



City of Joondalup

JPACF Analysis – Economic and Social Impacts

Briefing Note

September 2016

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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 Expenses¹

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 810,000² attendances. Based on an average expenditure of \$40 per visit, this represents potential total expenditure in the order of \$32.4 million.

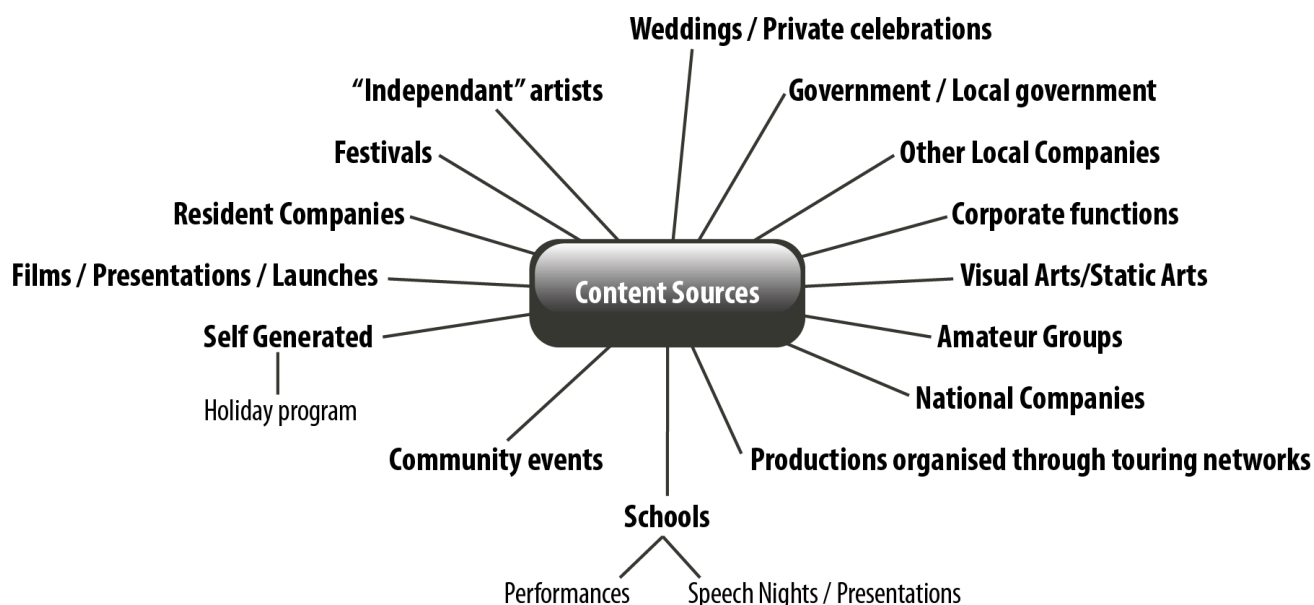
Stakeholder consultation indicated that approximately 124,000 attendances (15%) currently occur in Joondalup and a further 66,500 (8%) occur outside of Joondalup, representing a capture of approximately \$5.0 million and leakage of approximately \$2.6 million³.

