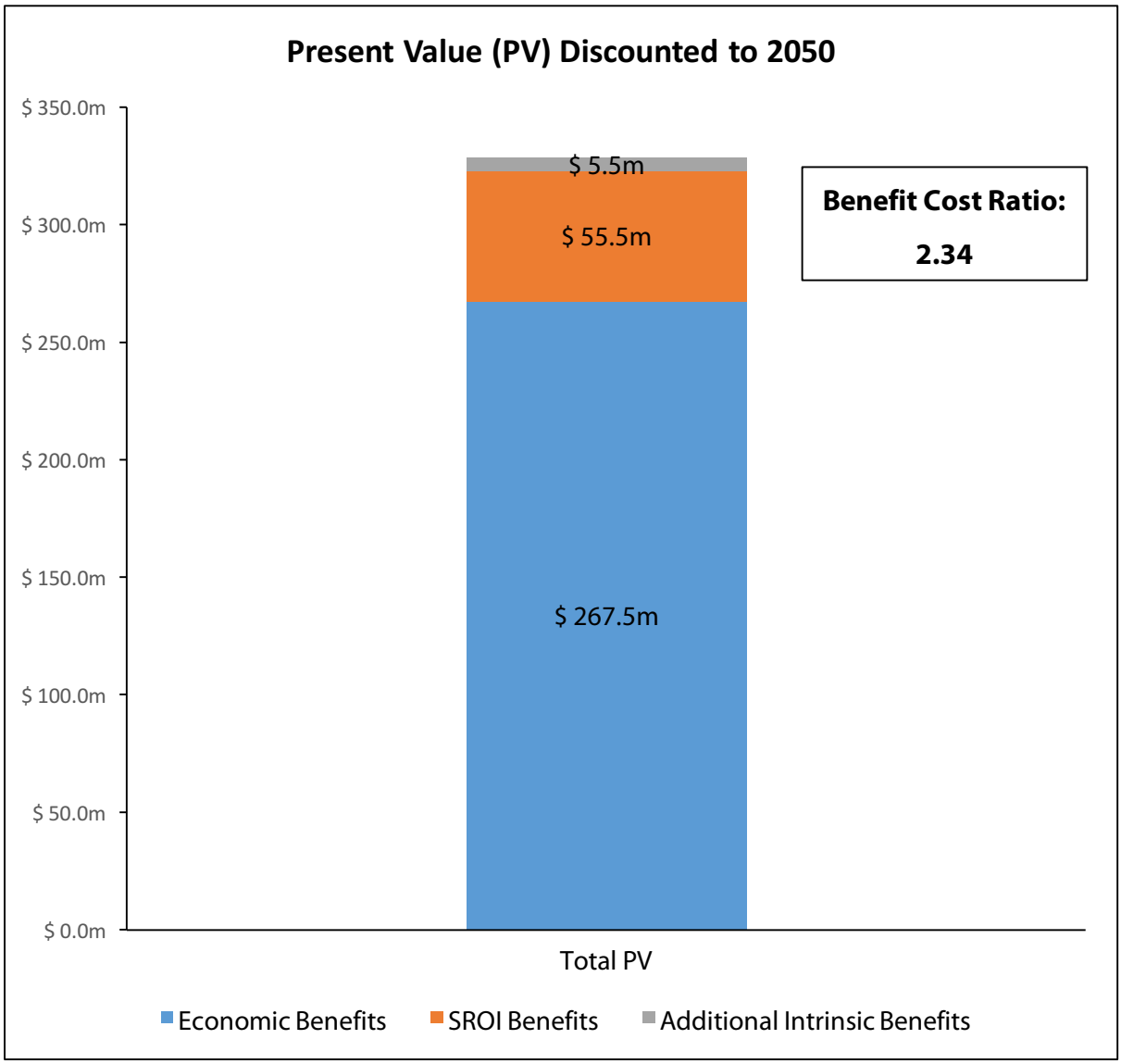
4.3 Social and Economic Benefit Cost Ratio

Based on the SROI analysis a BCR has been calculated to reflect the economic, social and intrinsic value of the JPACF. This BCR builds on that provided in Section 8.8 of the Business Case, that is, it includes all economic benefits as well as social benefits identified through the SROI analysis.

The results of this analysis indicate a BCR of 2.34 (see Figure 11).

A BCR between 2 and 3 positions projects favourably when they compete for funding within a limited pool. Given the JPACF represents a project whereby the vast majority of benefits are social in nature with many potential benefits difficult to quantify, the BCR of 2.34 positions the project well. It demonstrates that the project will deliver significant social and economic return on investment.

Figure 11: JPACF Present Value (Economic, Social and Intrinsic)



Source: Pracsys (2016)

4.4 Social Impacts in Summary

It is estimated the JPACF will have the following social impact:

- strengthen local communities through the provision of accessible and inclusive arts and cultural experiences
- build on the City of Joondalup's strong arts and cultural program to address unmet community needs and demands for arts and cultural experiences
- address regional disadvantage
- provide social benefits to up to 900 people with the value of benefits estimated to be in the order of $5.2 million per annum

5 SROI Technical Appendices

5.1 Calculating Latent Demand

The JPACF Market and Feasibility Study (MAFS) produced by Pracsys in 2012 estimated that, based on secondary data on participation in arts and culture, there is potential for up to 810,000 attendances to arts and cultural events per annum within the catchment (Joondalup and Wanneroo).

Limits to the supply of infrastructure and programming, not all potential attendance demand can be met within the catchment area. Some attendances are achieved outside of the catchment and others do not occur at all. Attendances not completed represent 'latent demand'.

The MAFS estimated that 76% (620,000) of total potential attendances did not occur due to an undersupply of events and infrastructure in the catchment. Assuming that the average person attends six[32] artistic or cultural events per year, it is estimated that 98,300 people within the catchment are currently not attending arts of cultural events but may do so if supply were to increase. This pool of latent demand forms the foundation for the social return on investment calculation.

[32] Australian Council of the Arts, 2015, Artfacts: Visual Arts

5.2 SROI METHODOLGY

SROI Components

The following tables outline stages of the method undertaken to forecast the potential social benefit that accrues as a result of JPACF. The numbers in the left-hand column align with the social measures mentioned in subsequent tables. The calculations and subsequent annual and total benefit over the lifetime of JPACF serve only as a scenario of potential benefit rather than a predicted forecast of impact.

Figure 12. SROI Measures and Evidence Base

Measure		Evidence Base	Source
1	Increased employment (reduced welfare expenditure)	Unemployed people who engage in arts as an audience member were 12% more likely to look for a job in the last four weeks when compared to unemployed people who had not engaged in the arts.	UK Department of Culture, Media and Sport, 2014, *Quantifying the Social Impacts of Culture and Sport*
2	Increased educational attainment (greater taxable income)	Within a sub-sample of 16-18 year olds, participants in the arts were 1% more likely on average to go onto further education in later years.	UK Department of Culture, Media and Sport, 2014, *Quantifying the Social Impacts of Culture and Sport*
3	Increased social participation (increased volunteering)	People who engage in arts as an audience member are 6% more likely to have volunteered frequently (once a fortnight or more).	UK Department of Culture, Media and Sport, 2014, *Quantifying the Social Impacts of Culture and Sport*
4	Reduced mental health (reduced health expenditure)	Participants in the arts were 1.37% less likely to frequently visit GPs and 0.45% to have used psychotherapy services	UK Department of Culture, Media and Sport, 2014, *Quantifying the Social Impacts of Culture and Sport*
5	Reduced incarceration (reduced incarceration expenditure)	Specific programs have been successful at both diverting and rehabilitating people from criminal conduct.	Paul Muller, Neil Cameron, Lauren Jameson, Kristel Robertson, Robert Grafton, 2012, *The Economic, Social and Cultural Value of the Salamanca Arts Centre 2011-2012*
6	Increased elderly independence (reduced aged care expenditure)	People aged 65 and older who participated in community- based cultural programs used less medication and visited the doctor less often than those who did not, they also had better physical health.	UK Department of Culture, Media and Sport, 2015, *Further analysis to value the health and educational benefits of sport and culture*

Source: Pracsys (2016)

Accompanying each social measure is a financial proxy. Financial proxies attempt to value an outcome based on the cost that may be incurred through an alternative interventioned aimed at achieving the same outcome. Values for financial proxies have been sourced from secondary data sources.

Figure 13. Financial Proxies

Measure	Financial Proxy	Source	Beneficiary
1	Eligible individuals (ie. 22 – 60 years old and actively looking for work) can receive $570.60 in unemployment benefits per fortnight. This costs the Federal Government $13,718 per individual per annum. $570.60 x 26 = $13,718	Australia Department of Human Services, 2016, *New Start Allowance*	Federal Government
2	A report by AMP indicates that people who attain a year 12 level of education earn $330,000 more over their working life (35 years) than those who don't. This equates to approximately $9,900 per year difference. The higher educated (and earning) individual will therefore pay $3,219 more in tax than the lower educated individual.	AMP, 2012, *Smart Australians – Education and Innovation in Australia* Australian Taxation Office, 2016, *Individual Income Tax Rates*	Federal Government
3	A 2010 report by Volunteering Australia estimates a volunteer hour to be worth $27.45. Assuming an inflation rate of 2.5% a volunteer hour is worth $31.05 in 2016. A report published by ABS indicates that volunteers contribute an average of 128 hours per year. Average contribution per volunteer: $31.05 x 128 = $3,957	Volunteering Australia, 2010, *Key Facts and Statistics About Volunteering in Australia* ABS, 2015, *Volunteers contribute 743 Million Hours to the Community*	Local Government
4	Based on a 2014 Australian Psychological Society information paper, individuals can receive up to $84.80 in government rebates per 50-minute appointment with a psychologist. Assuming an inflation rate of 2.5% the rebate is worth $89.10 in 2016. It is assumed an individual will need 10 appointments in order to receive lasting benefits. Average cost per affected individual: $89.10 x 10= $891	Australian Psychological Society, 2014, *Table of Medicare Benefits Schedule Fees and Rebates for Psychological Items*	State Government
5	An SBS report based on the Australian Productivity Commission findings suggests that in 2014 it costs the WA government $351 per prisoner per day. Assuming a 2.5% inflation rate this equates to $134,601 per prisoner per year. $368 x 365 = $134,601	SBS Australia, 2015, *How Much Does It Cost to Keep People in Australian Jails?*	State Government
6	Based on a 2015 Australian Productivity Report $921.5m is spent on residential aged care per annum in WA. Assuming an inflation rate of 2.5% this equates to $944.1m in 2016. It is also reported that 21,787 persons are in residential aged care in WA. This equates to $43,351 per person per year. $944,500,000/21,787= $43,351.	Australian Productivity Commission, 2015, *Attachment 13 Aged Care Services – Report on Government Services*	Federal and State Government

Source: Sources as included in table, interpreted by Pracsys (2016)

The rate of incidence is a combination of catchment specific factors (eg. Unemployment) and nation-wide factors such as the rate of incarceration. It is assumed that the nationwide factors have a similar presence in the catchment. All calculations involving the affected population are based on the above mentioned latent demand.

Figure 14. Rate of Incidence and Affected Population

Measure	Rate of Incidence	Source	Affected Population
1	The catchment of Joondalup and Wanneroo have unemployment rates of 3.9% and 4.9% respectively. Overall, the unemployment rate is 4.4%	ABS, 2011, *Place of Residence*	To receive the New Start program individuals must be aged 22 – 60 and be unemployed. Applying the unemployment rate to the identified latent demand suggests that 2,310 individuals are affected within the specified population.
2	67.3% of the catchment have attained a year 12 or equivalent education. The measure was only taken of individuals aged 20-34 to represent the social expectations of finishing school which may not have been present when the older generations were at school.	ABS, 2011, *Census Community Profile*	It is assumed that only individuals aged 5-17 (ie yet to finish year 12) can benefit. Of the latent demand population, 12,716 individuals are within this age group.
3	The catchment of Joondalup and Wanneroo have volunteer rates of 16.7% and 11.9% respectively. Overall, the volunteer rate is 14.3%	ABS, 2011, *Census Community Profile*	Only individuals 15 years and older were included in the ABS volunteering statistics. Applying the rate of incidence to the identified latent demand suggests that 10,920 individuals are volunteers within the specified population.
4	Approximately 9.6% and 10.4% of the Joondalup and Wanneroo population experience mental health problems respectively. Overall, the rate of mental health issues is 10%.	Public Health Information Development Unit (PHIDU), 2015, *Social Health Atlas of Australia: Western Australia*	The report by PHIDU only considers individuals 18 years and older. Applying the rate of incidence to the relevant latent demand population suggests that 7,198 individuals are affected.
5	As at June 2015 the ABS reported that 36,134 individuals were in incarceration across Australia. This represents 0.2% of the population at the time.	ABS, 2015, *Prisoners in Australia*	The report by ABS only considers individuals aged 18 years and older. Applying the rate of incidence to the identified latent demand population suggests that 108 individuals make up the incarcerated population.
6	Based on the Australian Productivity Commission report approximately 19.2% of Australians aged 85+ receive permanent or respite aged care services	Australian Productivity Commission, 2015, *Attachment 13 Aged Care Services – Report on Government Services*	Although the report considers people of all ages, the SROI only includes individuals aged 85+ as they often have a lower level of independence and require care. Applying the rate of incidence to the identified latent demand suggests that 2011 individuals make up the relevant population.

Source: Pracsys (2016)

5.3 SROI Analysis

For the sake of comparison, varying levels of impact have been attributed to each measure.

Figure 15. Impact of JPACF and Financial Benefit

Number	Impact of JPACF	Specific Population	Benefiting Individuals	Financial Benefit (per person per annum)	Financial Benefit (per annum)
1	5.0%	2,310	116	$13,718	$1,584,388
2	1.0%	12,716	127	$3,219	$409,375
3	6.0%	655	655	$3,957	$2,592,466
4	1.0%	72	72	$891	$64,129
5	0.01%	108	1	$134,601	$1,453
6	1.0%	2	2	$43,351	$91,646

Source: Pracsys (2016)

It is estimated that 972 people could be beneficiaries of JPACF, leading to an annual benefit of $4,743,457. In addition to the direct annual benefit, it was assumed there would be an additional 10% of unmeasurable intrinsic factors such as the feeling of inspiration or a sense of purpose. Given the level of current annual benefits, additional intrinsic benefits are estimated at $474,345 per annum. In total, $5,217,803 of benefits accrue per annum.

5.4 Contribution to JPACF Attendance

Demand modelling undertaken by Pracsys in the 2012 Feasibility Study estimates that JPACF could attract up to 111,276 attendances per year. Applying the average rate of attendance[33] per year (six times) suggests that there could be 18,546 individual attendees. It is estimated that 202 individuals, approximately 1% of all attendees, could experience increased educational attainment, better mental health, lower rates of incarceration and increased elderly independence due to visitation alone.

It is estimated that 665 individuals could initiate participation in volunteering of some kind as a result of JPACF. The centre will create exposure to new social networks and connections with organisations which leads to increased rates of volunteering.

Approximately 166 unemployed persons could find employment as a result of JPACF. The decreased unemployment can occur through two channels; visitation to JPACF or the engagement in the creative hub that is likely to arise from the Centre's presence. The literature review confirms that attendance at arts and cultural events provides individuals with the skills required to gain employment and networks and connection to organisations to increase volunteering. Furthermore, it is assumed in the analysis that JPACF will contribute to an increase in the proportion of creative industries within the catchment as it increases the capacity for arts and cultural activities. This in turn will lead to opportunities for engagement and employment in creative and certain non-creative industries. These opportunities would help reduce unemployment as local individuals transitioning from low level jobs into higher creative occupations will create vacancies that are assumed to be filled by another person, with the process repeating until a low skilled unemployed individual has an employment opportunity.