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

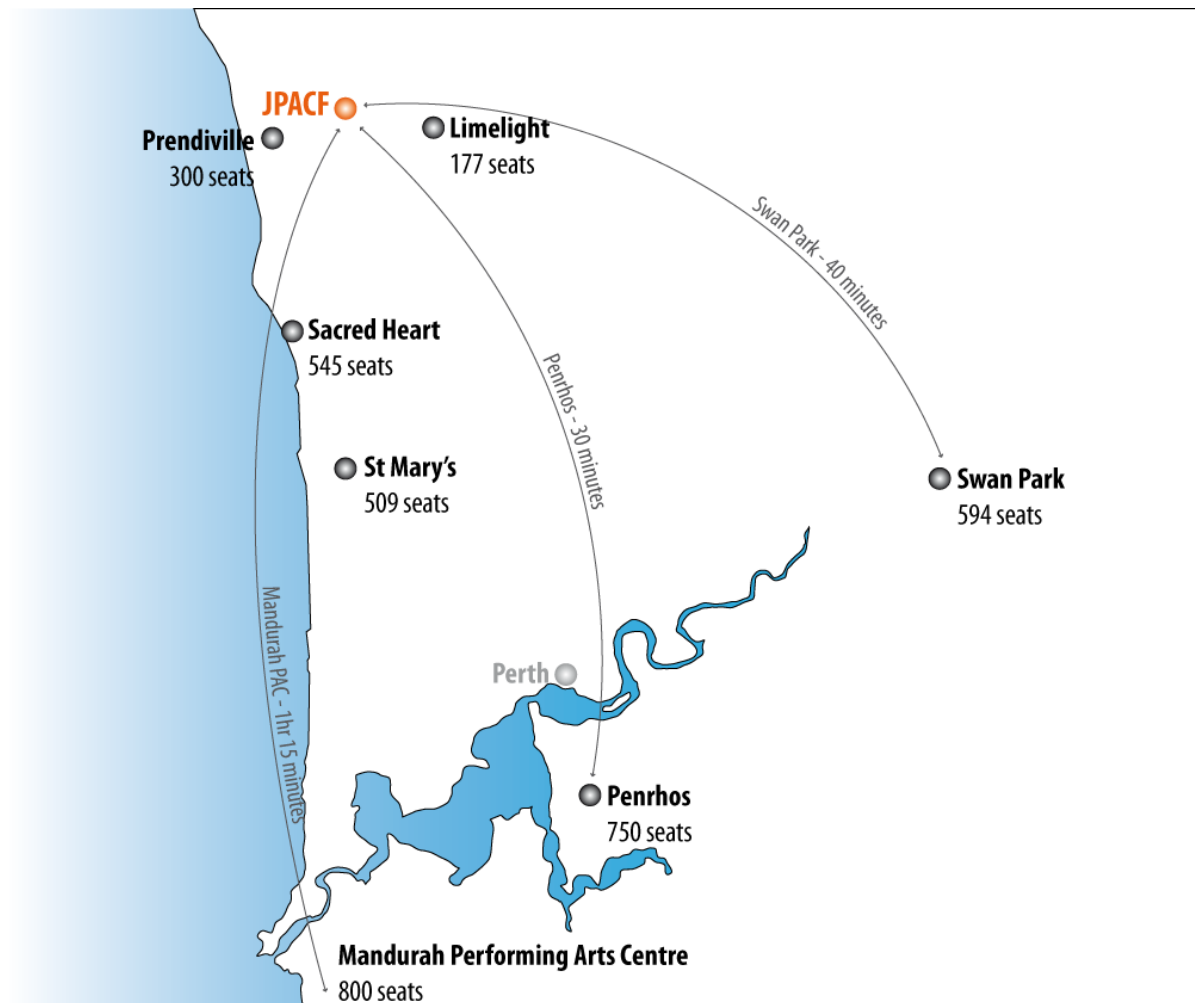
2.6 Travel Time and Vehicle Operating Cost Savings

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	Participation	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 for 2015 – Medium Vehicles*

2.7 Economic Benefit Cost Ratio (BCR)

What is cost-benefit analysis?

The Federal Government's handbook on cost benefit analysis⁴ 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.

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:

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>

“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.

$$\text{BCR} = \text{PV Benefits} / \text{PV Costs}$$

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		
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

Category	Annual Income/Expense	\$ Total (2016 to 2059)
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:

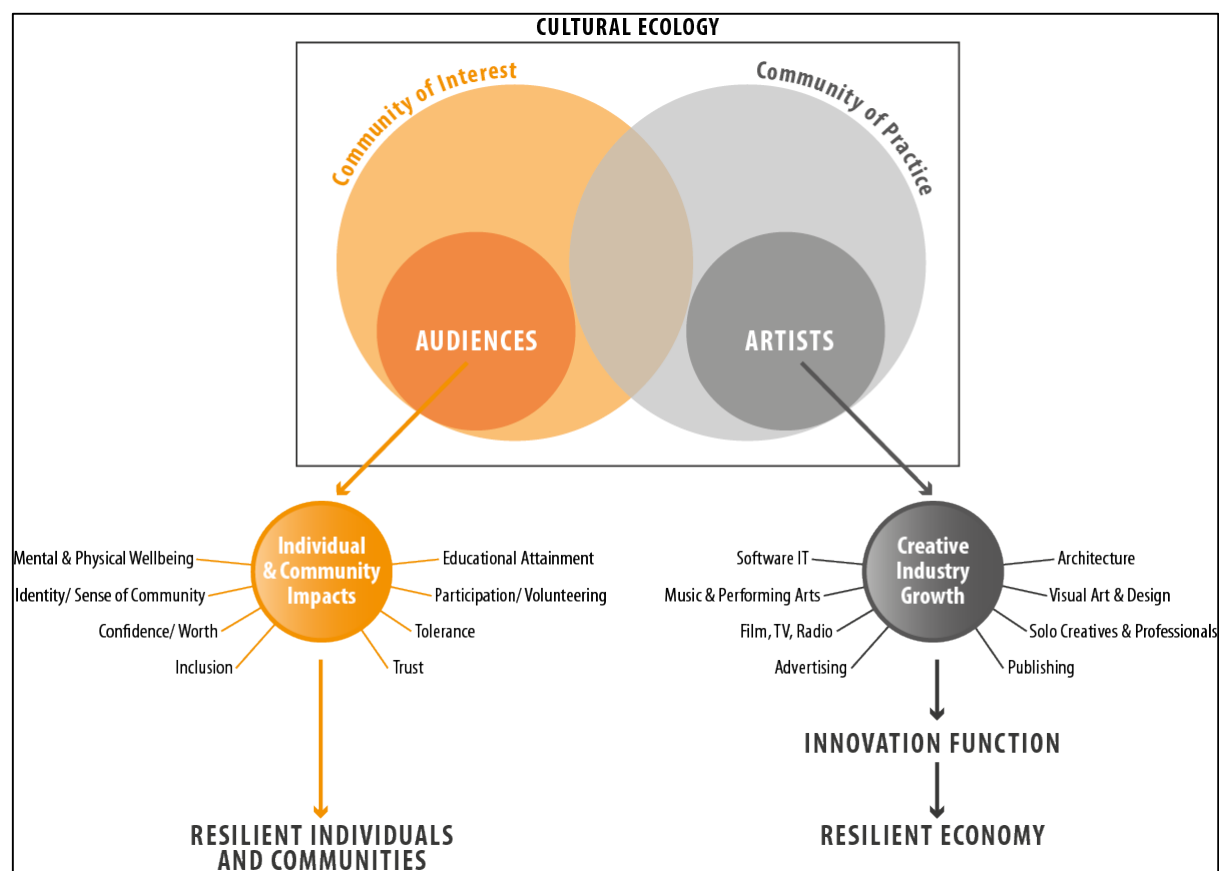
1. The meeting of communities of interest and practice is facilitated so as to support the production and dissemination of cultural and artistic products and experiences
2. Creators and consumers of these experiences and products translate individual creativity into social and commercial outcomes through 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 will be updatable with new statistics once the 2016 Census is released.

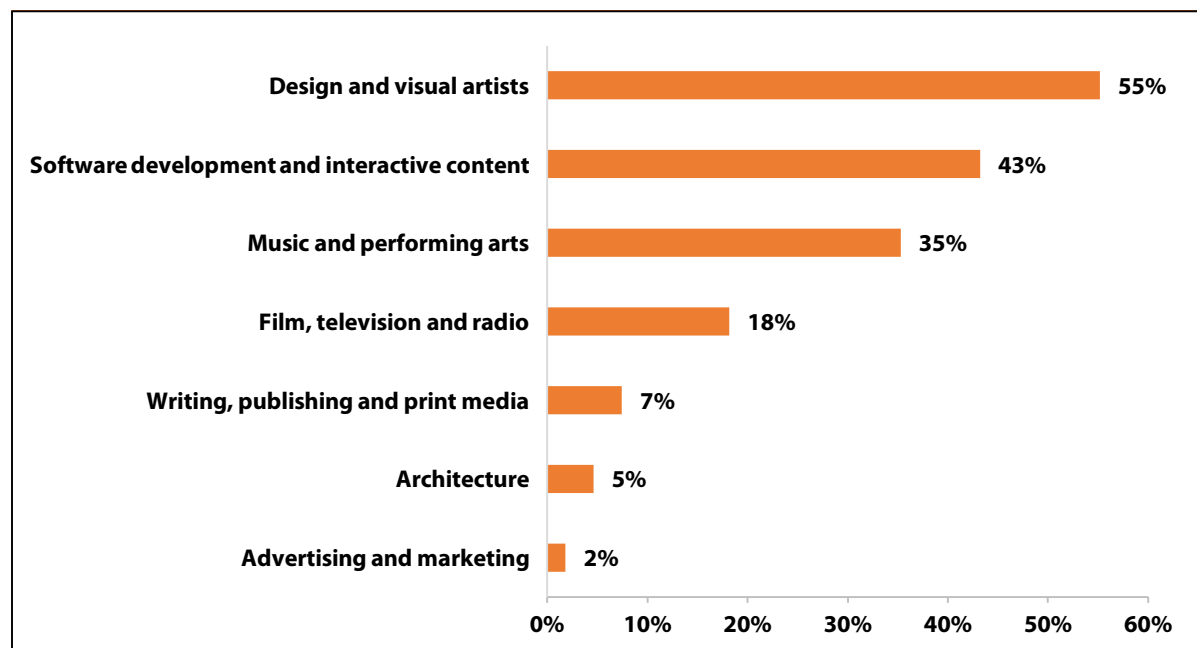
Table 7: North-West Creative Clusters

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)