5.5 Calculating the Net Present Value and Benefit Cost Ratio

The Net Present Value (NPV) was calculated for the economic and social benefits to indicate the opportunity costs of investing in JPACF. The analysis assumes a real discount rate of 7% and takes place between 2014 and 2059.

Figure 16. Economic Implications

Category	Total ($ million)
Benefits	
Primary Theatre	52.8m
Secondary Theatre	9.2m
Studios, Conferences and Exhibitions	32.5m
Ticket Income	5.2m
Parking (escalated real/above inf)	24.8m
Food and Beverage	5.0m

[33] Australian Council of the Arts, 2015, Artfacts: Visual Arts

Category	Total ($ million)
Leases: Bar/restaurant	3.2m
Sponsorship	6.2m
Secondary Expenditure to the Region	164.0m
Tourism Spend	12.3m
Vehicle Travel Time Savings	148.7m
Vehicle Operating Cost Savings	481.5m
Costs	
Primary Theatre	38.8m
Secondary Theatre	4.1m
Conferences and Exhibitions	16.9m
Parking	5.6m
Food and Beverages	3.3m
Staff Costs (escalated real/above inf)	36.7m
Marketing	12.9m
Admin and General	4.7m
Building Maintenance and Repair	26.3m
Utilities (escalated real/above inf)	14.4m
Estimated Capital Cost	99.7m
Asset Renewal	23.8m
Borrowings	50.3m
BCR	**1.90**
NPV	**126.9m**

Source: Pracsys (2016)

Based on the economic NPV alone, the construction of JPACF generates a Benefit Cost Ratio (BCR) of 1.90. This is a reasonable economic return on investment for a performing arts centre.

Similarly, to the economic benefits, social benefits from the construction of JPACF have been calculated. Figure 17 includes the economic benefits and costs from Figure 16 and expands upon the social benefits that will arise. The analysis assumes a discount rate of 7% and takes place between 2014 and 2059.

Figure 17. Economic and Social Implications

Category	Total ($ million)
Benefits	
Economic Benefits	1,159.2m
Social Benefits	

Category	Total ($ million)
Increased employment (reduced welfare expenditure)	50.7m
Increased educational attainment (greater taxable income)	13.1m
Increased social participation (increased volunteering)	83.0m
Reduced mental health (reduced health expenditure)	2.1m
Reduced incarceration (reduced incarceration expenditure)	0.047m
Increased elderly independence (reduced aged care expenditure)	2.9m
Additional Intrinsic Benefits	19.4m
Costs	
Economic Costs	285.2m
Economic and Social BCR	**2.34**
Economic and Social NPV	**182.4m**

Source: Pracsys (2016)

It is assumed that the social benefits will only start accruing when JPACF is operational in 2019. Social benefits and their related BCR and NPV should not be considered in isolation as they are negligible compared to the building and operating costs. Rather, they should be combined with the economic benefits that are estimated to accrue upon completion up until 2059. The combination of economic and social benefits generates a BCR of 2.34 and a NPV of $182.4 million.

Appendix 9 - A Review of the Joondalup Performing Arts and Cultural Facility's Financial and Options Evaluation: Rudi Gracias (September, 2016)

A Review of the Joondalup Performing Arts Centre Facility's Financial and Options Evaluation

EXECUTIVE SUMMARY

The City of Joondalup through its Officers and consultants have undertaken a thorough and comprehensive investigation of the economic and social benefits for proceeding with the Joondalup Performing Arts Centre Facility (JPACF).

It was recognised that while considerable evaluation of the project from concept through to schematic design was undertaken there was a need to review the operating structure (management model) and test the validity of the operating income and expenditure assumptions used in preparation of the JPACF Business Case.

Having read the Business Case and Appendices as presented, I am satisfied that with respect to the basic assumptions used, a conservative approach has been applied, given that if approved, the project will come to fruition in approximately 3 years and that the financial projections have been determined a further 5 years out.

The following issues have been identified and commented on in this report:

- Consideration should be given to reviewing the presentation of income from the theatres.
- Consideration should be given to highlighting the $ value of benefits provided to the community.
- A decision on the Facility Management Model requires to be confirmed if the project proceeds.
- There is potentially a further $250,000 in income which could be generated. If this was realised, then the estimated subsidy could be reduced in the range between $100,000 and $150,000 after allowing for proportionate cost escalations.
- Permanent staff resourcing requires consideration with the engagement of a fulltime Facilities Manager.
- The selection and purchase of technical equipment is critical to the operation of the theatres and attractiveness to potential hirers. A detailed breakdown of the Elemental Costs of Technical equipment is required and assessed with budget estimates.
- An effective communications strategy is required to address negative publicity, and objections from competing business (café's, reception centres, etc.) and to articulate the benefits of the Facility.
- Suggested Management and Governance model for the Joondalup Performing Arts Centre Facility.

The development of JPACF is a bold step which requires a significant capital investment by the City of Joondalup. Given the depth of research, financial analysis and risk assessment by independent consultants, the City's Financial Analyst and City Projects team, I believe that a more thorough assessment could not be undertaken by another State or Municipal Authority as the JPACF team have.

The success or failure of such an undertaking does not solely lie with one person or group, instead it lies with the community as a whole and their ability to recognise the benefits both social and financial,

in the long term. The challenge for the City is the ability to effectively communicate the advantages of having a facility such as JPACF in the community.

BACKGROUND

Following a meeting with officers of the City of Joondalup, the author was consulted to review the Business Case and supplementary information provided in support of a proposal to build a multi-purpose Performing Arts Centre consisting of two auditoria, rehearsal rooms, exhibition galleries, conferencing and exhibition spaces, bar and catering facilities, curatorial storage, management offices, multi storey car-park and Chinese Cultural Garden.

The City has undertaken a substantial body of research with consultative work engaging specialist architects and planners, economic and market analysts, performing arts industry bodies and arts practitioners. Additionally, the City has used its own internal resources to prepare its financial modelling on the construction and operating costs of the Joondalup Performing Arts Centre Facility (JPACF).

IN SCOPE

This review covers the Financial and Options Evaluation (Appendix 4) as it applies to the auditoria, rehearsal rooms, management offices including the management, income generators and operating costs (pre-opening and operating) and additional comments as observations, and as they relate to the functioning of the JPACF as a fully integrated destination venue servicing a diverse constituency.

OUT OF SCOPE

The following items were reviewed in the course of this assignment however the author cannot verify the accuracy and the assumptions made by the consultants on whose reports the City has prepared the Business Case:

- Economic and Social Impact Assessments
- Project costs
- Capital Funding
- Parking Income
- Appendices 1-3 and 5-9

PRELIMINARIES

A meeting was held with Mr Blignault Olivier, Manager, City Projects, Mr Scott Collins, Senior Project Officer and Mr Alan Ellingham, Senior Financial Analyst from the City of Joondalup in order to receive an overview of the project via a visual presentation and a document which summarised the project including schematic drawings, economic analysis and costings.

REVIEW:

Assumptions:

- This review is based on the modelling prepared using Option 2 (Revised Costings July 2016) with respect to operating income and expenditure for the period Year 5 (2023-24) in the life-cycle of the JPACF.
- The operating income and expenditure has been based on forecasts as at 2023-24 and should be reviewed in line with market rates and conditions which will exist at the time of proceeding with the project.

Operating Analysis:

An independent evaluation of the assumptions detailed in the JPACF Business Case, was undertaken to assess if:

- the validity of the assumptions relating to the income and expenditure were reasonable.
- adequate provision was made for pre-opening expenditure.
- the program model, including attendances, JPACF presentations, commercial and community hires was achievable.
- there were additional sources of revenue not identified in the Business Case.
- additional expenditure was required to successfully operate the facility.
- the value to the community was quantified in $ terms.
- the estimated subsidy of $871k was achievable, all other assumptions being unchanged.

Pre-opening Expenditure

The majority of pre-opening budget of $672k in 2018-19 represents staff costs, which prima facie appears reasonable, however it appears that the marketing budget of $33k is lower than one would expect for the commissioning of a major facility such as JPACF – unless the marketing resources of the City are being utilised.

Notwithstanding the marketing support from the City, provision has to be made for brand development, web design and implementation marketing collateral, etc. This could conservatively cost up to $150k. It is conceivable that this sum has been budgeted in the project costs. if not, the budgeted sum of $672k requires a review and offset from savings extracted from Staff and Administration costs or the cost of brand development, etc. could amortised across the first five years of the life-cycle of the JPACF.

Program Model

Critical analysis was undertaken to determine if the assumptions for the utilisation of the **Primary Theatre** was reasonable as this venue represents a major source of income. The same principles could be adopted for the Secondary Theatre.

Rationale:

Using data from the State Theatre Centre of WA *(Refer JPACF Comparative Analysis)* events/performances across several entertainment genres currently stands at 260. There is no reason that a similar result cannot be attained at JPACF as there are insufficient venues in Perth to accommodate a commercial producer's requirement. The newly refurbished **Regal Theatre** is currently booked solidly, **His Majesty's Theatre** cannot provide dates for commercial productions because of significant commitments to the WA Opera and Ballet companies, **The Astor Theatre** appeals to a contemporary music audience with some comedy for single events but without much appeal to interstate and international production companies who require 'seasons' consisting of more than one performance.

To assess the 'reasonableness' of the number of events which could be presented at the Primary Theatre, a schedule of potential hirers and entertainment genre was prepared *(Refer JPACF Comparative Analysis)* and compared with the Program Model (ref table page 307 JPACF Business Case) as per comparison below:

Primary Theatre	Presented events	Commercial	Community	TOTAL
JPAC Business Case	43	77	68	188
Reviewed - R Gracias	61	114	68	243

Projected Income – Primary Theatre

Notwithstanding that the review identified 55 potentially additional events, for the purpose of this exercise, the number of events identified in the Business Case has been used, with the following modifications:

- Gross rental income has been separated from wage recoveries to differentiate rental income from 'cost recoveries'.
- A 20% administration overhead recovery has been applied to wage recoveries as this is a 'real cost' which was not taken into account in the Business Model.
- Community and City hiring's have been charged at 'full rates' and discounts shown separately so as to quantify the $ value to these groups.
- Presented Events have a net ticketing price of $45 instead of $40. This is because empirical evidence of current ticketing prices to the type of events presented at similar sized venues attract a net ticket price between $55 and $70. The effect of this revised pricing strategy will result in an additional $91k ($822k minus $731k).
- Commercial Hires have been increased by 3. This will result in gross rental income of $215.5k

As a consequence of the above assumptions, a revised Annual Income projection is summarised below which compares with the table on Page 310 of the Business Case (Item 7.6 Annual Income Projections)

	JPACF TOTAL	REVISED MODELLING				
		Ticket sales	Rental	Recoveries	Discounts	TOTAL
	$'000	$'000	$'000	$'000	$'000	$'000
Presented	731.0	822.4				822.4
Commercial	296.9		215.5	110.7	NA	326.4
Community	190.3		183.6	94.3	(103.4)	174.5
Total	**1,218.2**	**822.4**	**399.1**	**205.0**	**(103.4)**	**1,323.1**

Assessment:

1. The JPACF assumptions are conservative and should not be changed. However, the methodology for expressing the income should be considered because:
    a. The pricing at ''full value' to Community and City enables the **value** to the community to be clearly identified - in the above illustration is **$103.4k**.
    b. The income from base rentals should be identified separately from 'cost recoveries' so as to assess whether or not full cost recoveries are being made from individual events.

2. There remains a potential for increased income through the partial recovery of Administration Overhead which is industry practice.

3. One would need to consider the 'value' of JPACF presentations if, the cost of presenting 43 events and earning $822.4 (or $731k) is going to incur a Cost of Sales of 110% or $82.2 and $73.1k respectively. Venue activation could be one possible justification; however, JPACF Management would need careful consideration of the practicalities and cost/benefit of such an initiative measured against attaining bookings from commercial producers/hirers.

Recommendation

1. Recast the Table as illustrated on Page 310 of the Business Plan to identify the separate components of income.
2. Ensure that the community benefits are quantified in the Business Plan.

Secondary Theatre

The principles used in determining the revised model for calculating income from the Primary Theatre can be used for the Secondary Theatre.

As a comparator model for the Secondary Theatre is the State Theatre Centre's data *(Refer JPACF Comparative Analysis).* The estimates provided in the JPACF Business case are reasonable, however the model should be re-cast in a similar manner as used for the Primary Theatre as this would illustrate the community benefit in $ terms, conservatively estimated to be $125,000 for both theatres.

OTHER INCOME

Ticketing

The facility is expected to generate a considerable number of patrons and much of the visitations will require ticketed events. Ticketing is a major income source of PAC's and this income stream appears to have been omitted from the Business Plan.

Every ticket sold comprises of a base price (which the promoter receives) and a 'inside charge' or ticketing fee retained by the venue solely or shared with a third part ticketing agency. The purchaser purchases a ticket which has a combined cost (base price and ticketing fee). There may be additional charges for delivery, credit card, etc.

Ticketing fees (inside charges vary depending on the negotiation with a presenter, base ticket price etc.) varies between $1.50 and $4.50. Naturally, if the JPACF elect to manage ticketing themselves, there are costs such royalty payments to ticketing software providers, staff, etc. associated with such income, however a net return of $1.00 per ticket can be assumed.

Generally, centre's such as the proposed JPACF either use third party ticketing agencies or operate the ticketing 'in-house', as this represents incremental revenue for the facility.

Using the estimated attendances in the Business Case, it would be fair to assume a potential gross income of $158.2k from Ticketing represented by the following table:

Attendances	Tickets	@each	
Theatres	97,400	$1.25	$121,750
Conferences & Exhibitions	36,480	$1.00	$36,480
		TOTAL	**$158,230**
	Less staff costs		$30,000
		Net Income	**$128,000**

Interest Received

A facility such a JPACF will be generating a significant cash flow through the sale of tickets, deposits for venue hire, and various other income streams. Much of these funds would be retained by the facility until events have been presented providing the facility with a substantial cash flow, much of it held in trust accounts until the time for acquittal occurs.

It was noted that there is no assessment for interest earned by the facility from the funds held in trust.

Empirical evidence, which is dependent on turnover, is that there is a potential of between $15,000 to $25,000 in interest earnings which could be factored in the financial projections.

EXPENDITURE

Staff and maintenance cost represent a significant portion of the operating budget and unless carefully budgeted and monitored these expenditures can distort the budgeted net operating subsidy with disastrous results.

Whether through coincidence or not, the projected net subsidy of $871k is about the same amount as the estimated Staff Costs excluding Cost of Sales (page 321 of the JPACF Business Plan).

While an amount of administration overhead is recoverable from hirers (and this should also apply for all theatre, conference and exhibition bookings) where there is a recharge for labour, there is no allowance for the engagement of a fulltime Facility Manager.

A building the size of JPACF requires a dedicated fulltime professional Facility Manager. This cost has been overlooked and will alter the financial dynamics and expenditure projections. It would be fair to say that this cost could be ameliorated either by increasing the cost recovery of wages or via an increased Administration Overhead percentage.

FACILITY MANAGEMENT

A key element to the successful operation of a facility the size of the JPACF is the selection of a management team to ensure that the owner's objectives and the strategic plans of JPAC are being met.