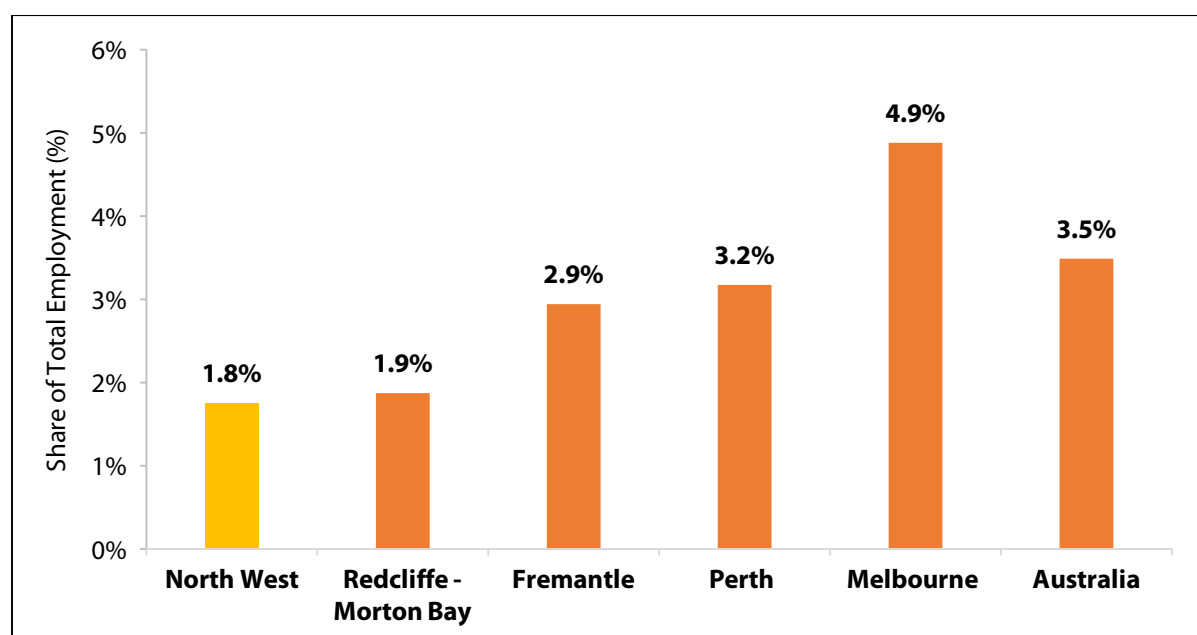
Software development and interactive content and design and visual art are the biggest industries of employment, accounting for 33% and 23% of creative employment respectively. These industries may be associated with the presence of Edith Cowen University (ECU) which caters for a range of creative productions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

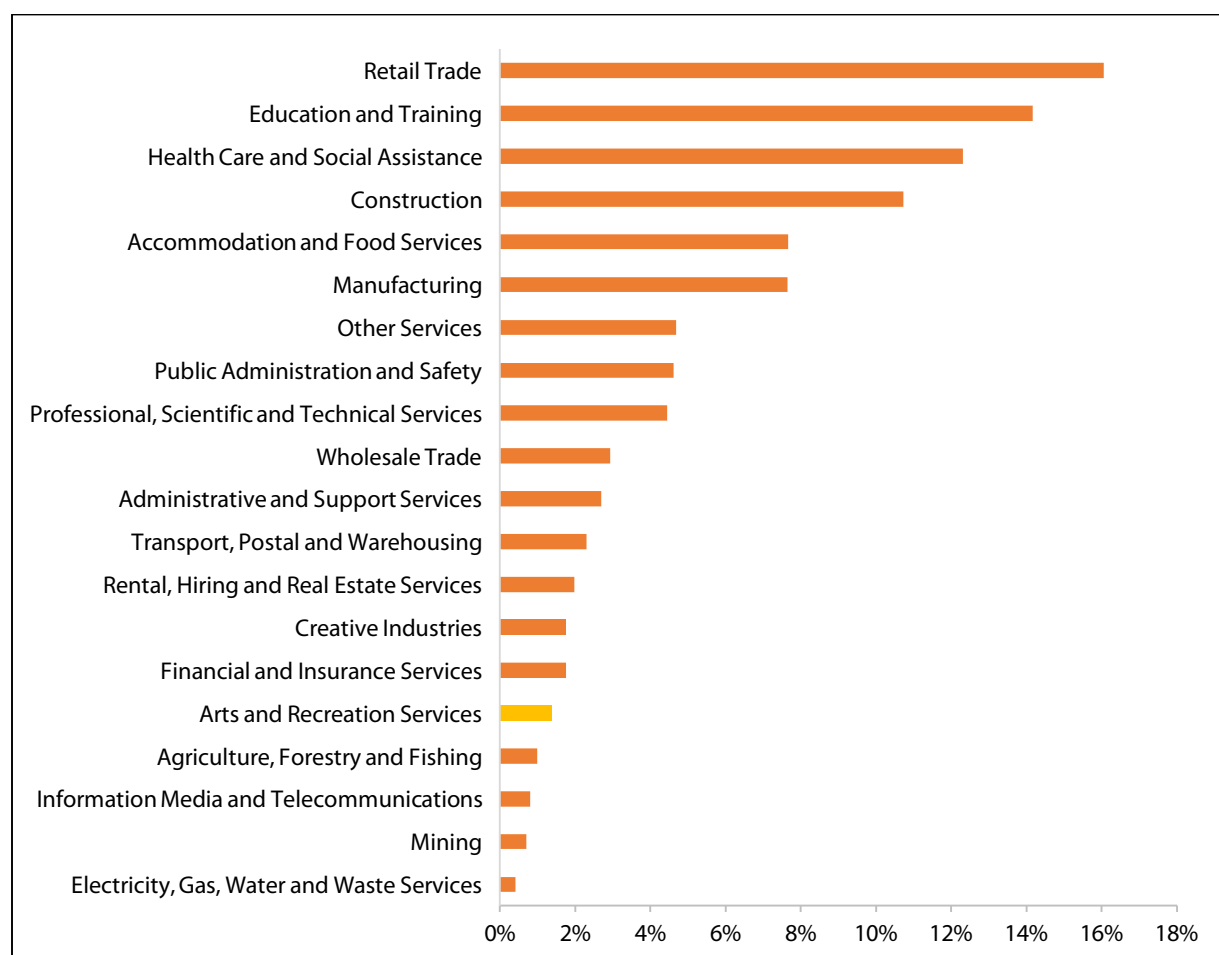
Source: Pracsys (2016) based on ABS National Accounts