Reference in the PRACSYS report has suggested four possible management options. In my opinion the least preferred in an outsourced model as the Facility has very little opportunity for generating profits from its operations and little incentive for a commercial venue manager. Similarly operating the JPACF as a division of the City of Joondalup is equally disadvantageous to the City for a number of reasons, aside from 'arm's length' management and decision making. An incorporated body such as used for the Bunbury Regional Entertainment Centre should be considered.

http://www.bunburyentertainment.com/view/brec/org-structure-visible

An Incorporated Body, distinct from the City would enable greater sponsorship opportunities and recourse to external sources for funding from State based organisations such as Lotteries Commission and Healthway for Community Performing Arts Programs.

There are a number of national theatre companies funded by a national body (Australia Council for the Arts http://www.australiacouncil.gov.au/) to tour across Australia. These companies often by-pass Perth because of a lack of venue availability or support.

The recommended composition of the Incorporated Body would be three (3) Councillors, the CEO City of Joondalup, one (1) representative from the combined TAFE, ECU and Police Academy, two (2) Community Group representatives. The Incorporated Body (or Trust) could be chaired by a leading business leader from within the City jurisdiction or eminent person with prior corporate and governance experience.

In concluding this review, I concur with the statement made by Pracsys that, quote *"as demonstrated by experience of benchmark performing arts facilities…… there is a potential risk of over-investing in a single cash flow negative cultural and arts facility, with long term ramifications for the City's future budget"* unquote, however, the City's administrators could never be accused for failing due diligence in embarking on a significant and iconic facility for the local and wider community.

Thank you for giving me the opportunity to comment on the proposed Joondalup Performing Arts Facility.

R J Gracias
Dip Acctg, MBA FIPA, FAIM, MAICD

Appendix 10 - City of Joondalup Performing Arts and Cultural Facility Assumptions Review: Paxon Group (September, 2016)

City of Joondalup

Performing Arts & Cultural Facility Assumptions Review

PAXON GROUP

Corporate Finance
Management Consulting
Project Finance and Infrastructure

Perth • Melbourne • Sydney | September 2016 – Version 1.2

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1 Scope and Approach

1.1 Scope

The City of Joondalup are preparing the Business Case for the proposed Joondalup Performing Arts and Cultural Facility ("JPACF"). This facility will provide Perth's northern population with an 'art box' – a place for the pursuit of performing arts, visual arts and crafts, film and media, writing and cultural events.

This Business Case includes a detailed financial evaluation of the project and a 40-year cash flow assessment. Paxon Group ("Paxon") has been engaged to review specific assumptions utilised in the development of these forecasts.

The specific items that are within the scope of this review include assumptions relating to the following items:

- Art Gallery and exhibition space;
- Conferences, special events, weddings etc.;
- Capital replacement costs;
- Utilities Costs;
- Photovoltaic Cells;
- Repairs and Maintenance;
- Café and Food and Beverage; and
- Opportunities for annual grants and sponsorships.

Specifically, Paxon has been engaged to review and provide sensitivity analysis for the "steady state" assumptions, rather than the ramp up profile for the project.

The existing assumptions and details of their source have been taken from the document "Financial and Options Evaluation" ("FOE").

It is noted that there is no current operating or business plan which sets out the model for operation of the facility. Detail of such a plan may impact on a number of the cost elements set out within the analysis. Consequently, assumptions are made in relation to the proposed operating model based on prior experience of comparable facilities and operations, as detailed within the report.

1.2 Approach

The approach taken for each group of assumptions was as follows:

- Determine from the FOE and the supporting documentation what the current assumptions are and, to the extent possible, what they are based on;
- Make an assessment of the reasonableness of the current assumptions and their logical grounding; and
- Determine a revised set of assumptions, incorporating appropriate risk analysis to provide a low, medium and high estimate.

In order to determine low medium and high estimates, Paxon considered a number of simple and advanced evaluation techniques. For many items, it was determined that an advanced risk analysis technique was capable of application.

Advanced techniques involve estimating the probability of the forecasts occurring by constructing probability distributions and interpreting the resulting outputs. A number of probability distributions could be utilised for modelling uncertainty, including:

- Beta –PERT Distribution;
- Lognormal distribution;
- Exponential distribution;
- Bernoulli distribution;
- Triangular distribution; and
- Normal distribution.

Those distribution that are based on a normal or exponential base require significant historical data to assist in the development of the appropriate parameters, such as a mean and standard deviation. In contrast, the beta-PERT is designed to model scenarios without well-defined parameters or with very few inputs, but with estimates for the minimum, maximum and most likely values.

The PERT distribution emphasizes the 'most likely' value over the minimum and maximum estimates. However, unlike the triangular distribution the PERT distribution constructs a smooth curve that places progressively more emphasis on values around (near) the most likely value, in favour of values around the edges.

Assuming that many real-world phenomena are normally distributed, the appeal of the PERT distribution is that it produces a curve similar to the normal curve in shape, without knowing the precise parameters of the related normal curve.

Using the PERT distribution, Paxon estimated the outcomes for a number of key assumptions using a specific risk-modelling product that has generated the probability distributions and conducted the Monte-Carlo simulation. A set of random numbers was generated for a given sample size to provide a set of expected values for the project. These were then fitted to an assumed probability distribution and can be used to estimate the value of risk for a given confidence interval. The simulation has been based on 5,000 random events to determine the mean of the expected outcomes for each risk, and the risk pools.

The low, medium and high estimates are based on the P25, P50 and P75 values for each risk where Monte Carlo Simulation was deemed to be appropriate. These are exceedance values, and represent the probability of a certain value being exceeded. For example, P50 values have a 50% chance of underestimating the outcome, and an equal chance of overestimating the outcome.

2 Art Gallery and Exhibition Space

The Schematic Design Report for the JPACF, prepared by ARM Architecture, allows for an art gallery and additional exhibition space.

The art gallery is expected to be a 400sqm space, with direct access to the main foyer via a generous corridor including the additional exhibition space. Services to the gallery will enable temperature and lighting control, with the aim of facilitating a wide range of high quality touring exhibitions. However, the schematic design does not include humidity control, which prevents the facility from potentially hosting premium exhibitions. This feature is considered a potential "value add".

2.1 Current Assumptions

The FOE does not include any assumptions relating specifically to the art gallery and exhibition spaces.

This implicitly assumes there are no revenues generated by these areas and no operating cost burden beyond that which the FOE takes into account under the building maintenance and utilities assumptions.

2.2 Evaluation of Current Assumptions

Pracsys, in their feasibility study, based the model program for these spaces on existing programs, market analysis and expert opinion. The program predicts that the key uses will be:

- The Joondalup Community Art Exhibition;
- The Invitation Art Awards; and
- Other popular exhibitions.

The art gallery and exhibition spaces are not expected to generate any revenue.[1] Rather, these spaces are intended to contribute to the cultural significance of the JPACF and enable the facility to attract a higher calibre of performing arts events.

The assumption that there is no revenue directly associated with these spaces is appropriate. Art galleries across the State will only charge admission fees for exclusive and special shows, predominantly from overseas. Without humidity control, the JPACF would not be eligible to host exhibitions of this calibre. If the JPACF exercised the option to include humidity control as a "value add", the ability to attract revenue generating shows would remain inhibited by the dominance locally of the Art Gallery of Western Australia, as well as the prohibitive costs associated with attracting these exhibitions.

The absence of any assumptions relating to the art gallery and exhibition spaces implicitly assumes there are no operating costs associated with these areas. This is not considered reasonable, as these spaces will incur incremental operating costs, as detailed below.

[1] Whilst these areas are available for events hire and functions, analysis of the cash flows associated with venue hire is included in section 3.

There is also likely to be an additional staffing cost associated with the gallery, for a security guard, gallery guard or similar overseeing role or roles. The nature of this cost will be dependent upon the proposed operating and exhibition model for the gallery, so is not able to be determined with confidence given currently available information.

2.3 Proposed Assumptions

The City of Joondalup is likely to incur costs directly associated with the operation of the art gallery and exhibition spaces. These costs will relate to the management of the exhibitions and the maintenance of the facilities and the collection.

Within the context of the JPACF, many of these recurrent costs will be most efficiently managed through existing facilities management arrangements, in order to take advantage of economies that will be created through the bundling of responsibilities. The incremental impact of bundling these responsibilities within contracts (or assigned to existing FTEs) is considered to be adequately captured by the utilities and maintenance assumptions, which work on the basis of capital cost and total building area. However, should the humidity control option be included the utilities consumption assumptions will need to be revised accordingly to reflect greater power usage.

Without regular touring exhibitions, there may be additional capital costs associated with the acquisition of a collection worthy of display of significant public interest. This potential cost is difficult to quantify at this stage, and will require a curatorial evaluation of the current collection in terms of quality and composition, before determining the need for additional acquisitions.

3 Venue Hire (Excluding Theatres)

The schematic design incorporates a number of spaces that could potentially generate venue hire revenue. This includes the plaza as well as a mixture of performance and visual arts studios, practice rooms and meetings rooms together with a flexible conference facility.

Table 1 provides and overview of the respective sizes and capacities of these areas.

Table 1: Venue Hire Overview

Description	Area	Max Capacity (Banquet)	Max Capacity (Lecture)
Plaza	2,000	n/a	1,000
Gallery	400	200	336
Exhibition Space	2,000	n/a	1,000
Craft Studio	189	50	63
Drawing and Painting Studios	378	120	183
Conference / Function	567	130	191
Practice Rooms	108	n/a	n/a
Music Studio	90	n/a	n/a
Dance Studio	378	80	n/a
Rehearsal Rooms	756	220	373

3.1 Current Assumptions

The initial assumptions for usage, pricing and costs were based on the Pracsys feasibility study and before coming under review by the City in 2014. The review considered that estimated utilisation was optimistic and revised these assumptions down as a matter of prudence. The following sections provide details of the finalised assumptions within the FOE.

3.1.1 Community Subsidies

The FOE shows that community groups will receive a 30% subsidy on the commercial rate of hire for the areas outlined above. Generally, as a matter of policy, the City of Joondalup subsidises facility hire charges if a local not-for-profit group is able to demonstrate that at least 50% of its active members reside within the City of Joondalup. The Facility Hire Subsidy Policy provides a range of between 50%-100%.

However, this policy does not apply to facilities contained within the City of Joondalup Leisure Centres, and may not apply to the JPACF. As this assumption represents a matter of policy it was not tested further.

However, the availability of larger subsidies at other City-managed facilities may shift community demand away from the JPACF to another of the existing halls, clubrooms or community facilities within the region.

3.1.2 Visual Arts, Craft, Dance and Music Studios

The FOE assumes there will be 1,026 hires per annum, averaging 20 attendees. This assumption implies that these studios will hired out a little under 3 times per day for 365 days of the year.

The FOE does not differentiate between hires for art or rehearsal purposes, and hires for private functions. This may affect projections, as the nature of the hire will have implications for demand, as well as for revenue generating activities (e.g., food and beverage).

Only 2.6% of these hires will be for community use, and the commercial rate is $125.00 for each hire. Finally, the only operating expense incurred in leasing out these studios is the cost of a duty technician for a single hour.

3.1.3 Conference & Function Rooms

The FOE assumes there will be 399 hires per annum, or just over one per day of the year. The average number of attendees is assumed to be 40, and 62% of hires will be community related. The commercial rate for each hire is $600.00 and the only operating expense incurred in leasing out these studios is the cost of a duty technician for four hours.

3.1.4 The Art Gallery & Exhibition Space

The FOE does not include any assumptions relating to forecast utilisation or operating cash flows for the hire of these areas.

3.2 Evaluation of Current Assumptions

3.2.1 Visual Arts, Craft, Dance and Music Studios

The Pracsys feasibility study used a revealed preference model to develop demand projections for JPACF facilities. Table 2 shows the implied annual demand for the studios based on this model.

Table 2: Participation to JPACF Event Conversion

	Formal Participation	JPACF Market Share	JPACF Participants	JPACF Events Participation	JPACF Events
Arts and Crafts	11,280	7.09%	800	14,400	1,440
Music	16,469	8.06%	1,328	23,904	2,390
Dance	13,300	5.41%	720	12,960	1,296
Theatre	4,232	6.99%	296	5,328	533
Total	**45,281**	**6.94%**	**3,144**	**56,592**	**5,659**

As outlined in Figure 33 of the Pracsys report, formal participation rates are used to estimate the number of JPACF events using the following steps:

1. Estimate the JPACF market share;
2. Assume each participant undertakes 18 attendances per year;
3. Assume an average class size of 10.

This methodology results in a much higher studio demand forecast than that utilised by the FOE and was presumably revised downwards as part of the 2014 review.

However, this analysis fails to take into account where these activities are currently taking place, and whether there is scope to convert any forecast participation in these areas into demand for the JPACF studios.

As identified within the Pracsys report, the majority of adult participants in these activities are not engaging in organised activity such as lessons, classes, clubs or interest groups. Whilst participating in these activities, these adults are not likely to contribute towards demand for JPACF studios. Additionally, Pracsys was not able to identify any shortage of suitable venues for engaging in these activities and did not present any evidence for unmet demand beyond ABS surveys of culture and arts participation.

Without sufficient evidence, it is difficult to justify the demand estimate for the JPACF studios.

3.2.2 Other Venue Hire

The Pracsys feasibility study indicates that the case for further conference or function facilities within the Joondalup catchment is marginal at the present time. Additional conference facilities at the JPACF would probably be redundant as existing conference and function venues are currently under-utilised. Whilst there is a case for future growth, this is dependent on the City of Joondalup's maturation as an economic centre and is inherently uncertain.

This analysis of the local market for conference or function facilities is consistent with the views of existing facilities in the catchment area, including the following:

- Joondalup Reception Centre;
- Joondalup Arena; and
- Joondalup Resort.

During consultation, these venues expressed concern with the JPACF's plan to bring forward additional supply.

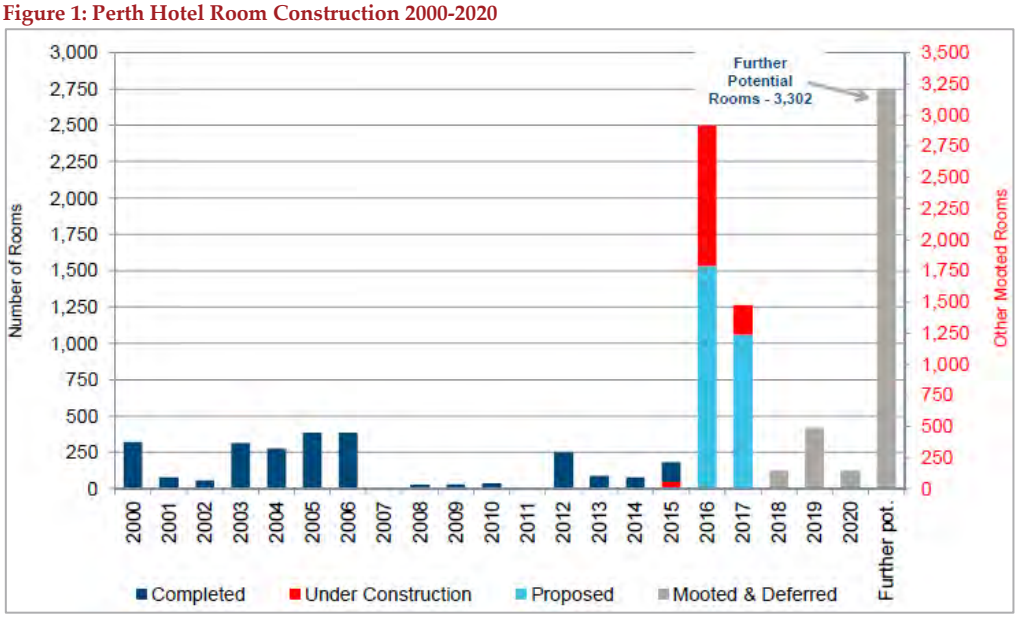
Nationally, the exhibition and conference centre industry is expected to post moderate growth over the next five years. A major determinant of industry demand is business confidence, as future expectations largely determine whether organisations believe events will be successful in terms of future revenue streams. Looking forward, IBISWorld forecast that business confidence will fall and conference industry revenue will grow by a meagre 1.3% during the 2015/16 financial year. Over the medium term, industry revenue is projected to grow by an annualised 2.3% over the five years through 2015-16. The existing excess capacity for conference and function space and the moderate growth outlook suggests the utilisation of the JPACF conference and event space will be poor.