Strategic Employment and Employment Self Sufficiency⁶

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



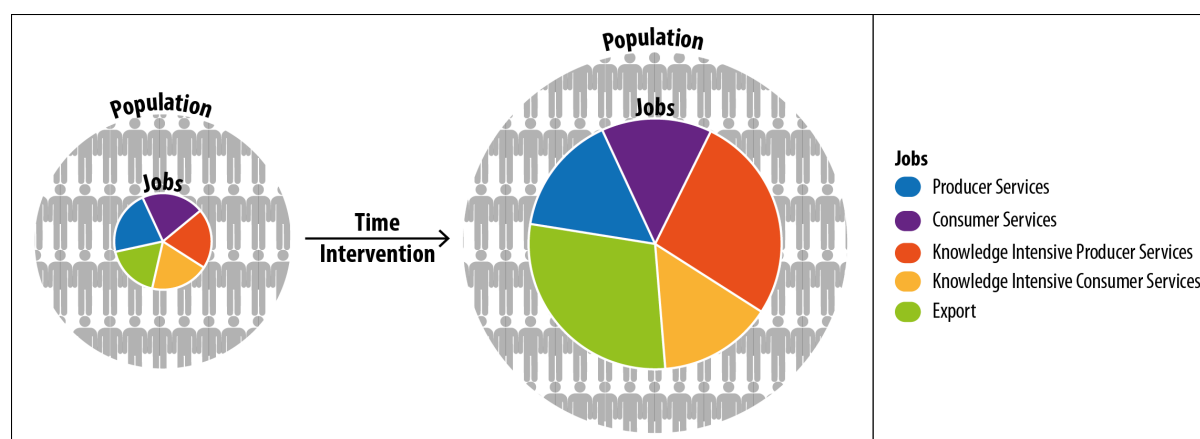
Source: Pracsys (2016)

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.

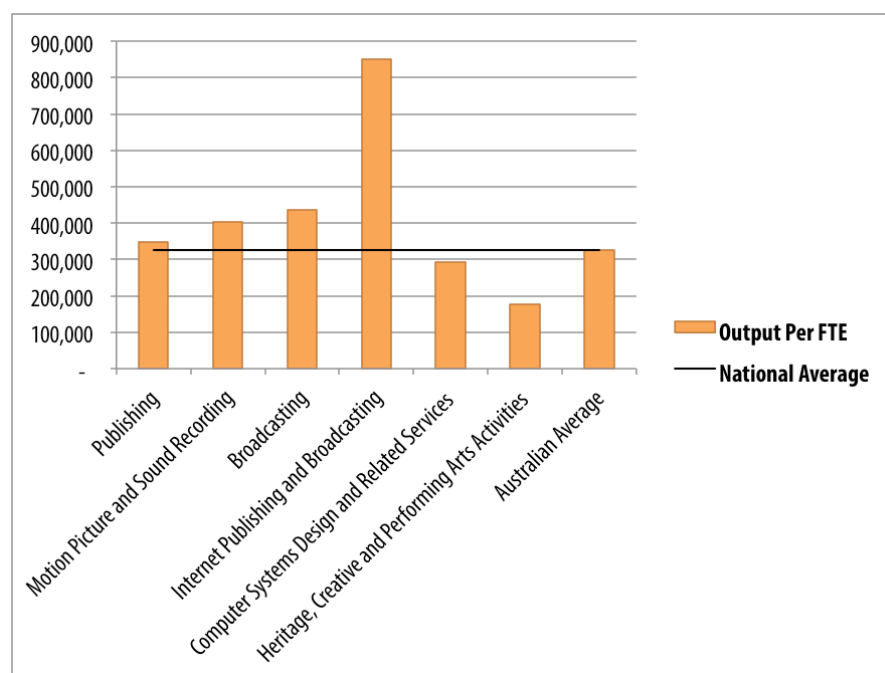
An examination of the relative productivity of creative industries provides an indicator of the potential economic benefit derived from creative industry growth.

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.