The Pracsys report notes that Perth CBD conference venues are quite full, and suggests therefore that there is potential for increased demand in Joondalup. However, this analysis fails to contemplate any planned additional supply that is set to enter the Perth market over the coming years. Colliers International report that Greater Perth currently has 1,215 hotel rooms under construction, with 3,698 rooms in total mooted for construction to 2020. An additional 3,300 rooms are at various stages of consideration by developers.

A number of these rooms are to be housed within new or refurbished hotels which will offer competing conference facilities. While the exact specifications of these hotels is yet to be determined, an estimate based on current market breakdown is that there will be an additional five hotels offering these services.

The following graph illustrates the number of hotel rooms completed in the past in Perth and potential ones coming on line in the future. This aligns with a related growth in available conference and function facilities.

Figure 1: Perth Hotel Room Construction 2000-2020



Taken together, these factors suggest the City of Joondalup should be very cautious before assuming there will be any market for the conference facilities.

3.2.3 Food and Beverage Offering

The FOE does not contemplate potential revenues from any ancillary services provided to conference and function hires. There may be opportunities to offer catering services and generate additional revenues.

The restaurant operator could potentially provide these services, which is an arrangement that is evident in benchmarking analysis. Alternatively, the JPACF could procure the services of an external caterer, particularly where the scale of an event is beyond the capabilities of the restaurant. However, as the conference and function rooms only include a warming kitchen, an offsite preparation kitchen will be required, limiting the pool of potential outside caterers.

Under either arrangement, the JPACF would earn a commission based revenue stream that was tied to catering revenues. This commission would be between 9.00 and 12.00%, based on similar commercial arrangements.

3.3 Proposed Assumptions

In order to devise revised projections, the number of hires per year were estimated for each of the spaces available for hire within the JPACF (excluding theatres).

The current FOE figures were used to inform the maximum venue hire demand, acknowledging that there is weak evidence to support these figures. These figures were apportioned across the spaces in the amounts implied by the Pracsys report.

The most likely demand was estimated to be 70.00% of the maximum parameter, and the minimum demand by definition is zero. This level was chosen based on the identified low underlying demand for function and conference spaces, availability of alternative venues in the catchment and Perth CBD, and an assessment of activity levels at benchmark facilities.

Table 3 presents the results of this analysis.

Table 3: Venue Hire Demand Estimates

	Low	Medium	High
Plaza	4	5	6
Gallery	5	6	8
Exhibition Space	4	5	6
Craft Studio	93	119	142
Drawing & Painting Studios	40	51	61
Conference / Function	189	242	289
Practice Rooms	81	104	124
Music Studio	138	177	211
Dance Studio	119	153	182
Rehearsal Rooms	49	63	75

In terms of community use, the distribution of possible outcomes will lie between 0-100% with the most likely result depending on the particular area in question. Conference space was determined to be most likely to be used equally by commercial and community groups. Community groups are forecast to account for 30.00% and 10.00% of event and studio space respectively, based on an assessment that hire of studios for classes or similar activities is most likely to be by commercial operators. Table 4 presents the results of this analysis, showing the estimates for the proportion of commercial use.

Table 4: Commercial Use

	Low	Medium	High
Plaza	50.68%	64.89%	77.48%
Gallery	50.68%	64.90%	77.49%
Exhibition Space	50.67%	64.90%	77.48%
Craft Studio	66.90%	79.73%	89.36%
Drawing & Painting Studios	66.89%	79.73%	89.35%
Conference / Function	35.94%	50.00%	64.05%
Practice Rooms	66.89%	79.73%	89.36%

	Low	Medium	High
Music Studio	66.90%	79.73%	89.36%
Dance Studio	66.89%	79.73%	89.36%
Rehearsal Rooms	66.89%	79.73%	89.36%

Proposed Pricing for the respective areas is based on market rates at similar facilities. The pricing for function hire spaces is based on publicly available rates for Venues West function spaces, which is shown in Table 5.

Table 5: Venues West Hire Rates

Description	Max Capacity (Banquet)	Max Capacity (Lecture)	Price
Champions Club	60	100	$473.00 per half day
Executive Suite	20	40	$342.00 per half day
Lecture Theatre	n/a	220	$589.00 per half day
Fred Napier Conference Room	60	90	$473.00 per half day
Ellis Room	200	100	$589.00 per half day

As the proposed conference facilities will accommodate 191 guests lecture style, it was determined that the pricing should be slightly higher than the lecture theatre available within the Mount Claremont sports precinct. This premium reflects the standard of the facility and the greater flexibility inherent within the space, and provides a venue hire cost aligned to similarly sized facilities in the CBD and surrounds.

For the various studio rooms, pricing was informed by rates at Curtin University, which similarly has a wide variety of studio space available for hire. Market evidence was also taken from Ausdance, who manage venue hire for the Kings Street Arts Centre studios located within the Perth CBD.

Table 6: Studio Hire Rates

Description	Max Capacity	Price
410.208 Studio	46	$100.20 per hour
410.314 Studio	44	$100.20 per hour
410.428 Studio	44	$100.20 per hour
Collaborative Teaching Rooms	< 25	$75.20 per hour
Ausdance Hire Rates	40	$65.00 per hour

The Curtin rooms were determined to be the more comparable, and pricing for the JPACF was based on these rates.

No distinction has been drawn between the various studio options, although the hire for practice rooms is lowered based on the low capacity of these rooms and likely use for individual use or tuition. Function space hire rates assume that there are limited add-on options, such as tea and coffee provision, basic catering or welcoming and staff presence as is seen at comparable facilities. There are no costs associated with these functions, so revenue is aligned with a basic service level. Given the identified competition in the market, it may be necessary to investigate such differentiating options to deliver a reasonable volume of functions and events.

Table 7: Venue Hire Fees

Area	Price
Plaza	$1,000 per half day
Gallery	$600 per half day
Exhibition Space	$600 per half day
Craft Studio	$100 per hour
Drawing & Painting Studios	$100 per hour
Conference / Function	$600 per half day
Practice Rooms	$50 per hour
Music Studio	$100 per hour
Dance Studio	$100 per hour
Rehearsal Rooms	$100 per hour

Labour requirements have been estimated based on the size of the space and the nature of its use.

Table 8: Labour Requirement

	Manager	Technician	Usher
Plaza	1	1	2
Gallery	-	1	2
Exhibition Space	1	1	2
Craft Studio	-	-	-
Drawing & Painting Studios	-	-	-
Conference / Function	-	1	1
Practice Rooms	-	-	-
Music Studio	-	-	-
Dance Studio	-	-	-
Rehearsal Rooms	-	-	-

These labour requirements are dependent on the level of service associated with venue and facility hire. The presence of other supervisory or facility management staff will also impact on the requirement of dedicated staff for these areas, however as no analysis of the overall workforce model has been conducted this is not considered above. The proposed staffing provides for dedicated staff to handle visitors for larger conference and function-style events.

4 Capital Replacement Costs

The large capital investment associated with the facility brings with it large capital replacement costs.

The JPACF is comprised of a number of different systems and components, crossing civil, mechanical, and electrical construction disciplines. Each of these components works interdependently with others to allow the facility to function efficiently. These components age and deteriorate at varying rates, and will need to be maintained and replaced at various stages of the building's lifecycle.

The lifespan of each component is difficult to predict, and actual service life depends greatly on local environmental factors, use and abuse, and levels of routine maintenance accomplished. Periodic repair or replacement of the various deteriorated components is needed to restore condition and performance capabilities for the component and the building as a whole.

4.1 Current Assumptions

The FOE breaks down constructions costs into six different components and assigns a maximum life to each of these components. The FOE then selects a condition that each component may reach before the City will need to renew them, and calculates the renewal life (service life) based on this basis.

Only capital expenditures that are within the 40-year evaluation period are included within the FOE. These costs are modelled as they are incurred over the project's 40-year life. The total capital renewals in real terms is $23,765,565 (roughly 24% of the initial capital cost). In nominal terms, this equates to $79,433,130.

4.2 Evaluation of Current Assumptions

Table 9 presents the maximum life and renewal life assumptions detailed in the FOE.

Table 9: Capital Renewal Assumptions

Component	Maximum Life	Renewal Life
Structure	80	80
Roof	80	80
Fixtures & Fittings	40	24
Services(1) – Long Life	40	40
Services(2) – Short Life	20	16
Equipment	20	16

When compared with benchmark capital asset planning practice,[2] these assumptions overestimate the time before which renewal will be required.

[2] Referenced to Recurrent Cost Plan for recent project within Western Australia, comparable in nature and scale to JPACF.

In addition, modelling capital renewals as a lumpy profile of capital replacement costs (with the majority of expenditures incurred beyond the project evaluation period) has the potential to skew perceptions of the apparent financial position of the JPACF.

Industry profit margins are traditionally quite high because of the relatively low revenue generated from individual assets as a proportion of the industry's capital assets. High margins are required to cover investment costs. Whilst not a review of assumptions per se, it is recommended the City of Joondalup consider what size contributions would need to be made to a hypothetical sinking fund to enable the satisfaction of future liabilities as they arise. This would provide a better picture of the JPACF's financial performance.

4.3 Proposed Assumptions

To determine the necessary major repairs and component replacements for the JPACF, and to approximate the timing of that work, a building component model was defined.

Similar to the approach adopted in the FOE, this model creates an inventory of components that comprise the building, and assigns a service life to each, reflecting the average expected time that the component will perform as required in service before it will need replacing. Table 10 shows the inventory of components, and the corresponding service life.

Table 10: Inventory of Building Components

Component	Capital Value	Service Life
Substructure	$3,554,600	50 Yr(s)
Superstructure	$36,761,400	50 Yr(s)
Finishes	$4,858,400	10 Yr(s)
Fitments	$8,564,400	7 Yr(s)
Services	$20,577,000	15 Yr(s)
External Works	$4,677,000	15 Yr(s)
External Services	$1,175,000	15 Yr(s)

The service life assumptions are from cost planner estimates developed for comparable recent projects[3].

The assumed escalation was 4.28% per annum, representing the average annual change in the price index for building construction within Western Australia from September 1998 through to June 2016.

[3] The reference projects used were feasibility studies and cost plans developed between 2014 and 2016 for metropolitan facilities in the cultural and recreation category, within Western Australia. The estimated capital cost of the projects considered ranged between $30m and $70m.

4.3.1 Requirement for Lifecycle Replacement

The costs shown in Table 10 exclude all preliminaries and design costs, so relate only to construction capital amounts. In considering the requirement for lifecycle replacement, there is the potential that not all capital against a category would be required to be replaced at the interval shown. For example, within the services category, while it may be necessary to replace air conditioner chillers and outlets, the piping and connections may not require as frequent capital replacement.

Similarly, a decision may be made to delay lifecycle replacement works on aspects of the facility. For example within the finishes category, wall and floor finishes may be renewed more regularly than roof finishes, while still presenting a facility of contemporary appearance.

As the assumed lifecycle replacement periods are based on cost planner best practice estimates, there may be an opportunity to reduce the frequency of replacement of some elements of the capital cost. As the capital cost element does not provide significant additional detail over the categories presented above, this is not done on a cost item basis, however overall percentage costs for replacement can be assumed.

Table 11 presents the assumed value of each component requiring replacement within the timeframes provided, based on an assumed percentage of 70% of initial capital cost requiring replacement.

Table 11: Assumed Replacement Values

Component	Capital Value	Assumed Value Requiring Replacement
Substructure	$3,554,600	$2,488,220
Superstructure	$36,761,400	$25,732,980
Finishes	$4,858,400	$3,400,880
Fitments	$8,564,400	$5,995,080
Services	$20,577,000	$14,403,900
External Works	$4,677,000	$3,273,900
External Services	$1,175,000	$822,500

4.3.2 Range of Assumptions

Monte Carlo analysis was conducted on both service life and escalation to account for the following risks:

- The time at which capital replacements are required, based on best practice useful life estimates; and
- The price at which the City of Joondalup can carry out capital replacements.

This analysis was carried out using beta-PERT distributions for each risk in the manner described in Section 1.2.

Table 12: Service Life

Component	Low	Medium	High
Substructure	46 Yr(s)	50 Yr(s)	54 Yr(s)
Superstructure	46 Yr(s)	50 Yr(s)	54 Yr(s)
Finishes	9 Yr(s)	10 Yr(s)	11 Yr(s)
Fitments	6 Yr(s)	7 Yr(s)	8 Yr(s)
Services	14 Yr(s)	15 Yr(s)	16 Yr(s)
External Works	14 Yr(s)	15 Yr(s)	16 Yr(s)
External Services	14 Yr(s)	15 Yr(s)	16 Yr(s)

For escalation, the maximum and minimum annual changes to the index for building construction within Western Australia over the sample period were utilised as parameters, producing the following results.

Table 13: Capital Escalation

	Low	Medium	High
Escalation	2.51%	4.67%	6.97%

5 Utilities

This section considers the cost of utilities that the City of Joondalup will incur as part of operating the JPACF.

5.1 Current Assumptions

The FOE details the following assumption relating to utilities.

Table 14: Current Utilities Assumptions

Utilities	Cost
Energy	$12.00 per square metre
Water Rates	$0.45 per square metre
Water	$0.75 per square metre

5.2 Evaluation of Current Assumptions

The FOE does not provide the source of the utilities assumptions, although reference is made to the previous business case.

The area used to multiply the square metre rates does not appear to be consistent with ARM's design. The FOE assumes only 11,000 square metres is to be used for building costs, however, this is the area associated with the car park rather than the remaining building which has an area of 13,000 sqm. This will be causing the City of Joondalup's financial evaluation to understate utilities costs.

As the car park and the remainder of the facility are likely to have different utility usage rates, it is appropriate to estimate these separately.

Where possible, it is also more appropriate to provide estimates of usage per square metre rather than cost. This provides a clearer basis for assumptions and allows assumed usage rates to be tested if further technical reports are conducted. This methodology also allows volume and price to be projected independent of one another.

5.3 Proposed Assumptions

Proposed assumptions for utilities are set out in the following sections.

5.3.1 Energy

Minimum, maximum and most likely estimates for general facility energy use were taken from benchmark facilities in order to generate a distribution of potential outcomes.[4] Table 15 presents the resulting low, medium and high estimates.

[4] The benchmark facility information sourced utility costs from facilities management providers at a number of Western Australian and other Australian performing arts and educational facilities, using costs from recent years.

Table 15: General Facility Energy Usage

	Low	Medium	High
Energy Use	72.64 kWh / sqm p.a.	78.19 kWh / sqm p.a.	84.75 kWh / sqm p.a.

The applicable tariff is $0.303104/kWh.

For the car parking area, benchmark usage data was not available. However, the following medium cost per square metre is based on a recent Western Australian car-parking project and should provide a reasonable forecast of utilities costs for the JPACF car park. The low and high estimates provide a range at a 20% discount and premium to the benchmark.

Table 16: Car Parking Utilities Cost

	Low	Medium	High
Car Park Utilities Cost	$2.15 / sqm p.a.	$2.69 / sqm p.a.	$3.23 / sqm p.a.

5.3.2 Water

Assumptions relating to water service charges were taken from the Water Corporation's website.

Table 17: Water Service Charges

Charge	Value	Basis
Water Service Charges	$13,287.95	Rate for Up to 150mm in absence of technical advice.
Sewerage Service Charges	$45,317.91	Based on full rate for 82 fixtures detailed in Appendix 10 to Schematic Design Report Volume 2.
Drainage Service Charge	$8,640.00	Based on rateable value of $100 million.

The JPACF may qualify for a 100% discount on water service charges. Generally, these discounts are available to the following groups:

- non-government schools, churches and community facilities;
- charitable organisations;
- regional local government; and
- non-profit homes for the age.

Assuming the JPACF qualified, the water service charge would not be applicable and there would be a reduced cost per fixture for the sewerage service charge.

Water use is charged at $2.187 per kilolitre, and the following range of assumptions are proposed for usage.

Table 18: Water Usage

	Low	Medium	High
Water Use	0.77 kL / sqm p.a.	0.84 kL / sqm p.a.	1.01 kL / sqm p.a.

The low, medium and high assumptions represent best practice, efficient, and fair usage respectively utilising Sydney Water's benchmarks for commercial office buildings and shopping centres. Whilst not a perfect benchmark, this was the most analogous to the JPACF of those available.

These calculations should not include the car park, as the utilities estimate for that space is all inclusive.

6 Photovoltaic Cells

A possibility raised during the Schematic Design phase was for the installation of photovoltaic cells (also known as solar panels) on the roof of the JPACF. This section considers recommended assumptions in order to assess the financial viability of installation of solar cells.

6.1 Current Assumptions

The possibility of photovoltaic cell installation is not currently included in modelling. As a result, there are currently no assumptions available to test.

6.2 Modelling Approach

Paxon undertook the following steps in order to ascertain the viability of the installation of photovoltaic cells:

1. Determine the size of the potential photovoltaic cell installation at JPACF and thus the amount of energy it would be able to generate
2. Conduct market research relating to the cost of electricity and the price able to be received for selling power back into the grid
3. Ascertain installation costs, including any incentives
4. Create a financial model over twenty years, modelling the result of both installing photovoltaic cells and continuing to purchase all electricity requirements from the grid

The following sections detail these steps.

6.2.1 Determine Size and Energy of Potential Installation

The size of the proposed photovoltaic array was sourced from architectural designs, as demonstrated in Figure 2.

Figure 2: Joondalup Performing Arts and Cultural Facility Roof Plan

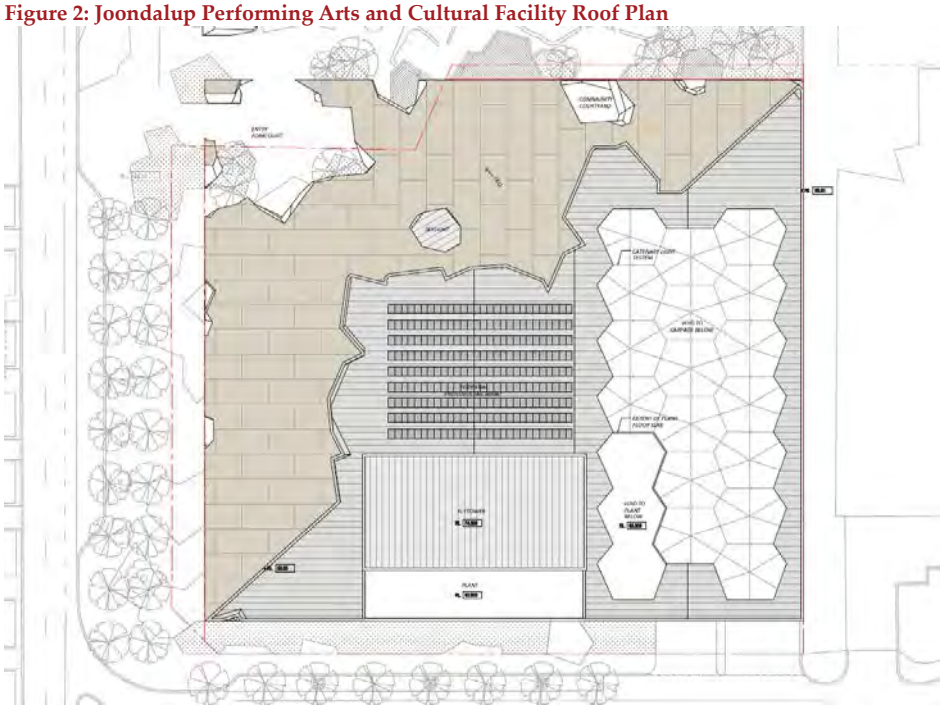


Figure 3 shows this equivalent area on a map of the precinct in which the JPACF will be located.

Figure 3: Location of Photovoltaic Cells

Making an allowance for the space between the arrays, this has an area of approximately 560 square metres.

In order to evaluate the output of this area, an efficiency factor must be estimated. Table 19 demonstrates the efficiency of the two photovoltaic cell models available through Synergy.

Table 19: Synergy Photovoltaic Cells

Model	Efficiency
Q.Cells Q.Plus G4	16.2%-16.8%
Hanwha Solar HSL 60 S Poly	15.6%-16.2%

Based on the information in Table 19, an efficiency of 16% was assumed. Additionally, a standard assumption of solar irradiance of 1,000W per square metre was used.

Thus, an area of 560 square metres is equivalent to a system capacity of approximately 90 kWdc under currently available technology as demonstrated in **Equation 1**.

Equation 1: System Capacity

$$Size\ (kW) = Array\ Area\ (m^2)\ \times Solar\ Irradiance\ \left(\frac{W}{m^2}\right) \times Module\ Efficiency\ (\%)$$

$$90.4\ kW = 565m^2\ \times 1{,}000\ W/m^2 \times 16\%$$

A standard fixed roof mount module arrangement is assumed, with the parameters outlined in Table 20 also utilised, based on manufacturer recommendations and industry research.

Table 20: Further Modelling Parameters

Assumption	Value	Rationale
System Losses		
Soiling	2%	Losses due to dirt and other foreign matter on the surface of the PV module that prevent solar radiation from reaching the cells. Benchmark estimate.
Shading	3%	Reduction in the incident solar radiation from shadows caused by objects near the array such as buildings or trees, or by self-shading. Benchmark estimate.
Mismatch	2%	Electrical losses due to slight differences caused by manufacturing imperfections between modules in the array that cause the modules to have slightly different current-voltage characteristics. Benchmark estimate.
Wiring	2%	Resistive losses in the DC and AC wires connecting modules, inverters, and other parts of the system. Benchmark estimate.
Connections	0.5%	Resistive losses in electrical connectors in the system. Benchmark estimate.
Light-Induced Degradation	1.5%	Effect of the reduction in the array's power during the first few months of its operation caused by light-induced degradation of photovoltaic cells. Benchmark estimate.
Nameplate Rating	1%	The nameplate rating loss accounts for the accuracy of the manufacturer's nameplate rating. Field measurements of the electrical characteristics of photovoltaic modules in the array may show that they differ from their nameplate rating. Benchmark estimate.
Age	0%	This is not modelled initially, but degradation is included in output modelling over time (see Section 6.2.4). Benchmark estimate.
Availability	2%	Reduction in the system's output cause by scheduled and unscheduled system shutdown for maintenance, grid outages, and other operational factors. Benchmark estimate.
Total System Losses	**14%**	
Panel Positioning		
Tilt	41.7°	10 degrees are added to Joondalup's latitude of 31.7° South to allow for an anticipated extra load during winter. This extra load is due to both extra heating requirements for evening shows/performances and the lesser utilisation of the space anticipated over summer.
Azimuth	0°	This allows the panels to be as north-facing as possible, maximising overall output.

Assumption	Value	Rationale
Inverter Characteristics		
DC to AC Size Ratio	1.30	This is the ratio of the inverter's AC rated size to the array's DC rated size. Increasing the ratio increases the system's output over the year, but also increases the array's cost. The chosen value of 1.30 means that a 90 kW system size would be for an array with a 90 DC kW nameplate size at standard test conditions and an inverter with a 69.2 AC kW nameplate size. This value is based on estimates of equivalent ratios of larger systems.
Inverter Efficiency	97%	This is the inverter's nominal rated DC-to-AC conversion efficiency, defined as the inverter's rated AC power output divided by its rated DC power output. This value is estimated from currently available products available from Synergy as indicated in Table 21.

Table 21: Synergy Inverters

Model	Efficiency
Fronius Symo Hybrid	97.6%
Fronius Symo	98.1%
Fronius Primo	97.8%
Fronius Galvo	96.1%

Using resources provided by the US-based National Renewable Energy Laboratory, these parameters produced an annual output of 146,687 kWh per year. A monthly breakdown of this figure is provided in Table 22.

Table 22: Annual Output

Month	Solar Radiation (kWh / m^2 / day)	AC Energy (kWh)
January	6.75	14,374
February	6.71	12,891
March	6.52	13,900
April	6.00	12,549
May	4.69	10,403
June	4.40	9,589
July	4.61	10,416
August	4.88	11,070
September	5.62	12,070
October	6.09	13,577
November	5.92	12,472

Month	Solar Radiation (kWh / m^2 / day)	AC Energy (kWh)
December	6.25	13,376
Total	**5.70**	**146,687**

As battery technology is not yet mature, nor commercially viable for large scale installations, no batteries were assumed in the model.

6.2.2 Electricity Costs

Current Synergy prices from the Business Plan (L1) Tariff were used as the costs for purchasing electricity. As described in Section 6.2.4, these are escalated forward appropriately for future years.

As the system exceeds the 5kW threshold for the Renewable Energy Buyback Scheme, enhanced rates were not able to be accessed by JPACF. An indicative value based on market analysis was chosen.

Table 23 summarises these costs.

Table 23: Electricity Cost Parameters

Parameter	Value
Cost of Electricity - Normal	$0.303104/kWh
Cost of Electricity - Excess	$0.273503/kWh
Excess Electricity Threshold	1,650
Daily Supply Charge	$0.461185/day
Price Received for Electricity	$0.06/kWh

6.2.3 Installation Costs

Architectural assumptions indicate that the photovoltaic cells would cost between $350,000 and $450,000. The upper bound of these figures was chosen in order to minimise any adverse cost risks.

There are currently no governmental solar incentives available, so the full cost of installation was modelled.

6.2.4 Modelling

A number of other parameters had to be selected before modelling could proceed. These were determined through desktop analysis and are outlined in Table 24. The discount rate used was chosen for consistency with other discounted cash flow analysis conducted in this report.

Table 24: Further Modelling Parameters

Parameter	Value
Macroeconomic Cost Escalation	3%
Electricity Use Escalation	1.5%

Parameter	Value
Annual Deterioration of Photovoltaic Cells	0.5%
Discount Rate	7.70%

Modelling was conducted over 20 years. A summary of the results of the modelling is included in Table 25.

Table 25: Modelling Results

Model	NPV
Option 1: No Photovoltaic Cells	-$2,009,384
Option 2: Photovoltaic Cells Installed	-$1,916,622

Table 25 indicates that there is marginal difference between the two options modelled, with the installation of pholtovoltaic cells showing approximately a $100,000 benefit in NPV terms over the 20-year period. This however excludes any additional maintenance or lifecycle costs associated with the installation of cells.

This analysis suggests that the installation of pholtovoltaic cells is not supported by compelling financial reasons. If, however, their installation is preferred from a sustainability perspective, this is not likely to come at a high financial cost, and may lead to a marginal saving dependent on maintenance expenses.

6.3 Sensitivity Analysis

The assumptions utilised in developing the modelling are based on industry benchmarks, and are likely to be dependent on the design of the building and characteristics of cells to suit installation on the specific built form proposed. As a result, sensitivity analysis is not considered to be appropriate without further design and input from electrical and renewable energy specialists on the likely characteristics of a solar cell installation as part of the facility.

7 Repairs and Maintenance

Regular repairs and maintenance are required for any facility through normal use. This section considers both building repairs and maintenance, and a number of associated operating costs which are not captured in other components of the modelling and assumptions.

7.1 Current Assumptions

A number of parameters required assumptions regarding building maintenance and repair. These are detailed in Table 26.

Table 26: Building Maintenance and Repair – Modelling Assumptions

Item	AUD
Insurance	$50,000 p.a.
Air-conditioning	$3.17 p.sqm.
Fire protection	$1.40 p.sqm.
Cleaning	$18.00 p.sqm.
Security	$1.50 p.sqm.
Repairs and Maintenance	$18.41 p.sqm.
Rubbish Collection	$1.00 p.sqm.

Insurance is costed at a lump sum of $50,000 annually, while the other maintenance costs are quoted as a per square metre figure on a per annum basis. The source of most of these assumptions is not clarified in the current model.

Of further note is the Pracsys report which also includes a number of assumptions relating to building operations and maintenance costs.

Table 27: Building Maintenance and Repair – Pracsys Assumptions

Item	Cost ($/m^2)
Rates and Taxes	-
Insurance	7.60
Air-Conditioning	8.30
Lifts	6.70
Fire Protection	1.40
Energy	25.90
Cleaning	14.90
Buildings Staff	6.90
Security	2.80
Repairs and Maintenance	6.20
Management	11.00

Item	Cost ($/m^2)
Sundries	4.30
Void Allowance and Contingency	2.70

The source of these assumptions is quoted as being the Rawlinsons Australian Construction Handbook (2012).

7.2 Evaluation of Current Assumptions

The assumptions used in the modelling and the Pracsys assumptions differ in a number of ways. This section explores these differences and evaluates each assumption.

7.2.1 Insurance

Current modelling uses a fixed insurance amount, while the Pracsys report uses a per square metre rationale. If the per square metre rate quoted in the Pracsys report is taken as representative of insurance costs, its value would increase by 67% in current modelling.

A fixed rate is considered as the more reasonable approach as it is the industry standard. The Pracsys report most likely reported insurance at a per square metre rate due to uncertainty around the overall facility specifications.

However, the current fixed amount used in modelling is believed to be low based on industry experience and the likely nature of the facility.

7.2.2 Air Conditioning

Air-conditioning costs are significantly lower in the modelling than in the Pracsys report, with a cost of $3.17 vs $8.30 per square metre respectively.

The approach used of apportioning costs per area does not provide accuracy around the outcome of the values. An alternative approach is outlined in Section 7.3.

7.2.3 Fire Protection

Fire protection costs are consistent across the modelling and the Pracsys reports, with both utilising an apportionment based on floor area. This approach does not achieve optimum efficiency as an overall system approach to maintenance is preferred, with an alternative approach is outlined in Section 7.3.

7.2.4 Cleaning

The modelling utilises an assumption of $18 per square metre as an annual allowance for cleaning. This is higher than the Pracsys assumption of $14.90 per square metre.