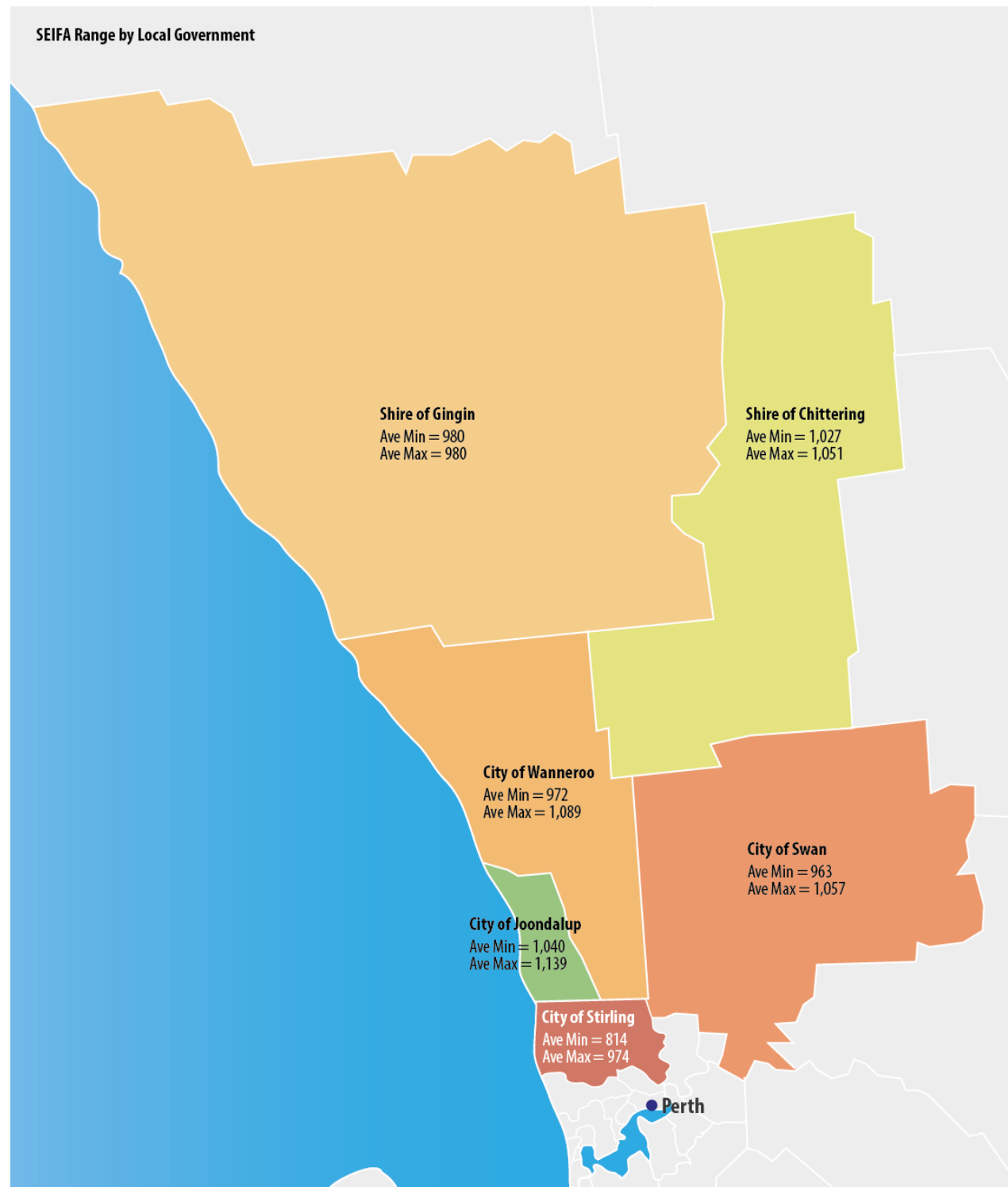
The index is derived from attributes that reflect disadvantage such as low income, low educational attainment and high unemployment. The findings of the SEIFA analysis show that the JPACF will directly and indirectly address current and future problems arising in the primary catchment area, that is, 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	<p>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.%).</p> <p>Self Assessed Health</p> <p>Higher proportion of the people with fair or poor self-assessed health (14.9% compared to 13.7%).</p> <p>Rent Assist</p> <p>Higher percentage of households receiving rent assist (14.3% compared to 13.6%)</p>
Koongamia	909	
Hazelmere	975	
Middle Swan	980	
Beechboro	995	
Herne Hill	996	
Secondary Catchment: Stirling (LGA)		
Balga	913	<p>Unemployment</p> <p>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%).</p> <p>Volunteering</p> <p>Lower proportion of people who performed voluntary work (15.9% compared to 16.9%)</p> <p>Occupation</p> <p>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 Westminster (13.5%)compared to 9.7% across the state).</p> <p>Cultural Acceptance</p> <p>Higher percentage of population who disagree/strongly disagree with acceptance of other cultures (7.6% compared to 6.6%)</p> <p>Psychological Distress</p> <p>Higher percentage of the population with high or very high psychological distress (10.6% compared to 10.5%)</p>
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 employability⁸.

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 to⁹:

- 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 performance¹⁰.

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 status¹¹. 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 inclusion¹².

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 constructed 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 tenfold¹³.

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 education¹⁴.

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 engineers¹⁶.

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 Framework¹⁷, 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 networks¹⁸ and reductions in stress levels¹⁹ 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 are²⁰.