Paxon's analysis of the market indicates that a more realistic value may lie in between these two amounts. This is further detailed in Section 7.3.

7.2.5 Security

Security costs of $1.50 per square metre were used in the modelling, higher than the Pracsys recommendation of $2.80 per square metre.

While the modelled value accorded with the upper range of market evidence, Paxon suggests that a lower figure may be able to be obtained. This is discussed in Section 7.3.

7.2.6 Repairs and Maintenance

There was a significant disparity between the amounts quoted for repairs and maintenance across the modelling and the Pracsys report. The former totalled $18.41 per square metre, almost three times the amount in the latter of $6.20.

This disparity is likely due to a number of other areas of required recurrent spending individually identified by Pracsys being combined in the modelling. These areas include the following:

- Lifts;
- Energy;
- Buildings staff;
- Management;
- Sundries; and
- Void allowance & contingency.

As outlined in Section 7.3, this approach of apportioning costs per square metre does not provide accuracy around the outcome of the values.

7.2.7 Rubbish Collection

This individual cost is not identified in the Pracsys report, but is allocated a value of $1.00 per square metre in modelling.

Market evidence suggests that this cost is reasonable, although it is subject to the operating model employed, particularly in regards to food and beverage and function catering. There is a possibility of operators of sections of the facility being responsible for elements of rubbish disposal which would lower the assumed value.

7.3 Alternative Assumptions

Section 7.2 indicates that the majority of costs associated with repair and maintenance are provided on a square metre basis. Paxon's market experience indicates that for a number of costs modelled, providing costs in this structure does not provide values as accurate as apportioning costs by proportion of the overall capital cost for maintenance, as maintenance costs include a significant fixed component. These are explored in this section.

7.3.1 Costs to Apportion by Capital Cost

Air-conditioning and fire protection form part of the overall fitments of the building, and as such, artificially segregating one element of the repairs budget makes little sense.

Thus an overall cost of repairs and maintenance, inclusive of air-conditioning as well as other fitments and finishes, is suggested. The breakdown of these costs accords with the building component model defined in section 4.3. The repairs and maintenance expense for each component was estimated as a proportion of capital cost based on a benchmark capital project.[5]

[5] The referenced project was based on operating cost estimates develop as part of business case development for a metropolitan project in WA of comparable nature to the JPACF, with a capital cost of between $40m and $60m.

Table 28 shows the estimated repairs and maintenance expense for each building component, and a total repairs and maintenance expense as a proportion of the total capital cost.

Table 28: Inventory of Building Components

Component	Capital Value	R&M%	R&M
Substructure	$3,554,600	0.10%	$3,699
Superstructure	$36,761,400	0.10%	$38,228
Finishes	$4,858,400	1.56%	$75,790
Fitments	$8,564,400	0.78%	$66,804
Services	$20,577,000	0.52%	$107,001
External Works	$4,677,000	0.26%	$12,160
External Services	$1,175,000	0.52%	$6,110
TOTAL	**$80,167,800**	**0.39%**	**$309,792**

The assumed escalation was 4.28% per annum, representing the average annual change in the price index for building construction within Western Australia from September 1998 through to June 2016.

7.3.2 Costs to Apportion by Area

Per square metre rates are appropriate for cleaning costs. However, as discussed in Section 7.2.4, market evidence suggests that the cleaning cost will be less than the $18 allowed for in the modelling. For a facility of the size and specialisation of the JPACF, market analysis suggests a figure of $16 per square metre to be more accurate.

Security costs are also suited to being modelled on a floor area basis. The chosen value of $1.50 per square metre appears to accord with market evidence although is on the high end of a scale of costs for similar facilities. Similarly, the rubbish collection parameters are acceptable, although potentially overstated.

It is noted that these costs are dependent on the operating model for the facility, or elements therein. For example, should an external caterer assume control for functions, they are likely to absorb elements of the security, cleaning and rubbish disposal costs.

7.3.3 Fixed Costs

The fixed approach to modelling insurance costs was found to be accurate by Paxon. However, the value used in the modelling is believed to be low. An annual cost closer to $100,000 is likely to be required, based on the projected capital cost and the nature of the facility.

7.3.4 Summary

These alternative assumptions are summarised in Table 29.

Table 29: Building Maintenance and Repair – Alternative Assumptions

Item	Value (per annum)
Apportioned by Capital Cost	
Repairs and Maintenance	0.39% of Capital Cost
Apportioned by Area	
Cleaning	$16 p.sqm.
Security	$1.50 p.sqm.
Rubbish Collection	$1.00 p.sqm.
Fixed Costs	
Insurance	$100,000

In order to determine a low medium and high estimate for these assumptions, minimum, maximum and most likely estimates were gleaned from benchmark facilities in order to generate a distribution of potential outcomes. Table 30 presents the resulting low, medium and high estimates.

Table 30: Repairs and Maintenance Range

	Low	Medium	High
Repairs and Maintenance	0.33%	0.39%	0.47%
Cleaning	15.48	16.25	17.11
Security	1.42	1.49	1.55
Rubbish Collection	0.86	1.00	1.14
Insurance	85,998	97,451	108,085

8 Food & Beverage and Restaurant

Plans for the JPACF include a restaurant area (indicated as a café in the *JPACF Schematic Design Report*). In addition to this, there are areas for serving food and beverages to patrons of events held at the JPACF. The assumptions around revenue generated from these areas are discussed in this section.

The catering aspects of any externally hired function held at the JPACF are discussed in Section 3.

8.1 Current Assumptions

The current assumptions used in the modelling are outlined in Table 31. Assumptions are provided in two broad categories, as outlined above.

Table 31: Food/Beverage and Restaurant Assumptions

	Assumption
Food and Beverage	
Income	8% Primary and Secondary Theatre Revenue
Cost of sales	66% of F&B Income
Restaurant	
Area	180 sqm
Turnover	$5,000 p.sqm.
Rent	10%

8.2 Evaluation of Current Assumptions

This section evaluates the assumptions outlined in Section 8.1.

8.2.1 Food and Beverage Current Assumptions

The model assumes that food and beverage revenue is structured as a proportion of the overall theatre revenue earnt by the JPACF. The assumed value of 8% is unable to be validated due to a lack of information available for comparable facilities, with overall performance of food and beverage sales more readily tested.

A cost of sales of 66% is also assumed, implying a gross profit margin of 34%. This does not accord with the Pracsys report, which stated that this part of JPACF is intended to be cost-neutral. Cost neutrality implies a cost of sales equivalent to the total amount raised as income, with analysis of similar sites elsewhere showing a similar outcome. As the primary purpose of food and beverage provision is to supplement visitor amenity rather than make a profit, the assumed value is considered to be low.

8.2.2 Restaurant Current Assumptions

The restaurant assumptions used in the modelling are taken from the Pracsys report. However, this report mentions the need to independently assess the viability of the restaurant and its ability to achieve industry average turnover.

The restaurant mentioned in the modelling is assumed to be equivalent to the café indicated on the *JPACF Schematic Design Report*. The modelling indicated an area of 180 square metres. Turnover of $5,000 per square metre per annum was also assumed, with a rent/commission of 10% payable.

The structure of the modelling indicates that a private operator is assumed to run the restaurant. This conforms with the industry practice of a private operator being contracted to manage the food and beverage services offered by a facility. This operator then pays a variable amount to the owner of the facility (in this case, the City of Joondalup) which is structured as a percentage of revenue generated through food and beverage sales. The modelling assumes that this payment amount (termed "rent") is 10%. This accords with market evidence elsewhere.

Overall, the assumptions indicate total annual revenue received by the management of the facility from the restaurant lease of $90,000 (unindexed). Based on local market analysis, this appears to be somewhat higher than expected. This is likely due to the high level of turnover assumed to be received per square metre of $5,000.

8.3 Alternative Assumptions

The following sections provide alternative parameters for the two categories of assumptions listed in Table 31.

8.3.1 Food and Beverage Proposed Assumptions

Without further market evidence, it is difficult to ascertain a realistic proportion of total ticket sales translating to food and beverage revenue. For this purpose, it is recommended that the current modelling structure of 8% is retained until further evidence is obtained.

As discussed in Section 8.2.1, it is recommended that the assumption relating to the proportional cost of sales be modified to 100% in order to allow the food and beverage area to be considered revenue neutral rather than a source of income.

8.3.2 Restaurant Proposed Assumptions

An important issue for consideration is whether there exists sufficient demand for the restaurant and whether its location is attractive enough as a dining option such as to warrant dedicated foot traffic outside of theatre operational times. A clear benchmark here is the Perth Concert Hall, which does not have its restaurant open on non-concert nights. Initial analysis indicates that demand is likely to be lower at JPACF than at a CBD-based location, which is likely to limit the rent or commission payable by a private operator.

As stated in Section 8.2.2, the proposed assumptions result in a higher level of revenue received as commission than would be expected. Reducing the turnover expected to be received per square metre, from $5,000 to $3,500, would result in commission more in line with market expectations and a realistic operating profile of the restaurant.

9 Opportunities for Annual Grants & Sponsorship

At present the Financial Projections have not assumed any grant income to support annual operations. This section investigates whether the JPACF is in a position to access State or Commonwealth grant programs.

9.1 Approach

Paxon investigated potential opportunities for annual grants or sponsorship and identified the following six possible funding avenues:

- Lotterywest;
- Australia Council for the Arts;
- State Government (Department of Culture and the Arts);
- Federal Government (Department of Communications and the Arts);
- Creative Partnerships Australia; and
- Direct corporate sponsorship.

These opportunities are explored in the subsequent sections.

9.1.1 Lotterywest

Lotterywest, formerly known as the Lotteries Commission of Western Australia, run the State lottery in WA. Established in 1932, it offers a variety of lottery and instant win tickets. Approximately 33% of funds raised by Lotterywest are disseminated in the form of grants, either directly managed by Lotterywest or through the State Government.

Lotterywest manage several programmes through which it awards grant money to community and local government organisations. Of relevance to the JPACF is Lotterywest's Big Ideas scheme, which is for the following purposes:

- Assets that relate to WA's social, natural and built features that add significantly to WA's resources and capital base and benefit many people over a long period of time; or
- Large scale projects that create exceptional opportunities, address important community issues and/or have a major community impact.

The JPACF relates to the first of these criteria.

However, due to the scale and scope of funding required, Lotterywest funding is likely to be difficult to obtain for a material portion of the anticipated capital cost. It may be possible to access funding, either for specific elements of the build or a contribution to the overall capital cost.

9.1.2 Australia Council for the Arts

The Australia Council for the Arts ("Australia Council") is the official arts funding body of the Australian Government. It is responsible for funding arts projects around Australia as well as formulating and implementing policies to foster and promote the arts in Australia. The Australia Council also advises governments and industry on arts-related issues. In addition, it supports strategies to develop new audiences and markets for the arts both in Australia and overseas. The Council is accountable to the Australian Parliament and to the Government through the Minister for the Arts.

Since moving to a new grant model in 2014, the Australia Council has one main stream of recurrent funding – the Four Year Funding for Organisations. This program provides multi-year core program funding for small to medium arts organisations of significant regional, national or international standing. Four Year Funding aims to enable organisations to plan their artistic programs with longer term certainty and increase their capacity to leverage other support and collaborations.

The most recent round of grants was made in May 2016, with 128 organisations receiving a total of $28 million a year. Applications for the following round of grants will open in 2019.

Acquiring funding through this program is a highly competitive process and is for a limited time. It is also targeted to organisations as opposed to venues, and as such, it is not considered a viable long-term funding strategy.

9.1.3 WA Department of Culture and the Arts

The Department of Culture and the Arts ("DCuA") is the State Government department responsible for the arts in WA. It is responsible for State-level arts facilities such as the Art Gallery of WA, the WA Museum and the State Library of WA.

DCuA supports the development and delivery of culture and the arts in WA through the provision of funding to individual artists and organisations, devolved funding through selected organisations, and partnerships with Commonwealth, State and local government agencies. It provides funding to non-government arts organisations as a base from which they can then generate additional income through sponsorship, box office earnings and funding from other bodies to support their annual program of activities.

The Lotteries Commission Act requires that 5% of net subscriptions each year are paid to the Arts Lotteries Account, which is then distributed by DCuA through recurrent funding agreements as a contribution towards the delivery of annual programs of activity.

In 2015, DCuA introduced the Organisations Investment Program, a new model for providing recurrent funding for arts and cultural organisations in WA. However, this program is not available to governmental organisations, which precludes any annual grant being allocated to JPACF.

9.1.4 Federal Department of Communication and the Arts

The Australian Department of Communications and the Arts ("DCoA") is a department of the Government of Australia charged with responsibility for communications policy and programs and cultural affairs.

In November 2015, DCoA commenced a new arts funding program, Catalyst – Australian Arts and Culture Fund ("Catalyst"). This program complements funding arrangements by the Australia Council, Creative Partnerships Australia and other programs.

Catalyst gives priority to small or medium organisations, but also supports some gallery, library, archive, museum, arts education and infrastructure projects.

This funding is highly competitive and it is unlikely that JPACF will be successful in attaining recurrent funding through catalyst given it prioritises smaller organisations.

9.1.5 Creative Partnerships Australia

Creative Partnerships Australia ("CPA") was established following the merger of Australia Business Arts Foundation and Artsupport in 2013. It invests in the professional and business development of the arts sector by working with business and philanthropists to facilitate arts partnerships and investment. Additionally, it runs matched funding programs for artists and arts organisations. CPA is funded by the Australian Government through DCoA.

CPA administers the Australian Cultural Fund, a collective giving platform for Australian artists founded in 2003 that encourages and facilitates tax-deductible donations to the arts. This platform is targeted towards artists and would not seem to be suitable for the JPACF.

Another option is Plus1, a program for not-for-profit arts and cultural organisations to develop and undertake a dollar-for-dollar matched fundraising campaign. This program does not provide yearly recurrent funding and as such would be unsuitable for JPACF's requirements.

9.1.6 Direct Corporate Sponsorship

A potential option for funding JPACF's ongoing requirements are a commercial sponsor, either a company or private donor.

While there are numerous examples of corporate sponsorship of the arts more broadly, this most often involves sponsoring a specialist arts organisation or project (e.g. national/regional tour). There is limited precedent for a private entity to directly sponsor a performing arts facility. As such, it is considered that there is little possibility of the JPACF being successful in sourcing direct corporate sponsorship.

9.1.7 Summary

Overall, it is unlikely for JPACF to be able to source annual grants or sponsorship over the long term, with the possible exception of Lotterywest contribution towards the capital expenditure.

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Appendix 11 - City of Joondalup Financial Evaluation and Review - Briefing Note: Pracsys (September, 2016)

pracsys.

City of Joondalup

Financial Evaluation and Review

Final Briefing Note

September 2016

Document Control				
Document Version	**Description**	**Prepared By**	**Approved By**	**Date Approved**
v 1.0	Financial Evaluation and Review	Dawson Demassiet-Huning Francesca Catalano	Michael Chappell	7th September 2016
v 2.0	Financial Evaluation and Review	Dawson Demassiet-Huning Francesca Catalano	Michael Chappell	14th September 2016

CONTENTS

1 INTRODUCTION

1.1 Background

The City of Joondalup (the City) will be presenting the Business Case for the proposed Joondalup Performing Arts and Cultural Facility (JPACF) to Council in October 2016. This represents a critical milestone in progressing towards financial investment decision and in order to equip decision-makers with sufficient information a robust financial evaluation of the project is required.