Mark O'Neill's article in the Journal of Public Mental Health Cultural attendance and public mental health – from research to practice²¹ 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 'measurable' 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'Neill (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'Neill (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

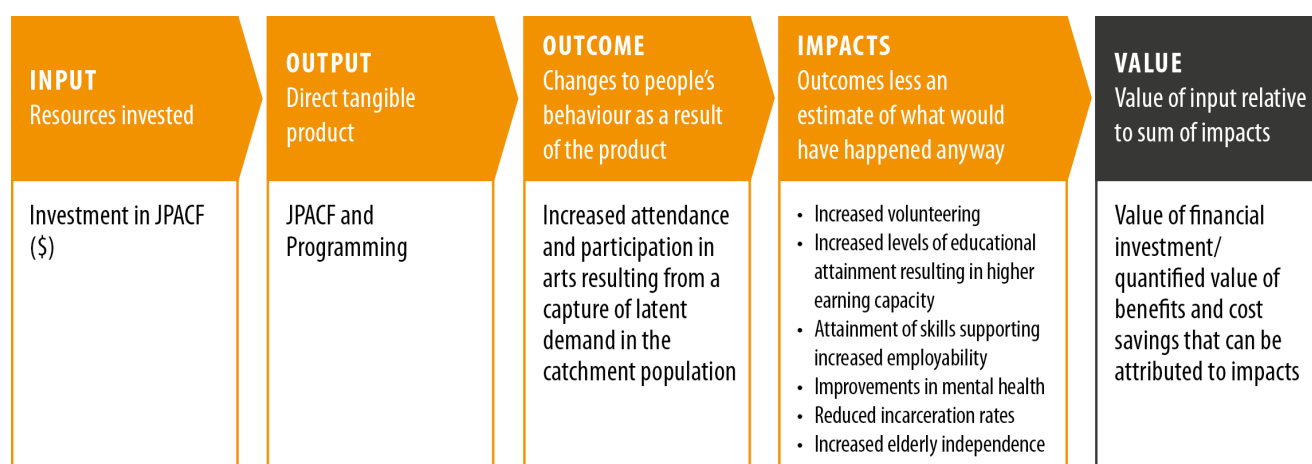
About SROI

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 been 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 810,000²³. 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 year²⁴, 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 JPACF 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 critical²⁵. 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	<p>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 arts²⁶.</p> <p>The Federal Government spends at least \$13,718 per annum in unemployment benefits for eligible individuals aged 22-60.</p> <p>Based on 2011 ABS Place of Residence, the catchment has an unemployment rate of 4.4%.</p>

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	<p>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.</p> <p>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.</p> <p>Based on 2011 Census data, 67.3% of catchment residents aged 20-34 have attained a year 12 or equivalent education.</p>
Increased social participation (increased volunteering)	\$3,957	Local Gov.	14.3%	10,920	<p>People who engage in arts as an audience member are 6% more likely to have volunteered frequently (once a fortnight or more) ²⁸.</p> <p>Based on the 2011 ABS data it is estimated that 14.3% of residents within the catchment volunteer.</p> <p>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.</p>
Reduced mental health (reduced health expenditure)	\$891	State Gov.	13.3%	7,198	<p>Participants in the arts were 1.37% less likely to frequently visit GPs and 0.45% to have used psychotherapy services²⁹</p> <p>The Public Health Information Development Unit (PHIDU) estimates that 10.0% of the catchment population experience mental health issues.</p> <p>Approximately \$891 is spent per affected individual per annum.</p>
Reduced incarceration (reduced incarceration expenditure)	\$134,601	State Gov.	0.2%	108	<p>Specific programs have been successful at both diverting and rehabilitating people from criminal conduct³⁰.</p> <p>The ABS estimates that 0.2% of Australian's are incarcerated.</p>

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	<p>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.</p> <p>Approximately 19.8% of individuals aged 85+ across the State live in aged care homes.</p> <p>Aged cared subsidisations and other benefits cost the Federal Government \$43,351 per person in an aged care home per annum.</p>

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](http://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

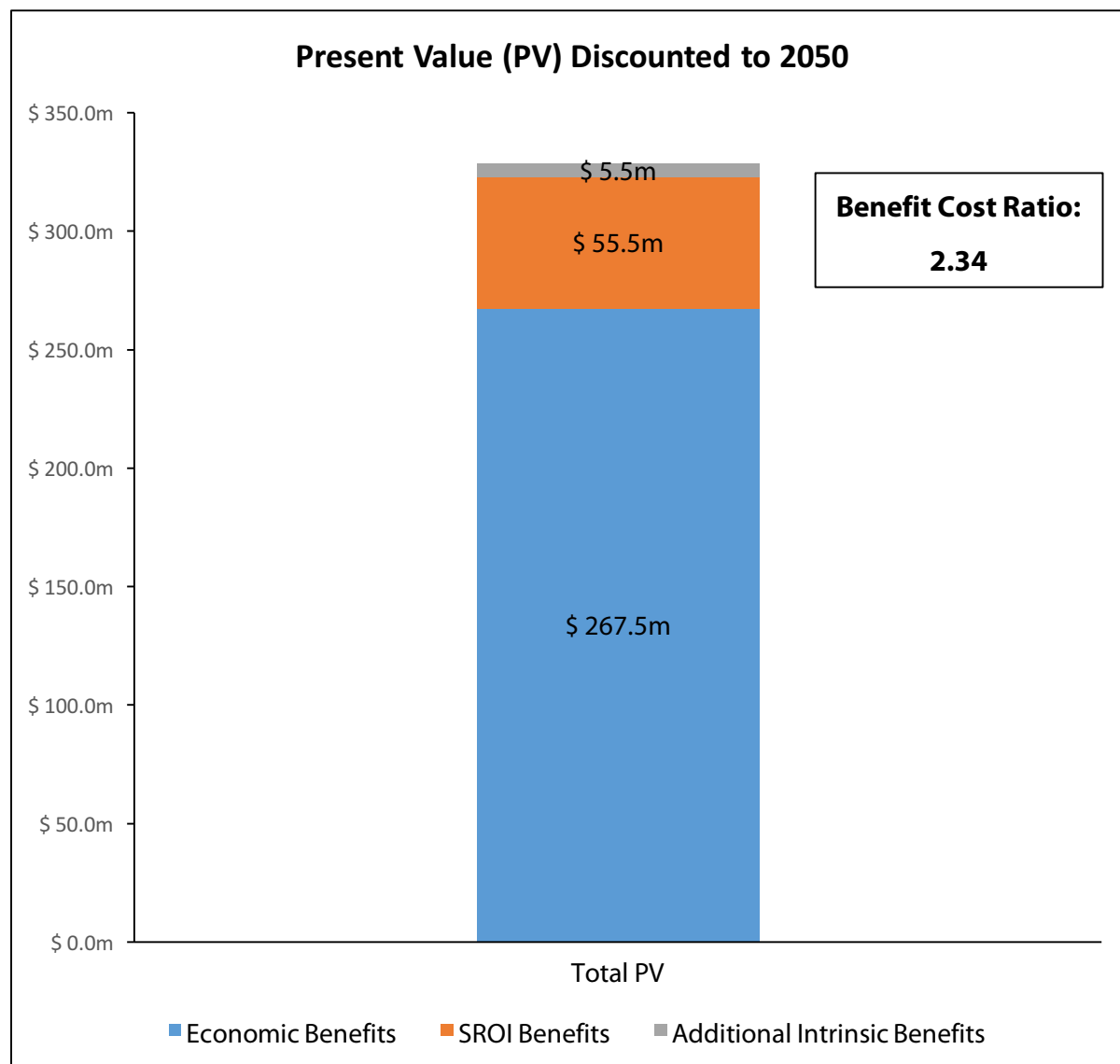
Source: See Technical Appendices for more detail on sources of financial proxies.

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 six³² 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 METHODOLOGY

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, <i>Quantifying the Social Impacts of Culture and Sport</i>
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, <i>Quantifying the Social Impacts of Culture and Sport</i>
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, <i>Quantifying the Social Impacts of Culture and Sport</i>
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, <i>Quantifying the Social Impacts of Culture and Sport</i>
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, <i>The Economic, Social and Cultural Value of the Salamanca Arts Centre 2011-2012</i>
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, <i>Further analysis to value the health and educational benefits of sport and culture</i>

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 intervention 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. $\$570.60 \times 26 = \$13,718$	Australia Department of Human Services, 2016, <i>New Start Allowance</i>	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, <i>Smart Australians – Education and Innovation in Australia</i> Australian Taxation Office, 2016, <i>Individual Income Tax Rates</i>	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: $\$31.05 \times 128 = \$3,957$	Volunteering Australia, 2010, <i>Key Facts and Statistics About Volunteering in Australia</i> ABS, 2015, <i>Volunteers contribute 743 Million Hours to the Community</i>	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 \times 10 = \891	Australian Psychological Society, 2014, <i>Table of Medicare Benefits Schedule Fees and Rebates for Psychological Items</i>	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. $\$368 \times 365 = \$134,601$	SBS Australia, 2015, <i>How Much Does It Cost to Keep People in Australian Jails?</i>	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, <i>Attachment 13 Aged Care Services – Report on Government Services</i>	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, <i>Place of Residence</i>	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, <i>Census Community Profile</i>	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, <i>Census Community Profile</i>	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, <i>Social Health Atlas of Australia: Western Australia</i>	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, <i>Prisoners in Australia</i>	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, <i>Attachment 13 Aged Care Services – Report on Government Services</i>	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 attendance³³ 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)
<i>Increased employment (reduced welfare expenditure)</i>	50.7m
<i>Increased educational attainment (greater taxable income)</i>	13.1m
<i>Increased social participation (increased volunteering)</i>	83.0m
<i>Reduced mental health (reduced health expenditure)</i>	2.1m
<i>Reduced incarceration (reduced incarceration expenditure)</i>	0.047m
<i>Increased elderly independence (reduced aged care expenditure)</i>	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.