The City identified the need for a critical review of assumptions used the existing *Financial and Options Evaluation Assessment* (City of Joondalup, 2016) for community spaces, gallery/exhibition spaces and conference/event spaces.

This briefing note includes a review of assumptions on the utilisation, fees and operating expenses associated with:

- Conference/Function Rooms (x2)
- Drawing & Painting Studios (x2)
- Craft Studio
- Dance Studios (x2)
- Practice Rooms (x4)
- Music Studio
- Rehearsal Rooms (x2)
- Gallery
- Foyer/Exhibition space

1.2 Primary and Secondary Research

The preparation of this review involved primary and secondary data collection from range of benchmark facilities including:

- Joondalup Resort - Joondalup
- Moores Building Contemporary Art Space - Fremantle
- Mandurah Performing Art Centre (MPAC) – Mandurah
- Alcoa Gallery - Mandurah
- PS Art Space (PSA) – Fremantle
- Salamanca Arts Centre – Tasmania
- Joondalup Art Gallery - Joondalup
- Linton & Kay Galleries – Perth
- All Joondalup community facilities
- Bunbury Regional Art Centre – Bunbury

- Albany Entertainment Centre
- Fremantle Recording Studio
- Perth Convention Bureau

1.3 Assumption Spreadsheet

This briefing note should be read with the accompanying Assumption Spreadsheet (Appendix 1).

2 ASSUMPTIONS OVERVIEW

2.1 Area Schedule

The following area schedule underlies pricing and usage assumptions in the JPACF operation model.

Table 1: Area Schedule

Area	Number	Approximate Size (m^2)	Operating assumptions	Other Assumptions
Conference and Function Rooms	2	250 m^2 and 300 m^2	Hired out for corporate functions/events and general community use.	-
Drawing & Painting Studios and Craft Studio	3	190 m^2 each	Hired out under a residency arrangement to community or commercial users. Hirers charged a monthly rate. Hire periods of 6 months to 1 year.	As per the Schematic Design, the 378m^2 Drawing and Painting studio can be separated into two rooms. It has been assumed that this separation will be in place for everyday use.
Dance Studios	2	190 m^2 each	Hired out to community and commercial users under existing City of Joondalup facility hire model.	As per the Schematic Design, the 378m^2 Dance studio can be separated into two rooms. It has been assumed that this separation will be in place for everyday use.
Music Studio	1	90m^2	Hired out to community and commercial users under existing City of Joondalup facility hire model.	-
Practice Rooms	4	25 m^2 each	Hired out to community and commercial users under existing City of Joondalup facility hire model.	As per information provided by CoJ, total floors space across practice rooms is approx. 100m^2.
Rehearsal Rooms	2	200 m^2 each	Hired out to community and commercial users under existing City of Joondalup facility hire model.	Total area not defined in Schematic Design, however drawings indicate that the two rooms are equal in size to the gallery (400 m^2)
Art Gallery	1	400 m^2	See Section 3 for more detail on the art gallery and the foyer/exhibition spaces.	
Foyer/ Exhibition Area	1	2,000 m^2		

Source: City of Joondalup 2016, Pracsys 2016

2.2 Costing Assumptions

This review considers costs specifically related to the operation/hire out of the following spaces, outside of the overarching management, maintenance and operational costs of running the facility on a day to day basis:

- Conference/Function Rooms (x2)
- Drawing & Painting Studios (x2)
- Craft Studio
- Dance Studios (x2)
- Practice Rooms (x4)
- Music Studio
- Rehearsal Rooms (x2)
- Gallery
- Foyer/Exhibition space

Through consultation with a range of multi-use performing arts and cultural facilities, the costs associated with managing community use spaces within facilities should be considered within the broader management model for the facility itself. Centres/facilities consulted are typically staffed from 9am to 5pm, seven days a week. Staffing numbers that range from one full-time staff member to nine full-time staff members depending on the size of the facility. These staff are responsible for the day to day management and supervision of the facility, including primary, secondary and community use spaces.

Specific operation/hire costs for the gallery/exhibition space, the music studio and the conference/function rooms have been included in this review. These include:

- The preferred management model for the gallery/exhibition space would see a full time curator engaged
- The preferred management model for music studio would see a full time sound technician engaged
- The preferred pricing model for events held at conference/function venues would be based on a per head cost including catering

3 ART GALLERY MANAGEMENT MODEL

Direct consultation informed usage, pricing, cost and management assumptions for the gallery space. These include:

- Moores Building Contemporary Art Space - Fremantle
- Alcoa Gallery - Mandurah
- PS Art Space (PSA) – Fremantle
- Salamanca Arts Centre – Tasmania
- Joondalup Art Gallery - Joondalup
- Linton & Kay Galleries – Perth

The following management options were identified:

- Option 1: Community-driven Gallery
- Option 2: 'A' Class Gallery
- Option 3: Commercial Gallery

3.1 Option 1: Community-driven Gallery

JPACF could engage a local arts organisation to manage the art gallery for the City of Joondalup. While this option would likely reduce operational costs it may limit revenue generation opportunities. Importantly, it would reduce curatorial control over the content in the gallery; a high risk factor according to consultation.

3.2 Option 2: 'A' Class Gallery

Engaging an experienced curator was the most common management model among the facilities that were consulted. This is generally the preferred option as an experienced curator maintains the standard of exhibitions, with an opportunity for the gallery to operate as an 'A' Class gallery capable of showcasing touring exhibitions. Although this option is likely to increase costs for the City it could potentially provide a steady revenue stream through higher fees charged to exhibit in the space.

3.3 Option 3: Commercial Gallery

Engaging a commercial manager/ art dealer to manage the space would maintain a high standard of content exhibited. This option presents the opportunity for higher returns through commissions earned on sales but potentially increases the commercial risk bore by the City.

3.4 Multi-Criteria Analysis

A multi-criteria analysis was used to assess the management options. Options were scored against criteria of cost, control over content, quality of content (5 meaning the option scores well), for each criteria.

Table 2: MCA – Gallery Management Model

Criteria	Community-driven Gallery	A Class Gallery	Commercial Gallery
Cost	4	3	4
Control	2	4	2
Quality of content	3	5	5
Revenue	3	4	5
Risk	4	5	3
Flexibility	3	5	4
Total	**19**	**26**	**23**

Source: Pracsys 2016

The MCA found Option 2: A Class Gallery to be the preferred management option and this management arrangement has informed price, usage and cost assumptions for the gallery/exhibition space.

3.5 Recommended Option and Assumptions

Under Option 2, the gallery curator would invite artists to make submissions for exhibitions. These submissions would be reviewed by the curator and successful applicants would work with the curator to ensure the exhibition meets the standard of art expected at the gallery.

Most local metropolitan art galleries consulted as part of this review are booked for the next 12 to 18 months, indicating a high level of demand for art space across the Metropolitan area.

A combination of primary consultation and secondary research were used to develop the following assumptions for the gallery/exhibition space. Bolded text represents the assumption that should be included in the financial model.

Table 3: Gallery Space - Assumptions

	Low	High	Recommended
Hire rate	$150/week	$2,000/week	**$1,000/week**
Hire rate source	CASM Gallery (Mandurah)	Moores Contemporary Art Gallery (Fremantle) – Includes multiple spaces, 350 m^2 in total.	$1,000/week has been used as a conservative estimate, towards the high option given similarity to PS Art Space (Fremantle). PS Art Space charges $2,000/2 weeks and supports changeover arrangements. PSA Art space host one exhibit at a time likely model for JPACF – and host high quality, A Class exhibits.

	Low	High	Recommended
Utilisation (weeks per year, assuming 50 weeks available in total per year)	34 weeks of gallery time 16 weeks of change over time (2-week exhibition, 1 week change over)	43 weeks of gallery time 7 weeks of change over time (6-week exhibition, 1 week change over).	**37 weeks of gallery time, 13 weeks of change over** (3-week exhibition, 1 week change over) Note: 32 weeks of chargeable gallery time given the assumption for 5 weeks of gallery time dedicated to the community and invitation art exhibitions as proposed under the program model.
Utilisation Source	PS Art Space (Fremantle)	ALCOA Gallery (within Mandurah Performing Art Centre)	Conservative middle-range estimate.
Commission	No Commission	15% on all sales	**No Commission**
Commission Source	PS Art Space (Fremantle)	CASM Gallery (Mandurah)	Conservative, there is an option for JPACF to obtain a commission on sales.
Staffing Costs	1 curator full time	1 curator part time, 1 other staff part time	**1 Curator at $75,000 per annum.**
Cost Source	Moores Contemporary Art Gallery (Fremantle)	PS Art Space (Fremantle)	Pascale.com. (Low = $38,000 p.a., High = $81,000 p.a.) Towards the high option given assuming the City engages senior curator.

Source: Pracsys 2016

3.6 Exhibition/Foyer Space

The foyer space will be available for exhibitions. Given the preferred option to operate the gallery as an 'A' Class Gallery the foyer space can be used to showcase local, community-based art.

The above assumptions regarding utilisation and staffing for the gallery also apply to the foyer space, with potential for **37 weeks of gallery time per annum.** The existing program accounts for 12 weeks of exhibition time dedicated to showcasing work from local schools, leaving 25 weeks available for other community-based exhibits.

The curator would manage the exhibitions within the foyer space. No additional labour costs for this responsibility are included in the review. Foyer hire prices have been adjusted to $150 per week to meet the needs of local community art organisations.

There are a variety of opportunities that exist for the foyer space. The Mandurah Performing Arts Centre foyer is hired to a range of community users in need of a large open space and is used regularly for activities such as acrobatics classes as well as special events such as monthly art sales.

4 UPDATED ASSUMPTIONS

The following table outlines the event assumption recommendations for the JPACF financial model. For detail behind these assumptions as well as price and cost assumptions see the attached Assumptions Workbook.

It is assumed that the building will be open for 50 weeks of the year.

Table 4: Number of Hires - Assumptions

Space	Total Capacity p.a. (all rooms)	Utilisation	Total Events
Conference/Function Room (x2)	610	0.35%	304
Practice Room (x4)	4,200	25%	1,050
Craft Studio, and Painting and Art Studios (x2)	6 uses per year (based on 6 month residency arrangements)	80%	5
Dance Studios (x2)/Rehearsal Rooms (x2)	4,200	20%	840
Music Studio	1,050	50%	525
Art Gallery	12 (3 week exhibitions)	100%	12
Foyer/Exhibition Space	12 (3 week exhibitions)	100%	12
Art Gallery and Foyer/Exhibition Functions	n/a	n/a	30

Source: Pracsys 2016

Total general hires under the improved assumptions is 2,629, across all spaces considered within the scope of this review. This does not include the daily use of the gallery and foyer/exhibition areas. The *2014 Financial Evaluation* assumed 1,425 hiring events including a combination of gallery and function room events. The financial implications of the improved assumptions are detailed in Table 5.

Table 5: Recommended Assumptions – Financial Implications

Revenue ($/p.a.)	
Music Studio	99,000
Practice Rooms (x4)	37,000
Dance Studios (x2)/ Rehearsal Rooms (x2)	150,000
Corporate/Function Rooms General Hire (x2)	62,500
Gallery hire	32,000
Foyer hire	5,000
Craft Studio, and Painting and Art Studios (x2)	42,000
Corporate Functions Revenue	292,500
Gallery Functions Revenue	97,500
Total Profit	**817,500**
	Costs ($/p.a.)
Corporate Functions Costs	(243,000)
Gallery Functions Cost	(37,500)
Curator	(75,000)
Sound Engineer	(70,000)
Total Costs	**(425,500)**
Gross Position	**392,000**

Source: Pracsys 2016

The adoption of the recommended improved assumptions results in an operating surplus of approximately $390,000 per annum for the community spaces, gallery/exhibition spaces and conference/event spaces.

A range of high, medium, low and recommended assumptions is provided in the attached Assumptions Workbook.

The Gross Position does not take into account the maintenance, administrative overheads, utilities or the indirect facility management labour costs. It is assumed that these staff will oversee the community spaces, gallery/exhibition spaces and conference/event spaces on a daily basis.

Appendix 12 - Financing Review: City of Joondalup (September, 2016)

FINANCIAL ANALYSIS

Project Name: **Financing Review September 2016**

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Attachment 2 – Option 1 SFP Model
Attachment 3 – Option 2 SFP Model
Attachment 4 – Option 3 SFP Model
Attachment 5 – Option 3 vs. Option 1

EXECUTIVE SUMMARY

Purpose of Report & Scope

This report is prepared in support of the Business Case (Sept 2016) for the Joondalup Performing Arts and Culture Facility (JPACF). This report will include a detailed evaluation of financing options for the City and an evaluation of options. Although the main driver for this review is the JPACF project, it is more practical and meaningful to evaluate the impacts of different financing options on the overall City finances. For example one of the key hurdles to consider for borrowings is the Debt Service Coverage Ratio which can only be evaluated on at an overall City basis and not for an individual project.

The City currently (as at July 2016) has circa $15m outstanding on borrowings set up during the past few years. The analysis assumes that the repayment arrangements of these existing borrowings will continue as they are and those cash flows are included equally in all options.

The Strategic Financial Plan (SFP) as adopted in June 2016 has been used in the starting point in the analysis. The City has recently received a reduced forecast for Tamala Park proceeds, and this has been used to update the SFP. Therefore the baseline used for all options is a restated SFP with reduced Tamala Park proceeds.

Repayment Terms – no one size is best

The analysis in this report does not make a recommendation that there should be a standard term applied to all borrowings (5, 10, 15 or 20 years). The report finds that the current process of considering the term relative to the size of the borrowings is the most appropriate. The analysis is conclusive in respect of a 20 year repayment term; this is inefficient because of the high interest payments. Despite the intergenerational inequality that may appear to arise with shorter repayments, it is normally always better to repay borrowings as quickly as possible (depending on cash flow). The analysis is also conclusive regarding 5 year or 10 year terms, they are useful in most cases but may not be universally applied to all borrowings because the high loan repayments would cause the Debt Service Coverage Ratio to fail.

The table below summarises the evaluation of the different repayment terms against 5 key metrics and then calculates an overall average, the lower the score the higher the ranking. Option 1a (mixed terms) has the lowest overall average score and therefore the best overall ranking. There is no ‘one case that fits all’’ for borrowings for Local Government and some options are better than others in one criteria but not so in other factors.

Rankings based on above	Option 1a 5/10/15 years	Option 1b 5 Years	Option 1c 10 Years	Option 1d 15 Years	Option 1e 20 Years
1 Borrowings	2	5	4	2	1
2 Interest Payments Total	3	1	2	4	5
3 Net Cash	3	1	2	4	5
4 Debt Service Coverage Ratio	1	5	4	1	1
5 Ratios	3	5	4	2	1
6 Average of above	**2.4**	**3.4**	**3.2**	**2.6**	**2.6**

Evaluation of Arrangement Types

Three different arrangement types have been evaluated:

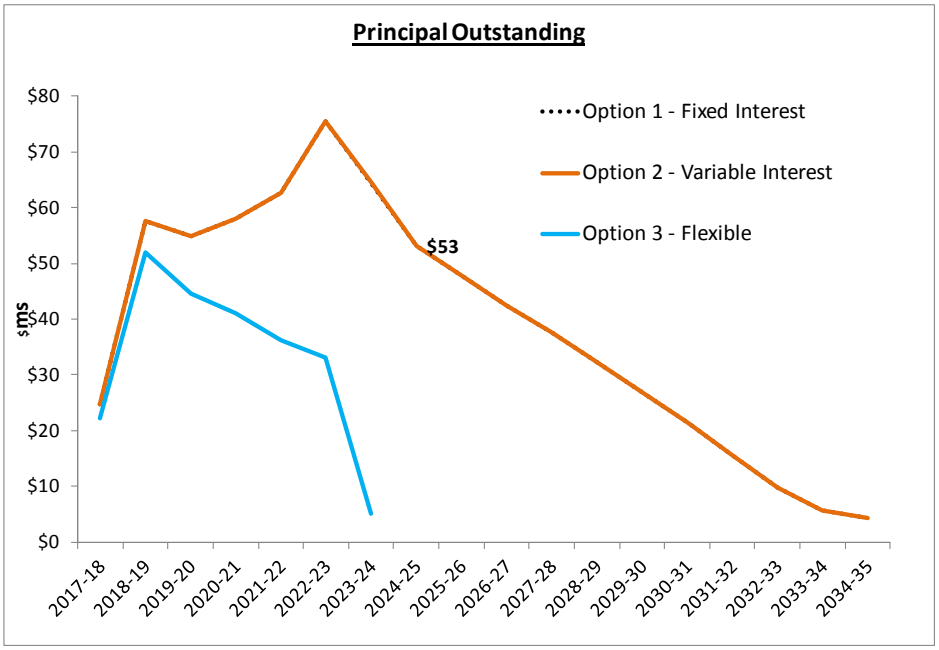
1. Option 1 - Fixed Interest
2. Option 2 - Variable Interest
3. Option 3 – Flexible Repayment

There are different features that could apply to these three types, and in particular option 3, Flexible. Option 3 has assumed that:

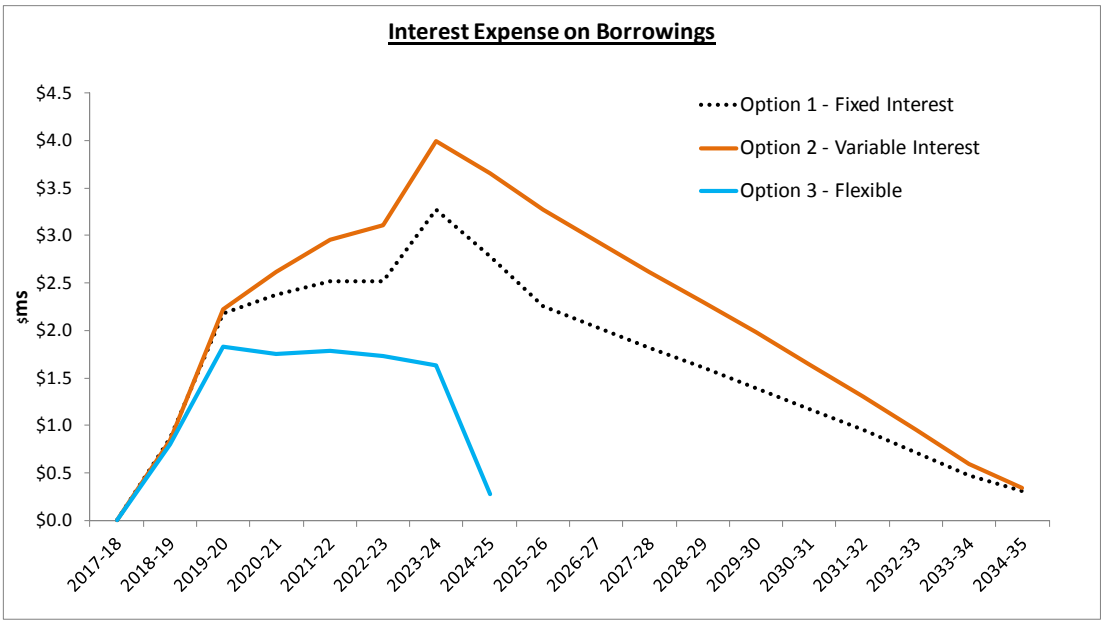
- Principal should be repaid as quickly as possible, whilst still retaining a balanced budget.
- Surplus municipal funds should repay the loan before topping up the Strategic Asset Management Reserve. This is based on the principle that the interest rate on borrowings is higher than the interest rate that could be earned from cash.
- Repayment is prioritised ahead of allocation to unidentified Capital Renewals.
- Surplus cash is used to reduce the need for new borrowings before repayment of principal
- Interest rate would be variable.

The graph below shows the principal outstanding for each option. This indicates that at Year 20 (2034/35) Options 1 and 2 still have principal outstanding on loans but Option 3 though has repaid all principal by 2024/25. At 2024/25 there is still $53m principal for Option 1 and 2. The large difference of $53m between Option 3 and Options 1 & 2 is mostly caused by having $18m less transferred into the Strategic Asset Management Reserve and $29m less set aside for unidentified capital renewals. From 2024/25 onwards Option 3 makes up for these issues as it is in a stronger position than Option 1 and 2 with no borrowings and therefore by 2034/34 Option 3 has more cash in reserves.

The ability to reduce the principal to zero by 2024/25 is also underpinned by the other assumptions in the SFP, most notably the increase in General Rates between 4% and 5% for the next few years. If the City does not increase General Rates by 4% to 5% in the next few years then the principal could not be repaid by 2024/25. However the General Rates increases are the same in all three options so the differences in the options would be the same.



Meanwhile the graph below shows that Option 3 would have a much lower cost of interest than Option 1 or Option 2, this is because Option 3 repays more quickly. Option 3 would result in $10m interest expense on borrowings, compared to $29m for Option 1 or $37m for Option 2.



Option Summary

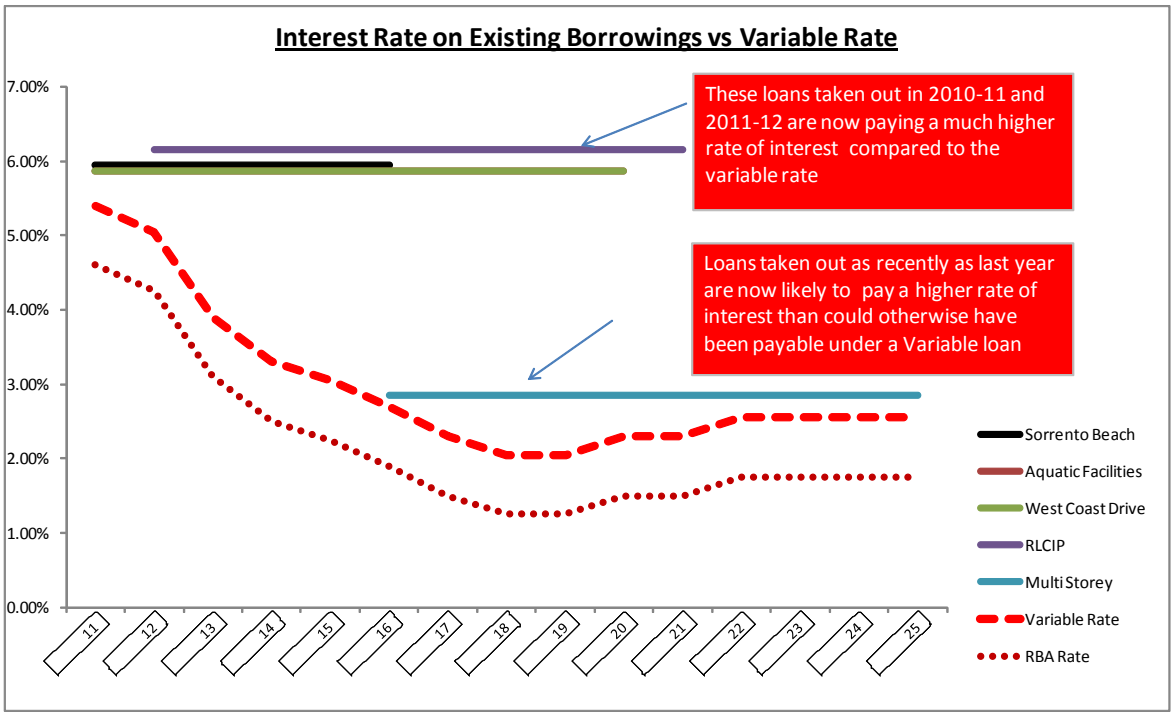
The table below summarises the 3 options against several key metrics. This shows that Option 3 is better than Option 1 and 2 in most criteria.

Option Summary		Option 1 Fixed Interest	Option 2 Variable Interest	Option 3 Flexible	Best
Borrowings & Cash					
New Borrowings	Year 3 to Year 20 $m	$91	$91	$52	Option3
Year that Borrowings paid off	What year paid off ?	2037-38	2037-38	2024-25	Option3
Repayments Total (P+I)	20 Year Total ($m)	($116)	($124)	($62)	Option3
Interest Expense on Borrowings	Total 20 Year Costs $m	($29)	($37)	($10)	Option3
Capital Renewal	20 Year Total $m	($742)	($742)	($712)	Option1
Net Cash less Borrowings	$m at 2034-35	$231	$219	$288	Option3
Key Ratios	Total out of 100	85	85	82	Option3
Treasury Borrowings Criteria	No of Years Failed	0	1	2	Option1

Other Features of Fixed Interest and Other Options

One of the major disadvantages with fixed interest arrangements is the lack of flexibility. It could be advantageous for the City to reduce borrowings if more funds were available than expected (e.g. Tamala Park proceeds) but with a Fixed Interest arrangement this is not normally possible without resetting the loan at a cost. Furthermore if the variable interest rates eventually become lower than the fixed rates then the City could pay higher interest

costs than it could have otherwise done. This is illustrated in the chart below which compares the interest rate applicable in existing loans versus the variable rate.



RAG Evaluation

The table below compares each of the 3 options in simplified RAG format, where Green is the better option and red the worst option. The scoring does not necessarily mean that Red is bad for that option, but just not as good as the other options

	Issue	Description	Option 1 Fixed Interest Fixed Term	Option 2 Variable Interest Fixed Term	Option 3 Interest Only
1	TRANSPARANCY	How easy is it to identify the exact repayments for each project ?			
2	MANAGEMENT	Ensure that payments are made accurately in accordance with contract and on time.			
3	RISK / CERTAINTY	Could the City be subject to unforeseen exernal economic impacts that result in signficant impacts to long term plans.			
4	LOST OPPORTUNITY	Does the option limit the ability to have lower repayment costs?			
5	SPECULATING	Is the method used a form of speculating that the City will beat the Market			
6	FLEXIBILITY	Ability to react to changing circumstances			

Flexible Repayment Approach – Other Considerations

Option 3 could be structured in different ways, for example

- Balloon payments. Fixed balloon payments, but these are normally tied to specific events rather than a general approach to repay as quickly as possible
- Reserves freed up. Review the use of other reserves and consider whether they could be used to repay borrowings, as long as the reserve was repaid at a future point in time.
- Day to Day surpluses could reduce costs of borrowing. Similar to an offset facility, use surplus day to day cash to reduce borrowing expense (albeit temporarily) rather than earn interest from the surplus.
- Market options instead of WATC. It is highly unlikely that this would be viable due to the unique nature of Local Government finances and the benefits that WATC provide.

WATC have been informally consulted about some of the options in this paper. Whilst most Local Government tends to use Fixed Interest Fixed Term arrangements, WATC did suggest that alternative flexible arrangements could be put in place. For example to accommodate the JPACF loan of circa $50m, rather than just put it on a 15 year repayment term it could be split up into different bundles with different repayment terms which allows the flexibility to repay the principal earlier if possible. If the surplus doesn't materialise (e.g. Tamala Park reduce their distributions yet again), the loan could just be refinanced using up-to-date market rates.

Financing for Other Local Government

There are few examples of Local Government in WA doing anything different other than the standard fixed term fixed interest arrangements. The City of Cockburn recently completed the construction of a new sports facility and borrowings were used for a 10 year fixed interest fixed term with WATC. The City of Gosnells uses a short-term (3 years) overdraft arrangement to help with the construction of projects. Meanwhile the City of Wanneroo has taken on a $60m loan at interest-only which will have to be repaid at an agreed point in time; this loan was linked to Developer contributions and quite unique to the growth in Wanneroo.

Recommendation

It is recommended that the City sets up future borrowings on a Flexible basis with flexible repayment terms. This recommendation is made taking account of all the information in this report, specifically that:

- Key metrics have been evaluated (interest payments, net cash, ratios). Option 3 (Flexible) comes out on top in most areas, only failing slightly with the Asset Sustainability Ratio.
- Borrowings could be repaid by 2024-25 (Option 3) rather than 2033-34 (Option 1 and as per the Adopted SFP)
- Sensitivity analysis has been rigorous and also indicates that Option 3 is preferable and presents less overall risk than fixed interest.
- Fixed Rates provide less flexibility

Next Steps

The City should be cautious though with changing the approach and the following next steps are recommended:

- Independent Review - findings to be validated and further consideration of risk.
- JPACF Business Case (October 2016) – no change to the assumptions within the JPACF model, continue to assume a traditional 15 year Fixed Interest Fixed Term loan. However the JPACF Business Case can mention that a detailed financing review is underway.
- WATC Master Borrowing Agreement – would have to be reviewed at some stage as only currently allows for Fixed Interest arrangements.

INTRODUCTION & BACKGROUND

1 INTRODUCTION & BACKGROUND

1.1 Purpose of Document / Scope

This report is prepared in support of the Business Case (Sept 2016) for the Joondalup Performing Arts and Culture Facility (JPACF). This report will include a detailed evaluation of financing options for the City and an evaluation of options. The contents include:

- Research
- Option Evaluation
- Risks, Opportunities & Sensitivity Analysis
- Summary & Next Steps

1.2 Scope – Overall City Impacts, not Just JPACF

Although the main driver for this review is the JPACF project, it is more practical and meaningful to evaluate the impacts of different financing options on the overall City finances. For example one of the key hurdles to consider for borrowings is the Debt Service Coverage Ratio which can only be evaluated on at an overall City basis and not for an individual project. The vast majority of projected new borrowings in the 20 year Strategic Financial Plan relate to the JPACF anyway.
This report will make a recommendation of the assumptions to be applied in the JPACF business case.

1.3 Out of Scope

The following are out of scope:

- Project Justification for JPACF – included in business case;
- Operational model, income and expenses for the JPACF. This report will only deal with the financing of the JPACF. The JPACF operating model is loss-making and it is therefore not viable to attempt any link between the operating values and the costs of financing.
- Scheduling of the Capital Expenditure. The options evaluated will simply use the scheduling that is assumed within the Adopted 20 Year SFP
- Depreciation factors and rates
- Capital replacement
- Asset Renewal Reserve

All of the above factors are considered in the separate financial paper for the JPACF ("Financial and Options Evaluation").

1.4 Disclaimer

This report does not contend that the financial projections will come to pass exactly as shown, but are merely a guide to help evaluate options. The projections are best estimates at this point in time, but there is a level of risk and uncertainty in all of the projections. The actual costs and income will vary, due to the following:

- Capital costs of projects and scheduling
- Interest Rates for borrowings
- Interest Earnings for cash
- All other inputs within the SFP which impact on the City's ability to borrow and repay for example General Rates
- Economic Factors.

Whilst this report makes recommendations regarding changes to the financing of borrowings, there are a number of actions which are recommended for review of this review and also other actions for the City to monitor the situation closely going forwards.

The risks and sensitivity should be considered as much as the financial projections.